



Installation and Operation Manual

BISTRO SERIES

Gas-Fired Stone Hearth Oven

Commercial External Transition Models



BISTRO 3030

WS-BL-3030-RFG

BISTRO 4343

WS-BL-4343-RFG, WS-BL-4343-RFG-W

BISTRO 4355

WS-BL-4355-RFG, WS-BL-4355-RFG-W

CUSTOM MODELS

WS-CS-REC-11-RFG



Wood Stone

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INSTALLATION AND OPERATION MANUAL FOR THE WOOD STONE BISTRO

WOOD-FIRED STONE HEARTH OVEN

WS-BL-4343-W, WS-BL-4355-W, CS-REC-11-W

COMMERCIAL EXTERNAL TRANSITION MODELS



THIS APPLIANCE IS FOR PROFESSIONAL USE BY QUALIFIED PERSONNEL. THIS APPLIANCE MUST BE INSTALLED BY QUALIFIED PERSONS IN ACCORDANCE WITH THE REGULATIONS IN FORCE. THIS APPLIANCE MUST BE INSTALLED WITH SUFFICIENT VENTILATION TO PREVENT THE OCCURRENCE OF UNACCEPTABLE CONCENTRATIONS OF SUBSTANCES HARMFUL TO HEALTH IN THE ROOM IN WHICH IT IS INSTALLED. THIS APPLIANCE NEEDS AN UNOBSTRUCTED FLOW OF FRESH AIR FOR SATISFACTORY COMBUSTION AND MUST BE INSTALLED IN A SUITABLY VENTILATED ROOM IN ACCORDANCE WITH CURRENT REGULATIONS. THIS APPLIANCE SHOULD BE SERVICED BY QUALIFIED PERSONNEL AT LEAST EVERY 12 MONTHS, OR SOONER IF HEAVY USE IS EXPECTED.



WOOD STONE BISTRO WOOD-FIRED OVEN OPERATING INSTRUCTIONS

DO NOT THROW THIS MANUAL AWAY

RETAIN THIS MANUAL FOR FUTURE REFERENCE

Additional copies of this manual and prompt responses to service/maintenance questions are available from Wood Stone @ 1-800-988-8103.

FOR YOUR SAFETY: Do not store or use gasoline or other flammable vapors or liquids in the vicinity of this or any other appliance. Also, always keep the area under and around this appliance free and clear of any and all combustible materials.

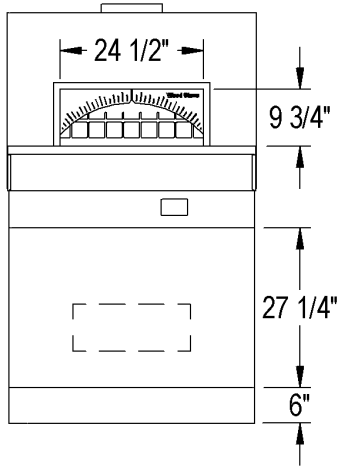
It is recommended that this oven be installed, maintained and serviced by authorized professionals.

WARNING: Improper installation, adjustment, alteration, service or maintenance can result in property damage, injury or death. Read the installation, operation and maintenance instructions thoroughly before installing or servicing this equipment.

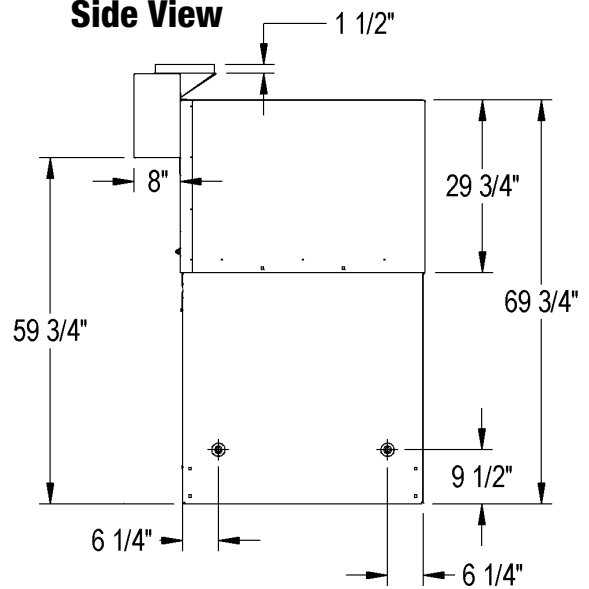
Wood Stone's ovens were tested and approved by Intertek Testing Services (ETL SEMKO), to the specifications of UL Subject 2162 and ULC Subject 1482-M1990 And are listed to ANSI/NSF Standard 4



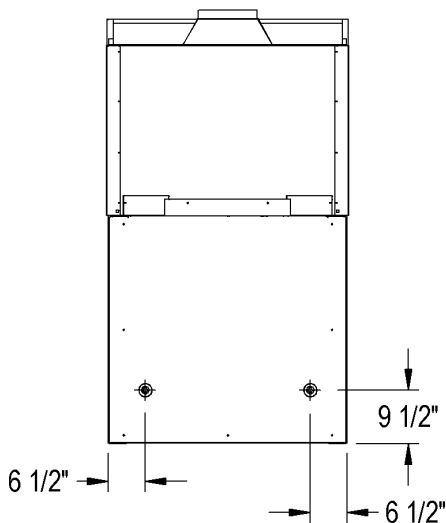
Front View



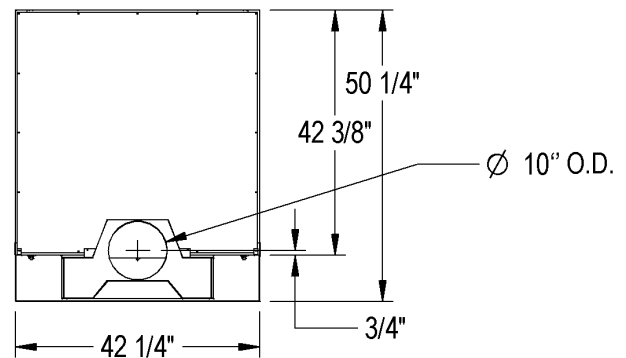
Side View



Rear View



Top View



UTILITIES SPECIFICATIONS

Electrical

120 VAC, 2 amp, 50/60 Hz

All utility connections made on the back of the oven control box. Remove front or rear panel for access, use utility knockouts (provided) to route gas and electrical supplies.

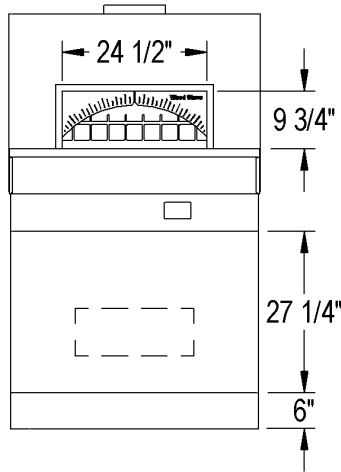
Venting: See Venting section in this manual

Actual Weight: 1650 lbs.

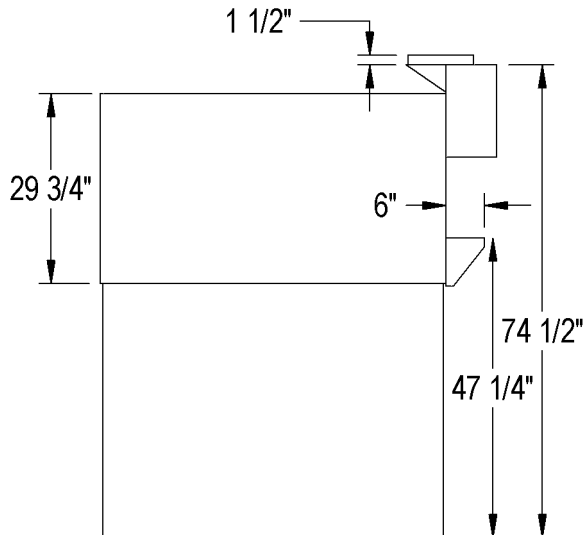
Shipping Weight: 2100 lbs.



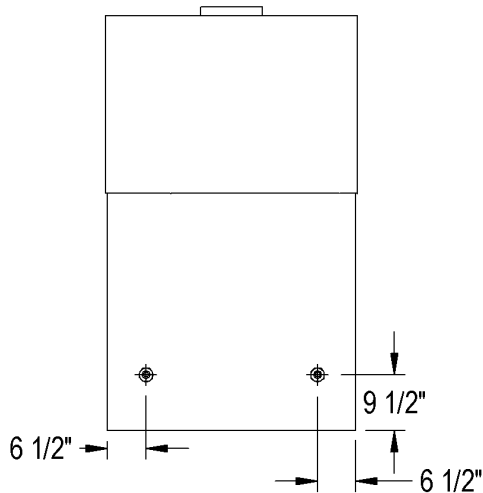
Front View



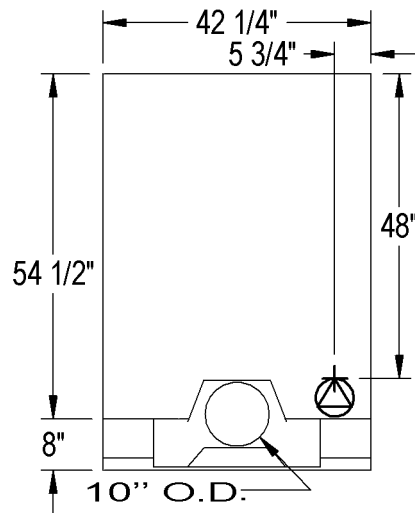
Side View



Rear View



Top View



UTILITIES SPECIFICATIONS

Electrical

120 VAC, 2 amp, 50/60 Hz

All utility connections made on the back of the oven control box. Remove front or rear panel for access, use utility knockouts (provided) to route gas and electrical supplies.

