

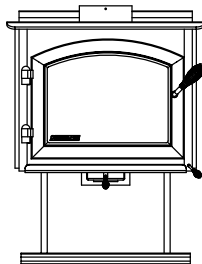
QUADRA-FIRE®

4300 WOOD STOVE SERIES

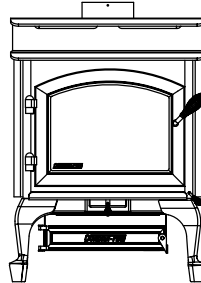
Advanced Combustion Technology (ACT)



MILLENNIUM



STEP TOP UNI-BODY



This manual contains instructions for Installation, Operation & Maintenance. Please read this entire manual before you install and use your new room heater. Failure to follow instructions may result in property damage, bodily injury, or even death.

IMPORTANT SAFETY NOTES:

- 1) When installing your stove, particular attention should be paid to fire protection. If 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, fire officials or authority having jurisdiction about restrictions, installation inspection and permit requirements in your area.
- 2) CAUTION: Never use gasoline, gasoline-type lantern fuel, kerosene, charcoal lighter fluid, or similar liquids to start or "freshen up" a fire in this heater. Keep all such liquids well away from the heater while it is in use.
- 3) During operation, if any part of the stove starts to glow, the stove is in an overfired condition. Close the air controls completely by pulling them out, until the glowing has stopped. **OVERFIRING VOIDS YOUR WARRANTY!**
- 4) Cool ashes should be disposed of carefully, using a metal container.
- 5) Do not burn wet or green wood. Store wood in a dry location.
- 6) DO NOT BURN GARBAGE OR FLAMMABLE FLUIDS SUCH AS GASOLINE, NAPHTHA OR ENGINE OIL. Do not burn treated wood, or wood with salt (driftwood, etc.). Burning materials other than wood (including charcoal) under adverse conditions may generate carbon monoxide in the home, resulting in illness or possible death.
- 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 for this appliance.
- 11) Build fire on brick firebox floor. Do not use grates, andirons or other methods to support fuel.
- 12) HOT WHILE IN OPERATION! Keep children, pets, clothing and furniture away. Contact can cause skin burns.
- 13) Do not connect to any air distribution duct or system.
- 14) RISK OF FIRE! Do not operate with stove door or ash removal system door open.
- 15) For further information refer to NFPA 211 (USA) or CAN/CSA-B365 (Canada).
- 16) Do not operate without fully assembling all components. Burning your stove without the legs attached (if supplied with unit) will void your warranty, and could present a serious safety hazard.
- 17) Do not operate with broken glass.

PRIOR TO FIRST FIRE: Remove all labels from glass. Clean plated surfaces with a glass cleanser and soft cloth to prevent staining from fingerprint oils.



SAVE THESE INSTRUCTIONS

Congratulations



Hearth & Home Technologies welcomes you to our tradition of excellence! In choosing a **Quadra-Fire** appliance, you have our assurance of commitment to quality, durability, and performance.

This commitment begins with our research of the market, including 'Voice of the Customer' contacts, ensuring we make products that will satisfy your needs. Our Research and Development facility then employs the world's most advanced technology to achieve the optimum operation of our stoves, inserts and fireplaces. And yet we are old-fashioned when it comes to craftsmanship. Each unit is meticulously fabricated and gold and nickel surfaces are hand-finished for lasting beauty and enjoyment. Our pledge to quality is completed as each model undergoes a quality control inspection. Additionally, we feel it is important to offer you several finishing options and accessories to complement your home's décor, individualize the use of your appliance, and provide financial options in acquiring a quality hearth appliance. Ask your **Quadra-Fire** Dealer for information on these options. From design, to fabrication, to shipping: Our guarantee of quality is more than a word, it's **Quadra-Fire** tradition, and we proudly back this tradition with a **Limited Lifetime Warranty**.

Prior to installation, we ask you to take a few moments to read this manual. It has been our experience that your overall enjoyment of your new appliance will be greatly enhanced by becoming familiar with its installation, operation and maintenance. We wish you and your family many years of enjoyment in the warmth and comfort of your hearth appliance. **Thank you** for choosing **Quadra-Fire**.

With warm regards,

Alan Trusler
Senior Vice President
Dealer Channel

Dan Henry
Vice President
Research & Development

Mike Derosier
Vice President
Quadra-Fire Brand Manager

Jason Olmstead
Vice President &
General Manager

Dave Fiebelkorn
Materials Manager

TABLE OF CONTENTS

MODEL NAME **QUADRA-FIRE 4300 ACT
WOOD STOVE SERIES**

Uni-Body: Step Top Millennium

Serial Number

Date Purchased

Dealership Where Purchased

Dealer Phone

Additional Information:

After completing your warranty card, attach your sales receipt and warranty stub here for future reference.

WARNING!
When this 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. Please read this entire manual before you install and use your new room heater. Failure to follow instructions may result in property damage, bodily injury, or even death.

Listings & Safety Cautions 4
 Installation Materials Needed 4
 Venting System Overview 4
 Serial Number Label Location 5
 Dimensions..... 5-6
 Locating Your Stove 6
 Vent Specifications 6
 Clearances to Combustibles 7
 Floor Protection 8-9
 Alternate Materials Worksheet 9

INSTALLATION METHODS:

Chimney Height / Draft & 2-10-3 Rule 10
 Flue Systems & Chimney Connections 11
 Masonry Chimney 11
 Solid Pack with Metal Supports 12-13
 Metal Pre-Fab Chimney 14
 Mobile Home 15

OPERATING INSTRUCTIONS:

Ash Removal System 16
 Burning Process 20
 Start-Up & Primary Air Controls 20
 2-Step Door Handle Instructions 20
 Operating Instructions 21
 Building a Fire 21
 Opacity 22
 Burn Rates 22
 Wood Selection 22
 Blower Operation..... 22

MAINTENANCE:

Creosote Removal..... 23
 Chimney Cleaning 23
 Ash Disposal 23
 Overfiring 23
 Firebrick 23
 Glass Care & Cleaning 23
 Plated Surfaces 23

ACCESSORY / PARTS REPLACEMENT

Ash Removal System 16
 Pedestal & Leg Kit Installation..... 17
 Outside Air Kit..... 19
 Blower Installation and Operation 21
 Top Shield Installation 18
 Brick Replacement 24
 Glass Replacement 24
 Door Handle Assembly 25
 Baffle Removal & Installation 25
 Exploded Views 26
 Accessory & Replacement Parts List 27
 Service Maintenance and Log 30
 Warranty Policy 31
 Contact Information 32

LISTINGS & SAFETY CAUTIONS

These installation instructions describe the installation and operation of the **QUADRA-FIRE 4300** woodstove. This stove meets the U.S. Environmental Protection Agency's 1990 particulate emission standards. The 4300 is listed by OMNI-Test Laboratories, Inc. to UL Safety Standard 1482, and ULC S627, and (UM) 84-HUD. The 4300 is approved for mobile home installations when not installed in a sleeping room and when an outside combustion air inlet is provided. The structural integrity of the mobile home floor, ceiling, and walls must be maintained. The stove must be properly grounded to the frame of the mobile home and use only listed double-wall connector pipe. Outside Air Kit, Part 831-1780, must be installed in a mobile home installation.

Check with your local building code agency before you begin your installation to ensure compliance with local codes, including the need for permits and follow-up inspections. Be sure local building codes do not supersede UL specifications and always obtain a building permit so that insurance protection benefits cannot be unexpectedly cancelled. If any assistance is required during installation, please contact your local dealer.

Inspect and clean vent system frequently in accordance with the instructions contained in this manual. Do not connect this unit to a chimney serving another appliance.

When using optional Blower, Part 831-1701, route power cord away from unit. Do not route cord under or in front of appliance.

Do not elevate fire. Build wood fire directly on firebrick.

Do not overfire - if heater or chimney connector glows, you are overfiring. Stove thermometer recommended.

Operate only with the door closed. Open only to add fuel to the fire. Operating with the door open can cause hot embers or sparks to fall out and a fire may result.

INSTALLATION MATERIALS NEEDED FOR SAFETY

CHIMNEY CONNECTOR (also known as flue pipe or stove pipe): The chimney connector joins the stove to the chimney (see page 11). It must be 6" (152mm) minimum diameter 24 MSG black or blued steel, or an approved air-insulated double wall venting pipe.

THIMBLE: A manufactured or site-constructed device installed in combustible walls through which the chimney connector passes to the chimney (see pages 12-13). It is intended to keep the walls from igniting.

CHIMNEY SYSTEMS:

- A. APPROVED MASONRY (see specifications on page 11) with at least 5/8" (16mm) fire clay lining joined with refractory cement or other listed system suitable for use with wood stoves.
- B. PREFABRICATED 6" (152mm) listed high temperature (UL 103 HT or ULC S629M) 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. Chimney installation should meet NFPA 211 standards.

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

- 1. Install at least one smoke detector on each floor of your home to ensure your safety. They should be located away from the heating appliance and close to the sleeping areas. Follow the smoke detector manufacturer's placement and installation instructions, and be sure to maintain regularly.
- 2. A conveniently located Class A fire extinguisher to contend with small fires resulting from burning embers.
- 3. A practiced evacuation plan, consisting of at least two escape routes.
- 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, hot embers or sparks from the chimney.

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°F (1100°C) 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. An approved 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. Follow venting manufacturer's clearances when installing venting system.

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

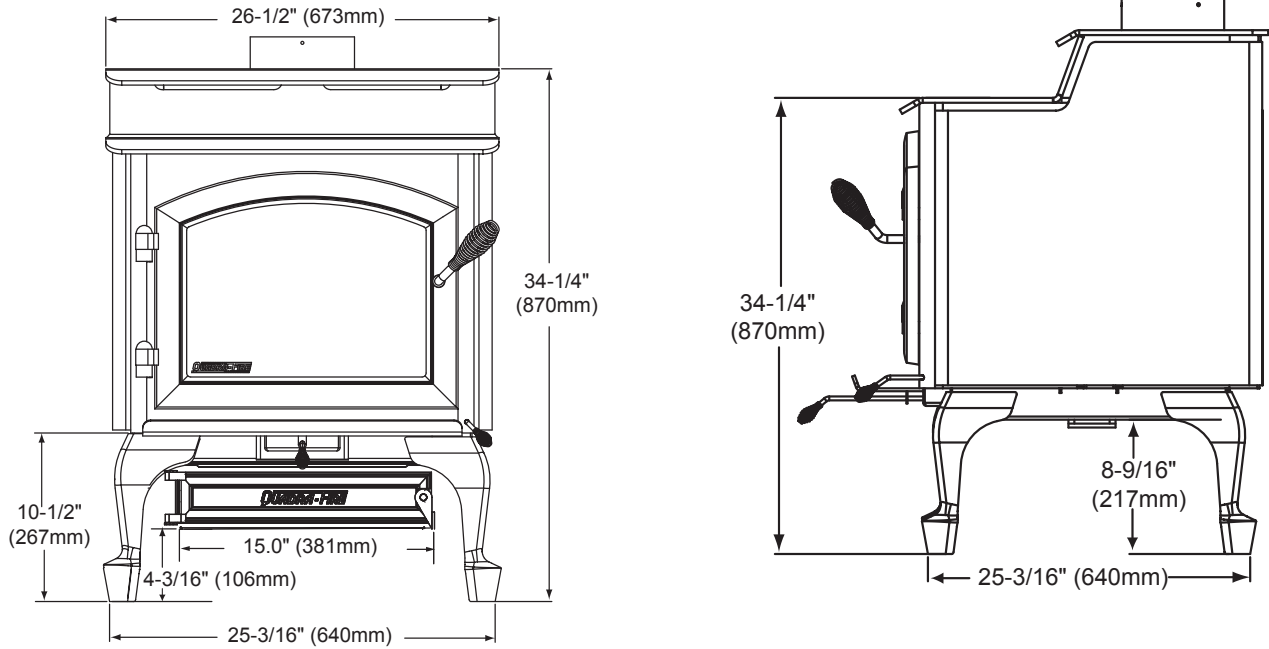
WARNING! NEVER DRAW OUTSIDE COMBUSTION AIR FROM A WALL, FLOOR OR CEILING CAVITY OR FROM ANY ENCLOSED SPACE SUCH AS AN ATTIC OR GARAGE.

WARNING! DO NOT ATTEMPT TO OPERATE THIS WOODSTOVE WITHOUT READING AND UNDERSTANDING THESE OPERATING INSTRUCTIONS THOROUGHLY. FAILURE TO OPERATE THIS APPLIANCE PROPERLY MAY CAUSE A HOUSE FIRE.

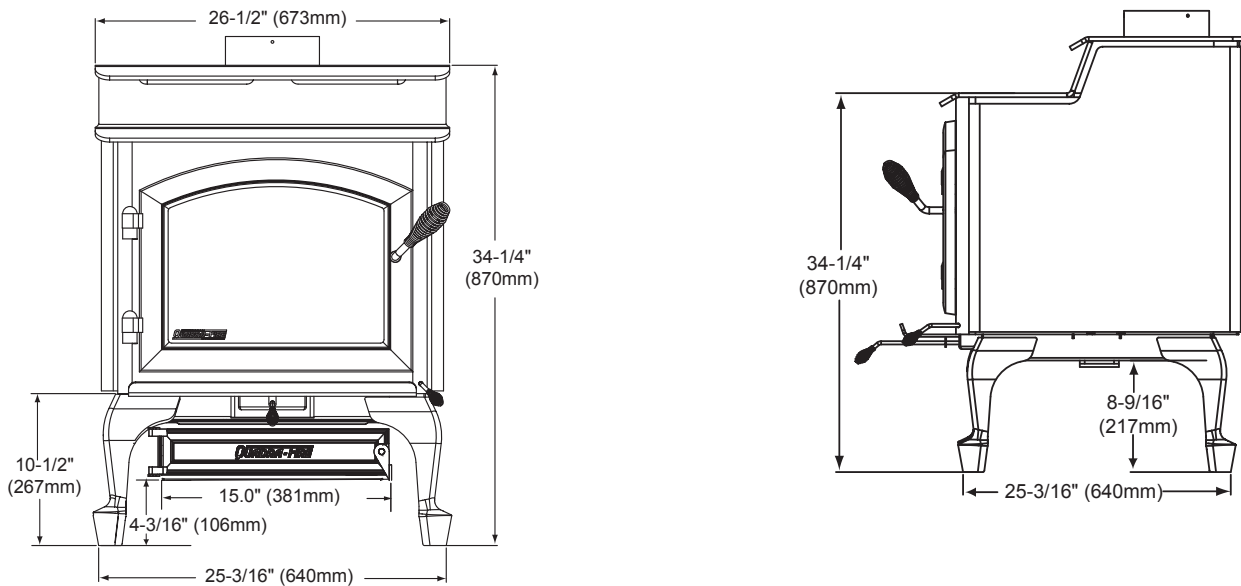
WARNING! THIS APPLIANCE IS HOT WHILE IN OPERATION AND MAY REMAIN SO UP TO 40 MINUTES OR LONGER AFTER THERE IS NO FUEL IN THE FIREBOX. IF THIS APPLIANCE IS IN A HIGH TRAFFIC AREA OR CHILDREN MAY BE NEAR IT IS RECOMMENDED THAT YOU PURCHASE A DECORATIVE BARRIER TO GO IN FRONT OF THE APPLIANCE. ALWAYS KEEP CHILDREN AWAY WHILE IT IS OPERATING AND DO NOT LET ANYONE OPERATE THIS APPLIANCE UNLESS THEY ARE FAMILIAR WITH THESE OPERATION INSTRUCTIONS.

