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## **CHITWOOD REAL SMOKE BROILERS**

### **MODELS KC-24, KC-36, KC-48, KC-60**

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#### **INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS**

NOTE: Instructions must be posted in a prominent location, which will instruct the user in the event that he/she detects the odor of gas. This information shall be obtained from your local gas company.



**FOR YOUR SAFETY**  
Do not store or use gasoline or other flammable vapors or liquids in the vicinity of this or any other appliance.



**WHAT TO DO IF YOU SMELL GAS**

- Open Windows
- Do not touch electric switches
- Extinguish any open flame
- Immediately call your gas company



**WARNING**  
Improper installation, adjustment, alteration, service or maintenance can cause damage, injury or death. Read the installation, operating and maintenance instructions thoroughly before installing or servicing this equipment.

Adequate clearances must be provided in front, rear and at sides of appliance for servicing. The appliance area must be kept free and clear from combustibles. There must be no material or obstacles obstructing the flow of combustion and ventilation air.

**RETAIN THIS MANUAL FOR FUTURE REFERENCE**



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Thank you for choosing a new REAL SMOKE CHITWOOD BROILER for your kitchen. All our broilers are designed to give you years of trouble-free service. The guidelines in this manual are designed to ensure not only the safe and efficient installation of your CHITWOOD BROILER, but to maximize the quality of the broiler's production.

## RECEIVING INSTRUCTIONS

Your CHITWOOD BROILER shipped from the factory in excellent condition. When you receive the Broiler, carefully inspect the carton for any signs of damage. If any damage is noted, immediately file a claim with the trucking company. Failure to contact the trucking company immediately may result in their refusal of your claim.

## PREPARATION FOR INSTALLATION

- After uncrating the Broiler, remove all items from the top of the broiler (hood, grates and insert). Remove the drawers and check the lower areas for any items packed below. You are ready to install the 6" sanitary legs and gas pressure regulator. These items can be found inside the broiler.
- With the help of several people, carefully lay the Broiler on its side and install the four legs in the threaded receptacles on the bottom of the Broiler. If you ordered your CHITWOOD BROILER with casters, please refer to the special note under the section titled "**Special Instructions for Broilers with Casters.**"
- Before setting the Broiler upright, ensure that the four legs are securely tightened to the bottom of the Broiler. The legs provided with this Broiler are equipped with special leveling pads. Before setting the Broiler on the legs, screw the leveling pads fully clockwise. Only after the Broiler is set upright should the Broiler be leveled. The use of a spirit level is recommended to accomplish satisfactory leveling of the Broiler.
- All CHITWOOD BROILERS are supplied from the factory with a gas pressure regulator. The regulator supplied with the unit must not be omitted or altered in any fashion. Your Broiler is supplied with a separate regulator, which must be installed at the rear of the Broilers, directly to the gas inlet pipe of the Broiler. Care must be taken to ensure the regular is installed with the directional arrow which is cast on the bottom of the regulator pointing toward the direction of the flow of gas into the Broiler.

## INSTALLATION REQUIREMENTS

- For optimum safety, the following installation clearances must be strictly followed when installing your CHITWOOD BROILER. (FAILURE TO FOLLOW THESE GUIDELINES WILL RESULT IN LOSS OF WARRANTY AND A POSSIBLE DANGEROUS CONDITION.)
- The Broiler is designed for installation on combustible flooring and adjacent to combustible wall materials with at least 10" clearance to the back and side. Alternately, the Broiler may be installed without legs on a noncombustible curb or platform with the front of the Broiler projecting 3 inches beyond the front of the curb or platform only when installed with the corresponding optional stainless steel stand.



Clearances from:

	<b>Combustible</b>	<b>Noncombustible</b>
Side	10 inches	0 inches
Back	10 inches	0 inches

- For the sake of these instructions, noncombustible materials are defined as those which are not capable of being ignited and burned, such as materials consisting entirely of, or a combination of steel, iron, brick, tile, concrete, slate, glass and plaster. When choosing a location within your kitchen to install your CHITWOOD BROILER, it is important that the area surrounding the Broiler be kept free and clear of any objects, which could obstruct the free flow of combustion and ventilation air.
- A clearance of at least 30 inches must be provided at the front of the Broiler, to have adequate clearances for air openings of the combustion chamber, for periodic servicing and cleaning functions.

### **GUIDELINES FOR SAFETY**

- As with all heat producing appliances, the area surrounding your CHITWOOD BROILER must always be kept free and clear of any combustible materials.
- Your CHITWOOD BROILER is not designed to provide stable support for service personnel attempting to gain access to the overhead ventilation system in the kitchen. Any service function conducted around or above the Broiler must be completed with the proper equipment, such as a suitable ladder or other secure platforms.

**IMPORTANT:** The front cover of this manual directs you to post instructions in the kitchen area which will inform the user of this equipment of procedures to be followed in the event the smell of gas is detected in the building. These procedures should be available through your local gas supplier.

