



**SWEETHOME PELLET GRILLS
MODEL SH450 & SH650
BARBECUE/SMOKER
ASSEMBLY AND OPERATING INSTRUCTIONS**



MODEL SH450SS



SH450 READY TO COOK

FOR YOUR SAFETY

- ★ Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.
- ★ Use only 1/4" wood pellets approved for use for cooking. Use of other fuel may cause an unsafe condition. Read operating manual for further information.

FOR YOUR SAFETY

- ★ This grill must be plugged into a grounded three prong 120vac receptacle.
- ★ Do not operate in high moisture area.

WARNING: Do not try to light this appliance without reading "Operating" instructions section of this manual.

This wood pellet appliance is designed for outdoor use only.

NOTICE TO ASSEMBLER: These instructions must be left with the owner and the owner should keep them for future use.

WARNING: Do not use contaminated wood pellets or pellets that have been exposed to moisture. Pellets exposed to moisture will feed improperly and cause feed system jams.

CALIFORNIA PROPOSITION 65 WARNING: This product contains chemicals known to the State of California to cause cancer and/or birth defects or other reproductive harm. For more information: www.sierraproductsinc.net/pages/pdf/CAProp65.pdf



GENERAL INFORMATION AND FEATURES

Thank you for purchasing the SweetHome Outdoor Pellet Grill from Sierra Products, Inc. Our goal is to manufacture quality outdoor cooking products that provide years of service and satisfaction.

Standard Features Include:

- a) Auto igniter system.
- b) Digital Temperature Control that constantly adjusts pellet feed for proper temperature.
- c) Low fuel warning system.
- d) Stainless steel construction of cooking grid, grease drip tray, and hood and shelf if equipped.
- e) Tall hood clearance for large food items.
- f) Large 21 lbs pellet fuel hopper for long burn times.
- g) Powder coat paint chassis and components.
- h) Heavy Duty wheels and casters.

SweetHome outdoor cooking can be an exciting experience. You can smoke, barbecue, roast, and bake with results that are tough to duplicate with indoor appliances. With the hood closed the *SweetHome* system will produce that "wood grill" flavor in food.

The *SweetHome* chassis is factory assembled requiring only leg assembly. With some fore-thought and planning the *SweetHome* can be assembled and operating with minimum effort.

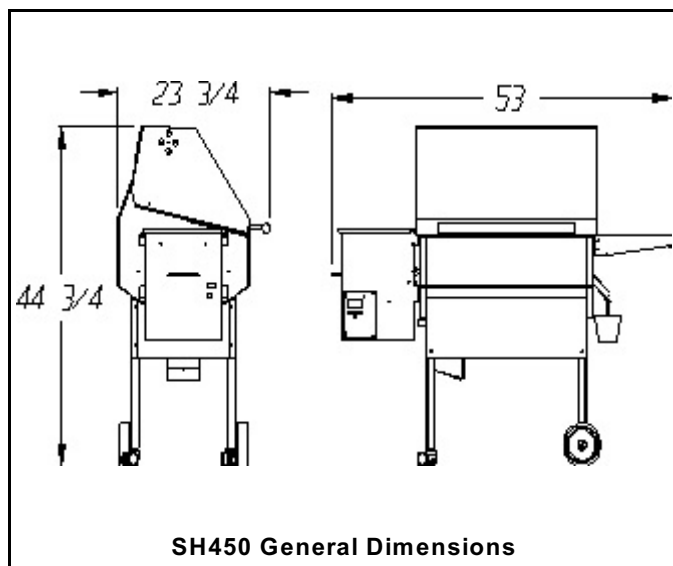
Remember when selecting a location for your grill operating and convenience is the key to outdoor cooking. Try to find a location that allows for easy access in both food preparation and service. *The grill will become hot during operation, high traffic areas should be avoided.* An additional consideration is maintenance and service. Always allow room for cleaning and annual service.

If your location includes an area close to a structure consideration to clearances from combustible materials and overhead areas is very important. Follow the information included in this manual for proper assembly and operation. Use of the *SweetHome* should follow the clearance from combustible materials for both side, back, and over head.

