

Service Manual

Automatic Rice Cooker

Model : SR-G10S/SR-G18S

Panasonic

SIN-RBD



Specifications

Detail		Model	SR-G10S	SR-G18S
Power Source			AC 220V 50 Herz	
Power Consumed	Cook		450W	650 W
	Warm		43.7W	45W
Cooking Capacity			0.18 ~ 1.0 L	0.54~ 1.8 L
Center thermostat working temperature			134 °C ± 6 °C	
Keep warm temperature			More than or equal to 80 °C (After 1 Hr. Keep Warm)	
Thermal fuse specification			110 °C 250 V 10 A	
Dimension				
Width x Length x Height			282x229x234	325x283x251
Weight			1.7 kg	2.3 kg
Power Cord Length			Approx 1.0 m	
Accessories			Measuring Cup , Steaming Basket	

:These specification subject to change without notice.

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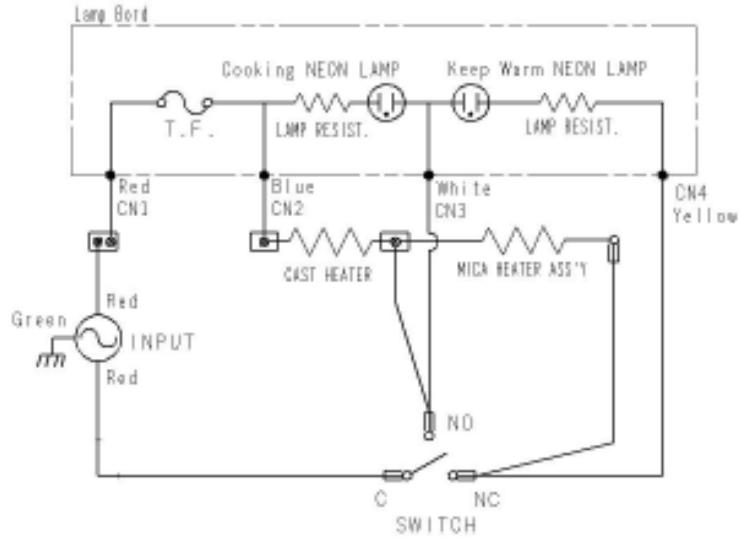
Warning

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products death within this service information by anyone else could result in serious injury or death.

