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Installation  
and  
Operating  
Instructions

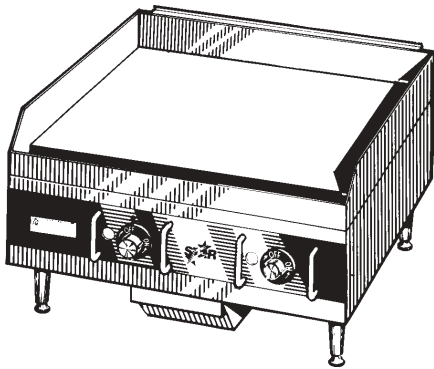
2M-Y7131 Rev. I 9/23/02

## STAR-MAX™ GAS GRIDDLES MODELS

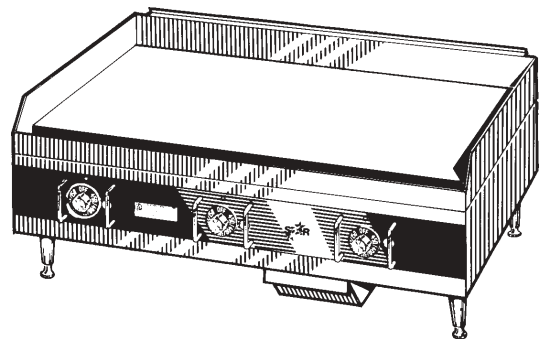
615M, 615T, 624M, 624T,  
636M, 636T, 648M, 648T,  
624TSP, 636TSP, 648TSP

## CHROME-MAX™ GAS GRIDDLES MODELS

624TCHS, 636TCHS, and 648TCHS



MODEL 624M



MODEL 636T



## 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. For equipment to be used by the general public, please contact the factory.

The Star-Max™ model griddles are equipped for use with the types of gas specified on the nameplate.

All units are shipped from the factory for use with natural gas. The unit can easily be converted for use on propane gas: see propane gas.

### -IMPORTANT-

The installation of the Appliance should 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.

**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 the equipment.

**FOR YOUR SAFETY**  
DO NOT STORE OR USE GASOLINE OR OTHER FLAMMABLE VAPORS AND LIQUIDS IN THE VICINITY OF THIS OR ANY OTHER APPLIANCE. KEEP THE APPLIANCE AREA CLEAR AND FREE FROM COMBUSTIBLES.

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 (3.45KPA). 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 (3.45KPA). 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. 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.

### FOR YOUR SAFETY

#### IF YOU SMELL GAS

1. DO NOT TOUCH ELECTRICAL SWITCHES.
2. EXTINGUISH ANY OPEN FLAME.
3. IMMEDIATELY CALL YOUR GAS COMPANY.

### KEEP THE APPLIANCE AREA FREE AND CLEAR FROM COMBUSTIBLES.

### CLEARANCE

**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 6" (150mm) from the sides and back. Adequate clearance should also be provided for proper operation and servicing.

### AIR SUPPLY

Make certain not to obstruct the flow of combustion and ventilation air. Provisions for adequate air supply must be furnished. Make certain that air intake openings in the bottom of the appliance are not obstructed. They are essential for proper combustion and operation of the appliance.

## EXHAUST CANOPY

It is essential that facilities be provided over the griddle to carry off fumes and gases. However, the unit should not be directly connected to a flue or stack.

## LEVELING UNIT

This griddle is supplied with (4) feet which must be screwed into the legs attached to the body. Level unit by adjusting the (4) feet which have an adjustment of 1-3/4" (43.75mm) for accurate and perfect lineup with other units. CAUTION: DO NOT INSTALL WITHOUT ATTACHING FEET - DO NOT REMOVE FEET.

## MANUAL SHUT OFF VALVE

A manual shut off valve should be installed upstream from the union and within 6 feet (1.829m) of this appliance.

