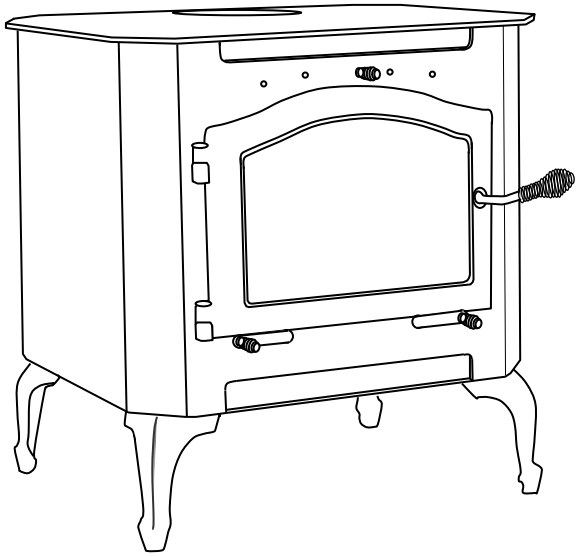
KUMA STOVES

Rathdrum ID, USA



MODEL# K-SEQ: Sequoia

Tested to: UL1482

Report #: 123-S-04-2

Testing performed by Omni Test Laboratories

INSTALLATION AND OPERATING INSTRUCTIONS

SAVE THESE INSTRUCTIONS

Rev. 5-7-15

Welcome to the Kuma family.

Kuma is a modified version of the Greek word Kauma that means "a great heat".

We would like to take the time to say thank you for purchasing a Kuma stove. If this is your first Kuma stove, you have joined a long list of family members, some since 1981. We are a family business that still desires to maintain a good relationship with each and every one of our customers. Our mission is to provide you with a quality product that will last a lifetime. If you ever have a problem with your stove, we will do what is needed to get it resolved and keep you warm.

You may have noticed a portion of the Bible enclosed in your owner's packet. It is a small gift for you. Our faith in Jesus Christ is very important to us and we have that faith because there is hope in heaven. That hope comes from the message of truth that is found in this gospel of John.

Thank you for allowing us the opportunity to warm your house. May God bless you and we anticipate that you will enjoy the use of your new Kuma wood stove.

Sincerely,

The Freeman Family

This manual describes the installation and operation of the Kuma Model **Sequoia** Catalytic equipped wood heater. This heater meets the 2015 U.S. Environmental Protection Agency's crib wood emission limits for wood heaters sold after May 15, 2015. Under specific test conditions (Canadian Method B-415) this heater has been shown to deliver heat at rates ranging from 10,100 to 52,100 Btu/hr. and an efficiency of 83.9% (High Heating Value).

Please read the safety precautions and the entire installation and operation instructions carefully. Failure to properly install and maintain your wood stove can result in an unsafe condition.

Contents

Section 1 – Safety Precautions

Install and use in accordance with the manufacturers installation and operation instructions contained in this manual only.

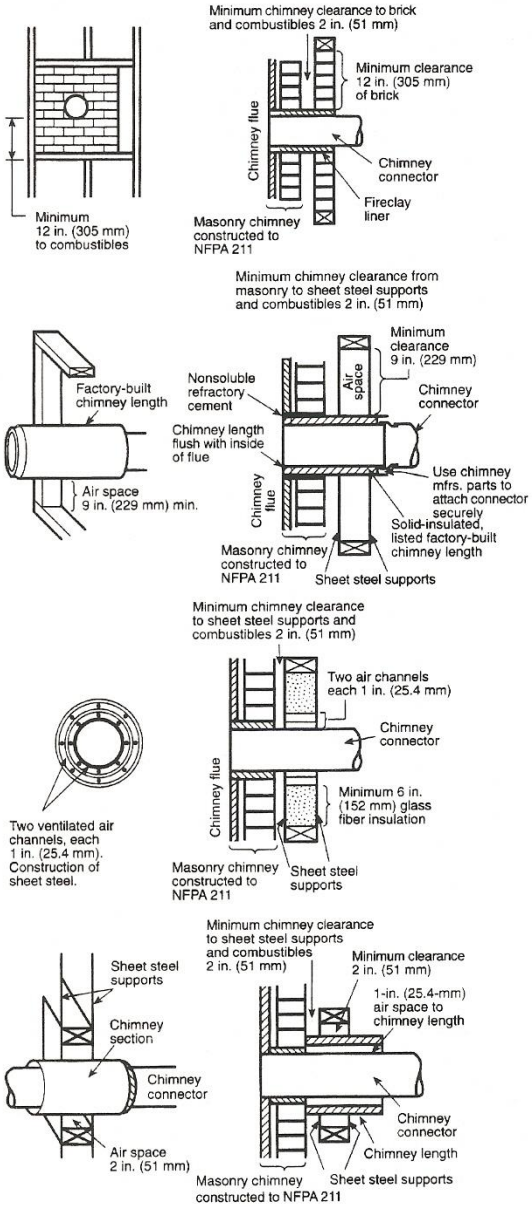
1. If this stove is not properly installed, a house fire can occur. For your protection, follow the installation instructions provided. We recommend contacting local building or fire officials regarding restrictions and installation inspection requirements in your area. **We also recommend that your Kuma model Sequoia stove be installed by a properly trained and licensed installer, preferably a NFI (National Fireplace Institute) expert.**
2. **DO NOT CONNECT THIS UNIT TO A CHIMNEY FLUE SERVICING ANOTHER APPLIANCE.**
3. Do not 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.
4. Do not burn garbage.
5. **DO NOT OVERFIRE THIS HEATER** Attempts to achieve heat output rates that exceed heater design specifications can result in permanent damage to the heater and to the catalytic combustor. If any part of the stove or chimney glows, the stove is in an over fire condition. If this happens, shut the air control off immediately.
6. **WARNING: DO NOT INSTALL IN A SLEEPING ROOM**
7. **An improperly drafting stove can cause smoke and carbon monoxide to enter the home. Smoke detectors and carbon monoxide monitors are recommended to be installed in the same room as this heater.**
8. **CAUTION:** The structural integrity of the floor, wall and ceiling/roof must be maintained.
9. **DO NOT USE SINGLE WALL PIPE FOR ANY CHIMNEY APPLICATION, EXTERIOR OR THROUGH THE WALL OR CEILING.** Single wall pipe may only be used as a connection between the stove and an approved masonry or stainless steel chimney.
10. When installing into an existing masonry or metal chimney, examine the chimney system carefully. If you have any questions, seek professional advice. We recommend having existing chimneys cleaned and inspected by a qualified professional prior to the installation of your new Stove.
11. **NOTE ALL MINIMUM CLEARANCE REQUIREMENTS TO COMBUSTIBLES.** Installation must comply with minimum clearances as listed in this manual. (see section 6)
12. Do not operate this stove with the door in the open position.
13. This stove must be connected to a minimum 8" diameter, U.L. listed type 103HT factory built chimney, or a code approved masonry chimney. If the masonry chimney does not meet code, a U.L. 1777 approved liner must be installed. Insert installations should always use a chimney liner.
14. When connecting single wall or double wall connector pipe to the stove and chimney, use 3 screws per pipe joint including 3 screws securing the pipe to the stove. Depending on the type of double wall pipe you are using, it may also be necessary to fasten it at the chimney. Simpson Duravent's DVL double wall uses a snap lock connector and does not need screws.
15. When connecting this stove to a masonry chimney, make sure you observe all applicable clearances including walls, ceilings and other combustible material. A masonry chimney must be minimum 8" diameter and constructed with a liner according to NFPA code 211. If you have any questions about the condition or the code compliance of your masonry chimney, please speak with a qualified professional.

16. **WHEN PENETRATING A COMBUSTIBLE WALL TO CONNECT TO AN OUTSIDE MASONRY CHIMNEY YOU MUST BE CERTAIN THAT THE WALL PASS THROUGH IS A SAFE AND LISTED METHOD.** Please refer to NFPA code 211 for details about listed wall pass through methods. To obtain a copy of the NFPA code 211, you may visit their website at www.nfpa.org or call them toll free at 1(800)344-3555. Your local building dept. may also have information regarding NFPA code 211.

EXCERPT FROM NFPA 211

FIGURE 6-7.5 Chimney connector systems and clearances from combustible walls for residential heating appliances.

System		Clearance (in.)/(mm)
A	Minimum 3.5 in. (90 mm) thick brick masonry wall framed into combustible wall with a minimum of 12-in. (305-mm) brick separation from clay liner to combustibles. Fireclay liner (ASTM C 315, *Standard Specification for Clay Fire Linings*, or equivalent), minimum ⅝-in. (16-mm) wall thickness, shall run from outer surface of brick wall to, but not beyond, the inner surface of chimney flue liner and shall be firmly cemented in place.	12/305
B	Solid-insulated, listed factory-built chimney length of the same inside diameter as the chimney connector and having 1 in. (25.4 mm) or more of insulation with a minimum 9-in. (229-mm) air space between the outer wall of the chimney length and combustibles. The inner end of the chimney length shall be flush with the inside of the masonry chimney flue and shall be sealed to the flue and to the brick masonry penetration with non-water-soluble refractory cement. Supports shall be securely fastened to wall surfaces on all sides. Fasteners between supports and the chimney length shall not penetrate the chimney liner.	9/229
C	Sheet steel chimney connector, minimum 24 gauge [0.024 in. (0.61 mm)] in thickness, with a ventilated thimble, minimum 24 gauge [0.024 in. (0.61 mm)] in thickness, having two 1-in. (25.4-mm) air channels, separated from combustibles by a minimum of 6 in. (152 mm) of glass fiber insulation. Opening shall be covered, and thimble supported with a sheet steel support, minimum 24 gauge [0.024 in. (0.61 mm)] in thickness. Supports shall be securely fastened to wall surfaces on all sides and shall be sized to fit and hold chimney section. Fasteners used to secure chimney section shall not penetrate chimney flue liner.	6/152
D	Solid-insulated, listed factory-built chimney length with an inside diameter 2 in. (51 mm) larger than the chimney connector and having 1 in. (25 mm) or more of insulation, serving as a pass-through for a single wall sheet steel chimney connector of minimum 24 gauge [0.024 in. (0.61 mm)] thickness, with a minimum 2-in. (51-mm) air space between the outer wall of chimney section and combustibles. Minimum length of chimney section shall be 12 in. (305 mm). Chimney section concentric with and spaced 1 in. (25.4 mm) away from connector by means of sheet steel support plates on both ends of chimney section. Opening shall be covered, and chimney section supported on both sides with sheet steel supports of minimum 24 gauge [0.024 in. (0.61 mm)] thickness. Supports shall be securely fastened to wall surfaces on all sides and shall be sized to fit and hold chimney section. Fasteners used to secure chimney section shall not penetrate chimney flue liner.	2/51



Additional requirements:

1. Insulation material used as part of wall pass-through system shall be of noncombustible material and shall have a thermal conductivity of 1.0 Btu-in./hr-ft^2-°F (4.88 kg-cal/hr-m^2-°C) or less.
2. All clearances and thicknesses are minimums; larger clearances and thicknesses shall be permitted.
3. Any material used to close up an opening for the connector shall be of noncombustible material.
4. A connector to a masonry chimney, except for System B, shall extend in one continuous piece through the wall pass-through system and the chimney wall to the inner face of the flue liner, but not beyond.