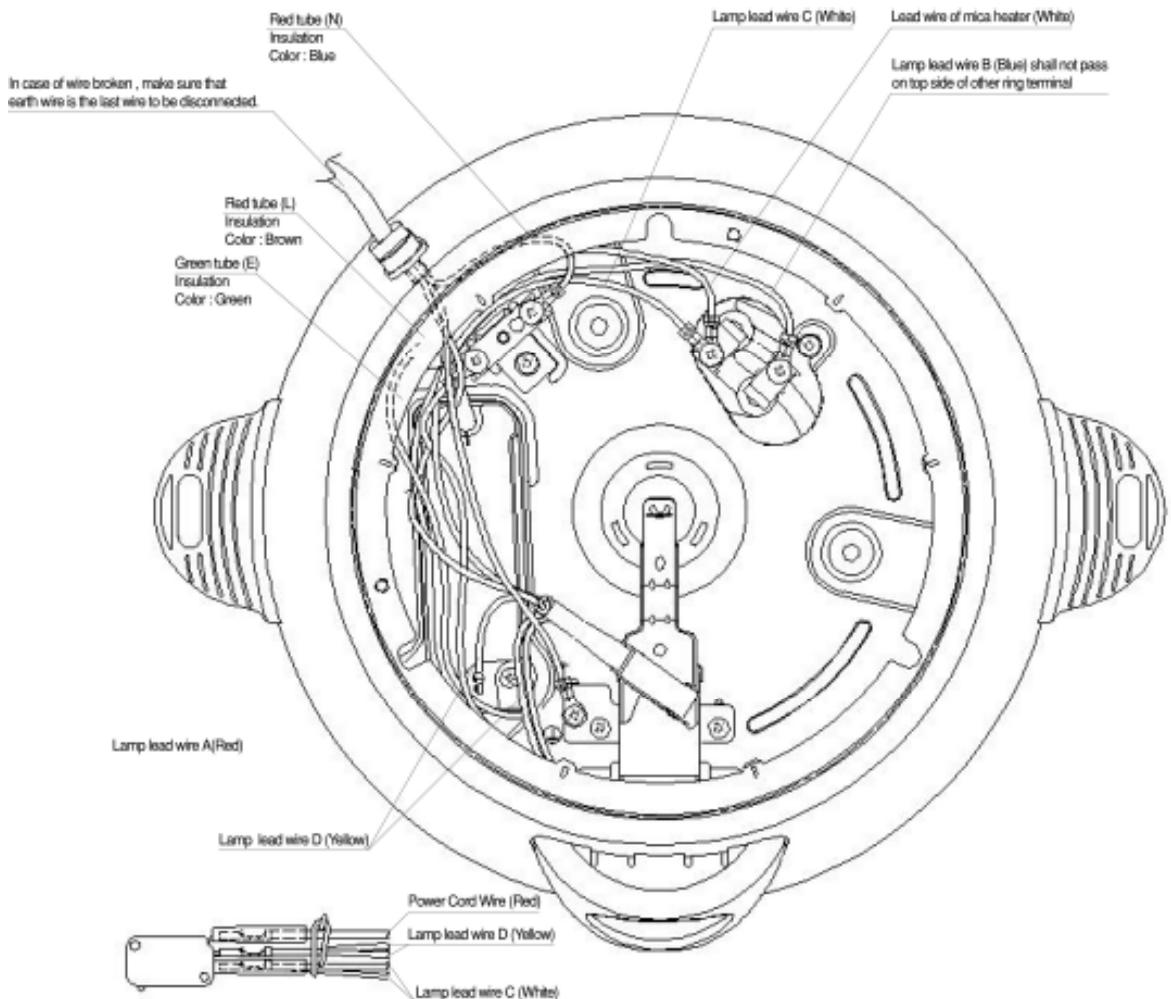
IMPORTANT SAFETY NOTICE

There are special components used in this equipment which are important for safety. These parts are marked  in the Schematic Diagram, Circuit Board Diagram, Exploded Views and Replacement Parts List. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire or other hazards. Do not modify the original design without permission of manufacturer.

Circuit Diagram



Wiring Diagram

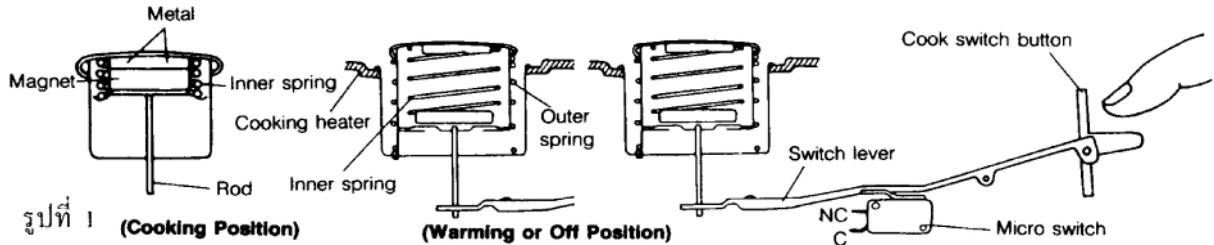


FUNCTION OF CENTER THERMOSTAT , THERMAL FUSE

A. Center Thermostat

The center thermostat senses when the bottom of the rice cooker pan reach $134^{\circ}\text{C} \pm 6^{\circ}\text{C}$. And it's action turns off the cooking cycle, and starts the warming cycle.

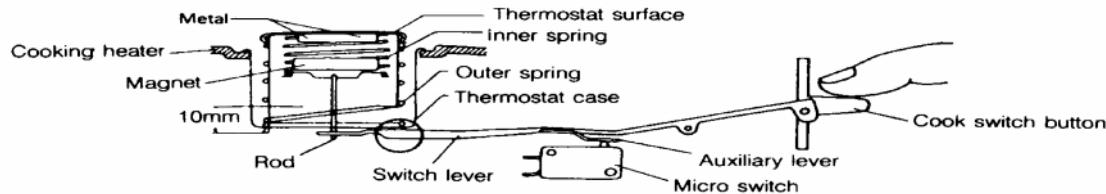
Center thermostat construction



Refer to these figures showing the center thermostat construction and cooking position. As the metal is heated, its ability to be attracted by the magnet decreases.