## 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 line is then connected to it. It is shipped set for 6" (15.24cm) water column manifold pressure for use with natural gas.

## 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 (pipe dope) 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. To connect to gas supply, attach pipe nipple provided with unit, attach pressure regulator to nipple, and gas supply to regulator. 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 loose dirt.

## CHECKING FOR GAS 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 this purpose. Check entire piping system for leaks.

## PROPANE GAS

This griddle is equipped with fixed orifice hoods and is shipped from the factory for use on natural gas. To convert to propane gas, install the #55\* burner orifice hoods supplied, behind the control panel as follows:

1. Remove front panel by removing screws located on the front and the bottom.
2. Remove firewall shield and screws from burner bracket.
3. Remove burner(s) from orifice of hood(s). This is accomplished by lifting up on the rear of the burner(s) and sliding the burner(s) off of the hood(s).
4. Remove natural gas orifice hood(s) and install the propane hood(s) furnished.
5. Reinstall burner(s).

Note: Steps 2, 3, and 5 apply to MA models only.

\* TCHS & TSP Series (w/safety pilots) use a #4 I drill orifice for natural gas and a #52 drill orifice for propane gas.

6. Reinstall front panel.
7. Set manifold pressure to 10" (25.4cm) water column. A 1/8" pipe plug on the supply pipe can be removed for attaching a pressure gauge. Remove the slotted, or hex-threaded, plug from the pressure regulator. Invert the plug and re-install. The letters "LP" should now be visible on the plug. The regulator is now set for 10" (25.4 cm) water column.

## PILOT LIGHT REGULATION

The pilot lights on this griddle have been turned off at the factory. Adjust pilot light flames as small as possible, but high enough to light burner immediately when burner valve is turned on high.

## **BURNER OPERATION (MODELS 615M, 624M, 636M, and 648M ONLY)**

To ignite burners, turn burner valve knob to "HI" position. Each burner is controlled by an individual high-low, on-off valve. An infinite number of temperatures may be obtained by turning the burner valve knob to any position between high and low.

## **BURNER ADJUSTMENT (MODELS 615M, 624M, 636M, and 648M ONLY)**

1. Turn burner valve knob to "HI" position.
2. Slowly decrease opening of air shutters to give a soft blue flame having luminous tips, then slowly increase openings to a point where the yellow tips disappear and a hard blue flame is obtained.
3. Set the low adjustment to maintain approximately 1/8" (3.175mm) high flame by turning the screws inside the valve shafts when the knob is turned to low.

## **BURNER ADJUSTMENT (MODELS 615T, 624T, 636T, 648T, TCHS & TSP ONLY)**

1. Push dial in and set thermostat of one burner to 450°F (229.9°C).
2. Observing flame through lighting hole, close the air shutter to give a soft blue flame having luminous tips and open to a point where the yellow tips disappear, and a hard blue flame is obtained. Repeat for all burners.

## **LIGHTING INSTRUCTIONS**

When griddle is first lit, it will smoke until the preservation oils and impurities are burned off.

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

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

## **LIGHTING INSTRUCTIONS (TCHS & TSP SERIES)**

1. Turn the thermostat knob(s) and pilot valves to "OFF" position. CAUTION: If gas valves have been on and gas has escaped through the burners, turn unit off and wait 5 minutes to clear gas.
2. Turn on pilot valve, depress and hold reset button, light pilot, hold reset button for 60 seconds, or until pilot stays lit (repeat for all pilots.)
3. Set thermostat(s) to desired temperature.
4. If burners do not light repeat steps 1 thru 4.
5. Turn off thermostats and pilot valves for complete shutdown.

## **ADJUSTING BY-PASS (MINIMUM FLAME-MODELS 615T, 624T, 636T, 648T, TCHS & TSP ONLY)**

Enough gas must be by-passed through the thermostat to keep the entire burner lit after the thermostat action has reduced the flame on the burner. To allow accurate control of temperature, be sure to set the by-pass adjustment accurately. To make this adjustment, proceed as follows.

