

# VIKING

## SERVICE MANUAL

S52M3420210SS



## COMBI STEAM/CONVECT™ OVEN

# VCS0210SS

In the interest of user-safety the oven should be restored to its original condition and only parts identical to those specified should be used.

**WARNING TO SERVICE PERSONNEL:** Microwave ovens contain circuitry capable of producing very high voltage and current. Contact with the following parts may result in a severe, possibly fatal, electrical shock. (Inverter unit that includes High Voltage Capacitor, High Voltage Power Transformer, High Voltage Rectifier and Heat sink etc., and Magnetron, High Voltage Harness etc..)

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**VIKING**  
Range Corporation

111 Front St., Greenwood, MS 38930

Tel: (888) 845-4641

This document has been published to be used for after sales service only.

## NOTICE

**In the interest of user-safety the oven should be restored to its original condition and only parts identical those specified should be used.**

**WARNING TO SERVICE PERSONNEL: Microwave ovens contain circuitry capable of producing very high voltage and current. Contact with the following parts may result in a severe, possibly fatal, electrical shock. (High Voltage Inverter Unit, High Voltage Power Transformer, Magnetron, High Voltage Harness etc..)**

## PRECAUTIONS TO BE OBSERVED BEFORE AND DURING SERVICING TO AVOID POSSIBLE EXPOSURE TO EXCESSIVE MICROWAVE ENERGY

- (a) Do not operate or allow the oven to be operated with the door open.
- (b) Make the following safety checks on all ovens to be serviced before activating the magnetron or other microwave source, and make repairs as necessary: (1) interlock operation, (2) proper door closing, (3) seal and sealing surfaces (arcing, wear, and other damage), (4) damage to or loosening of hinges and latches, (5) evidence of dropping or abuse.
- (c) Before turning on microwave power for any service test or inspection within the microwave generating compartments, check the magnetron, wave guide or transmission line, and cavity for proper alignment, integrity, and connections.
- (d) Any defective or misadjusted components in the interlock, monitor, door seal, and microwave generation and transmission systems shall be repaired, replaced, or adjusted by procedures described in this manual before the oven is released to the owner.
- (e) A microwave leakage check to verify compliance with the Federal Performance Standard should be performed on each oven prior to release to the owner.

## BEFORE SERVICING

Before servicing an operative unit, perform a microwave emission check as per the Microwave Measurement Procedure outlined in this service manual.

If microwave emissions level is in excess of the specified limit, contact Viking Service immediately @ 1-888-845-4641.

If the unit operates with the door open, service person should (1) tell the user not to operate the oven and (2) contact VIKING, plus the Department Of Health, Canada and/or the Food and Drug Administration's Center for Devices and Radiological Health immediately.

Service personnel should inform VIKING of any certified unit found with emissions in excess of 4mW/cm<sup>2</sup>. The owner of the unit should be instructed not to use the unit until the oven has been brought into compliance.

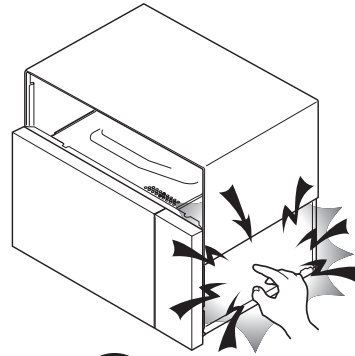
## WARNING TO SERVICE PERSONNEL

Microwave ovens contain circuitry capable of producing very high voltage and current, contact with following parts may result in a severe, possibly fatal, electrical shock.

(Example)

Inverter unit that includes High Voltage Capacitor, High Voltage Power Transformer, High Voltage Rectifier, Heat sink etc., and Magnetron, High Voltage Harness etc..


Read the Service Manual carefully and follow all instructions.



**Don't Touch !  
Danger High Voltage**

### Before Servicing



1. Disconnect the power supply cord , and then remove outer case.
2. Open the door and block it open.
3. Wait for 60 seconds to discharge the high voltage capacitors of the inverter unit.
4. Disconnect the high voltage wire from the magnetron terminal with insulated pliers.
5. Make the terminal (metal part) of the high voltage wire contact to the magnetron body with insulated pliers.
6. Now, the capacitors of the inverter unit are discharged.
7. Reconnect the high voltage wire to the magnetron terminal after discharging.

**WARNING: Use the pliers that the portions of their handles are insulated completely to avoid an electric shock.**

**WARNING: RISK OF ELECTRIC SHOCK.**

### After repairing

1. Reconnect all leads removed from components during testing.
2. Reinstall the outer case (cabinet) and the back plate assembly.
3. Reconnect the power supply cord after the outer case and the back plate assembly are installed.
4. Run the oven and check all functions.

Microwave ovens should not be run empty. To test for the presence of microwave energy within a cavity, place a cup of cold water on the oven turntable, close the door and set the power to HIGH and set the microwave timer for two (2) minutes. When the two minutes has elapsed (timer at zero) carefully check that the water is now hot. If the water remains cold carry out "Before Servicing" procedure and re-examine the connections to the component being tested.

When all service work is completed and the oven is fully assembled, the microwave power output should be checked and microwave leakage test should be carried out.

### SERVICING FOR INVERTER UNIT WARNING

This inverter unit contains circuitry capable of producing high voltage and high current. Contact with any part of the high voltage will result in electrocution.

**DO NOT ACCESS ANY PARTS OF INVERTER UNIT WITH POWER SUPPLY CONNECTED.  
DO NOT OPERATE INVERTER UNIT ITSELF.**

It is dangerous because this unit contains high voltage components.

## MICROWAVE MEASUREMENT PROCEDURE

### A. Requirements:

- 1) Microwave leakage limit (Power density limit): The power density of microwave radiation emitted by a microwave oven should not exceed  $1\text{mW}/\text{cm}^2$  at any point 5cm or more from the external surface of the oven, measured prior to acquisition by a purchaser, and thereafter (through the useful life of the oven),  $5\text{mW}/\text{cm}^2$  at any point 5cm or more from the external surface of the oven.
- 2) Safety interlock switches:  
Primary interlock relay switch shall prevent microwave radiation emission in excess of the requirement as above mentioned. Secondary interlock relay and door sensing switch shall prevent microwave radiation emission in excess of  $5\text{mW}/\text{cm}^2$  at any point 5cm or more from the external surface of the oven.

### B. Preparation for testing:

#### Before beginning the actual measurement of leakage, proceed as follows:

- 1) Make sure that the actual instrument is operating normally as specified in its instruction booklet.

Important:

**USA** Survey instruments that comply with the requirement for instrumentation as prescribed by the Federal Performance Standard for microwave ovens, 21 CFR 1030.10(c)(3)(i), must be used for testing.

**Canadian** Survey instruments that comply with the requirement for instrumentation as prescribed by CSA and NHW performance standard for microwave ovens must be used for testing recommended instruments are , NARDA 8100 and NARDA 8200.

- 2) Place the load of  $275\pm 15$  ml (9.8 oz) of tap water initially at  $20\pm 5^\circ\text{C}$  ( $68^\circ\text{F}$ ) in the center of the oven cavity.  
The water container shall be a low form of 600 ml (20 oz) beaker with an inside diameter of approx. 8.5 cm (3-1/2 in.) and made of an electrically non conductive material such as glass or plastic.  
The placing of this standard load in the oven is important not only to protect the oven, but also to insure that any leakage is measured accurately.
- 3) Set the cooking control on a Manual Microwave Mode at full power.
- 4) Close the door and select a cook cycle of several minutes. If the water begins to boil before the survey is completed, replace it with 275 ml of cool water.

### C. Leakage test:

Closed-door leakage test (microwave measurement):

- 1) Grasp the probe of the survey instrument and hold it perpendicular to the gap between the door and the body of the oven.
- 2) Move the probe slowly, not faster than 1 in./sec. (2.5 cm/sec.) along the gap, watching for the maximum indication on the meter.
- 3) Check for leakage at the door screen, sheet metal seams and other accessible positions where the continuity of the metal has been breached (eg., around the switches, indicator, and vents).  
While testing for leakage around the door, pull the door away from the front of the oven as far as is permitted by the closed latch assembly.
- 4) Measure carefully at the point of highest leakage and make sure that the highest leakage is no greater than  $4\text{mW}/\text{cm}^2$ , and that the primary interlock switch/secondary interlock relay does turn the oven OFF before any door movement.

NOTE: After servicing, record data on service invoice and microwave leakage report.

# SERVICE MANUAL

## VIKING RANGE CORPORATION

MICROWAVE OVEN

### VCS0210SS

#### FOREWORD

This Manual has been prepared to provide Viking Service Personnel with Operation and Service Information for the Viking Microwave Oven.

It is recommended that service personnel carefully study the entire text of this manual so that they will be qualified to render satisfactory customer service.

Check the interlock switches and the door seal carefully. Special attention should be given to avoid electrical shock and microwave radiation hazard.

#### WARNING

Never operate the oven until the following points are ensured:

- (A) The door is tightly closed.
- (B) The door brackets and hinges are not defective.
- (C) The door packing is not damaged.
- (D) The door is not deformed or warped.
- (E) There is no other visible damage with the oven.

Servicing and repair work must be carried out only by trained service personnel.

#### DANGER

**Certain initial parts are intentionally not grounded and present a risk of electrical shock only during servicing.**

**Service personnel - Do not contact the following parts while the appliance is energized;**

**Inverter unit (that includes High Voltage Capacitor, High Voltage Power Transformer, High Voltage Rectifier and Heat sink etc.)**

All the parts marked "\*" on parts list are used at voltages more than 250V.

Removal of the outer wrap gives access to voltage above 250V.

All the parts marked "Δ" on parts list may cause undue microwave exposure, by themselves, or when they are damaged, loosened or removed.

PRODUCT DESCRIPTION

GENERAL INFORMATION

OPERATION

TROUBLESHOOTING GUIDE AND  
TEST PROCEDURE

COMPONENT REPLACEMENT  
AND ADJUSTMENT PROCEDURE

WIRING DIAGRAM

PARTS LIST

## VIKING RANGE CORPORATION

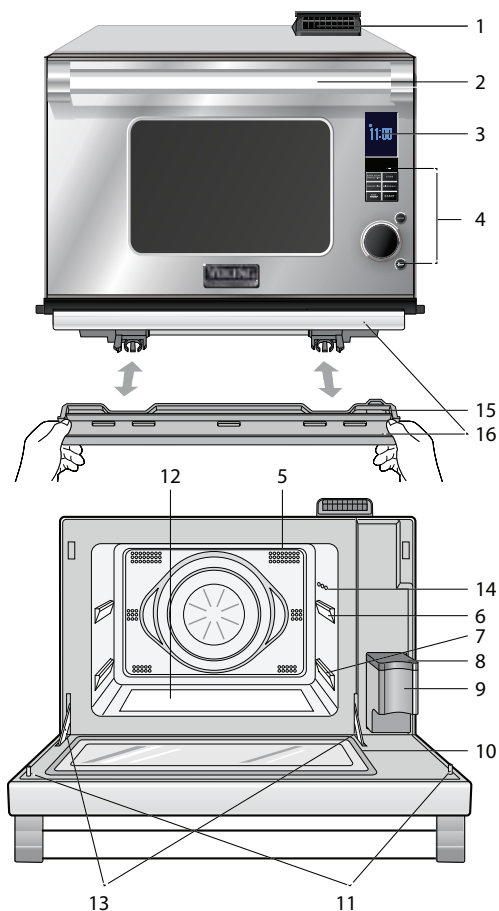
111 Front St., Greenwood, MS 38930

Tel: (888) 845-4641

## SPECIFICATION

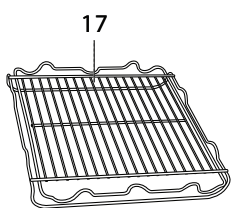
ITEM	DESCRIPTION
Power Requirements	120 Volts 10.7 Amperes (Microwave) / 12.5 Amperes (Convection) 60 Hertz / Single phase, 3 wire grounded
Power Output	700 watts (IEC 705 Test Procedure) Operating frequency of 2450MHz
Convection Power Output	1400 Watts
Outside Dimensions	Width 20-43/64"      Height 16-5/16"      Depth 18-5/16" (21" with handle)
Cooking Cavity Dimensions (1.1 Cubic Feet ) (Stainless Steel)	Width 13-36/64"      Height 9-1/16"      Depth 11-13/16"
Control Complement	<p><b>Heating modes:</b> Super Steam Convection Convection Steam Microwave</p> <p><b>Temperature control:</b> 200 ~ 450°F</p> <p><b>Microwave power:</b> 0 ~ 100%</p> <p><b>Cooking time range:</b> 0 ~ 2 hours 30 minutes</p> <p><b>Clock:</b> 12 hour clock</p>
Oven Cavity Light	Yes
Safety Standard	UL Listed      FCC Authorized DHHS Rules, CFR, Title 21, Chapter 1, Subchapter J Canadian Standards Association. Health CANADA, Industry CANADA.

# OVEN COMPONENTS

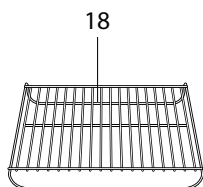


- 1 Air vent opening
- 2 Handle
- 3 LCD display
- 4 Control panel
- 5 Oven light
- 6 Upper level
- 7 Lower level
- 8 Reservoir lid
- 9 Reservoir
- 10 Door gasket
- 11 Latches
- 12 Ceramic oven floor
- 13 Door hinges
- 14 Steam outlets
- 15 Drip tray lid
- 16 Drip tray

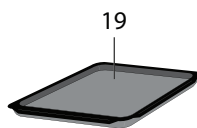
# ACCESSORIES



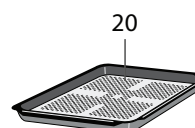
- 17 High rack - For Steam Convection, Convection and Steam. Do not use when microwave cooking. Always place on baking tray.



- 18 Low rack - For Steam Convection, Convection and Steam. Do not use when microwave cooking. Always place on baking tray.



- 19 Baking tray x 2 - For Steam Convection, Convection, Steam and Descale function. Do not use when microwave cooking.



- 20 Steam basket - For Steam. You can also use for Steam Convection and Convection. Do not use when microwave cooking. Place on high rack in baking tray.

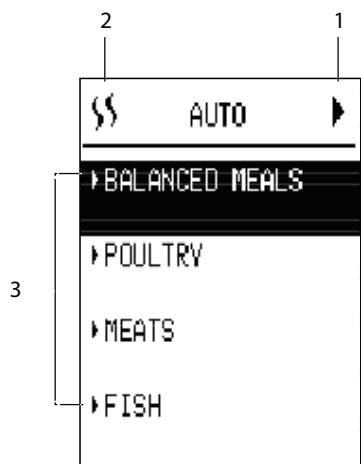



- 21 Descaling guide

## CONTROL PANEL




## DISPLAY INFORMATION




1  Arrows indicate more than one page; when you see an arrow, you can turn the dial to move back and forth between pages. When there are no arrows, you can go back to the previous page by touching BACK/INFO.

