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Manufacturing  
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Installation and  
Operating Instructions  
Instructions d'installation  
et d'opération

2M-Z16558 Rev. B 11/05/2013

## ULTRA-MAX™ GAS GRIDDLE MODELS

### GRILS A GAZ ULTRA-MAX MODELES

824MA	824TA	824TSA	824TCHSA	824TSCHSA
836MA	836TA	836TSA	836TCHSA	836TSCHSA
848MA	848TA	848TSA	848TCHSA	848TSCHSA
860MA	860TA	860TSA	860TCHSA	860TSCHSA
872MA	872TA	872TSA	872TCHSA	872TSCHSA

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

**AVERTISSEMENT:** L'installation inexacte, le réglage, le changement, le service ou l'entretien peuvent causer des dégâts matériels, des dommages ou la mort. Lisez les instructions d'installation, d'opération et d'entretien complètement avant d'installer ou entretenir ce matériel.

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

**POUR VOTRE SÛRETÉ:** N'enregistrez pas ou n'utilisez pas l'essence ou d'autres vapeurs ou liquides inflammables à proximité de ceci ou d'aucun autre appareil.

**WARNING:** This appliance shall be installed in accordance with current regulations and used only in well-ventilated space. Refer to instructions before installing and using this appliance.

**AVERTISSEMENT:** Cet appareil sera installé selon des règlements actuels et utilisé seulement dans l'espace bien-aéré. Référez-vous aux instructions avant d'installer et utiliser cet appareil.

**In addition, there should be posted, in a prominent location, detailed instructions to be followed in the event the operator smells gas. Obtain the instructions from the local gas supplier.**

En outre, là devrait être signalé, dans un emplacement en avant, des instructions détaillées d'être suivi en cas que l'opérateur sent le gaz. Obtenez les instructions du fournisseur local de gaz.



## SAFETY SYMBOL



These symbols are intended to alert the user to the presence of important operating and maintenance instructions in the manual accompanying the appliance.

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## RETAIN THIS MANUAL FOR FUTURE REFERENCE NOTICE

Using any part other than genuine Star factory supplied parts relieves the manufacturer of all liability.

Star reserves the right to change specifications and product design without notice. Such revisions do not entitle the buyer to corresponding changes, improvements, additions or replacements for previously purchased equipment.

Due to periodic changes in designs, methods, procedures, policies and regulations, the specifications contained in this sheet are subject to change without notice. While Star International Holdings Inc., Company exercises good faith efforts to provide information that is accurate, we are not responsible for errors or omissions in information provided or conclusions reached as a result of using the specifications. By using the information provided, the user assumes all risks in connection with such use.

## MAINTENANCE AND REPAIRS

Contact your local authorized service agent for service or required maintenance.

Please record the model number, serial number, voltage and purchase date in the area below and have it ready when you call to ensure a faster service.

Model No. \_\_\_\_\_

Serial No. \_\_\_\_\_

Voltage \_\_\_\_\_

Purchase Date \_\_\_\_\_

### Authorized Service Agent Listing

Reference the listing provided with the unit

or

for an updated listing go to:

**Website:** [www.star-mfg.com](http://www.star-mfg.com)  
**E-mail** [Service@star-mfg.com](mailto:Service@star-mfg.com)