DIMENSIONS

4300 STEP TOP UNI-BODY PEDESTAL MODEL



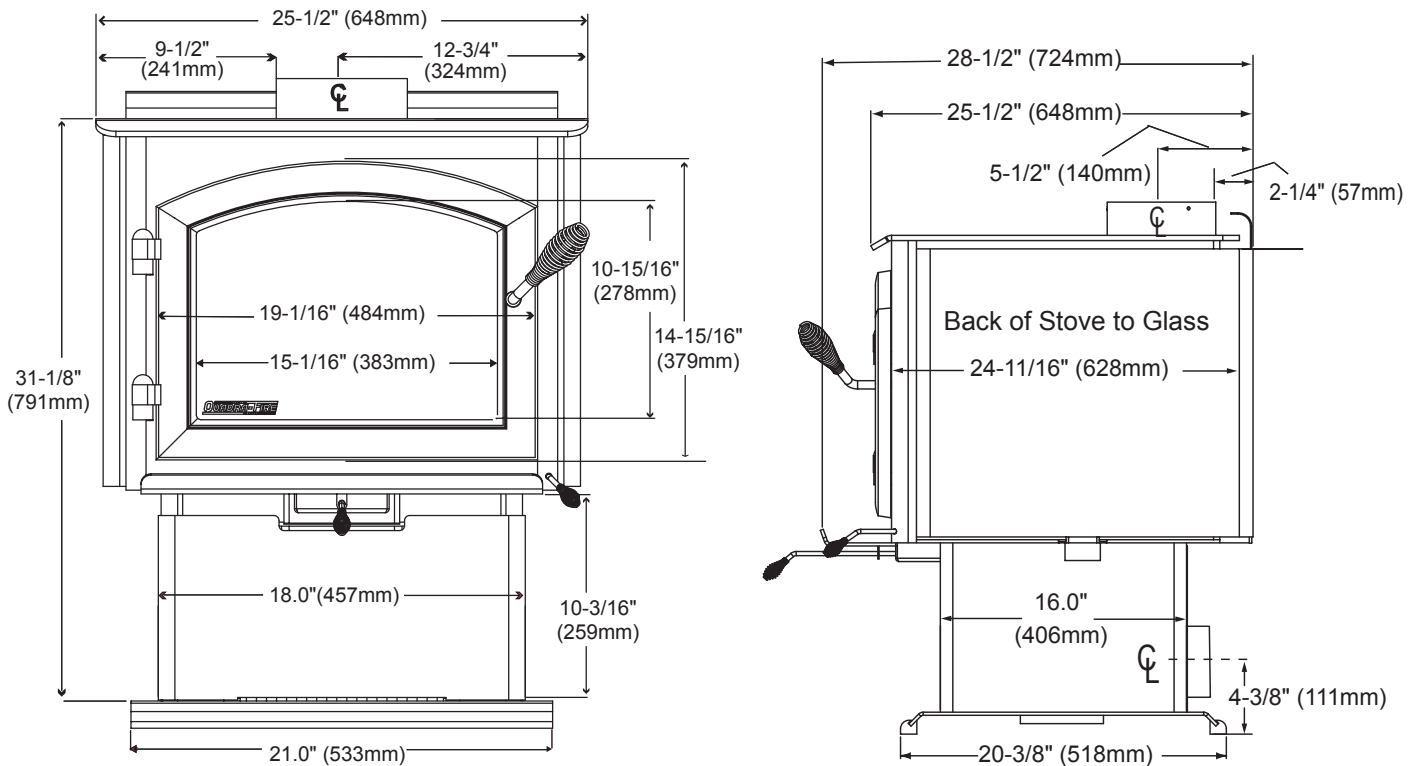
4300 STEP TOP UNI-BODY LEG MODEL



SERIAL NUMBER / SAFETY LABEL LOCATION ON ALL MODELS:

BACK OF STOVE

DIMENSIONS
4300 MILLENNIUM MODEL



LOCATING YOUR STOVE

WHEN LOCATING YOUR STOVE consider safety, convenience, traffic flow, and the fact that the stove will need a chimney and chimney connector. It is a good idea to plan your installation on paper, using exact measurements for clearances and floor protection, before actually beginning the installation. If you're not using an existing chimney, place the stove where there will be a clear passage for a factory-built listed chimney through the ceiling and roof.

AVOID FIRE: Maintain the designated clearances to combustibles. Insulation must not touch the chimney. You must maintain the designated air space clearance around the chimney. This 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. **NOTE: Clearances may only be reduced by means approved by the regulatory authority having jurisdiction.**

WE RECOMMEND that a qualified building inspector and your insurance company representative review your plans before and after installation.

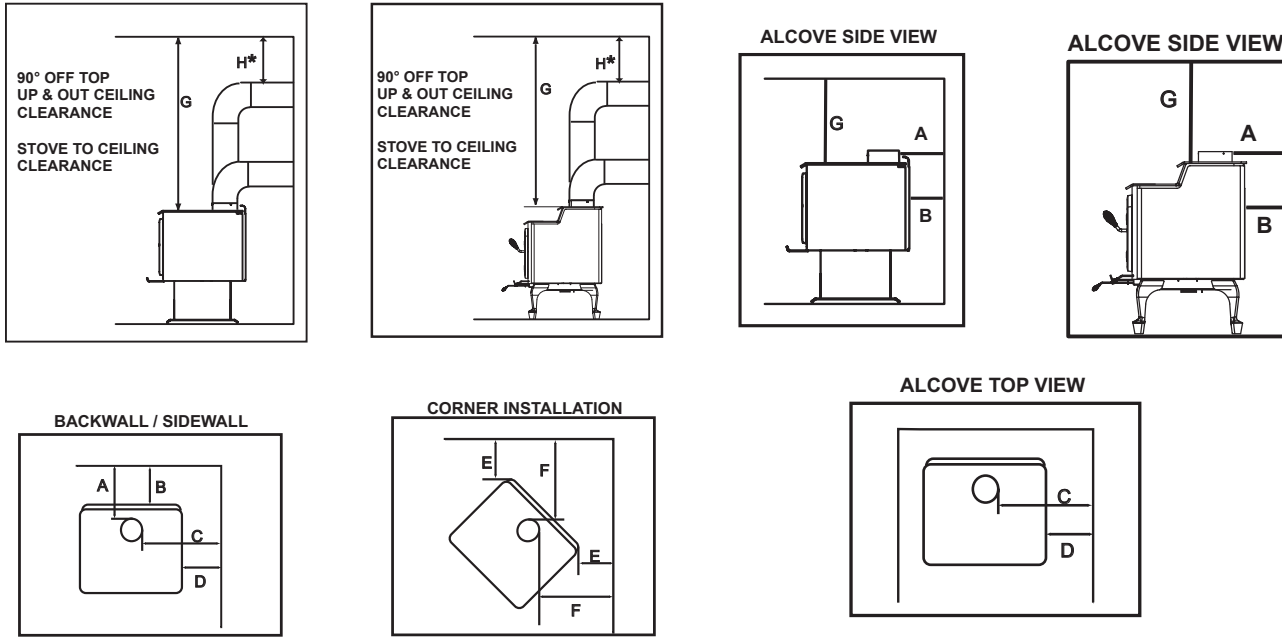
VENT SPECIFICATIONS

Single Wall: Six inch (6") (152mm) diameter, minimum 24 MSG black or blued steel connector pipe, with a listed factory-built chimney type UL103 HT* suitable for use with solid fuels, or a masonry chimney, and the referenced clearances.

Double Wall/Mobile Home: Six inch (6") (152mm) diameter, listed double wall air insulated connector pipe with listed factory-built UL103 HT* Class "A" chimney, or a masonry chimney (Mobile Home must be equipped with a spark arrester), and the referenced clearances. Use only double-wall connector pipe, Dura-Vent DVL, Selkirk metalbestos DS or Security DL double wall connector.

*In Canada must comply with CAN/ULC-S269 for the 650° Factory-built chimney.

CLEARANCES TO COMBUSTIBLES (UL AND ULC)



MINIMUM CLEARANCES TO COMBUSTIBLE MATERIALS In Inches & (Millimeters)

NOTE: All "A" , "C" and "F" Dimensions are to the inside diameter of the flue collar.

	A	B	C	D	E	F	G	H
INSTALLATION: Full Vertical OR Horizontal with Minimum 2 Foot Vertical Off Stove Top								
SINGLE WALL PIPE								
Flat Top Model	18 (457)	15.5 (394)	26 (660)	17 (432)	10 (254)	18.5 (470)	52.5 (1334)	18 (457)*
Step-Top Model	12 (305)	8.5 (216)	23 (584)	13 (330)	2 (51)	13 (330)	50.5 (1283)	18 (457)*
DOUBLE WALL PIPE								
Flat Top Model	13 (330)	10.5 (267)	24.5 (622)	15 (381)	10 (254)	18.5 (470)	52.5 (1334)	10 (254)
Step-Top Model	10 (254)	6.5 (165)	23 (584)	13 (330)	2 (51)	13 (330)	50.5 (1283)	5 (127)
INSTALLATION: 90° Elbow Off Top of Stove Through Backwall								
DOUBLE WALL PIPE								
Flat Top Model	8.5 (216)	6 (152)	24.5 (622)	15 (381)	10 (254)	18.5 (470)	52.5 (1334)	18 (457)*
Step-Top Model	7.5 (191)	4 (102)	19 (229)	9 (229)	2 (51)	13 (330)	50.5 (1283)	18 (457)*
INSTALLATION: ALCOVE Six inch (6") (152mm) diameter listed Double Wall air insulated connector pipe with UL 103 HT listed factory-built Class "A" chimney, or a masonry chimney. (Mobile Home must be equipped with a spark arrestor). Maximum depth of Alcove shall be no more than 48"(1220mm). Please refer to the clearances below for minimum Alcove height requirements to top of unit.								
DOUBLE WALL PIPE								
Flat Top Model	13 (330)	10.5 (267)	24.5 (622)	15 (381)	N/A	N/A	52.5 (1334)	N/A
Step-Top Model	10 (254)	6.5 (165)	23 (584)	13 (330)	N/A	N/A	37 (940)	N/A

FLOOR PROTECTION

FLOOR PROTECTION: Floor protector must be noncombustible material, extending beneath heater and to the front/sides/rear as indicated. The floor must be non-combustible or otherwise adequately protected from radiant heat given off by the unit and from sparks and falling embers. A layer of thin brick or ceramic tile over a combustible floor is not sufficient. A listed hearth pad that has a "k" value of .84 or lower meets this requirement.

In USA installations, it is necessary to install a floor protector of 1/2" thick metal clad millboard ("k" value = .84) or equivalent at least 16" in front of glass door and 8" to both sides of the fuel loading door. Open the door and measure 8" from the side edge of the opening in the face of the stove. **See *exception below.**

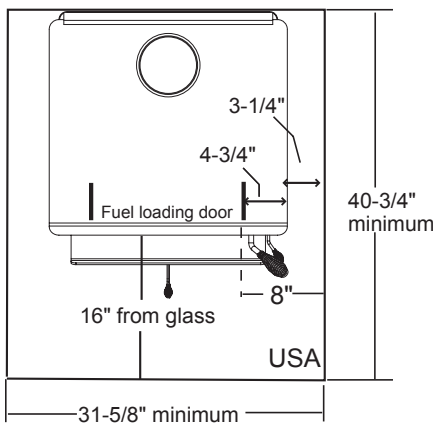
See Alternate Materials Worksheet on **Page 9** to determine if alternate floor protection materials are acceptable.

In Canada, similar floor protection must be provided 18" (457mm) in front and 8" (203mm) from the sides and rear of the stove. **See *exception below.**

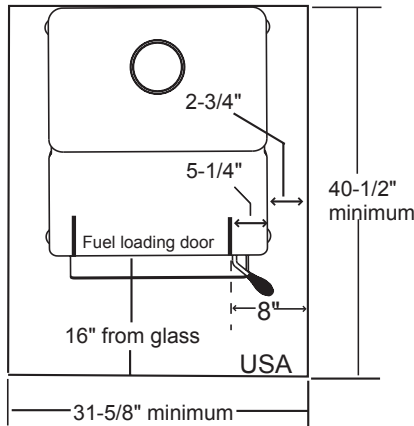
***EXCEPTION:** Non-combustible floor protection must extend beneath the flue pipe when installed with horizontal venting and extend 2" (51mm) beyond each side.

NOTE: Drawings are for illustration purposes only and are not to scale.