2 The illustration at the top of display indicates the selected cooking mode.

 Steam Convection was selected.

 Steam was selected.

 Microwave was selected.

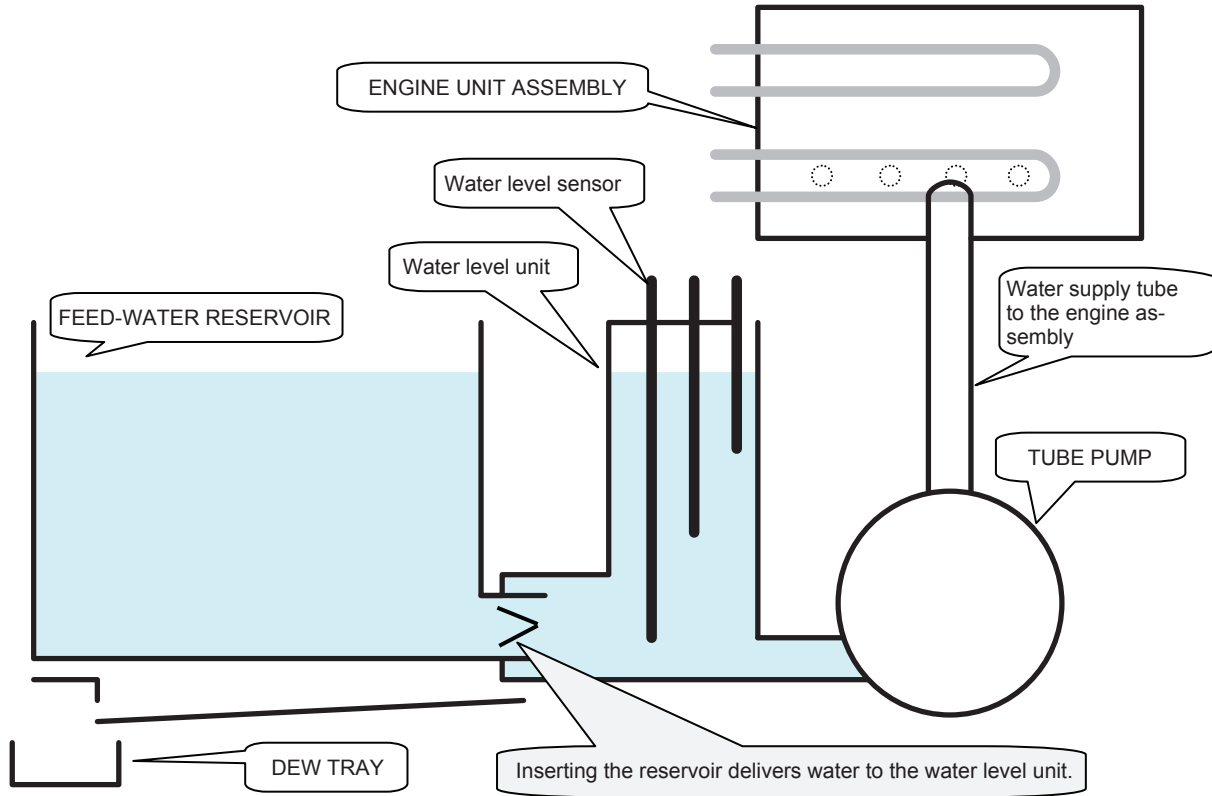
 Convection was selected.

3 Words will light in the display to indicate features and cooking instructions.

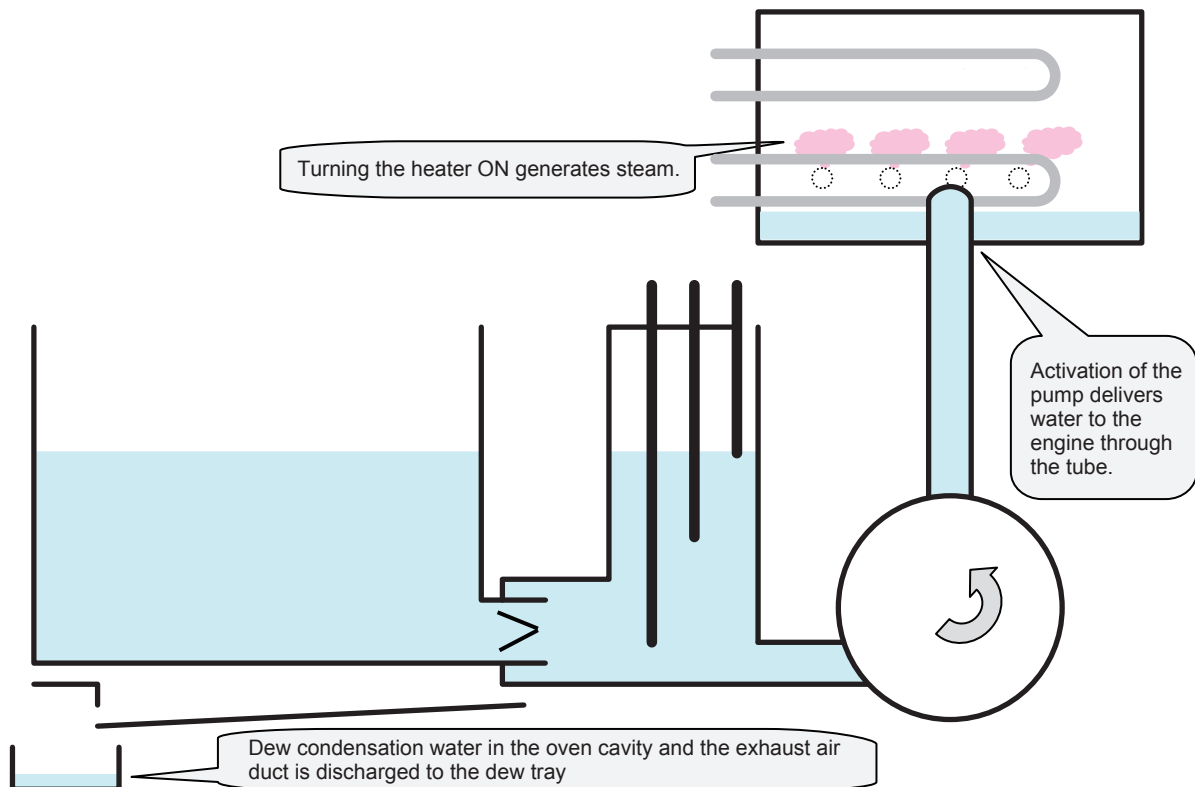


# WATER SUPPLY/DRAINAGE SCHEMATIC

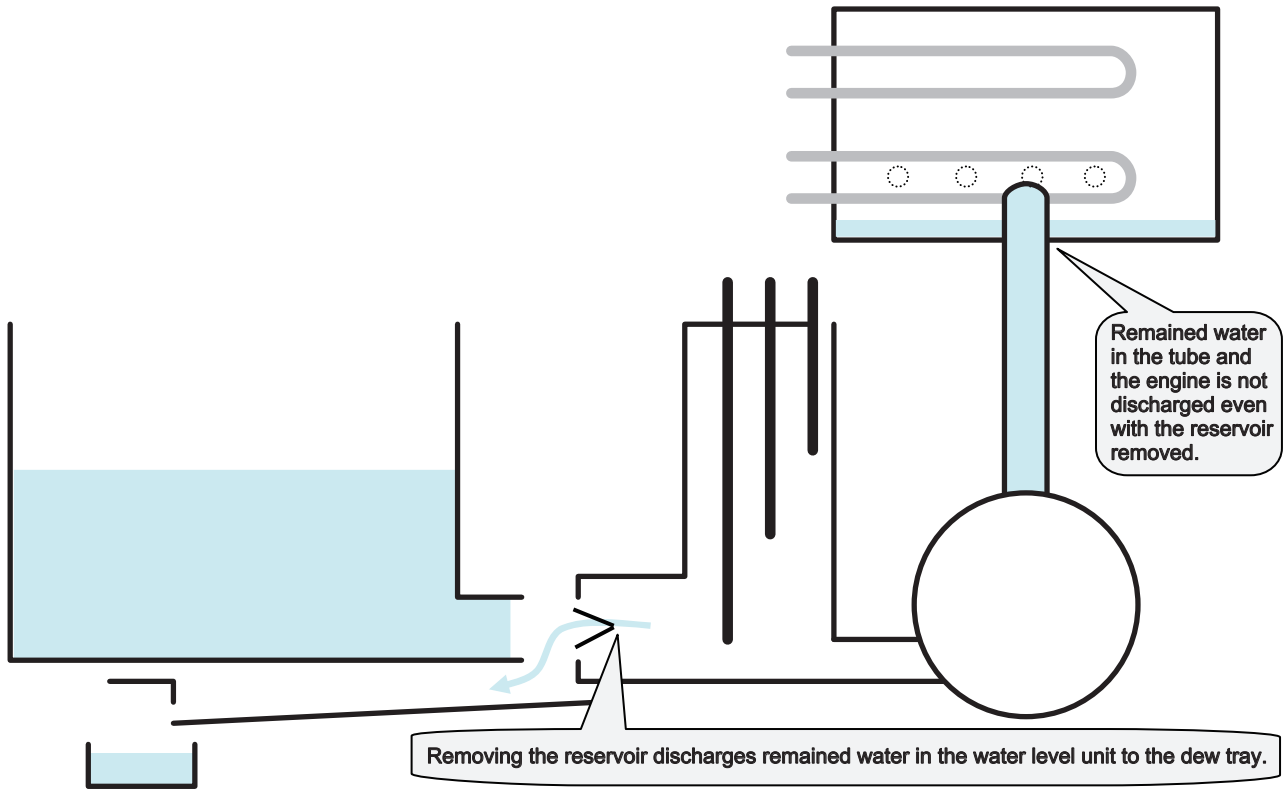
## 1. When installing the reservoir



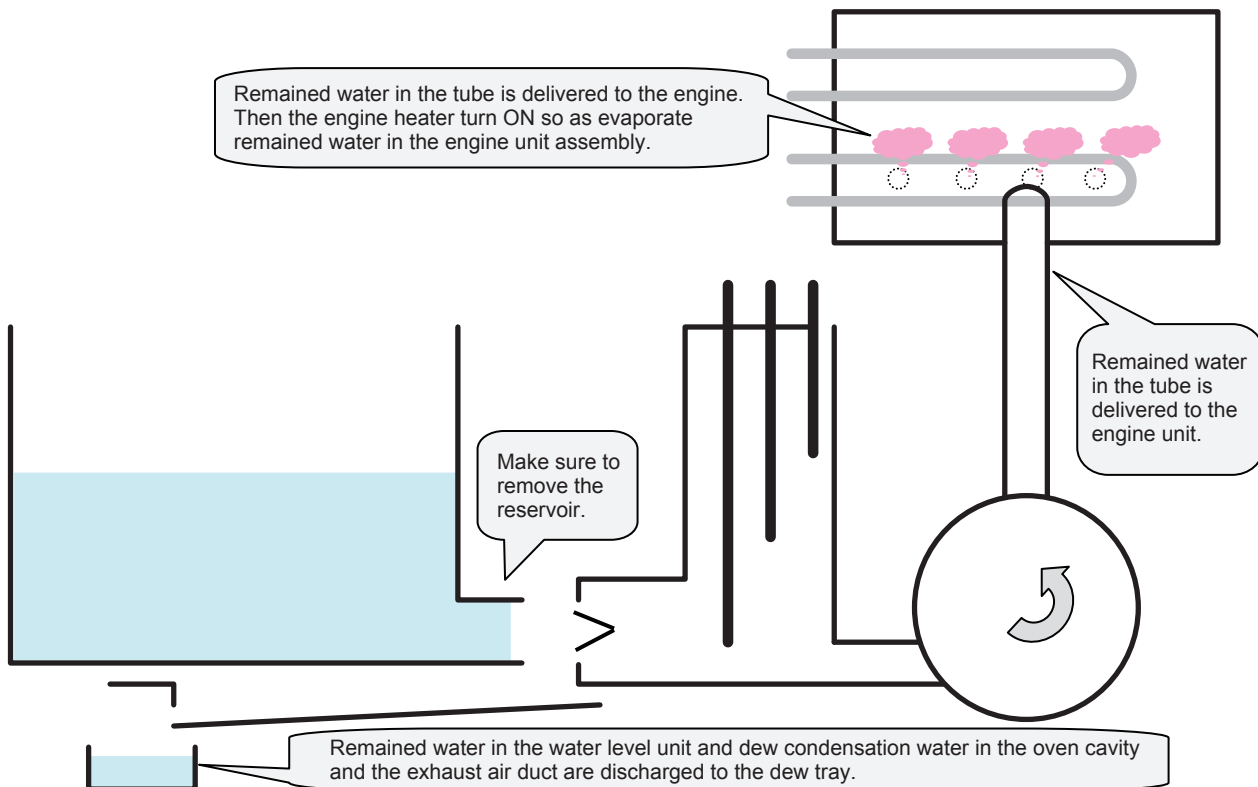
## 2. When steaming and super steam convection operations



### 3. When removing the reservoir



### 4. When operating the oven in order to discharge remained water in the engine unit assembly and tube (“Drain water” mode).



## On/Off Operation of Electric Parts in Each Heating Mode

Signal	Parts	Heating modes			
		Microwave	Convection	Supersteam	Steam
Output	Inverter unit	ON	OFF	OFF	OFF
	Primary interlock relay	ON	ON	ON	ON
	Engine heater	OFF	OFF	OFF	ON
	Convection heater	OFF	ON	ON	OFF
	Super Steam heater	OFF	OFF	OFF	ON
	Fan motor (AC motor)	ON	ON	ON	ON
	Cooling fan motor (DC motor)	ON	ON	ON	ON
	Ventilation fan motor (DC motor)	ON	OFF	OFF	OFF
	Sirocco fan motor (Exhaust)	ON	ON	ON	ON
	Convection motor	OFF	ON	ON	OFF
	Pump motor	OFF	OFF	ON	ON
	Oven lamp	ON	ON	ON	ON
Input	Thermistor (Engine)	OFF	OFF	ON	ON
	Thermistor (Oven)	OFF	ON	ON	OFF
	Water sensor	OFF	OFF	ON	ON
	AH sensor	ON	OFF	OFF	OFF
	Dew tray switch detection	YES	YES	YES	YES

## TEST PROCEDURES

### MAGNETRON ASSEMBLY TEST

1. Disconnect the power supply cord, and then remove the outer case and the back plate assembly.
2. Open the door and block it open.
3. Wait for 60 seconds to discharge the high voltage capacitors of the inverter unit.
4. Disconnect the high voltage wire from the magnetron terminal with insulated pliers.
5. Make the terminal (metal part) of the high voltage wire contact to the magnetron body with insulated pliers.
6. Now, the capacitors of the inverter unit are discharged.

