

Order No. PHAT070512C3

(REVISION : AUG. 2011)

Service Manual

Electronic Warm Jar**SR-TMG18****Destination**Singapore (RBD), Malaysia
Singapore (DBD), Indonesia, Russia**⚠ WARNING**

The 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 dealt 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 by ⚠ in the Schematic Diagrams, Circuit Board Diagrams, 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.

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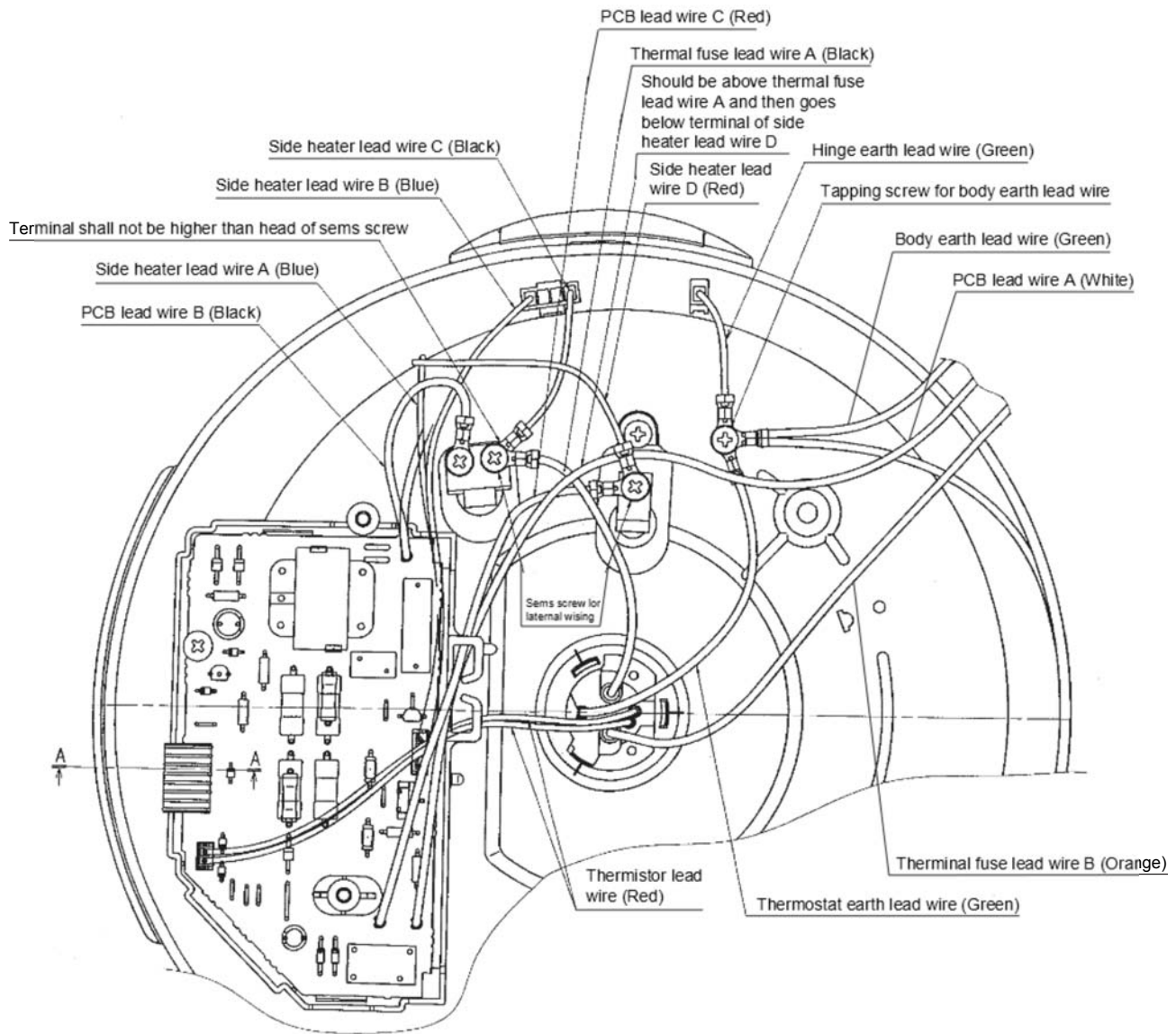
SR-TMG18

