

CHURRASCO ROTISSERIE

OPERATIONS AND SERVICE MANUAL



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ADVERTENCIA

Leer y comprender el Manual de operaciones y servicio antes de usar esta máquina.

El incumplimiento de las instrucciones de operación podría causar lesiones graves o daño al equipo.



WARNING

Read and understand operations and service manual before using this machine.

Failure to follow operating instructions could result in personal injury or damage to equipment.

ADVERTENCIA

Riesgo de explosión

1. Nunca utilizar químicos volátiles como líquido para encender carbón, gasolina, grasa, etc., para encender o ayudar a prender un fuego. Nunca utilizar gas (natural o propano). Utilizar únicamente leña o ayudas que sean sólidas (poco volátiles) para encender el fuego.
2. Siempre deberá "RETIRARSE" por lo menos un minuto antes de abrir cualquier puerta para evitar retrocesos de la llama.



WARNING

Explosion hazard

1. Never use volatile chemicals such as charcoal lighter fluid, gasoline, grease, etc. to start or aid fire. Never use gas (natural or propane). Use only kindling or safe (low volatility) solid fire starting aids.
2. Always "EVAC" for at least one minute before opening any door to avoid flashbacks.

SN _____

WARNINGS!

Disposal of Ashes

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

Creosote – Formation and Need for Removal –

When wood is burned slowly, it produces tar and other organic vapors, which combine with expelled moisture to form creosote. The creosote vapors condense in the relatively cool chimney flue of a slow-burning fire. As a result, creosote residue accumulates on the flue lining. When ignited this creosote makes an extremely hot fire. The chimney connector and chimney should be inspected at least twice monthly to determine if a creosote buildup has occurred. If creosote has accumulated it should be removed to reduce the risk of a chimney fire.

Dedicated flue

If this unit is to be directly vented (no exhaust hood) do not connect to a flue serving another appliance.

DANGER-Risk of Fire or Explosion

Do not burn garbage, gasoline, drain oil or other flammable liquids

WARNING-Risk of Fire

Do not operate with flue draft exceeding 0.03 in. water column.
Do not operate fuel loading or ash removal doors open.
Do not store fuel or other combustible material within marked installation clearances.
Inspect and clean flues and chimney regularly

If the oven temperature reaches 450 degrees F, a high limit thermostat will temporarily interrupt the temperature control function (it will automatically resume when it cools down). If this occurs (or if the indicating thermostat shows an abnormally high temperature) and the front doors feel excessively hot, **DO NOT OPEN THE DOORS**, as there may be a grease fire inside. Open the doors only after it cools down. Contact your supervisor (if applicable) while continuing to observe the pit. If you observe any flames, or perceive any fire threat, immediately contact the local fire department.

CAUTION-Hot Surfaces

Keep children away.
Do not touch during operation.

CHURRASCO ROTISSERIES (Solid Fuel)

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MANUFACTURED BY:

**J & R MANUFACTURING, INC.
820-B W. Kearney St.
Mesquite, Texas 75149
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CONTENTS

CHURRASCO COOKING:	PAGES:	1 – 2
INSTALLATION INSTRUCTIONS:	PAGES:	3 – 4
OPERATION:	PAGE:	5
TROUBLESHOOTING:	PAGE:	6
PREVENTIVE MAINTENANCE:	PAGE:	7
PARTS LIST:	PAGE:	8
CHURRASCO DRAWING (BACK VIEW):	PAGE:	11
CHURRASCO DRAWING (SIDE VIEW):	PAGE:	12
WARRANTY:	PAGE:	13

CHURRASCO ROTISSERIES

Churrasco cooking is actually a form of rotisserie cooking, however, it has become such an important segment of the food service industry that we felt it needed its own section. An import from Brazil brought to the states by enterprising restaurant men, these restaurants are commonly referred to as “churrascarias”. Churrasco cooking was born on the large grassy plains of the Pampas back in the early 1800’s. The settlers that had settled in this huge open area of bountiful grasses came to be known by the term “Gauchos”. Cattle ranchers they were, but they also raised bountiful crops of vegetables and fruits in that fertile country. The cowboys, Gauchos, away from their homes would dig pits and build a fire in the pit while turning huge pieces of freshly slaughtered beef on large spits. In the cities bordering the Pampas, churrascarias were opened to great success. That is happening here in the United States. It is a reflection of the carnivorous nature of man, because that is what it is all about...MEAT. The cooking device now used in the churrascarias is a large narrow, heavily insulated firebox built to withstand tremendous applications of heat. Special turning mechanisms keep the spitted meats turning constantly over the fire. These units, commonly called churrasco broilers, actually have the Brazilian name “Churrasqueira” pronounced “shoo raas kay da”.