**WARNING: Use the pliers that the portions of their handles are insulated completely to avoid an electric shock.**

7. To test for an open filament, isolate the magnetron from the high voltage circuit. A continuity check across the magnetron filament leads should indicate less than 1 ohm.
8. To test for a shorted magnetron, connect the ohmmeter leads between the magnetron filament leads and chassis ground. This test should indicate an infinite resistance. If there is little or no resistance the magnetron is grounded and must be replaced.
9. Reconnect all leads removed from components during testing.
10. Reinstall the outer case and the back plate assembly.
11. Reconnect the power supply cord after the outer case and the back plate assembly are installed.
12. Run the oven and check all function.

### 1. MICROWAVE OUTPUT POWER

The following test procedure should be carried out with the oven in a fully assembled condition (outer case fitted).

**HIGH VOLTAGES ARE PRESENT DURING THE COOK CYCLE, SO EXTREME CAUTION SHOULD BE OBSERVED.**

Power output of the magnetron can be measured by performing a water temperature rise test. This test should only be used if above tests do not indicate a faulty magnetron and there is no defect in the inverter unit or wiring. This test will require a 16 ounce (453cc) measuring cup and an accurate mercury thermometer or thermocouple type temperature tester. For accurate results, the following procedure must be followed carefully:

1. Fill the measuring cup with 16 oz. (453cc) of tap water and measure the temperature of the water with a thermometer or thermocouple temperature tester. Stir the thermometer or thermocouple through the water until the temperature stabilizes. Record the temperature of the water.
2. Place the cup of water in the oven. Operate oven at 100% power selecting more than 60 seconds cook time. Allow the water to heat for 60 seconds, measuring with a stop watch, second hand of a watch or the digital read-out countdown.
3. Remove the cup from the oven and again measure the temperature, making sure to stir the thermometer or thermocouple through the water until the maximum temperature is recorded.
4. Subtract the cold water temperature from the hot water temperature. The normal result should be 21.6 to 40°F (12 to 22.3°C) rise in temperature. If the water temperatures are accurately measured and tested for the required time period the test results will indicate if the magnetron tube has low power output (low rise in water temperature) which would extend cooking time or high power output (high rise in water temperature) which would reduce cooking time. Because cooking time can be adjusted to compensate for power output, the magnetron tube assembly should be replaced only if the water temperature rise test indicates a power output well beyond the normal limits. The test is only accurate if the power supply line voltage is 120 volts and the oven cavity is clean.

### PRIMARY INTERLOCK SYSTEM TEST- checking switches

#### Before checking switches

1. Disconnect the power supply cord, and then remove the outer case and the back plate assembly.
2. Open the door and block it open.
3. Wait for 60 seconds to discharge the high voltage capacitors of the inverter unit.
4. Disconnect the high voltage wire from the magnetron terminal with insulated pliers.
5. Make the terminal (metal part) of the high voltage wire contact to the magnetron body with insulated pliers.
6. Now, the capacitors of the inverter unit are discharged.
7. Reconnect the high voltage wire to the magnetron terminal after discharging.

**WARNING: Use the pliers that the portions of their handles are insulated completely to avoid an electric shock.**

**Isolate the switch and connect the ohmmeter to the terminals of the switch (refer to page 32 for each switch terminal location).**

Check all switches. If improper operation is indicated, replace the faulty switch.

9. Reconnect all leads removed from components during testing.
10. Reinstall the outer case and the back plate assembly.
11. Reconnect the power supply cord after the outer case and the back plate assembly are installed.
12. Run the oven and check all function.

## PRIMARY INTERLOCK SYSTEM TEST

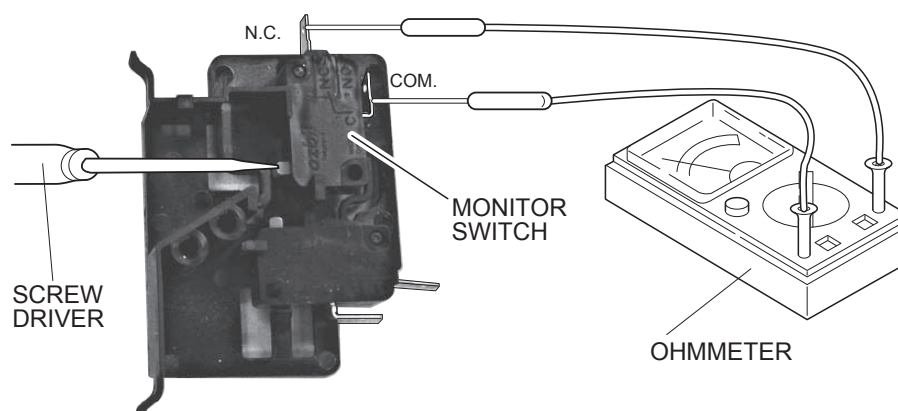
1. Disconnect the power supply cord, and then remove the outer case and the back plate assembly.
2. Open the door and block it open.
3. Wait for 60 seconds to discharge the high voltage capacitors of the inverter unit.
4. Disconnect the high voltage wire from the magnetron terminal with insulated pliers.
5. Make the terminal (metal part) of the high voltage wire contact to the magnetron body with insulated pliers.
6. Now, the capacitors of the inverter unit are discharged.
7. Reconnect the high voltage wire to the magnetron terminal after discharging.

**WARNING: Use the pliers that the portions of their handles are insulated completely to avoid an electric shock.**

8. Connect the ohmmeter to the white/white terminal of the noise filter and the white terminal of the convection motor. By doing so, the state of the relay contacts using a ohmmeter can be checked. The meter should indicate an open circuit. Because the relay contacts should be open.  
If the relay contacts are closed, replace the circuit board entirely or the relay itself.
9. Reconnect all leads removed from components during testing.
10. Reinstall the outer case and the back plate assembly.
11. Reconnect the power supply cord after the outer case and the back plate assembly are installed.
12. Run the oven and check all function.

latch hook location	Switch name	Type	door open	door closed
left side - top	3rd Door	N.O.	closed circuit	open circuit
left side - bottom	Door Sensing	N.O.	closed circuit	open circuit
right side - top	Monitor	N.C.	open circuit	closed circuit
right side - bottom	Secondary Interlock	N.O.	closed circuit	open circuit

You can use a small screwdriver to push on the switch's plunger as shown for the monitor switch below.



## BLOWN MONITOR FUSE TEST

1. Disconnect the power supply cord, and then remove the outer case and the back plate assembly.
2. Open the door and block it open.
3. Wait for 60 seconds to discharge the high voltage capacitors of the inverter unit.
4. Disconnect the high voltage wire from the magnetron terminal with insulated pliers.
5. Make the terminal (metal part) of the high voltage wire contact to the magnetron body with insulated pliers.
6. Now, the capacitors of the inverter unit are discharged.
7. Reconnect the high voltage wire to the magnetron terminal after discharging.

**WARNING: Use the pliers that the portions of their handles are insulated completely to avoid an electric shock.**

8. If the monitor fuse is blown when the door is opened, check the primary interlock relay, secondary interlock switch and monitor switch according to the "PRIMARY INTERLOCK SYSTEM TEST" procedure for those switches before replacing the blown monitor fuse.

**CAUTION: BEFORE REPLACING A BLOWN MONITOR FUSE, TEST THE PRIMARY INTERLOCK RELAY, SECONDARY/THIRD INTERLOCK SWITCH, DOOR SENSING SWITCH AND MONITOR SWITCH FOR PROPER OPERATION.**

If the monitor fuse is blown by improper switch operation, the monitor fuse and monitor switch must be replaced with "monitor fuse and monitor switch assembly" part number FFS-BA038WRKZ, even if the monitor switch operates normally. The monitor fuse and monitor switch assembly is comprised of a 15 ampere fuse and switch.

9. Reconnect all leads removed from components during testing.
10. Reinstall the outer case and the back plate assembly.
11. Reconnect the power supply cord after the outer case and the back plate assembly are installed.
12. Run the oven and check all function.

## CHECKING TEMPERATURE IN THE CONVECTION (Bake or Roast) MODE

The following test procedure should be carried out with the oven is a fully assembled condition (outer case fitted).

It is difficult to measure the exact temperature in the convection oven. An accurate thermocouple type temperature tester must be used. A low priced bi-metal type thermometer is not reliable or accurate. Position the thermocouple in the center of the oven cavity. The temperature should be checked with outer case cabinet installed and set the oven temperature to 450°F in the convection mode (Bake or Roast). Approx. 10 minutes after preheat temperature is reached, the temperature experienced may be approx. 30°F more or less than set temperature, however, in most cases the food cooking results will be satisfactory. Difference in power supply voltage will also affect the oven temperature. The Household power supply voltage may sometimes become lower than the rated voltage (120V) and cause under-cooking. If the power supply voltage is 10% lower than the rated voltage, longer cooking time is required by 10% to 20%.

## ERROR LIST

Error indication	Description	Condition	Menu concerned	Detection means	Check timing	Remarks
Wait. Oven is too warm to use.	Inside temperature error	thermistor level is starting higher than it should be for the beginning of proof (fermentation) or defrosting.	Proof (fermentation) Defrosting	Oven thermistor	One (1) second after heating start	Error message indication. When oven temperature is below 90C [194F] this error will be released" and cooking can resume.
Replace drip tray or empty drip tray and replace.	No dew tray setting error	No dew tray has been set.	No dew tray.	Dew tray switch	Any time	
Remove reservoir	Reservoir with water presence error	There is water in reservoir when remained water is discharged.	Discharging remained water	Water level sensor	After one (1) second from start of heating (manually)	
Water is frozen. Please refer to instructions in operation manual.	Freezing error	Low engine temperature error	Engine usage menu	Oven thermistor	As soon as heating starts	
Fill water reservoir.	Not enough water	Lack of necessary amount of water	Engine usage menu	Water level sensor	After 30 seconds for automatic menu and after one (1) second from start of heating for manual operation	

Error indication	Description	Condition		Check timing	Remarks
EE01	Oven thermistor failure Short circuit Open	Break/short-circuit of thermistor	Software is detecting oven stuck at too hot while in oven mode or oven stuck at too cold while in proof (fermentation) mode.	As soon as heating starts Any time during heating	
EE02	AH sensor failure	Break/short-circuit of AH sensor	Software and associated A/D circuitry is measuring values outside of normal range for AH sensor.	After 16~32 seconds from start of microwave sensor cooking modes.	
EE05	High temperature engine error	Engine temperature is abnormally high.	Engine usage menu	Any time during cooking mode but microwave	
EE12	Engine thermistor failure	Break of thermistor	Engine usage menu	Any time during heating	Judgment is carried out when engine heater has been energized for 30 or more seconds.
EE14	EEPROM failure Data verification error	Written value does not agree with read value	When I/O check mode starts	I/O check mode	
Reset	Food burning while microwave cooking	AH sensor ladder resistance level error		After an elapse of seven (7) minutes from start of heating	

## [7] How to check in the event of an error

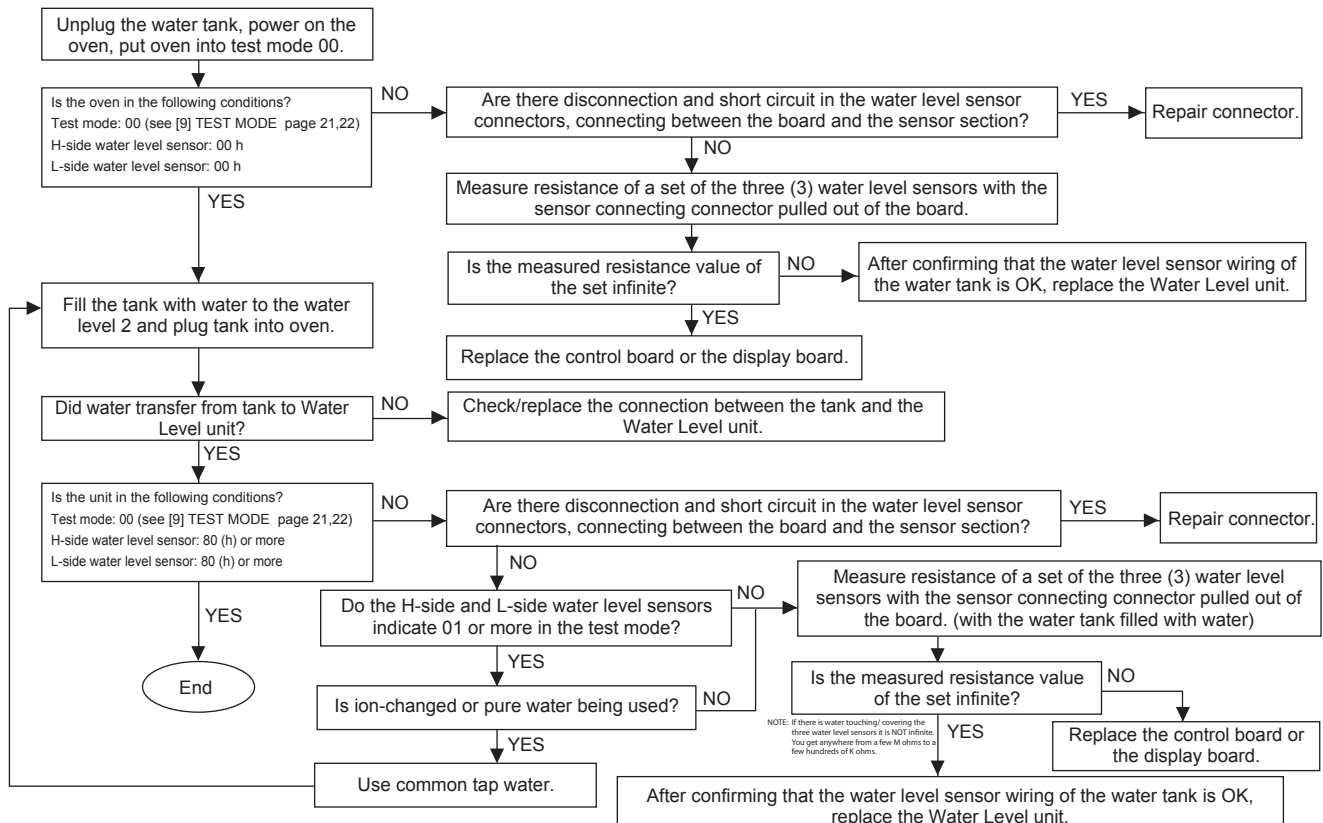
### NOTE: HOW TO SET THE TEST MODE

(Power ON/door closed state)