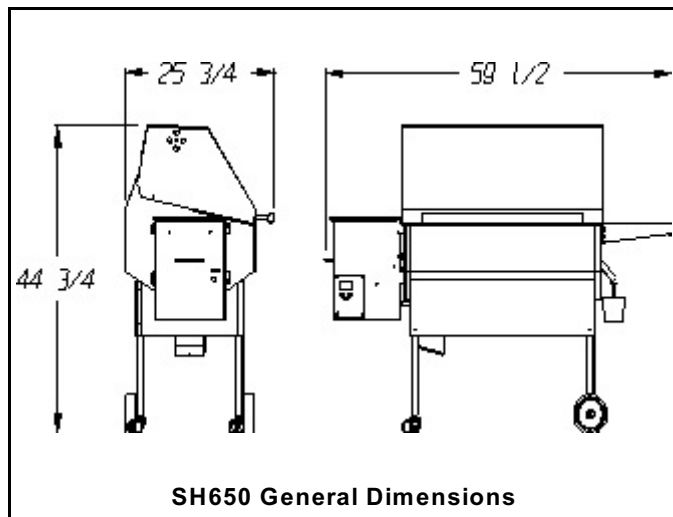
Minimum clearance to combustible surfaces:

**Front, Rear, Sides - 12"
Top - 24" (Do not operate in enclosed alcove)**

Your *SweetHome* is constructed from carbon steel and powder coat painted. We strongly suggest covering your grill when not in use. Covers are available from your dealer ask for P/N 11219 or 11220; for the SH450 or SH650. This will help minimize the effects of weather and general wear and tear.



SH450 General Dimensions



SH650 General Dimensions

GENERAL INSTRUCTIONS

The following instructions will give you the minimum requirements for safely assembling and operating your *SweetHome* pellet grill. Please read this manual and instructions carefully before attempting to install or operate this appliance.

- ★ **This appliance is not for indoor use.**
- ★ **This appliance is not for use by children.**
- ★ **Operation must conform to local codes.**
- ★ **Never operate with any fuel other than 1/4 inch wood pellets approved for cooking fuel.**
- ★ **Do not use charcoal in this appliance.**
- ★ **Do not use the grill in high moisture areas.**

STORAGE

- ★ Remove fuel from hopper when grill is not in use.
- ★ Cover the grill and store in low moisture area or covered storage.
- ★ At end of season remove ash from base, burn tray, and fan housing.
- ★ Clean grease tray and drip container

OPERATING AREA

WARNING: Only use this wood pellet barbecue outdoors in a well-ventilated area. Do not use in a garage, building, breeze way or any other enclosed area.

- ★ Never leave your SweetHome barbecue under an unprotected combustible roof or overhang.
- ★ Your SweetHome is not intended for installation in or on a recreational vehicle or boat.
- ★ Do not use combustible materials within 16" of the top and back or 14 inches from the side of this appliance.
- ★ The entire cooking box and hood get hot when in use. Do not leave unattended.
- ★ Keep electrical supply cord and the fuel supply hose away from any heated surface.
- ★ Keep cooking area clear of flammable vapors and liquids, such as gasoline, alcohol, etc., and combustible materials.

WARNINGS

DANGER

Failure to follow the Dangers, Warnings, and Cautions contained in this manual may result in serious bodily injury or death, or a fire or an explosion causing damage to property.

- ★ Do not store flammable liquids or vapors under or near this barbecue.
- ★ After a period of storage, and/or non-use, the SweetHome Barbecue should be checked for pellet jams or obstructions before using. See instructions in this manual for correct procedure.
- ★ Combustible materials should never be within 12 inches front, back, sides, and bottom or within 24 inches above top of your SweetHome Barbecue.
- ★ Never allow children to use your SweetHome Barbecue.
- ★ When operating your SweetHome Barbecue never leave it unattended.
- ★ Should the fire go out during operation, turn main switch control "OFF." Open the lid and wait five minutes before attempting to relight using the lighting instructions.
- ★ Never lean over open grill or place hands or fingers on front edges of the barbecue.

- ★ Your SweetHome barbecue should be cleaned regularly for proper operation.
- ★ The use of improper fuel is dangerous and will void your warranty.
- ★ If a grease fire starts inside grill immediately open lid and turn main power switch "OFF" to stop all fuel feed.

GRILL ASSEMBLY

Your SweetHome grill head and major components are factory assembled for your convenience. However, there are a few steps that will have to be accomplished before starting your assembly.

Included with Grill Assembly:

Description	Qty.
Stainless Cooking Grids	2
Stainless Grease Drip Pan	1
Flame Baffle	1
Pellet Burn tray	1
Grease bucket	1
Stainless Handle with stand offs, screws, & washers	1
Leg with casters & screw/nut package	2
Leg with axles, wheels, push caps & screw/nut package	2
Hopper handle with screw/nut package	1
Assembly and Operating Manual	1
SweetHome Cook Book	1

- 1) Remove the packing materials and (2) phillips screws at the lower base used to attach crate.
- 2) Carefully lift the grill chassis from the crate. Remove the plastic shipping bag.
- 3) Remove the stainless drip tray, cooking grids, flame baffle, and legs from the inside of the grill head.
- 4) Remove all four legs from bag and assemble caster legs to hopper side base using (6) 1/4-20 phillips screws and nuts.