1. SPECIFICATION

MODEL		SR-TMG18				
Country		SIN-RBD	MALAYSIA	SIN-DBD	INDONESIA	RUSSIA
Power Source		220V / 50Hz	240V / 50Hz	230V / 50Hz	220V / 50Hz	220V / 50Hz
Power Consumption	Cooking	650W				
	Warming	76W				
Cooking Capacity	Plane Rice	0.54 ~ 1.8 L (3 cups ~ 10 cups)				
	Brown Rice	0.54 ~ 1.8 L (3 cups ~ 7 cups)				
	Mixed Rice	0.54 ~ 1.8 L (3 cups ~ 8 cups)				
	Sticky Rice	0.54 ~ 1.8 L (3 cups ~ 6 cups)				
	Porridge	Max 1.8 L (Rice 1 ~ 2 cups)				
	Congee	Max 1.8 L				
	Cake	650 g.				
Warming Capacity (Plane Rice)		0.54 ~ 1.8 L (3 cups ~ 10 cups)				
Cooked rice warming Temperature		71°C ~ 79°C				
Temperature Detector		Sensor thermistor				
Thermal fuse Specification		172°C 250V 10A				
Dimension (Width x Depth x Height)		276 x 274 x 277 (mm)				
Weight		3.1 Kgs.				
Keep Warm		12 Hours				
Power Cord (Approx.)		1.2 m.				
Accessories		Measuring cup, Scoop, Steaming basket				

* Specification subject to change without notice.

2. WIRING DIAGRAM



3. TROUBLESHOOTING GUIDE

When receiving a rice boiler to be repaired, be sure to check that the main body is completely provide with the inner pan and the inner lid, ask the condition (phenomenon) of the trouble in detail. Before troubleshooting single parts, be sure to disconnect the power supply plug from the receptacle.

Table 1

Condition	Troubleshooting	Remedy
Rice boiling section Plane rice / Brown rice <input type="checkbox"/> Rice is not boiling. (The indicating lamp does not come on)	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Is the power cord conductive? No → </div> <div style="text-align: center; margin-bottom: 5px;">↓ Yes</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Is the thermal fuse conductive? No → </div> <div style="text-align: center; margin-bottom: 5px;">↓ Yes</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Is the therminal conductive? No → </div> <div style="text-align: center; margin-bottom: 5px;">↓ Yes</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Are the parts on the P.C.B. mistake? Yes → </div>	<input type="checkbox"/> Replace the cord. <input type="checkbox"/> Isolate the cause which melt the thermal fuse, correct the cause and <input type="checkbox"/> Make sure insert therminal is fasten. <input type="checkbox"/> Replace the P.C.B. complete.
<input type="checkbox"/> Rice is not boiling. (The indicating lamp is lit)	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Is the cast heater conductive? No → </div> <div style="text-align: center; margin-bottom: 5px;">↓ Yes</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Are the parts on the P.C.B. mistake? Yes → </div>	<input type="checkbox"/> Replace the cast heater. <input type="checkbox"/> Replace the P.C.B. complete.
<input type="checkbox"/> Earlier cut off. <input type="checkbox"/> Poor boiling up. <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <input type="checkbox"/> Too hard <input type="checkbox"/> Too soft <input type="checkbox"/> Insufficient boiling </div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Is the pan bottom properly contacted with the cast heater? (Check with the bubbling test). No → </div> <div style="text-align: center; margin-bottom: 5px;">↓ Yes</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Does the center thermostat operate properly? (Check with the operation test). No → </div> <div style="text-align: center; margin-bottom: 5px;">↓ Yes</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Are the parts on the P.C.B. mistake? Yes → </div> <div style="text-align: center; margin-bottom: 5px;">↓ No</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Improper operation </div> <div style="border: 1px solid black; padding: 5px;"> <input type="checkbox"/> Rice is excessive or insufficient. <input type="checkbox"/> Water is excessive or insufficient. <input type="checkbox"/> The switch is turned off once during boiling. <input type="checkbox"/> Immediately after the switch is turned off, open the cap. <input type="checkbox"/> Rice has not been scooped and mixed well. Yes → </div>	<input type="checkbox"/> Replace the inner pan or the cast heater. <input type="checkbox"/> Replace the center thermostat. <input type="checkbox"/> Seeing at Table 2 <input type="checkbox"/> Explain the proper operation.

Condition	Troubleshooting	Remedy
<input type="checkbox"/> Excessive burning. (More than light brown)	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Does the center thermostat operate properly? (Check with the evaporation test). </div> <div style="text-align: center; margin-bottom: 5px;"> ↓ Yes </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Are the parts on the P.C.B. mistake? </div> <div style="text-align: center; margin-bottom: 5px;"> ↓ No </div> <div style="border: 1px solid black; padding: 5px;"> Improper operation <ul style="list-style-type: none"> <input type="checkbox"/> Rice is not washed sufficiently (Bran remains still) <input type="checkbox"/> The pan bottom is conditioned to generate burning easily. <input type="checkbox"/> The voltage is lower than specified. <input type="checkbox"/> Water is excessive. </div>	<div style="margin-bottom: 10px;"><input type="checkbox"/> Replace the center thermostat.</div> <div style="margin-bottom: 10px;"><input type="checkbox"/> Seeing at Table 2.</div> <div><input type="checkbox"/> Explain the proper operation.</div>