Venting: See Venting section in this manual

Actual Weight: 2200 lbs

Shipping Weight: 2500 lbs.



WARNING: Do Not pack required air space (clearance) with insulation or other materials. When non-combustible building materials contact the body of the oven, the clearances to combustibles are transferred to those non-combustibles.

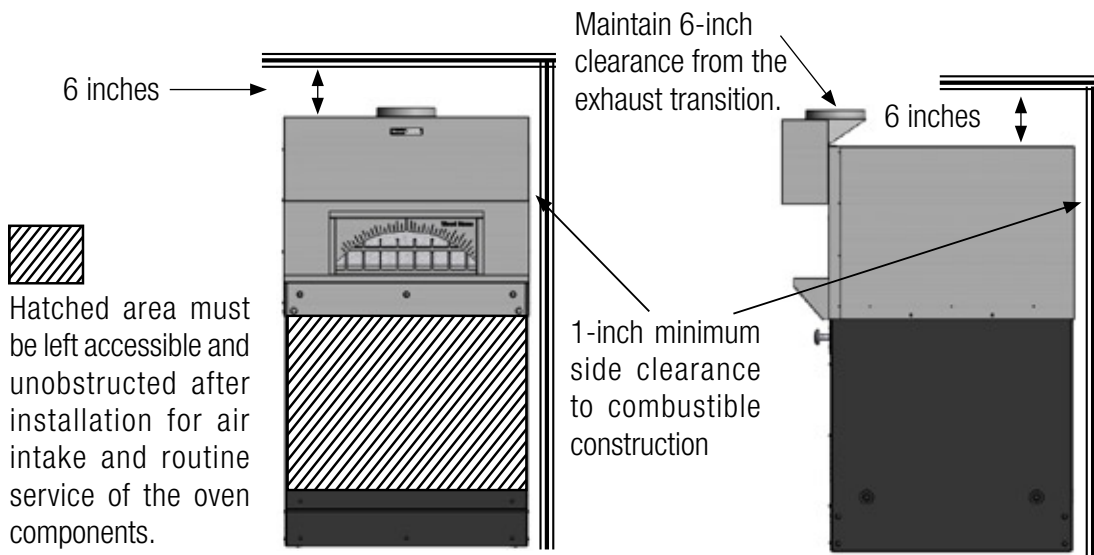
IF THIS OVEN IS NOT PROPERLY INSTALLED A FIRE MAY RESULT. TO REDUCE THE RISK OF FIRE, FOLLOW THESE INSTALLATION INSTRUCTIONS. A MAJOR CAUSE OF OVEN RELATED FIRES IS FAILURE TO MAINTAIN REQUIRED CLEARANCES (AIR SPACES) TO COMBUSTIBLE MATERIALS. IT IS OF UTMOST IMPORTANCE THAT THIS OVEN BE INSTALLED ONLY IN ACCORDANCE WITH THESE INSTRUCTIONS.



WARNING: Installation and servicing of this product could expose you to glasswool/ceramic fibers as well as Calcium Silicate dust. ALWAYS WEAR RESPIRATORY AND EYE PROTECTION WHEN INSTALLING OR SERVICING THIS APPLIANCE. Please read this entire manual before you install the oven. Failure to follow instructions may result in property damage, bodily injury or even death. Contact your local building or fire officials about restrictions and installation inspection in your area.

CLEARANCES

- a. The Wood Stone Bistro oven should have a **minimum 1-inch clearance to combustibles from all sides, 6-inch clearance to combustibles from the top, and 6-inch clearance from the exhaust transition and flue collar.** If building a facade that will contact the oven, use completely non-combustible materials. Any facade wall built above or 6 inches to either side of the doorway must be of non-combustible construction. Please note that standard drywall (or sheet rock) is considered a limited combustible. Any walls perpendicular to the front of the oven in the area 30 inches to either side of the doorway and 36 inches in front of the oven should have a non-combustible surface.
- b. This oven should be installed on a non-combustible floor surface. The non-combustible floor surface must extend 36 inches in front of and 30 inches to either side of the oven doorway.





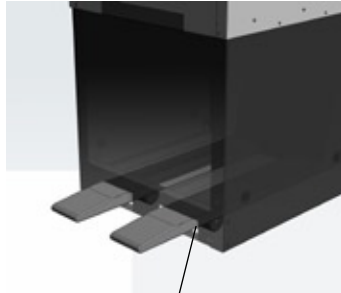
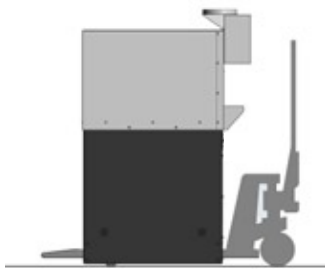
MOVING THE OVEN

If you received your Bistro oven disassembled, go to **page 9**.

If you received your Bistro oven fully assembled, but need to disassemble the oven to move it through a narrow door or passageway, go to **page 17**.

The oven can be moved into place with a pallet jack using the **LOWER** forklift pockets. If the oven is to be installed against a wall, you may need to leave access to the back of the oven to complete the utility connections.

CAUTION: The 4343 model Bistro weighs approximately 1700 lbs. The 4355 model Bistro (CS REC-11) weighs approximately 2200 lbs. The oven is very top-heavy. **IF THE OVEN TIPS IT CAN CAUSE SEVERE INJURY OR DEATH! NEVER ATTEMPT TO USE A HAND TRUCK TO MOVE THE OVEN!** The oven should only be moved using a **Pallet Jack on a LEVEL FLOOR**. If the oven must be moved over an inclined surface, a forklift or other suitable means should be employed. If the installer does not have the equipment or experience required to move the oven safely, we recommend you secure the services of a qualified rigging company.



Make sure the pallet jack wheels do not contact the underside of the fork pocket when lifting to avoid damaging the stand.

Once you have moved the oven to where it will be installed, go to **page 16** for instructions regarding utility connections.

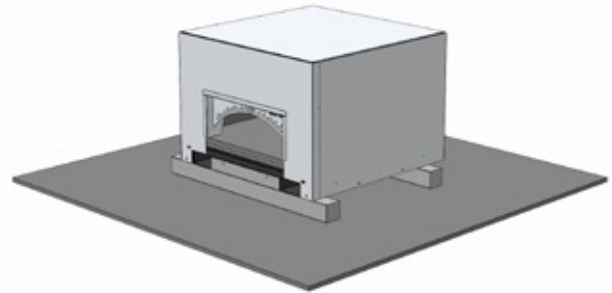


If you received your oven disassembled, and you don't need to tilt the oven to move it through a door or narrow passageway, refer to the exploded parts diagram on **page 10**, and go to **page 11** for assembly instructions.

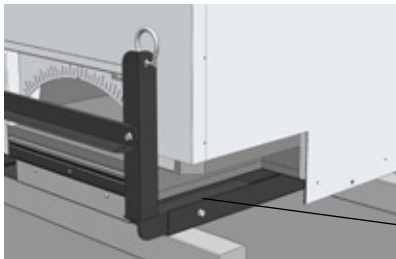
If you received the oven disassembled and need to move it through a narrow door or passageway, follow the instructions below...

If your oven was originally shipped assembled, the optional lifting system is available from Wood Stone.

1. Use a forklift or other suitable lifting means to set the oven body onto blocks as shown. If the oven has the optional decorative logset, remove it before tipping the oven.

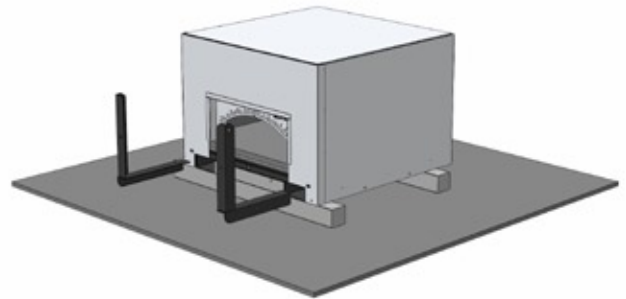


2. Install the side pieces of the tipping assembly.



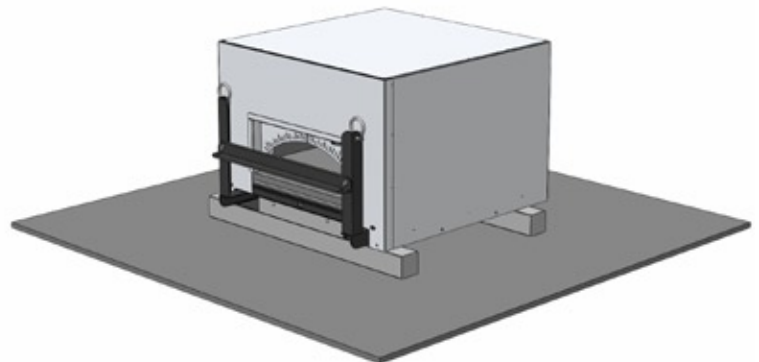
bolt

Cut away view



3. Bolt the side piece to the oven as shown, and attach the cross-piece using the hardware provided.

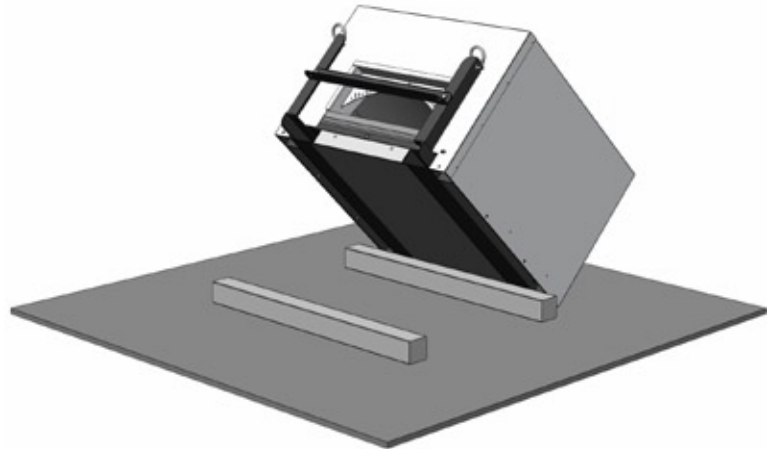
Install a clevis ring in the top hole of each side piece of the tipping assembly. Use these for attachment of a lifting strap or chain.