Section 2 – Catalyst Information

1. **Tamper Warning-** This wood stove contains a catalytic combustor which needs periodic inspection and replacement for proper operation. It is against federal regulations to operate this wood stove in a manner inconsistent with the operating instructions in this manual, or if the catalytic element is deactivated or removed.
2. **Catalyst type-** The combustor supplied with this wood stove is an Applied Ceramics FireCat® combustor. Please refer to section 5 for catalyst maintenance. Refer to section 7 for catalyst troubleshooting. Refer to section 9 for catalyst warranty information.
3. **Catalyst Monitoring-** It is important to periodically monitor the operation of the catalytic combustor to ensure that it is functioning properly and to determine when it needs to be replaced. A non-functioning combustor will result in a loss of heating efficiency, and an increase in creosote and emissions. Following is a list of items that should be checked on a periodic basis:
    a. Combustors should be visually inspected at least three times during the heating season to determine if physical degradation has occurred. Actual removal of the combustor is not recommended unless more detailed inspection is warranted because of decreased performance. If any of these conditions exists, refer to Catalyst Troubleshooting section of this owner's manual.
    b. This catalytic heater is equipped with a temperature probe to monitor catalyst operation. Properly functioning combustors typically maintain temperatures in excess of *500* °F, and often reach temperatures in excess of *1,000* °F. If catalyst temperatures are not in excess of *500*°F, refer to the Catalyst Troubleshooting section of this owner's manual.
    c. You can get an indication of whether the catalyst is working by comparing the amount of smoke leaving the chimney when the smoke is going through the combustor and catalyst light-off has been achieved, to the amount of smoke leaving the chimney when the smoke is not routed through the combustor (bypass mode).
        i. Step 1—Light stove in accordance with instructions in section 4.
        ii. Step 2—With smoke routed through the catalyst, go outside and observe the emissions leaving the chimney.
        iii. Step 3—Engage the bypass mechanism and again observe the emissions leaving the chimney.
        iv. Significantly more smoke will be seen when the exhaust is not routed through the combustor (bypass mode).
4. **Probe installation:** To install the probe, remove the metal button on the top plate of the stove near the flue. Insert the probe through the top plate and into the firebox. If you are installing your Sequoia as an insert, you may purchase a catalyst probe that displays a digital temperature readout from a remote location. This part is available from your dealer or directly from Kuma Stoves.

    Reading the Probe: Follow the instructions in section 4 to build and maintain a fire. During normal operation (see section 4) the probe should read between 600 degrees or "active" and less than 1400 degrees or "too hot" If, during normal operation, the probe reads less than 600 degrees, the stove should be refueled following the instruction in section 4. If the probe is approaching 1400 degrees, you need to decrease the primary air control so that you do not over-fire the catalyst.

Section 3.1 –Residential Free Standing Installation

INSTALL AND USE IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION AND OPERATING INSTRUCTIONS ONLY. WHILE MOST ANYONE WITH BASIC CARPENTRY SKILLS CAN SUCCESSFULLY AND SAFELY INSTALL THEIR KUMA WOOD STOVE, IT IS HIGHLY RECOMMENDED THAT IT IS INSTALLED BY A QUALIFIED PROFESSIONAL WHO IS PROPERLY TRAINED AND LICENSED–PREFERABLY AN NFI CERTIFIED (NATIONAL FIREPLACE INSTITUE) EXPERT.

CAUTION: The Structural integrity of the home floor, walls, and ceiling/roof must be maintained. Use additional bracing if required. Never cut a load bearing wall or engineered truss, use elbows if necessary to offset the pipe.

CAUTION: NEVER INSTALL A STOVE IN A SLEEPING ROOM. DO NOT INSTALL THIS UNIT IN A MOBILE OR MANUFACTURED HOME

Free Standing Installation:

Step 1: Determining the stove location:

When choosing a stove location there are a few things that should be considered.

1. Try to choose a location that is centrally located in the house.
2. Try to choose a location that will be easy to access from your wood storage area.
3. Survey the roof area above and around the location of the chimney exit. Be sure there are no dormers, roof valleys or any other roof irregularities that could cause difficulty when trying to set and seal the roof flashing.
4. If possible, survey the attic area above and around the location of the chimney. Be sure there are no major obstructions such as plumbing, heating ducts, electrical wires, phone cables, etc. Also check the crawl space below and around the stove location for the same obstructions.

STEP 2: Installing the chimney.

Use only 8" Class A solid fuel chimney that has been U.L. safety tested for wood stoves (type 103 HT)

IMPORTANT: These instructions are a very basic guideline for the steps to install your chimney. For complete instructions, refer to the installation manual that came with your chimney. Chimney installation instructions are usually located in the box with the chimney cap or chimney support components. DO NOT mix different brands of chimney components. If you have any questions about the installation of your chimney, please contact the dealer where you purchased your stove.

CAUTION: Inspect all chimney components for damage. Do not use any damaged chimney components.

Installing the chimney

CAUTION: Inspect all chimney components for damage. Do not use any damaged chimney components.

1. Familiarize yourself with the clearances of the stove for the configuration in which you have chosen to install, i.e. corner installation or straight wall installation (see section 6). Notice the clearances listed for the chimney, this will help you determine the location of the hole in the ceiling. Note: On metal roofs in snow regions, consideration must be given to snow loads above

the chimney that can slide in to chimney and severely damage it. Please consider snow breaks or snow dividers to prevent damage.

2. Once you've determined the stove location based on the applicable clearances and connector type (see section 6), be sure to check attic and roof for any obstructions. Install the chimney system according to the step by step illustrated instructions that came with your chimney.
3. Special care needs to be exercised when passing the chimney through an attic space. An attic insulation shield must be used in all chimney installations to ensure that no insulation can contact the chimney pipe. If there is little or no attic space, or if you have a vaulted ceiling, use a tall square cathedral ceiling support box to pass all the way through to the roof line to provide the shielding.
4. Stability: If necessary, install a roof brace kit on the chimney to stabilize the chimney against wind, etc. Generally, roof bracing is required if the chimney extends more than five feet above the chimney exit point.
5. See illustrations in section 6, page 22, for all components required for factory-built chimneys, as well as parts required to connect to an approved masonry chimney.
6. Chimney Height. Page 22 shows the minimum chimney height in relation to the roof. With low pitch roofs or little attic space, the chimney can be too short. For proper draft and best performance, a minimum overall height of connector pipe plus chimney combined should be at least 12 feet tall, measured from the stove top to the chimney cap. If necessary, add chimney.

STEP 3: Installing the hearth

1. The hearth must be a minimum 3/8" thick non-combustible material and must extend beyond the base of the stove 8" to the sides and back and 18" to the front (section 6). This will require a hearth that is at least 46" wide and 54" deep. In Canada the hearth must be at least 54" deep. For Canadian clearances refer to the listing tag on the back of the stove.

STEP 4: Setting the stove and connecting to the chimney

1. Attach the legs before setting the stove on the hearth. Once the legs are attached, set it gently on the hearth using cardboard to protect the hearth.
2. Position the stove on the hearth according to the clearances shown on the diagrams in section 6. Be sure that the stove is at least minimum clearance from all combustible walls and materials. If possible it is advisable to set the stove 1-2 inches further away from the combustibles than required.
3. Using double wall or single wall stove pipe, connect the stove to the chimney. We recommend using double wall pipe regardless of pipe clearance; however, single wall pipe is approved for use. If necessary, use elbows to offset the pipe so that the stove can remain at the correct clearance and still connect to the chimney. Secure each pipe joint with three screws, using the screws provided with the pipe. Be sure to follow the clearance diagrams in section 6 pertaining to the correct pipe, single or double wall. Single wall pipe has a minimum clearance of 18" and double wall a minimum clearance of 8"

If your stove installation required a permit and requires inspection by the local building dept. please do not forget to call for inspection. It is important that your permit and inspection be finalized, as some insurance companies will require the stove to be inspected. It is also a great idea to give your insurance a call and let them know that you have installed a wood stove.

Outside Air -

1. **Kuma stoves does not particularly require that outside air be directly connected to this stove,** However, some state or local building codes may mandate outside air. If your state or local building code requires an outside air supply use part# KA OA 1. If you are unable to supply a direct connection to the stove or if you need additional ventilation due to room air starvation, we suggest the following:

a. Provide a passive air supply to the home. The air vent should be a minimum of 4" in diameter.
b. The air supply must be provided to the same room that the stove is installed in.
c. The air supply should utilize a barometric damper so that air is only supplied to the room if the house pressure becomes negative.

Visit www.woodheat.org for more information on the use of outside air.

PLEASE REFER TO SECTION 4-*Wood Burning Operation Instructions* before lighting your first fire.

Section 3.2 –Residential Insert Installation

You must have 18" of hearth extending beyond the face of the stove. Since many fireplace hearths are 18" from the face of the opening, you may need to add a hearth extension to achieve proper clearance. Please refer to Section 6 for complete clearance diagram.

With the addition of a fireplace insert surround kit (part #KA-SEQSURR) your Sequoia unit may be installed and used in masonry fireplaces only (lined, masonry chimneys constructed in accordance with NFPA 211 guidelines). **NOT APPROVED FOR USE IN FACTORY–BUILT OR ZERO CLEARANCE FIREPLACES.**

If your masonry chimney is damaged, deteriorated, or unlined, a stainless steel liner (8" diameter) with thermal wrap will need to be installed and connected directly to the Sequoia insert flue opening. If you are unsure of the condition of your chimney, have it cleaned and inspected by your dealer or a chimney professional. Use and install liner kits that are approved to UL 1777 only.

Tools and materials Required

1. 7/16" wrench
2. Flat blade screwdriver
3. KA-SEQSURR Fireplace surround kit.
4. Bricks or a metal roller to level stove in fireplace (you may use the leveling bolts provided in the fireplace surround kit for most applications.)
5. Unfaced fiberglass insulation
6. Small rug or utility blanket

Prior to installation:

1. Check for cracks, loose or damaged mortar joints, blockages, or extraordinary deterioration.
2. The chimney must have at least a 2" clearance to combustible inside and outside the house.
3. The chimney must have a 5/8" thick fireclay liner. If you have an older, unlined masonry chimney, then you must install an approved chimney liner system including a thermal wrap that will bring your existing chimney up to the requirements of U.L. 1777. Contact your dealer or a licensed chimney professional if you have any questions.
4. Check for any gap existing between the masonry fireplace construction and the fascia masonry. If there is a gap, seal with a high temperature masonry mortar.
5. If outside air is required by local building code then it should be connected to the back of the fireplace prior to installation.
    a. The outside air vent cannot exceed in length, the vertical height of the exhaust flue
    b. The outside air vent must be installed where it will remain free of snow, ice, or debris.
    c. The outside air vent must not terminate close to exhaust vents.

Guidelines for installation: (Refer to Section 6 for insert diagrams)

1. Remove the 3 screws that affix the listing tag to the back of the stove. **Important: Leave the tag attached to the stove via the extendable lanyard.** Place the tag in a location that will be easily accessible by removing the surround panel (Suggested Locations: on the face of the fireplace behind the surround panel or on top of the stove behind the surround panel).
2. Make sure the damper is secured in the full open position or removed prior to installation.
3. Install an approved (U.L. 1777) fireplace liner.
4. Protect the hearth by covering it with a small rug or utility blanket.
5. If using the ½" leveling bolts provided in the surround kit, screw these in completely before installing the stove.