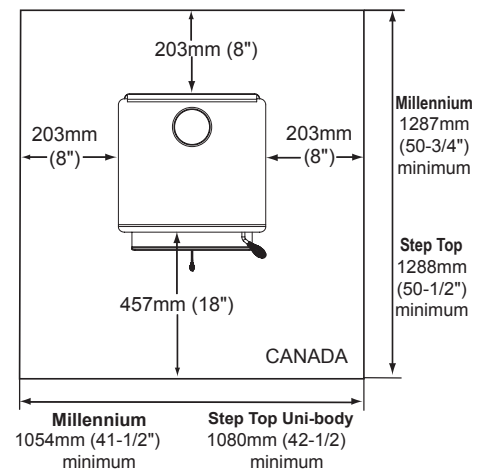
USA 4300 Millennium



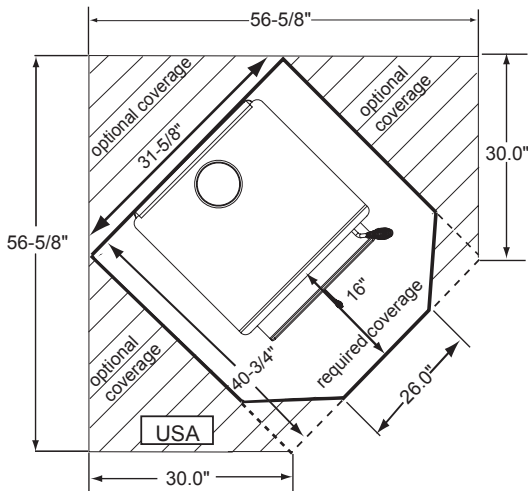
USA 4300 Step Top Uni-Body



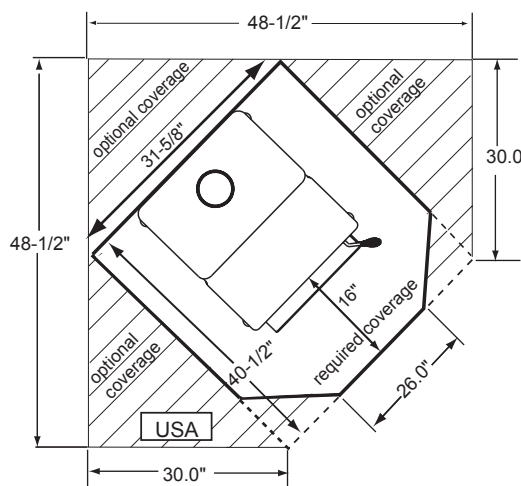
Canada - Both Models



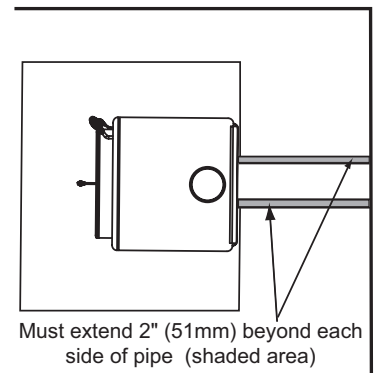
USA -4300 Millinneum



USA 4300 Uni-Body Step Top



Horizontal Venting Both Models



**USA - Required
Canada - Recommended**

FLOOR PROTECTION (Cont'd)

ALTERNATE MATERIALS WORKSHEET

How to determine if alternate floor protection materials are acceptable:

All floor protection must be non-combustible (i.e., metals, brick, stone, mineral fiber boards, etc.). Any organic materials (i.e., plastics, wood paper products, etc.) are combustible and must not be used. The floor protection specified includes some form of thermal designation such as R-value (thermal resistance) or k-factor (thermal conductivity).

PROCEDURE:

1. Convert specification to R-value:

R-value given - no conversion needed.	K-factor is given with a required thickness (T) in inches: $R = \frac{1}{K \times 12} \times T$
k-factor is given with a required thickness (T) in inches: $R = \frac{1}{k} \times T$	r-factor is given with a required thickness (T) in inches: $R = r \times T$

2. Determine the R-value of the proposed alternate floor protector.

- i. Use the formula in step (1) to convert values not expressed as "R".
- ii. For multiple layers, add R-values of each layer to determine overall R-value.

3. If the overall R-value of the system is greater than the R-value of the specified floor protector, the alternate is acceptable.

EXAMPLE: The specified floor protector should be 3/4 inch thick material with a k-factor of 0.84. The proposed alternate is 4" brick with an r-factor of 0.2 over 1/8" mineral board with a k-factor of 0.29.

Step (a): Use formula above to convert specification to R-value. $R = \frac{1}{k} \times T = \frac{1}{.84} \times 0.75 = 0.893$

Step (b): Calculate R of proposed system.

4" brick of r = 0.2, therefore: $R_{\text{brick}} = 0.2 \times 4 = 0.8$	1/8" mineral board of k = 0.29, therefore: $R_{\text{mineral board}} = \frac{1}{0.29} \times 0.125 = 0.431$
--	--

$R_{\text{total}} = R_{\text{brick}} + R_{\text{mineral board}} = 0.8 + 0.431 = 1.231$

Step (c): Compare proposed system R_{total} of 1.231 to specified R of 0.893. Since proposed system R_{total} is greater than required, the system is acceptable.

DEFINITIONS $R = \frac{(\text{ft}^2)(\text{hr})(^\circ\text{F})}{\text{Btu}}$ $k = \frac{\text{Btu}(\text{in})}{\text{ft}^2(\text{hr})(^\circ\text{F})} = K \times 12$ $K = \frac{\text{Btu}(\text{ft})}{\text{ft}^2(\text{hr})(^\circ\text{F})}$ $r = \frac{(\text{ft}^2)(\text{hr})(^\circ\text{F})}{(\text{Btu})(\text{in})} = \frac{1}{k}$

CHIMNEY HEIGHT/DRAFT

To be sure that your Quadra-Fire stove burns properly, the chimney draft (static pressure) should be approximately $-.10''$ water column (W.C.) during a high burn and $-.04''$ W.C. during a low burn, measured 6" (152mm) above the top of the stove after one hour of operation at each burn setting.

NOTE: These are guidelines only, and may vary somewhat for individual installations.

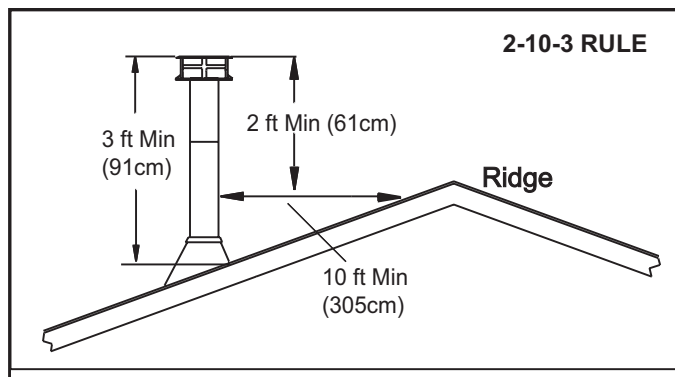
Your Quadra-Fire stove was designed for and tested on a 6" (152mm) chimney, 12 ft.-14 ft. (360-420cm) high, (includes stove height) measured from the base of the stove. The further your stack height or diameter varies from this configuration, the possibility of performance problems exists. In addition, exterior conditions such as roof line, surrounding trees, prevailing winds and nearby hills can influence stove performance. Your local dealer is the expert in your geographic area and can usually make suggestions or discover solutions that will easily correct your flue problem, allowing your woodstove and its flue system to operate correctly and provide safe and economical heat for your home.

A masonry chimney or a listed factory-built UL103 HT Class "A" chimney must be the required height above the roof and any other nearby obstructions. The chimney must be at least 3 ft. (91cm) higher than the highest point where it passes through the roof and at least 2 ft. (61cm) higher than the highest part of the roof or structure that is within 10 ft. (305cm) of the chimney, measured horizontally. **See 2-10-3 Rule below.**

These are safety requirements and are not meant to assure proper flue draft.

We recommend using a minimum total system height of 12 ft. (360cm), measured from the flue collar to the top of the chimney (not including chimney cap).

Availability of combustion air: A source of air (oxygen) is necessary in order for combustion to take place. It is important to realize that whatever combustion air is consumed by the fire must be replaced. If you are using room air, the air is replaced via air leakage that occurs around windows and under doors, etc. However, in most newly constructed houses, mobile homes, or even existing homes that are fitted with tightly sealed doors and windows, the area from which the combustion air is taken is relatively air tight. In these cases, an outside air source must be made available to feed combustion air from outside the home into the stove. An Outside Air Kit is available for your stove as an option, Part 831-1780. The kit is a requirement for mobile home installations. Check with the local authorities in your area for the requirements in your location.



WARNING!

ALWAYS FOLLOW CHIMNEY CONNECTOR MANUFACTURER'S INSTRUCTIONS FOR PROPER INSTALLATION.

CHIMNEY CONNECTOR IS TO BE USED ONLY WITHIN THE ROOM, BETWEEN THE STOVE AND CEILING OR WALL. THE CONNECTOR SHALL NOT PASS THROUGH AN ATTIC OR ROOF SPACE, CLOSET OR SIMILAR CONCEALED SPACE, OR A FLOOR, OR CEILING. MAINTAIN MINIMUM CLEARANCES TO COMBUSTIBLES AS REFERENCED ON PAGES 7, 8, 9, & 10.

FLUE SYSTEMS

There are two separate and different parts to a flue system: the chimney connector and the chimney itself.

- A. Single wall connector or stove pipe. This must be at least 24 gauge mild steel or 26 gauge blue steel. The sections must be attached to the stove and to each other with the crimped (male) end pointing toward the stove. **See Figure 11A.** All joints, including the connection at the stove collar, should be secured with three sheet metal screws. Make sure to follow the minimum clearances to combustibles as set out on **page 7** of this manual. Where passage through the wall, or partition of combustible construction is desired, the installation shall conform to CAN/CSA-B365 (Canada).
- B. Factory-built listed chimney connector (vented). A listed connector (vented) must be used when installing this unit in a mobile home. The listed connectors must conform to each other to ensure a proper fit and seal.

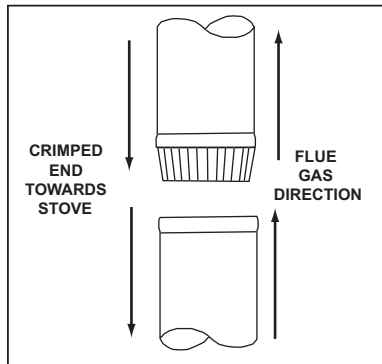


FIGURE 11A - Chimney Connector

MASONRY CHIMNEY

For optimal performance, masonry chimneys used to vent this appliance should be lined with a 6" (152mm) stainless steel liner. Installations into a clay flue without a stainless steel liner may reduce draw which affects performance, cause the glass to darken and produce excessive creosote.

Ensure that a masonry chimney meets the minimum standards of the National Fire Protection Association (NFPA) Standard 211. It must have at least a 5/8" (16mm) fire clay liner or a listed chimney liner system. **See Figure 11B.** Make sure there are no cracks, loose mortar or other signs of deterioration and blockage. It is best to have the chimney inspected by a professional, and be sure to have the chimney cleaned before the stove is installed and operated.

MASONRY CHIMNEY (Cont'd)

The flue should be checked to determine that it is not too large for the stove. NFPA 211 allows the cross-sectional area of the flue to be no more than 3 times the cross-sectional area of the flue collar of the stove (28 x 3 = 84 square inches). It is recommended that a chimney with a larger diameter than 6" (152mm) be relined, since the oversized flue can cause poor performance and contribute to the accumulation of creosote. (See page 10 for more information about troubleshooting draft problems).

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

When connecting the stove through a combustible wall to a masonry chimney, special methods are needed. There are several ways to make this connection, including the construction of a masonry thimble. In Canada, the installation shall conform to CAN/CSA-B365. Check with your local building authorities and/or consult the National Fire Protection Association (NFPA 211). **Refer to Figure 13B on page 13 and Figures 14A & 14B on page 14**

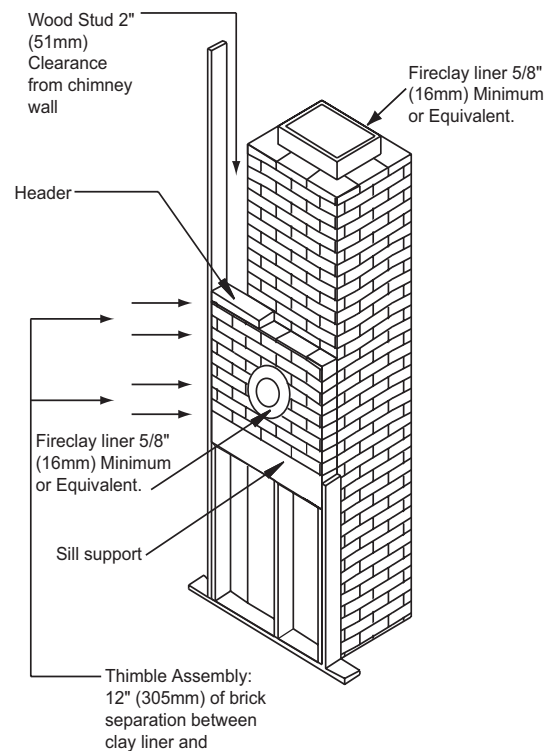


FIGURE 11B

WARNING!! IF INSTALLING THIS MODEL TO A MASONRY CHIMNEY, ALWAYS BE SURE THE CHIMNEY IS IN GOOD CONDITION AND THAT IT MEETS THE MINIMUM STANDARDS OF THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARD 211. A FACTORY BUILT CHIMNEY MUST BE 6" (152mm) UL103 HT.

THIS APPLIANCE IS MADE WITH A 6 INCH (152mm) DIAMETER CHIMNEY CONNECTOR AS THE FLUE COLLAR ON THE UNIT. CHANGING THE DIAMETER OF THE CHIMNEY CAN AFFECT DRAFT AND CAUSE POOR PERFORMANCE. IT IS NOT RECOMMENDED TO USE OFFSETS OR ELBOWS AT ALTITUDES ABOVE 4000 FEET ABOVE SEA LEVEL OR WHEN THERE ARE OTHER FACTORS THAT AFFECT FLUE DRAFT.

SOLID PACK CHIMNEY WITH METAL SUPPORTS AS A THIMBLE

For the method of installation to a masonry chimney shown in **Figures 14A & 14B on page 14**, it will be necessary to purchase a 12" (305mm) long 8" (203mm) inside diameter, section of prefabricated listed solid pack chimney to use as a thimble. Purchase a wall spacer, trim collar, and a wall band manufactured to fit the chimney section you purchase.

The safety features of this system are twofold: 1) A 2" (51 mm) air space between the chimney section and combustible wall; and, 2) The 1" (25mm) 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 18" (457mm) vertical clearance between the connector pipe and the ceiling (or minimum recommended from pipe manufacturer) to prevent the ceiling from catching fire.

Measure for the center-line as shown in **Figure 12A** below. Cut an opening in the wall large enough to accommodate the outside dimension of the chimney section plus the minimum air space specified by its manufacturer. It may be necessary to cut the wall studs and install a header and a sill frame to maintain the wall support. The hole in the chimney must have at least an 8" (203mm) 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.

