



# **Searmaster™**

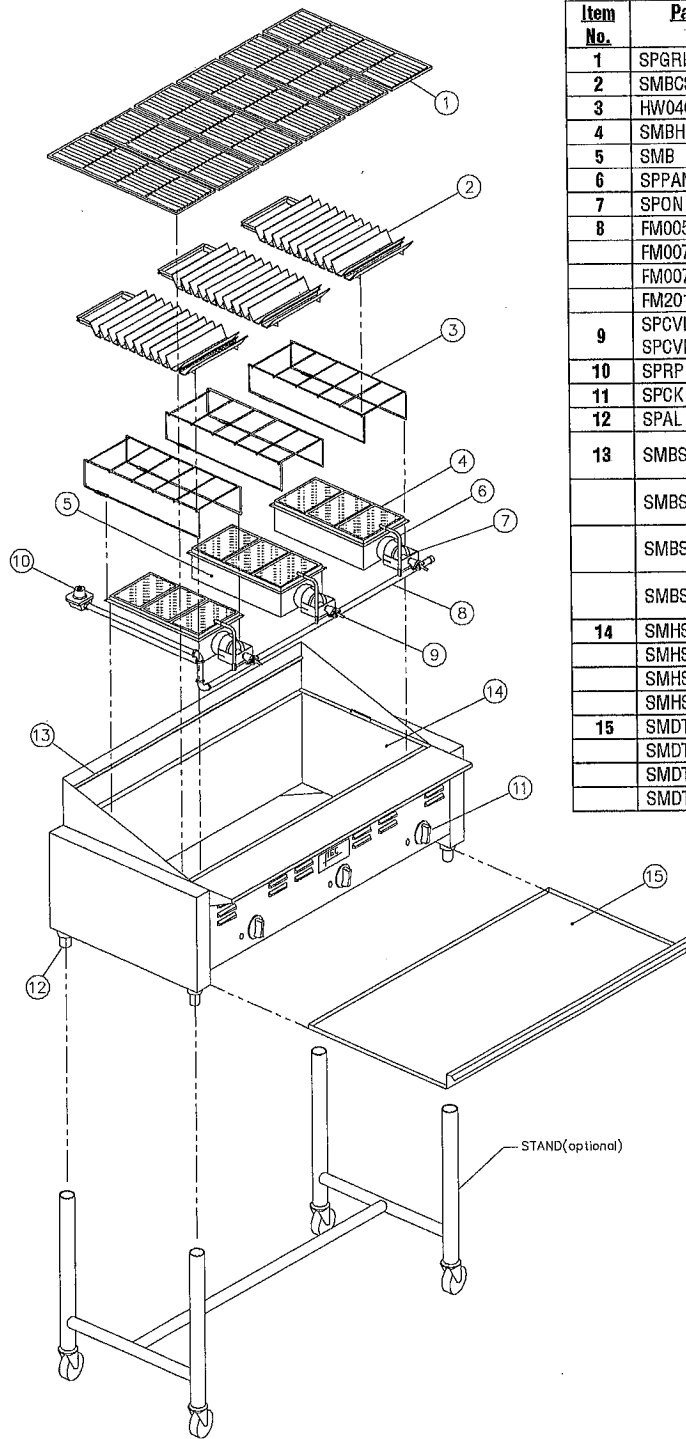
## **Installation, Operating & Maintenance Manual**

**Thermal Engineering Corporation**

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# Searmaster® Broiler Expanded Parts View



Item No.	Part No.	Description	Qty. (IR-2001)	Qty. (IR-2002)	Qty. (IR-2003)	Qty. (IR-2004)
1	SPGRID	Cooking Grid (6"section)	2	4	6	8
2	SMBCS	Burner Shield	1	2	3	4
3	HW0406	Wire Burner Guard	1	2	3	4
4	SMBH	Burner Head	1	2	3	4
5	SMB	Burner Body	1	2	3	4
6	SPPAN	Gas Pilot Assembly	1	2	3	4
7	SPDN or SPOP	Gas Orifice	1	2	3	3
8	FM0052	IR-2001 Gas Manifold Pipe	1			
	FM0071	IR-2002 Gas Manifold Pipe		1		
	FM0072	IR-2003 Gas Manifold Pipe			1	
	FM2012	IR-2004 Gas Manifold Pipe				1
9	SPCVL or SPCVN	Control Valve	1	2	3	4
10	SPRP or SPRN	Regulator	1	1	1	1
11	SPCK	Control Knob	1	2	3	4
12	SPAL	Adjustable Leg	4	4	4	4
13	SMBS-1	IR-2001 Splash Guard/Grate Rest	1			
	SMBS-2	IR-2002 Splash Guard/Grate Rest		1		
	SMBS-3	IR-2003 Splash Guard/Grate Rest			1	
	SMBS-4	IR-2004 Splash Guard/Grate Rest				1
14	SMHS-1	IR-2001 Heat Shield	1			
	SMHS-2	IR-2002 Heat Shield		1		
	SMHS-3	IR-2003 Heat Shield			1	
	SMHS-4	IR-2004 Heat Shield				1
15	SMDT-1	IR-2001 Drip Tray	1			
	SMDT-2	IR-2002 Drip Tray		1		
	SMDT-3	IR-2003 Drip Tray			1	
	SMDT-4	IR-2004 Drip Tray				1