Finally , the inner spring pressure becomes stronger than the magnetic pull and the metal and magnet will pop apart. The rod activates the switch lever which causes the auxiliary lever to press the micro-switch button into the warming cycle.

B. Switch-On Preventive System



This is design to prevent the rice cooker from being turned on without the pan placed into position.

1) Normally when the pan is inserted properly into the rice cooker , the pan will depress the center thermostat. The center thermostat outer spring will be compressed. In this case when the switch button is depressed , the following will happen :

- a. The auxiliary lever will release the micro-switch button. This puts the micro-switch in the cook position.
- b. The switch lever will push the rod which will allow the magnet to meet with the metal.
- c. When the rice is cooked and the proper temperature has been reached $134^{\circ}\text{C} \pm 6^{\circ}\text{C}$, the metal and magnet will pop apart as described in the center thermostat operation above.
- d. The rod will push the switch lever and cause the auxiliary lever to depress the micro-switch button. This puts the micro-switch in the warming position.

2) When the pan is not in place within the rice cooker , the center thermostat is not depressed.

- a. In this condition , the outer spring is not compressed within the center thermostat preventing the metal from reaching its normal operating position.
- b. When the switch button is depressed , the switch lever and auxiliary lever work as above but the magnet cannot come in contact with the metal to hold the switch lever in the cook position. This happens because the switch lever hits the thermostat case and cannot push the rod , with the magnet attached , all they way up to meet with the metal
- c. When the pressure is taken off the switch button , the switch lever releases immediately to the open or warm positions.

C. Thermal Fuse

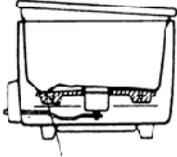
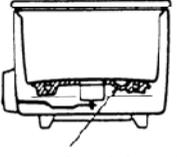
The thermal fuse is used to open the circuit to the cooking heater when the temperature has gone unusually high. This happens in cases such as incomplete contact between the heater and pan or if the switch button is forced to stay on keeping the heater energized abnormally.

This fuse is not a resetting device and must be replaced after opening.

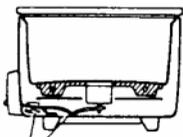
Whenever replacing the fuse make sure the protective cover is placed over all exposed wiring.

Cause of Fusion

A. Improper contact between heater and pan

Cause	 <p>Foreign matter adhering</p>	 <p>Pan collar or deformed Body dented or deformed</p>	 <p>Pan bottom dented or deformed</p>	 <p>Heater surface deformed or corroded</p>
Remedy	Remove foreign matter by of (-) screw-driver, ect., and then polish with = 320 water paper while wetting it with water	Repair or replace body	Replace pan.	Replace cooking heater.

B. Forced application of current

Cause	 <p>Chopstick, wooden piece, ect. inserted onto cooking button. (continuous application of current)</p>	 <p>Switch lever deformed or maladjusted, causing continuous application of current.</p>
Remedy	Inserted to prevent earlier turning off ? Refer to cause in (a) above.	Repair or replace parts.

When fusion takes place , check the cause , set right the faulty section , and be sure to use replacement parts.

TROUBLESHOOTING GUIDE

When receiving the cooker to be repaired, be sure to always take charge of not only the cooker body but also the pan and the lid, and ask for details as to the symptom of the trouble.

Furthermore, when making troubleshooting of each part, be sure to remove the power plug from the socket.