1. Light the main burner(s).
2. Set the thermostat dial(s) at 350°F (174.9°C).
3. Allow the griddle to heat until the thermostat action has cut down the flame on the burner(s). This will take about 10 minutes.
4. Set the thermostat dial(s) at 150°F (64.9°C) and observe flame.
5. The burner flame should now not exceed 1/8" in height. If adjustment is needed, remove dial(s), turn the by-pass adjustment screw on the thermostat clockwise to decrease until the flame over the entire burner is not more than 1/8" (3.175mm) in height.

## **ADJUSTING THERMOSTATS (MODELS 615T, 624T, 636T, 648T, TCHS & TSP ONLY)**

The thermostat is a precision instrument. It has been carefully calibrated at the factory. Field recalibration is seldom necessary and should not be done until the by-pass flame has been adjusted. To measure griddle temperature use a reliable pyrometer and proceed as follows.

1. Set dial to 400°F (202.4°C), lighting burner.
2. After burner has been on about 10 minutes, check griddle surface temperature above operating thermostat.
3. Continue to check temperature at 5 minute intervals, until two successive readings are within 5 degrees of each other. If your reading is not within 10 degrees of the dial setting 400°F (202.4°C), recalibration is required.
4. Remove dial completely with "D" type stem.
5. Turn calibration screw clockwise to obtain a lower temperature or counterclockwise for a higher temperature. Each mark on retainer represents 25°F (13.75°C).
6. Repeat steps for other thermostats.

## **ADJUSTING SAFETY PILOTS (SERIES TCHS & TSP ONLY)**

A rotor valve is provided to manually adjust pilot flame size. "OFF" and "ON" positions are indicated on valve. By slowly turning the adjustment knob, a desirable pilot flame can be obtained.

## **OVERNIGHT SHUTDOWN**

Turn knobs to the off position to turn burners off.

## **OPERATING INSTRUCTIONS**

### **SEASONING THE GRIDDLE HEATING SURFACE (NON-CHROMIUM)**

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 (174.9°C).

2. Using a clean cloth, not a spatula, spread a thin film of cooking oil or fat over the griddle cooking surface. This film should remain on the hot griddle surface 1/2 hour.
3. Remove excess fat and wipe clean.
4. Apply another film of cooking oil over the hot cooking area for another 1/2 hour, and again remove excess fat 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 (MODELS 615T, 624T, 636T, 648T, TCHS & TSP ONLY)**

Set the thermostat dial knob to the temperature desired. After a short preheating period, the thermostat will automatically maintain the selected temperature.

### **GRIDDLE CARE (NON-CHROMIUM 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 fat and food. A waste drawer is provided for the scrapings. If there is an accumulation of burned on fat 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. Daily-use a clean cloth and good non-abrasive cleaner to clean the stainless steel body of the griddle. Wipe the polished 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, up and out.

## GRIDDLE CARE (CHROMIUM SURFACES)

It takes very little time and effort to keep this Industrial Chromium griddle surface sparkling clean and performing at top efficiency. **DO NOT** allow grease to accumulate as it will carbonize and becomes 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-Chromium Surfaces) from page 4.



### CAUTION

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

## GREASE PAN

A grease pan is located at the front and can be removed from the front for cleaning. This pan should be checked and emptied when necessary.