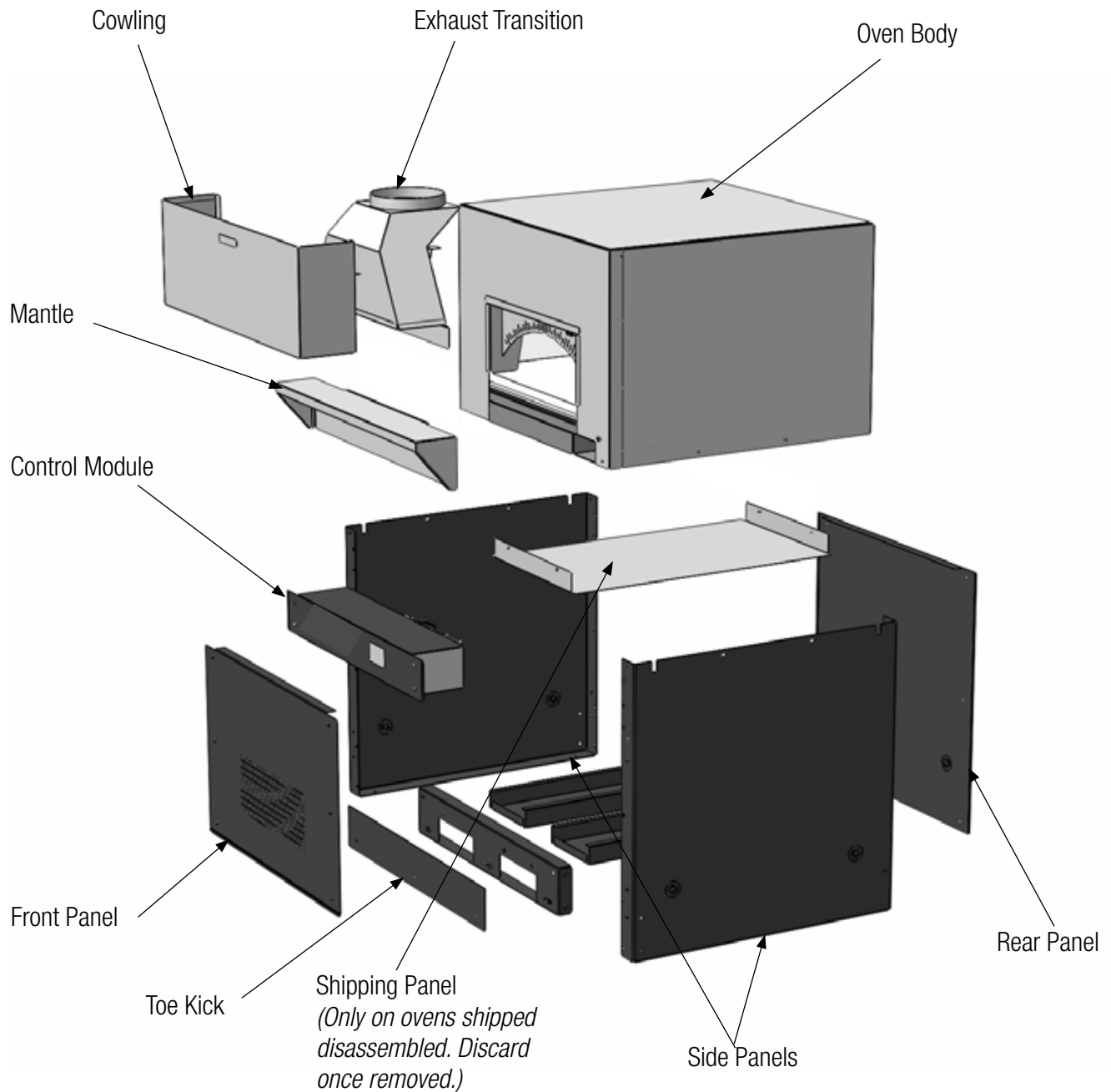


4. Using an appropriate hoist or lift, the oven may now be tilted (on its back) onto a pallet jack or suitable dolly. The oven can now be moved through a narrow doorway etc.

DANGER: Never attempt to move the oven in this manner on any type of incline or sloped floor.



CONTINUE TO THE EXPLODED DIAGRAM AND ASSEMBLY/REASSEMBLY INSTRUCTIONS



Commercial version of the Bistro shown to illustrate the appliance with the non-standard External Transition. All parts shown above and provided with the unit (except the shipping panel) MUST be installed to ensure the safety and proper operation of the appliance.



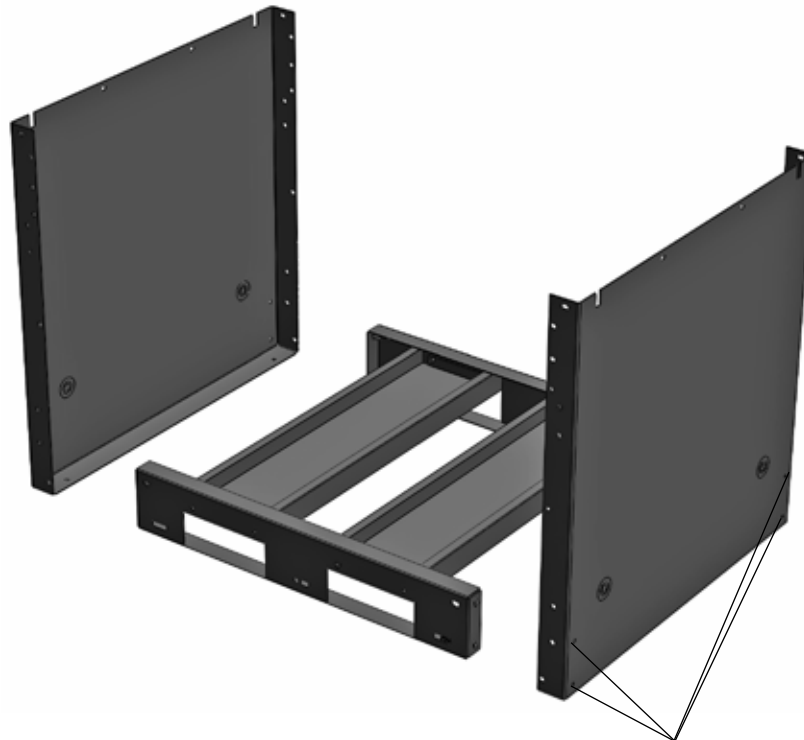
FOLLOW THESE INSTRUCTIONS ONLY IF THE OVEN WAS SHIPPED DISASSEMBLED

Use the 3/8" x 1" carriage bolts to assemble the stand on a level surface. Be sure to use the washers provided and to tighten nuts and bolts securely.

1.



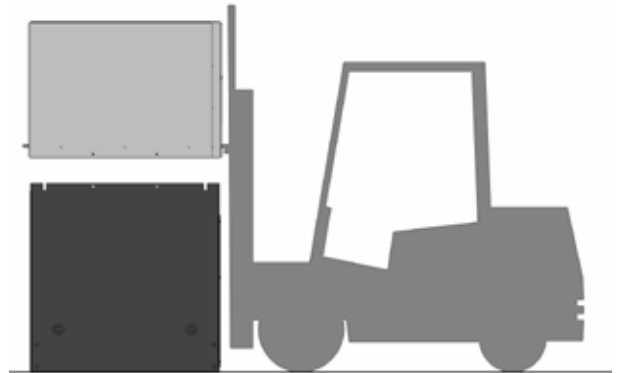
2.



Insert carriage bolts here

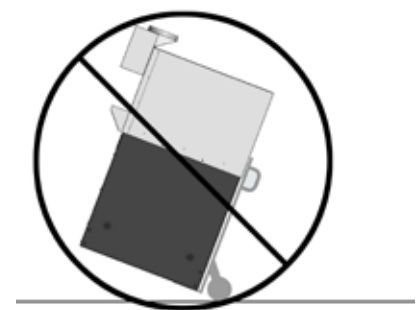
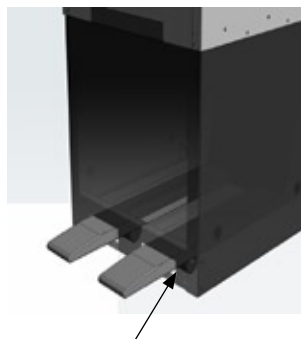
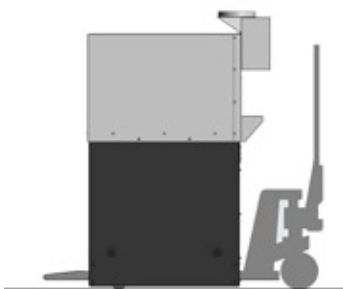


3. Using a forklift, carefully lower the body of the oven on to the stand so that the bolt holes line up. While supporting the oven with the lift, install the 3/8" x 1" carriage bolts. Use the washers provided and tighten all nuts securely. Be sure to use the forklift pockets when lifting the body of the oven.