- If your local gas supplier cannot supply you with adequate instructions, the following shall be posted:
  - A. Clear the room, building or area of all occupants.
  - B. Ventilate the affected portion of the building by opening windows and doors.
  - C. Use every practical means to eliminate sources of ignition. Take precautions to prevent smoking, striking matches, operating electrical switches or devices, opening furnace doors, etc. If possible, cut off all electrical circuits at a remote area to eliminate operation of electric switches in the dangerous area. Safety flashlights designed for use in hazardous atmospheres are recommended for use in such emergencies.
  - D. Shut off the power supply of gas to the area involved.
  - E. Investigate other buildings in the immediate area to determine the presence of escaping gas therein.



- F. Notify all personnel in the area and the gas supplier from a telephone remote from the area of the leak.

## **GAS HOOKUP**

- This unit must be connected to the building supply in strict accordance with all applicable local codes, or in the absence of local codes, with the National Fuel Gas Code, Z223.1- (latest edition), and in Canada, CAN/CGA-B149.1 and CAN/CGA-B149.2 “Installation Code For Gas Burning Appliances.”
- If required by local codes, an individual gas shutoff valve must be installed upstream of the appliance and its gas pressure regulator. Prior to installing this valve, ensure that its flow capacity and the capacity of the building piping are sufficient to deliver the quantity of gas required for proper operation (1/2” psi).
- Your CHITWOOD BROILER is designed and certified for operation at 5.0 inches water column when using natural gas and 10.0 inches water column when using propane gas. Any service personnel for any reason must never alter these valves.
- After the Boiler is connected to the building gas supply, all joints and connections must be checked for leakage. Acceptable methods for checking these joints include electric leak detectors, pressure gauges, and a rich soapy water solution. **AN OPEN FLAME MUST NEVER BE USED TO CHECK FOR GAS LEAKS.**

**IMPORTANT:** The Broiler and its individual shutoff valve must be disconnected from the gas supply piping system during any pressure testing of the gas supply piping system at test pressures equal to or in excess of 1/2 psi.

- The Broiler must be insulated from the gas supply piping system by closing its individual manual shutoff valve during any pressure testing of the gas supply system at test pressures equal to or less than 1/2 psi.
- **CAUTION:** Since some leak detection solutions, including soap and water, can cause stress cracking, the piping shall be rinsed with water after testing unless it has been determined that the leak test solution is non-corrosive.
- If your CHITWOOD BROILER is equipped with casters, refer to the special note under the section of this manual titled “**Special Instructions for Broilers with Casters.**” Your Broiler is supplied with orifices, which are designed for use up to elevation of 2000 feet above sea level. For elevations above 2000 feet, BTU ratings should be reduced at a rate of four percent for each 1000 feet above sea level.

## **SPECIAL INSTRUCTIONS FOR BROILERS WITH CASTERS**

- A. Two of the casters supplied with your Broiler incorporate a locking feature. Always ensure that the locking casters are located at the front of the Broiler for accessibility.
- B. When the broiler is equipped with casters, installation must be made with a flexible gas connector that complies with the Standard for Connectors for



Movable Gas Appliances, ANSI Z21.69-(latest edition), and a quick-disconnect device that complies with the Standard for Quick-Disconnect Devices for Use with Gas Fuel, ANSI Z21.41-(latest edition). In Canada, the flexible connector must be CGA approved and must comply with the CAN1 6.10.88. The quick disconnect must comply with CAN1 69.9.M79. A restraint device must also be installed (normally a cable) to guard against transmission of strain to the connector. If a cable is to be used, it should be attached at the rear of the broiler close to the right side.

- C. Special care must be taken to ensure that the minimum clearances to combustible construction are not reduced when the Broiler is rolled back into position after cleaning or servicing. If it is necessary to disconnect the Broiler while servicing, reconnection of the restraint device must be done after the Broiler has been returned to its original position.

## VENTING INSTRUCTIONS

- CHITWOOD BROILERS are gravity-type, direct-fired Broilers that depend on the free flow of air into and out of the area surrounding the Broiler for proper operation. As with all open broilers, the Broiler must be installed under a Class “1” Hood, using a properly rated Ansul System for indoor use, or according to local standards.
- It is important that the total ventilation system within the kitchen area be well balanced in order to prevent excessive drafts within the burner area of the Broiler. Frequently, pilot outage problems can be traced to excessive airflow created by either an excessive amount of make-up air or exhaust flow.

**NOTE:** No attempt should be made to operate this appliance during a power failure when installed indoors, due to the lack of proper ventilation from inoperable hood system.