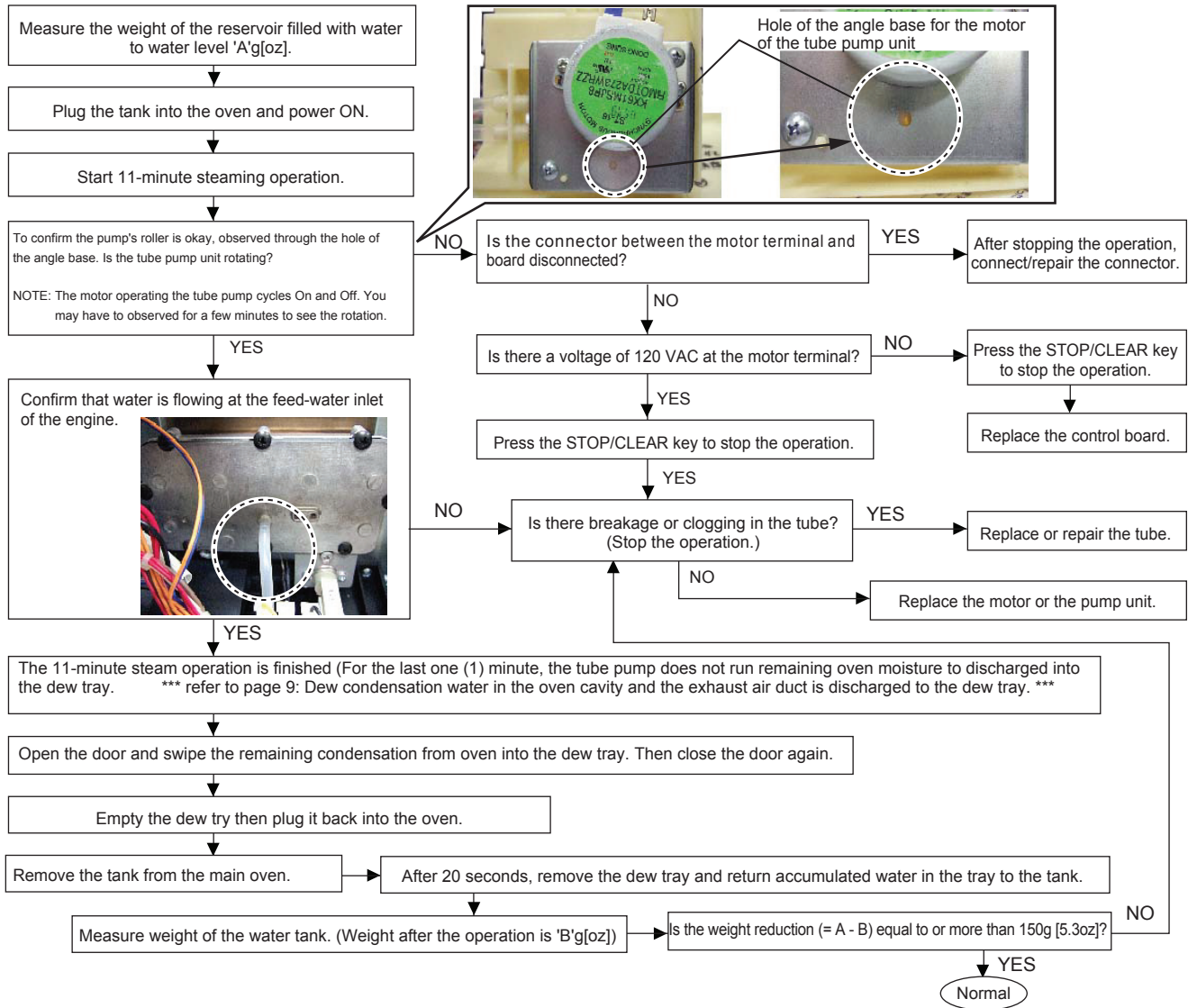
→ [STOP/CLEAR]→ [STEAM CONVECTION]→ [MICROWAVE]→ [OPEN DOOR]→ (Set the number (initial number: 04) by [ENCODER DIAL]→[START]  
 ↳ Within 1 sec. ↳ Within 1 sec. ↳ Within 1 sec. ↳ → [DIRECT SETTING KEY]

## 1. How to check water supply performance

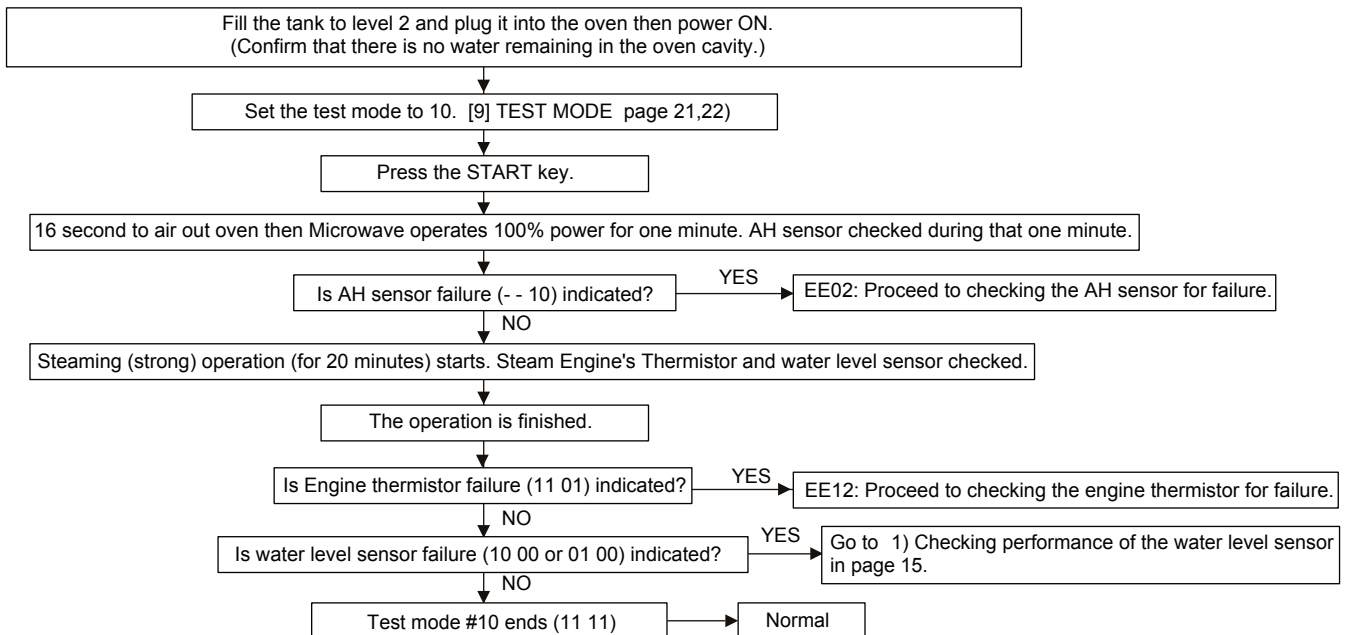
### 1) Check of water level sensor performance



## Check of tube pump performance

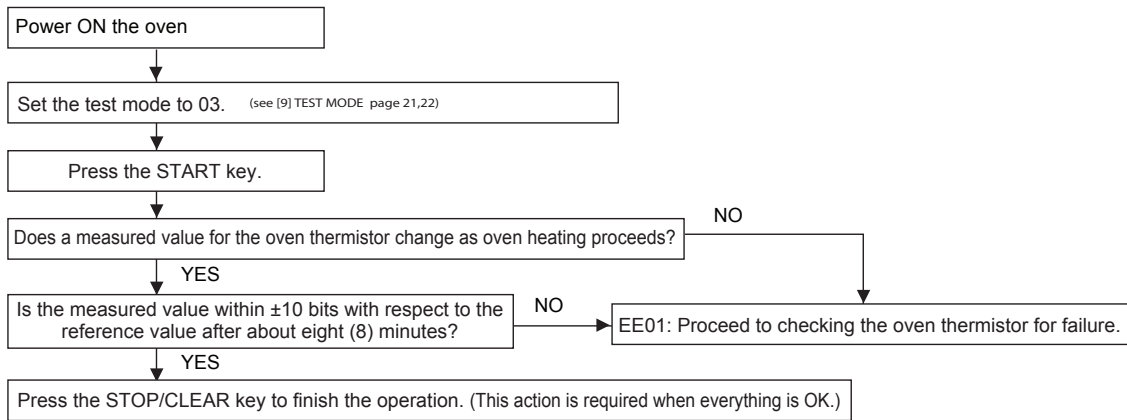


## 2. How to check performance of sensors (AH sensor, water level sensors and Engine thermistor)

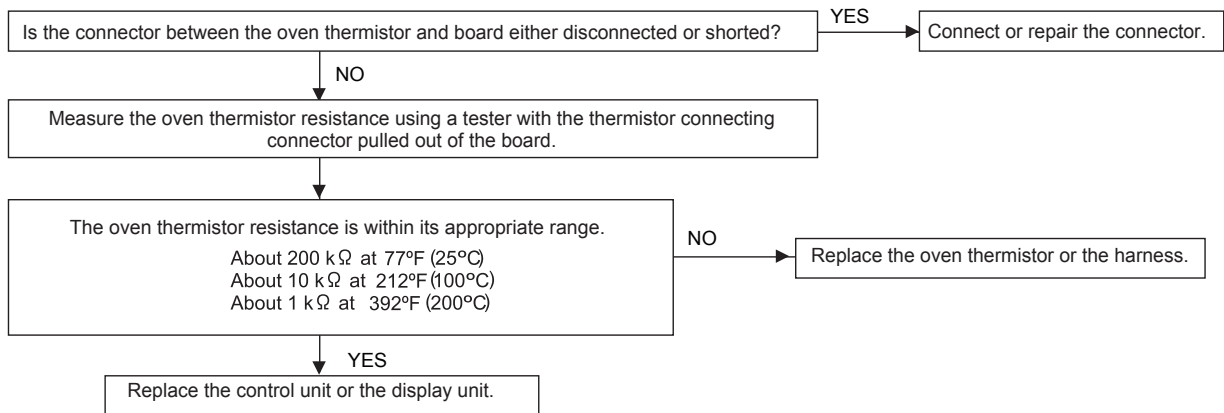




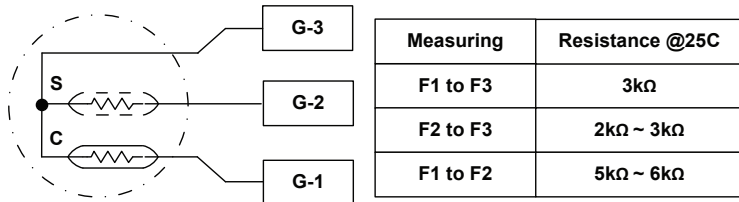
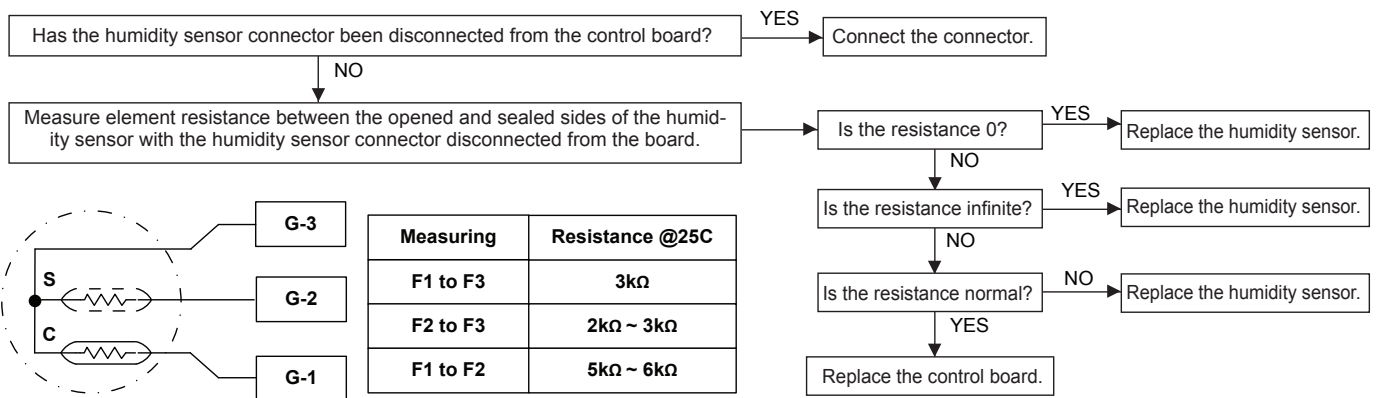
### 3. How to check sensor (oven thermistor) performance