4. After the oven body is bolted to the stand, the oven can be moved into place with a pallet jack using the **LOWER** forklift pockets. If the oven is to be installed against a wall, leave access to the back of the oven until the assembly is completed.

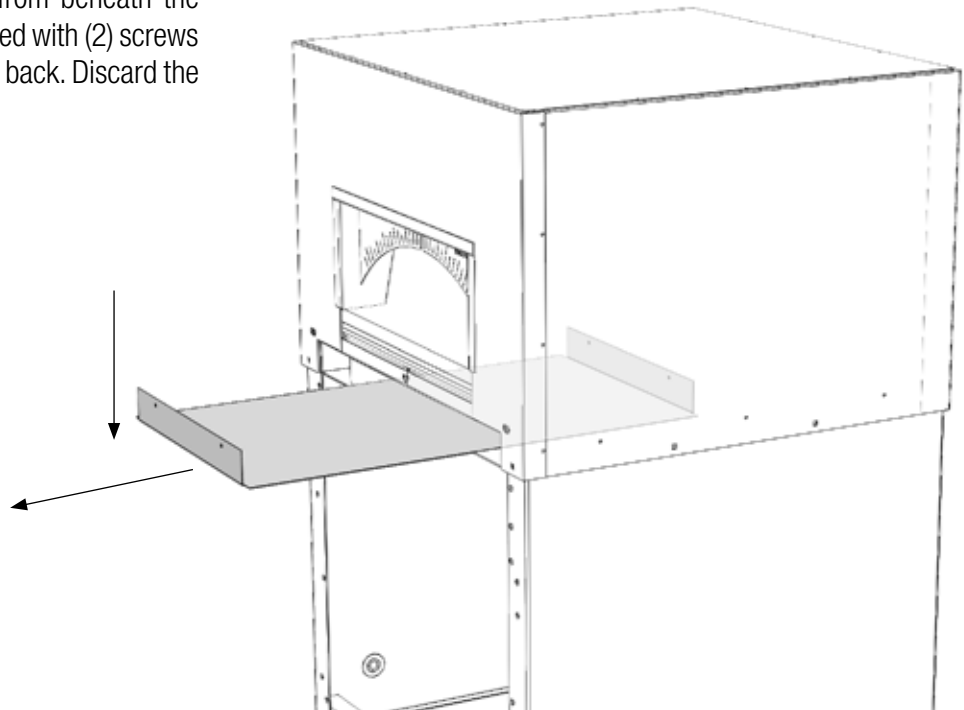
CAUTION: The oven is very top-heavy. **IF THE OVEN TIPS IT CAN CAUSE SEVERE INJURY OR DEATH!** The oven should only be moved using a Pallet Jack on a **LEVEL FLOOR**. Do not attempt to move the oven with a hand truck. If the oven must be moved over an inclined surface, a forklift or other suitable means should be employed. If the installer does not have the equipment or experience required to move the oven safely, we recommend you secure the services of a qualified rigging company.



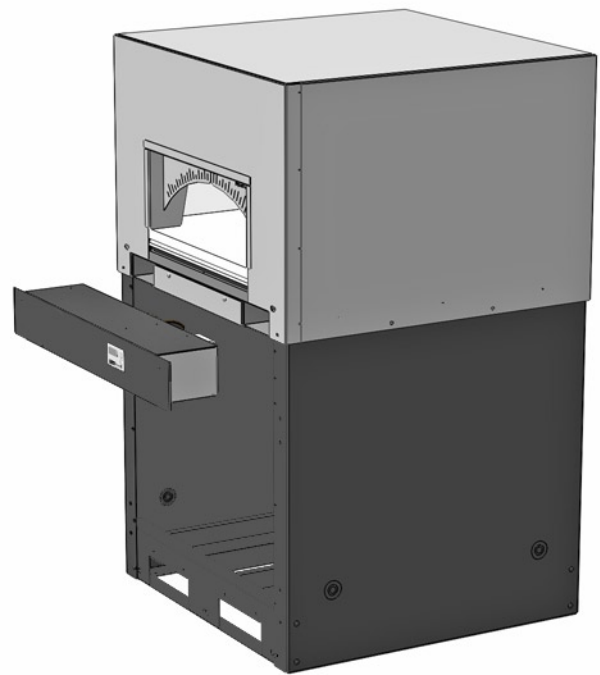
Make sure the pallet jack wheels do not contact the underside of the fork pocket when lifting to avoid damaging the stand.



5. Remove the shipping panel from beneath the oven. The shipping panel is secured with (2) screws in the front, and (2) screws in the back. Discard the shipping panel.

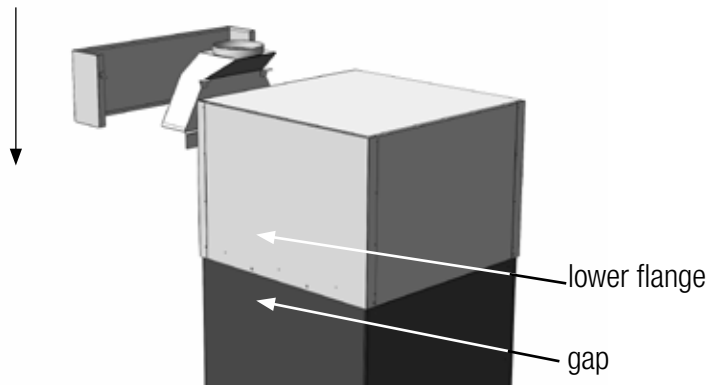


6. Attach the Control Box to the oven using (4) 1/4-20 screws. The control box should be oriented so the knob is on the left side of the control box.



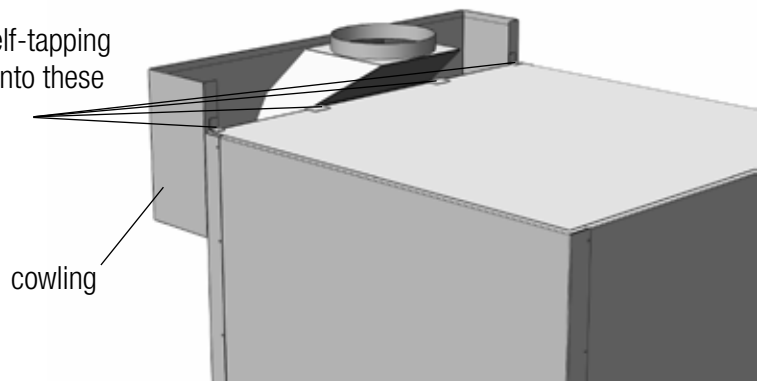


7. Place the exhaust transition onto the front of the oven. The lower flange should slide into the gap across the top of the oven doorway. Make sure the exhaust transition is centered over the doorway.



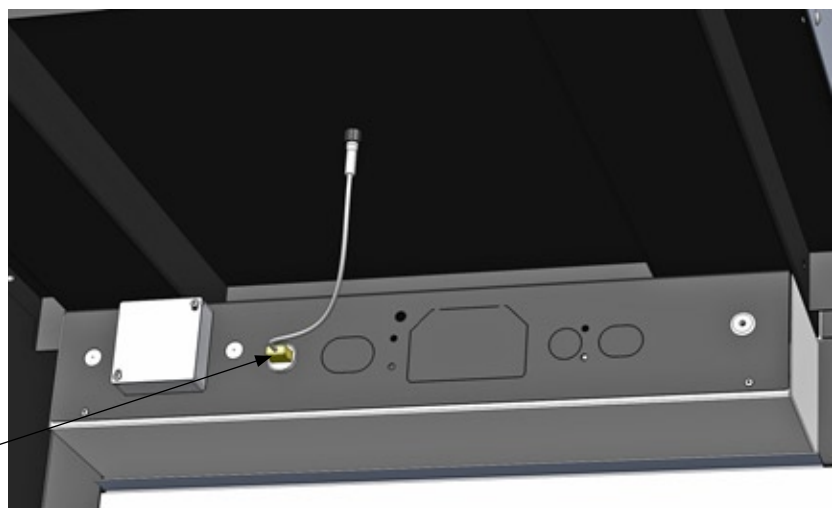
8. Use the self-tapping screws (provided) to secure the exhaust transition and cowling. The holes in the top of the oven have been pre-drilled.

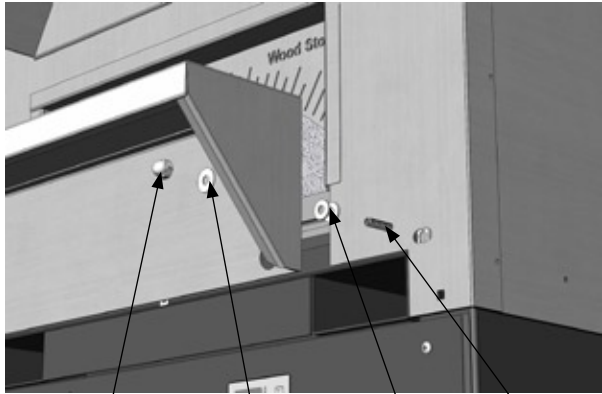
Insert self-tapping screws into these holes



9. Connect the thermocouple at the rear of the control box.

Plug in thermocouple wire here





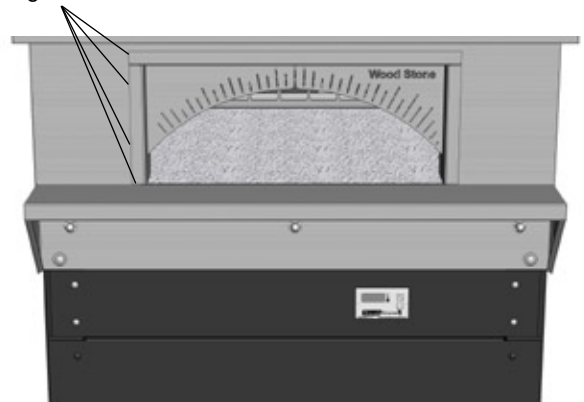
stainless steel cap nut
stainless steel washer
spacer washers
threaded stud

10. Install the mantle. Install the (3) threaded studs into the clips on the front of the oven. Slide (2) spacer washers over each stud. Slide the mantle over the studs, then slip a stainless steel washer onto each stud. Install and tighten the cap nuts securely.