Symptom	Diagnosis	Remedy
<p>Cooking function</p> <ul style="list-style-type: none"> ● Cooking fails (Cooking lamp is not shown) 	<p>No continuity of cord ? Yes →</p> <p style="text-align:center">↓ No</p> <p>No continuity of thermal fuse ? Yes →</p> <p style="text-align:center">↓ No</p> <p>No continuity of micro switch ? Yes →</p> <p style="text-align:center">↓ No</p> <p>Center thermostat is broken ? (Checked evaporation test) Yes →</p> <p style="text-align:center">↓ No</p> <p>Switch lever properly adjust ? No →</p>	<ul style="list-style-type: none"> ● Replace AC cord. ● Locate cause for fusing and replace fuse. ● Replace Frame assembly ● Replace center thermostat ● Adjust Switch lever
<ul style="list-style-type: none"> ● Cooking fails (Cooking lamp is shown) 	<p>No continuity of sheathed heater ? Yes →</p>	<ul style="list-style-type: none"> ● Replace sheathed heater.
<ul style="list-style-type: none"> ● Thermal fuse blown 	<p>Forced application of current ? Yes →</p>	<ul style="list-style-type: none"> ● Explain correct usage.
<ul style="list-style-type: none"> ● Rice burns (Brown color) 	<p>Center thermostat defective ? (Check with evaporation test) Yes →</p> <p style="text-align:center">↓ No</p> <p>Switch lever has been properly adjusted ? No →</p> <p style="text-align:center">↓ Yes</p> <p>Usage correct ? Yes →</p> <ul style="list-style-type: none"> ● Rice is not rinsed well enough ? ● Using with low rated voltage ? ● Too much water input for cooking ? 	<ul style="list-style-type: none"> ● Replace center thermostat ● Adjust Lever ● Explain correct usage.

Symptom	Diagnosis	Remedy
<ul style="list-style-type: none"> ● Earlier Switching-off ● Poor cooking finish <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> Too hard Too soft Half-boiled </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Poor contact between pan and sheathed heater ? (Check with bubbling test) </div> <div style="text-align: right; margin-right: 10px;">Yes →</div> <div style="text-align: center; margin-top: 5px;">↓ No</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Center thermostat defective ? (Check with evaporation test) </div> <div style="text-align: right; margin-right: 10px;">Yes →</div> <div style="text-align: center; margin-top: 5px;">↓ No</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Switch lever has been properly adjusted ? </div> <div style="text-align: right; margin-right: 10px;">No →</div> <div style="text-align: center; margin-top: 5px;">↓ Yes</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Usage correct ? </div> <div style="border: 1px solid black; padding: 5px;"> <ul style="list-style-type: none"> ● Too small or large in rice quantity. ● Too small or large in water quantity. ● Switched off once by hand in cooking process. ● Switched off by shocks given in cooking process. ● Rice not untied. </div>	<ul style="list-style-type: none"> ● Replace pan or sheathed heater. ● Replace Center thermostat ● Adjust switch lever ● Explain correct usage.
<p>Keep warm function</p> <ul style="list-style-type: none"> ● Warming fails (Warm lamp not shown) 	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Micro switch change contact to NO (Warm mode) after cooking is done ? </div> <div style="text-align: right; margin-right: 10px;">No →</div>	<ul style="list-style-type: none"> ● Adjust switch lever
<ul style="list-style-type: none"> ● Warming fails (Warm lamp shown) 	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> No continuity of warming heater ? </div> <div style="text-align: right; margin-right: 10px;">Yes →</div>	<ul style="list-style-type: none"> ● Replace warming heater.

TESTING PROCEDURE

1. Bubbling Test

Input the pan in the main body, and lightly rotate the pan clockwise and counter clockwise to set the pan on the heating plate properly.

1. Fill water until the center area of the pan bottom is depped, and close the lid. Then turn on the boiling switch.
2. When it begins boiling to produce steam, remove the lid and immediately check the bubbling condition on the pan bottom.
3. Bubbling condition is shown in figure 3
 - A. Bubbles generate through out the circumference of the pan bottom Proper
 - B. Bubbles does not generate on more than one quarter part of the pan bottom circumference Improper