6. Set the insert on the hearth using a dolly. Make sure the dolly is rated to carry at least 515 lbs., and has a strap to secure the stove to the dolly.
7. Insert the unit ½ way into the fireplace then use a roller or unscrew the leveling bolts to level the stove.
8. Carefully slide the insert all the way to the back wall of the fireplace. Make sure you do not bend the leveling bolts while sliding the stove. You can cut and place sheet metal in the bottom of the fireplace to help the insert slide in easily.
9. Connect the Chimney liner.
10. Install the Fireplace surround according to the supplied instructions.

Section 4 – Wood burning operation instructions

CAUTION:
When building the first couple of fires, be careful to build the fire small and increase the heat slowly over a 4-5 hour period. The paint on the stove "cures" with heat and needs to be done slowly. As the paint "cures" it gives off a smell and even sometimes a visible "smoky" haze into the room. Make sure the area is well ventilated during the curing operation. The smell will disappear after a few hours of operation.

A word about draft.
Draft is the force which moves air from the appliance up through the chimney. The amount of draft in your chimney depends on the length of the chimney, local geography, nearby obstructions and other factors. Too much draft may cause excessive temperatures in the appliance and may damage the catalytic combustor. Inadequate draft may cause back puffing into the room and 'plugging' of the chimney or the catalyst. Inadequate draft will cause the appliance to leak smoke into the room through appliance and chimney connector joints. An uncontrollable burn or excessive temperature indicates excessive draft.

CAUTION: HOT WHILE IN OPERATION. KEEP CHILDREN, CLOTHING AND FURNITURE AWAY. CONTACT MAY CAUSE SKIN BURNS.

Achieving and Maintaining Catalyst Light-Off

Your KUMA stove is equipped with a by-pass control rod located above the door. The bypass control rod pulls out (towards yourself) to allow the draft to escape up the chimney. This by-passes the combustor for the purpose of starting a fire and refueling. When the bypass rod is pushed all the way in, the gases are directed through the catalytic combustor. This section describes the position of the by-pass for 3 different burning situations: START-UP, NORMAL OPERATION, and REFUELING.

CAUTION: The by-pass control handle may be hot. Use of fireplace gloves is recommended. Never open the door of the stove without 1st pulling out the bypass rod. Failure to do so will cause smoking in the home.

1. START-UP: The by-pass rod should be pulled all the way out (towards yourself) during start-up. It should remain open long enough to achieve a medium to high burn rate (about 20 minutes). It may also be necessary to "crack" the door to allow extra air during start-up. (never leave the stove unattended with the door open). The temperature in the stove and the gases entering the combustor must be raised to between *500*° to *700* °F for catalytic activity to be initiated. During the startup of a cold stove, a medium to high firing rate must be maintained for about *20* minutes. This ensures that the stove, catalyst, and fuel are all stabilized at proper operating temperatures. Even though it is possible to have gas temperatures reach *600* °F within *2* to *3* minutes after a fire is started, if the fire is allowed to die down immediately, it may go out or the combustor may stop working. Once the combustor starts working, heat generated in it by burning the smoke will keep it working.

2. NORMAL OPERATION: After the start-up temperature is reached, the by-pass should be pushed in (away from yourself). This will route the flow of smoke and gases through the combustor. The combustor will begin operating. The by-pass is to remain closed during normal operation.

3. **REFUELING:** The by-pass should be pulled out (towards yourself) during the refueling of the stove. During the refueling and rekindling of a cool fire, or a fire that has burned down to the charcoal phase, operate the stove at a medium to high firing rate for about *10* minutes to ensure that the catalyst reaches approximately *600* °F.

How to start a fire

1. Pull by-pass control out to open.

2. Start with tinder and small kindling. When starting a fire, stack the wood in a 'crisscross' arrangement to allow the fuel plenty of air. Place small chunks of wood on the kindling and larger chunks of wood on the smaller chunks until desired fire is reached.

3. Open the air control by sliding it out to the right. Crack the door open 1/2" to help establish the fire. The door will need to remain cracked open approximately 25-30 minutes. (Do not leave the stove unattended with the door open) Close after start up is achieved.

4. Leave by-pass and air control fully open until a medium to high burn rate is achieved (about 20 minutes). After start-up push the by-pass control in. Adjust the air control to achieve the desired heat output.

6. The slide type air control can be opened to allow more air to the fire, thus increasing the fire size, rate of burn, and heat produced. Likewise, sliding the air control closed or decreasing the air to the fire decreases the fire size, rate of burn, and heat produced

Low burn	Draft handle pushed all the way in
Med-Low burn	Draft handle pulled out approximately 1/8" – ¼"
Medium burn	Draft handle pulled out approximately ¼" – ½"
Med-High burn	Draft handle pulled out approximately ½" – 1"
High burn	Draft handle pulled out all the way

7. Never leave your stove unattended with the door open. When the stove door is open it will be necessary to open the by-pass to prevent smoke spillage.

8. When operating you stove, periodically check for visible emissions coming from the chimney and adjust the burn rate and fuel load to reduce emissions.

About your stoves burn rate and the Catalytic Combustor.

This wood heater has a manufacturer-set minimum low burn rate that must not be altered. It is against federal regulations to alter this setting or otherwise operate this wood heater in a manner inconsistent with operating instructions in this manual.

Properly operated, the catalytic combustor in your new Kuma Stove will provide years of trouble free use. Over firing of the catalytic combustor is a common cause of failure.

Try to avoid direct flame contact with the catalytic combustor**.** Each chimney will provide a different level of draft. For your first few fires, watch the flames as the lick up near the baffle assembly. If your chimney provides enough draft to pull the flames into the combustor, lower the amount of air by pushing the air control in towards the stove. If flames are still pulled into the combustor, a damper may be installed in the pipe to help further regulate draft.

Additional instructions and information.

1. Build your fires directly on the firebrick. Using a grate will allow too much air to the coal bed and will result in incomplete combustion of the wood. Using a grate can also leave charred pieces of wood after the fire has gone out.

2. Use only the best grade of dry wood available. Wood should be seasoned for 1 full year prior to being used. Split wood will season much faster and better that wood left in the rounds. Burning green or wet wood greatly increases the chance of creosote buildup and produces significantly less heat. **The number 1 cause for creosote buildup is moisture in the wood.** Store your wood in a dry location. Any wood stored near the stove needs to maintain proper clearance from the stove.

3. This heater is designed to burn natural wood only. Higher efficiencies and lower emissions generally result when burning air dried seasoned hardwoods, as compared to softwoods or to green or freshly cut hardwoods. DO NOT BURN:
    a. Garbage;
    b. Lawn clippings or yard waste;
    c. Materials containing rubber, including tires;
    d. Materials containing plastic;
    e. Waste petroleum products, paints or paint thinners, or asphalt products;
    f. Materials containing asbestos;
    g. Construction or demolition debris;
    h. Railroad ties or pressure-treated wood;
    i. Manure or animal remains;
    j. Salt water driftwood or other previously salt water saturated materials;
    k. Unseasoned wood; or
    l. Paper products, cardboard, plywood, or particleboard.

    The prohibition against burning these materials does not prohibit the use of fire starters made from paper, cardboard, saw dust, wax and similar substances for the purpose of starting a fire in an affected wood heater. Burning these materials may result in release of toxic fumes or render the heater ineffective and cause smoke.

4. Small hot fires produce less creosote than long, low smoldering fires. When you start your stove or are re-kindling (reloading) your wood stove with a full or sizeable load of wood, open the draft fully and burn the stove at full burn for 20-30 minutes to heat up the chimney and secondary burn system.

Optional blower operation instructions

To install the blower, follow the instructions packaged with the blower. Plug the blower into the nearest 115V grounded circuit. Turn the variable speed knob to 'click' onto high speed. As the knob is turned clock-wise, the blower speed decreases to your desired speed. The blower speed should match the desired burn rate on your stove: i.e. low-burn rate...low blower speed; high-burn rate… high blower speed and so forth.

Section 5 – Maintenance

Use the table below as a general maintenance schedule for your stove. See below the table for detailed information on performing the maintenance.

Ash disposal	Every 2-3 weeks
Chimney inspection and cleaning	Every 2-3 months
Gasket replacement	Every year or as needed
Glass cleaning and replacement	As needed
Brick replacement	Replace broken bricks as needed
Clean and inspect stove	Every year
Replace catalytic combustor	Every 7-10 years or as needed

Ash disposal – Every 2-3 weeks

1. Empty the ashes when the fire is out. Never try to empty the ashes when the stove has an active or full fire.
2. Whenever ashes get *3* to *4* inches deep in your firebox, and when the fire has burned down and cooled, remove excess ashes. Leave an ash bed approximately *1* inch deep on the firebox bottom to help maintain a hot charcoal bed. 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, away from all combustible materials, pending final disposal. The ashes should be retained in the closed container until all cinders have thoroughly cooled. **DO NOT PLACE THE ASHES NEAR THE HOUSE OR IN THE GARAGE.**

Chimney inspection and cleaning – Every 2-3 months

1. Refer to the chimney manufacturers installation instructions for additional information on cleaning the chimney. We recommend having the chimney cleaned by a licensed professional chimney sweep.
2. When wood is burned, it releases tar and other organic vapors. When these vapors combine with moisture, creosote is formed and enters the chimney. When the stove is burning on a low setting, the exhaust can be moving slow and the chimney can be relatively cool. This combination of slow exhaust and a cool chimney causes creosote to stick to the walls of the chimney. When creosote accumulates, it causes the draft to slow and the problem of creosote accumulation will compound. If the creosote is not removed on a regular basis, a chimney fire can occur which can damage the chimney and/or stove. Therefore, the importance of regular chimney maintenance cannot be emphasized enough.

Gasket Replacement – Every year or as needed

1. Gaskets need to be checked at least once a year. The gaskets on your stove are designed to keep unwanted air out of the firebox. Neglecting these gaskets can cause a decrease in burn times, more wood consumption and possible over heating of the stove. When checking the gaskets, look for wear areas that show fraying or cutting. Check the gasket for softness by pressing them with your finger and give a slight tug on one area to see if the glue is still holding. Gaskets that are cut or fraying can cause small air leaks in that spot. Gaskets that are hard will not conform to the stove and may leak air. Gaskets that are not held in with glue could come out at an inconvenient time. The gaskets that need to be checked are: Door gasket and glass gasket. Refer to section 8 for part numbers for the correct gasket for your stove and check with your dealer for parts availability.

Glass cleaning and replacement – as needed

1. Never clean the glass when it is hot.
2. Clean the glass with an approved stove glass cleaner, never use an abrasive material like sandpaper or steel wool

3. When closing the door be sure that no pieces of wood are protruding from the door opening that could touch the glass. Excessive stress like closing the door on a piece of wood will break the glass. If the glass ever breaks in your stove, don't panic, simply shut the air off and let the fire burn out. Do not continue to operate a stove with broken glass. Do not leave the stove unattended with broken glass.
4. To replace the glass it may be helpful to remove the door from the stove and place on a clean soft work area. Remove the retaining ring screws and retaining ring, remove the glass and dispose of properly, CAUTION: BROKEN GLASS WILL BE SHARP. Clean the door thoroughly where the new piece of glass will install. Set the new piece of glass into the door and replace the retaining ring and screws. Be careful to tighten the screws evenly, uneven pressure can break the glass. Tighten the screws just enough to hold the glass firmly, overtightening can cause uneven pressure and can break the glass.