### Service Help Desk

**Business Hours:** 8:00 am to 4:30 p.m. Central Standard Time

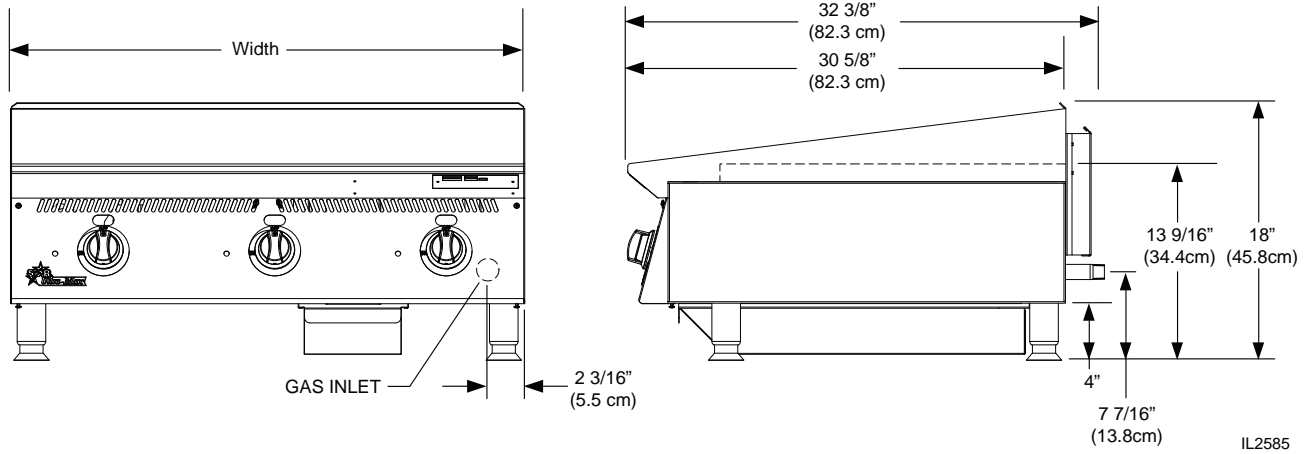
**Telephone:** (314) 678-6303

**Fax:** (314) 781-2714

**E-mail** [Parts@star-mfg.com](mailto:Parts@star-mfg.com)  
[Service@star-mfg.com](mailto:Service@star-mfg.com)  
[Warranty@star-mfg.com](mailto:Warranty@star-mfg.com)

**Website:** [www.star-mfg.com](http://www.star-mfg.com)

**Mailing Address:** Star International Holdings Inc., Company  
10 Sunnen Drive  
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U.S.A



IL2585

**SPECIFICATIONS**

Model	Type	Controls	BTUH	Griddle Area	Dimensions			Approx Weight	
					Width	Depth	Height	Installed	Shipping
824MA	Manual Valve (pilot)	2	60,000	573 sq in (3697sq. cm)	24" (61cm)	32 3/8" (82.2cm)	18" (45.7cm)	214lbs (97kg)	244lbs (110.6kg)
836MA		3	90,000	860 sq. in. (5545 sq. cm)	36" (91.4cm)			321lbs (145.4kg)	366lbs (165.8kg)
848MA		4	120,000	1146 sq. in (7397 sq. cm)	48" (122cm)			428lbs (193.3kg)	488lbs (221.1kg)
860MA		5	150,000	1433 sq in (9242 sq cm)	60" (152.4cm)			535lbs (242.4kg)	610lbs (276.4kg)
872MA		6	180,000	1719 sq in (11091 sq cm)	72" (182.9cm)			642lbs (290.9kg)	732lbs (331.7kg)

824TA	T-Stat (pilot)	2	60,000	573 sq in (3697sq. cm)	24" (61cm)	32 3/8" (82.2cm)	18" (45.7cm)	214lbs (97kg)	244lbs (110.6kg)
836TA		3	90,000	860 sq. in. (5545 sq. cm)	36" (91.4cm)			321lbs (145.4kg)	366lbs (165.8kg)
848TA		4	120,000	1146 sq. in (7397 sq. cm)	48" (122cm)			428lbs (193.3kg)	488lbs (221.1kg)
860TA		5	150,000	1433 sq in (9242 sq cm)	60" (152.4cm)			535lbs (242.4kg)	610lbs (276.4kg)
872TA		6	180,000	1719 sq in (11091 sq cm)	72" (182.9cm)			642lbs (290.9kg)	732lbs (331.7kg)