## Warnings

### FOR YOUR SAFETY

**DO NOT STORE OR USE GASOLINE OR OTHER FLAMMABLE VAPORS OR LIQUIDS IN THE VICINITY OF THIS OR ANY OTHER APPLIANCE.**

### 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.**

**CAUTION:** POST IN PROMINENT LOCATION THE INSTRUCTIONS TO BE FOLLOWED IN THE EVENT THE USER SMELLS GAS. THIS INFORMATION SHALL BE OBTAINED BY CONSULTING THE LOCAL GAS SUPPLIER. YOU MAY USE THE YELLOW STICK-ON LABEL TEMPORARILY UNTIL YOU RECEIVE THE DATA FROM YOUR LOCAL GAS SUPPLIER.

**WARNING:** YOU MUST MAINTAIN THIS APPLIANCE FREE AND CLEAR FROM COMBUSTIBLES. YOU MUST MAINTAIN THE MINIMUM CLEARANCES FOR COMBUSTIBLE AND NON COMBUSTIBLE CONSTRUCTION.

## Damage During Shipment

THE TEC® SEARMASTER® BROILER HAS BEEN ASSEMBLED, TESTED AND INSPECTED AT THE FACTORY. UPON ARRIVAL, THE COMPLETE BROILER SHOULD BE CHECKED FOR ANY DAMAGE THAT MAY HAVE OCCURRED DURING SHIPMENT.

THE CARRIER IS RESPONSIBLE FOR ALL DAMAGE IN TRANSIT WHETHER VISIBLE OR CONCEALED. DO NOT PAY THE FREIGHT BILL UNTIL THE BROILER HAS BEEN THOROUGHLY CHECK FOR DAMAGE. IF CONCEALED DAMAGE IS FOUND LATER, CONTACT THE CARRIER IMMEDIATELY TO FILE A CLAIM.

**WARNING:** CAREFULLY EXAMINE THE CERAMIC BURNER HEADS FOR CRACKS. CHECK THE FOUR (4) SCREWS THAT MOUNT THE CERAMIC BURNER HEAD TO THE BURNER BOX FOR TIGHTNESS. AIR AND GAS MIXTURE CAN ESCAPE AND CAUSE BACKFIRE IF THE BURNER HEAD IS NOT TIGHT.

### If Equipment Arrives Damaged

**VISIBLE LOSS OR DAMAGE:** BE CERTAIN TO NOTE THIS ON THE FREIGHT OR EXPRESS RECEIPT AND HAVE IT SIGNED BY THE DELIVERY PERSON.

**FILE CLAIM FOR DAMAGES IMMEDIATELY REGARDLESS OF EXTENT OF DAMAGE.**

**CONCEALED LOSS OR DAMAGE:** IF DAMAGE IS NOTICED WHEN EQUIPMENT IS UNPACKED, NOTIFY THE FREIGHT COMPANY IMMEDIATELY, AND FILE A **CONCEALED DAMAGE CLAIM**. THIS MUST BE DONE IMMEDIATELY. BE SURE TO RETAIN THE SHIPPING CONTAINER FOR INSPECTION.

**THERMAL ENGINEERING CORPORATION (TEC) IS NOT RESPONSIBLE FOR LOSS OR DAMAGE DURING TRANSIT.**

### Save Manual For Future Reference

THIS SERVICE MANUAL SHOULD BE RETAINED IN A SAFE PLACE FOR FUTURE REFERENCE. THE INSTALLATION OF YOUR NEW BROILER MUST CONFORM TO LOCAL CODES OR IN THE ABSENCE OF LOCAL CODES WITH THE CURRENT NATIONAL FUEL GAS CODE ANSI Z223.1 NFPA 54 (latest edition), NATIONAL GAS INSTALLATION CODE CAN/CGA-B149.1 OR PROPANE INSTALLATION CODE CAN/CGA -B149.2.