Table 2

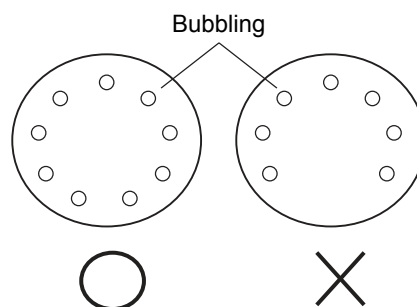
Condition	Troubleshooting	Remedy
<input type="checkbox"/> Rice is not boiling. (The indicating lamp does not come on)	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin-bottom: 5px;">Is the transformer operating?</div> <div style="display: flex; justify-content: space-between; width: 100%;"> No → </div> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin-left: 100px; margin-bottom: 5px;"></div> <div style="display: flex; justify-content: space-between; width: 100%;"> Yes → </div>	<input type="checkbox"/> Replace the transformer. <input type="checkbox"/> Replace the P.C.B. complete.
<input type="checkbox"/> Rice is not boiling. (The indicating lamp is lit)	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin-bottom: 5px;">Is the relay operation?</div> <div style="display: flex; justify-content: space-between; width: 100%;"> No → </div> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin-left: 100px; margin-bottom: 5px;"></div> <div style="display: flex; justify-content: space-between; width: 100%;"> Yes → </div>	<input type="checkbox"/> Replace the relay. <input type="checkbox"/> Replace the P.C.B. complete.
<input type="checkbox"/> The thermal fuse is blown off.	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin-bottom: 5px;">Is the relay cut off?</div> <div style="display: flex; justify-content: space-between; width: 100%;"> No → </div> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin-left: 100px; margin-bottom: 5px;"></div> <div style="display: flex; justify-content: space-between; width: 100%;"> Yes → </div>	<input type="checkbox"/> Replace the relay. <input type="checkbox"/> Replace the P.C.B. complete.
<input type="checkbox"/> Earlier cut off. <input type="checkbox"/> Poor boiling up.	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin-bottom: 5px;">Is the relay operation?</div> <div style="display: flex; justify-content: space-between; width: 100%;"> No → </div> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin-left: 100px; margin-bottom: 5px;"></div> <div style="display: flex; justify-content: space-between; width: 100%;"> Yes → </div>	<input type="checkbox"/> Replace the relay. <input type="checkbox"/> Replace the P.C.B. complete.
<input type="checkbox"/> Excessive burning.	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin-bottom: 5px;">Is the relay operation?</div> <div style="display: flex; justify-content: space-between; width: 100%;"> No → </div> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin-left: 100px; margin-bottom: 5px;"></div> <div style="display: flex; justify-content: space-between; width: 100%;"> Yes → </div>	<input type="checkbox"/> Replace the relay. <input type="checkbox"/> Replace the P.C.B. complete.
<input type="checkbox"/> Heat is not reserved. (The indicating lamp does not come on)	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin-bottom: 5px;">Is the transformer operating?</div> <div style="display: flex; justify-content: space-between; width: 100%;"> No → </div> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin-left: 100px; margin-bottom: 5px;"></div> <div style="display: flex; justify-content: space-between; width: 100%;"> Yes → </div>	<input type="checkbox"/> Replace the transformer. <input type="checkbox"/> Replace the P.C.B. complete.
<input type="checkbox"/> Heat is not reserved. (The indicating lamp is lit)	<div style="border: 1px solid black; padding: 5px; width: fit-content; margin-bottom: 5px;">Is the trial operating?</div> <div style="display: flex; justify-content: space-between; width: 100%;"> No → </div> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin-left: 100px; margin-bottom: 5px;"></div> <div style="display: flex; justify-content: space-between; width: 100%;"> Yes → </div>	<input type="checkbox"/> Replace the transformer. <input type="checkbox"/> Replace the P.C.B. complete.

4. TESTING PROCEDURE

4.1 Bubbling test

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

1. Fill water until center area of the pan bottom is dipped and close the lid. Then turn on the boiling switch.
2. When it begins boiling to produce steam. Remove the lid immediately check the bubbling condition on the pan bottom.
3. As show in the figure.