The foods served in the churrascarias are based around a variety of fire-cooked meats with a true and wonderful flavor. There is very little seasoning used other than large grain salt, such as Sea Salt or Kosher Salt. In order to present a wonderful culinary treat to their customers, only the finest and highest grade of meat is prepared. Beautiful tenderloin steaks Meat Buyers Guide #1190A, as well as sections of the full tenderloin are presented to the guests still speared on the sword-like spit. If the customer wants same, it is sliced off onto his plate by the Gaucho. One of the most favorite of all Churrasco meat offerings is Picanha, an outside muscle from the rump roast that is rolled like a cinnamon roll. This is placed onto the spit and then dipped into a plate of coarse salt. The spit is placed into the turning mechanism to roast over the incredibly hot fire to sear on the outside and allowed to cook for 5 to 6 minutes. The Gaucho serving the meats does the cooking and handles his own spit from the fire to the table. On larger pieces of meat the spit may be returned to the fire after slicing down to the “too-rare” stage. The large favored cuts of beef are Bottom Sirloin butts, Strip Loin, Boneless Ribeye Roll, and Full Tenderloins. Huge full beef ribs are cooked at a slower rate and for a longer time on a secondary fire (from the churrasco) on vertical spits.

CHURRASCO ROTISSERIES

The very select centers of pork spareribs trimmed down to about 4” in length are threaded onto the sword-spit and cooked quickly in 20 to 30 minutes. The other cut of pork that is popular is the tender eye of the loin. They also usually serve a special Brazilian style pork sausage that actually is rather bland and in fact, reminds me of the Texas German Bratwurst.

Chicken thighs, breasts, legs, and yes chicken hearts are also generally served. Chicken will be seasoned with a mixture of salt, pepper, and a touch of garlic as a rule. Quite often, cutlets from the breast will be wrapped in a bacon slice before roasting. Of course, the chicken hearts require a very small and slender spit that is available as an option on special order from J & R.

Leg of Lamb is also spitted and served. This cut is always from very small animals so that the meat is extra mild as well as tender. Lamb chops are tiny with the tender meat being about the size of a silver dollar – the finest of the fine.

The Salad Bar is usually brimming with wonderful combinations such as a thick red slice of tomato with a ¼” thick slice of fresh mozzarella cheese on top with a fresh sweet basil leaf between. Tabouli is also a wonderful salad on the bar as well as a tossed Caesar Salad, mixed garden green salad, spinach salads, and Waldorf Salad. Roasted red peppers, huge finger size spears of white asparagus, dressings of all kinds, relishes, a large selection of olives and pickles, and a variety of cheeses. Often you will find a selection of one or two soups and, of course, bread sticks and crackers of all styles.

Baked Bananas are regularly placed on the table on plates to be passed around as well as just-baked tiny cheese rolls that are as light as a feather. Rice and yes, mashed potatoes are also served family style. Polenta is also brought to the table for all to share.

There are many wonderful drinks popular in Brazilian restaurants, but the most important one is Caipirinha, the National Drink of Brazil. This is a drink that is very simple and easy to make. The proper way to make this drink is very similar to making a mint julep in that you use a muddler. This is how:

Ingredients

1		Lime (fresh and quartered)
3	Tbsp.	Granulated Sugar
2	oz.	Cachaca Liquor

Directions:

Place the lime quarters in a large Old Fashion glass with the pulp side up. Sprinkle the sugar over the limes. Muddle the sugar into the lime producing a sweet syrup. Strain into a glass filled with ice cubes and fill with Cachaca, stir, and serve with a fresh slice of lime on the rim.

Note: Cachaca is a Brazilian liquor that is distilled from unrefined cane sugar. It differs from rum in that rum is distilled from sugar cane molasses.