# Limited Warranty

Effective 9/1/04, Thermal Engineering Corporation (TEC) warrants to the original purchaser ("Customer"), all new commercial cooking appliances, replacement parts ("products") installed after March 1997 to be free of defects in material or workmanship subject to the following terms and conditions.

## LENGTH OF WARRANTY

All products other than replacement parts shall be warranted for a period of one year from the date of installation. TEC replacement parts are warranted for a period of ninety (90) days from the date of installation.

## LIMITATIONS OF LIABILITY

In the event of warranty claim or otherwise, the sole obligation of Thermal Engineering Corporation shall be the repair and/or replacement at the option of TEC of the product or component or part thereof. Such repair or replacement shall be at the expense of TEC except that the Customer shall pay the following expenses: all freight and labor expense for TEC replacement parts; for all other products, mileage exceeding 50 miles or travel more than one hour, labor costs of more than one person, overtime rates, truck charges, difference between ground and other mode of transportation and holiday charges. Any repair or replacement under this Limited Warranty does not constitute an extension of the original warranty for any period for the product or for any component or part thereof. Parts to be replaced under this Limited Warranty will be repaired at the option of TEC with new or functionally operative parts.

The liability of TEC on any claim of any kind, including claims based on warranty, expressed or implied, contract, negligence strict liability or any theories shall be solely and exclusively the repair or replacement of the product as stated herein, and such liability shall not include, and customer specifically renounces any rights to recover, special, incidental, consequential or other injuries to persons or damage to property, loss of profits or anticipated profits, or loss of use of product.

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

This limited warranty is exclusive and is in lieu of all other warranties whether written, oral, statutory or implied, including but not limited to any warranty of merchantability of fitness for particular purpose or warranty against latent defects.

## EXCLUSIONS

The warranties provided by Thermal Engineering Corporation do not apply in the following instances:

1. Defects arising out of or resulting from improper installation or maintenance, abuse, misuse, modification or alteration by unauthorized service personnel, or any other condition attributable to a defect in material or workmanship. Proper installation and maintenance are the responsibility of the installer and Customer, respectively. Proper installation and maintenance procedures are prescribed in the Installation and Service Manual.

2. In the event that the product was damaged after leaving the factory due to flood, fire, other acts of God, accident, damage during shipment should be reported to carrier and is not the responsibility of TEC.
3. In the event the serial number or rating plate has been removed from the product or altered.
4. On parts which would normally be worn or replaced under normal conditions, including but not limited to electric bulbs, fuse, interior and exterior finishes, gaskets and radiant covers.
5. With regard to adjustments and calibrations such as leveling, tightening of fasteners and plumbing connections, improper gas pressure or improper electrical supply, the checking or and changes in adjustment and calibrations are the responsibility of the installer. Proper installation procedures are prescribed in the Installation and Service Manual.
6. In the event of unauthorized repairs or alterations to the TEC product.

## Other Terms and Conditions

The customer must provide proof of purchase from TEC. The Limited Warranty is valid in the 50 United States, its territories, and Canada. And is void elsewhere.

TEC products are sold for commercial use only. If any TEC product is sold as a component of another or used as a consumer product, such TEC product is sold as is without any warranty.

If any provision of this Limited Warranty is held to be unenforceable under the law of any jurisdiction, such provision shall be applicable in such jurisdiction and the remainder of the warranty shall remain unaffected. Further in such event, the maximum exclusion or limitation allowable under law shall be deemed substituted for the enforceable provision.

The Limited Warranty shall be governed by and construed in accordance with the laws of the state of South Carolina.

## TO SECURE WARRANTY SERVICE

All repair service under this Limited Warranty must be authorized in advance by TEC or performed at TEC. Authorization may be obtained by calling 803-783-0750 within the continental United States, Alaska, Hawaii, Puerto Rico and Canada during normal business hours (8:30AM through 5:30PM EST, Monday through Friday). Before calling please have the following information available (1) name, address and telephone number of the Customer; (2) location of the product, if different; (3) name, model number and serial number of the product; (4) installation date; and (5) description of defect. TEC will then issue a service authorization work order number to one of its approved independent servicing organizations; or request the product or part to be shipped to TEC for repair or replacement, as appropriate. Any defective part subject to a claim under this Limited Warranty must be shipped freight prepaid to TEC for testing and examination. TEC's decision as to the cause and nature of the defect under this Limited Warranty shall be final.