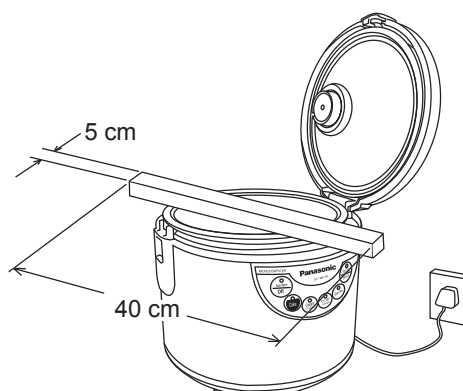
Bubbles generate through out the circumference of the pan bottom.....Proper

Bubbles does not generate on more than one quarter part of the pan bottom circumference.....Improper

If it is improper, it may result from the insufficient contact between the pan bottom and heating plate. Check the pan bottom and the heating plate for foreign material remainder. Clean off the foreign materials or replace the parts.

4.2 Evaporation test

1. Check that bubbling is proper, open the lid and place a weight.



Place a weight so that its gravity center may be aligned at the center

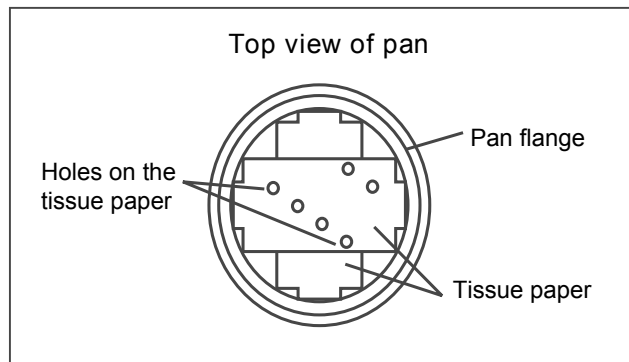
Note : To prevent plastic parts from deformation caused by steam, be sure to open the lid fully.

2. Fully cover 2 to 3 sheet of tissue paper (gauze is also applicable) on the pan bottom and continuously flow electric current.

Note : To prevent tissue paper from floating because of bubbling, previously hole the paper.

3. Water on the pan bottom is completely evaporated to be empty. This timing is as follows :
 Within 1 minute before the boiling switch is turned off.
 Within 1 minute after the boiling switch is turned off.

The above conditions are proper.

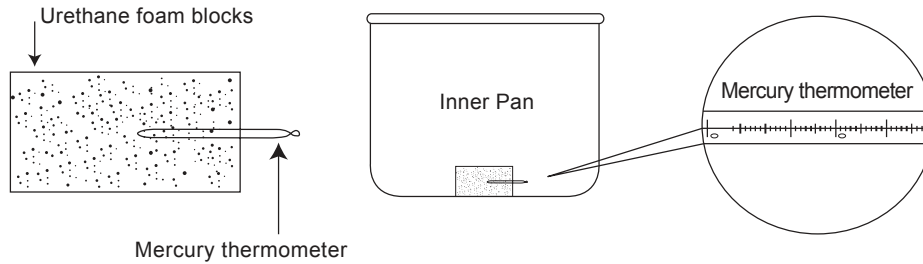


4.3 Heat reserving test

1. Put approx. 1 liter of water and the thermometer [repairing tool (mercury thermometer ASN-150H)] in the pan, close the lid and turn on the boiling switch.
2. When the beings boiling to generate steam turn off the boiling switch.
3. Add water or keep the lid opened until the reading of the thermometer falls to approx. 70°C.
4. When it becomes approx. 70°C, close the lid. After the warming heater is activated for 1 hour or more, check the heat reserving temperature.

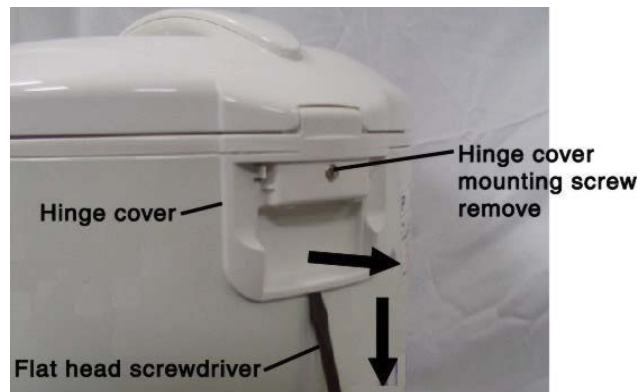
Within 69°C - 77°CProper

If outside 69°C - 77°C, check triac mounting for irregularity, if it is proper, replace warming heater.