Figure 2 - Leg Assembly

- 5) Assemble wheels on legs with welded axles using the ½" push caps (**Figure 2**).
- 6) Assemble legs to grill base using (6) 1/4-20 phillips screws and nuts (**Figure 3**).
- 7) Carefully stand grill on legs.

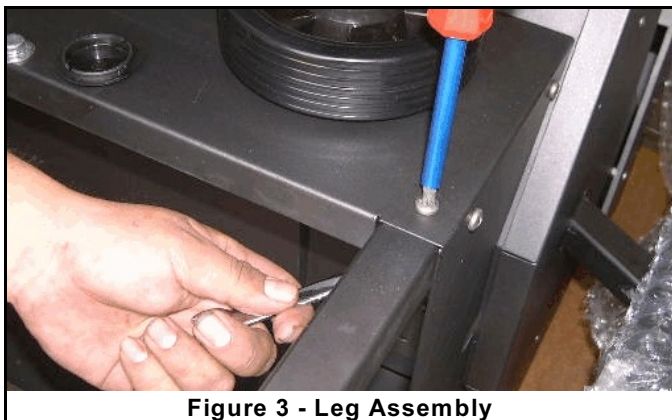


Figure 3 - Leg Assembly

Now that your SweetHome Grill is properly standing there are only a few short steps necessary to complete your grill assembly.

HOOD HANDLE ASSEMBLY

The handle assembly attaches to the hood via two punched holes in the front lower section (**Figure 4**).

- 1) Remove handle, spacers, and screws from plastic bag.
- 2) Open hood and place a 10-24 screw with flat washer through the hole and slide the stand off spacer over the screw.
- 3) Holding the handle square to the hood start the screw into the threaded insert on the handle with out tightening.
- 4) Install the other screw and spacer as noted above. Tighten both screws while squaring handle to hood.

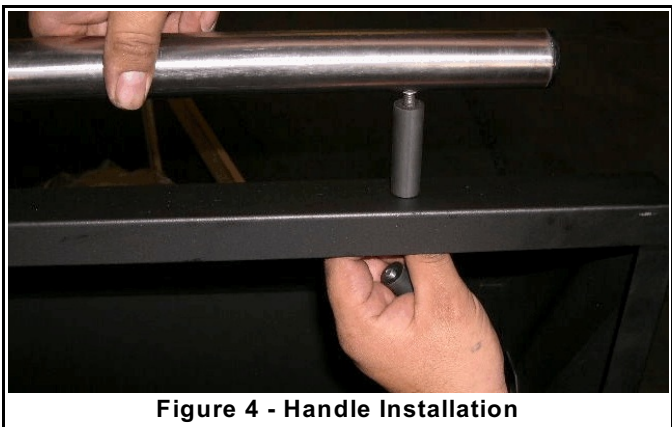


Figure 4 - Handle Installation

CAUTION: PROPER ASSEMBLY POSITION OF THE FLAME BAFFLE IS CRITICAL SAFE OPERATION. INCORRECT POSITIONING MAY RESULT IN OVER TEMPERATURE IN THE HOPPER AREA.

BURN TRAY AND FLAME BAFFLE ASSEMBLY

The burn tray and flame baffle are the engine of your pellet grill. Proper assembly is critical for safe operation. The burn tray slides into the holder with the slot towards the igniter tube (**Figure 5**). Make sure the flange is under the feed tube heat shield. Place the flame baffle with the notch in front of the burn tray.

- 1) Remove burn tray from plastic bag. Note slot in bottom as position for igniter tube.

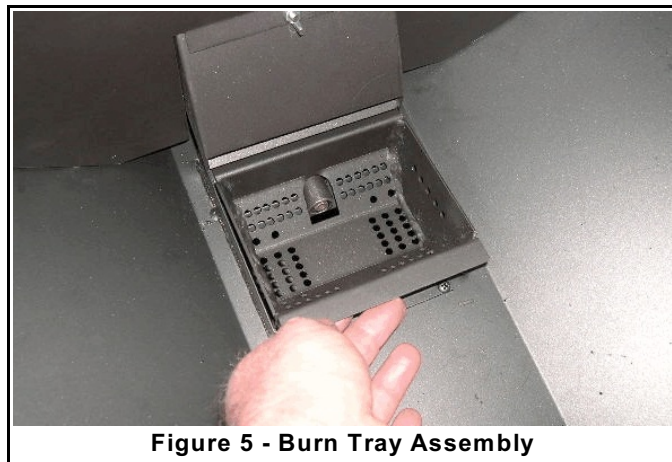


Figure 5 - Burn Tray Assembly

- 2) Slide burn tray into tray hold with front flange below heat shield.
- 3) Locate flame baffle forward of burn tray with notch facing toward bottom of housing (**Figure 6**).