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# Important Facts

## Read Before Using Your Broiler

- You must maintain this appliance free and clear from combustibles.
- You must maintain the minimum clearances for combustible and non-combustible construction. See Table A.1 for clearance specifications.
- You must install this appliance at least 16 inches away from any open flame.
- Adequate clearance for servicing and proper operation must be maintained. Your Searmaster® Broiler is designed to be serviced from the front.
- Searmaster® Broiler is NOT for household use.
- Always instruct new employees on proper broiler operation.
- The Searmaster® Broiler should be operated ONLY by properly trained personnel.
- ALWAYS turn the Searmaster® Broiler off each night.
- ALWAYS disconnect fuel source before servicing.
- NEVER leave a broiler unattended during operation.
- NEVER move broiler when hot.

**THIS BROILER MAY NOT BE ALTERED, MODIFIED OR CHANGED IN ANY WAY.**

## State of California

The State of California enacted the California Safe Drinking Water and Toxic Enforcement Act of 1986, (Proposition 65), which "prohibits any person in the course of doing business from knowingly and intentionally exposing any individual to a chemical known to the State of California to cause cancer or reproductive toxicity without first giving clear and reasonable warning to such individuals." The Governor's Scientific Advisory Panel added carbon monoxide to the list of hazardous chemicals known to cause reproductive harm.

In order to establish full compliance with Proposition 65, we attached a yellow warning label to each Searmaster® Broiler that Thermal Engineering Corporation of South Carolina manufactures. Carbon monoxide would not be present in concentrations that would pose a "significant

risk" to the consumer when the equipment is installed, operated and maintained as follows:

- Installation in accordance with all local codes, or in the absence of local codes, with the current National Fuel Gas Code Z223.1 (latest edition).
- Installation under a properly designed and operating exhaust hood.
- Connection to the type of gas for which the broiler is manufactured.
- Pressure regulator is installed in the appliance and adjusted for the manifold pressure marked on the serial plate.
- Adequate air supply to the unit.
- In-line pressure regulator, not supplied by Thermal Engineering Corporation must be installed outside the appliance.
- The equipment is operated in the manner intended using the proper utensils.
- Keep the equipment clean and have it checked periodically.
- Burner air adjustments, mechanical maintenance and repairs must be performed by qualified service personnel.

**WARNING:** IF THE EQUIPMENT IS NOT INSTALLED, OPERATED AND MAINTAINED IN ACCORDANCE WITH THE ABOVE, CONCENTRATIONS OF CARBON MONOXIDE IN EXCESS OF THE ESTABLISHED LIMITS COULD BE PRESENT IN THE KITCHEN ENVIRONMENT.

**CAUTION:** ALL PERSONNEL IN THE WORK PLACE WHO MAY BE SUBJECT TO ANY EXPOSURE OF CARBON MONOXIDE MUST BE WARNED OF SUCH POSSIBLE EXPOSURE. THIS WARNING SHOULD BE CONVEYED IN A MANNER SO THAT IT IS CLEARLY UNDERSTOOD BY THE EMPLOYEE, AND THE EMPLOYEE SHOULD BE ASKED IF IN FACT HE OR SHE UNDERSTANDS THE CORRECT METHOD OF OPERATION OF THE EQUIPMENT AND THAT A RISK OF EXPOSURE EXISTS IF THE EQUIPMENT IS OPERATED IMPROPERLY.

**WARNING:** IF NOT INSTALLED, OPERATED AND MAINTAINED IN ACCORDANCE WITH THESE INSTRUCTIONS. THIS PRODUCT COULD EXPOSE YOU TO SUBSTANCES IN FUEL OR IN FUEL COMBUSTION AND WHICH CAN CAUSE SERIOUS ILLNESS OR DEATH AND WHICH ARE KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS AND OTHER REPRODUCTIVE HARM.

# Installation

## General Overview

The Searmaster® Broiler needs only minimum assembly; however, all instructions must be followed carefully to insure a safe and proper assembly. The broiler must be installed, inspected, calibrated and serviced by qualified and/or certified and licensed service personnel. You may void your Warranty if installation is not completed per local, national and Thermal Engineering Corporation's specifications. Contact your dealer for assistance.