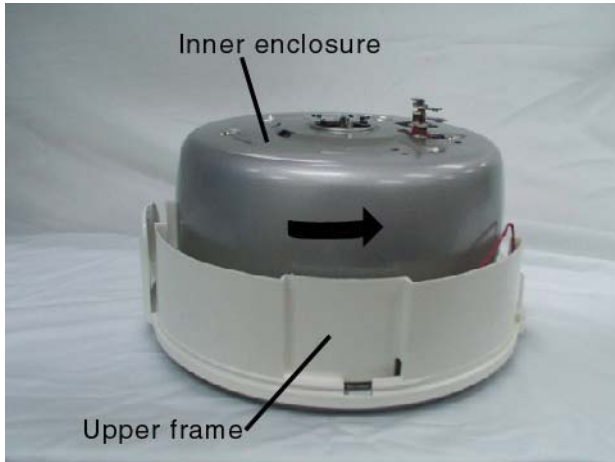
4.4 Hinge cover removal (Hinge cover)

1. Remove the dew collector.
2. Remove the hinge cover mounting screws.
3. As show in the figure, insert a narrow flat head screwdriver from just below and pry off the hinge cover.



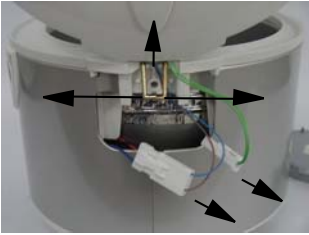



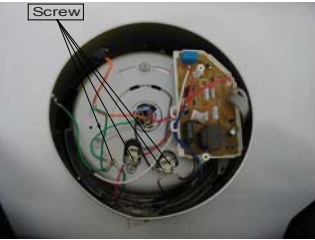

4.5 Inner enclosure and upper frame removal

1. As show in the figure, pry up three fastening hooks. Fixing the upper frame, turn the inner enclosure in the arrow direction.
2. The upper frame will be seperated from the inner enclosure and the upper frame.

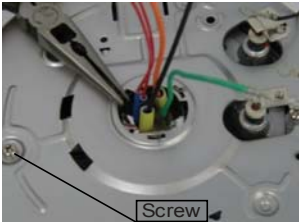
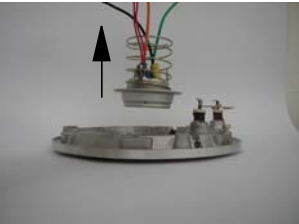


Note : When assembling, refer to the illustration without the position relationship between the inner enclosure and the upper frame.

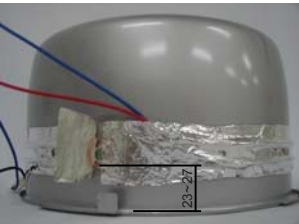
4.6 Disassembly a control unit

<ol style="list-style-type: none">1. Pull out the hinge shaft.2. Pulling out wiring for lid heater and then pulling out outer lid ass'y.	
<ol style="list-style-type: none">3. Loosen a screw for bottom frame.4. Loosen a screw for P.C.B. base 2 pcs.	
<ol style="list-style-type: none">5. Use a screwdriver to pry bottom frame.6. Pulling out body from upper frame.	
<ol style="list-style-type: none">7. Pulling out a switch ass'y.	
<ol style="list-style-type: none">8. Loosen screw for wiring.	
<ol style="list-style-type: none">9. Loosen a screw for P.C.B. from P.C.B. base.	