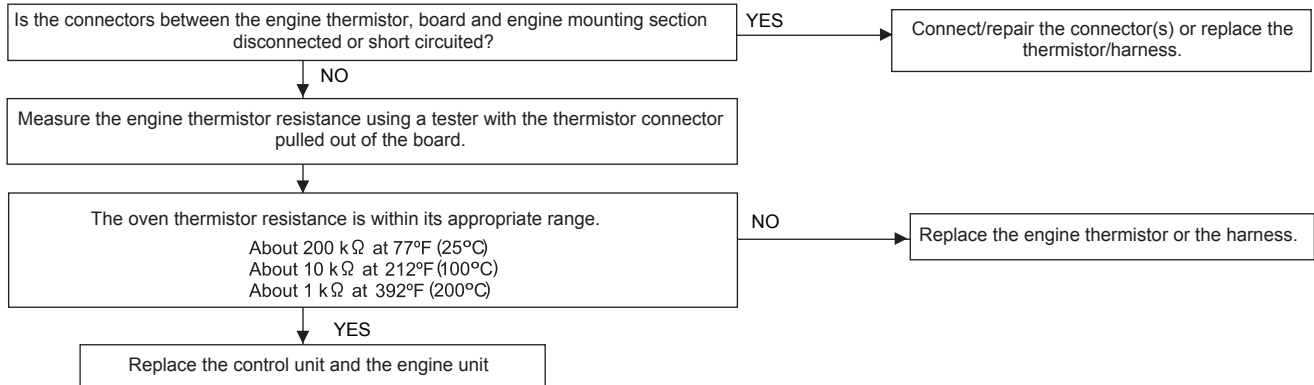
### 4. EE01 Oven thermistor failure



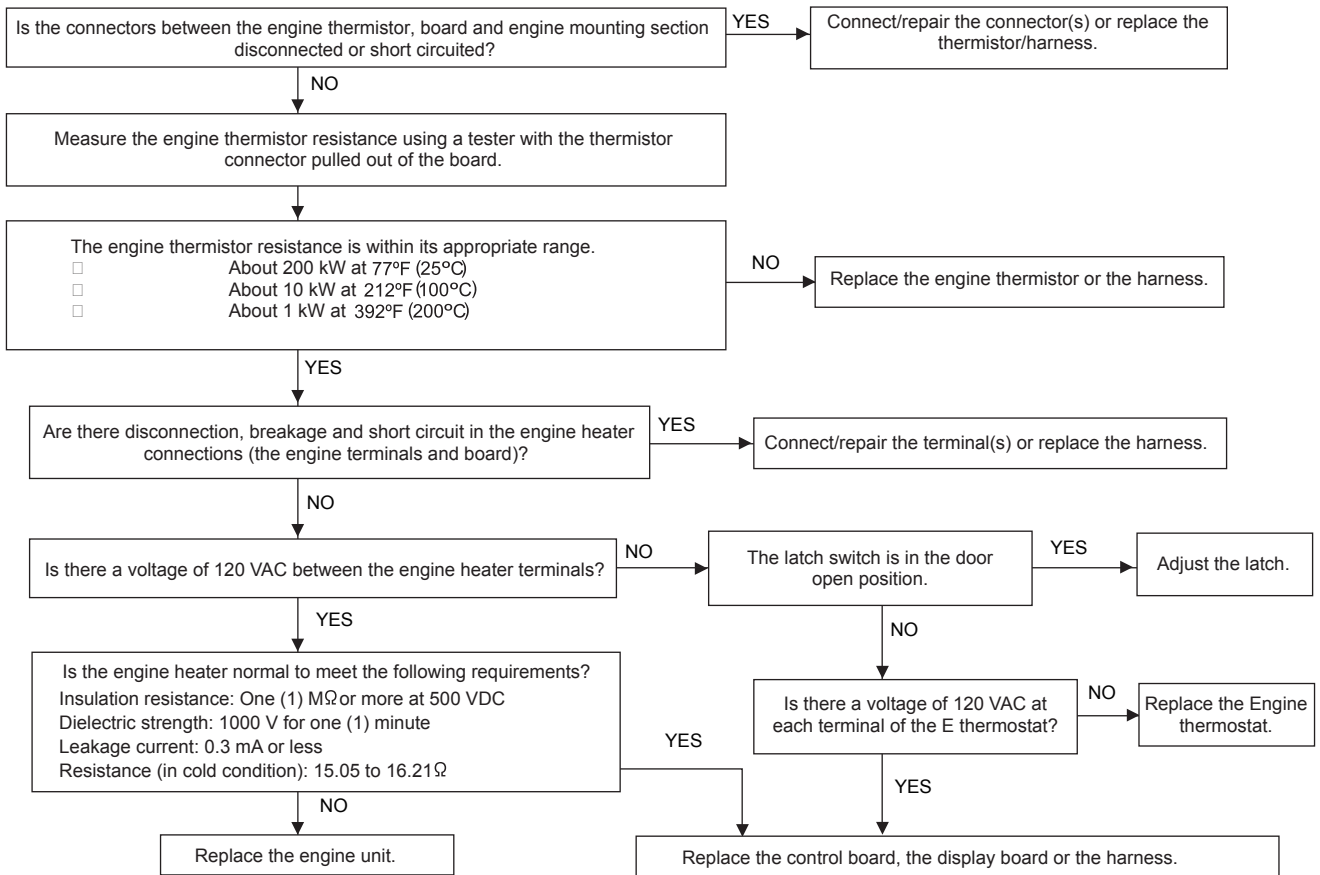
### 5. EE02 AH sensor failure



## 6. EEO5 Engine high temperature failure



## 7. EE12 Engine thermistor failure



## Check and remedy in the event of malfunction

### 1. List

Operation	Trouble	Action
Even with plugged in	• No display	<ul style="list-style-type: none"> <li>• Has the 15 A fuse blown?               <ul style="list-style-type: none"> <li>▶ YES: Refer to “Check in the event of 15 A fuse blowing.”</li> <li>▶ NO: Check the display unit, fan thermal cut-out and convection thermal cut-out.</li> </ul> </li> </ul>
	• No key is valid.	• Replace the display unit.
	• No backlight for display illuminates	• Replace the display unit.
	• The rotary knob does not function.	• Replace the display unit.
	• The oven lamp does not illuminate. (Note that the lamp goes out after five (5) minutes from opening the door.)	<ul style="list-style-type: none"> <li>• Is there a voltage of about 120 V between the oven lamp terminals.               <ul style="list-style-type: none"> <li>▶ YES: Replace the oven lamp.</li> <li>▶ NO: Replace the control unit.</li> </ul> </li> </ul>
	• No sound	<ul style="list-style-type: none"> <li>• Has the harness between the control unit (CN-D) and the display unit (WH-A) been connected?               <ul style="list-style-type: none"> <li>▶ YES: Replace the control unit or display unit. (Check that sound volume has not been set to mute.)</li> <li>▶ NO: Connect the harness. → Also check that sound volume has not been set to mute. ( [BACK/INFO] --&gt; select Sound ON/OFF, [ENTER] )</li> </ul> </li> </ul>
When heating operation started	• The “START” key does not function.	<ul style="list-style-type: none"> <li>• With door closed, check if door switch is open [YES] or closed [NO] (also a [YES] if the oven lamp does not go out).               <ul style="list-style-type: none"> <li>▶ YES: Adjust the door switch.</li> <li>▶ NO: Replace the control unit or display unit.</li> </ul> </li> </ul>
	• The fan motor does not run.	<ul style="list-style-type: none"> <li>• Is there a voltage of 120 V for the AC fan or 24 V for the DC fan?               <ul style="list-style-type: none"> <li>▶ YES: Replace the fan motor.</li> <li>▶ NO: Replace the control unit.</li> </ul> </li> </ul>
	<ul style="list-style-type: none"> <li>• The supersteam heater does not function.</li> <li>• The engine heater does not function.</li> <li>• The convection does not function.</li> </ul>	<ul style="list-style-type: none"> <li>• Is there a voltage of about 120 V between the terminals of each of the supersteam heater, engine heater and convection heater?               <ul style="list-style-type: none"> <li>▶ YES:                   <ul style="list-style-type: none"> <li>• Replace the engine unit assembly (when the supersteam heater does not function).</li> <li>• Replace the engine unit assembly (when the engine heater does not function).</li> <li>• Replace the convection heater (when the convection heater does not function).</li> </ul> </li> <li>▶ NO: With door closed, check if any switches are measuring as if the door is in open position.                   <ul style="list-style-type: none"> <li>▶ YES: Adjust the latch.</li> <li>▶ NO: The engine thermostat has been broken.                       <ul style="list-style-type: none"> <li>▶ YES: Replace the engine unit assembly, engine thermostat and the engine packing B.</li> <li>▶ NO: Replace the control unit.</li> </ul> </li> </ul> </li> </ul> </li> </ul>
	• The tube pump motor does not run.	<ul style="list-style-type: none"> <li>• Is there a voltage of about 120 V between the tube pump motor terminals.               <ul style="list-style-type: none"> <li>▶ YES: Replace the pump unit assembly.(Check the tube pump motor.)</li> <li>▶ NO: Replace the control unit.</li> </ul> </li> </ul>
	• Reset occurs.	Replace the control unit.
Others	<ul style="list-style-type: none"> <li>• Even with the tank filled with water, “Fill water reservoir” is indicated and heating does not start.               <ul style="list-style-type: none"> <li>• Has the reservoir been inserted all the way?                   <ul style="list-style-type: none"> <li>▶ YES: Replace the WL joint or the control unit.</li> <li>▶ NO: Replace the tank or the tank spring.</li> </ul> </li> </ul> </li> </ul>	

### 2. Check in the event of a 15 A fuse blowing

When the 15 A fuse was blown, observe the following instruction:

There are many high voltage components in the oven, therefore, except for performing operational check, unplug the power cable before starting work. For the harness, check for poor caulking, poor connection, etc.

Refer to page 14 “BLOWN MONITOR FUSE TEST” and if the fuse still continues to blow, the the inverter may need to be replaced.

## INVERTER UNIT TEST

**WARNING:** DO NOT TOUCH THE COMPONENTS OF THE INVERTER UNIT WHILE INVERTER UNIT IS ENERGIZED. IT IS DANGEROUS BECAUSE THIS HAS HIGH VOLTAGE COMPONENTS.

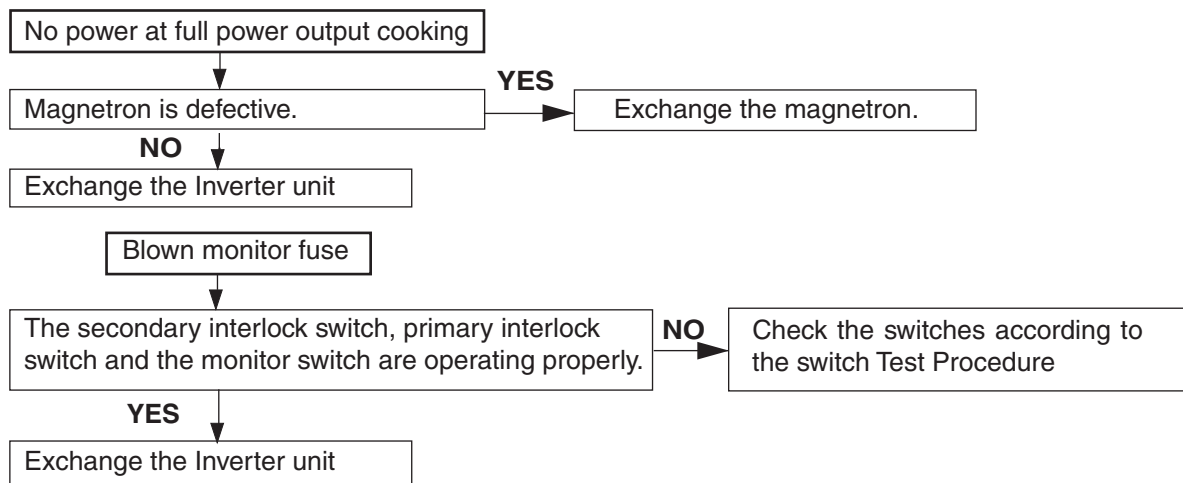
**CAUTION:** DO NOT OPERATE INVERTER UNIT BY ITSELF.

**CAUTION:** DO NOT CONNECT THE OVEN TO WALL OUTLET WITHOUT THE OUTER CASE INSTALLED.

Before checking the inverter unit, carry out following 4 steps.

1. Disconnect the power supply cord, and then remove outer case.
2. Open the door and block it open.
3. To discharge high voltage capacitor, wait for 60 seconds.
4. Make sure that the wire leads and the connectors are connected correctly to the inverter unit, control unit and magnetron.

### Chart for checking the defective inverter unit



## TEST MODE

### HOW TO SET TEST MODE

(Power ON/door closed state)

→ [STOP/CLEAR]→ [STEAM CONVECTION]→ [MICROWAVE]→ [OPEN DOOR]→ (Set the number (initial number: 04) by [ENCODER DIAL] → [START]  
 ↳Within 1 sec.↳ ↳Within 1 sec.↳ ↳Within 1 sec.↳ ↳ → [DIRECT SETTING KEY]

No.	Test mode	Description	Output	Display example						
00	Monitoring of various A/D values	Measured A/D values are displayed on one screen. [1] H-side water level sensor [2] L-side water level sensor [3] Oven thermistor (oven mode) [4] Oven thermistor (proofing mode) [5] Engine thermistor [6] Dew tray switch	OFF	<table border="1"> <tr><td>TEST00</td></tr> <tr><td>WATER H XX</td></tr> <tr><td>WATER L XX</td></tr> <tr><td>OVEN TH XX Y Y</td></tr> <tr><td>ENG TH XX</td></tr> <tr><td>DEW SW XX</td></tr> </table> Measured value [1] XX bits [2] XX bits [3] XX bits [4] YY bits [5] XX bits [6] XX bits	TEST00	WATER H XX	WATER L XX	OVEN TH XX Y Y	ENG TH XX	DEW SW XX
TEST00										
WATER H XX										
WATER L XX										
OVEN TH XX Y Y										
ENG TH XX										
DEW SW XX										
03	Thermistor check	Convection mode heating oven to 350F. Reference bits and measured temperature A/D values are displayed in hex.	C Heater, RY1 C Fan, OL DC Fan (cooling) Exhaust Fan FM	<table border="1"> <tr><td>TEST03</td></tr> <tr><td>XX YY</td></tr> <tr><td>CONV</td></tr> </table> Reference value XX bits Measured value YY bits	TEST03	XX YY	CONV			
TEST03										
XX YY										
CONV										
10	AH with no load Steam (water level) check	(1) Noise check with no water load placed inside oven AH judgment begins after [START] key. The first 16 seconds no microwave power (fans removing residual moisture).	FM, OL, RY3 DC Fan (cooling) DC Fan (ventilation) Exhaust Fan	AH judgment level indication <table border="1"> <tr><td>TEST10</td></tr> <tr><td>.....</td></tr> <tr><td>10 00</td></tr> </table>	TEST10	.....	10 00			
		TEST10								
		.....								
		10 00								
Microwave power on at 100% for 1 minute . Software is checking how much microwave noise the AH sensor is detecting. Some noise (less than 16 bits) is not a problem for normal AH sensor operation. However, noise levels of 16 bits or greater will trigger sensor fault before normal moisture has occurred. [Low moisture foods, like popcorn, depend upon good AH sensor operation.] *In the event of sensor fault or 16 or more bits, not acceptable is indicated by "-- 10" and the test mode will not proceed next part, steam heating.	Microwave (full power) FM, OL, RY3 DC Fan (cooling) DC Fan (ventilation) Exhaust Fan	AH level indication in progress <table border="1"> <tr><td>TEST10</td></tr> <tr><td>.....</td></tr> <tr><td>10 09</td></tr> <tr><td>MICRO</td></tr> </table> Judgment: 16 bits Example: 9 bits detected (The max. value is indicated in hex.) Error indication <table border="1"> <tr><td>TEST10</td></tr> <tr><td>.....</td></tr> <tr><td>-- 10</td></tr> </table> 16 or more bits detected AH failure	TEST10	.....	10 09	MICRO	TEST10	.....	-- 10	
TEST10										
.....										
10 09										
MICRO										
TEST10										
.....										
-- 10										
(2) Steam heating Activate STEAM COOK for a maximum time of 20 minutes (with the water tank filled to level 2. Test mode checks:) 2.1) Check whether the water level is at 2 level when starting. 2.2) Check whether the water level changes as steam is generated 2.3) if an open/ short circuit of the engine thermistor. eliminate. step (1) of test mode is doing this. step (2) will not start if bit level is too high.	E heater Tube Pump FM, OL, RY1 DC Fan (cooling) Exhaust Fan	<table border="1"> <tr><td>TEST10</td></tr> <tr><td>.....</td></tr> <tr><td>00 10</td></tr> <tr><td>STEAM</td></tr> </table>	TEST10	.....	00 10	STEAM				
TEST10										
.....										
00 10										
STEAM										
(3) Common Judgment indication Acceptable 11 11 The water level sensor, ETH and AH are perfect. Unacceptable 11 01 Engine thermistor failure 10 00 Water level sensor failure or no water (when starting) 01 00 H-side water level sensor failure (when starting) 00 11 (Water level measurement in progress) -- 10 AH failure (others not checked yet) Please note: test mode can be stop if already reach "11 11" before the 20 minutes maximum.	All relays are OFF	Judgment indication <table border="1"> <tr><td>TEST10</td></tr> <tr><td>.....</td></tr> <tr><td>11 11</td></tr> </table> Acceptable <table border="1"> <tr><td>TEST10</td></tr> <tr><td>.....</td></tr> <tr><td>01 00</td></tr> </table> Unacceptable H-side water level sensor failure	TEST10	.....	11 11	TEST10	.....	01 00		
TEST10										
.....										
11 11										
TEST10										
.....										
01 00										

**NOTE:** Please only use test modes 00, 03, and 10 for service! Other test modes are factory only settings and can significantly alter the ovens performance without the correct factory settings and test equipment.