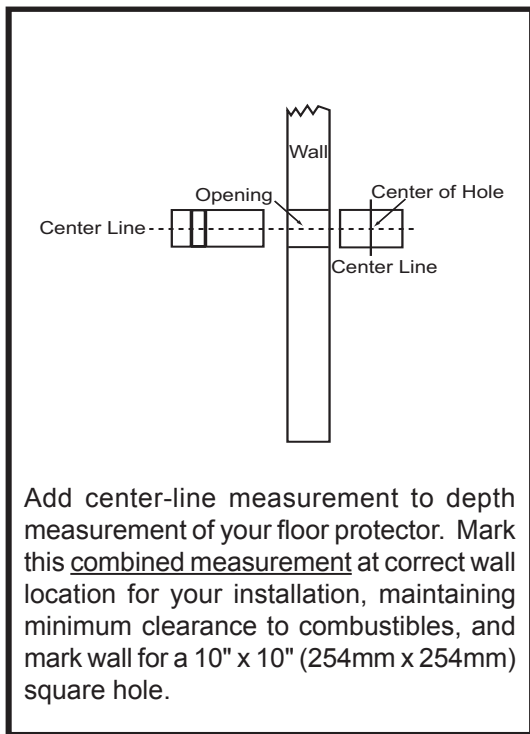


FIGURE 12A

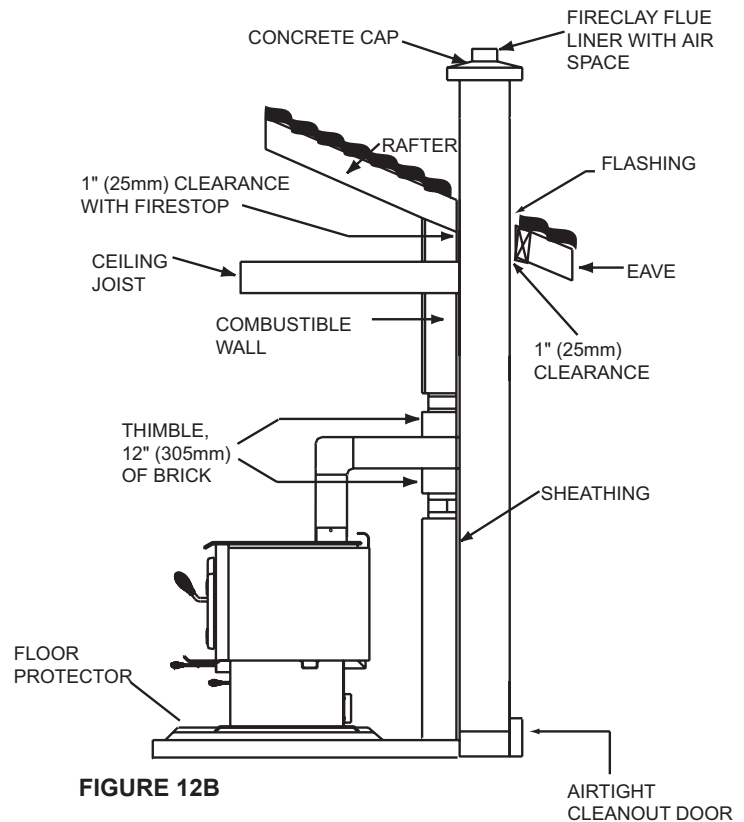


FIGURE 12B

WARNING! ALWAYS FOLLOW CHIMNEY CONNECTOR MANUFACTURER'S INSTRUCTIONS FOR PROPER INSTALLATION.

CHIMNEY CONNECTOR IS TO BE USED ONLY WITHIN THE ROOM, BETWEEN THE STOVE AND CEILING OR WALL, NEVER PASSING THROUGH A COMBUSTIBLE CEILING OR WALL. THE CONNECTOR SHALL NOT PASS THROUGH AN ATTIC OR ROOF SPACE, CLOSET OR SIMILAR CONCEALED SPACE, OR A FLOOR, OR CEILING. MAINTAIN MINIMUM CLEARANCES TO COMBUSTIBLES AS REFERENCED ON PAGE 7.

SOLID PACK CHIMNEY WITH METAL SUPPORTS AS A THIMBLE (Cont'd)

First, make the frame for the thimble, ensuring it is no smaller than 14" (356mm) square, to maintain a 2" (51mm) 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 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 make sure there is a 1" (25mm) air space between the connector and the chimney section.

During installation be certain that a 2" (51mm) air space to the wood framing is maintained. Do not fill this space with insulation. Insulation in this air space will cause a heat buildup which may ignite the wood framing.

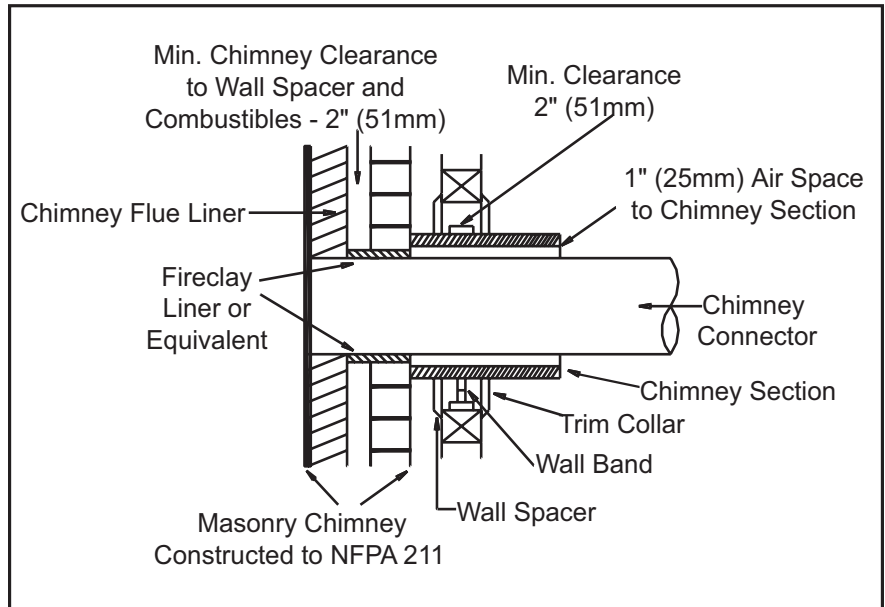


FIGURE 13A

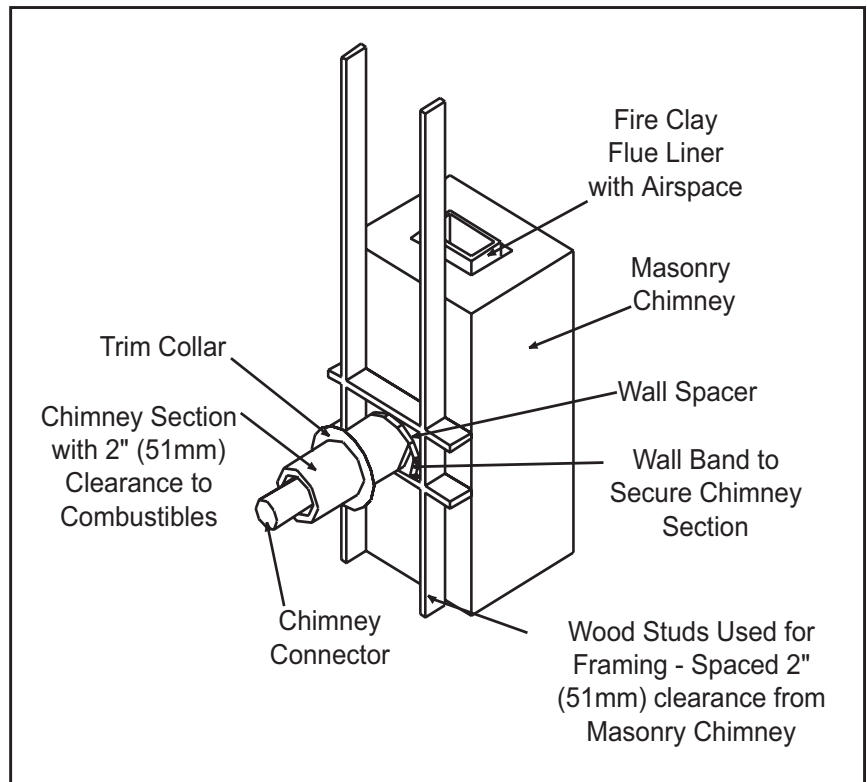


FIGURE 13B

CONNECTION TO A METAL PRE-FABRICATED 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 (where 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" (51mm), 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 14A**). 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. The other method is to install an exterior chimney that runs up the outside of the residence (**Figure 14B**). This method of installation requires at a minimum a wall pass-through device, a wall support package, insulated "T" section and roof flashing. 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 proper draft operation. The chimney must be a minimum of 3 ft. (91cm) higher than the highest point where it passes through the roof, and at least 2 ft. (61cm) higher than the highest part of the roof or structure that is within 10' ft. (305cm) of the chimney, measured horizontally (**2-10-3 Rule Figure on page 10**).

IMPORTANT!
Follow the manufacturer's installation instructions and maintain the manufacturer's specified clearance distances.

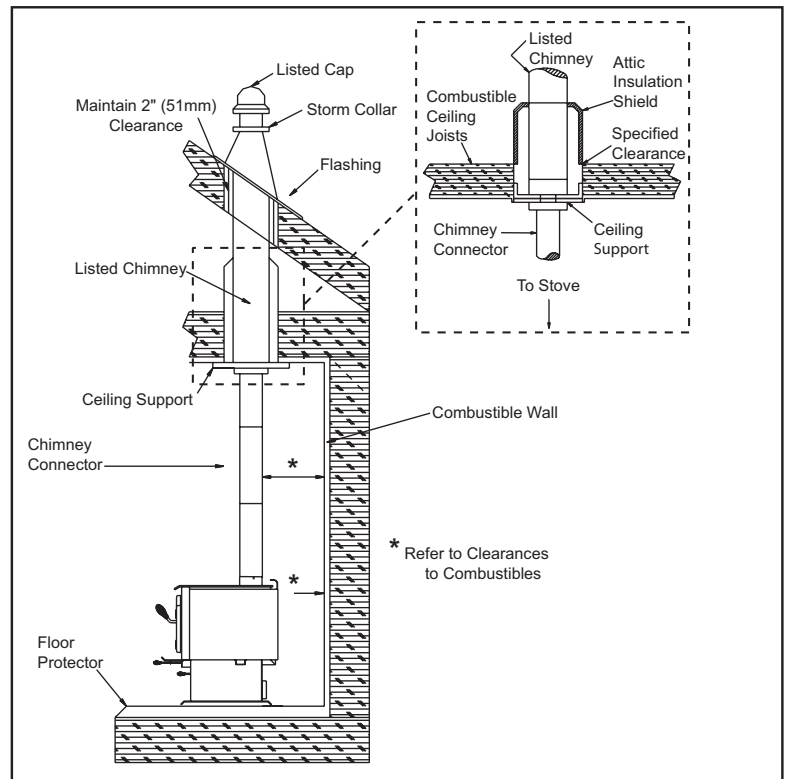


FIGURE 14A - INTERIOR CHIMNEY

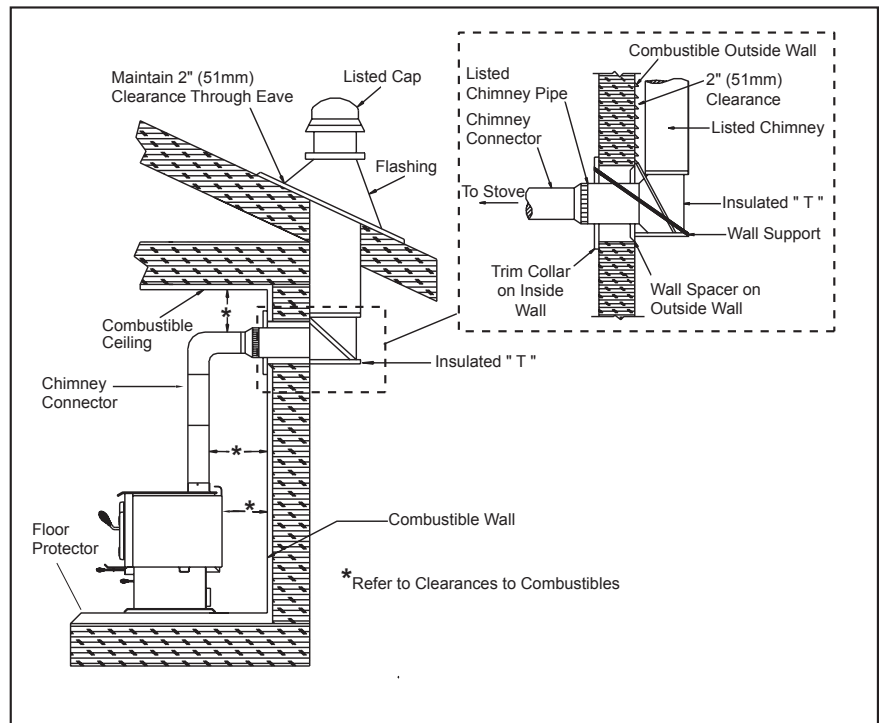


FIGURE 14B - EXTERIOR CHIMNEY

In Canada when using a factory-built chimney, make sure it is safety listed, Type UL 103 HT CLASS "A" or conforming to CAN/ULC-S629, STANDARD FOR 650°C FACTORY-BUILT CHIMNEYS.

MOBILE HOME INSTALLATION

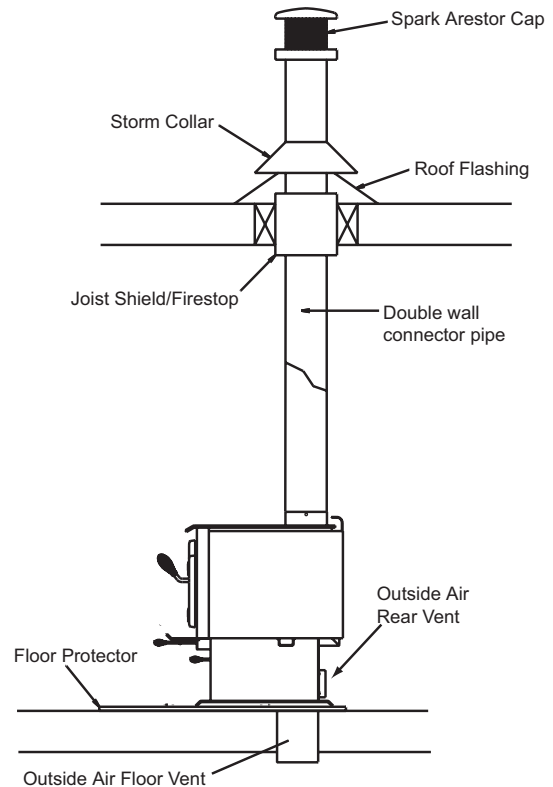
You must use a Quadra-Fire Outside Air Kit Part 831-1780 for installation in a mobile home.