4.7 Disassembly cast heater and thermostat case ass'y

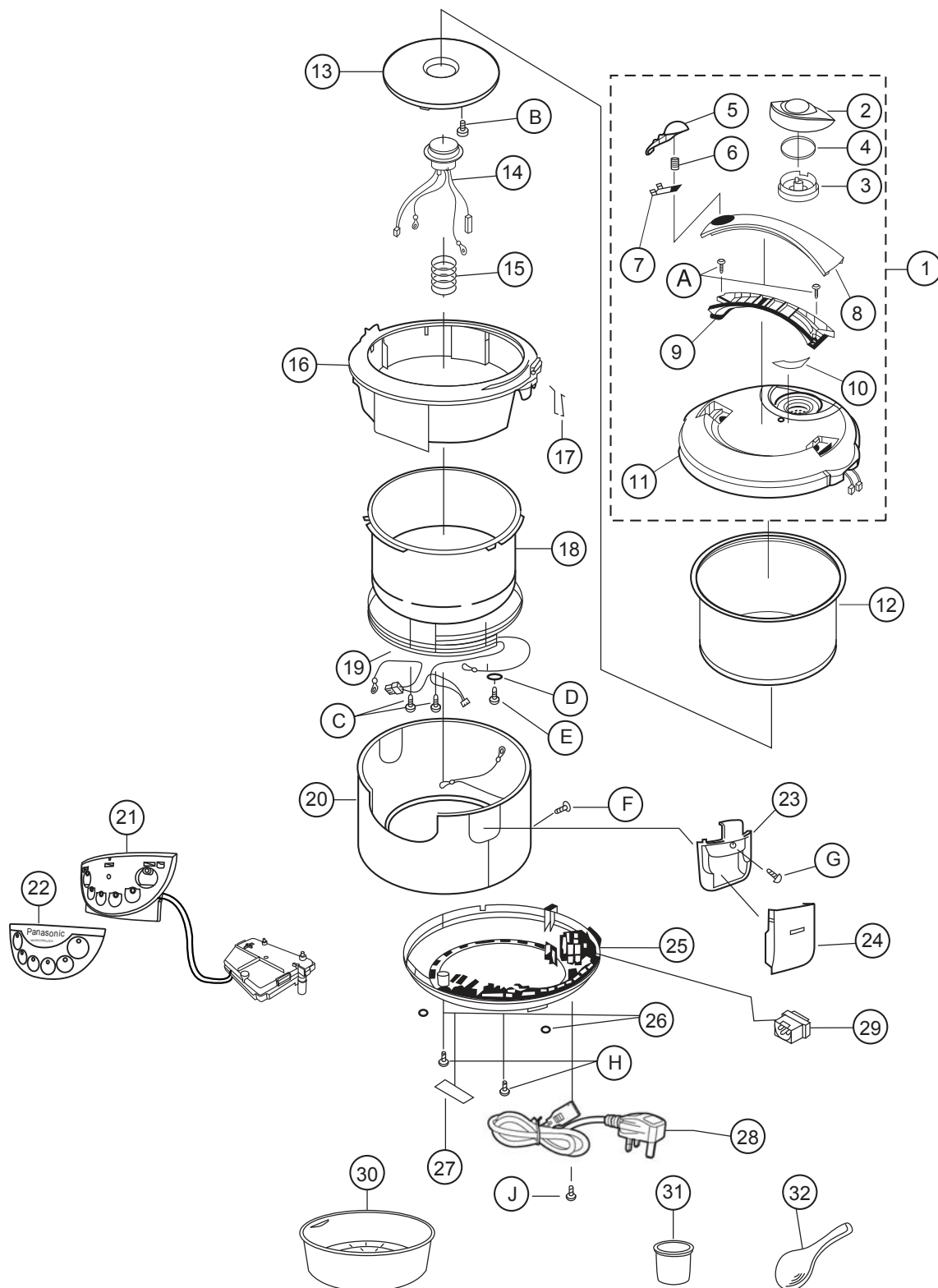
<ol style="list-style-type: none">1. Loosen a screw for cast heater.2. Bending leg of thermostat.	 <p>A close-up photograph of the thermostat assembly. A screwdriver is shown loosening a screw. A label 'Screw' points to the screw being removed. The thermostat has several colored wires (red, green, blue, yellow) connected to it.</p>
<ol style="list-style-type: none">3. Lift a thermostat.	 <p>A photograph showing the thermostat being lifted from the cast heater assembly. An upward-pointing arrow indicates the direction of movement. The thermostat is a small, cylindrical component with a spring and wires.</p>