**WARNING:** INSTALLATION MUST CONFORM WITH LOCAL CODES OR, IN ABSENCE OF LOCAL CODES WITH CURRENT NATIONAL FUEL GAS CODE ANSI Z223.1/NFPA 54. OR IN CANADA, THE CAN/CGA-B149.1, NATURAL GAS AND PROPANE INSTALLATION CODE.

## Ventilation Hood

The Searmaster® Broiler must be placed under an ventilation hood with a fire retardant system. Your ventilation hood, when installed, must conform to the current ANSI/NFPA 96 (latest edition) codes. If you have an existing hood, it may be necessary to adjust the CFMs for broiler operation. You must conform to local and national code requirements.

## Position of Searmaster® Broiler

The broiler must be no closer than twelve inches (12") from any combustible material. All connections and placement must comply with local and national codes. It is the responsibility of the owner and qualified and/or certified and licensed service personnel to comply with these regulations when installing the Searmaster® Broiler.

	COMBUSTIBLE CONSTRUCTION	NON-COMBUSTIBLE CONSTRUCTION
Back	12" (30.5 cm)	0" (0 cm)
Sides	12" (30.5 cm)	0" (0 cm)

**Table A.1** Clearance Specifications

## Front Ventilation

The area in front of and above the Searmaster® Broiler must be clear to avoid any obstruction of flow of combustion and ventilation air. Means must be provided

for adequate air openings into the combustion chamber. Keep the broiler area clear and free of combustibles. Adequate clearances for servicing and proper operation must be provided.

## Leg Assembly

The broiler is supplied with four (4) adjustable legs which are easily installed into threaded inserts located at each corner of the broiler's bottom side.

## Stand Assembly (optional)

There are two options available when a stand is purchased with the broiler: Bullet Feet or Casters. To assemble the stand to the broiler, slide the broilers adjustable legs into the openings at the top of the stand assembly.

## Leveling

The Searmaster® Broiler will operate at its highest efficiency when properly leveled. Place a level on the plate shelf of the broiler from side to side. For broilers on the stands with Bullet Feet or installed on fixed counters using the 4" supplied legs, the bottom foot of the leg is adjustable by loosening the jam nut and turning the caster in or out. When the desired level is reached, tighten the jam nut. **Adjustments for more than 3/4" are not recommended on any caster.** The same procedure should be followed to level the broiler from front to back.

## Restraining Requirements

Restraining devices required on broiler installation on stands with casters. Jam nuts must be completely tightened. Adequate means must also be provided to limit the movement of the broiler depending on the connector; the quick disconnect device or its associated piping. Connectors must comply with ANSI Z21.69 or CAN 1 6.10-88 (latest edition) standard for connectors for movable gas appliances. Quick disconnect devices must comply with the ANSI Z21.41 or CAN 1 6.9-M79 (latest edition) standard for quick disconnect devices for use with gas fuel as applicable. If disconnection of the restraint is necessary, it **must be reconnected** when the Searmaster® Broiler is returned to its originally installed position.

# Gas Connection

## General Overview

Searmaster® Broilers are available in LP gas or Natural gas, and are designed to operate on the gas fuel specified on the serial plate and must not be operated with another gas fuel. The Broiler must have the orifice, regulator and valves changed to operate on other than specified gas.

ALWAYS SPECIFY TYPE OF GAS ALTITUDE OF OPERATION ABOVE SEA LEVEL.

THE INSTALLATION OF GAS SUPPLY MUST CONFORM WITH LOCAL CODES, OR IN THE ABSENCE OF LOCAL CODES, WITH THE NATIONAL FUEL GAS CODE, ANSI Z223.1, NATURAL GAS INSTALLATION CODE, CAN/CGA-B 149.1, OR THE PROPANE INSTALLATION CODE, CAN/CGA-B 149.2 (latest edition) AS APPLICABLE.

## Gas Regulator

The regulator supplied with the broiler must be installed. Support the inlet piping while tightening the regulator. Operating pressure, burner low settings, and the pilot flame have all been preset at the factory.

The regulator should be installed with the arrow on the bottom of the regulator pointing in the direction of the gas flow into the broiler.

DO NOT USE ANY REGULATOR OTHER THAN THE ONE PROVIDED WITH THE BROILER.