If the oven has been supplied with a granite mantle, affix the granite slab to the mounting bracket using a generous amount of the adhesive provided.

11. Run a bead of silicone (provided) along the joint between the sides of the doorway and the front of the oven, and between the mantle and the front of the oven as shown in the drawing.

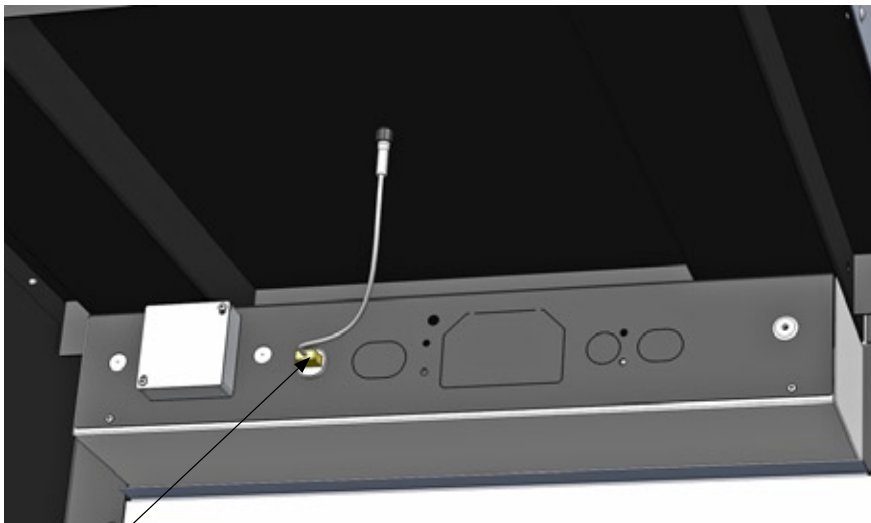
Silicone this joint. Apply silicone to the right hand side in the same manner.





ELECTRICAL CONNECTION

Make electrical connection at the rear of the control box. Electrical connections must comply with all relevant national and local codes, and in a manner acceptable to the authority having jurisdiction.



Make the electrical connection to the terminals in this junction box. *Correct voltage is specified on this junction box and the equipment data plate.

Knockouts are provided on the sides of the oven stand for the incoming electrical supply. If necessary, holes may be drilled in the back panel. Electrical supply should be routed in such a way that it does not block the access to the space under the oven for service. **The rear panel must be installed!**

This appliance must be electrically grounded in accordance with local code, or in the absence of local code, with the national electrical code, ANSI/NFPA 70, or the Canadian Electrical Code, CSA C22.2, as applicable.

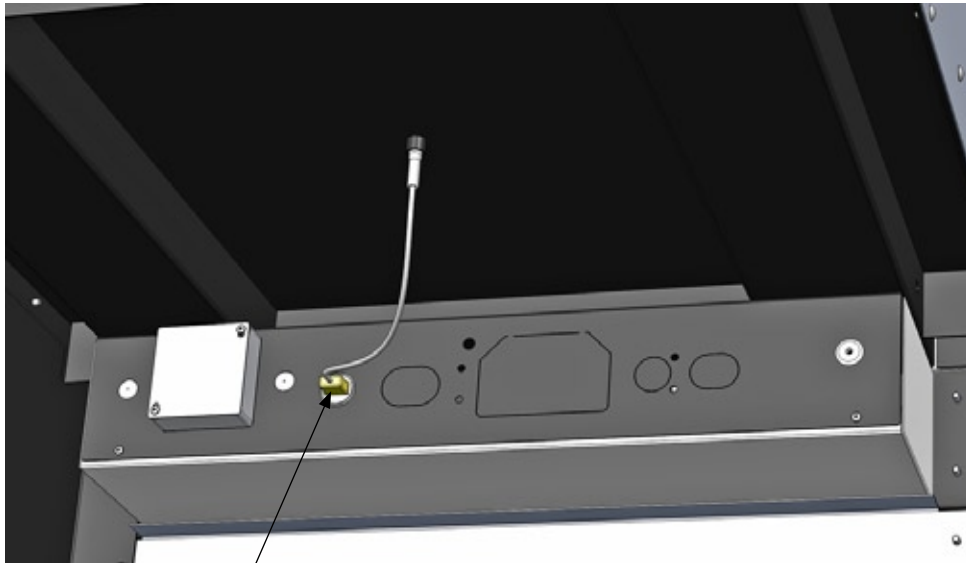
An electrical diagram is provided inside the bottom cover of the control box, and at the end of this manual.

Install front and rear panels, toe kick. Install the rear panel, front panel, and toe kick using the 1/4-20 screws provided. The front panel on the oven must not be covered, so as to allow access for service to the oven components. The oven should be bolted to the floor using the holes provided at the base of the stand.



IF YOU NEED TO DISASSEMBLE THE OVEN TO MOVE IT THROUGH A NARROW DOOR OR PASSAGEWAY....

1.



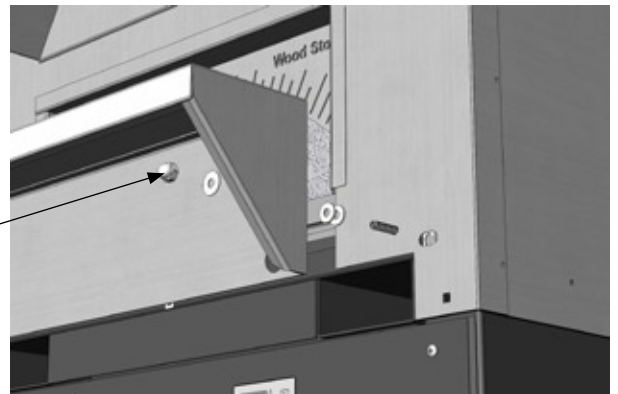
Unplug thermocouple wire and coil it to prevent damage while moving the oven.

CONTINUED ON THE FOLLOWING PAGE



2. Remove the (3) cap nuts that hold the mantle in place, and remove the mantle. It may be necessary to cut the silicone at the joint between the mantle and the oven.

cap nut

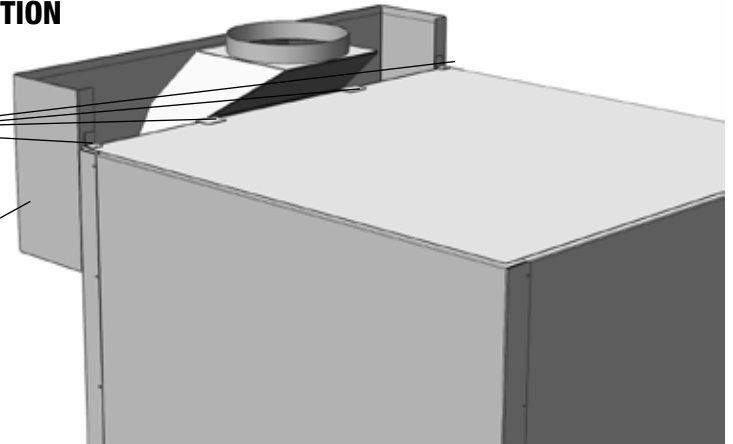


3. Ovens with external exhaust transition only. Remove the cowling and exhaust transition by removing the screws from the top of the oven.

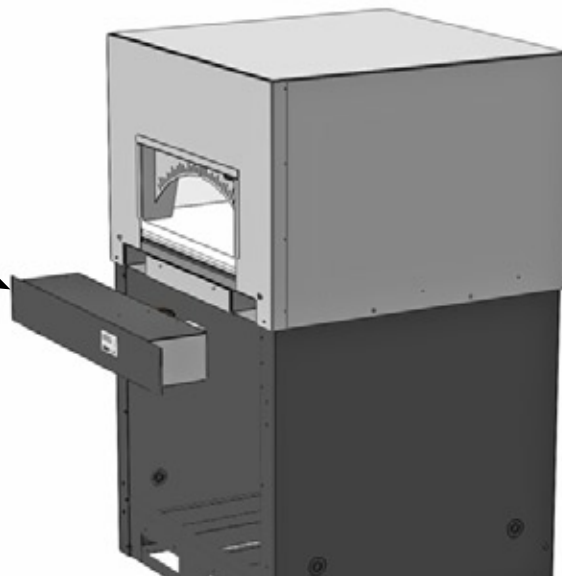
EXHAUST TRANSITION

screws

cowling

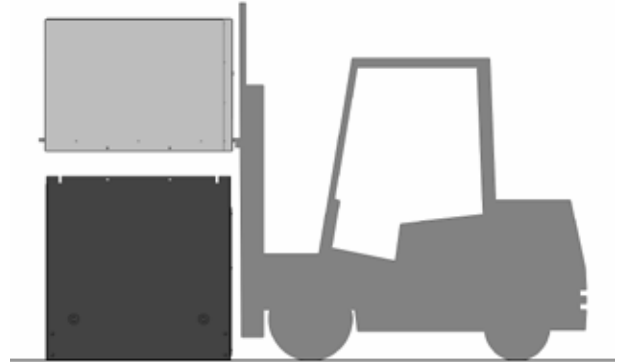


4. Remove the control box from the oven.





5. Using the upper forklift pockets support the oven with a forklift or other suitable device. Remove the bolts that attach the oven body to the stand. Lift the oven off of the stand and place it on blocks as shown in **Step 1 on page 8**. Disassemble the stand if necessary. Follow the instructions on **page 8** for tilting and moving the oven body. Follow the assembly instructions on **page 10** to reassemble the oven.