1. An outside air inlet must be provided for combustion and must remain clear of leaves, debris, ice and/or snow. It must be unrestricted while unit is in use to prevent room air starvation which can cause smoke spillage and an inability to maintain a fire. Smoke spillage can also set off smoke alarms.
2. Stove must be secured to the mobile home structure by bolting pedestal through hearth pad and into floor. For leg models, use 1/4" (6mm) lag bolts with the appropriate length for your application.
3. Stove must be grounded with #8 solid copper grounding wire or equivalent and terminated at each end with N.E.C. approved grounding device.
4. Stove must be installed with an approved UL103 HT ventilated chimney connector, UL103 HT chimney, and terminal cap with spark arrestor. Never use a single wall connector (stove pipe) in a mobile home installation. Use only double-wall connector pipe, Dura-Vent DVL, Selkirk metalbestos DS or Security DL double-wall connector or any listed double-wall connector pipe.
5. **Refer to page 7** of this manual or the Serial Number label on the back of the stove for clearances to combustibles.
6. Floor protection requirements on **pages 8-9** must be followed precisely.
7. In Canada, this appliance must be connected to a 6" (152mm) factory-built chimney conforming to CAN/ULC-629M, STANDARD FOR FACTORY BUILT CHIMNEYS. Floor protection referenced on **pages 8-9** must be followed.
8. Use silicone to create an effective vapor barrier at the location where the chimney or other component penetrates to the exterior of the structure.
9. Follow the chimney and chimney connector manufacturer's instructions when installing the flue system for use in a mobile home.

NOTE: Offsets from the vertical, not exceeding 45°, are allowed per Section 905(a) of the Uniform Mechanical Code (UMC). Offsets greater than 45° are considered horizontal and are also allowed, providing the horizontal run does not exceed 75% of the vertical height of the vent. Construction, clearance and termination must be in compliance with the UMC Table 9C.

NOTE: Top sections of chimney must be removable to allow maximum clearance of 13.5 ft (411cm) from ground level for transportation purposes.

10. Burn wood only. Other types of fuels may generate poisonous gases (e.g., carbon monoxide).
11. If unit burns poorly while an exhaust blower is on in home, (i.e., range hood), then increase combustion air.



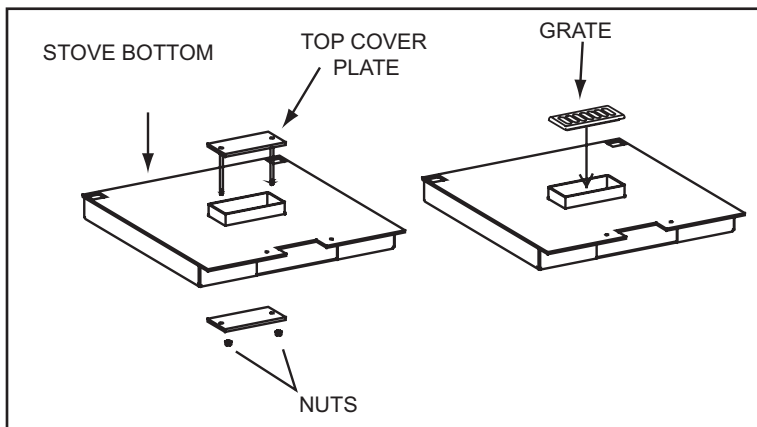
WARNING: NEVER DRAW COMBUSTION AIR FROM A WALL, FLOOR OR CEILING CAVITY OR FROM ANY ENCLOSED SPACE SUCH AS AN ATTIC OR GARAGE.

CAUTION: THE STRUCTURAL INTEGRITY OF THE MOBILE HOME FLOOR, WALL AND CEILING/ROOF MUST BE MAINTAINED. (i.e., DO NOT CUT THROUGH FLOOR JOIST, WALL STUD, CEILING TRUSS, ETC.)

WARNING: DO NOT INSTALL IN SLEEPING ROOM.

ASH REMOVAL SYSTEM (ARS) INSTALLATION

1. Place protective pad or stove pallet on floor.
2. Lay body of stove on its back on protective pad or pallet.
3. Remove ash removal system top and bottom cover plates by loosening nuts under stove. Discard both plates.



4. Using a rubber mallet, install plugs (supplied) into two front holes, **See Figure 16A**.
 5. Line up holes in ash removal system with holes in adapter on bottom of stove.
 6. Screw ash removal system securely in place.
 7. Insert ashpan into ash removal system box, making sure the overhanging lip is facing towards you.
 8. Attach legs or pedestal.
- NOTE LEG MODELS: DO NOT TILT THE UNIT ON THE CAST IRON LEGS.** Lift the unit upright and place it into position on the floor protector.
9. After righting stove, insert ash removal system grate into opening in firebox floor.

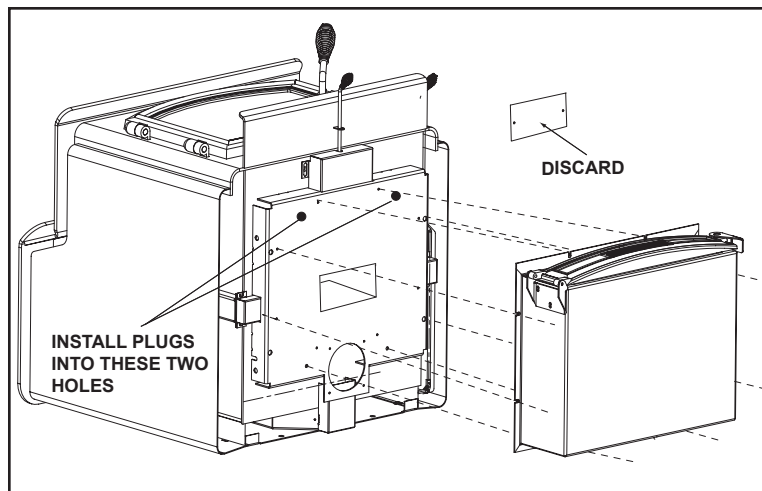
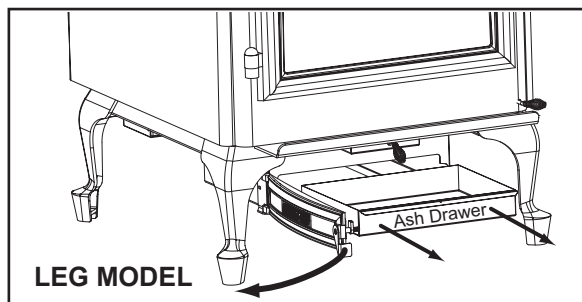


FIGURE 16A

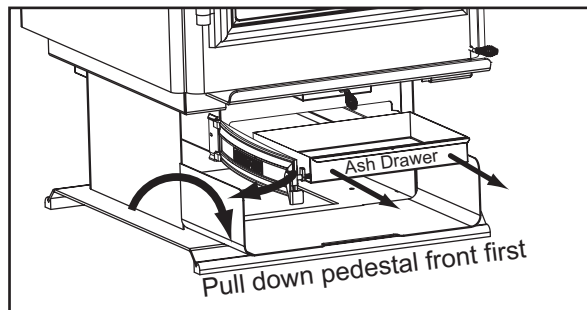
ARS OPERATING AND CLEANING

1. When stove is cool, open front door and brush most of the ash into the center of the firebox. Remember to leave 1/4" to 1/2" (6-13mm) of ash on the firebox floor to act as a natural grate, allowing air to flow freely underneath wood.
2. Clean ash down through the ash removal system grate into the drawer below. If there are large pieces in the ashes, you can remove the grate before brushing the ash into the drawer. Be sure to replace the grate before operating the stove.
3. Swing open ash removal door on leg model. (On the pedestal model, first pull down the hinged pedestal front to expose the ash removal door).
4. Pull out the ash drawer. **CLOSE** the ash removal door. (Closing this door avoids ash blowing into the room in the event of a downdraft).
5. Empty the ashes following the directions below.
6. Swing open ash removal door and replace ash drawer with the overhanging lip facing toward you.
7. Close ash removal door securely.

Disposal of Ashes. Ashes should be placed in a metal container with a tight fitting lid. The closed container of ashes should be placed on a noncombustible floor or on the ground, well away from all combustible materials, pending final disposal. If the ashes are disposed of by burial in soil or otherwise locally dispersed, they should be retained in the closed container until all cinders have thoroughly cooled.



LEG MODEL



PEDESTAL MODEL

PEDESTAL OR LEG KIT INSTALLATION

WARNING: DO NOT OPERATE STOVE BEFORE FULLY ASSEMBLING ALL COMPONENTS. BURNING YOUR STOVE WITHOUT A PEDESTAL OR LEG KIT ATTACHED WILL VOID YOUR WARRANTY AND COULD PRESENT A SAFETY HAZARD.

PEDESTAL MODEL

- 1 Place protective pad or stove pallet on floor.
- 2 Lay body of stove on its back on protective pad or pallet.
- 3 Loosen screws on adapter and slide pedestal over adapter on bottom of stove
- 4 Line up holes in sides of pedestal with holes in adapter.
- 5 Securely tighten pedestal into place.
- 6 Carefully stand stove up and place in desired location.
- 7 Slip wooden decorative strips onto pedestal edges.
- 8 Open door of stove and check to make sure firebricks and ceramic blanket are in their proper locations (see pages 24-25).

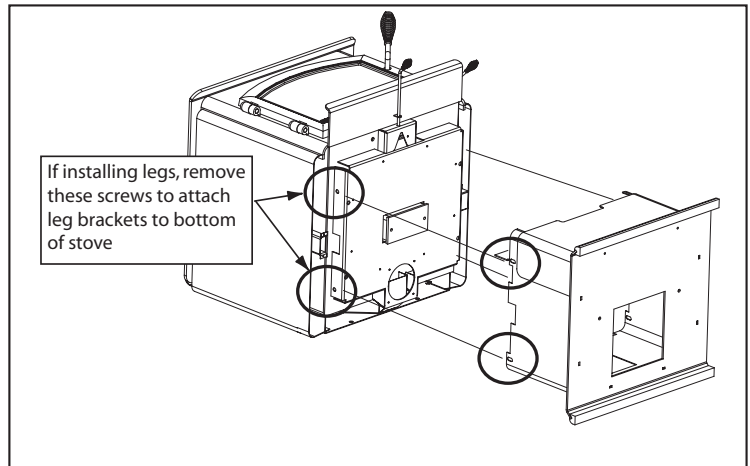


Figure 17A

LEG MODEL

1. Remove leg mounting brackets packaged inside firebox.
2. Place protective pad or stove pallet on floor.
3. Lay body of stove on its back on protective pad or pallet.
- 4 Remove the bolts, using a 9/16" Hex Head socket or wrench, from the adapter and save.
5. Secure mounting brackets to the bottom of the stove with 1/4"-20 Phillips screws. These screws are located on the outer skin at the bottom rear of the stove. See Figure 17A.
6. Loosely assembly bolts into the corner of the mounting brackets.
7. Slide legs onto mounting brackets and tighten.
8. Carefully stand stove up and place in desired location.
9. Use leveling bolts on legs to stabilize and level stove.
10. Open door of stove and check to make sure firebricks and ceramic blanket are in their proper locations (see pages 24-25).

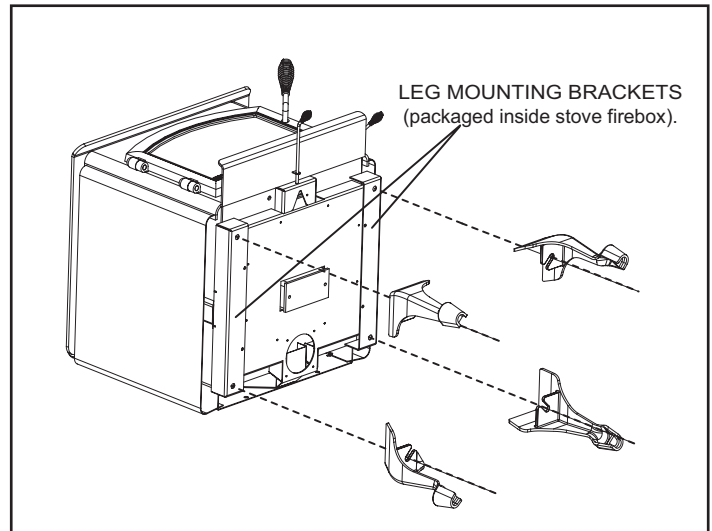


Figure 17B

CAUTION! DO NOT TILT THE UNIT ON THE CAST IRON LEGS. Lift the unit upright and place it into position on the floor protector.

INSTALLATION OF OPTIONAL BLOWER, Part 831-1701

The blower is shipped fully assembled and ready for installation.

1. Remove the three bolts (1/4"-20 Phillips Head) on the outer skin at the bottom rear of stove.
2. Align holes in mounting flange of blower with bolt holes in stove. Blower should be positioned around bottom of rear outer skin as shown in drawing below.
3. Re-insert and tighten bolts, securing blower onto outer wall of stove.

Do not remove ground from plug. Plug blower cord into a grounded outlet. Route power cord away from stove in such a manner to avoid heat from the stove, traffic, or other damage. Do not route cord under or in front of stove.

ADJUSTING THE BLOWER SPEED CONTROL, IF NECESSARY*

**The blower speed control for this unit is adjusted at the factory and normally does not require further adjustment.*

NOTE: When the speed control is turned clockwise, it will click on to high speed. Continue to turn the speed control clockwise to decrease the speed. At full clockwise, the blower should blow gently, but should not stop.