### CAUTION

**EXERCISE EXTREME CARE IN HANDLING THE GREASE PAN CONTAINING HOT GREASE.**

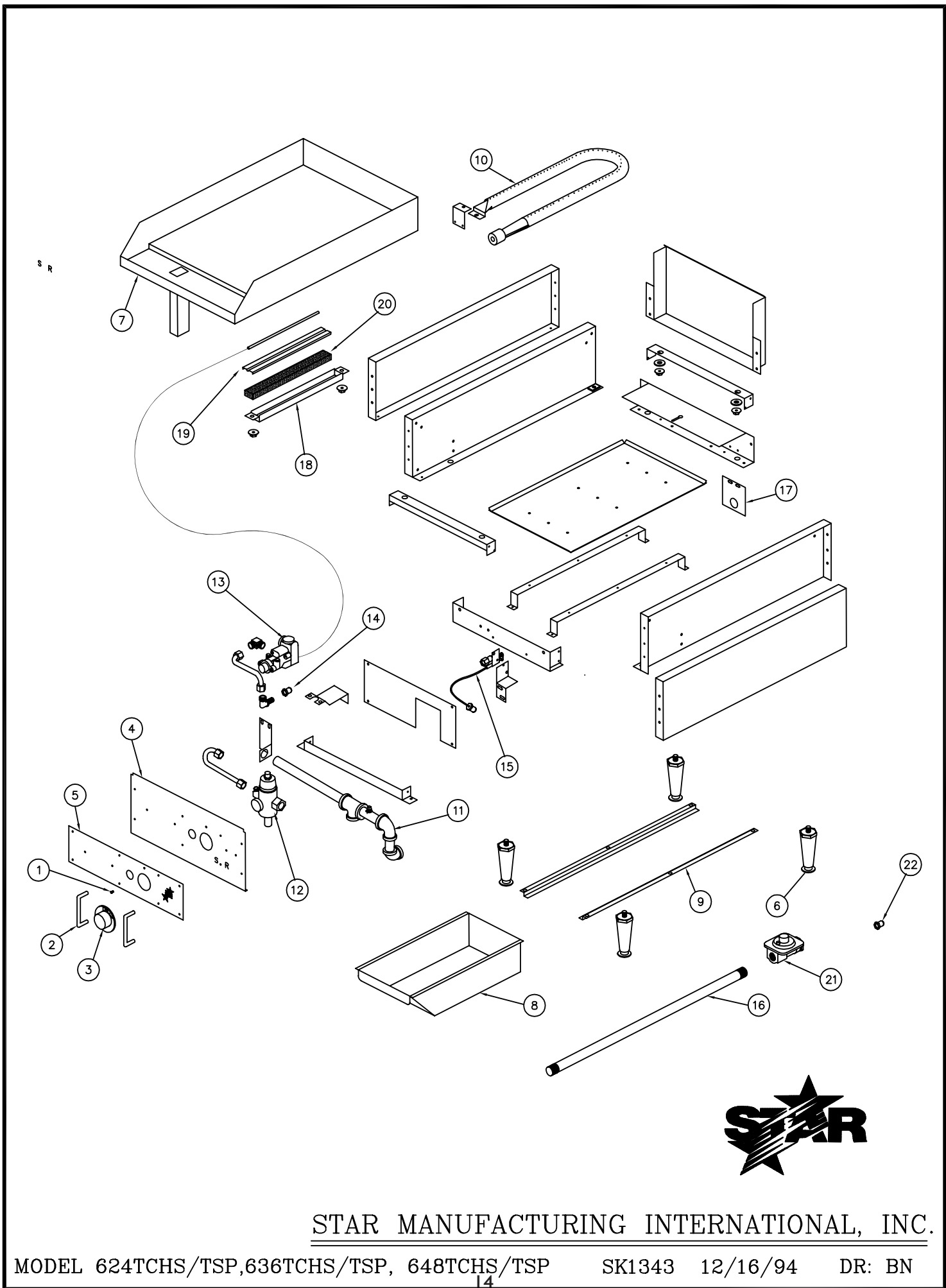
## MAINTENANCE AND REPAIRS

Contact the factory or one of its representatives or a local service company for service or maintenance if required.