## LIGHTING INSTRUCTIONS

- A. Light pilots next to top burners. Adjustments to pilot flame height is made by turning the appropriate pilot valve on main manifold. Flame height should be approximately 1/8” and pilot head should be no more than 3/8” from burner.
- B. With all top burner pilots lit, turn on and off each burner flame to make sure lighting occurs within four seconds. Adjustment for burner flame is made by turning air shutter to increase or decrease air mixture. After adjustment is made, secure air shutter set screw.
- C. Light the smoke box pilot; it should stay on (if necessary, adjust as stated in Step A). Now turn on the valve to smoke box burner. Check for proper ignition and see that the smoke box clears all parts of smoke box assembly.
- D. Reattach front face if removal was necessary during adjustments.
- E. Reinstall bottom grates with flat side up and evenly spaced.



- F. Now install ceramic tiles evenly with at least 1/2" space between, 15 tiles (three rows of five) on each grate only.
- G. Now the top grates can be laid in place. Your REAL SMOKE CHITWOOD BROILER is now ready to use.

## **OPERATING PRINCIPLES**

### COLD SMOKING PROCESS:

- A. If cold smoking is desired, it should be done first, before the broiler is hot. Make sure that the smoke box burner lights properly. Place two or three chunks of wood in the smoke box (for longer smoking, some of the smokewood can be soaked in water and then when the dry smokewood is used up, the soaked wood will have dried, and will begin to smolder.) When the wood starts to smolder and smoke starts to rise up through the grates, lay your food products on top grates, under the smokewood, which helps to concentrate the flavor.
- B. Food products should be turned about every five minutes. After ten to twenty minutes, remove from Broiler and refrigerate.

### SMOKE BROILING:

- A. Check the smoke box; add wood if necessary. When you broil, plan to smoke, too. The finished product will have a pleasing aromatic smoke flavor.
- B. Turn on the main burner gas valves. Allow twenty minutes to heat the cooking area.
- C. Arrange the food products on the grill; turn as needed. Smoke flavor is best absorbed when grilled at lower temperature, because the longer the food is in contact with the smoke, the more it will retain.
- D. **Do not** use the smokewood when cooking a high temperature, as it could cause excessive heat build-up. Heat is controlled by the main burner valves, which are more precise than the old method of raising and lowering the grates.
- E. If product searing is desired, sear on the side without the smokehood; cook until 3/4 done and then place under the smokehood with the main burners set at low to medium.
- F. Normal heat flow will move to the back of the Broiler. You will find that rare cuts of meat should be cooked at the front of the Broiler; medium in the middle, and well done at the rear.

## **KEEPING BROILER CLEAN**

- Each day, after products have been cooked, the broiler should be turned off, then the drip tray removed and cleaned for the next day's cook.



- Smoke drawers need to be emptied and all ashes removed.
- The top grates can be kept clean with use of wire brush to keep openings clear.
- Ceramic tiles should be inspected once a week. They are not porous like lava rock; so most all drippings will be burned off when drippings hit the tiles, greatly reducing flare-ups.

When cleaning of tiles becomes necessary, service can be performed in the following manner:

1. Make sure tiles are cool before touching.
2. Remove from Broiler. Check bottom grate; make sure all openings are free of debris. Also check below the bottom grate for any built-up grease on burners or smoke box.
3. Scrub lightly with wire brush any excessive build-up. It should come off easily with regular cleaning. If build-up on tiles has become difficult to remove, let the tiles soak over night in a bucket of water or degreaser solution.
4. When replacing tiles, be sure to space evenly, allowing ½” or so, in between. The usual method is 15 tiles per grate (three wide and five deep).
5. For exterior cleaning, your CHITWOOD SMOKE BROILER may be kept looking new by using a soft rag and a mild detergent solution. **NEVER USE HARSH OR ABRASIVE CLEANING AGENTS ON THE OUTSIDE OF YOUR BROILER.**

## SERVICE FREQUENCY

The need for servicing will, to a great extent, be determined by the broiler’s usage. The following chart outlines our suggestion for service intervals:

DAYS PER WEEK	HOURS PER DAY	SERVICE INTERVAL
7	10 – 24	30 – 60 days
5	4 – 6	120 days
1 – 4	1 – 3	180 days

It is strongly suggested that a trained gas appliance service company examine the Broiler at least yearly.

## REPAIR GUIDELINES

It is not necessary to remove the broiler from its installed position to gain access for normal servicing.

Contact JADE RANGE or a licensed, trained service person experienced in commercial gas foodservice equipment for all maintenance and repairs. If it becomes necessary to replace any gas control device such as a burner valve, pilot, needle valve, etc., the replacement part should be ordered from the factory **ONLY**, unless it has been determined that the **EXACT** part is available from a local parts supplier.

To contact JADE RANGE, write us at:





JADE RANGE  
7355 E. Slauson Avenue  
Commerce, CA 90040

Or call us at:

(323) 728-5700  
Parts & Service Department

When ordering replacement parts, please be prepared to furnish:

- Model number
- Serial number
- Part description (and number if applicable)
- Type of gas used
- Date of purchase

Every attempt will be made to fill your order immediately.



# INSERT – BROILER DIAGRAM