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

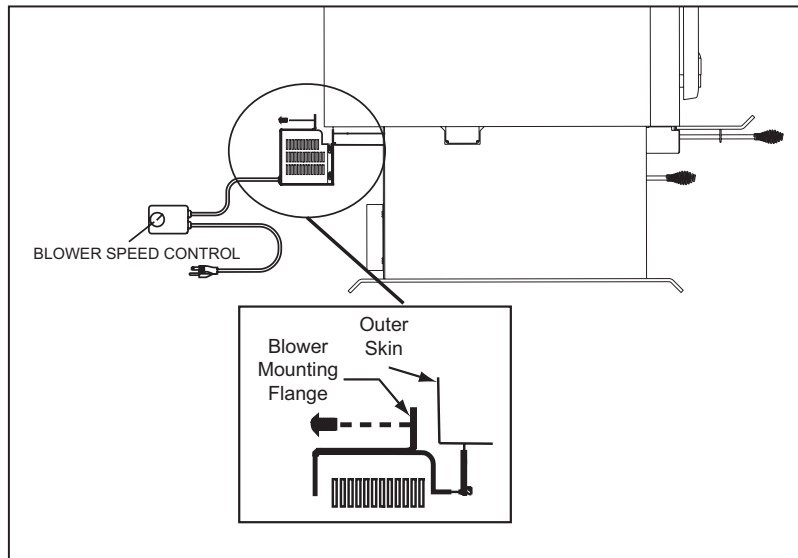


Figure 17A

(4300 Millennium Only)

TOP HEAT SHIELD INSTALLATION, Part: 831-0972

- | | |
|---|---|
| <ol style="list-style-type: none"> 1. Unscrew and remove the rear heat deflector. 2. Attach the two "S" clips to the upper edge of the outer wall of the stove. | <ol style="list-style-type: none"> 3. Set top heat shield on stove and push down into "S" clips. 4. Install chimney pipe through the hole in the top heat shield. |
|---|---|

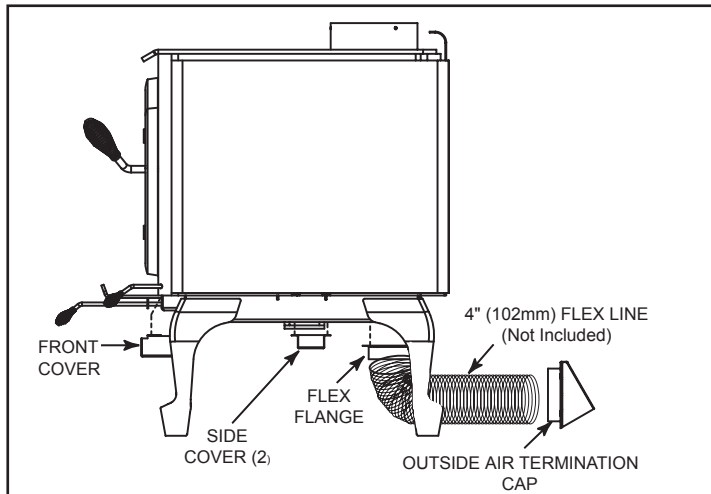
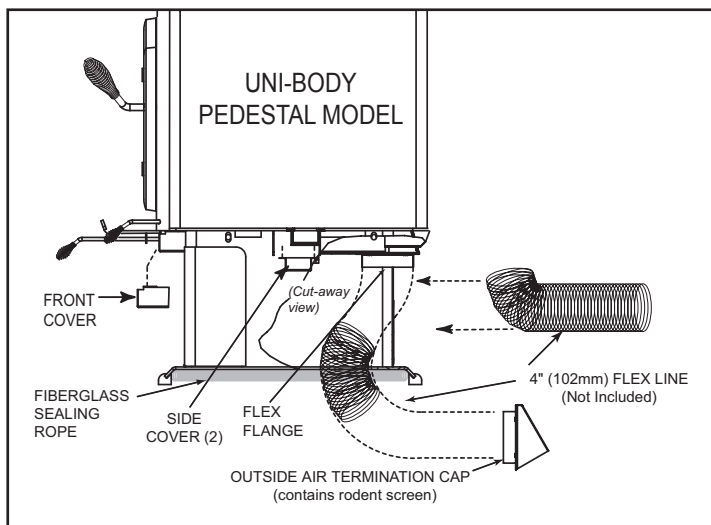
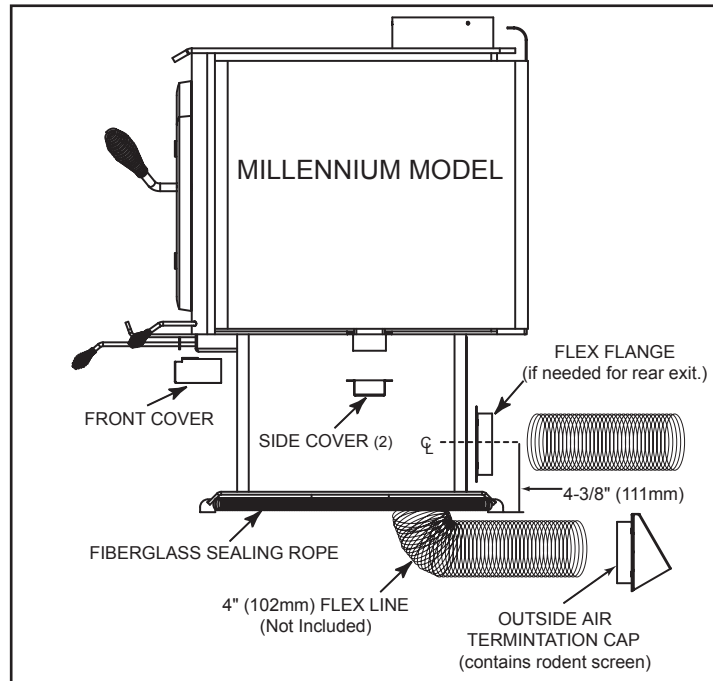
OUTSIDE AIR KIT INSTALLATION

Part 831-1780

Included in Kit: 1 front cover; fiberglass rope; 2 vent straps; venting flange & 4 screws; termination cap & screws. Not all materials are needed for each model.

Items Needed for Installation: 4" (102mm) flex pipe in the length as required for your installation; Phillips screwdriver; Silicone sealant; Drills and saws necessary for cutting holes through the wall or flooring in your home.

1. Remove all materials from packing box.
2. Using a #2 Phillips screwdriver, remove 2 bolts beneath the ashcatcher. Reuse bolts to install front cover. Be certain that the cover is pushed back as far as possible.
3. Install side covers to each side. Slide covers into area and secure with 4 sheet metal screws.
4. **Floor installation:** Cut a 4" (102mm) minimum hole in the floor to accommodate outside air piping. Use 4" (102mm) metal flex or rigid piping to directly connect outside air to the unit or into **vented** crawl space. **(Do not put flex into a non-vented crawl space)**. Use the supplied termination cap with a rodent screen. Seal between the floor and the pipe with silicone to prevent moisture penetration. Install fiberglass sealing rope under each side of pedestal.
5. **Rear/wall installation:** (Millennium Model only, use the knockout plate in rear of the pedestal for exterior wall venting.) Cut a 4" (102mm) hole in outside wall to accommodate outside air piping. Use 4" (102mm) metal flex or rigid piping to directly connect outside air to stove intake. Use the supplied termination cap with a rodent screen. Seal between the wall and the pipe with silicone to prevent moisture penetration. Install fiberglass sealing rope under each side of pedestal.



**OPERATING INSTRUCTIONS
IMPORTANT - PLEASE READ BEFORE USING STOVE**

BURNING PROCESS

In recent years there has been an increasing concern about air quality. 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 wood stoves that surpass the requirements for emissions established by our governing agencies. These wood stoves, like any other appliances, must be properly operated in order to insure that they perform the way they are designed to perform. Improper operation can turn most any wood stove into a smoldering environmental hazard.

KINDLING or 1st STAGE

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 is called the kindling stage. In this stage, the wood is heated to a temperature high enough to evaporate the moisture which is present in all wood. The wood will reach the boiling point 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 to burn: 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. When the wood isn't dry, you must open the air controls and burn the stove at a high burn setting for a longer time to start it burning. The heat generated from the fire should be warming your home and establishing the flue draft, not evaporating the moisture out of wet, unseasoned wood, resulting in wasted heat.

The air control on the right side of the stove is called the Start-Up Air Control; it is used during the kindling stage of burning. It must be closed (pulled out) after the first 5 to 15 minutes.

2nd STAGE

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 very important that the flames be maintained and not allowed to go out. This will ensure 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 air control in the center of the stove beneath the ashcatcher, is the one used to adjust the stove for burn rates. This is called the Primary Air Control. **See Figure 20A.**

FINAL STAGE

The final stage of burning is the charcoal stage. This occurs when the flammable gases have been mostly burned and only 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 air controls for a short while **before reloading**. This livens up the coalbed. Open door slowly so that ash or smoke does not exit stove through opening. 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 way possible. Doing this will allow us to continue using our wood stoves for many years to come.

AIR CONTROLS

START-UP AIR SYSTEM

The combustion air enters at the rear of the firebox through the rear air tubes. This air supply is controlled by the Start-up Air Control.

PRIMARY AIR SYSTEM

The primary air enters at the upper front of the firebox, near the top of the glass door. This preheated 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 Primary AirControl. For more primary air push control in, for less air pull control out.

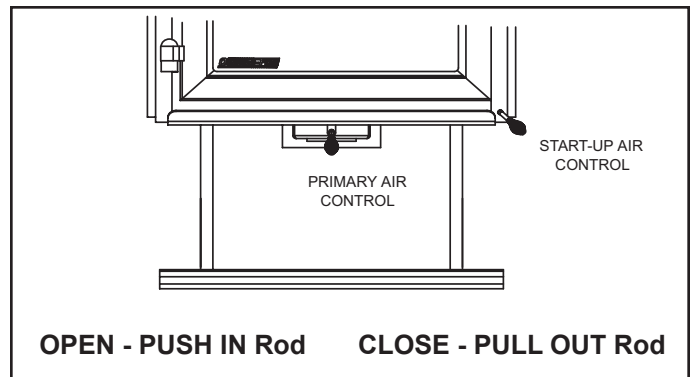


FIGURE 20A

OPERATION OF TWO-STEP DOOR HANDLE

The 4300 is equipped with a two-step door handle. Turn the door handle counter clockwise and open the door. The door will open approximately one inch and stop. This allows for the air flow to stabilize and flow up the chimney and helps prevent smoke spillage into the room. We recommend that you pause at this stage to allow this to take place. Continue to turn counter clockwise and now you can completely open the door for refueling. **See Figure 25A on page 25** for installation instructions.

OPERATING INSTRUCTIONS (Cont'd)

IMPORTANT - PLEASE READ BEFORE USING STOVE

For maximum operating efficiency with the lowest emissions, follow these operating procedures:

1. Regardless of desired heat output, when loading stove, burn your stove with both air controls wide open for 5 to 15 minutes.
2. Regulate burn rate (heat output) by using the Primary Air Control (center under ashcatcher). The Start-Up Air Control (on the right) is used for initial start-up and reloading.
3. Heat output settings: Following 5 to 15 minutes of burning with controls wide open (**see #1 above**):
4. Burn dry, well-seasoned wood.

BTU / Hr	Start-Up Air Control	*Primary Control
Below 10,000	Closed after 5 to 15 minutes	Pull to Stop
10,000 - 15,000	Closed after 5 to 15 minutes	1" - 1-1/4" open
15,000 - 30,000	Closed after 5 to 15 minutes	1-1/4" - 2-1/2" open
Maximum Heat	Closed after 5 to 15 minutes	Fully open

WARNING: Do not operate with Start-Up Air Control in the open position in excess of 15 minutes! Risk of extreme temperatures! Prolonged operation of this stove with the Start-Up Air Control in the open position may cause the combustible materials around the stove to exceed safe temperature limits.

NOTE: These are approximate settings, and will vary with type of wood or chimney draft. Due to altitude and other environmental circumstances, this operation information is a guideline only. Similar burn rates may be obtained using other settings unique to your situation.

BUILDING A FIRE

CAUTION: Before lighting your first fire in the stove: 1) Make certain that the baffle is correctly positioned. It should be resting against the rear support; 2) Follow instructions on page 22 for cleaning plated surfaces, and; 3) Remove all labels from glass front.

CAUTION: Never use gasoline, gasoline-type lantern fuel, kerosene, charcoal lighter fluid, or similar liquids to start or "freshen up" a fire in this heater. Keep all such liquids well away from the heater while it is in use.

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. Place several wads of crushed paper on the firebox floor. **Heating the flue with slightly crumpled newspaper before adding kindling keeps smoke to a minimum.**
2. Lay small dry sticks of kindling on top of the paper.
3. Open Start-Up Air Control and Primary Air Control fully.
4. 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.
5. Light the paper in the stove. NEVER light or rekindle stove with kerosene, gasoline, or charcoal lighter fluid; the results can be fatal.
6. Once the kindling is burning quickly, add several full-length logs 3" (76mm) or 4" (102mm) 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 from each other to allow adequate air flow between them.
7. 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.
8. Adjust the Start-Up Air Control and Primary Air Control; the more you close down the Primary Air Control, the lower and slower the fire will burn. The more you open the Primary Air Control, the more heat will be produced. The Start-Up Air Control is only used for the first 5 to 15 minutes.

As long as there are hot coals, repeating steps 7 and 8 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.

NOTE: Stove should be run full open for 15 minutes a day to keep air passages clean.

WARNING! ALWAYS OPERATE THIS APPLIANCE WITH THE DOOR CLOSED AND LATCHED EXCEPT DURING START-UP AND RE-FUELING .

WARNING! DO NOT LEAVE THE FIRE UNATTENDED WHEN THE DOOR IS UNLATCHED. UNSTABLE FIREWOOD COULD FALL OUT OF THE FIREBOX CREATING A FIRE HAZARD TO YOUR HOME.

OPERATING INSTRUCTIONS (Cont'd)

OPACITY

This is the measure of how cleanly 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 (goal of 0% opacity).

BURN RATES

- **STARTING FIRE:** Open (push in) both controls fully. After a wood load has been burning for 5 to 15 minutes (longer for very large pieces) close the Start-Up Air Control by pulling it out (to the right of the stove).
- **HIGH:** Leave the Primary Air Control fully open (center of stove under the ashcatcher). It is important to do this when reloading the stove. Failure to do this could result in excessive emissions (opacity).

After a wood load has been burning for 5 to 15 minutes on High to achieve the following burn rates set the controls as listed below:

- **MEDIUM HIGH:** Close the Primary Air Control to 1-1/4" to 2-1/2" (32-64mm) open, Start-Up Air is closed.
- **MEDIUM LOW:** Close the Primary Air Control to 1" - 1-1/4" (25-32mm) open. Start-Up Air is closed.
- **LOW:** Gradually close down the Primary Air Control, making sure to maintain flames in the stove. (Start-Up Air is closed.) It is very important to maintain flames in your stove during the first few hours of a low burn to avoid excessive air pollution.