Brick replacement – As needed

1. Bricks should be inspected and replaced if necessary at least once a year. Cracked bricks are fine as long as they remain in place.

Clean and inspect stove – Every year

1. Your stove should be fully cleaned and inspected once a year. This is a great time to inspect the bricks, gaskets, catalyst and the rest of the stove for signs of abnormal wear. Start by shoveling all the ashes out of the stove. Use a shop vac to clean the hard to reach places.
2. Your catalytic combustors performance should be closely inspected at least 3 times during the heating season. To check the performance of your catalytic follow these steps:
    a. With a flashlight, visually inspect the catalyst for physical deterioration. If catalysts are crumbling or falling apart they must be replaced. Removal of catalyst for inspection is not recommended unless stove performance has noticeably decreased.
    b. Light the stove in accordance with the instructions in section 4
    c. With the bypass rod pulled out (towards yourself), go outside and observe the emissions leaving the chimney.
    d. Push in the bypass rod and again observe the emissions leaving the chimney.
    e. Significantly more smoke should be seen when the bypass rod is pulled out. Significantly less smoke should be seen when the bypass rod is pushed in. Be careful not to confuse smoke with steam from wet wood.

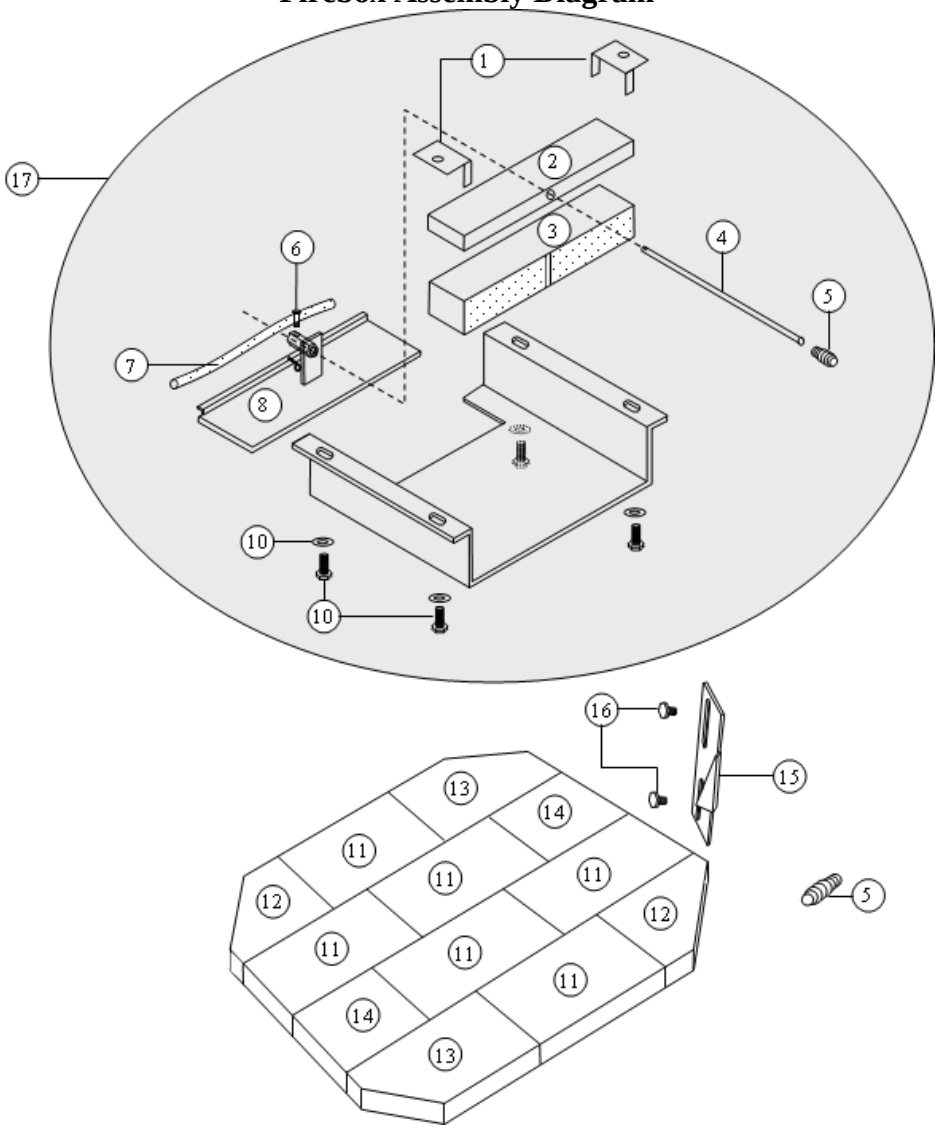
Replace catalyst – Every 7-10 years or as needed

1. If you have determined that the catalyst needs to be replaced contact you nearest dealer for parts and service. Use the parts list in section 8 for ordering a replacement catalyst.
2. Replacement Steps:
    a. Remove stove pipe or pull out insert to gain access to the stove flue. (If removing insert is not practical you can access baffle fasteners through the stove door. Instructions for this follow in parenthesis in step b.)
    b. Remove bypass rod by removing the pin that drops into the hex shaft. To remove drop in pin you will first remove the cotter pin at the bottom side of drop in pin. Pull the drop in pin up and out. Pull the damper rod all the way out of the stove. (Instructions for doing this job through door: Pull damper rod out until it hits stop. You will not be able to see fasteners and will have to do this job by feel. Reach through the stove door, up the rear of the baffle and then towards the front of stove until you find hex shaft that is bolted to damper plate. Feel along hex shaft until you find pins. Remove the small retaining pin at the bottom of drop in pin then pull up on the drop in pin. Remove damper rod from stove.
    c. Set a bottle jack underneath the center of the baffle and jack it up applying a small amount of pressure to the baffle. Lubricate and remove the 4 main baffle bolts using a 9/16" socket with a 6" extension. Slowly lower the jack balancing the baffle as it comes down. The baffle is fairly heavy; use proper lifting techniques.
    d. Carefully remove the baffle from the stove.
    e. Lift off the baffle clips and remove the catalytic hold down clamp noting the location of the gaskets. Slide the catalytic out.
    f. Install the new catalytic combustors in the same location. (approximately 1" from the face of the baffle). Cut and use the gasket provided to achieve a snug fit.

g. Replace the catalytic hold down clamp, re-gasket the top and sides of the clamp to achieve a snug fit. Re-install the baffle clips.
h. Re-install the entire baffle system in the same manner that it was removed using the bottle jack.

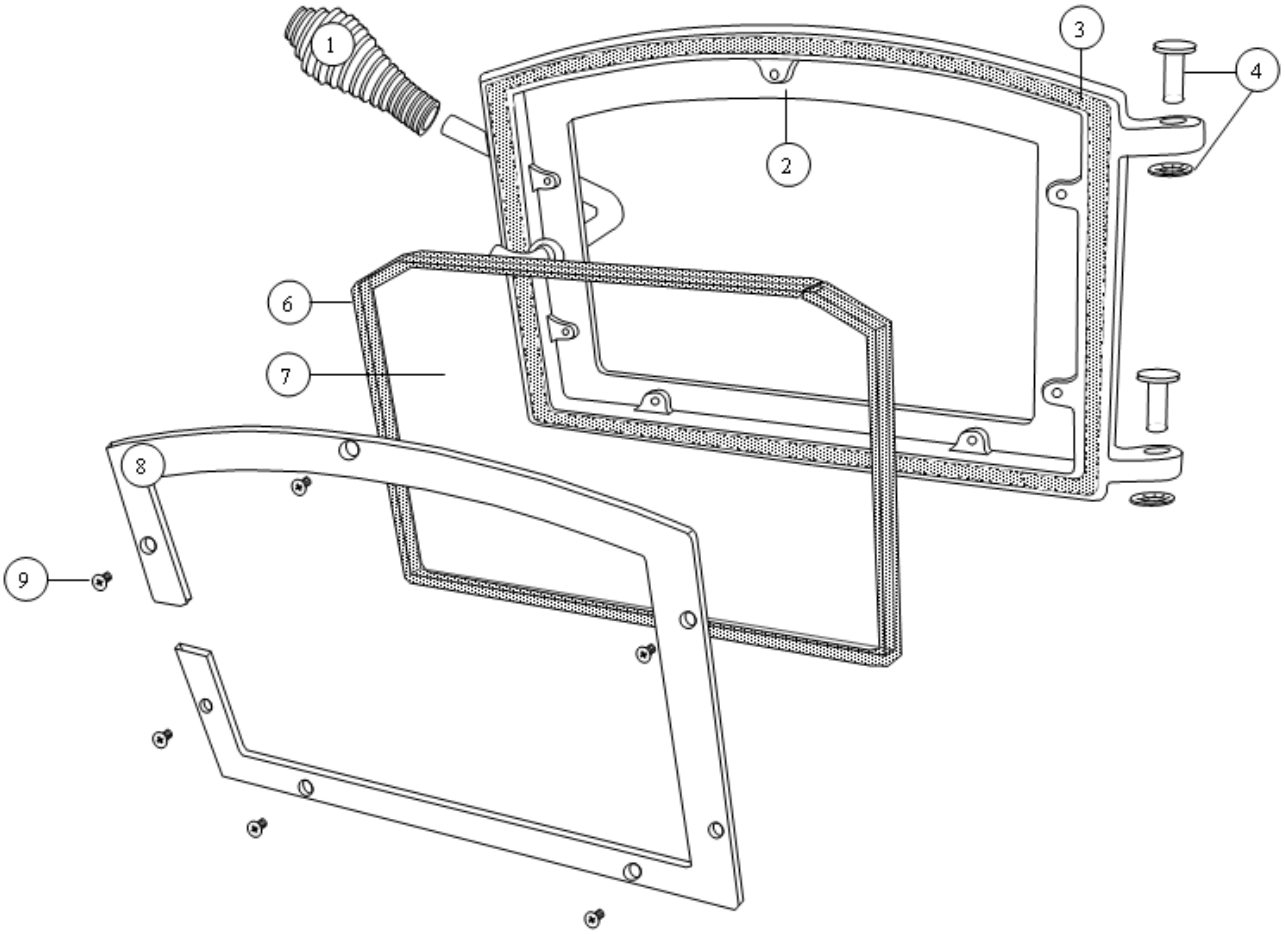
3. If the steel baffle is warped or degraded, the entire baffle system with the catalytic and gasketing pre-installed may be ordered. Contact you dealer.