When connecting the broiler to the gas supply line, under no circumstances should the gas supply line be smaller than the inlet pipe on the broiler. Use pipe compound on all pipe joints. Compound must be resistant to the action of liquefied petroleum gases. Check all gas connection for leaks using soap and water solution.

DO NOT USE AN OPEN FLAME FOR GAS LEAK TEST.

## Gas Supply Line

Connect the broiler to the main gas supply line at the rear of the broiler. The piping should be a minimum of 3/4" IPS, supply pipe for a single boiler at the burner manifold. Installation must conform with current local and national gas codes.

## Gas Pressure

The required gas pressure for proper operation of each broiler is 5 1/2" water column pressure for natural gas and 10" water column for LP gas at the burner manifold.

**CAUTION:** IF MORE THAN ONE GAS UNIT IS ON THE SAME SUPPLY LINE, YOU MAY REQUIRE A LARGER LINE. CONSULT YOUR LOCAL GAS COMPANY TO ASSURE ADEQUATE VOLUME AND PRESSURE. REFER TO SERIAL PLATE FOR PROPER GAS REQUIREMENTS FOR YOUR PARTICULAR MODEL.

**WARNING:** PROPANE GAS MAY EVENTUALLY LOSE IT'S ODOR AND PRECAUTIONS SHOULD BE TAKEN TO ASSURE THAT PROPANE GAS IS NOT PRESENT EVEN THOUGH YOU DO NOT DETECT AN ODOR. IF THERE IS ANY DOUBT, YOU SHOULD CALL YOUR LOCAL PROPANE GAS SUPPLIER FOR ASSISTANCE.

## Pressure Test

The appliance and its individual shut-off 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 must be isolated from the gas supply piping system by closing its individual manual shut-off valve during any pressure testing of the gas supply piping system at test pressures equal to or less than 1/2 PSIG (3.45kPa).

## Instructions For Gas Smell

POST IN PROMINENT LOCATION THE INSTRUCTIONS TO BE FOLLOWED IN THE EVENT THE USER SMELLS GAS. THE INFORMATION SHALL BE OBTAINED BY CONSULTING THE LOCAL GAS SUPPLIER.

## Burner Controls

**WARNING:** MAKE SURE ALL BURNER CONTROLS ARE IN THE OFF POSITION. THIS BURNER HAS A STANDING PILOT, WHICH NEEDS TO BE LIT MANUALLY WITH MATCH OR FLAME.



# Operation

## Lighting The Pilot Burners

The tip of the pilot burner is set at the front of each burner. Read the instructions below before attempting to light the pilots.

1. Make sure ALL gas supplies to the unit have been turned OFF prior to lighting.
2. Check to see that the main burner control knobs on the front of the broiler are in the OFF position.
3. Remove the cooking grids.
4. Remove the burner cover shields.
5. Remove the heat shield. This will give you a clear view of the pilot assembly, when lighting the pilot for the first time. The heat shield does not need to be removed for lighting purposes again.
6. Turn on the supply of gas to the broiler and then quickly provide a flame across all pilot openings in the front of the heat shield to light each pilot.

**WARNING:** IF THE PILOTS ARE EXTINGUISHED FOR ANY REASON, YOU MUST TURN OFF THE MAIN GAS SUPPLY TO THE UNIT.

## Pilot Adjustments

Once lit, allow pilot to burn for 2 minutes before turning on the main valve. Pilot flames may need some adjustment. The pilot flames should extend 1/2" over the ceramic surface of the burner. (see Figure 2.) and should be blue in color. Adjustments can be made by using the pilot adjustment valve which is accessible through the holes in the faceplate of the broiler. Once the pilots are set properly, replace the burner cover shield.

**WARNING:** CHECK TO SEE THAT ALL PILOTS ARE BURNING CORRECTLY.

## Lighting The Infra-red Burner

Turn the black control knob counter-clockwise at front of the broiler corresponding to the burner you wish to light. Turn until the ON position indicated on the control knob at the top of the control opposite the arrow on the faceplate. This is the HIGH fire position. This position should be maintained for approximately 10 minutes or until the burner has reached the full operating temperature.

### Lower Settings

Once the burner has reached full operating temperature, a lower heat setting may be attained by further turning the control knob in a counter-clockwise direction. Full rotation in that direction will provide the lowest settings.

### Turning Off Burner

Turn the control knob all the way to the right in a Clockwise direction until the OFF position is attained.