## CHROME-MAX™ GRIDDLE SURFACE LIMITED WARRANTY EXCLUSIONS

Your Chrome-Max™ 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-Max™ 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 in instruction manual supplied with unit).
3. Incorrect voltage applied to electric Chrome-Max™ units allowing the surface to overheat and discolor.
4. 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.
5. 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.
6. The neglect of daily routine maintenance to the chromium surface.



STAR MANUFACTURING INTERNATIONAL, INC.

MODEL 624TCHS/TSP, 636TCHS/TSP, 648TCHS/TSP

SK1343 12/16/94

DR: BN

# PARTS LIST

EFFECTIVE Rev. I 9/23/02  
 Updated 04-05-04 rb

MODEL 624TCHS/TSP, 636TCHS/TSP, 648TCHS/TSP & 624T Star-Max Gas Griddle  
 24", 36" and 48" Thermostatic Control with Safety Pilot

Key Number	Part Number	Number Per Unit	Description	
1	2R-9193	2/3/4	BUTTON-INDICATOR	624/636/648
2	2R-8229	4/6/8	SHIELD-KNOB	624/636/648
3	2R-9499	2/3/4	KNOB-CONTROL	624/636/648
4	G3-T1081	1	FRONT PANEL	624
	G3-T1082	1	FRONT PANEL	636
	G3-T1083	1	FRONT PANEL	648
5	2M-Y9476	1	FACEPLATE	624
	2M-Y9474	1	FACEPLATE, LEFT	636
	2M-Y9475	1	FACEPLATE, RIGHT	636
	2M-Y9477	1	FACEPLATE, LEFT	648
6	2M-Y9478	1	FACEPLATE, RIGHT	648
	2A-Z0314	4	LEG	
7	G3-624005	1	GRIDDLE PLATE ASSEMBLY	624TSP
	G3-624010	1	GRIDDLE PLATE ASSEMBLY	636TSP
	G3-624011	1	GRIDDLE PLATE ASSEMBLY	648TSP
	G3-624146	1	GRIDDLE PLATE ASSEMBLY	624TCHS
	G3-624147	1	GRIDDLE PLATE ASSEMBLY	636TCHS
	G3-624148	1	GRIDDLE PLATE ASSEMBLY	648TCHS
8	G3-Y7046	1	GREASE DRAWER GRIDDLE	
9	G3-Y7047	2	SLIDE DRAWER	
10	2F-Y7052	2/3/4	BURNER ASSEMBLY	624/636/648
11	G3-624143	1	MANIFOLD ASSEMBLY COMPLETE	624
	G3-624144	1	MANIFOLD ASSEMBLY COMPLETE	636
	G3-624145	1	MANIFOLD ASSEMBLY COMPLETE	648
12	2J-Y9529	2/3/4	SAFETY PILOT	624/636/648
13	2T-Z4293	2/3/4	THERMOSTAT	624/636/648
14	2A-Y3310	2/3/4	HOOD BURNER #41 NAT.	624/636/648
15	2J-Y3784	2/3/4	PILOT-BURNER SAFETY-12"	624/636/648
16	2K-Y7123	1	INLET PIPE	
17	G3-Y7252	1	INLET PIPE SUPPORT	
18	G3-Y7040	1/2	TENSIONER	624/636/648
19	G3-Y7039	1/2	BULB-CLAMP	624/636/648
20	G3-Y9531	2/3/4	INSULATOR	624/636/648
21	2J-Y7589	1	REGULATOR-PRESSURE (CONVERTIBLE)	
22	2A-Y1255	2/3/4	ORIFICE #52 L.P.	624/636/648
	G3-Y9608	1	HEAT SHIELD (NOT SHOWN)	624TCHS/TSP ONLY

**IMPORTANT: WHEN ORDERING, SPECIFY VOLTAGE OR TYPE GAS DESIRED  
 INCLUDE MODEL AND SERIAL NUMBER**

PAGE 1  
 OF 1

Some items are included for illustrative purposes only and in certain instances may not be available.



**Star Manufacturing International, Inc.**