824TSA, TSCHSA	Thermal Spark (no pilot)	2	80,000	573 sq in (3697sq. cm)	24" (61cm)	32 3/8" (82.2cm)	18" (45.7cm)	214lbs (97kg)	244lbs (110.6kg)
836TSA, TSCHSA		3	120,000	860 sq. in. (5545 sq. cm)	36" (91.4cm)			321lbs (145.4kg)	366lbs (165.8kg)
848TSA, TSCHSA		4	160,000	1146 sq. in (7397 sq. cm)	48" (122cm)			428lbs (193.3kg)	488lbs (221.1kg)
860TSA, TSCHSA		5	200,000	1433 sq in (9242 sq cm)	60" (152.4cm)			535lbs (242.4kg)	610lbs (276.4kg)
872TSA, TSCHSA		6	240,000	1719 sq in (11091 sq cm)	72" (182.9cm)			642lbs (290.9kg)	732lbs (331.7kg)

## GENERAL INSTALLATION DATA



### CAUTION

This equipment is designed and sold for commercial use only by personnel trained and experienced in its operation and is not sold for consumer use in and around the home nor for use directly by the general public in food service locations.

Before using your new equipment, read and understand all the instructions & labels associated with the unit prior to putting it into operation. Make sure all people associated with its use understand the units operation & safety before they use the unit.

Ultra-Max series griddles are equipped for use on either natural or propane gas. All units are shipped for natural gas and can easily be converted to propane. See Propane Gas - Conversion.

### **-IMPORTANT-**

**Be sure to remove all paper protection and packing material from unit prior to lighting. Remove the protective plastic from the griddle plate and thoroughly clean the unit's exterior surfaces.**

**KEEP THE APPLIANCE AREA FREE AND CLEAR FROM COMBUSTIBLES! For use on non-combustible countertops only. Combustible and non-combustible material must be at least 48" (120cm) from the top of the appliance and at least 6" (16cm) from the sides and back. Adequate clearance should also be provided for proper operation and servicing.**

**The installation of the Appliance must conform to the NATIONAL FUEL GAS CODE "ANSI Z223.1 - LATEST EDITION" AND ALL LOCAL GAS COMPANY RULES AND REGULATIONS.**

**IN CANADA INSTALLATION SHALL BE IN ACCORDANCE WITH THE CURRENT CAN/CGA-B149.1 NATURAL GAS INSTALLATION CODE OR CAN/CGA-B149.2 PROPANE INSTALLATION CODE AND LOCAL CODES WHERE APPLICABLE.**

### **NOTICE**

When this appliance is installed with casters, it must be installed with the casters supplied, a connector complying with either ANSI Z21.69 or CAN/CGA-6.16 and a quick-disconnect device complying with either ANSI Z21.41 or CAN1-6.9. It must also be installed with restraining means to guard against transmission of strain to the connector.

**For your protection, we recommend a qualified installing agency install this appliance. They should be familiar with gas installations and your local gas requirements. In any case, your gas company should be called to approve the final installation.**

This appliance, its pressure regulator and its individual shutoff valve must be disconnected from the gas supply piping system during any pressure testing of that system at test pressures in excess of 1/2 PSIG. This appliance and its pressure regulator must be isolated from the gas supply piping system by closing its individual manual shutoff valve during any pressure testing of the gas supply piping system at test pressures equal to or less than 1/2 PSIG.

### **EXHAUST CANOPY**

Griddles inherently create a good deal of heat and smoke and should be installed under an efficient exhaust hood with flame proof filters. A vertical distance of not less than 48" shall be provided between the top of the appliance and filters or any other combustible material. Exhaust installation must conform to local codes.