WOOD SELECTION AND STORAGE

CAUTION: DO NOT STORE WOOD CLOSER THAN THE REQUIRED CLEARANCES TO COMBUSTIBLE OF THE STOVE OR WITHIN THE SPACE REQUIRED FOR LOADING AND ASH REMOVAL.

Burn only dry seasoned wood. Store wood under cover, out of the rain and snow. 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 the wood 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 dead wood can be considered to be about two-thirds 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 is dry. If your wood sizzles in the fire, even though the surface is dry, it may not be fully cured.

Splitting wood before it is stored reduces drying time. Wood should be stacked so that both ends of each piece are exposed to air, since more drying occurs through the cut ends than the sides. This is true even with wood that has been split. Store wood under cover, such as in a shed, or covered with a tarp, plastic, tar paper, sheets of scrap plywood, etc., as uncovered wood can absorb water from rain or snow, delaying the seasoning process.

BLOWER OPERATING INSTRUCTIONS

(See blower installation instructions on page 18)

If your Quadra-Fire wood stove is equipped with an optional blower, you should follow these guidelines:

1. **Initial (cold) start-up:** Leave blower off until your stove is hot and a good coalbed is established. The blower may be turned on approximately 15 minutes after loading the stove with fuel.
2. **High burn setting:** The blower may be left on throughout the burn.
3. **Medium Low or Medium-High burn setting:** The blower should be left off until a good burn is established, then turned on at a medium or high rate.
4. **Low burn setting:** The blower tends to cool off the stove. If you are using wet wood or a very low burn setting, leave blower off until the burn is well established. Then, if you wish, turn the blower on at a lower rate. Too high a blower setting with a low burn rate may adversely affect emissions.
5. The blower is equipped with a speed control. The highest blower speed is obtained by turning the speed control to "ON" and then adjusting counterclockwise towards "OFF" as far as possible without turning the blower off. For a low blower speed, turn the control knob clockwise as far as possible.

MAINTENANCE and GLASS CARE**CREOSOTE**

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 or a slow-burning fire. As a result, creosote residue accumulates on the flue lining. When ignited, this creosote creates an extremely hot fire which may damage the chimney or even destroy the house. The chimney connector and chimney should be inspected once every two months during the heating season to determine if a creosote or soot buildup has occurred. If creosote or soot has accumulated, it should be removed to reduce the risk of a chimney fire.

INSPECTION: 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.

REMOVAL: The creosote or soot 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, cleaned and repaired if necessary.

CHIMNEY CLEANING

Remove all ash from the firebox and extinguish all hot embers before disposal. Allow the stove to cool completely. Disconnect flue pipe or remove baffle from stove before cleaning chimney. Otherwise residue can pile up on top of the baffle and the stove will not work properly. Close the door tightly and proceed with sweeping the chimney. Clean out fallen ashes from the firebox.

DISPOSAL OF ASHES

Ashes should be placed in a metal container with a tight fitting lid. The closed container of ashes should be placed on a noncombustible floor or on the ground, well away from all combustible materials, pending final disposal. If the ashes are disposed of by burial in soil or otherwise locally dispersed, they should be retained in the closed container until all cinders have thoroughly cooled.

OVERFIRING

Do not overfire. Using flammable liquids or too much wood, burning trash in the stove, or allowing too much air into 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, which can be dangerous, possibly causing a house fire. If you overfire, immediately close the air controls and door, if open, to reduce the air supply to the fire. **Overfiring will void the stove warranty.**

FIREBRICK

The firebox of your Quadra-Fire stove is lined with high quality firebrick, which has exceptional insulating properties. There is no need to use a grate; simply build a fire on the firebox floor of your stove. Do not operate stove without firebrick.

GLASS CARE

NOTE: REMOVE ALL LABELS FROM GLASS BEFORE LIGHTING THE FIRST FIRE IN YOUR STOVE.

Quadra-Fire stoves are equipped with ceramic 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 the glass. Clean glass with a nonabrasive glass cleaner. Abrasive cleaners may scratch and cause glass to crack. Inspect glass regularly. If you find a crack or break, immediately put the fire out and return the door to your dealer for replacement of glass before further use.

A portion of the combustion air entering the firebox is deflected down over the inside of the door glass. This air flow "washes" the glass, helping to keep smoke from adhering to its surface. When operated at a low burn rate, less air will be flowing over the glass and the smokey, relatively cool condition of a low fire will cause the glass to become coated. Operating the stove with the Primary Air Control all the way open for 15-20 minutes should remove the built up coating. If the deposits on the glass are not very heavy, normal glass cleaners work well. Heavier deposits may be removed by using a damp cloth dipped in wood ashes or by using a commercially available oven cleaner. After using an oven cleaner, it is advisable to remove any residue with a glass cleaner or soap and water. Oven cleaner left on during the next firing can permanently stain the glass and damage the finish on plated metal surfaces.

CARE AND CLEANING OF PLATED SURFACES

Clean plated surfaces with vinegar or a glass cleaner before lighting your first fire.

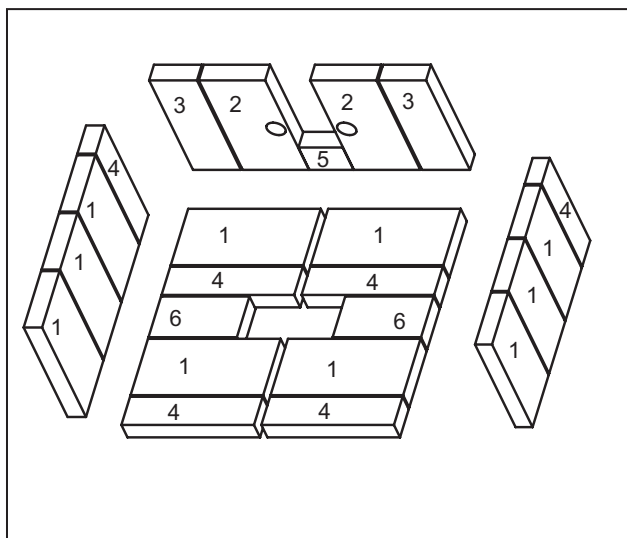
CAUTION: Do not use polishes with abrasives as it will scratch the surface.

WARNING: When the appliance is equipped with a plated door, you must clean all the fingerprints and oils from the surface before firing the appliance for the first time. Use a glass cleaner or vinegar and towel to remove the oils. If not cleaned properly before lighting your first fire, the oils can cause permanent markings on the plating. After the plating is cured, the oils will not affect the finish and little maintenance is required: just wipe clean as needed.

BRICK REPLACEMENT INSTRUCTIONS

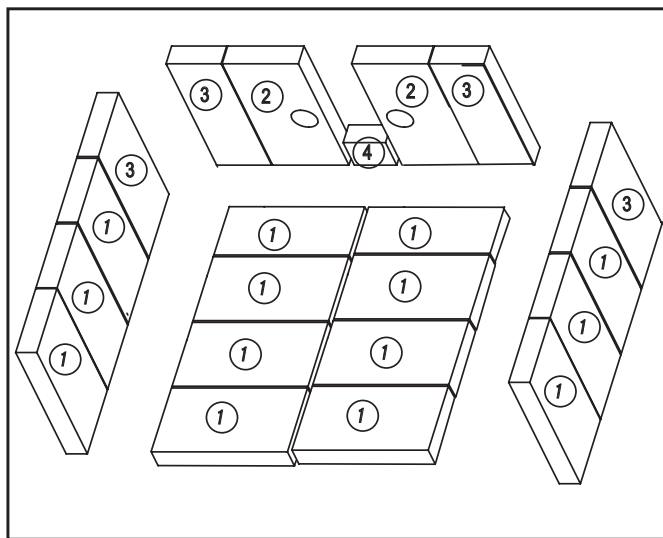
The Step-Top Model accepts the Ash Removal System, and the brick pattern incorporates the ash grate.

The Millennium Model does not accept the Ash Removal System.



Brick Set Part 831-1960

<u>Nbr</u>	<u>Brick Size</u>	<u>Qty in Set</u>
1	9 x 4.5 x 1.25"	10
2	9 x 4.5 x 1.25" with hole	2
3	9 x 3.0 x 1.25"	6
4	2.25 x 2 x 1.25"	1
5	6 x 3.25 x 1.25"	2
6	9 x 2.75 x 1.25"	2



Brick Set Part 831-1970

<u>Nbr</u>	<u>Brick Size</u>	<u>Qty in Set</u>
1	9 x 4.5 x 1.25"	14
2	9 x 4.5 x 1.25" with hole	2
3	9 x 3.25 x 1.25"	4
4	2.25 x 2 x 1.25"	1

Use Part 832-0550 when ordering individual brick. Please provide brick dimensions or copy this page and mark the desired brick and take it to your authorized dealer.

1. After the coals have completely cooled, remove all old brick and ash from unit and vacuum out firebox.
2. Remove new brick set from box and lay out to diagram shown above.
3. Lay bottom bricks in unit.
4. Install rear bricks on the top of the bottom bricks. Slide top of bricks under clip on back of firebox wall and push bottom of brick back.
5. Install side bricks. Slide top of brick under clips on side of firebox and push the bottom of the brick until it is flush with the side of the unit.

GLASS REPLACEMENT

Part 832-0060

Replace with 5mm ceramic glass only

1. Ensure that the fire is out and the stove is cool to the touch.
2. Protect a table or counter top with padding or towels.
3. Remove the door with the broken glass by lifting the door up and off of the hinges.
4. Lay door face down on a table or counter making sure the handle hangs over the edge so the door lays flat, on a soft surface.
5. Remove the screws from each glass retainer and remove the glass. (If screws are difficult to remove, soak with penetrating oil first).
6. Center the glass with edges evenly overlapping the opening in the door, (i.e. same space top and bottom, left and right sides).
7. Replace the glass retainers. Be careful not to cross thread the screws.
8. Tighten each retainer just a few turns until each is secured. Check again for centering of glass in door frame. Then continue to tighten each retainer alternately, a few turns at a time, until the glass is secured. DO NOT OVERTIGHTEN.
9. Replace the door on the appliance.

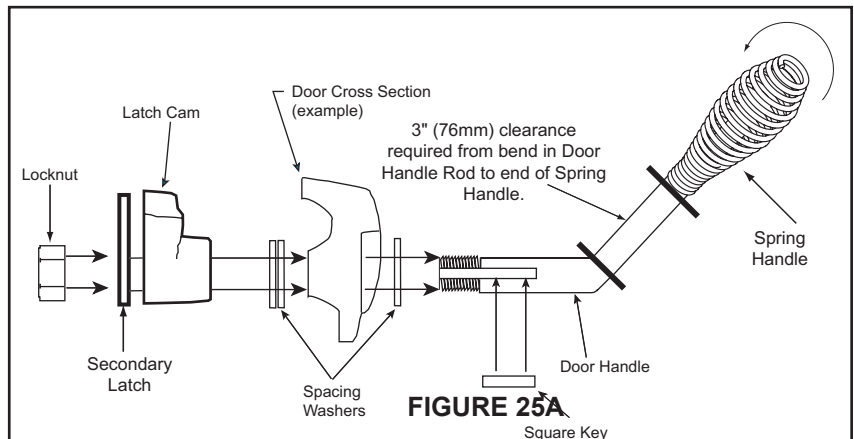
DOOR HANDLE ASSEMBLY

SEE PAGE 20 FOR OPERATING INSTRUCTIONS

1. Install washer on door handle shaft.
2. Slide door handle through door.
3. Install second washer(s) as shown.
4. Install key in groove.
5. Align groove in latch cam with key; slide latch cam over shaft.
6. Install locknut.

CAUTION! DO NOT OVERTIGHTEN LOCKNUT. DOOR HANDLE NEEDS TO MOVE SMOOTHLY.

7. Install spring handle turning in a counter-clockwise motion on handle leaving a 3" (76mm) clearance from bend in door handle rod to end of spring handle. See Figure 25A.

**SPRING HANDLE WARNING!**

3" (76mm) clearance is required from bend in Door Handle Rod to end of the Spring Handle. If installed within that 3" (76mm) area, Spring Handle will get hot and may cause injury.

BAFFLE REMOVAL AND INSTALLATION

NOTE: The baffle in the 4300 is 2700° Fiber Board. 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 which will save time and effort. Call a qualified chimney sweep or an authorized Quadra-Fire dealer for details.

1. Remove all ash from the firebox, and extinguish all hot embers before disposal into a metal container.
2. With a 3/16" allen wrench, remove the 2 front secondary combustion tube retainer bolts on the secondary air channel under the end of the front tubes. See Figure 25B. NOTE: Soak the bolts with penetrating oil for at least 15 minutes before trying to remove them.
3. To remove the secondary combustion tubes, slide the tube to one side until one end is out of its hole. Then, while lifting that end of the fiber board, pull the tube up over the secondary air channel and out of the hole at the other end.

NOTE: When replacing the secondary tubes, be sure the tube with the larger holes is placed in the front or your stove will not operate properly.

4. Slide fiber board and ceramic blanket forward to front of stove, tilt down and slide to the door. Tilt to one side and slide both through door at the same time. Keep them tilted as you lift it out of the door. See Figure 25C.
5. To install the fiber board baffle and ceramic blanket, repeat steps 2 through 4 in reverse. Be sure that the fiber board baffle is pushed back fully and the blanket is down flat. The front of the blanket should be flush with the front of the baffle.

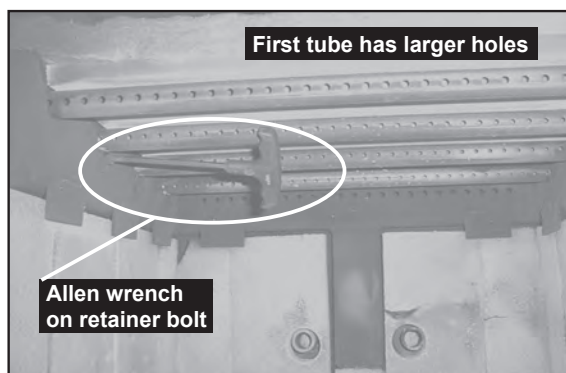


FIGURE 25B - Allen wrench on retainer bolt.