## Burner Adjustment

The lowest heat position is preset at the factory. Should it be necessary to re-adjust the setting due to locally prevailing atmospheric conditions, which affects burner operation, use the following instructions:

1. Follow lighting procedure and operate broiler for approximately 15 minutes until burners are hot.
2. Turn the control knobs to LOW position and wait until the temperature drops and stabilizes.
3. Pull off the control knobs from the valve stems.
4. Inset small screwdriver into valve stem to engage recessed set screw. Turn clockwise to decrease low heat or turn counter-clockwise to increase low heat intensity.

The low heat position of the ceramic burner should be at a point where incandescent or orange color has almost disappeared. The combustion flame must be stable and should not waiver back and forth on the burner surface. Never adjust burner so low that it may go out during use.

# Infra-red Cooking

## General Overview

Searmaster® Broilers are designed to provide maximum production efficiency and deliver high quality products. Because of the superior heating characteristics and searing ability of the Searmaster® Broiler's under-firing infra-red burner, product will cook significantly faster. Follow the cooking procedures for your model.

## Cooking Grids

Searmaster® Broilers have cooking grids that can be independently used in either the lower or raised position. Heavy-duty cast iron grids are provided with your unit. These grids must be seasoned to prevent sticking.

**WARNING:** NEVER ATTEMPT TO CHANGE THE POSITION OF THE GRIDS WHILE THEY ARE HOT OR WHILE THE BROILER IS IN OPERATION.

### Cast-Iron Cooking Grids

All models of the Searmaster® Broiler are shipped with heavy-duty cast iron cooking grids as standard. These grids are easily cleaned with a grill brick or brush.

### Stainless Steel Cooking Grids

TEC's  $\frac{3}{8}$ " thick stainless steel "diamond" cooking grids have been designed to provide an excellent, non-rusting cooking surface ideal for fish and high humidity applications. Many restaurants, caterers and country clubs recommend these stainless grids because they use Searmaster® Broilers for outside functions.

The stainless grids are recommended for grilling fish with delicate flesh (i.e. maui maui, sea bass and ocean perch). Additionally, they are an excellent option for preparing ribs and other products with very thick barbecue sauce. The  $\frac{3}{8}$ " open spacing will retard clogging of grids when using these types of sauces.

### Cold Rolled Steel Round Grids

The cold rolled steel round grids are another option for cooking with heavy sauces. The round grids will prevent clogging and are very easy to clean.

## Staging Your Food

All burners are fully controllable over a wide range of temperatures. Only experience gained by cooking your individual products, will determine which settings need to be used. One useful feature of the Searmaster® Broiler is a cooler area in the front 4 inches (10.16 cm) of the cooking surface. This area can be used for slower cooking or as a holding zone if the burner is on a low setting.

A removable back support is provided so that the cooking grids can be placed at that angle. By doing this you are providing more depth between your food and possible flare-ups.

## Cooking Temperatures

### High Cooking Temperature

The HIGH position is for quick warm-up of burners. This position provides the highest surface temperature for searing products. The color of the ceramic burner at this setting will be a bright orange.

### Ten O'clock Cooking Temperature

The TEN O'CLOCK position will allow you to cook quickly and put an attractive striping on your foods. The color of the ceramic burner at this setting will be a dull orange.

### Low/Sim Cooking Temperature

The LOW/SIM position is obtained by fully turning the control knob Counterclockwise until it hits the stop position. This setting is for cooking slowly and as a means to save energy in slow periods when the operator does not want to shut a burner off completely. The burner will recover back to fully power when placed on HIGH in just 2 minutes.

## Infra-red Cooking Continued

### Flare-up Control

If some products with a high fat or oil content are causing undesirable flare-ups, then follow these instructions.

- If you are working on the high or close to high setting, drop the temperature slightly to ten o'clock settings.
- Flare-ups will be greatly reduced once the temperature of the burner cover shield has dropped below grease's spontaneous ignition point.
- You can also angle the cooking grids by utilizing the removable back support to reduce flare-ups.

### Saving Energy

Your Searmaster® broiler has very high radiant heat output, and it is being achieved very cost effectively. Infra-red heat is the most efficient way of grilling. The cost of operating the burner for 1/2 hour on natural gas is approximately 18 cents per hour. You can further reduce your energy usage by the following:

- Preheat time for your broiler to be up to full power is 17 minutes. Do not turn your broiler on earlier than 30 minutes prior to need.
- Turn your burners to SIM position when not needed. The burner will recover back to full power when placed on HIGH in just 2 minutes.