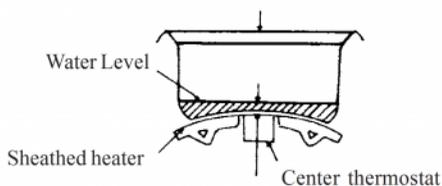


Figure 2

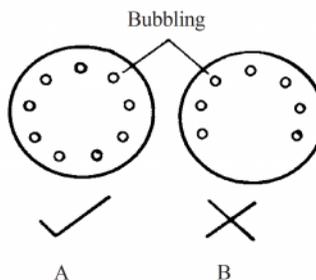


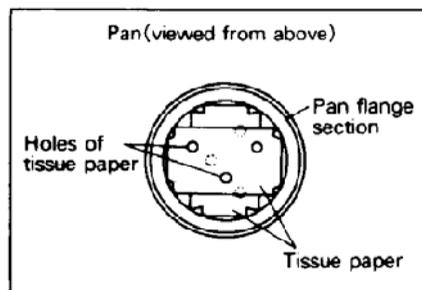
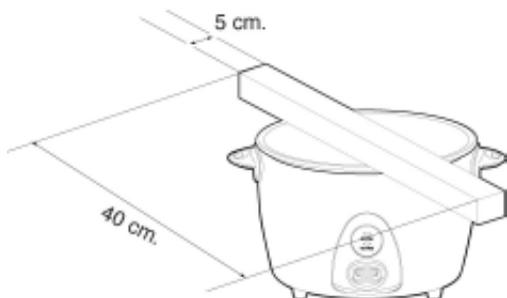
Figure 3

If it is improper, it may result from the insufficient contact between the pan bottom and the sheathed heater. Check the pan bottom and the sheathed heater for foreign material remained. Clean up the foreign materials or replace the parts.

2. Evaporation Test

1. After satisfactory bubbling is confirmed, remove the lid and put a weight on the cooker.
2. Cover the entire pan bottom with 2 or 3 pieces of tissue paper (or gauze), and turn on the switch subsequently.
3. The cooker is considered acceptable if the timing when steam generation comes to a stop after water of the pan bottom has evaporated, is within 1 minute before and after the cooking switch is turned off.

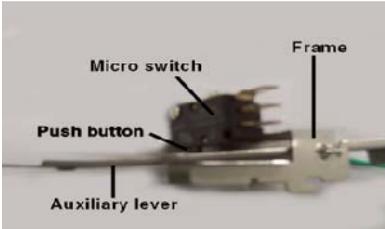
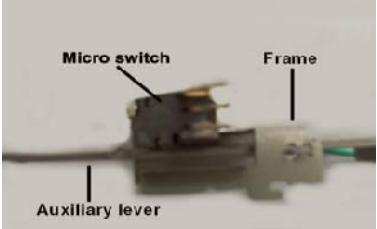
If these requirements are not satisfied, check the center thermostat as well as the contacted condition between the pan bottom and the cooking heater, and then repair or replace the parts.