INSTALLATION INSTRUCTIONS

SHIPPING:

The Churrasco Rotisserie will be shipped fully assembled. The spits will be packed inside the cooking compartment. Also, the casters, a grease gun, and a tube of the recommended grease will be in a box inside the unit.

HANDLING:

The unit can be handled with a forklift with a 4000 pound capacity. Install the casters on the unit while the forklift is available, then it can be rolled into place.

ELECTRICAL REQUIREMENTS:

The unit requires a 115 volt, 1 phase, 15 amp electrical service. A switch or circuit breaker should be installed near the unit. It will be necessary during certain maintenance procedures to shut off the electrical supply. At these times, it is a good safety procedure to tag the switch to guard against someone inadvertently re-energizing the circuit. Your electrician should extend a conduit from the unit's junction box to a 115 volt supply in your building using a grounded circuit. Please refer to your local electrical code for any other requirements. Connect at junction box only.

CLEARANCE:

The unit must be installed to conform to the following minimum clearances (in inches):

From non-combustible walls:

Back and sides: 0

Front: 48

From combustible walls :

Front: 48"

Back and sides:

With no upper enclosure panels: 48

With upper enclosure panels: 2

Unit to be installed on a non-combustible floor.

CLEANING:

Prior to use wash and clean all spits and forks thoroughly. Wipe down the interior of the unit.

VENTING INFORMATION

In all cases, it is imperative to obtain the approval of the AHJ (Authority Having Jurisdiction). This will typically be the mechanical inspection department of the local municipality's building inspection division and/or the local fire marshal.

- A. Exhaust hoods should be Listed, Type 1 hoods with automatic fire suppression systems and conform to NFPA 96 requirements.
- B. For Canopy-type commercial cooking hoods the inside edge thereof shall overhang or extend a horizontal distance of not less than six (6) inches beyond the edge of the cooking surface on all open sides, and the vertical distance between the lip of the hood and the cooking surface shall not exceed four (4) feet.
- C. A grease duct serving a Type 1 Hood shall be constructed of at least 0.054 inch thick (No. 16 Manufacturer's Standard Gauge) steel or at least 0.043 inch thick stainless steel (No. 18 MSG). Duct enclosures for grease duct shall be constructed as the Building Code requires. Duct enclosures shall be of at least one-hour fire-resistive construction in all buildings and shall be of 2-hour fire-resistive construction in buildings with four or more stories.
- D. Exhaust hood volume should be based on the specifications from the 2009 (or later) International Mechanical Code Section 507.

Notes :

- 1. Exhaust volume should be determined by the exhaust hood manufacturer based on their products listing and local code requirements. States such as California, Oregon, Washington, and Connecticut all have code driven maximum exhaust volumes for specific equipment. For example: California mandates that solid fuel exhaust hoods for a wall mounted application can use NO MORE than 385 cfm/lf for solid fuel.
- 2. Spark arrestor type filters are required
- 3. Hoods serving solid fuel equipment must be dedicated to solid fuel only (no gas or electric) with their own dedicated fire protection system.

OPERATION

BUILDING A FIRE:

Make sure that the exhaust hood is operating before building a fire. Building a fire in an open pit churrasco rotisserie is practically the same as in a fireplace. We recommend that kindling or safe (low volatility) solid fuel starting blocks be used with small chunks of wood or with charcoal.

LOADING AND UNLOADING THE MEAT:

Each spit has one end, which is pointed to skewer the meat and a handle at the other end. To install a spit, insert the pointed end in the rotating slot at the back of the unit and then lower the thimble at the handle end into the corresponding stainless steel half moon resting spot.

To unload the spits the procedure is reversed.

END OF THE DAY CLEANUP:

At the end of the day the unit should be cleaned so as to remove all grease.

If grease is allowed to build up in the unit a grease fire may occur.

Wipe or wash down the upper works of the unit as needed and at the end of the day.

The exhaust hood should operate at all times when the burners are in use or when wood is burning or smoldering. Ashes should be removed from the ash drawers. Remove the wood ashes from the unit. Place wood and coals into a tightly sealed metal container, which is stored in a safe location away from combustibles. Do not dump ashes into a dumpster until you are sure that no embers remain (sometimes they can remain live for several days).