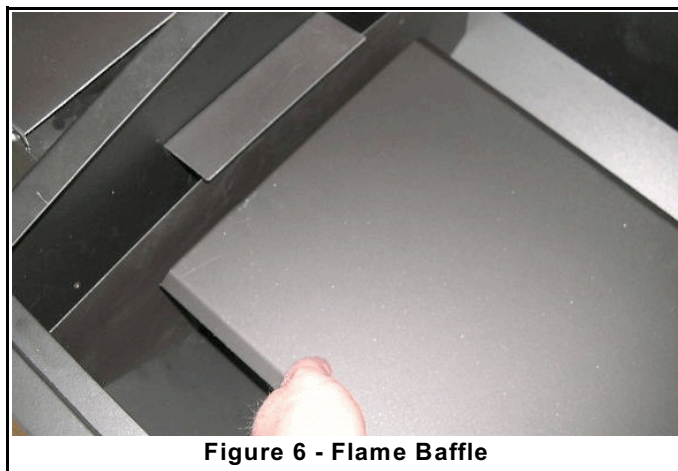


Figure 6 - Flame Baffle

GREASE TRAY AND DRIP BUCKET

The grease tray system includes the tray, drain, and bucket. This allows for safe removal of food dripping during the cooking process. The tray catches the grease and directs it towards the right side and into the drain tray. Once in the drain it is directed outside of the grill and into the bucket which hangs on a hook.

- 1) Remove the grease drain from the plastic cover. Place the hook end through the right side opening, hook pointing up. Attach drain with (2) #8 screws through the base frame (**Figure 6 & 7**).
- 2) Remove plastic cover over grease tray. Place tray into grill base with the rear edge into the grease drain tray.



Figure 6 - Drain

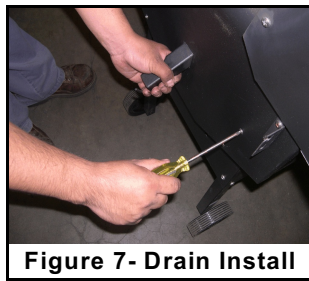


Figure 7 - Drain Install

- 3) Carefully allow the tray to rotate down to the left clearing the temperature sensor through the notch on rear of tray (**Figure 8**).



Figure 8 - Grease Tray Placement

- 4) Remove bucket from plastic bag and position by hanging handle on drain hook (**Figure 9**).



Figure 9 - Grease Bucket Placement

FINAL ASSEMBLY & COOKING GRIDS

After assembly of the grease drip tray the temperature sensors should be visible on the left side rear of the grill. The tray should always be under the sensor for proper grill operation (**Figure 10**).

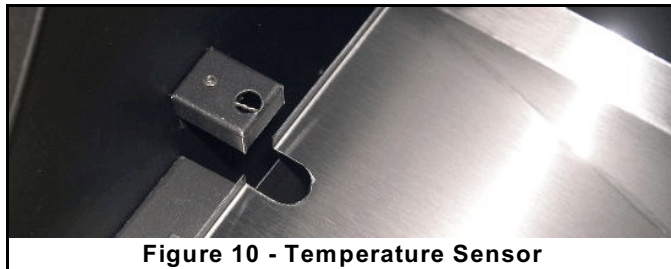


Figure 10 - Temperature Sensor

Remove cooking grids from plastic bag and place as shown (**Figure 11**).

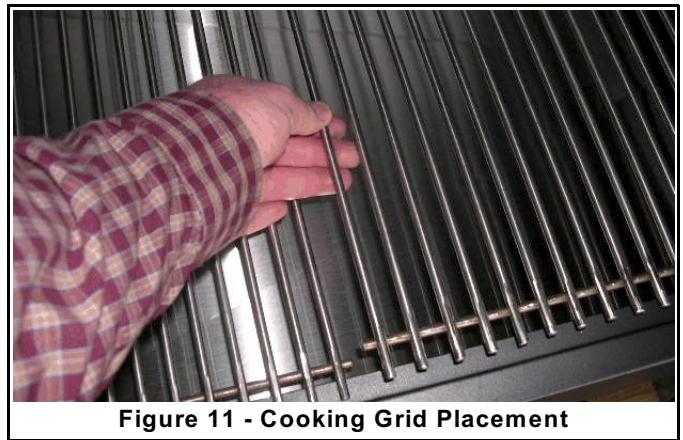


Figure 11 - Cooking Grid Placement

SIDE SHELF ASSEMBLY

1. Remove white protective plastic coating from stainless parts by peeling from part edge.

Caution: Care should be taken when handling sheet metal parts as some edges may be sharp

2. Loosely install side shelf brackets with eight 1/4" phillips screws. Position brackets on side of cart with attach angles inward and open slot upward (**Figure 12**).