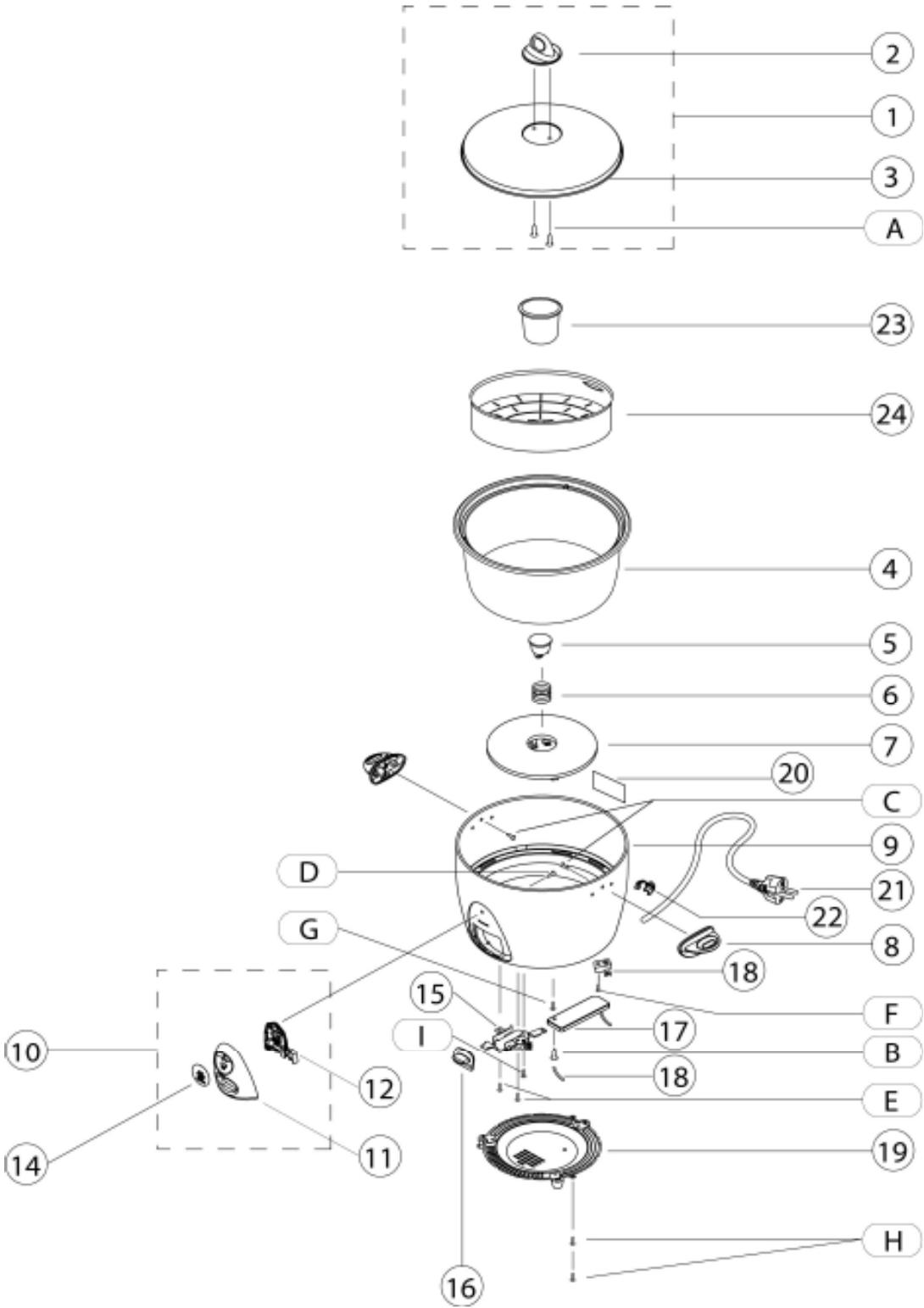
3. Boiling control lever adjustment

Such a mechanical operation as center thermostat goes up and down is used to turn on and off the micro-switch.

Check and adjust this relationship as shown below.

	When the boiling switch is turned on.	When the boiling switch is turn off.
		
Checking	The auxiliary lever presses the push-button (The <input type="checkbox"/> Warm <input type="checkbox"/> lamp comes on.)	The auxiliary lever does not press the push button. (The <input type="checkbox"/> COOK <input type="checkbox"/> lamp comes on.)
Adjusting	To gain the above relationship, adjust the auxiliary lever by bending it with long nose pliers.	

EXPLODED VIEW



LIST OF SCREWS

No.	Part No.	Part Name & Description	SR-G10S	SR-G18S	Remark
A	XTN4+10BVW	TAPPING SCREW	2	2	For Lid
B	XYN4+C10FNS	SEMS TAPPING SCREW	1	1	For Cast heater
C	XTN4+10BFJ	TAPPING SCREW	2	2	For Handle
D	XTN4+8BFJ	TAPPING SCREW	1	1	For Switch
E	XTN4+6FFJ	TAPPING SCREW	2	2	For Frame
F	XTN4+14BFJ	TAPPING SCREW	1	1	For Terminal
G	XTN4+C7FNS	SEMS SCREW	4	4	For Wiring
H	XTT4+8FFJ	SAME TAPPING SCREW	2	2	For Bottom plate
I	XYC4+CF6FJ	SAME TAPPING SCREW	1	1	For Earth Wire

PACKING LISTS

No.	Part No.	Part Name & Description	SR-G10S	SR-G18S	Remark
1	AQY00V276	OPERATING INSTRUCTION	1	1	
2	AQZ11T271	UPPER PAD	1	-	
2	AQZ11T270	UPPER PAD	-	1	
3	ASR758T140A	RUST PROOF PAPER	1	-	
3	ASR758T344B	RUST PROOF PAPER	-	1	
4	AQZ12T271	LOWER PAD A	1	-	
4	AQZ12T270	LOWER PAD A	-	1	
5	AQZ13T271	LOWER PAD B	1	-	
5	AQZ13T270	LOWER PAD B	-	1	
6	AQZ01H2771WU	INNER PACKING CASE	1	-	
6	AQZ01H2761WU	INNER PACKING CASE	-	1	
7	AQZ80V277-WU	POS LABEL	1	-	
7	AQZ80V276-WU	POS LABEL	-	1	