## The detail of judgment(test no.10)

display	error timing	water level sensor	ETH	AH	
-- 10	immediate steam heating	not judged	not judged	NG	
-- -0	microwave mode stopped	not judged	not judged	not judged	dew receiver isn't equipped or dew switch is defect.
-- -1	immediate steam heating	not judged	not judged	OK	dew receiver isn't equipped or dew switch is defect.
00 00	during steam heating mode	under checking	NG	under checking	Engine heater is defect when error appears after 30 sec
	steam heating works for 20 min	NG	NG	NG	
00 01	during steam heating mode	under checking	NG	OK	
00 10	during steam heating mode	under checking	OK	not judged	OTH is defect(open)
10 00	immediate steam heating	shortage of water	not judged	not judged	
	during steam heating mode	NG	not judged	not judged	Both water level sensor is off at the same time.
10 10	during steam heating mode	NG	OK	not judged	Both water level sensor is off at the same time.
10 01	during steam heating mode	NG	under checking	OK	Both water level sensor is off at the same time.
10 11	during steam heating mode	NG	OK	OK	Both water level sensor is off at the same time.
01 00	immediate steam heating	shortage of water	not judged	not judged	
	during steam heating mode	NG	under checking	under checking	Water sensor level change is inverted (H:ON, L:OFF)
01 10	during steam heating mode	NG	OK	under checking	Water sensor level change is inverted (H:ON, L:OFF)
01 01	during steam heating mode	NG	under checking	OK	Water sensor level change is inverted (H:ON, L:OFF)
01 11	during steam heating mode	NG	OK	OK	Water sensor level change is inverted (H:ON, L:OFF)
11 00	steam heating works for 20 min	OK	NG	NG	
11 01	during steam heating mode	OK	NG	OK	
11 10	steam heating works for 20 min	OK	OK	NG	

## COMPONENT REPLACEMENT AND ADJUSTMENT PROCEDURE

### WARNING AGAINST HIGH VOLTAGE:

Microwave ovens contain circuitry capable of producing very high voltage and current, contact with following parts may result in severe, possibly fatal, electric shock.

**(Example)** Inverter unit, Magnetron, High Voltage Harness etc..

**WARNING:** Avoid possible exposure to microwave energy. Please follow the instructions below before operating the oven.

1. Disconnect the power supply cord.
2. Visually check the door and cavity face plate for damage (dents, cracks, signs of arcing etc.).

Carry out any remedial work that is necessary before operating the oven.

Do not operate the oven if any of the following conditions exist;

1. Door does not close firmly.
2. Door hinge, support or latch hook is damaged.
3. The door gasket or seal is damaged.
4. The door is bent or warped.

5. There are defective parts in the door interlock system.
6. There are defective parts in the microwave generating and transmission assembly.
7. There is visible damage to the oven.

Do not operate the oven:

1. Without the RF gasket (Magnetron).
2. If the wave guide or oven cavity are not intact.
3. If the door is not closed.
4. If the outer case (cabinet) is not fitted.

### WARNING FOR WIRING

To prevent an electric shock, take the following precautions.

1. Before wiring,
  - 1) Disconnect the power supply cord, and then remove the outer case and the back plate assembly.
  - 2) Open the door and block it open.
  - 3) Wait for 60 seconds to discharge the high voltage capacitors of the inverter unit.
  - 4) Disconnect the high voltage wire from the magnetron terminal with insulated pliers.
  - 5) Make the terminal (metal part) of the high voltage wire contact to the magnetron body with insulated pliers.
  - 6) Now, the capacitors of the inverter unit are discharged.
  - 7) Reconnect the high voltage wire to the magnetron terminal after discharging.

**WARNING :** Use the pliers that the portions of their handles are insulated completely to avoid an electric shock.

2. Do not let the wire leads touch to the following parts;
  - 1) High voltage parts:  
Magnetron, Inverter unit and High voltage capacitor.
  - 2) Hot parts:  
Oven lamp, Magnetron, Inverter unit and Oven cavity.
  - 3) Sharp edge:  
Bottom plate, Oven cavity, Waveguide flange and other metallic plate.
  - 4) Movable parts (to prevent a fault)  
Fan blade, Fan motor, Switch, Switch lever.
3. Do not catch the wire leads in the outer case cabinet.
4. Insert the positive lock connector until its pin is locked and make sure that the wire leads do not come off even if the wire leads are pulled.
5. To prevent an error function, connect the wire leads correctly, referring to the Circuit Diagram.

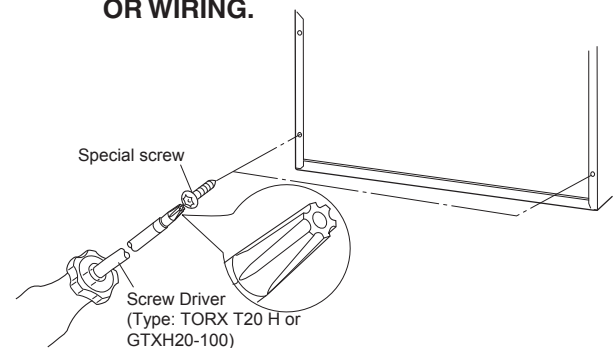
### OUTER CASE REMOVAL

To remove the outer case, procedure as follows.

1. Disconnect the power supply cord.
2. Wait for 60 seconds to discharge the high voltage capacitors of the inverter unit.
3. Open the oven door and block it open.
4. Remove the one (1) screw holding the steam cap to the outer case cabinet (back side).
5. Remove the two (2) screws from the lower portion of the rear cabinet using a T20H Torx type or GTXH20-100 screw driver.
6. Remove the remaining three (3) screws from the upper portion of the rear side of outer case.
7. Slide the entire outer case back out about 1 inch (3 cm) to free it from retaining clips on the cavity face plate.
8. Lift entire outer case from the unit.
9. Now, the outer case with the steam cap is free.

**NOTE:** When replacing the outer case, the 2 special Torx screws must be reinstalled in the same locations.

**CAUTION: DISCONNECT OVEN FROM POWER SUPPLY BEFORE REMOVING OUTER CASE. WAIT FOR 60 SECONDS BEFORE TOUCHING ANY OVEN COMPONENTS OR WIRING.**



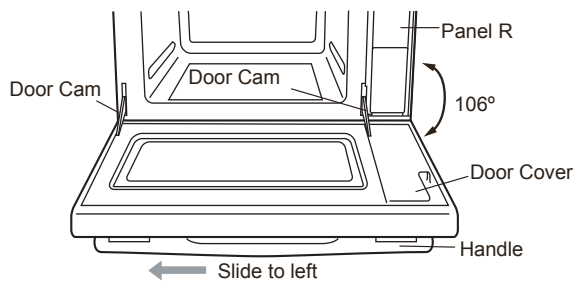
## BACK PLATE REMOVAL

1. Disconnect the power supply cord.
2. Remove the outer case cabinet, referring to "OUTER CASE REMOVAL".
3. Open the oven door and block it open.
4. Remove the one (1) screw holding the side angle to the back plate.
5. Remove the two (2) screws holding the back plate to the top rear angle.
6. Remove the three (4) screws fixing the back plate.
7. Now, the back plate with exhaust cover is free.

## DOOR ASSEMBLY REPLACEMENT

### 1. REMOVAL

1. Disconnect the power supply cord.
2. Wait for 60 seconds to discharge the high voltage capacitors of the inverter unit.
3. Remove the outer case cabinet, referring to "OUTER CASE REMOVAL".
4. Remove the dew tray
5. Disconnect the 12-pin connector of the control panel harness.
6. With the door open 45°, push the door cam down and back, then slowly open the door to remove it.
7. With the door open more than 106°, slide the door left from the hinge pin slot to remove it.



**NOTE:** Be careful not to make the 12-pin harness caught in the square hole of the oven.

Be careful when installing the door, since the door cam is easily pulled in the back of the oven.

After replacing the door or loosening/removing the hinge screws, make sure to adjust the door.

### 2. REINSTALL

1. To facilitate reinstallation, first put the hinge pin in the right hinge.

**CAUTION:** If bent, the comb-shaped teeth should be straightened (otherwise, microwave leakage may result.)

After replacing or repairing the door, ensure that there is no microwave leakage (otherwise, microwave leakage may result).

Always make latch adjustment (otherwise, mal function may result)

### 3. After any service to the door

- 1) Make sure that the door sensing switch, the secondary interlock switch and the monitor switch are operating properly. (Refer to chapter page 26 'switch adjustment')
- 2) An approved microwave survey meter should be used to assure compliance with proper microwave radiation emission limitation standards.

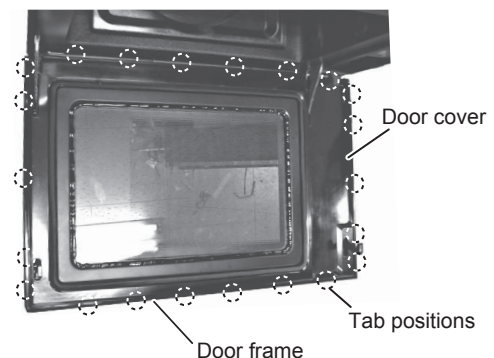
## DOOR COVER REMOVAL

1. Disconnect the power supply cord.
2. Wait for 60 seconds to discharge the high voltage capacitors of the inverter unit.
3. Put a putty knife (thickness of about 0.5mm) into the gap between the door cover and the door frame (for tab positions, refer to photo). First disengage five(5) tags on the right side, five(5) tags on the left side, and six(6) tags on the front side.
4. Remove the door packing from the door cover.
5. Lifting the front of door cover disengages six (6) tags on the back side.

Following the above steps 3, 4 and 5 can remove the door cover without breaking it.

### NOTE:

- \* Embed the entire circumference of the door packing in the door cover and then fit the door packing with the door frame.
- \* After assembling, press the entire circumference of the door packing so that the door packing is in a uniform condition without protrusion.
- \* Be careful not to damage the surface.
- \* After assembling, check that there is no microwave/steam leakage from the door.

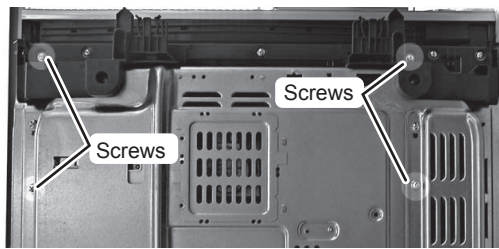




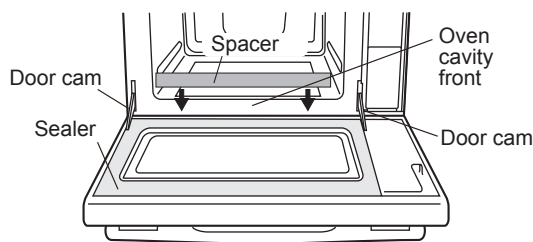
## DOOR ADJUSTMENT

When removing and/or loosening the oven hinges such as in door replacement, the following adjustment criteria are taken. Door adjustment is performed with the door properly installed and closed and while the oven hinges are loose.

1. Loosen the screws holding the oven hinge right and the oven hinge left to the bottom plate with screwdriver.



2. Insert a spacer of 0.8mm in thickness between the door sealer section (lower portion) and the front plate.



3. Adjust the door by moving it so that the door is parallel with the oven cavity front plate lines (right and left side lines) and the door latch heads pass through the latch holes correctly.
4. Tighten the screws holding the right oven hinge to the bottom plate. Then tighten the screws holding the left

oven hinge to the bottom plate.

5. Adjust the latches (see [Switch adjust]).

NOTE: In order to prevent deformation of parts, lay a soft mat and then flip the oven onto its back plate.

### 1. After adjustment, make sure of the following:

1. The door latch heads smoothly catch the latch hooks through latch holes and the latch heads goes through center of latch holes.
2. The door is positioned with its face pressed toward oven cavity front plate.
3. Reinstall the outer case cabinet and check for micro wave leakage around the door with an approved micro wave survey meter. (Refer to Microwave Measurement Procedure.)

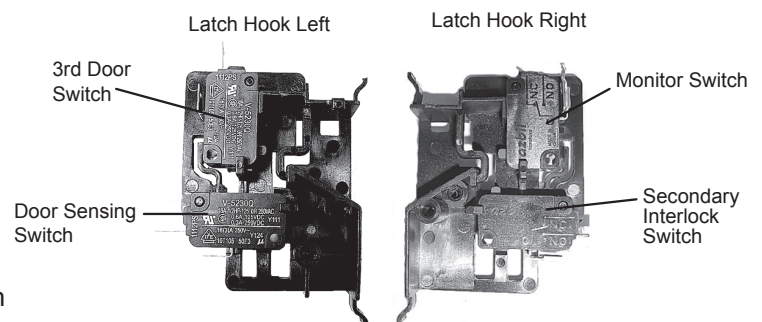
NOTE: The door on a microwave oven is designed to act as an electronic seal preventing the leakage of microwave energy from the oven cavity during cook cycle. This function does not require that the door be airtight, moisture (condensation)-tight or light-tight. Therefore, occasional appearance of moisture, light or sensing of gentle warm air movement around the oven door is not abnormal and do not of themselves indicate a leakage of microwave energy from the oven cavity. If such were the case, your oven could not be equipped with a vent, the very purpose of which is exhaust the vapor-laden air from the oven cavity.

## DOOR SENSING SWITCH, SECONDARY/THIRD INTERLOCK SWITCH, AND MONITOR SWITCH

### 1. REMOVAL

1. Disconnect the power supply cord.
2. Remove the outer case cabinet, referring to "OUTER CASE CABINET REMOVAL".
3. Open the oven door and block it open.
4. Wait for 60 seconds to discharge the high voltage capacitor of the inverter unit.
5. Disconnect the wire leads from the switch.
6. Remove each one (1) screw holding the latch hook (right or left) to the oven cavity front plate, and release the latch hook (right or left).
7. Keep pushing the stopper tab holding the switch to the latch hook (right or left) and revolve the switch on the pole.
8. Remove the switch from the latch hook (right or left).
9. Now, the switch is free.

2. Hold the latch hook (right or left) to the oven cavity front plate with the one (1) screw.
3. Reconnect the wire leads to the switch ((refer to page 32 for each switch terminal location)
4. Make sure that the monitor switch is operating properly and check continuity of the monitor circuit. Refer to page 12 PRIMARY INTERLOCK SYSTEM TEST-checking switches



### 2. REINSTALLATION

1. Reinstall the switch in its place. The door sensing switch is in the lower position of the latch hook left. The third door switch is in the upper position of the latch hook left. The monitor switch is in the upper position of the latch hook right. The secondary interlock switch is in the lower position of the latch hook right.

## DOOR SENSING SWITCH, SECONDARY/THIRD INTERLOCK SWITCH AND MONITOR SWITCH ADJUSTMENT

### 1. Adjustment

If the door sensing switch, secondary/third interlock switch and monitor switch do not operate properly due to a misadjustment, the following adjustment should be made.