**AIR SUPPLY:** Provisions for adequate air supply must be provided.



### CAUTION

#### **AIR INTAKES IN BOTTOM**

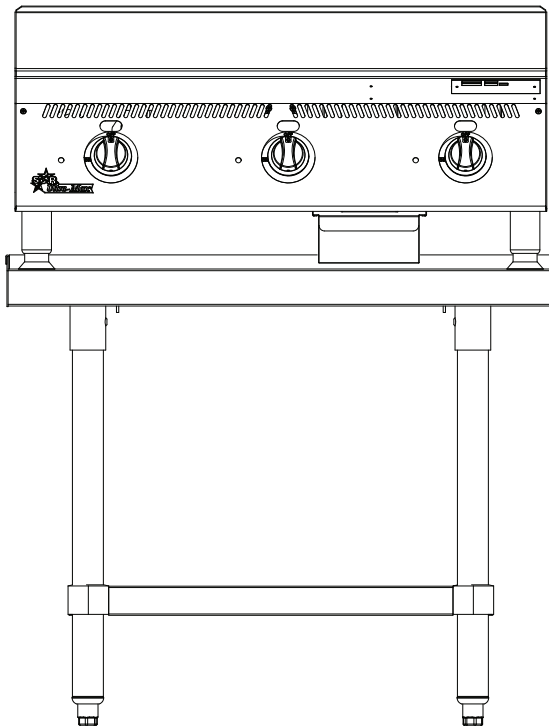
Air for combustion enters from the bottom of the unit. **Do not obstruct this area.**

## LEVELING UNIT

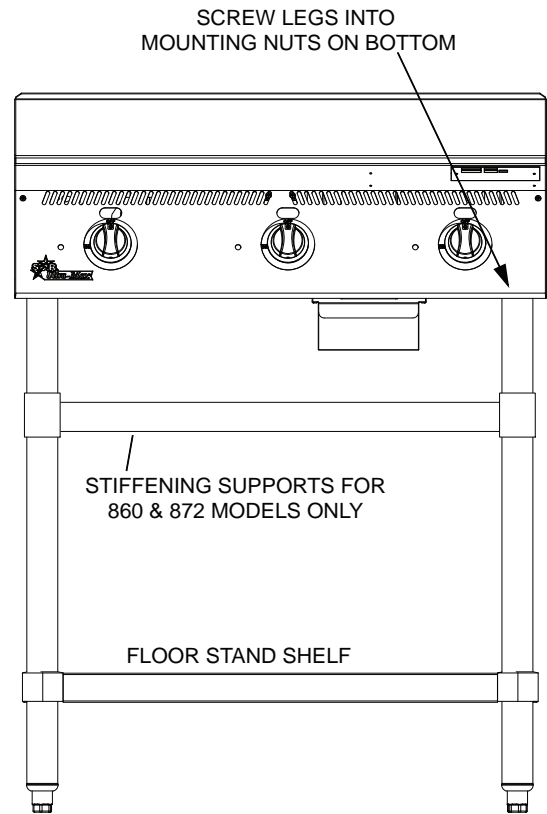
This griddle is supplied with 4 feet or floor stand legs which must be screwed into the body. After the griddle is in its final position, adjust the legs to create 1/8 inch slant from back to front. This will allow the grease to run into the grease gutter and provide the proper combustion air for the burners. Adjusting the (4) feet which have an adjustment of 1-3/4" for accurate and perfect line-up with other units.



**DO NOT INSTALL WITHOUT ATTACHING FEET OR SUPPLIED STAND LEGS AND SHELF - DO NOT REMOVE FEET.**



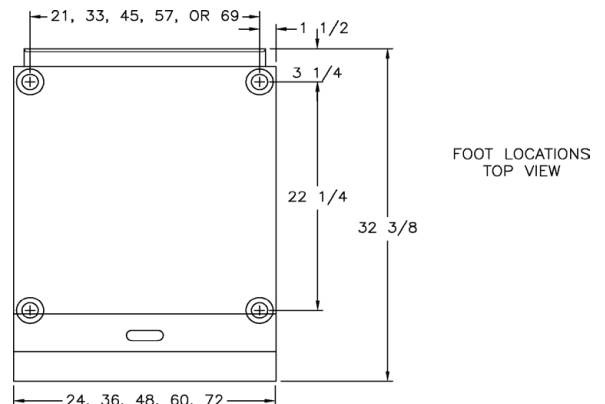
**COUNTER TOP MODEL  
ON OPTIONAL EQUIPMENT STAND**



**FLOOR STAND MODEL**

IL2586

**Caster Kits:** Casters can be used with floor stand models or optional equipment stand. For installation, carefully mark and cut off from the bottom of each leg using a straight cutting saw and de-burr the inside tube wall prior to installing the caster. Cut leg should measure 19" tube length, not overall length. Casters add about 6-1/4" of height to the unit. Be sure to use approved strain relief means for protecting gas line connection. If an appliance is equipped with casters and is gas connected with a quick connect coupling, all personnel must be aware that there is a restraint on the appliance and if disconnected for service or cleaning it must be reconnected as originally installed prior to use.