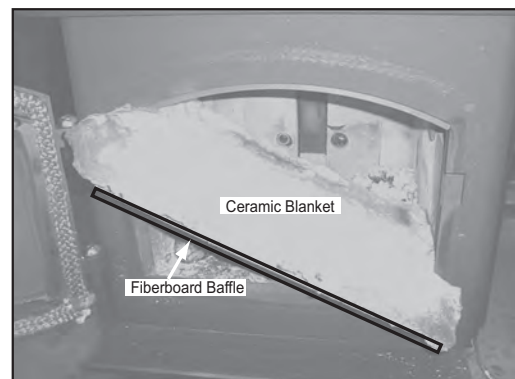
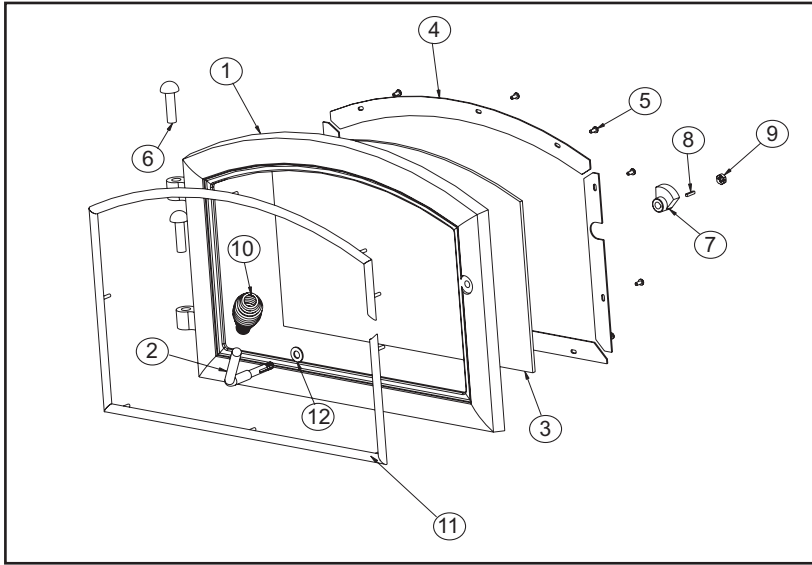


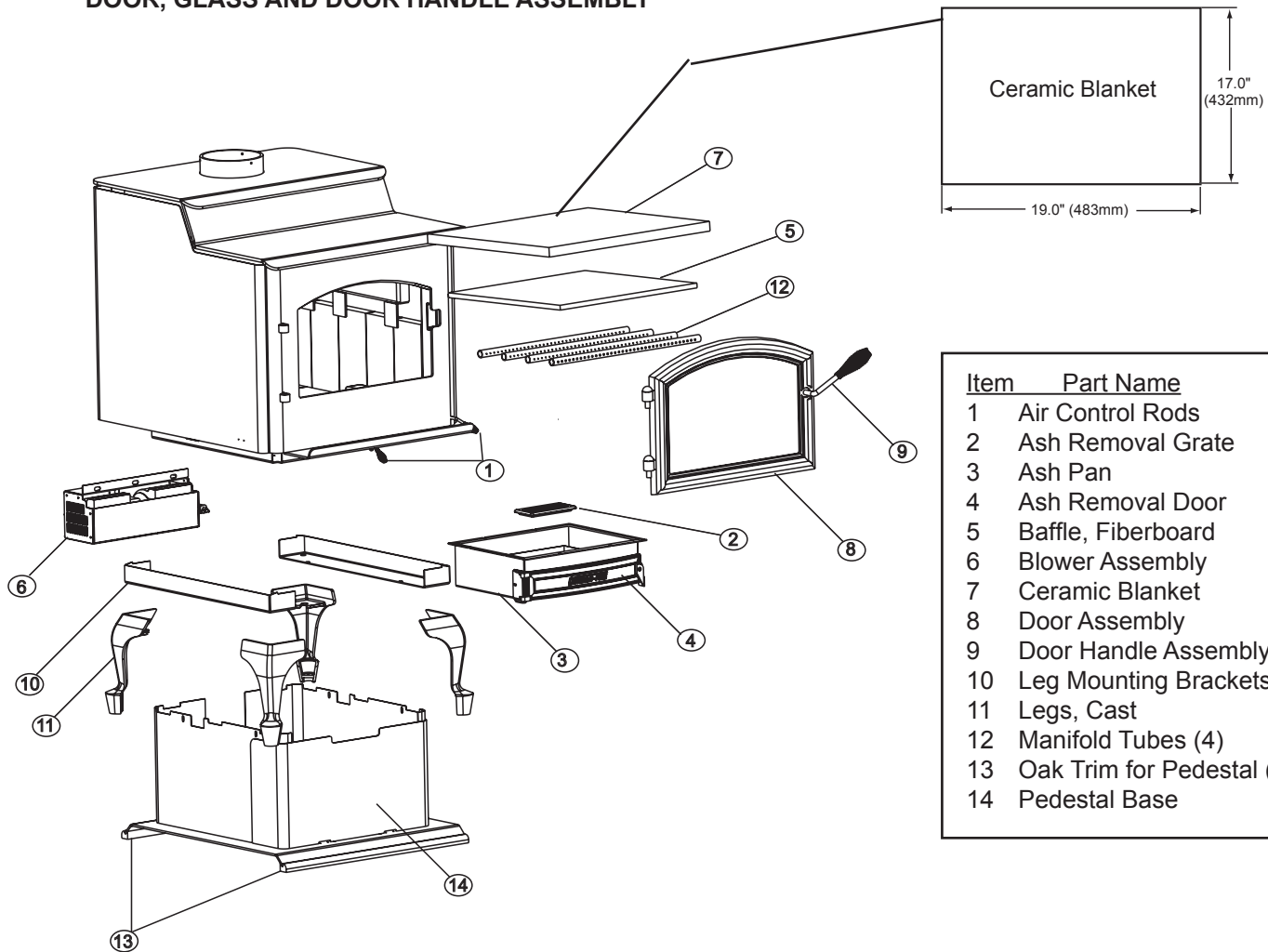
FIGURE 25C - Baffle and Ceramic Blanket .

EXPLODED VIEWS



Item	Part Name
1	Door, Cast
2	Door Handle
3	Glass, Replacement
4	Glass Frame Assembly
5	Glass Frame Screws (10)
6	Hinge Pins
7	Latch, Cam
8	Latch Cam key
9	Latch, Secondary
10	Locking Nut
11	Spring Handle, 1/2"
12	Trim for Door (Trim Door Assembly only)
13	Washer, Spacing

DOOR, GLASS AND DOOR HANDLE ASSEMBLY



Item	Part Name
1	Air Control Rods
2	Ash Removal Grate
3	Ash Pan
4	Ash Removal Door
5	Baffle, Fiberboard
6	Blower Assembly
7	Ceramic Blanket
8	Door Assembly
9	Door Handle Assembly
10	Leg Mounting Brackets
11	Legs, Cast
12	Manifold Tubes (4)
13	Oak Trim for Pedestal (2)
14	Pedestal Base

Model Shown: Step Top Uni-Body

ACCESSORIES

- 831-1671 Ash Removal System (ARS)
- 831-1701 Blower Assembly
- 832-1092 Door Assembly, Black
- 832-1912 Door Assembly, Gold Trim
- DR-31/43NL Door Assembly, Nickel Trim
- UK-DRNL Nickel Upgrade Kit, *(includes (2) hinge pins & (3) spring handles)*
- 831-1250 Queen Anne Legs, Gold
- 831-1240 Queen Anne Legs, Cast
- LEGS-QANL Queen Anne Legs, Nickel
- 831-1780 Outside Air Kit, Pedestal or Leg, Floor or Rear
- 831-1860 Pedestal Assembly
- 831-0972 Top Heat Shield, Black *(4300 Millennium only)*
- 831-1650 Top Heat Shield, Gold Grille Accessory

SERVICE PARTS

- 831-1980 Baffle, Fiberboard
- 831-1960 Brick Set, ARS Step Top Model
- 831-1970 Brick Set, Millennium Model
- 832-0550 Brick, Individual, Pumice *(give dimensions needed, see page 24)*
- 832-3401 Ceramic Blanket, 1" thick *(field cut to fit size 17" x 19")*
- 831-1990 Component Pack *(includes paint, gold spring handles and manual)*
- 472-5130 Door Handle Assembly
- 832-1680 Door Rope, 3/4" thick, *(field cut to proper length)*
- 832-0060 Glass Assembly
- 831-2000 Manifold tubes, set (4)
- 832-0620 Spring Handle, Door, 1/2", Gold
- 832-0630 Spring Handle, Air Control, 1/4", Gold, Set (2)

APPLIANCES

4300 Millennium

- 820-0710 4300 Millennium, Black Door, Pedestal
- 43M-GT 4300 Millennium, Gold Trim Door, Pedestal
- 43M-NT 4300 Millennium, Nickel Trim Door, Pedestal

NOTE: Ash Removal System is not available for the Millennium Model

4300 Step Top Uni-body

- 820-0701 4300 Step Top, Uni-Body

Door Options

- 832-1092 Black Door
- 832-1912 Gold Trim Door
- DR-31/43NL Nickel Trim Door

Base Options

- 831-1860 Pedestal
- 831-1250 Queen Anne Legs, Gold
- 831-1240 Queen Anne Legs, Black
- LEGS-QANL Queen Anne Legs, Nickel

NOTES



NOTES





Lifetime Warranty

LIMITED LIFETIME WARRANTY

The Hearth & Home Technologies limited Lifetime Warranty guarantees that the following components will work as designed for the lifetime of the stove or Hearth & Home Technologies will repair or replace them. These items include but are not limited to steel and cast iron components, all gas burners, gas logs, combustion chambers, heat exchanger systems, stainless steel firebox components, plating, doors, glass damaged by thermal breakage, steel baffle supports, steel and ceramic baffles and manifold tubes. Labor is for the first five years.

THREE YEAR WARRANTY

Our EZ Clean firepots are covered under Hearth & Home Technologies three-year warranty program. Labor is for 3 years.

TWO YEAR WARRANTY

All electrical components such as but not limited to blowers, wiring, vacuum switches, speed controls, control boxes, thermodisc switches, pilot assembly, gas valves, thermostats and remotes are covered under Hearth & Home Technologies two-year warranty program. Labor is for two years.

ONE YEAR WARRANTY

Porcelain finishes are warranted against manufacturer defects for one year. Labor to repair or replace these parts is covered for one year, reimbursed per our warranty service fee schedule.

CONDITIONS

This warranty is non-transferable and is made to the original retail purchaser only provided that the purchase was made through an authorized dealer of Hearth & Home Technologies. It must be installed and operated at all times in accordance with the Installation and Operating Instructions furnished with this product, as well as any applicable local and national codes. Any alteration, willful abuse, accident, or misuse of the product shall nullify this warranty.

Labor to repair or replace items covered under the limited Lifetime Warranty will be covered for the first five years per our warranty service fee reimbursement schedule. Parts covered under the limited Lifetime Warranty will be covered for the lifetime of the appliance up to a maximum of ten (10) years after Hearth & Home Technologies discontinues the model and two (2) years for optional accessories. Adjustments, regular maintenance, cleaning and temporary repairs do not qualify for a service call fee and will not be covered. The replacement of consumer replaceable items and installation of upgraded component parts do not qualify for a service call fee, and will not be covered.

This limited Lifetime Warranty does not extend to or include surface finish on the appliance, door gasketing, glass gasketing, glass, firebrick, pellet logs, igniters, kaowool or other ceramic insulating materials. It does not cover installation or operational-related problems such as overfiring, use of corrosive driftwood, downdrafts or spillage caused by environmental conditions, nearby trees, buildings, hilltops, mountains, inadequate venting or ventilation, excessive offsets, or negative air pressures caused by mechanical systems such as furnaces, fans, clothes dryers, etc.

Any installation, construction, transportation, or other related costs or expenses arising from defective part(s), repair, replacement, etc., will not be covered by this warranty, nor will Hearth & Home Technologies assume responsibility for them. Further, Hearth & Home Technologies will not be responsible for any incidental, indirect, or consequential damages, except as results in damage to the interior or exterior of the building in which this appliance is installed. This limited Lifetime Warranty does not apply to the venting components, hearth components or other accessories used in conjunction with the installation of this product not manufactured by Hearth & Home Technologies

This warranty is void if the stove has been overfired or operated in atmospheres contaminated by chlorine, fluorine, or other damaging chemicals, the stove is subjected to prolonged periods of dampness or condensation, or there is any damage to the stove or other components due to water or weather damage which is the result of, but not limited to, improper chimney or venting installation. Hearth & Home Technologies may, at its discretion, fully discharge all obligations with respect to this warranty by either repairing or replacing the unit, or refunding the wholesale price of the defective part(s).

This limited Lifetime Warranty is effective on all appliances sold after May 1, 2002 and supersedes any and all warranties currently in existence.



Policy 250-8620 Rev F

QUADRA-FIRE®

CONTACT INFORMATION:

Hearth & Home Technologies
1445 North Highway
Colville, WA 99114
Division of HNI INDUSTRIES
www.quadrafire.com

Please contact your Quadra-Fire dealer with any questions or concerns.
For the number of your nearest Quadra-Fire dealer,
call 1-800-926-4356

CAUTION	
	<ul style="list-style-type: none">• Do NOT discard this manual.• Important operating and maintenance instructions included.
	<ul style="list-style-type: none">• Read, understand and follow these instructions for safe installation and operation.• Leave this manual with party responsible for use and operation.

ATTENTION INSTALLERS:

PLEASE RETURN THESE INSTRUCTIONS TO THE HOME OWNER WHEN THE INSTALLATION IS COMPLETE

This product may be covered by one or more of the following patents: (United States) 4593510, 4686807, 4766876, 4793322, 4811534, 5000162, 5016609, 5076254, 5113843, 5191877, 5218953, 5263471, 5328356, 5341794, 5347983, 5429495, 5452708, 5542407, 5601073, 5613487, 5647340, 5688568, 5762062, 5775408, 5890485, 5931661, 5941237, 5947112, 5996575, 6006743, 6019099, 6048195, 6053165, 6145502, 6170481, 6237588, 6296474, 6374822, 6413079, 6439226, 6484712, 6543698, 6550687, 6601579, 6672860, 6688302B2, 6715724B2, 6729551, 6736133, 6748940, 6748942, D320652, D445174, D462436; (Canada)1297749, 2195264, 2225408; or other U.S. and foreign patents pending.