Figure 12 - Right Side Shelf Bracket

3. Insert side shelf pivot pins into bracket slots. Tighten 1/4" phillips screws securing brackets. Side shelves should rotate up into slots and lock by pushing "down" into notches (**Figure 13**).



Figure 13 - Side Shelf

CAUTION: ELECTRICAL WARNING

If your grill incorporates electrical components, they must be installed and electrically grounded in accordance with local codes or in the absence of local codes or , in the absence of local codes, with the National Electrical Code, ANSI/NFPA No.70 or Canadian Electric Code, CSA C22.1.

The electric cord is equipped with a three-prong 120v plug, and must be used with a grounded outlet. If it is not designed for a three-wire plug, you must obtain an adapter and properly ground it before using the rotisserie.

KEEP ANY ELECTRICAL SUPPLY CORD AWAY FROM ANY HEATED SURFACE.

FIRST RUN AND SEASONING OF YOUR GRILL

Operating your grill for the first time or “seasoning” allows the metal parts to heat up and the paint to season. The grill will have additional smoke and have that “new” smell burn away in about 30 minutes of operation. After the grill has operated you should allow it to cool completely prior to cooking. This will minimize any smells with you prepare your first meal.

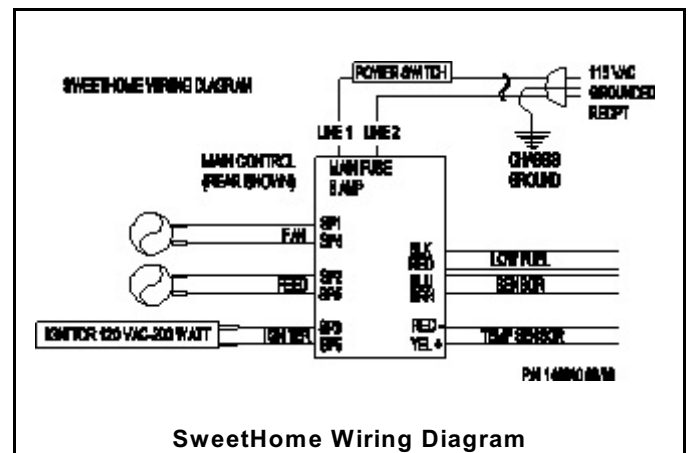
- 1) Remove the hopper lid and confirm there is no packing or paper in the auger area.
- 2) Plug the grill into a grounded three prong 120VAC receptacle.
- 3) Turn main power switch “ON”. You will hear the “Low Fuel Warning” beep beep sound noting the hopper is empty.
- 4) Add 5 pounds of fuel (about a coffee can) to the hopper (**Figure 14**).
- 5) Locate the main power switch on the back for the hopper and turn the main power switch “ON”.
- 6) The LED temperature indicator will display the current grill temperature and the Green LED light will began to flash when the grill is ready to operate.
- 7) Follow the “LIGHTING” instructions on the following pages.
- 8) Once the burner is operating, allow the grill to run to the preselected 325 degrees. Once is reaches 325 the grill will “beep” three times. Using the UP button increase the temperature to 425. Continue the grill operation for 30 minutes.
- 9) At the end of the thirty minute period press the Start/Stop button for 2 seconds and the grill will begin Auto Shut Down by stopping the feed and increasing the fan. Allow the grill to run until the display indicates “OFF”.



Figure 14 - Hopper with wood cook pellets



Empty hopper, auger clean out, and low fuel sensor



SweetHome Wiring Diagram

OPERATING THE SWEETHOME GRILL CONTROLLER



Your SweetHome Grill has a digital temperature controller that provides automatic start, run, cool, and shutdown functions. The following is a summary:

Main Switch - 120 volt AC Off/On power switch.

Display - Displays status "Off, CoL (Cool Down) or grill target temperature displayed 325° "Target Temperature" (Ttemp),.

Push Buttons - Start/Stop, Down & Up temperature display.

Red LED - Red light indicating a temperature fault.

Green LED - Green light indicating Run Status.

General Operation

All functions of your SweetHome grill have been automated. Control operation can be divided into four categories - Start Up, Run, Cool Down, and Fault. A brief description of these function will help in understanding grill operation.

Start - By pushing the start button the hot rod igniter is energized, pellets begin to feed into burn tray, and the fan starts.

Run - When the grill temperature has increased to meet the "Target Temperature" (Ttemp) a Green LED continuous light will be displayed.

Trend Dots - Dots run forward and backward along the bottom of the display indicating whether the grill is temperature is increasing or decreasing. Flashing DOTs solid when capture temperature.

Cool Down - When the grill) a Green LED continuous light will be displayed.

Fault - Flashing Red LED light followed by grill shut down. Safety shut off for high temperature or low temperature start.