Firebox Assembly Diagram



ID#	Description	Part #	ID#	Description	Part #
1	Anti-slide clip (2 ea.)	KR BF SQCLP			
2	Catalytic hold down clamp		10	Baffle installation bolts	KR HW 3
3	Catalytic converter	KR BF SQCAT	11	Brick: 9” x 4-1/2”	KR-BRICK
4	Baffle bypass rod	KR BF SQBR	12	Brick: 5-3/4” x 4-1/2” lopped	KR BR SQ1
5	Control spring, pewter	KR SP 1P	13	Brick: 9” x 4-1/2” lopped	KR BR SQ2
5	Control spring, gold	KR SP 1G	14	Brick: 5-3/4” x 4-1/2”	KR BR SQ3
6	Baffle bypass rod hardware kit	KR HW 2	15	Door wedge assembly	KR DW SQ
7	Baffle bypass gasket	KR GK 58	16	Hardware: 1/4-20 x 1/2” (6)	KR HW 1
8	Baffle bypass plate	KR BF SQBP	17	Complete baffle set.	KR BF SQ

Door Assembly Diagram



ID #	Description	Part #	ID #	Description	Part #
1	Door control handle: 1/2” pewter	KR SP 2P			
1	Door control handle: 1/2” gold	KR SP 2G	6	Gasket: 3/4” x 5/8” tape.	KR GK 34
2	Door casting: Black w/ handle assembly	KR DR 2B	7	Door 2 Glass: Includes gasket.	KR GL 2
2	Door casting: Pewter w/ handle assembly	KR DR 2P	8	Glass Retainer: Includes screws	KR GL 2RT
2	Door casting: Gold w/ handle assembly	KR DR 2G	9	Hardware: #10 screw. Pack of 7	KR HW 4
3	Gasket: 5/8” fiberglass rope	KR GK 58			
4	1/2” Door pin w, retainers(set of 2)	KR DP 3			

Section 6 – Clearances and diagrams

Figure #1 Double Wall Pipe

Use this diagram for the following installations:

1. Residential installation with the stove in a corner using double wall pipe. For single wall pipe, refer to figure 2.

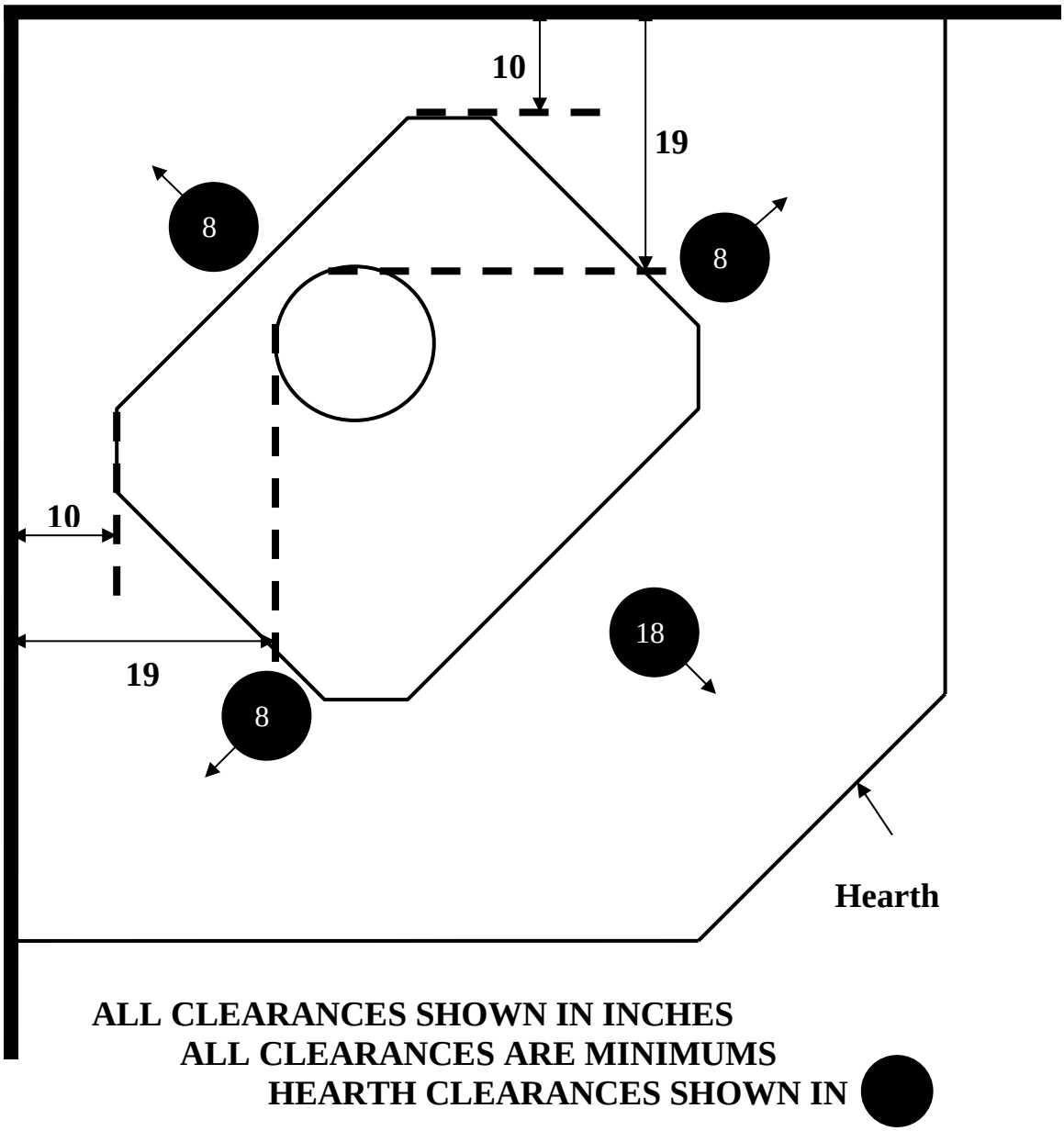


Figure #2 Single Wall Pipe
Use this diagram for the following installation:

1. Residential installation with the stove in a corner using single wall pipe. For double wall pipe, refer to figure 1.

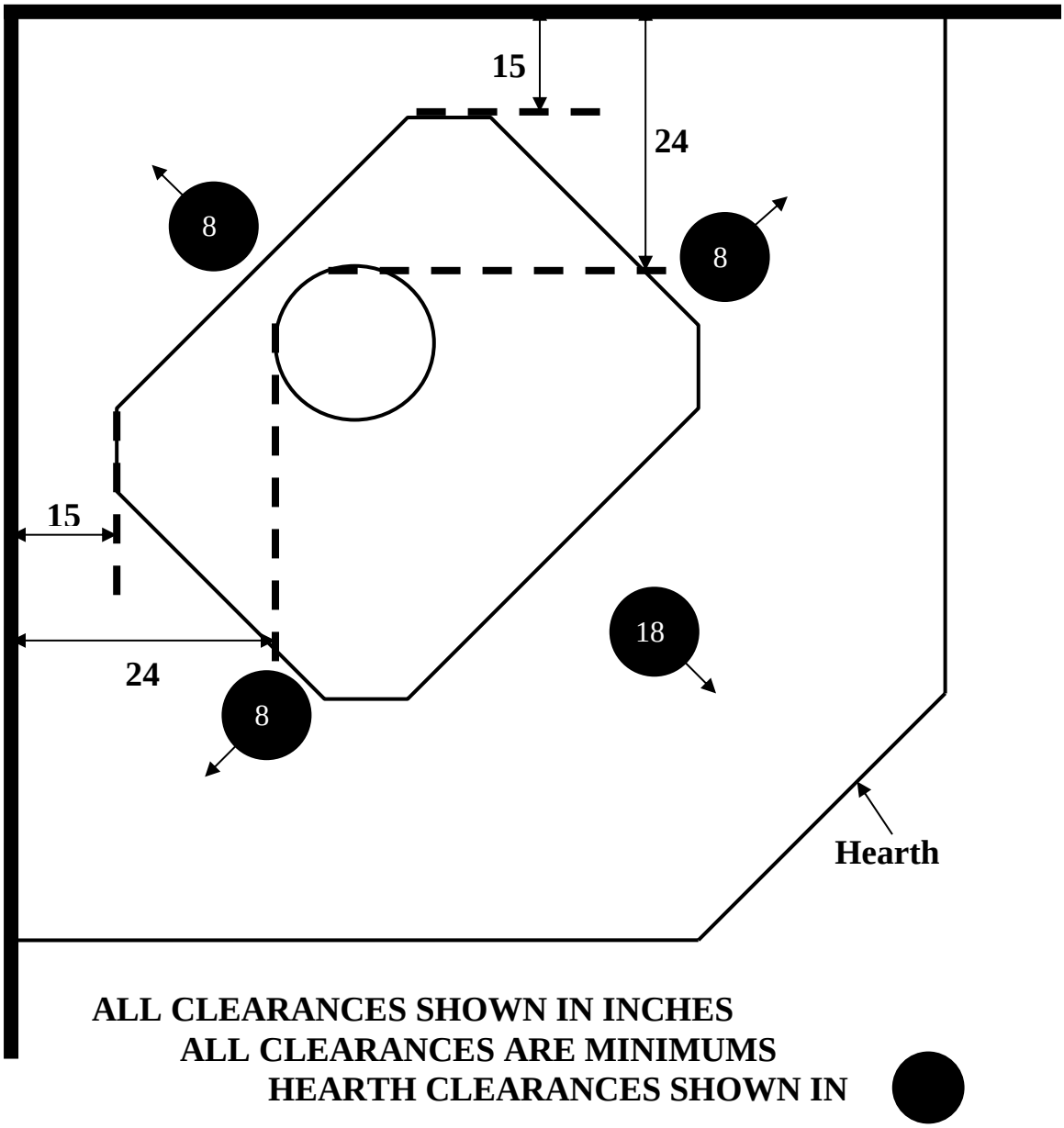
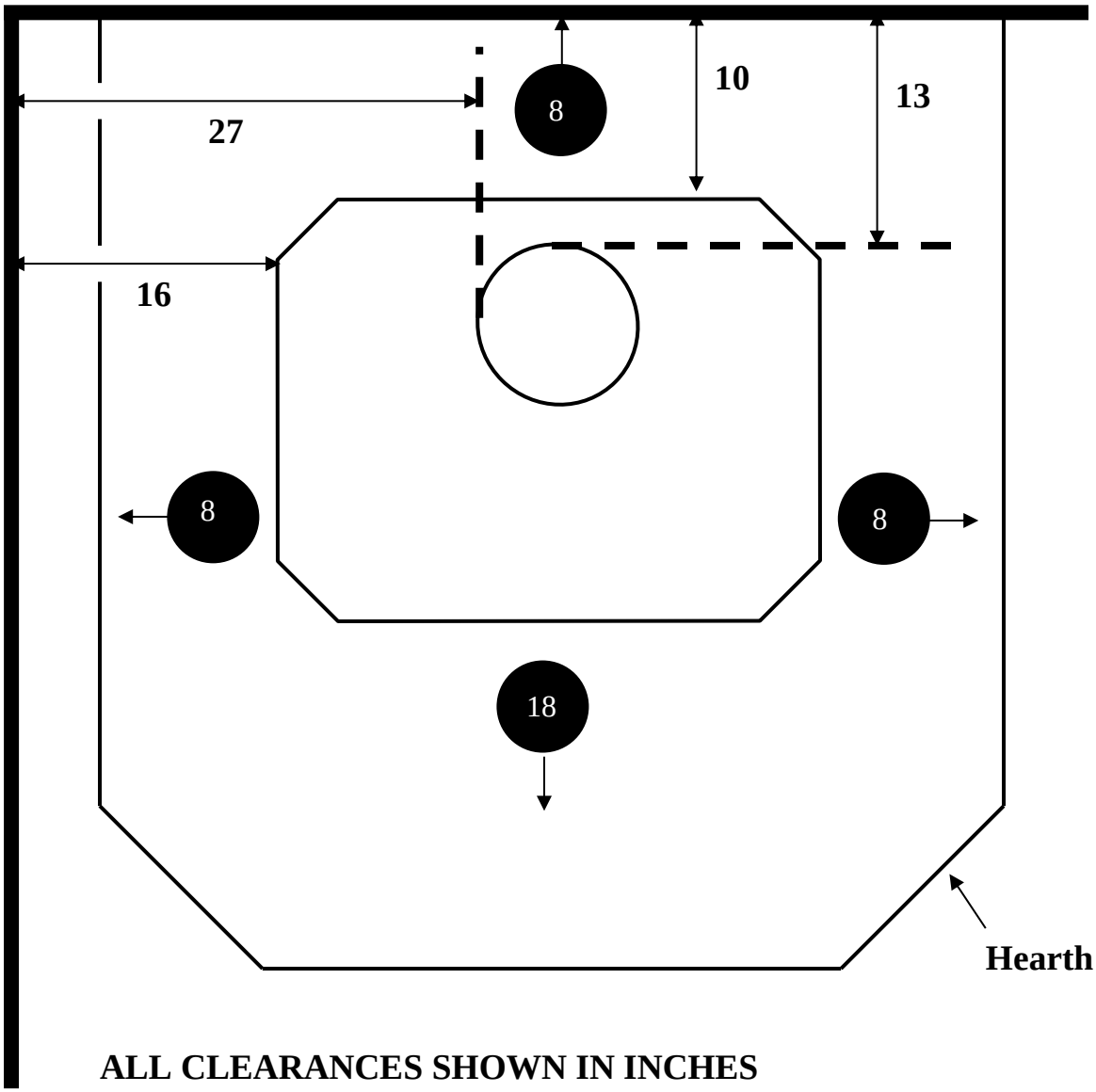