4.8 Disassembly a side heater

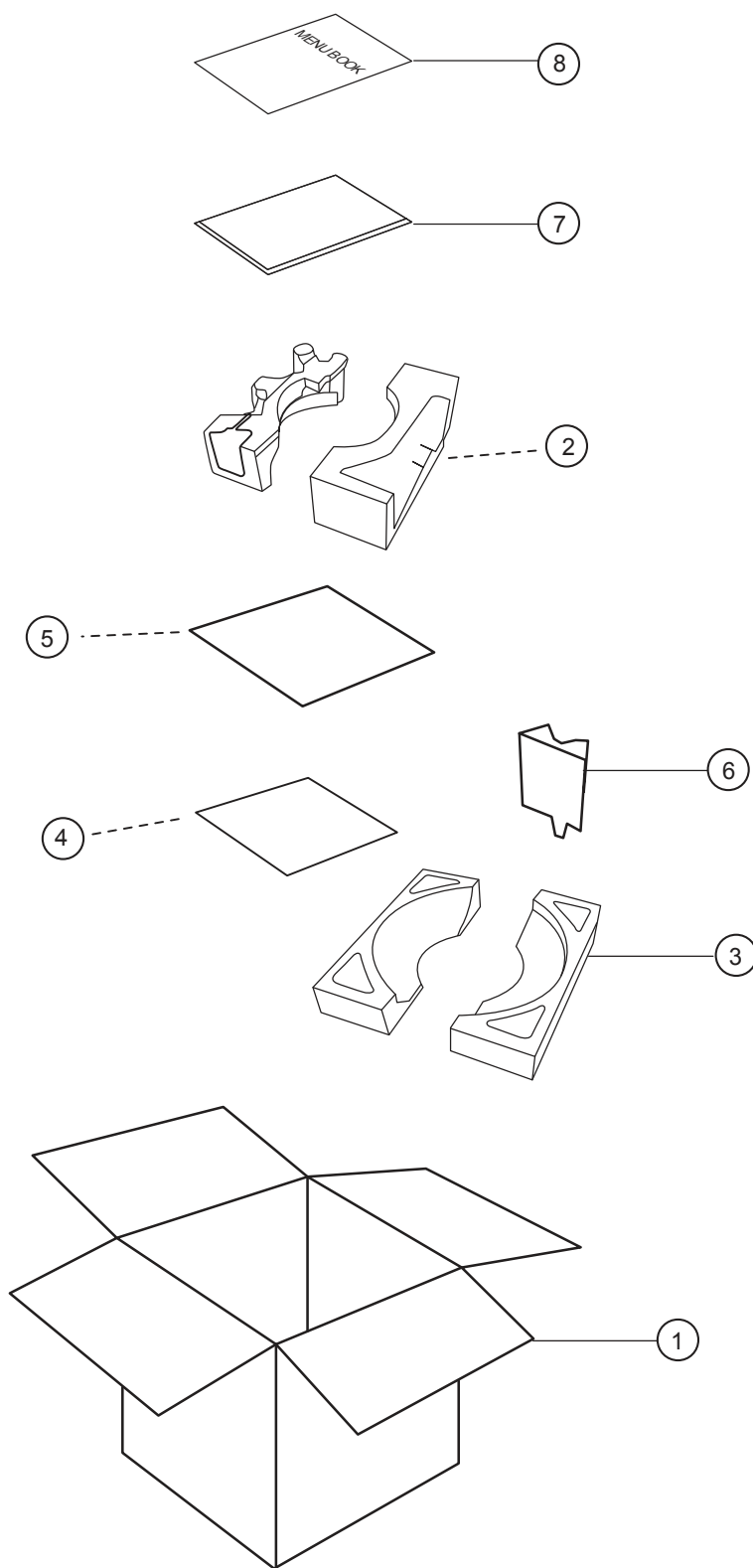
<ol style="list-style-type: none">1. Pulling out a side heater and after that if will replace new side heater, keep a distance between 23 ~ 27 mm. (see a picture)	 <p>A photograph showing a side heater being pulled out from the cast heater assembly. The side heater is a rectangular component with wires. A dimension line indicates a distance of 23 ~ 27 mm between the side heater and the cast heater.</p>
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5. PARTS EXPLODED VIEW AND REPLACEMENT PARTS LIST

5.1 Parts Exploded View : Body



5.2 Parts Exploded View : Packing



SR-TMG18

Important safety notice :

Components identified by mark have special characteristics important for safety.
When replacing any of these components, use only manufacturer's specified part.

5.3 Replacement Parts List : SR-TMG18**Parts List**

REF. NO.	PART NAME	PART NO.	SAFETY	COUNTRIES / Q'TY					REMARK
				SIN-RBD	MAL	SIN-DBD	INDO	RUS	
1	OUTER LID ASS'Y	ARB01T934W9U		1					
		ARB01M934W9U			1				
		ARB01S934W9U				1			
		ARB01L934W9U					1		
		ARB01K934W9U						1	
2	STEAM DOME	ARB19T920-W9		1	1	1	1	1	
3	STEAM VENT	ARC00T9201W9		1	1	1	1	1	
4	STEAM VENT HOLDING PACKING	ARB82T920		1	1	1	1	1	
5	HOOK LEVER	ARE05H616-W9		1	1	1	1	1	
6	HOOK LEVER SPRING	ARE06H616		1	1	1	1	1	
7	HOOK LEVER BASE	ARC31H616		1	1	1	1	1	
8	HANDLE COVER	ARB15T920-W9		1	1	1	1	1	
9	HANDLE	ARB10T920-W9		1	1	1	1	1	
10	LID CAUTION LABEL	ARB32H920	S		1	1			
		ARB32L934	S	1					
		ARB32L934	S				1		
		ARB32K9361	S					1	
11	OUTER LID COMP.	ARB01T934-WU		1					
		ARB01M934-WU			1				
		ARB01S934-WU				1			
		ARB01L934-WU					1		
		ARB01K934-WU						1	
12	FLUORO PAN	ARE50T9341		1	1	1	1		
		ARE50H616						1	
13	CAST HEATER ASS'Y	ARL20T908-0U	S	1			1		
		ARL20M928-0U	S		1				
		ARL20S928-0U	S			1			
14	THERMOSTAT CASE ASS'Y	ARS14T908-0U	S	1	1	1		1	
		ARS14L815-0U	S				1		
15	OUTER SPRING	ARS61H616		1	1	1	1	1	
16	UPPER FRAME	ARE00A6161W9		1	1	1	1	1	
17	HINGE SHAFT	ARB74H616		2	2	2	2	2	
18	PROTECTING FRAME	ARE20T934		1	1	1	1	1	
19	SIDE HEATER ASS'Y	ARL10T75110U	S	1			1	1	
		ARL10M928-0U	S		1				
		ARL10S928-0U	S			1			
20	BODY ASS'Y	ARE10T928Z4U		1	1	1			
		ARE10T751-MB					1		NO ASS'Y EARTH LEAD WIRE
		ARE10T928MBU						1	