TROUBLESHOOTING

ROTISSERIE

ROTISSERIE NOT TURNING

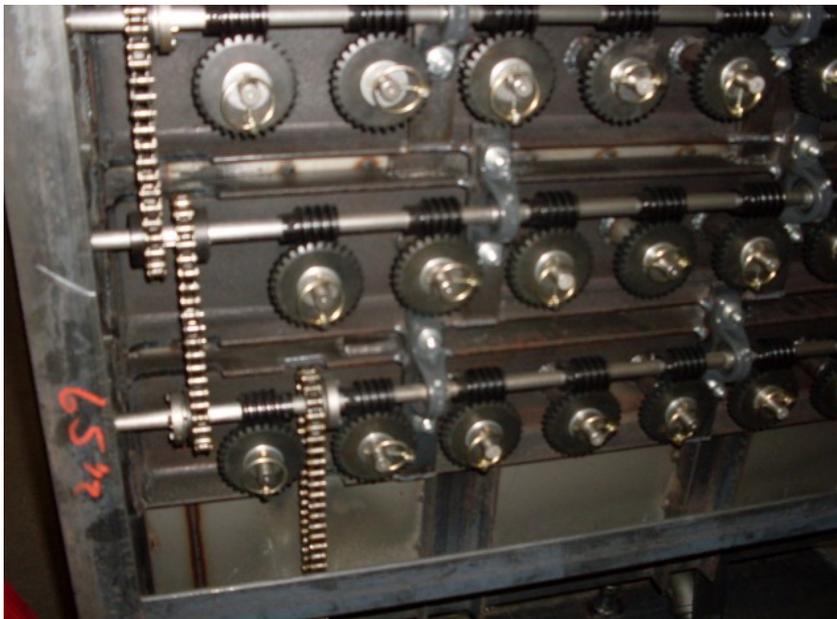
Is the Motor Running?

YES – Then check the chain connection between the motor sprocket and the sprocket on the lowest rotisserie shaft. If the chain is broken, then either repair the chain (usually with a master link) or replace the chain. If the chain is okay, then check the connections between the sprockets and the shafts. The sprockets are secured to the shafts with a key and a keyway with a set screw.

NO – Check the electrical supply panel for a tripped circuit breaker. If tripped, then reset. Then check the motor overload contact assembly. This is located inside a gray electrical enclosure near the motor. Push the red and blue buttons simultaneously to reset the motor. If the motor still does not turn, call a service technician to troubleshoot the wiring, the motor, the overload, and the mechanical condition of the sprockets, shafts, and spit bolts.

ROTISSERIE MOTION IS NOT SMOOTH

As in the above step, troubleshoot the mechanical condition of the sprockets, shafts, and spit bolts. Look for one or more seized spit bolts and/or damaged sprocket teeth.



Unit shown has three spit rows (your unit may have only two).

PREVENTIVE MAINTENANCE

DAILY:

Keep the unit clean. Wipe off after each use and clean thoroughly at the end of the day. Remove all ashes and place in a tightly sealed metal container away from all combustibles. Dispose of ashes only after you are certain that no live coals remain.

Never use water or ice to put out the coals. Repeated thermal shock will cause the refractory to crack requiring replacement or repair.

MONTHLY:

Bearings: Lubricate the rotisserie pillow block bearings with a high temperature grease with a Teflon additive and a cartridge type automotive grease gun.

Chain: Lubricate the chains with a high temperature grease and check their tension.

Special Note:

The "spit bolts" revolve inside special, high-temperature, graphite-impregnated bushings. The graphite can be degraded with aggressive cleaning of the unit front. If this graphite is degraded, it will cause the bolts to seize in the bushings and will cause mechanical damage to the unit.

Please take care to NEVER spray water or cleaning chemicals onto the rear stainless wall where the spits are inserted. Just wipe these surfaces clean. Please notify any third-party cleaning crews, including hood-cleaning crews, to never spray water onto these surfaces.