All of the combustion products and cooking vapors from the **WS-BL-4343-W, WS-CS-REC-11-W, WS-BL-4355-W, WS-BH-4355-W** pass through the 10-inch diameter flue collar located on top of the oven, near the front. The oven can be connected to a power ventilated chimney, or placed under a Type 1 hood (See #1 below). Wood Fired (wood only, without gas burner) models are listed to allow up to 20 lbs. of wood per hour, and **MUST** be vented as **SOLID FUEL** equipment. **DO NOT OVER FIRE THE OVEN.**

The following are the manufacturer's requirements for venting Wood Stone Bistro Line ovens. It is never appropriate to use "B vent" in any part of an exhaust system connected to a Wood Stone oven. All ducting material must be manufactured to the specifications of a grease duct. Due to the possibility of sparks entering the duct, exhaust systems serving **SOLID FUEL** equipment **SHOULD NOT** be combined with exhaust systems serving other (non-solid fuel) cooking equipment.

THERE ARE TWO OPTIONS:

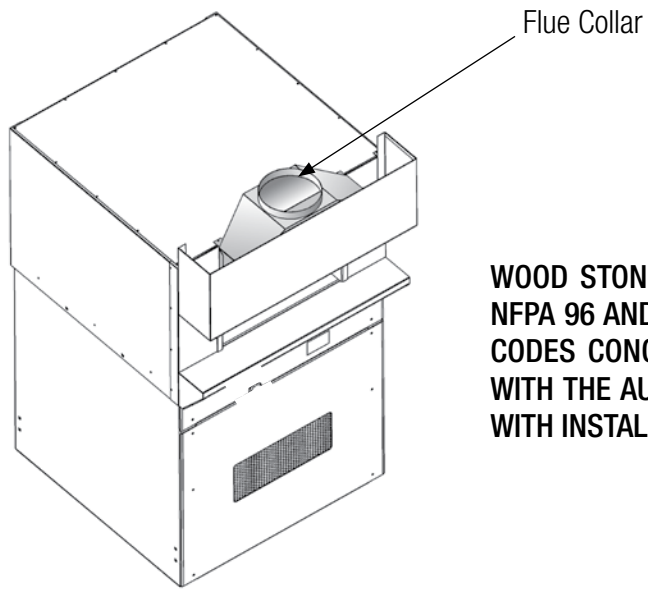
1. A Listed building heating appliance chimney, which is also a Listed grease duct connected directly to the oven flue collar and provided with a 450 degree F rated power ventilator listed for restaurant appliance exhaust. A field built grease duct that is constructed and installed per the requirements for a grease duct as described in NFPA 96, or the International Mechanical Code may also be used.

A static pressure of -0.14 inches water column is necessary at the oven flue collar to ensure that flue gas temperatures do not exceed 450 degrees F (The CFM required to attain this static pressure will depend on the configuration of your particular installation but will probably be between 300 and 500 CFM). Wood Stone provides a port in the flue collar of the oven for insertion of a magnehelic gauge so the installer can monitor the draft to ensure proper operation of the venting system.

2. Wood Stone offers eyebrow-type hoods designed specifically for Wood Stone ovens manufactured by Gaylord Industries.

FIRE SUPPRESSION

Check with your local code officials to see if fire suppression is required in your area. If fire suppression is required, you must vent the oven using a Type 1 hood constructed and installed in accordance with NFPA 96. The fusible link in the hood must be rated at 450 degrees F minimum. Wood Stone offers UL Listed Exhaust Hoods for our ovens that are pre-piped for ANSUL R-102 fire suppression. All installations are subject to the approval of the local authority having jurisdiction.



WOOD STONE OVENS SHOULD BE VENTED IN ACCORDANCE WITH NFPA 96 AND/OR ALL PERTINENT NATIONAL, REGIONAL AND LOCAL CODES CONCERNING SUCH APPLIANCES; CHECK VENTING PLANS WITH THE AUTHORITY HAVING JURISDICTION BEFORE PROCEEDING WITH INSTALLATION.

If using an optional exhaust hood, a listed exhaust hood or one that is constructed in accordance with NFPA 96 is required to ventilate this oven.

A minimum exhaust volume of 175 CFM per lineal foot of hood is required. Air flow rates were established under draft-free laboratory conditions. Greater exhaust airflow rates may be required for each specific installation to obtain complete vapor and smoke removal.



REMOVAL OF CREOSOTE AND SOOT

As with all commercial cooking equipment exhaust systems, **a regular inspection and cleaning schedule is needed to prevent the possibility of a hood or duct fire.** The frequency of inspection and cleaning will depend on hours of use and type and quality of wood used as fuel. Only use hardwood species dried to a moisture content of 20% or less. See Wood Stone's **Fuel Wood Facts** Sheet.

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 oven flue of a slow-burning fire. As a result, creosote residue accumulates in the duct. When ignited, this creosote makes an extremely hot fire.

The duct serving this oven should be inspected at least twice a month during the first two months of operation, to establish rate of creosote buildup and necessary cleaning schedule. If creosote or soot has accumulated, it should be removed to reduce the risk of a flue fire.

The interior floor and dome of the oven do not require creosote or soot removal. The oven flue and exhaust system will require inspection and cleaning. The exhaust system should be inspected and cleaned per the manufacturer's and or local code official's recommendations.

DISPOSE OF ASH PER THE FOLLOWING:

1. Place ashes into a metal container with a tight fitting lid.
2. Place the closed container of ashes on a non-combustible floor or on the ground.
3. Place the closed container of ashes well away from all combustible materials, pending final disposal.
4. Retain the ashes in the closed container until all the cinders have thoroughly cooled. Ashes can then be disposed of safely.

NOTE: Wood Stone's stainless steel ash shovel and double compartment ash disposal system offer a safe and convenient way to dispose of ash.





READ BEFORE BUILDING FIRST FIRE

THIS OVEN HAS BEEN FACTORY-CURED, HOWEVER SLOW WARMING IS STILL NECESSARY TO ENSURE EQUAL DISTRIBUTION AND SATURATION OF HEAT WITHIN THE DOME AND HEARTH. THIS PROCESS IS ALSO NECESSARY TO PREVENT THERMAL SHOCKING OF THE REFRACTORY STONE, WHICH CAN CAUSE EXCESSIVE CRACKING.

DAY ONE

1. Build a small kindling fire of newspaper and 3-7 lbs. of heavy, hard wood. We suggest using a "Fire Starter" (paraffin/sawdust stick) to start the fire. Begin with (3) small pieces of wood (about 1"-3" diameter and 14"-16" in length). Build the fire directly on the floor of the oven against the side or back of the dome. The fire should be built far enough inside and of a size that doesn't permit the flame to go up the flue. Slowly bring the oven temperature up to 300-400 degrees F. Maintain this fire for 4-5 hours.

2. Once the oven temperature has reached 300-400 degrees F, increase the oven temperature by increasing the size and amount of wood being used. Based on what is already burning, gradually increase the amount of wood to 5-7 lbs. an hour. This will bring the oven temperature up to 500-550 degrees F.

NOTE: THE MORE WOOD ADDED TO THE FIRE, THE HOTTER THE OVEN WILL GET

It is recommended that on the first day of heat-up, the oven does not exceed 550 degrees F within the first 8 hours. If your goal is to cook at higher temperatures, the oven should only be brought up to 550 degrees F on day one. Continue the process on day two in order to get the oven to higher temperatures, if necessary. The amount of wood required to bring the oven to the specified temperatures may vary depending on the type and quality of the wood.

Never use any type of flammable liquid or fuel to start a fire in a Wood Stone oven. Doing so could cause a dangerous situation and/or damage to the oven ceramic.

IMPORTANT NOTES:

- One pound of properly cured, heavy, hard wood produces the potential of 6500 Btu's.
- The temperature sensor (thermocouple) is located at the center of the floor, one inch under the surface. The thermocouple will give false readings if the fire is placed on top of it.
- If at anytime the oven is allowed to cool to room temperature for an extended period of time, especially outside installations, this heat-up procedure will need to be repeated to avoid thermal shocking of the refractory stone which can cause excessive cracking.
- Small "crazing" cracks will occur with normal heating and cooling. They will not effect the performance or durability of the oven. If cracks of 1/8" or more develop, contact Wood Stone for evaluation.



THE FIRE

Use only seasoned heavy, hardwoods with a moisture content of 15-20%. Use of soft woods, such as pine, cedar, hemlock etc., and wet or 'green' wood, will cause an excessive build-up of flammable residue throughout the exhaust system. (See Wood Stone's **Fuel Wood Facts**, or consult factory for information on what types of wood can be used for oven fuel.)

The fire should be ignited a couple of hours before the oven needs to be at cooking temperature, it can be located practically anywhere in the oven, far enough inside and of a size that doesn't permit the flame to go up the flue. Once the oven is being used daily, the fire may be ignited using still glowing coals from the previous day's fire. The oven is heated more evenly and effectively by a fire positioned on the side rather than in the rear of the oven. Adding about 3-7 pounds of wood per hour should bring the oven temperature up about 100 degrees per hour (this will vary slightly depending on the type and moisture content of the wood and the size of the oven). The floor temperature is indicated by the digital thermometer and should not exceed 850 degrees. Once the desired temperature is reached, maintain it by addition of wood as needed. Do not fling wood against back or side walls of oven - this may void the warranty. At the end of the work day, put removable stainless steel door(s) into door opening to hold heat in the oven overnight.