LED Light Operation

Along with the basic operation the LED lights and audio beep sounds provide additional current operation information. A summary of these indications follow:

Off - Green LED, brief blink every two seconds.

Start 1 - Green LED, on with a one quick off.

Start 2 - Green LED, on with double blink.

Run - Green LED, continuous on.

Temperature Change - Green LED, double blink.

Off - Green LED, Slow blink to Cool - CoL.

High Temperature - Red Light.

Audio Beeps

In addition to the displayed information the control provides audio beeps to alert you to certain operations.

Continuous beep - Low fuel.

Three beeps - Reach target temperature.

Single beep - Reach changed target temperature.

OPERATING INSTRUCTIONS

LIGHTING

WARNING

Use only 1/4" wood pellets that have been approved for cooking use. Use of other fuel may cause an unsafe condition.

Do not use contaminated wood pellets that have been exposed to moisture. Pellets exposed to moisture will feed improperly and cause feed system jams.

For your safety: This grill must be plugged into a grounded three prong 120VAC receptacle. Do not operate in a high moisture area.

- 1) Open the hopper lid.
- 2) Check pellet fuel level and add 1/4" wood cooking pellets to within a 1/2 inch of the top. Close hopper lid.
- 3) Open the grill lid and confirm the burn tray and flame baffle are properly assembled. Dump ash from tray if required (*Check assembly page 4*). Close lid.
- 4) Check to make sure the main power switch is in the "OFF" position.
- 5) Turn power switch "ON". Wait 10 seconds and the factory 325 temperature will be displayed. A slow "flashing" green light indicates the grill is ready to start.
- 6) Press the center button for a 2 count and the pellet feed will begin with a 1 count green flash "Start 1" light indication.
- 7) Open right hand vent in upper portion of hood to allow air for start up.

IMPORTANT: The ignition and warm up cycle of the grill requires up to 15 minutes. You will smell the wood burning and then note smoke from the vents. This is normal and the grill will complete the start up cycle by a three "beep" signal and a Solid Green LED Light. If the grill does not light as described start the process again from Step 1. If additional fuel is in the burn tray remove it and check for blocked air flow holes.

WARNING: If after two lighting attempts the grill is not operating go to the Trouble Shooting Guide in this manual for further assistance.

Control LED Lights Green/Red: To assist in identifying current grill operation use the following:

Display - 325 and slow Green Flash - Ready to start.

Display - 325 and single blink Green Flash - Start 1.

Display - 325 and double blinking Green Flash - Start II.

Display - Temperature, solid Green - Ready to cook.

★ Changing Temperature will start Green Flash until new temperature target is reached.

HELPFUL: You may set an alternate target temperature during the start up cycle by pushing the Up or Down control buttons. Holding the button will allow scrolling at 5 degree increments. Once the new target temperature is reached the control will beep three times.

TO EXTINGUISH

- 1) Push the center button and hold for a 2 count. The "Cool Down Cycle" will start "CoL" slow blink Green and end in an "OFF" indication.
- 2) Turn the main power switch "Off".

STORAGE WITH A GRILL COVER IS THE BEST WAY TO PROTECT YOUR GRILL INVESTMENT!

COOKING WITH OUR SWEETHOME GRILL

Your new SweetHome grill is designed to perform as a wood fired convection oven. Wood cooking pellets provide the heat and bring out the flavor in all foods. Your grill includes the SweetHome Cook Book with dozens of interesting dishes and meals. We suggest to get start with the basics and add to your chef skills as you go!

Smoking: Control Range 150° to 195°

Your SweetHome Grill operates in this heat range by adding wood pellets in just the right amount to flame and smoke over a long period of time. Figure your time on smoking as hours not as minutes. When starting your grill select a temperature of 185°. The grill will warm up and then drop to operating temperature and begin in "Smoke" operation in about 30 minutes and remember large thick portions do not smoke well. Place your cook items in the center of the grill closing the lid. Check on your progress hourly as each time you open the hood you allow the grill to cool.

Cooking Tip! Because of limitations in burning wood cooking pellets some flavor do not maintain adequate burning at low smoke temperatures. Experience is the best teacher here so use a pellet that burns well for smoking. When smoking open right side vent.

Barbecuing: Control Range 200° to 275°

This is the "Sweet" spot when pellet grilling really shines... Try 235 to 265 depending on the type and size of food items. Figure medium cook times of 3/4 hour for small items to as long as 3 hours for larger. This again has many variables so experience counts. Most pro's like the fork method of testing when checking food items. If it's meat, push the fork in and turn 90 and pull it out it's done.....

Cooking Tip! The control range can be changed at any time once the grill is in full operation. However if you want to change from say 450° to 250° opening the hood for 5 minutes will speed the process.