## GAS PIPING

Gas piping shall be of such size and so installed as to provide a supply of gas sufficient to meet the full gas input of the appliance. If the appliance is to be connected to existing piping, it shall be checked to determine if it has adequate capacity. Joint compound shall be used sparingly and only on the male threads of the pipe joints. Such compounds shall be resistant to the action of L.P. gases. **WARNING:** Any loose dirt or metal particles which are allowed to enter the gas lines on this appliance will damage the valve and affect its operation. When installing this appliance, all pipe and fittings must be free from all internal loose dirt.

## GAS PRESSURE REGULATOR

A convertible pressure regulator is provided with each griddle. It should be connected to the inlet pipe at the rear of the unit. The gas supply is then connected to it. The supply pressure to the regulator is not to exceed 1/2 psig. All units are shipped for use with natural gas. MA and TA Series Models are shipped set for 5" water column manifold pressure. TSA and TSCHSA Series Models are shipped set for 5" water column manifold pressure.

## MANUAL SHUT OFF VALVE

A manual shut off valve should be installed upstream from the manifold and within six feet of the griddle.

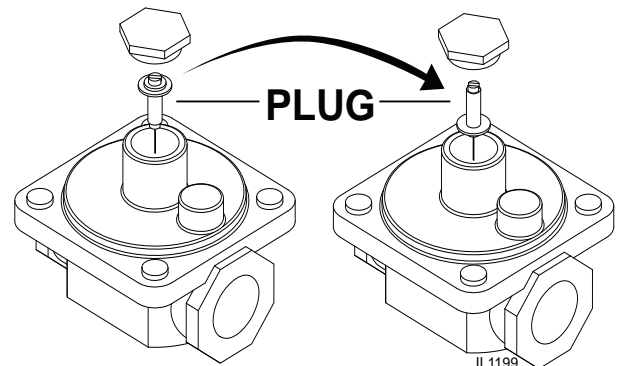
## CONNECTING GAS SUPPLY LINE

The gas inlet of the griddle is sealed at the factory to prevent entry of dirt. Do not remove this seal until the actual connection is made to the gas supply line.

## PROPANE GAS - CONVERSION

This griddle is equipped with fixed orifice hoods and is shipped from the factory for use with natural gas. To convert to propane gas install the orifice hoods located behind the front panel as follows:

1. Remove the front panel by removing the screws located on the front and bottom.
2. Remove the burner mounting screws in the center of the combustion chamber access covers.
3. Slide the burners back off the orifice hoods.
4. Remove the natural gas orifice hoods and install the propane orifice hoods.
5. Slide the burners back over the orifice hoods and reinstall the burner mounting screws.
6. Reinstall the front panel.
7. Set the pressure regulator to 10" (25.4cm) water column by removing the slotted or hex cap from the center of the regulator. Invert the plug and reinstall. The letters "LP" will now be visible on the plug. Reinstall the cap. An 1/8" pipe plug is located on the manifold for attaching a pressure gauge.



Natural

Propane / LP

**Regulator**

## CHECKING FOR GAS LEAKS

Check entire piping system for leaks. Soap and water solution or other material acceptable for the purpose, shall be used in locating gas leakage.



**Matches, candle flame or other sources of ignition shall not be used for locating gas leaks.**

## PILOT FLAME ADJUSTMENT

The griddles are equipped with standing pilots and should be lit immediately after the gas is turned on.

### MANUAL VALVE AND THROTTLING CONTROL MODELS

Adjust the flame as low as possible while still providing immediate burner ignition when the control knob is turned to high.