1. Disconnect the power supply cord.
2. Remove the outer case cabinet, referring to "OUTER CASE REMOVAL".
3. Open the oven door and block it open.
4. Wait for 60 seconds to discharge the high voltage capacitors of the inverter unit.
5. Loosen each one (1) screw holding the latch hook right and the latch hook left to the oven cavity front plate.
6. With door closed, adjust the latch hook right and the latch hook left by moving them back and forth, and up and down. In and out play of the door allowed by the latch hook right and the latch hook left should be less than 0.5 mm.

The vertical position of the latch hook right and the latch hook left should be adjusted so that the door sensing switch and the secondary interlock switch are activated with the door closed.

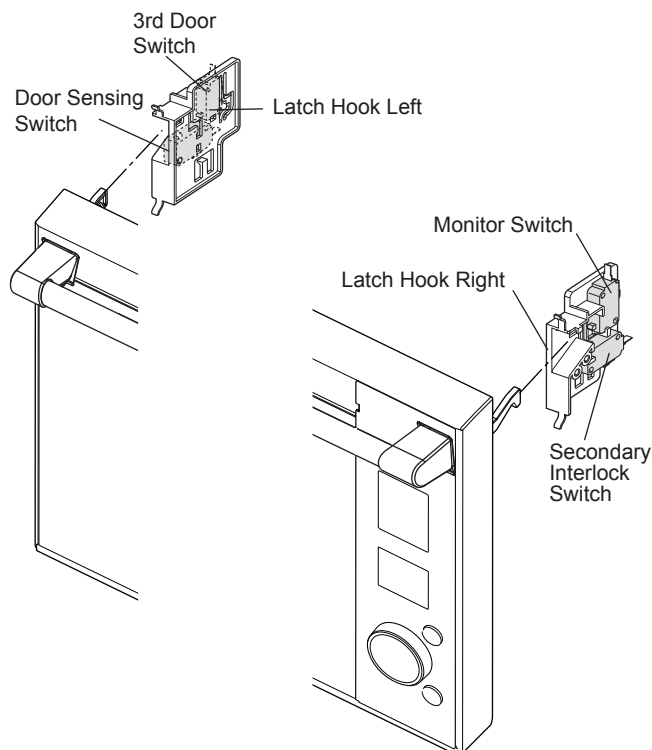
The horizontal position of the latch hook right and the latch hook left should be adjusted so that the plunger of the third interlock switch and monitor switch are engaged.

7. Secure the screws firmly.
8. Check all of the switches operation. If each switch has not activated with the door closed, loosen the screws and adjust the position of the latch hook right and the latch hook left.

### 2. After adjustment, check the following.

1. In and out play of the door remains less than 0.5 mm when in the latched position. First check the position of the latch hook right, pushing and pulling right portion of the door toward the oven face. Then check the position of the latch hook left, pushing and pulling left portion of the door toward the oven face. Both results (play in the door) should be less than 0.5 mm.

- 2) All switches (except monitor) will open with a 1.9mm gap between oven door and cavity face.
- 3) Monitor switch will close with same amount of gap. (Monitor switch closes when door is open.)
4. Reinstall the outer case cabinet and check for micro wave leakage around the door with an approved micro wave survey meter. (Refer to Microwave Measurement Procedure.)



## BOTTOM PLATE ASSEMBLY REMOVAL

Before the control unit, noise filter, inverter unit, fan motor and magnetron are replaced, removal of the bottom plate is required.

1. Disconnect the power supply cord, and then remove the outer case and the back plate assembly.
2. Open the door and block it open.
3. Wait for 60 seconds to discharge the high voltage capacitors of the inverter unit.
4. Disconnect the high voltage wire from the magnetron terminal with insulated pliers.
5. Make the terminal (metal part) of the high voltage wire contact to the magnetron body with insulated pliers.
6. Now, the capacitors of the inverter unit are discharged.
7. Pull the the water tank out of the oven.
8. Remove the dew tray and drain accumulated water from the tray.
9. Disconnect the wire leads from the convection motor and the thermal cut-out (convection).
10. In order to remove the bottom plate assembly, remove the Back Plate referring to "BACK PLATE REMOVAL", then turn over the unit.

**WARNING:** Use the pliers that the portions of their handles are insulated completely to avoid an electric shock.

**NOTE:** When turning over the unit, first place its left or right side down and then the top side down (otherwise, the convection motor and/or convection duct will be damaged).

11. Remove the ten (10) screws fixing the bottom plate assembly (bottom face) to the left heat shield plate, the right heat shield plate, the left hinge assembly, the right hinge assembly and the front plate of the oven (Fig 1).
12. Remove the one (1) screw holding the AC Fan Assembly (Fig 2).
13. Disconnect the wiring harness at the Magnetron, Fan Thermo, Convection Motor, AC Fan and Convection Thermo (Fig 3).
14. Disconnect the Ventilation Fans connectors, Stirrer Motor, Cooling Fan, and Ventilator Fan (Fig 4).
15. Lift the bottom plate assembly to remove it from the oven body and lay it to the side of the unit. This will allow some wires to stay connected (Fig 5).

**NOTE:** In order to prevent the fan duct covering around the magnetron terminal from hitting the terminal, slightly shift the bottom plate assembly toward the left hinge assembly and then lift the bottom plate assembly.

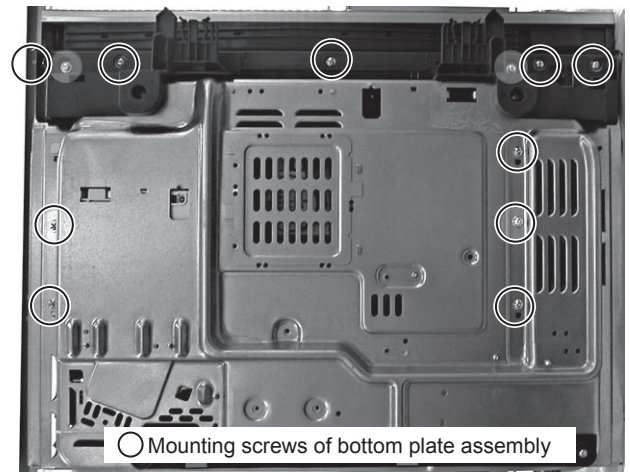
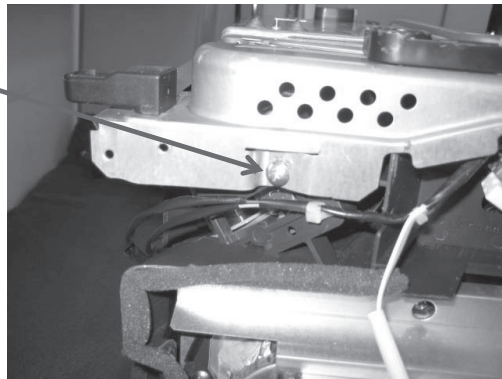
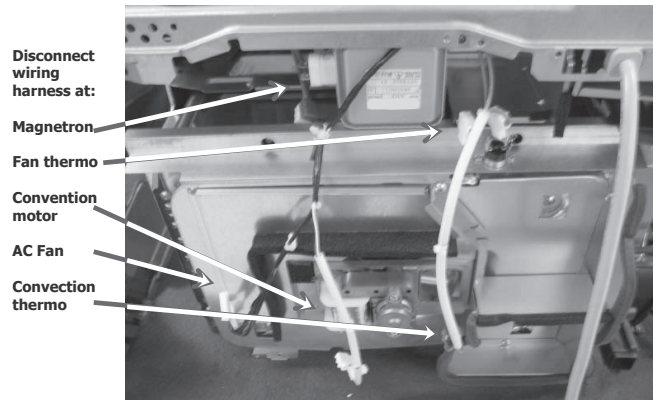


FIG 1



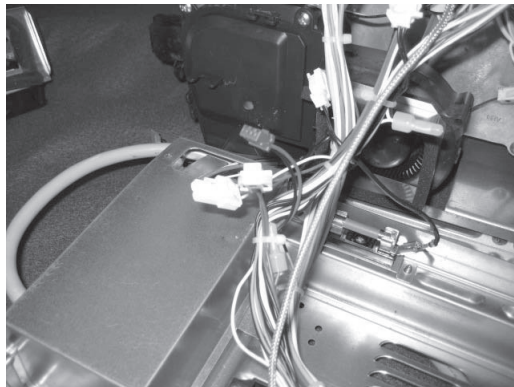
AC Fan motor assembly screw.  
Take care not to break the assembly

FIG 2



Disconnect wiring harness at:  
Magnetron  
Fan thermo  
Convection motor  
AC Fan  
Convection thermo

FIG 3



Disconnect the stirrer motor, the cooling fan, and the ventilator fan.

FIG 4

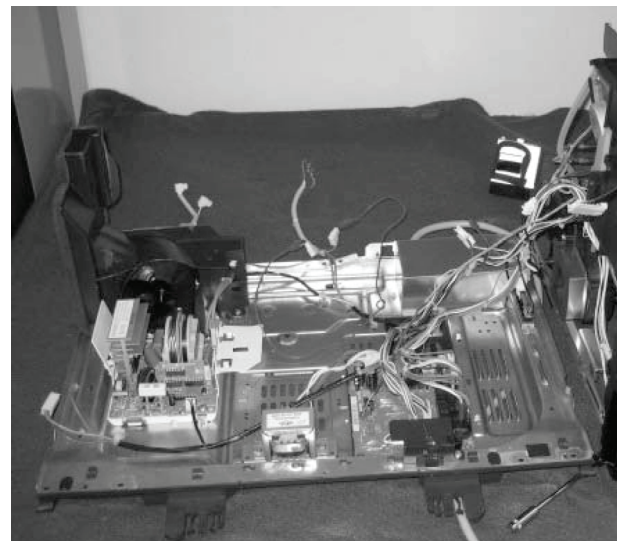


FIG 5



## ENGINE UNIT REMOVAL

1. Disconnect the power supply cord, and then remove the outer case and the back plate assembly.
  2. Open the door and block it open.
  3. Wait for 60 seconds to discharge the high voltage capacitors of the inverter unit.
  4. Disconnect the high voltage wire from the magnetron terminal with insulated pliers.
  5. Make the terminal (metal part) of the high voltage wire contact to the magnetron body with insulated pliers.
  6. Now, the capacitors of the inverter unit are discharged.
- WARNING:** Use the pliers that the portions of their handles are insulated completely to avoid an electric shock.
7. Remove the water tube from the engine unit assembly.

**CAUTION:** When the water tube is removed from the engine unit, remained water may bleed from the engine unit.

8. Remove the wire harness from the heater terminal of engine unit assembly by removing the four (4) screws.
9. Disconnect the engine thermistor from the wire harness.
10. Remove the three (3) screws which are holding the engine unit assembly from inside of the oven cavity.
11. Remove the one (1) screw holding the thermo mounting angle to the heat cover-right assembly.
12. Remove the one (1) screw holding the engine unit assembly to the heat cover-right assembly.
13. Now, the engine unit assembly is free.

**CAUTION:** When the new engine unit is installed, the thermistor (engine) and engine packing B should be reinstalled.

## TUBE PUMP ASSEMBLY REMOVAL

1. Disconnect the power supply cord, and then remove the outer case and the back plate assembly.
  2. Open the door and block it open.
  3. Wait for 60 seconds to discharge the high voltage capacitors of the inverter unit.
  4. Disconnect the high voltage wire from the magnetron terminal with insulated pliers.
  5. Make the terminal (metal part) of the high voltage wire contact to the magnetron body with insulated pliers.
  6. Now, the capacitors of the inverter unit are discharged.
- WARNING:** Use the pliers that the portions of their handles are insulated completely to avoid an electric shock.
7. Remove the latch hook right, referring to “DOOR SENSING SWITCH, THIRD DOOR SWITCH and SECONDARY INTERLOCK SWITCH, AND MONITOR SWITCH REPLACEMENT.”
  8. Remove the wire harness from the oven lamp, pump motor and WL joint (Upper).
  9. Remove the engine unit assembly, referring to “ENGINE UNIT ASSEMBLY REMOVAL.”
  10. Disconnect the DC fan motor (cooling) connector. Then remove the motor angle mounting the DC fan motor (cooling) from the filter cover (by removing the one (1) screw).
  11. Straighten the tags of the front plate of the oven fixing the panel. If screw clamping has been applied, remove

the one (1) screw.

12. Open the door
13. Remove one screw from inside at top of right panel. Pull the right panel upward and remove it from the front plate of the oven.

**NOTE:** The Right Panel contains the nameplate/serial label and will be difficult to replace if broken.

14. Remove the one (1) screw fixing the tank cover to the front plate of the oven from the front.
15. Remove the one (1) screw fixing the tank cover to the right heat shield plate assembly.
16. Remove the one (1) screw fixing the tube pump assembly to the right heat shield plate assembly.
17. Disconnect the display board harness from the control harness.
18. Disengage the control harness connector from the tank cover tags.
19. Remove the tank cover (tank cover assembly) with the tube pump assembly installed from the set.
20. Remove the one (1) screw fixing the tube pump assembly to the tank cover.
21. Pull the tube pump assembly out of the tank cover.

**NOTE:** Before installing the tube pump assembly, ensure that the water supply tube has been connected to the pipe of the tube pump assembly.

## DC FAN MOTOR (Ventilation) REMOVAL

1. Disconnect the power supply cord, and then remove the outer case and the back plate assembly.
2. Open the door and block it open.
3. Wait for 60 seconds to discharge the high voltage capacitors of the inverter unit.
4. Disconnect the high voltage wire from the magnetron terminal with insulated pliers.
5. Make the terminal (metal part) of the high voltage wire contact to the magnetron body with insulated pliers.
6. Now, the capacitors of the inverter unit are discharged.
7. Reconnect the high voltage wire to the magnetron terminal after discharging.
8. Remove the outer case cabinet, referring to "OUTER CASE REMOVAL".
9. Remove the back plate, referring to "BACK PLATE REMOVAL".
10. Remove the latch hook right, referring to "DOOR SENSING SWITCH, 3RD DOOR SWITCH, SECONDARY INTERLOCK SWITCH AND MONITOR SWITCH REPLACEMENT"
11. Remove the tube pump assembly, referring to "TUBE PUMP ASSEMBLY REMOVAL".  
However, the tube pump assembly does not need to remove from the tank cover.
12. Remove the two (2) screws holding the DC fan motor to the heat cover right assembly.

**WARNING:** Use the pliers that the portions of their handles are insulated completely to avoid an electric shock.

## CONVECTION UNIT ASSEMBLY

### 1. CONVECTION UNIT REMOVAL

1. Disconnect the power supply cord, and then remove the outer case and the back plate assembly.
2. Open the door and block it open.
3. Wait for 60 seconds to discharge the high voltage capacitors of the inverter unit.
4. Disconnect the high voltage wire from the magnetron terminal with insulated pliers.
5. Make the terminal (metal part) of the high voltage wire contact to the magnetron body with insulated pliers.
6. Now, the capacitors of the inverter unit are discharged.
7. Reconnect the high voltage wire to the magnetron terminal after discharging.