Roasting: Control Range 275° to 375°

Good range for larger cuts and when your planning for a short cooking time. This ranges allows for nice flavoring and light browning. Adjust vents ½ open.

Cooking Tip! Temperatures on the far right of the grill are slightly cooler allowing you to rotate the food items to a cooler area.

Baking and Grill: Control Range 375° to 500°

Baking and grilling temperatures allows you to expand the way outdoor cooked foods are prepared. Cooking vegetables, baked potatoes, and a number of main courses at one time is possible. The key to accomplishing this is timing. Things like potatoes require 30 minutes middle temperatures while fish fillets or lobster requiring 10 minutes or less. Remember your SweetHome Grill operating at high temperatures with the hood closed with quickly cook all food items. Watch your grill closing and make sure you don't over cook or cause an unsafe situation. Open vents ½ to 3/4.

Cooking Tip!

Consider outdoor conditions when cooking as cold temperatures will use more fuel than a warm temperature. Have plenty of SweetHome Wood Pellet Cooking fuel available when you start.

For further information on cooking time and temperatures, and interesting food to prepare refer to the SweetHome Cook Book supplied with your grill.

TROUBLE SHOOTING

Problem - Grill does not operate.

Condition - No control function or lights when cord is plugged into socket.

Solution - Check power outlet for 120VAC. Make sure main power switch located on back of hopper is "ON". Check main fuse on control board by unplugging unit. Remove (4) control cover screws. Fuse is on rear of control board. Replace with a 5 amp only.

Problem - Grill will not light.

Conditions - No fuel in hopper. Jamb fuel in feed system. Burn tray filled with ash deposit. Igniter damaged.

Solution - Check for fuel in hopper. Remove cooking grids, grease drip tray, and flame baffle. Check for fuel in tray. If no fuel in tray, check hopper and feed for pellet jamb. Remove (4) 3/8 nuts from feed auger cover and remove saw dust and pellet jams. Reassemble and start unit without fuel to confirm feed is turning.

Problem - Grill starts slowly and does not make temperature.

Conditions - Feed not primed before start up. Fuel not of proper type. Very cold outside temperature when starting.

Solution - When hopper is run out of fuel, start and stop grill after the start cycle two times to prime the auger. When start button is pressed you should hear pellets immediately start falling into tray. If fuel is low grade and does not burn properly the amount of heat generated will not be adequate for proper operation. Use SweetHome

fuel. In very cold weather, start and stop the control in mid-prime and start again to increase start up fuel.

WARNING: Service and repair should only be accomplished by a appliance technician or service company.

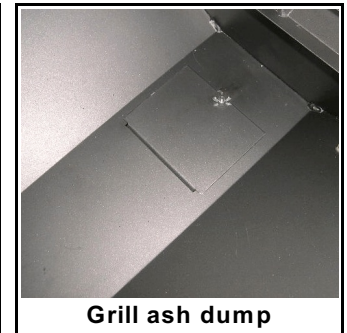
Problem - Low heat output.

Solution - Confirm grill has reached "Run Mode" by noting the solid Green LED. If Green LED is flashing then control is searching for next target temperature. Set target with 50 degrees of current temperature and confirm Green LED stops flashing.

MAINTENANCE

Cleaning and maintenance should be performed at least annually or more depending on use. The following check list will help:

- 1) Remove grids and grease tray. Remove all loose materials from grids and tray and clean with oven cleaner if necessary.
- 2) Remove flame baffle and burn tray. Brush all loose materials. Remove ash dump cover in bottom right of grill. Brush ash into container for later disposal. Re-install parts per assembly directions.
- 3) Remove ash dump cover on lower fan box under grill. Remove all loose material. Re-install cover.
- 4) Remove pellets from hopper and vacuum all saw dust.