Figure #3 Double Wall Pipe
Use this diagram for the following installations:

1. Residential installation with the stove on a straight wall using double wall pipe. For single wall pipe, refer to figure 4.



ALL CLEARANCES SHOWN IN INCHES
ALL CLEARANCES ARE MINUMUMS
HEARTH CLEARANCES SHOWN IN

Figure #4 Single Wall Pipe
Use this diagram for the following installations:

1. Residential installation with the stove on a straight wall using single wall pipe. For double wall pipe, refer to figure 3.

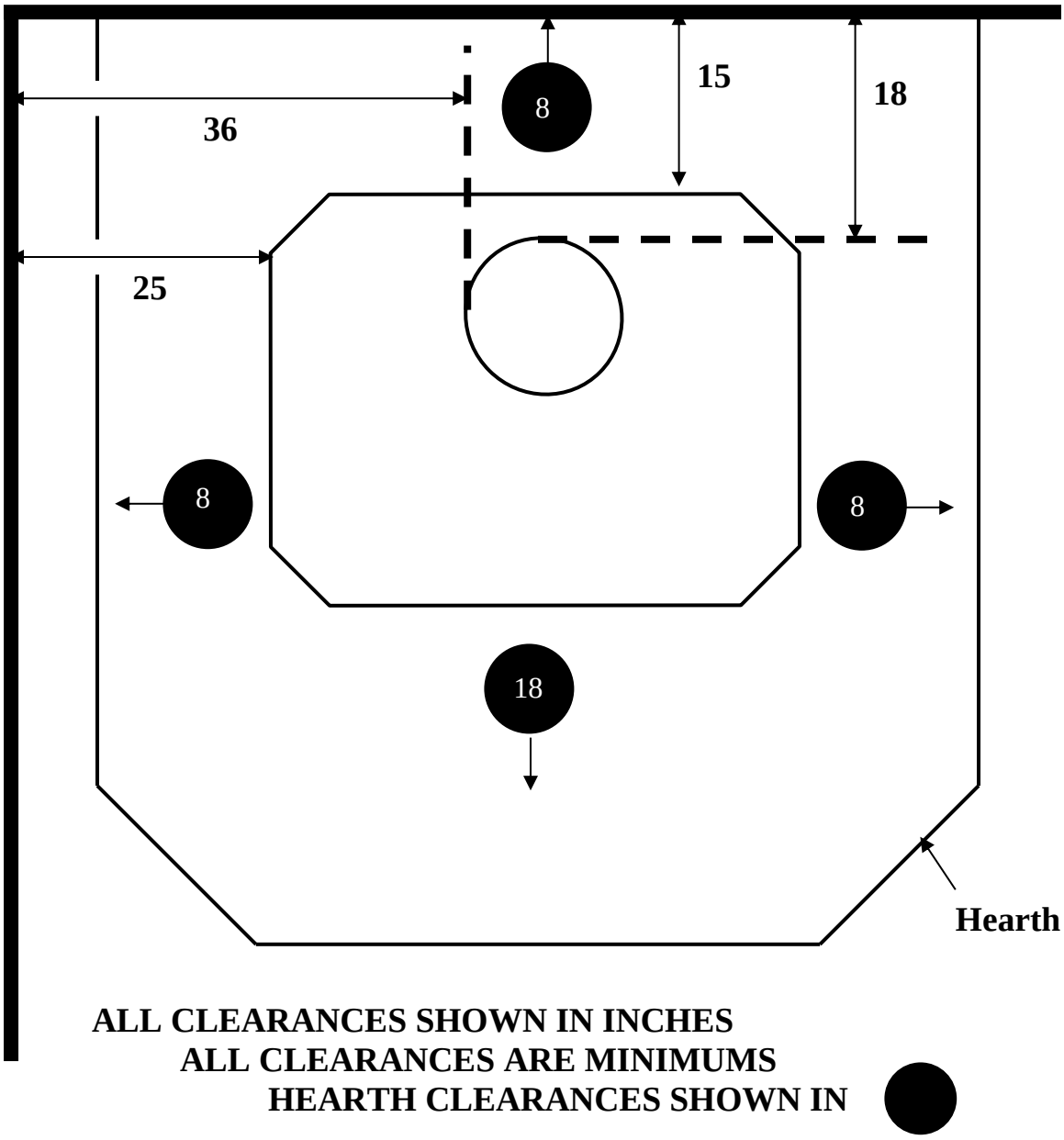
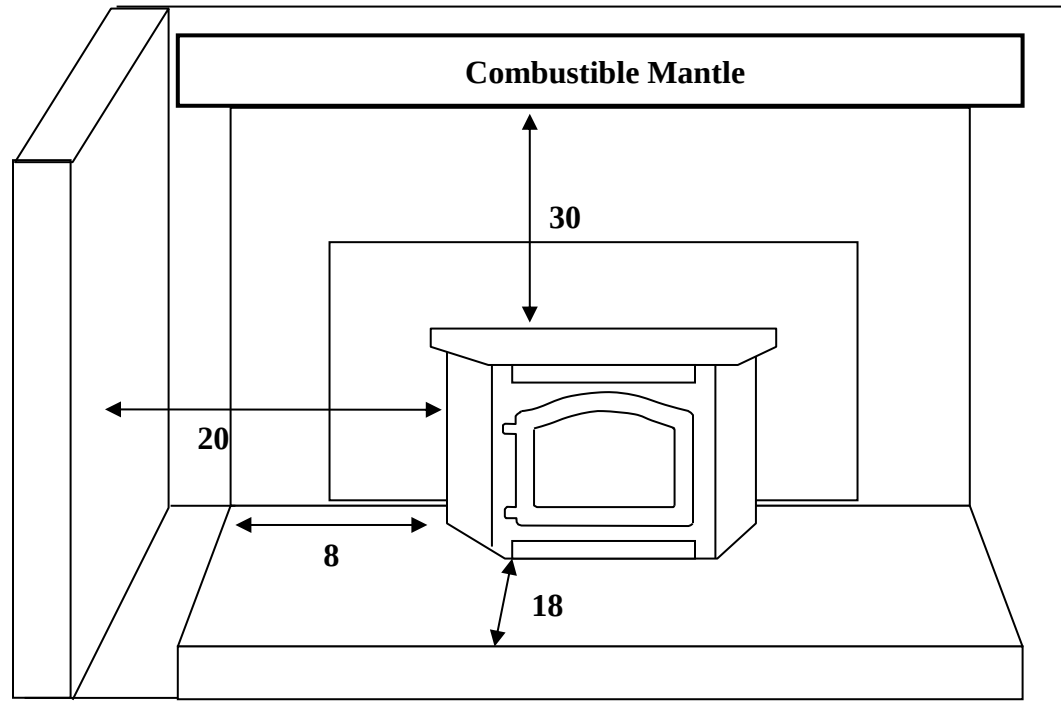
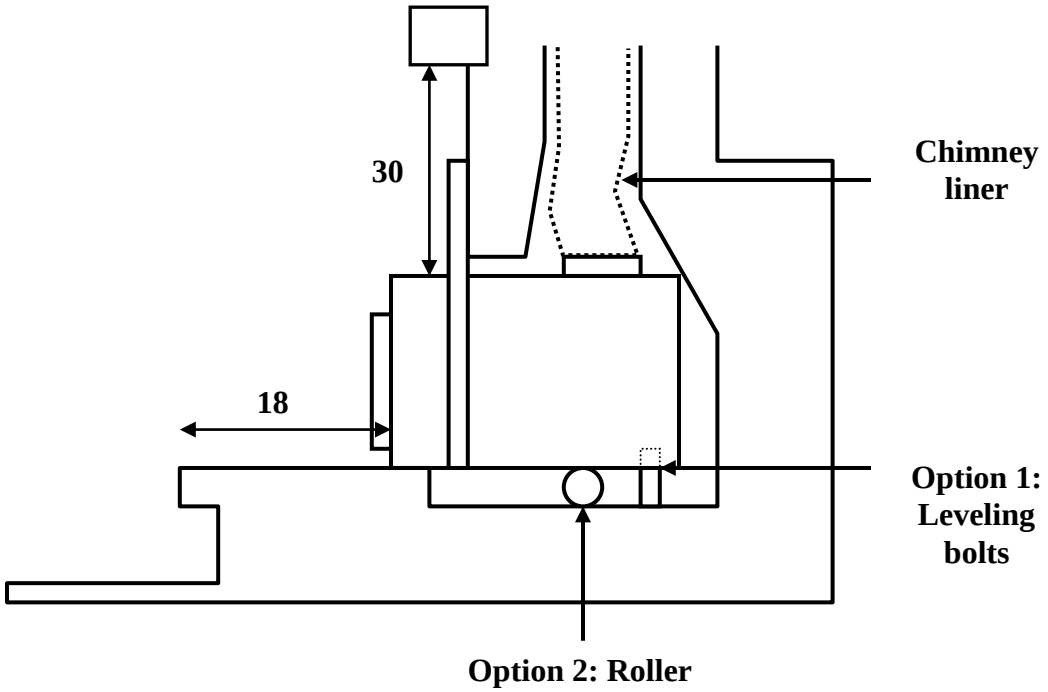


Figure #5 Insert

Use this diagram for the following installations:

1.Installation into a masonry fireplace

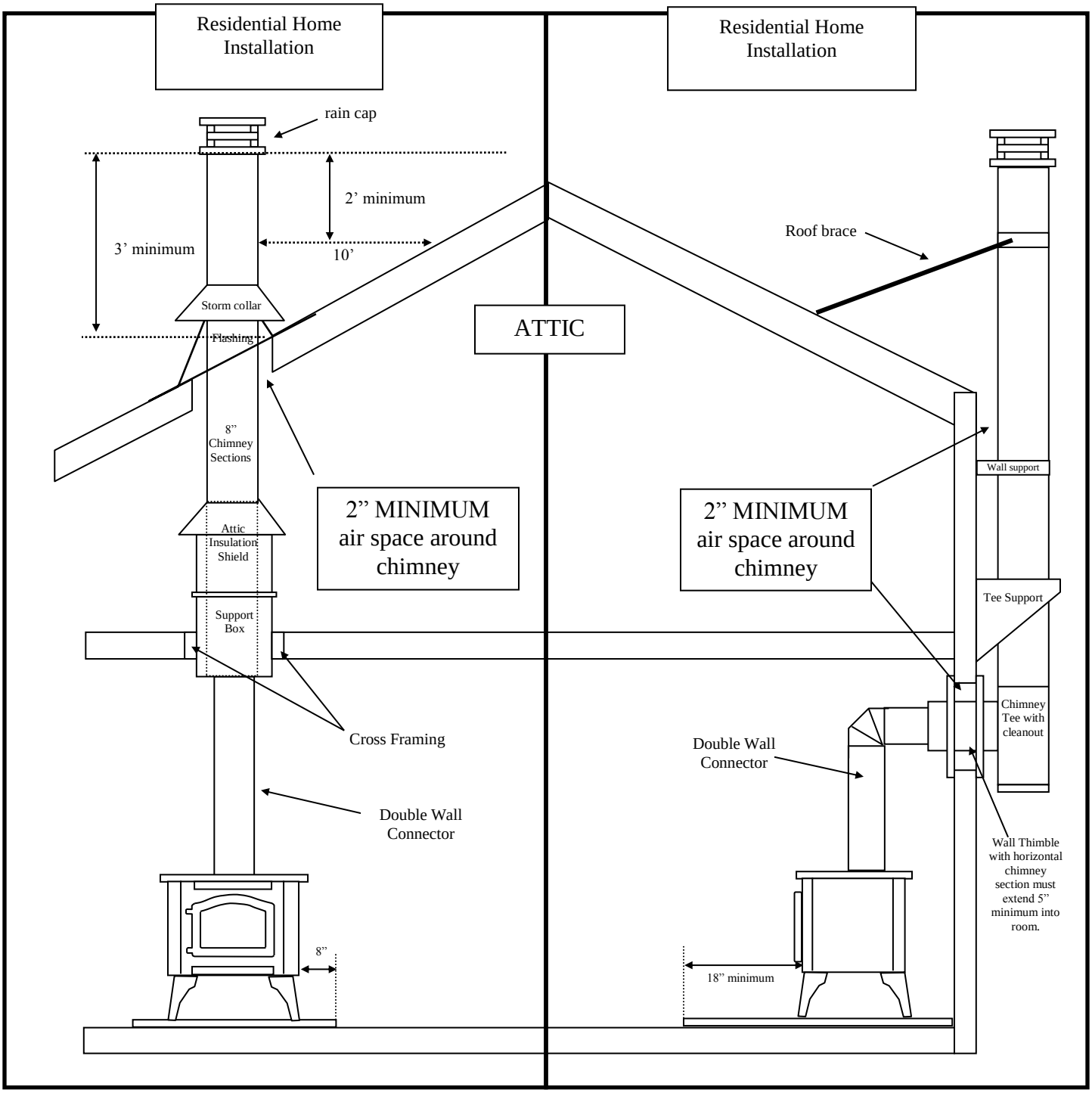




ALL CLEARANCES SHOWN IN INCHES

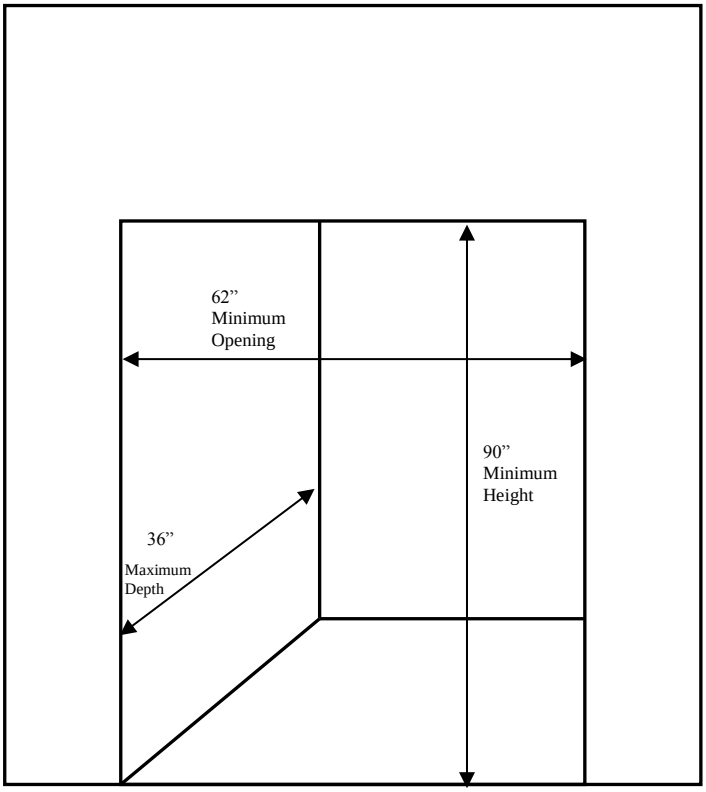
ALL CLEARANCES ARE MINIMUMS

NEVER INSTALL A WOOD STOVE IN A SLEEPING ROOM

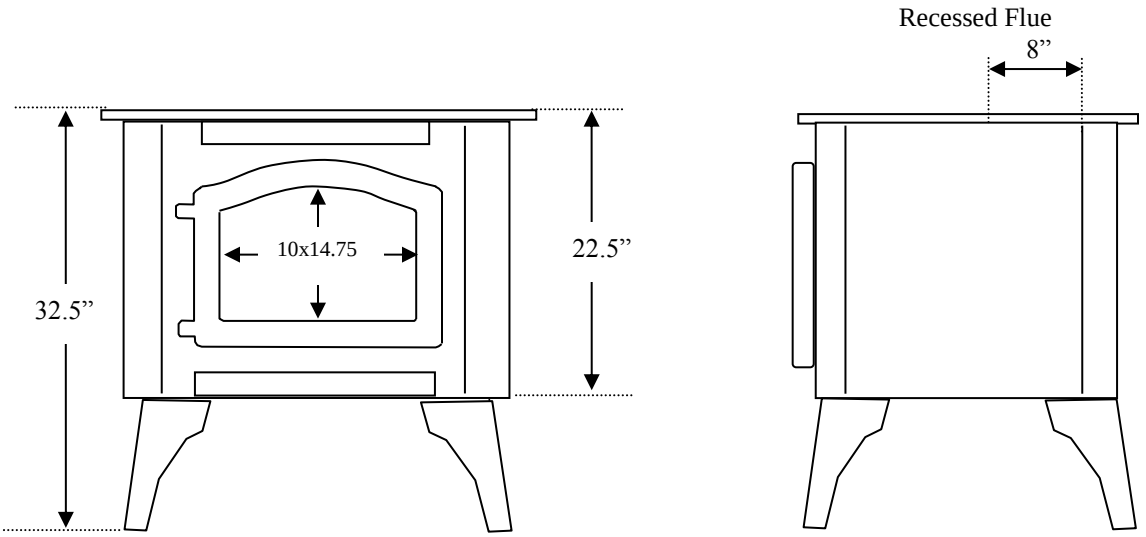


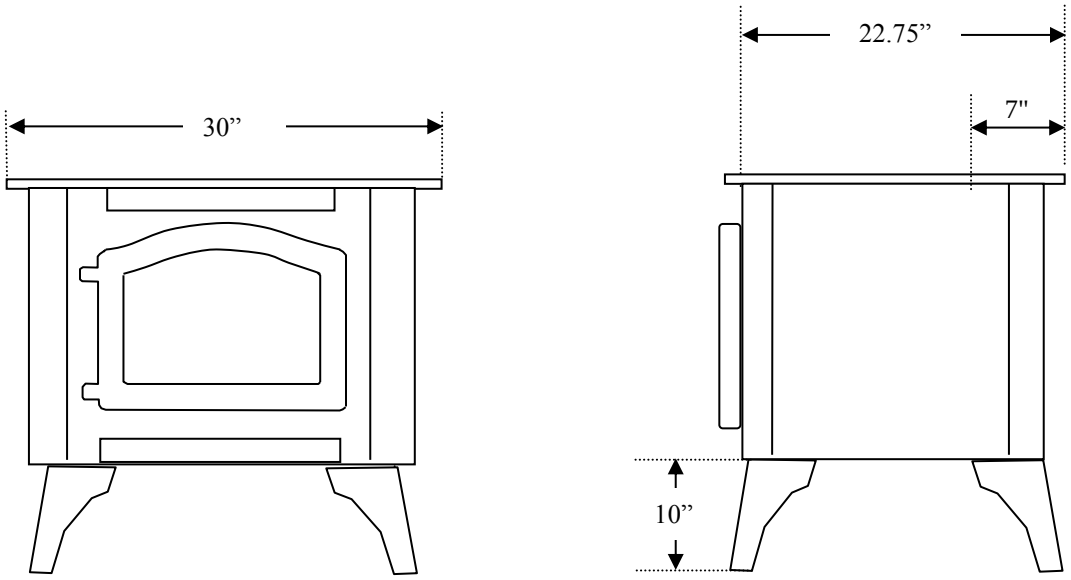
These diagrams are for manufactured chimneys. For Brick Chimneys a safety listed thimble must be used when a connection is made through a combustible wall to a lined masonry chimney. This stove may be connected to a lined masonry chimney or a listed factory built chimney designed for use with solid fuels and conforming to, Canadian ULC629 or USA UL-103HT . Clearances to combustibles must be maintained per manufacturer's instructions on chimney pipe , and stove pipe connectors. This stove is not approved for installation in manufactured/mobile homes.

Figure # 6 Alcove installations.
Use this diagram for the installation of your stove into an alcove. All other hearth (section 2) and stove clearance requirements (section 6) must be maintained.



Sequoia dimensional drawings





Section 7 – Trouble Shooting

1. Stove burns lazy at start up.
2. Stove back-puffs or smokes into the room at start up.
3. Stove smokes out the door when it is open.
4. Stove won't shut down.
5. Stove won't burn hot enough. Lazy burn.
6. Burn time too short
7. Catalyst troubleshooting.

Stove burns lazy at start up.

1. The chimney is still cool, allow more time to warm up.
2. Wood is not seasoned (still green). Wood should sit for about 1 year, split and loosely stacked if it was cut green.
3. Wood is well seasoned but has a lot of surface moisture. Your wood supply must be covered. Check your tarps or other covering to see that no rain or snow is getting to your wood. Wood should be covered on top, but open on the sides to allow air movement to aid in drying.
4. Stove is being shut down too soon. Leave the air open for longer. (do not leave the stove unattended with door open) See Section 4 for lighting instructions.