### LIGHTING INSTRUCTIONS

When the griddle is first lit, it will smoke until the preservative oils and impurities are burned off. The griddles are equipped with standing pilots and should be lit immediately after the gas is turned on. Snap Action griddles do not have a standing pilot and do not require lighting. The Unit should be properly leveled prior to lighting, with the rear of the griddle slightly higher than the front to allow grease to roll off and flue gasses to escape out the rear..



**DO NOT ATTEMPT TO LIGHT YOUR PILOT BURNER IF YOU EXPERIENCE A STRONG GAS ODOR.**

### CAUTION MANUAL VALVE AND THROTTLING CONTROL MODELS

1. Turn off the main valve to the unit and wait 5 minutes to clear gas.
2. Turn off all knobs and pilot valves.
3. Turn on main valve to unit and light all pilots.
4. Turn burner knobs to desired position.
5. To turn burners off, turn knobs to off.

### ORIFICE ELEVATION COMPENSATION CHART

	Orifice @ sea level	2000	3000	4000	5000	6000	7000	8000	9000	10000
	Manual Control Gas Griddles: 824ma thru 872MA									
NAT	41	42	42	42	43	43	44	44	45	46
LP	52	52	53	53	53	53	53	54	54	54
	Thermostatic Conrol Gas Griddles: 824TA thru 872TA									
NAT	38	39	40	41	41	42	42	43	43	44
LP	52	52	53	53	53	53	53	54	54	54
	Snap Action Gas Griddles: 824TSA thru 872TSA									
NAT	34	35	36	36	37	37	38	39	40	42
LP	49	50	50	50	51	51	51	52	52	52

## BURNER AIR SHUTTER ADJUSTMENT

The burner air shutter has a locking screw on the bottom side of the venturi. Loosen this screw to make any adjustment and tighten the screw to lock the air shutter in place after adjustment is complete. Any adjustment must be made when the burner is at full input before the control temperature setting has been satisfied.

1. Turn the control knob to the highest position and observe the burner flame.
2. Slowly decrease the air shutter opening until the flame is a soft blue with yellow tips, then increase the opening until the yellow tips disappear and the flame is a hard blue.
3. Do not open the shutter to a point where the flame is unstable or lifting from the burner surface. The flame must be steady and even across the entire burner.



**The following was set at the factory and the adjustment should only be made by an authorized installer and only if you are experiencing this specific problem.**

## BYPASS ADJUSTMENT ON THROTTLING CONTROL MODELS ONLY

Throttling control models have a minimum flame setting that provides a steady uniform flame across the burner when the control heat setting has been satisfied.

1. Set the control at the maximum setting and wait for the burner flame to throttle back.
2. Turn the dial to the 200 degree setting. A small steady flame should be visible on all the burner ports. This flame should be approximately 1/8" high.
3. An adjustment screw is located either on the front or side of the control housing.
4. Turn clockwise to decrease the flame height; turn counterclockwise to increase the flame

## ELECTRICAL CONNECTION FOR SNAP ACTION AND CHROME SURFACE MODELS ONLY

Snap action and chrome surface griddles are equipped with a three-prong grounding plug. The unit is designed for use on a 120 volt 15 amp 50/60 cycle AC single-phase circuit only. For protection against electrical shock, the unit must be plugged directly into a properly grounded three-prong receptacle. Do not cut or remove the grounding prong from this plug.



**Do not connect to any other type of current or serious damage will occur.**

## OPERATING INSTRUCTIONS

### SEASONING THE GRIDDLE HEATING SURFACE (NON-CHROME SURFACES)

Clean the griddle surface thoroughly. After the griddle has been thoroughly cleaned, it should be seasoned to prevent food from sticking. Before using and after each thorough scouring, season the griddle heating surface in the following manner:

1. Turn the temperature control dial to 350°F (174.0°C).
2. Using a clean cloth, not a spatula, spread a thin film of cooking oil or shortening over the griddle cooking surface. This film should remain on the hot griddle surface 1/2 hour.
3. Remove excess shortening and wipe clean.
4. Apply another film of cooking oil over the hot cooking area for another 1/2 hour, and again remove excess shortening and wipe clean. The griddle surface should now be ready for use.