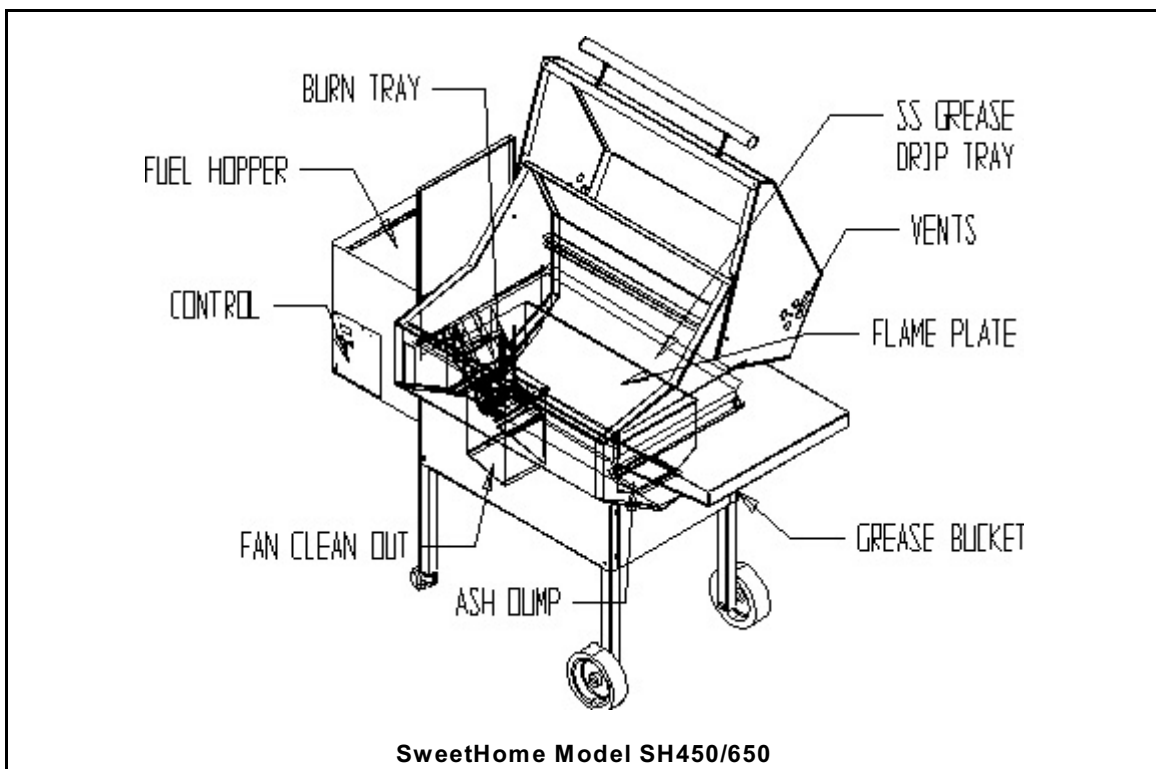


General cleaning of painted surfaces may be accomplished by using a mild household cleaning solution and warm water. The exterior may be cleaned using the same method. Badly soiled stainless steel areas can be clean using a "scotch brite" pad. Always scrub in same direction of material finish.

To keep your grill in new condition store away from direct sun and away from high moisture areas. Pool and lawn chemicals can cause rust and corrosion. Keeping the grill away from these harsh environments minimize wear.

With proper care your *SweetHome* grill will give you years of trouble free service. If you have any questions regarding this product please contact - Customer Service, Sierra Products, Inc., 5061 Brooks St. Ste B Montclair, CA 91763 or www.sierraproductsinc.net

For warranty qualification and coverage information, see enclosed limited warranty P/N 140838.



Item	Qty	Description	P/N	Item	Qty	Description	P/N
1a	1	Hood Assembly - SH450P	300555	17	1	Burn Tray	300563
1b	1	Hood Assembly - SH450SS	300556	18	1	Shoot Heat Shield Upper/Lwr	300564
1c	1	Hood Assembly - SH650SS	110557	19	1	Left Side Heat Shield	202387
2	2	Handle Spacers	110217	20a	1	Flame Baffle SH450	202347
3a	1	Handle - SH450 w/End Caps	202354	20b	1	Flame Baffle SH650	202402
3b	1	Handle - SH650 w/End Caps	202380	21	1	Temperature Sensor Assy.	120145
4a	1	Hopper Lid-Painted	202379P	22	2	Vent Assy w/pin and spring	300497
4b	1	Hopper Lid-SS	202379SS	23a	1	Grease Drip Tray SH450	202347
5	1	Hopper Box	300558	23b	1	Grease Drip Tray SH650	202406
6	1	Main power switch	110560	24a	2	SS Cooking Grid SH450	202369
7	1	Power cord	110041	24b	2	SS Cooking Grid SH650	202401
8	1	Feed Motor	110555	25a	1	Chassis Base Assy SH450	300560
9	1	Auger Assembly w/motor mnt	300559	25b	1	Chassis Base Assy SH650	300561
10	1	Igniter	120142	26	2	Left Leg	300554
11	1	Igniter Blast Tube	202358	27	2	Right Leg	300565
12	1	Low Pellet Sensor	202009	28	2	Castor Wheel	110184
13	1	Controller	120143	29	2	Main Wheel w/cap & retainer	110173
14	1	Controller mounting plate	170132	30a	1	Shelf w/mnts,screws,SH450P	300566
15a	1	Chassis - SH450	300561	30b	1	Shelf w/mnts,screws,SH450S	300567
15b	1	Chassis - SH650	300562	30c	1	Shelf w/mnts,screws,SH650S	300568
16	1	Fan Housing w/clean out plt	300563	31	1	Instruction Manual Pack	110220