## Preventive Maintenance

### General Overview

Preventive maintenance should be done in: daily (as needed), end-of-the-day, monthly and yearly intervals as necessary. Following preventive maintenance procedures will help keep your Searmaster® Broiler working efficiently. Proper care and servicing will lead to years of quality performance.

### Daily (as needed) Procedures

Barbecue sauce drippings, and food particles can clog cooking grates and cause very high internal temperatures that can crack the ceramic burner heads. Brush the broiler's cast iron or stainless cooking grates with a stiff, long handled commercial broiler brush as needed.

### End-of-the-day Procedures

The Burner Cover Shield/Emitter Shield needs to be wired brushed daily. Recommended time is the beginning of the day before turning on the infra-red burners to heat up. The broiler must be cold before cleaning.

**WARNING:** THE BURNER COVER SHIELD/EMITTER SHIELD CAN BE ABOVE 1000 DEGREES. BE EXTREMELY CAREFUL WHEN HANDLING ANYTHING WITHIN THE COOKING CAVITY.

The Infra-red Ceramic Burner needs to be inspected for any cracks that may have occurred during the last use. Some debris will have found its way to the ceramic burner. The debris should be lightly brushed away using a soft cloth or brush.

### Cleaning Instructions Chart

A cleaning chart entitled "TEC Searmaster Cleaning Instructions" is included with each unit. Please post this water-proof chart near the broiler. It outlines daily cleaning procedures for your broiler. If you do not have a copy of this chart, please contact us.

## Preventive Maintenance Continued

**WARNING:** DO NOT GET INFRA-RED BURNER WET AT ANYTIME WHEN IN THE OFF POSITION.

**CAUTION:** WATER SHOULD NEVER BE USED WHEN CLEANING THE CERAMIC BURNER HEADS. IF WATER SHOULD GET ON THE BURNER HEAD, THE BURNER HEAD MUST BE REMOVED AND DRIED IN AN OVEN, HAIR DRYER OR IN THE SUN SO THE MOISTURE WILL EVAPORATE FROM THE CERAMIC BURNER HEAD. THE BURNER HEAD WILL CRACK WHEN FIRED-UP BECAUSE OF THIS MOISTURE. THERE IS NO PROBLEM WITH CRACKING DURING THE COOKING PROCESS WHEN THE BURNER IS ON 10 MINUTES OR MORE.

- Clean any grease or food product build-up on control knobs.
- Clean any grease or food product build up on the front, back and sides of the cabinet.
- Grease build-up near flame is a fire hazard.
- The bottom DRIP PAN must be removed and washed.

### Weekly Procedures

The Burner Cover Shield should be wire brushed, then washed in a heavy duty solution once a week. They must be **completely dry** before placing back into broiler. Do not hit or drop this item on to the ceramic burner head.

The removable Heat Shield should be wire brushed, then washed in a heavy duty solution once a week. The Heat Shield must be **completely dry** before placing back into broiler. Do not hit or drop this item on to the ceramic burner head.

The removable Back Splash/Grid Rest should be wire brushed, then washed in a heavy duty solution once a week. The heat shield must be **completely dry** before placing back into broiler. Do not hit or drop this item on to the ceramic burner head.

**WARNING:** MEAT JUICES AND ACIDS, MARINADES AND GREASE WILL EAT ANY CHARBROILER UP. THE ABOVE WEEKLY WASH WILL MAINTAIN YOUR BROILER FOR A LONG PERIOD OF TIME. PLEASE FOLLOW THIS HIGHLY RECOMMENDED SCHEDULE.

### Monthly Procedures

- Review operating and cleaning procedures using this guide.
- Inspect the Ceramic Infra-red Burner Head for any cracks. Shut off the gas and vacuum the burner head for fine powder debris that has made it's way into the 30,000 ports. Cleaning these ports will increase the burners efficiency, increase cooking power and increase it's life.
- Check the four screw placements that hold the burner head onto the burner mixing box to insure a secure fit.
- Soaking the Burner Cover Shields, Back Splash/Grid rest and Heat Shield with oven cleaner and letting these soak for a few minutes will remove the hard carbon deposits. Be sure to wash in a heavy-duty soapy solution and completely drying the above items by placing back on broiler.

### Yearly Procedures

Have broiler completely checked, calibrated, tested, cleaned, etc. by qualified service personnel. High production facilities should be checked more often.