Parts List

REF. NO.	PART NAME	PART NO.	SAFETY	COUNTRIES / Q'TY					REMARK
				SIN-RBD	MAL	SIN-DBD	INDO	RUS	
21	SWITCH ASS'Y	ARN01H934UHU	S	1	1	1			
		ARN01L934UHU	S				1		
		ARN01K934UHU	S					1	
22	DECORATIVE PANEL	ARN21H9341UH		1	1	1			
		ARN21L934-UH					1		
		ARN21K934-UH						1	
23	HINGE COVER	ARE40H6161W9		1	1	1	1	1	
24	DEW COLLECTOR	ARK10H616-C0		1	1	1	1	1	
25	BOTTOM FRAME UNIT	ARH30T920W9U		1	1	1	1	1	
26	FOOT RUBBER	ARH90H663		2	2	2	2	2	
27	NAME PLATE	ARY30V934-CS	S	1					
		ARY30M934-CS	S		1				
		ARY30S934-CS	S			1			
		ARY30L934-MB	S				1		
		ARY30K934-MB	S						1
28	POWER CORD ASS'Y	ARQ00T934-0U	S	1					
		ARQ00M96110U	S		1	1			
		ARQ00L934-0U	S				1		
		ARQ00T920-0U	S						1
29	INLET	ARG10T9200U	S	1	1	1	1	1	
30	STEAM BASKET	ARK53H616-W9		1	1	1	1	1	
31	MEASURING CUP	ASR792-454BK		1	1	1	1	1	
32	SCOOP	ASR79WT281AK		1	1	1	1	1	

SR-TMG18

Screws

REF. NO.	PART NAME	PART NO.	SAFETY	COUNTRIES / Q'TY					REMARK
				SIN-RBD	MAL	SIN-DBD	INDO	RUS	
A	TAPPING SCREW	XTB4+10GFJ		2	2	2	2	2	FOR HANDLE
B	SEMS SCREW	XYN4+C10FNS		1	1	1	1	1	FOR CAST HEATER ASSY
C	SEMS SCREW	XYN4+C7FNS		3	3	3	3	3	FOR INTERNAL WIRING
D	SPRING WASHER	XWA4BPW		1	1	1	1	1	FOR BODY EARTH LEAD WIRE
E	TAPPING SCREW	XTN4+8FFJ		1	1	1	1	1	FOR BODY
F	TAPPING SCREW	ASR118-972-W		1	1	1	1	1	FOR BOTTOM FRAME AND BODY
G	TAPPING SCREW	XTN4+16AVW		1	1	1	1	1	FOR HINGE COVER
H	TAPPING SCREW	XTB4+25CFJ		2	2	2	2	2	FOR BOTTOM FRAME AND PCB BASE

Packing List

REF. NO.	PART NAME	PART NO.	SAFETY	COUNTRIES / Q'TY					REMARK
				SIN-RBD	MAL	SIN-DBD	INDO	RUS	
1	INNER PACKING CASE	ARZ01V934-CS		1					
		ARZ01M934-CS			1				
		ARZ01S934-CS					1		
		ARZ01L934-MB						1	
		ARZ01K934-MB							1
2	UPPER PAD ASS'Y	ARZ04T920-0U		1	1	1	1	1	
3	LOWER PAD ASS'Y	ARZ11T920-0U		1	1	1	1	1	
4	RUST PROOF PAPER	ASR758T344B		1	1	1	1	1	
5	POLYETHYLENE SHEET	ASR762T929-K		1	1	1	1	1	
6	CORD PROTECTOR	ASR761H915-K		1	1	1	1	1	
7	OPERATING INSTRUCTION	ARZ19V934	S	1					
		ARZ19M934	S		1	1			
		ARZ19L934	S					1	
		ARZ19K934	S						1
8	MENU BOOK	ARZ20V934		1	1	1			
		ARZ20L934						1	

DETAIL CHANGE NOTICE

REVISION	ITEM NO.	PAGE	DETAIL	REMARK
JAN. 2010	1	14	CHANGE PART NO. OF PAN	CHANGE COATING FROM 1 TO 2 LAYER
AUG. 2011	1	2	ADD NEW PAGE FOR CONTENT	IT'S PAGE NO. 2
	2	2 - 18	NEW RUNNING PAGE NO. & SUBJECT	NEW PAGE NO. 2 - 18
	3	16	CHANGE PART NO. OF POWER CORD ASSY	CHANGE 10A 250V TO 13A 250V