**Even with careful seasoning food may, to some extent, stick to the griddle cooking surface until griddle plate is "broken in."**

### COOKING

Set the dial knob to the setting desired. After a 30 minute (minimum) preheating period, the griddle will automatically maintain the selected temperature.



## GRIDDLE CARE (NON-CHROME SURFACES)

It takes very little time and effort to keep the griddle attractive and performing at top efficiency. If grease is permitted to accumulate, it will form a gummy cake and then carbonize into a hard substance which is extremely difficult to remove. To prevent this condition, the following suggestions for cleanliness should be followed:

1. After each use, scrape the griddle with a scraper or flexible spatula to remove excess grease and food. A waste drawer is provided for the scrapings. If there is an accumulation of burned-on grease and food, the griddle should be thoroughly scoured and reseasoned. Use pumice or griddle stone while the griddle is warm. Do not use steel wool because of the danger of steel slivers getting into the food.
2. Use a clean cloth and good non-abrasive cleaner to clean the stainless steel body of the griddle. Wipe the control panel front with a soft cloth.
3. At least once a day, remove the waste drawer and wash in the same way as an ordinary cooking utensil. The drawer is removed by pulling forward and out.

## GRIDDLE CARE (CHROME SURFACES)

(Chrome surface griddles are marked with "CHS" at the end of the model number designation on the nameplate.) It takes very little time and effort to keep this Industrial Chrome griddle surface sparkling clean and performing at top efficiency. DO NOT allow grease to accumulate as it will carbonize and become difficult to remove. To prevent this condition, the following cleaning suggestions should be followed:

1. Remove excess oil and food regularly with a 4" (100mm) wide razor sharp type scraper and wipe surface with a damp cloth if desired.
2. Following the scraping, for end of the day cleaning, a damp cloth and a non-silicated, non-abrasive, non-chlorinated cleaner such as Bon-Ami may be used to wipe surface clean, followed by wiping with clean wet cloth.
3. Follow steps 2 and 3 from Griddle Care (Non-Chrome Surfaces).

### CAUTION

1. Never use pumice, griddle stones, or abrasives on the surface.
2. Never strike the griddle surface with a sharp instrument or spatula edge.
3. Never use steel wool.
4. Never use commercial liquid grill cleaner on the griddle surface.
5. Abusing the surface voids the warranty.



## WASTE DRAWER

A waste drawer is located at the front and can be removed from the front for cleaning by pulling drawer forward. This drawer should be checked and emptied when necessary or at least once per day.



**EXERCISE EXTREME CARE IN HANDLING THE WASTE DRAWER CONTAINING HOT GREASE.**

## OVERNIGHT SHUTDOWN

### MANUAL VALVE AND THROTTLING CONTROL MODELS

Turn knobs to the off position to turn burners off.

### SNAP ACTION AND CHROME SURFACE MODELS

Turn knobs to the lowest setting and turn power switch off.

## **CHROME GRIDDLE SURFACE LIMITED WARRANTY EXCLUSIONS**

Your chrome griddle has been designed to give you many years of cooking reliability and requires minimum maintenance to keep the chrome surface in its original condition. All chrome griddle surfaces are warranted for a period of 5 years against manufacturing defects to the original owner from the date of installation. This limited warranty is void if it is determined by Star Manufacturing International Incorporated or one of its authorized representatives that the chrome surface has been misused or abused or subjected to the following situations:

1. Improperly installed.
2. By-pass adjustments not set properly on gas units allowing the appliance to overheat and discolor the chrome surface. (See by-pass adjustment section.)
3. The misuse of any instrument or tool which scratches or makes indentations in the surface which could cause the surface to peel, flake, or chip off.
4. The use of any chemical or abrasive cleaning solution, griddle brick, stone, screen or other cleaning products which could damage and affect the performance of the chrome surface.
5. The neglect of daily routine maintenance to the chrome surface.