DO NOT OVER-FIRE THIS OVEN. IF FLAMES ARE SPILLING OUT OF THE DOOR OPENING, OR IF OVEN FLOOR TEMPERATURE EXCEEDS 850 DEGREES F, THEN YOU ARE OVER-FIRING THE OVEN.

At the start of the following work day, pull the spent fuel (fly ash) off of the coal bed using your brass bristle brush. Remove with the ash shovel and place ashes into an ash dolly (metal container with a tight fitting lid). The closed container of ashes should be placed on a non-combustible floor or on the ground, a safe distance from all combustible materials pending final disposal. They should be retained in the closed container until all cinders have thoroughly cooled. Check with your dealer about Wood Stone's Ash Dolly.

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

DO NOT USE PRESSED WOOD PRODUCTS IN WOOD STONE FOOD SERVICE EQUIPMENT, THEY MAY DAMAGE THE CERAMICS.

DO NOT POUR OR SPRAY LIQUIDS ONTO THE OVEN DECK OR THE OVEN INTERIOR AS THIS CAN DAMAGE THE CERAMIC AND WILL VOID THE WARRANTY.



CARE AND CLEANING

OVEN FLOOR- As needed, brush food particles and stray fire debris from the oven floor using a long-handled floor brush. If something spills on the floor of the oven, wait for it to burn and/or dry up and then clean the residue off with the floor brush. This process can be sped up by moving a small portion of coals onto the spill causing it to bake off quickly. For removal of fine particles (burned flour or ash), wrap a warm, damp cloth around the brush head and use it to briskly wipe the floor.

DO NOT SCRAPE THE OVEN FLOOR WITH METAL TOOLS HAVING SHARP EDGES OR CORNERS!

STAINLESS STEEL SURFACES- The oven tools, the mantle, the night doors and the oven doorway should be cleaned, as needed, using warm soapy water. Do not use abrasive metal scouring pads as they will scratch the stainless steel. Avoid the use of excess water when cleaning the face of the digital readout or oven controller.

DUCT- As with all commercial cooking equipment, regular cleaning and maintenance of the exhaust system is necessary to prevent the possibility of a hood and/or duct fire. The frequency of inspection and cleaning will depend upon hours of use and type and moisture content of the wood used for fuel.

AVOID FLUE FIRES; BURN GOOD QUALITY WOOD AND ESTABLISH A REGULAR CLEANING SCHEDULE!

DO NOT POUR OR SPRAY LIQUIDS ONTO THE OVEN DECK OR THE OVEN INTERIOR AS THIS CAN DAMAGE THE CERAMIC AND WILL VOID THE WARRANTY.



WHAT TYPE OF WOOD SHOULD YOU USE TO FIRE YOUR SOLID FUEL COOKING EQUIPMENT?

The answer to this question depends on several considerations: geographical location, availability and relative cost of various fuelwood species and individual preferences regarding the flavor qualities of various wood types. There are a wide variety of good fuelwood species in all geographic locations. Each species of wood has different characteristics. The table below should help weigh the pros and cons of various types of wood. Wood from conifers (pine trees) is not recommended due to its poor fuelwood characteristics (low weight, low-med heat, poor coaling, high sparking and high residual creosote).

Wood Type	Heat	Lbs/Cord	Lighting	Coaling	Sparks	Fragrance*
Alder	Med-Low	2500	Fair	Good	Moderate	Slight
Apple	High-Med	4400	Fair	Excellent	Few	Excellent
Ash	High	3500	Fairly Difficult	Good-Excellent	Few	Slight
Beech	High	3800	Difficult	Excellent	Few	Good
Birch (white)	Medium	3000	Easy	Good	Moderate	Slight
Cherry	Medium	2000	Fair	Excellent	Few	Excellent
Elm	High	2300	Very Difficult	Good	Very Few	Fair
Hickory	Very High	4200	Fairly Difficult	Excellent	Moderate	Excellent
Maple (red)	High-Med	3200	Fairly Difficult	Excellent	Few	Good
Maple (sugar)	High	3700	Difficult	Excellent	Few	Good
Mesquite	Very High		Very Difficult	Excellent	Many	Excellent
Oak (live)	Very High	4600	Very Difficult	Excellent	Few	Fair
Oak (red)	High	3700	Difficult	Excellent	Few	Fair
Oak (white)	Very High	4200	Fairly Difficult	Excellent	Few	Fair
Pecan	High		Fair	Good	Few	Good

*The desirability of various fragrances is largely a matter of personal preference.

Whichever type of wood you use, **MAKE SURE YOU KNOW THE MOISTURE CONTENT**. Properly seasoned wood contains 20% moisture or less. If wood contains more than 20% moisture, it should not be accepted for use. Wood should be stored off the ground and out of the rain in an environment that allows good air circulation so that the drying process can continue. Wet wood is the most common operational difficulty associated with wood-fired cooking equipment. Wood Stone's moisture meter can prevent you from paying for water when you thought you were paying for wood (see optional accessories).

Calculate your approximate monthly, daily and hourly fuel-wood costs using the following formulas:
The cost of well-seasoned hardwood varies greatly with geographical location.

$$\text{Cost per month} = A \times C \quad \text{Cost per day} = \frac{A \times C}{30} \quad \text{Cost per hour} = \frac{\left(\frac{A \times C}{30}\right)}{12}$$

A = Cost/Cord (from wood supplier)

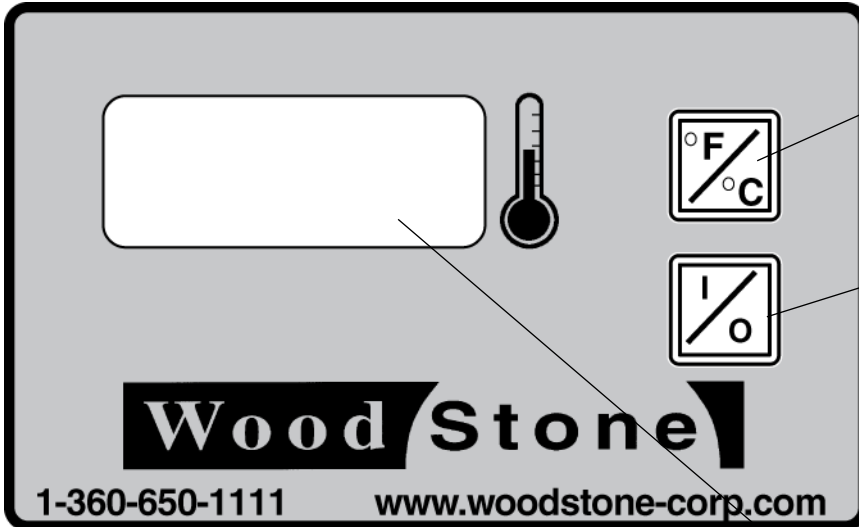
B = lbs./Cord (from above table)

C = Cords/Month (from experience, or call Wood Stone for an estimate)

When burned, all wood releases approximately 6500 BTU's/lb. so it is better to compare the price of wood by the pound rather than by the cord. A full cord of wood measures 4' x 4' x 8' when stacked.

$$\text{Cost per lb} = \frac{A}{B}$$

Do Not use pressed wood products in Wood Stone food service equipment, they may damage the ceramics.



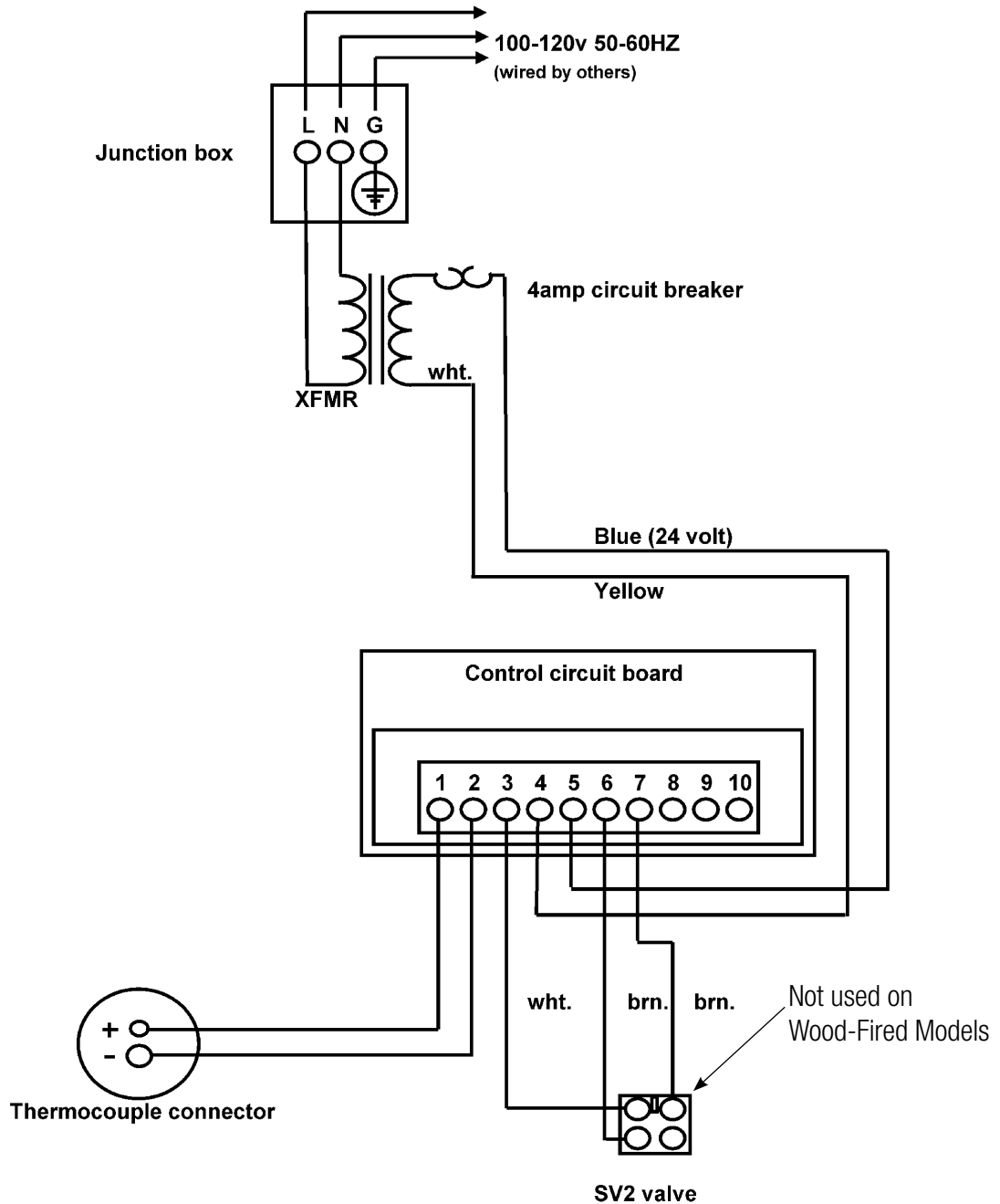
TEMPERATURE UNITS- press and hold to switch between Fahrenheit and Celsius.