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Churrasco Rotisserie Replacement Parts List

Item No.	Item Description	Group
9708	Hi Temp Bushing – For Spit Bolts	Bearing
9791	Bronze Bushing – For Spits Shaft	Bearing
9718	Shaft Bearing	Bearing
9016	Castable Patch (Priced Per Ft.)	Castable Insulation
8214	#40 Roller Chain (Priced Per Ft.)	Chain
8216	#40 Offset Link	Chain
9402	#40 Master Link	Chain
9557	#40 Chain Tensioner	Chain
9108	Grease Gun	Grease
9161	Super Hi-Temp Grease	Grease
9517	Grease Fitting 1/4-28	Grease
9518	Grease Fitting 1/4-28x45	Grease
9505	1/4 Turn Latch	Handles & Latches
9569	Ribbed Black Spit Handle	Handles & Latches
9792	Black Wooden Spit Handle	Handles & Latches
9044	Swivel Caster w/Break	Misc. Hardware
9047	Swivel Caster	Misc. Hardware
9571	Stover Lock Nut	Misc. Hardware
9572	Rotisserie Bolts Key 3/16 Sq.	Misc. Hardware
9699	15/16” Combo Wrench	Misc. Hardware
9707	Churrasco Spit Bolt	Misc. Hardware
9780	30 RPM Rotisserie Gear Motor	Motors
9554	Churrasco Spit	Rotisserie Accessories
8721	#40 15 Tooth Sprocket 0 Main Shafts	Sprockets & Gears
8724	QD Bushing JA 5/8 – For Main Shaft	Sprockets & Gears
9422	#40 24 Tooth Sprocket – Motor Output Shaft	Sprockets & Gears
9719	Worm – For Main Shaft (2)	Sprockets & Gears
9720	Worm Gear - For Spit Bolt (2)	Sprockets & Gears
9722	QD Bushing SH 5/8 – For Motor Output Shaft	Sprockets & Gears
8320	Motor Contactor – 120v	Switches
8331	NO Switch Contact w/Base	Switches
8385	NO Switch Contact Block	Switches
8763	Motor Overload 1.6-2.5 Amp	Switches
9310	Overload Bracket 0 Dinrail Adapter	Switches
9320	2 Pos. Black Switch Operator (On/Off)	Switches
9536	Rotisserie On/Off Switch Complete	Switches

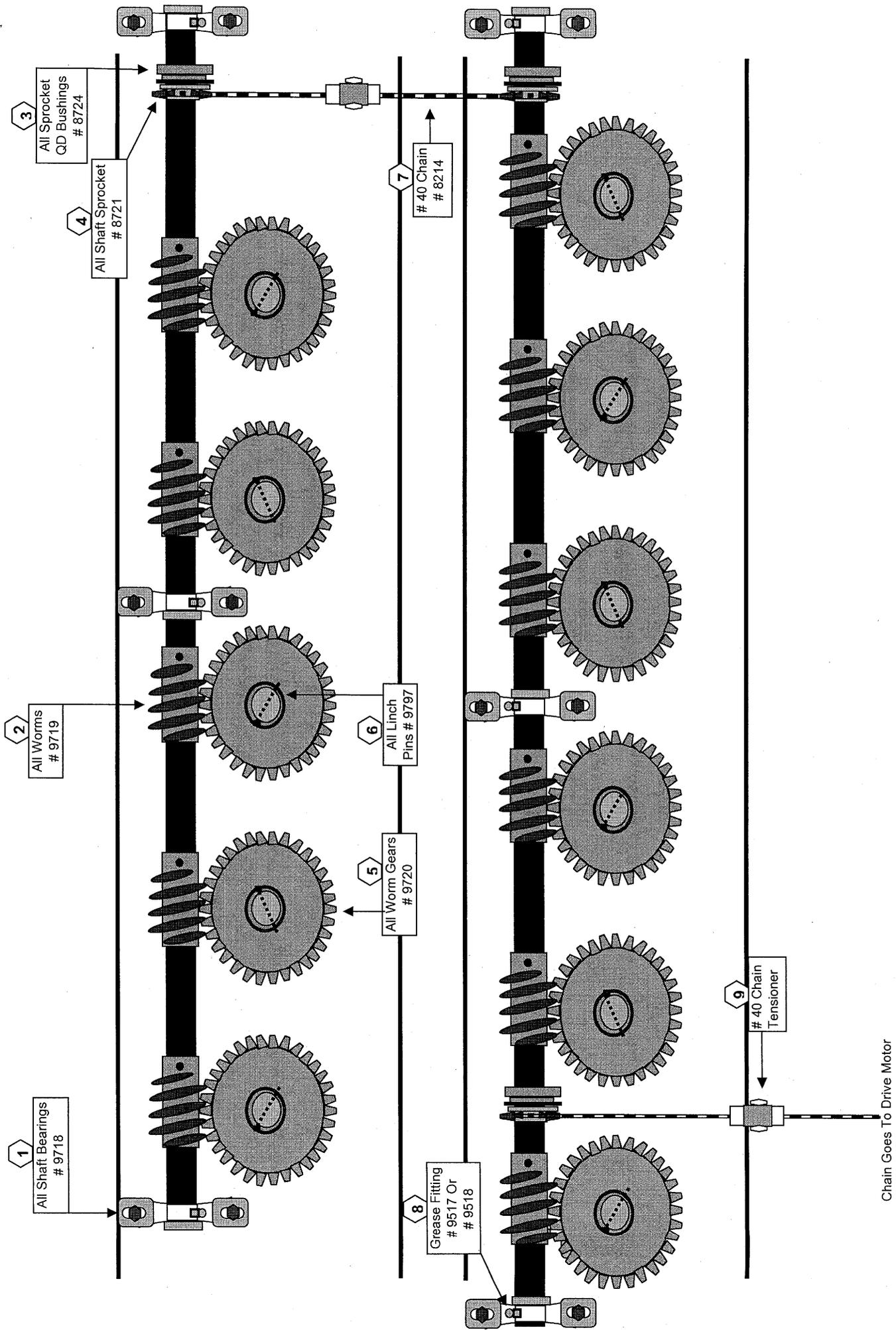
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Churrasco Rotisserie Recommended Spare Parts List