Stove back-puffs or smokes into the room at start up.

1. Chimney is cold. Cold chimneys can produce a "reverse draft" where cold air is rushing down the chimney into the stove. Open a door or a window for about 5 minutes to equalize pressure in the house then try restarting with small strips of newspaper. Using small strips of newspaper or an approved fast burning fire starter and small pieces of kindling will create heat faster to help reverse the cold air.
2. Chimney and/or the chimney cap needs to be cleaned. Your chimney should be checked and cleaned if necessary every few months. Even a small amount of buildup can cause a draft restriction, for example: ¼ inch of buildup on the side wall of an 8" chimney reduces the effective area of the chimney by about 20%. Pay close attention to the chimney cap, especially if it has a screen. Screened chimney caps can become blocked enough to restrict flow in just a few weeks.

Stove smokes out the door when it is open.

1. The door was opened before the bypass rod was pulled open. Always open the bypass a few seconds before opening the door.
2. The door was opened too quickly. Crack the door open just a small amount and let the stove "breathe" a few seconds before opening all the way.
3. Chimney and/or the chimney cap needs to be cleaned. Your chimney should be checked and cleaned if necessary every few months. Even a small amount of buildup can cause a draft restriction, for example: ¼ inch of buildup on the side wall of a 6" chimney reduces the effective area of the chimney by about 20%. Pay close attention to the chimney cap, especially if it has a screen. Screened chimney caps can become blocked enough to restrict flow in just a few weeks.

Stove won't shut down.

1. Check the main door gasket and glass gasket for proper seal. See section 5 for instructions on checking your gaskets.

Stove won't burn hot enough. Lazy burn.

1. Wood is not seasoned (still green). Wood should sit for about 1 year, split and loosely stacked if it was cut green.

2. Wood is well seasoned but has a lot of surface moisture. Your wood supply must be covered. Check your tarps or other covering to see that no rain or snow is getting to your wood. Wood should be covered on top, but open on the sides to allow air movement to aid in drying.
3. Chimney and/or the chimney cap needs to be cleaned. Your chimney should be checked and cleaned if necessary every few months. Even a small amount of buildup can cause a draft restriction, for example: ¼ inch of buildup on the side wall of an 8" chimney reduces the effective area of the chimney by about 20%. Pay close attention to the chimney cap, especially if it has a screen. Screened chimney caps can become blocked enough to restrict flow in just a few weeks.
4. Catalytic combustor is plugged with ash. Clean the catalyst in place using a slight to moderate (~20-30 psi.) amount of air pressure blown through the baffle grid removing ash from the catalyst cells.
5. Check the air supply to the stove. If ash has built up around the air sliders, clean with a brush and/or slight air pressure.
6. Atmospheric conditions. Occasionally, barometric episodes occur that affect draft, thereby affecting stove performance. If your stove has been working fine and performance drops suddenly, this is most likely the cause, and will usually go away within a few days.
7. Your fuel load may be too small or the wood size too large for the coal bed. A small bed of coals requires re-kindling to build up the heat, only put large chunks of wood on a very hot and active bed of coals.

Burn time too short.

1. Your fuel load may be too small or the wood size too large for the coal bed. A small bed of coals requires re-kindling to build up the heat, only put large chunks of wood on a very hot and active bed of coals. If there are large chunks of charred wood left after the fire has gone out, the coal bed was not hot enough.
2. Fuel quality. Harder, denser woods produce longer burn times. Likewise, softer woods produce shorter burn times.
3. Check the main door gasket and glass gasket for proper seal. See for instructions on checking your gaskets.

Catalyst troubleshooting.

Problem	Cause	Solution
Cracking in the catalyst	Burning wet wood causing thermal shock. The Baffle has overheated and warped. Mishandling the catalyst	Burn only dry, seasoned natural wood. Do not over fire stove. Check gaskets for air leaks. Handle with care and replace if the catalyst begins to crumble.
Catalyst plugged with creosote	Burning wet wood or pushing in the bypass rod too soon.	Burn only dry, seasoned natural wood. Burn a hot fire with the bypass rod partially open to burn off the creosote buildup.
Catalyst masked with soot or fly ash.	Pushing in the bypass rod too soon. Burning improper material such as cardboard, coal or wrapping paper.	Burn a hot fire with the bypass rod partially open to burn off the creosote buildup. Burn only dry seasoned natural wood.
Catalyst is crumbled	Flames contacting the catalyst Excessive draft	Use less wood or lower the air to the stove. Install a damper to reduce draft. Replace the catalyst if it begins to crumble.
Catalyst is plugged with fly ash	Pushing in the bypass rod too soon. Burning material that produce fly ash and char. See section 4 for a list of improper materials	Make sure you achieve catalyst light off (see section 4) Burn only dry, seasoned natural wood.

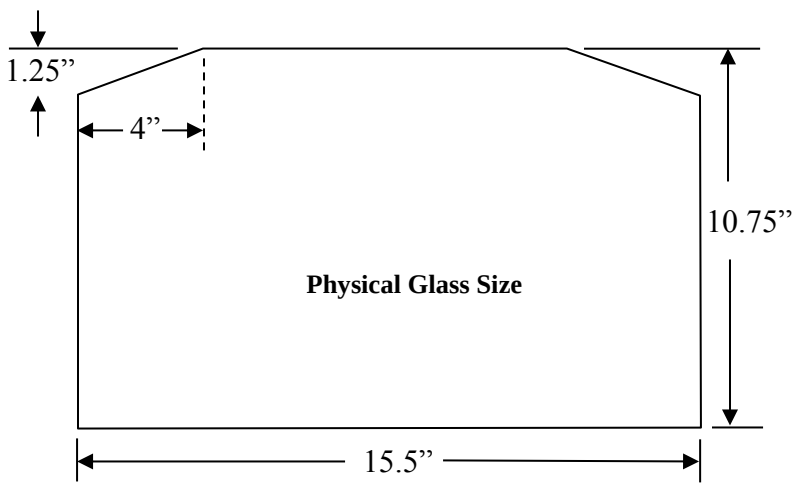
Section 8 – Accessories and Parts

Stove Body

Item #	Description
KR BF SQ	Baffle assembly, Sequoia. No bypass plate or bypass rod.
KR BF SQCLP	Catalytic anti-slide clips. Sequoia.
KR BF SQCAT	Catalytic assembly. Sequoia.
KR BF SQBR	Bypass rod. Sequoia.
KR SP 1P	Control handle, pewter.
KR SP 1G	Control handle, gold.
KR HW 2	Bypass rod hardware. Sequoia.
KR BF SQBP	Bypass plate. Sequoia.
KR HW 3	Baffle installation bolts. Sequoia.
KR BR	Brick, standard size. 9" x 4-1/2".
KR BR SQ1	Brick, cut size. 5-3/4 x 4-1/2 with lopped corner. Sequoia.
KR BR SQ2	Brick, cut size. 9 x 4-1/2 with lopped corner. Sequoia.
KR BR SQ3	Brick, cut size. 5-3/4 x 4-1/2. Sequoia.
KR DW SQ	Door wedge assembly. Sequoia.
KR SC SQ	Air control screens, includes nuts. Sequoia.
KR HW 5	Hardware pack. Sequoia air control screen nuts. Pack of 4.

Door Assembly

Item #	Description
KR GL 2	Door glass, includes gasket. ASH / SEQ.
KR GK 58	5/8" Rope gasket. Price per foot.
KR GK 34	3/4" flat adhesive backed gasket. Price per foot
KR DP 3	Door hinge pin set, includes pin retainers. ASH /SEQ.
KR DP 3RT	Door pin retainer. ASH / SEQ.
KR SP 2P	Door handle, pewter.
KR SP 2G	Door handle, gold.
KR GL 2RT	Glass retainer. ASH / SEQ.
KR DR 2B	Door casting, black. ASH / SEQ.
KR DR 2P	Door casting, pewter. ASH / SEQ.
KR DR 2G	Door casting, gold. ASH / SEQ.
KR HW 4	Hardware pack. #10 screws. Pack of 7.



Section 9 – The Kuma "It's Covered" Limited Warranty for the Kuma Model Sequoia

Our Promise:
If anything goes wrong with your stove in the first three years, we will supply you with the parts to fix it. For as long as you own your stove, if you ever have a defect in the material or workmanship of your stove's firebox, we will repair or replace it for you. See full details below:

Items Covered	Parts Coverage Period	Labor Coverage Period
Maintenance Items: Bricks, gasket, ceramic insulation, baffle boards and paint.	3 Years	No Labor Coverage
Glass (thermal breakage), blowers, ash grate, brick supports, all hardware and trim.	5 Years	3 Years
Stove firebox, ash pan, pedestal, legs, burn tubes and door casting.	Forever	3 Years

The combustor supplied with this heater is an Applied Ceramics FireCat, Long Life Combustor. Consult the catalytic combustor warranty also supplied with this wood heater. Catalyst warranty claims should be addressed to: Applied Ceramics 5555 Pleasantdale Road, Doraville GA 30340. Ph. (770) 448-6888.

Warranty Coverage:
To ensure warranty coverage, it is very important that you register your Kuma Stove warranty within 30 days of purchase at kumastoves.com or fill out and return the warranty registration in your owner's packet. Operation of this stove in a manner inconsistent with the owner's manual, especially the burning of materials for which this unit is not certified by the EPA, will void the warranty. This warranty covers your new Kuma Stove from defects in material and workmanship for the period outlined in this warranty. Kuma Stoves reserves the right to replace, repair or authorize repair of any defective part at its sole discretion. This warranty is not transferrable and covers the original owner of the product from the time of purchase. All parts that have been replaced under this warranty will have a 90 day warranty coverage. The maximum value of this warranty is the original purchase price of the product. This warranty is subject to the conditions and limitations outlined below. This warranty covers stoves purchased from an authorized Kuma Stoves dealer.

Warranty Instructions:
For your "It's Covered" warranty claim, please contact the dealer where you purchased your stove. You may also contact Kuma stoves directly at 50145 N. Old Highway 95, Rathdrum ID 83858 or by phone at 1-888-714-5294 or contact us online at kumastoves.com. When calling, you will need to have your proof of purchase, the model name, and the serial number of your stove. When calling please remember that shipping and handling costs are not covered under this warranty.

Warranty Exclusions:
This Warranty does not cover: 1. Changes in the color of the surface of the stove as this naturally happens during the firing of the stove and is considered normal. 2. Damage to plating due to chemical cleaners, fingerprints, or scratching. 3. Shattered glass caused from wood impact. 4. Discoloration of plating or glass. 5. Expansion and contraction of the firebox causing noise. 6. Damage caused from: power surges, unauthorized modifications, using incorrect fuel and/or accelerants, shipping/handling, failure to follow the manufacturer's installation instructions, failure to follow any local building codes. 7. Damages to any product not manufactured by Kuma Stoves. 8. Any stoves ability to heat a specific area. Heating capacity is given as a guideline and is not guaranteed. 9. Shipping costs or travel time. Please talk with an authorized dealer or Kuma representative about the potential charges for travel or shipping. 10. This warranty is void in the case of abuse, over firing, unauthorized repair, alterations, improper installation and/or service.

Effective 3/1/2012