'ON/OFF' BUTTON- press to turn the temperature display 'ON' and 'OFF'.

HEARTH TEMPERATURE- The hearth temperature will be displayed here any time the oven is in use.



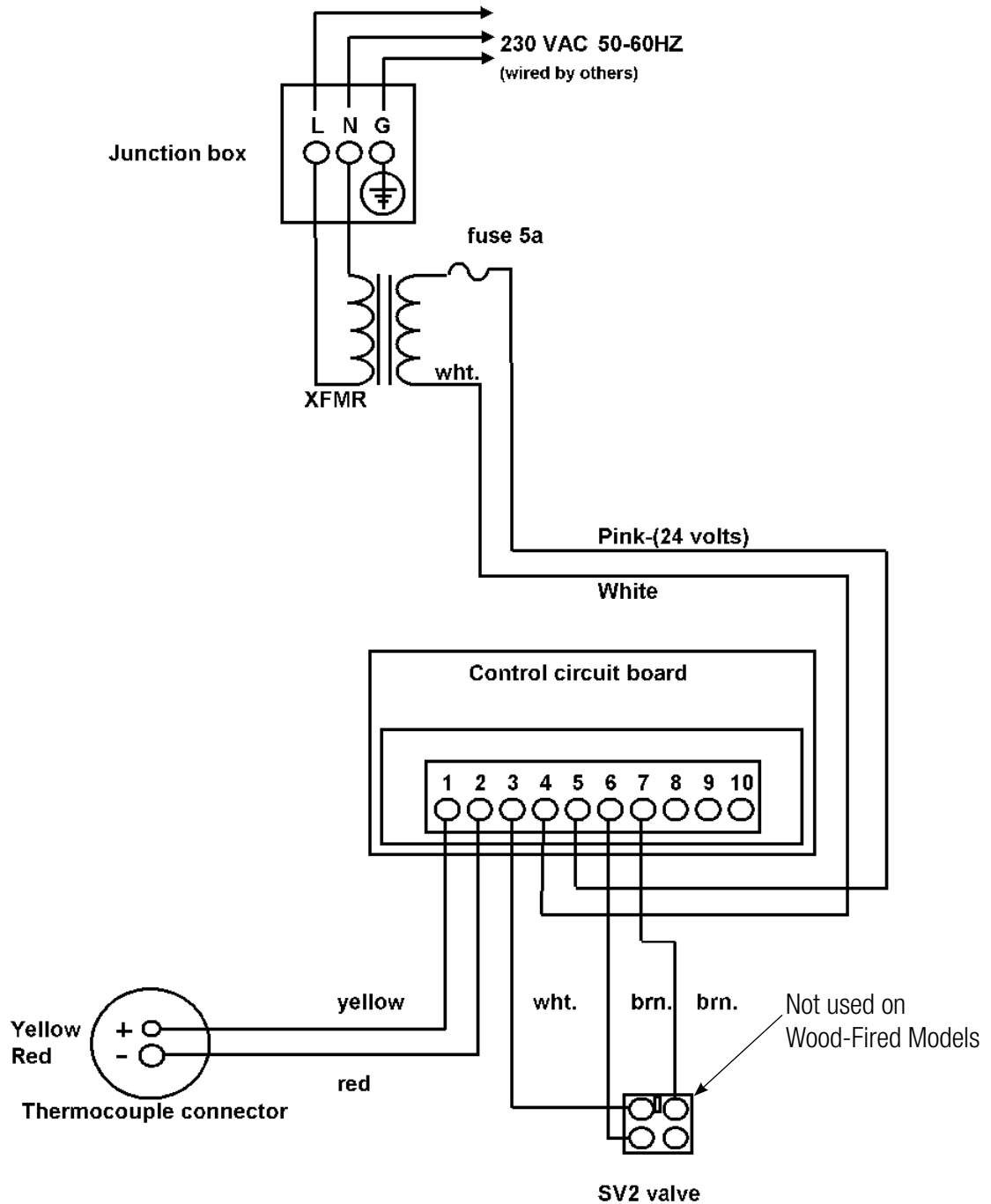
BISTRO MODELS WITH HOT SURFACE IGNITION





BISTRO 240 VAC MODELS

March 29, 2005





ALL WARRANTY SERVICE MUST BE PRE-APPROVED BY WOOD STONE PLEASE CONTACT THE FACTORY FIRST

PLEASE CALL 1-800-988-8103 OR 1-360-650-1111 SEVEN DAYS A WEEK. OUR NORMAL BUSINESS HOURS ARE 8AM TO 4:30PM PACIFIC STANDARD TIME MONDAY THROUGH FRIDAY. IF CALLING DURING NON-BUSINESS HOURS, FOLLOW THE RECORDED INSTRUCTIONS FOR EMERGENCY SERVICE AND A WOOD STONE TECHNICIAN WILL GET BACK TO YOU PROMPTLY. WOOD STONE WARRANTS ITS EQUIPMENT TO THE ORIGINAL PURCHASER AGAINST DEFECTS IN MATERIAL OR MANUFACTURE FOR A PERIOD OF ONE YEAR FROM THE ORIGINAL DATE OF PURCHASE SUBJECT TO THE FOLLOWING EXCLUSIONS AND LIMITATIONS.

EXCLUSIONS

The warranties provided by Wood Stone do not apply in the following instances:

1. In the event that the equipment is improperly installed. Proper installation is the responsibility of the installer; proper installation procedures are prescribed by the Wood Stone installation manual.
2. In the event the equipment is improperly maintained. Proper maintenance is the responsibility of the user; proper maintenance procedures are prescribed in the Wood Stone installation manual.
3. In the event that the failure or malfunction of the appliance or any part thereof is caused by abnormal use or is otherwise not attributable to defect in material or manufacture.
4. In the event that the appliance, by whatever cause, has been materially altered from the condition in which it left the factory.
5. In the event that the rating plate has been removed, altered or obliterated.
6. On parts that would be normally worn or replaced under normal conditions.
7. Normal cracking due to expansion and contraction stress relief in either the dome or oven deck.
- 8. IN THE EVENT THAT PRESSED LOG PRODUCTS OF ANY TYPE HAVE BEEN BURNED IN THE EQUIPMENT.**
9. Damage resulting from the use of chemical cleaning products in the oven, as well as any damage from liquids or chemicals being poured or sprayed into the oven.

If any oral statements have been made regarding this appliance, such statements do not constitute warranties and are not part of the contract of sale. This Limited Warranty constitutes the complete, final and exclusive statement with regard to warranties.

THIS LIMITED WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES WHETHER WRITTEN, ORAL OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE OR WARRANTY AGAINST LATENT DEFECTS

LIMITATIONS OF LIABILITY:

In the event of warranty claim or otherwise, the sole obligation of Wood Stone shall be the repair and/or replacement, at the option of Wood Stone, of the appliance or component or part thereof. Such repair or replacement shall be at the expense of Wood Stone with the exception of travel over 100 miles or two hours, overtime, and holiday charges which shall be at the expense of the purchaser. Any repair or replacement under this warranty does not constitute an extension of the original warranty for any period of the appliance or for any component or part thereof. Parts to be replaced under this warranty will be repaired or replaced at the option of Wood Stone with new or functionally operative parts. The liability of Wood Stone on any claim of any kind, including claims based on warranty, expressed or implied, contract, negligence, strict liability or any other theories shall be solely and exclusively the repair or replacement of the product as stated herein, and such liability shall not include, and purchaser specifically renounces any rights to recover, special, incidental, consequential or other damages of any kind whatsoever, including, but not limited to, injuries to persons or damage to property, loss of profits or anticipated profits, or loss of use of the product.

TO SECURE WARRANTY SERVICE:

If you claim a defect covered by this Limited Warranty, direct your claim to:
Wood Stone Corporation 1801 W. Bakerview Rd. Bellingham, WA 98226 USA Attn: National Service Manager