Item No.	Item Description	Group
9108	Grease Gun	Grease
9161	Super Hi-Temp Grease	Grease
9780	30 RPM Rotisserie Gear Motor	Motors
9554	Churrasco Spit	Rotisserie Accessories
8721	#40 15 Tooth Sprocket 0 Main Shafts	Sprockets & Gears
8724	QD Bushing JA 5/8 – For Main Shaft	Sprockets & Gears
9422	#40 24 Tooth Sprocket – Motor Output Shaft	Sprockets & Gears
9719	Worm – For Main Shaft (2)	Sprockets & Gears
9720	Worm Gear - For Spit Bolt (2)	Sprockets & Gears
9722	QD Bushing SH 5/8 – For Motor Output Shaft	Sprockets & Gears
8320	Motor Contactor – 120v	Switches
9310	Overload Bracket 0 Dinrail Adapter	Switches
9536	Rotisserie On/Off Switch Complete	Switches

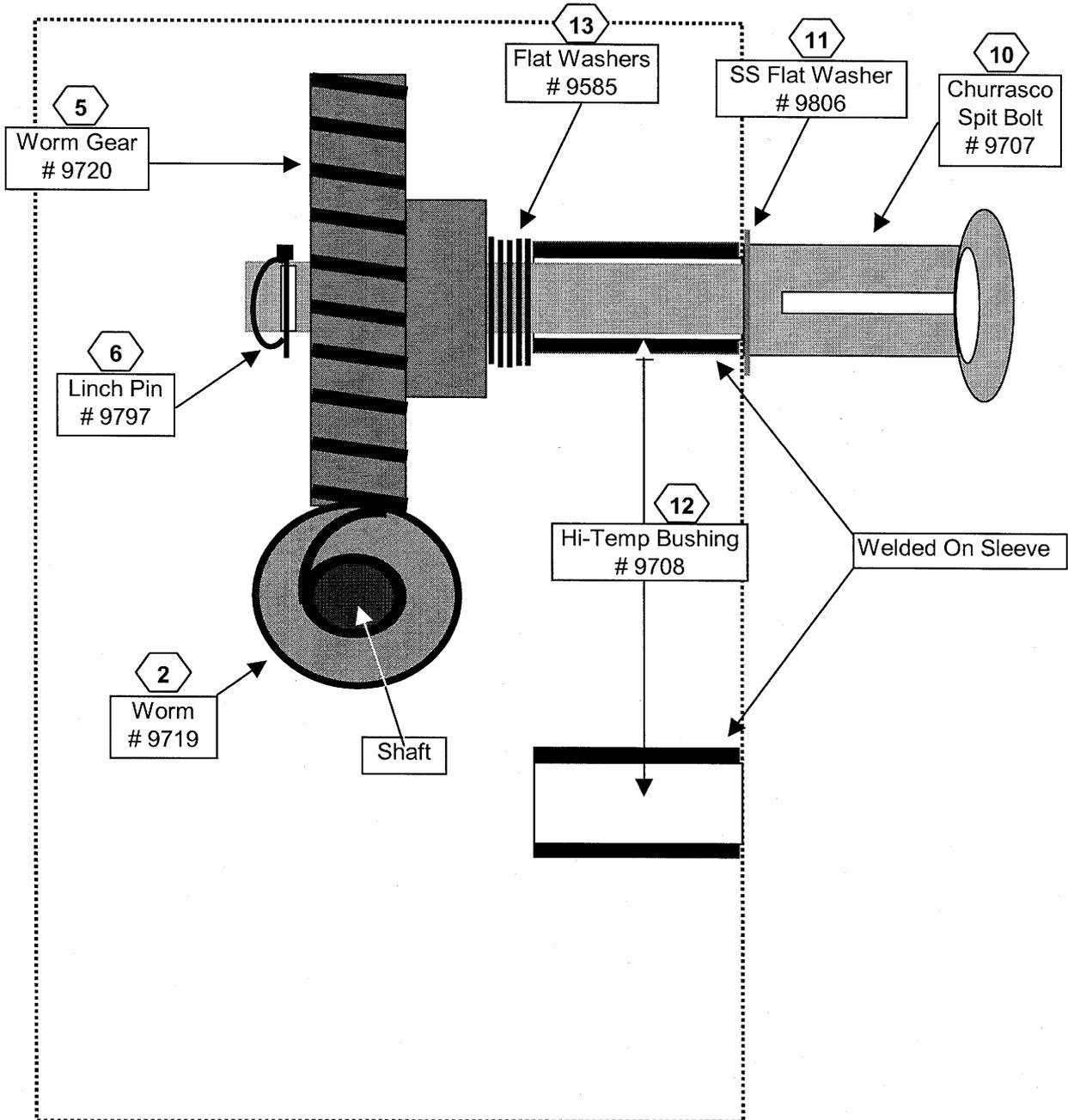
CHURRASCO ROTISSERIE

(BACK VIEW)



CHURRASCO ROTISSERIE

(SIDE VIEW)



WARRANTY

J & R MANUFACTURING, INC. warrants its equipment against defective parts and workmanship under normal use and when installed in accordance with manufacturer's recommendations for a period (after date of shipment*) of twelve (12) months on parts and ninety (90) days on labor with the following provisions:

1. This warranty does not apply if problems or claims are the result of: (a) damage in transit (equipment becomes owner's property upon shipment from factory and owner must file claim with transport company); (b) misuse, neglect, improper maintenance, and or unauthorized alterations to equipment; (c) improper installation of exhaust stacks, air supply, and extraneous exhaust systems; (d) improper voltage hook-up; (e) wind, rain, hail, fire and acts of God.
2. In-warranty replacement parts will be credited only upon receipt and inspection of defective parts at the factory. All shipping charges are the responsibility of the owner, but, at the discretion of J&R Manufacturing, ground shipping charges may be waived or credited.
3. Labor to remove, replace, or repair defects under this warranty must be authorized by factory. Premium time (overtime) and travel time are not included in the warranty.
4. Sales, excise, and other taxes, food loss, and down-time are not covered under this warranty.
5. The removal of manufacturer's nameplate(s) voids the warranty.

It is the aim of J & R Manufacturing, Inc. to build the finest equipment possible and to facilitate quick solutions to all problems that might arise with the lowest expense possible to the user(s). To help us achieve this goal, please follow these procedures:

1. Telephone our service department at 972-289-0801 at the first sign of a problem. Have ready the Model and Serial Number of your equipment.
2. Cooperate with our Service Department by making certain visual checks as requested. Most problems are quick and easy to pinpoint and resolve.
3. In the event it is necessary to use a service company, the factory will contact its authorized service agency. If no authorized service agency is available, please recommend a service company. The use of a service company not specifically authorized by our Service Department at factory headquarters may invalidate this warranty.

* or provable start up date, whichever is later (start up must be within 12 months of ship date)