**WARNING:** Use the pliers that the portions of their handles are insulated completely to avoid an electric shock.

8. Remove the wire harness from the convection heater by removing the two (2) screws.
9. Remove the wire harness from the convection motor.
10. Remove the two (2) screws holding the water proof angle to the oven cavity.
11. Remove the ten (10) nuts holding the convection unit to the oven cavity assembly.
12. Now, the convection unit is free

### 2. CONVECTION HEATER REMOVAL

1. Remove the convection unit from oven the cavity assembly, referring to "CONVECTION UNIT REMOVAL".
2. Remove the two (2) screws holding the convection heater to con-vection duct.

3. Remove the convection heater from the two (2) heater mounting plates.
4. Remove the convection heater from the convection duct.
5. Now the convection heater is free.

### 3. CONVECTION MOTOR REMOVAL

1. Remove the convection unit from oven the cavity assembly, referring to "CONVECTION UNIT REMOVAL".
2. Remove the convection cover angle B from the convection cover. (Release the tab and remove the one (1) mounting screw)
3. Remove the convection cover angle C from the convection cover. (Release the tab and remove the one (1) mounting screw)
4. Remove the fan blade from the convection motor shaft by removing the one (1) nut, three (3) washer and one (1) spacer.

5. Remove the convection motor mounting angle from the convection cover by removing the two (2) screws.
6. Remove the convection motor from the convection mounting angle by removing the two (2) screws.
7. Remove the one (1) ring from the convection motor shaft.

**NOTE:** If the ring, when removed, has been deformed, replace it with new one. Using any deformed ring causes unbalanced rotation of the cooling fan.

8. Now, the convection motor is free

## MAGNETRON REPLACEMENT

### 1. REMOVAL

1. Disconnect the power supply cord, and then remove the outer case and the back plate assembly.
2. Open the door and block it open.
3. Wait for 60 seconds to discharge the high voltage capacitors of the inverter unit.
4. Disconnect the high voltage wire from the magnetron terminal with insulated pliers.
5. Make the terminal (metal part) of the high voltage wire contact to the magnetron body with insulated pliers.
6. Now, the capacitors of the inverter unit are discharged.

**WARNING:** Use the pliers that the portions of their handles are insulated completely to avoid an electric shock.

7. Remove the bottom plate, referring to "BOTTOM PLATE REMOVAL".
8. Disconnect the wire leads from magnetron.
9. Remove the two (2) screws holding the bottom shield plate to the oven cavity with the magnetron.
10. Remove the two (2) screws holding the magnetron to the waveguide.
11. Remove the magnetron from waveguide.
12. Now, the magnetron is free.

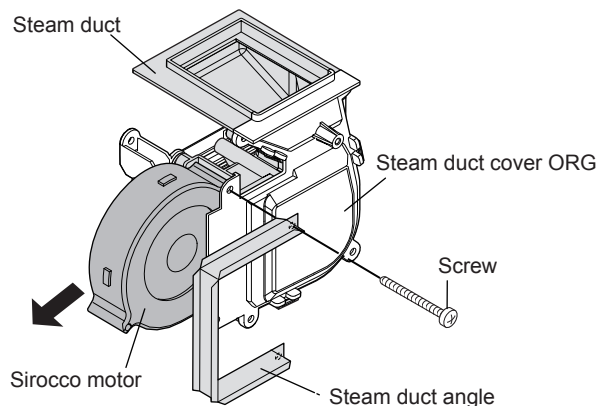
### 2. REINSTALLTION

1. Reinstall the magnetron to waveguide flange with the two (2) screws.
2. Reinstall the bottom shield plate with magnetron by the two (2) screws.
3. Reinstall the bottom plate assembly to the oven with eleven (11) screws.
4. Reconnect the wire leads to the magnetron, convection heater, convection motor and thermal cut-outs.
5. Reinstall outer case and check that the oven is operating properly.

**CAUTION:** WHEN REPLACING THE MAGNETRON, BE SURE THE R.F. GASKET IS IN PLACE AND THE MAGNETRON MOUNTING SCREWS ARE TIGHTENED SECURELY.

## SIROCCO MOTOR REMOVAL

1. Disconnect the power supply cord.
2. Wait for 60 seconds to discharge the high voltage capacitors of the inverter unit.
3. Remove the outer case cabinet, referring to "OUTER CASE REMOVAL".
4. Remove the one (1) screw fixing the sirocco motor to the steam duct.
5. Hold the left end of the sirocco motor and pull it toward you to remove it from the steam duct.



## ANTENNA MOTOR REMOVAL

The antenna motor can be changed with the cabinet installed.

1. Disconnect the power supply cord.
2. Wait for 60 seconds to discharge the high voltage capacitors of the inverter unit.
3. With the oven upside down, cut the six (6) ribs to separate the antenna motor cover from the rest of the bottom plate.

4. Disconnect the terminal from the antenna motor.
5. Remove the two (2) antenna motor screws and remove the antenna motor.

**NOTE:** When reinstalling the antenna motor cover, rotate cover 180° to align with screw hole and tabs. Use two (2) screws (LX-BZA171WREZ) along one edge of the cover.

## FAN MOTOR (BOTTOM VENTILATION) REMOVAL

1. Disconnect the power supply cord, and then remove the outer case and the back plate assembly.
  2. Open the door and block it open.
  3. Wait for 60 seconds to discharge the high voltage capacitors of the inverter unit.
  4. Disconnect the high voltage wire from the magnetron terminal with insulated pliers.
  5. Make the terminal (metal part) of the high voltage wire contact to the magnetron body with insulated pliers.
  6. Now, the capacitors of the inverter unit are discharged.
- WARNING:** Use the pliers that the portions of their handles are insulated completely to avoid an electric shock.
7. Remove the bottom plate assembly, referring to "BOTTOM PLATE ASSEMBLY REMOVAL".
  8. Disconnect the connector of fan motor from the wire harness.
  9. Remove the one (1) screw holding the left hinge assembly to the oven cavity.
  10. Remove the left hinge assembly.
  11. Remove the four (4) nuts holding the intake duct sub assembly to the oven cavity.
  12. Remove the intake duct sub assembly from the oven cavity.
  13. Remove the two (2) screws holding the fan mounting angle and the air guide sheet to the intake duct sub assembly.
  14. Remove the two (2) screws holding the fan motor to the fan mounting angle.
  15. Remove the fan motor from the fan mounting angle.

## POWER SUPPLY CORD REPLACEMENT

### 1. Removal

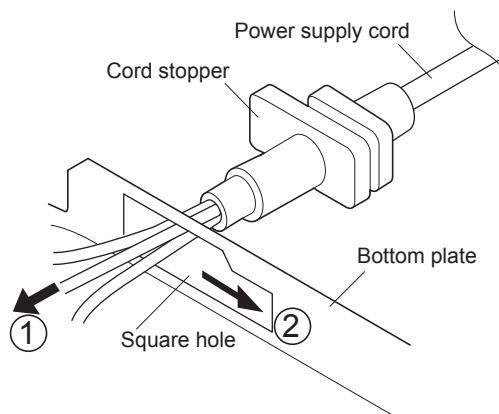
1. Disconnect the power supply cord, and then remove the outer case and the back plate assembly.
2. Open the door and block it open.
3. Wait for 60 seconds to discharge the high voltage capacitors of the inverter unit.
4. Disconnect the high voltage wire from the magnetron terminal with insulated pliers.
5. Make the terminal (metal part) of the high voltage wire contact to the magnetron body with insulated pliers.
6. Now, the capacitors of the inverter unit are discharged.

**WARNING:** Use the pliers that the portions of their handles are insulated completely to avoid an electric shock.

7. Remove the bottom plate assembly, referring to "BOTTOM PLATE ASSEMBLY REMOVAL".
8. Remove the one (1) screw holding the filter cover to the bottom plate.
9. Straighten the tab of the bottom plate holding the filter cover to the bottom plate.
10. Remove the filter cover from the bottom plate.
11. Remove the one (1) screw holding the grounding wire of the power supply cord to the bottom plate.
12. Disconnect the wire leads of the power supply cord from the noise filter and the wire harness.
13. Remove the power supply cord from the square hole of the bottom plate.

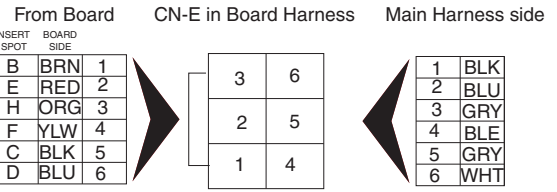
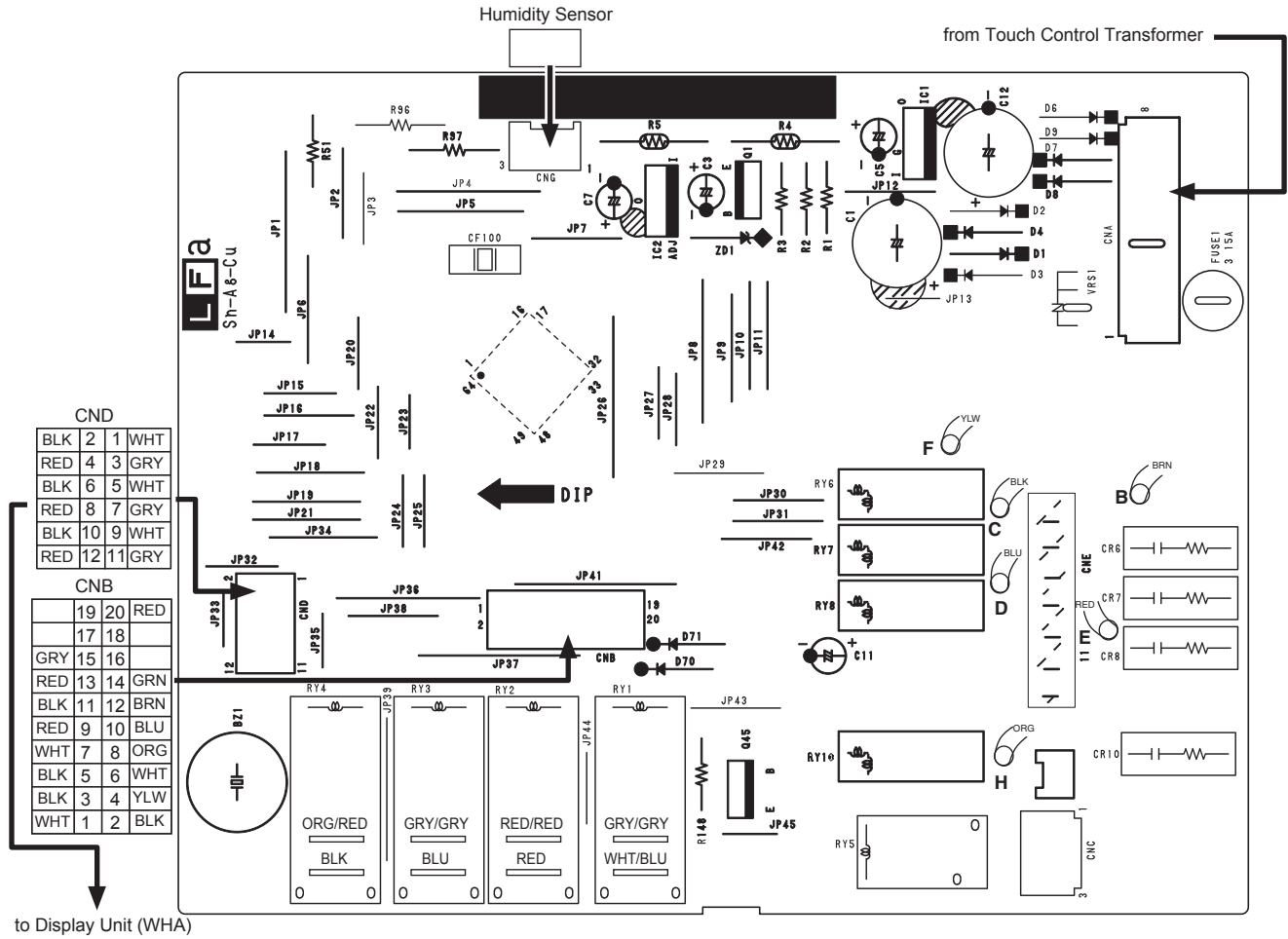
### 2. Installation

1. Insert the cord stopper of the power supply cord into the square hole of the bottom plate, referring to the figure.
2. After inserting the cord stopper, slide it to the right side.
3. Install the grounding wire lead of the power supply cord to the bottom plate with the one (1) screw. And tight the screw
4. Connect the white wire lead of the power supply cord to the noise filter correctly, referring to "CIRCUIT DIAGRAMS".
5. Connect the black wire lead of the power supply cord to the wire harness, referring to "OTHER COMPONENTS" (Page 32).
6. Reinstall the filter cover to the bottom plate with the one (1) screw.
7. Hold the filter cover to the bottom plate by bending the tab of the bottom plate.
8. Reinstall the bottom plate assembly to the oven.
9. Reconnect all leads removed from components during testing.
10. Reinstall the outer case and the back plate assembly.
11. Reconnect the power supply cord after the outer case and the back plate assembly are installed.
12. Run the oven and check all functions.

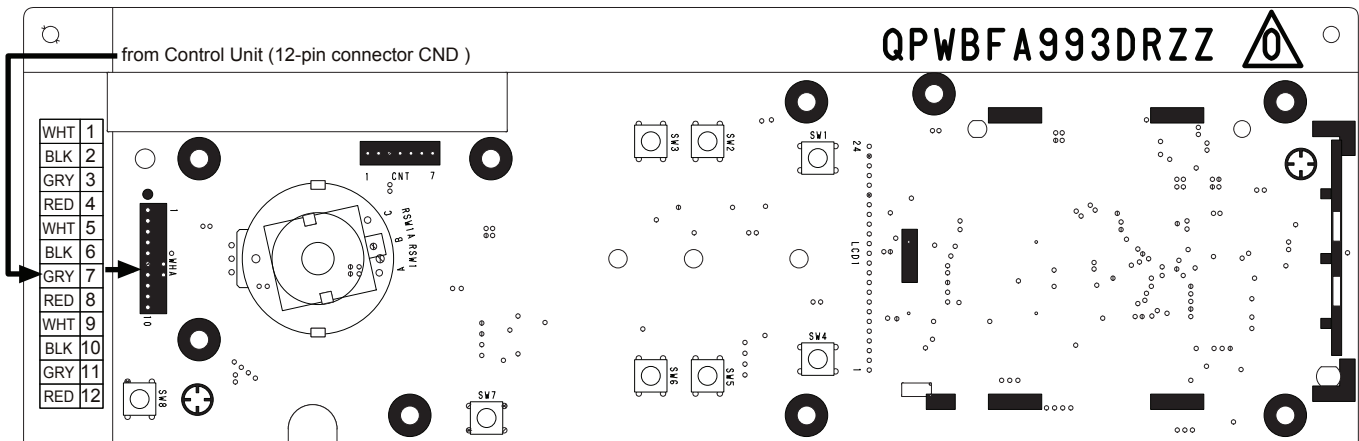


# CIRCUIT DIAGRAMS

## 1. CONTROL UNIT



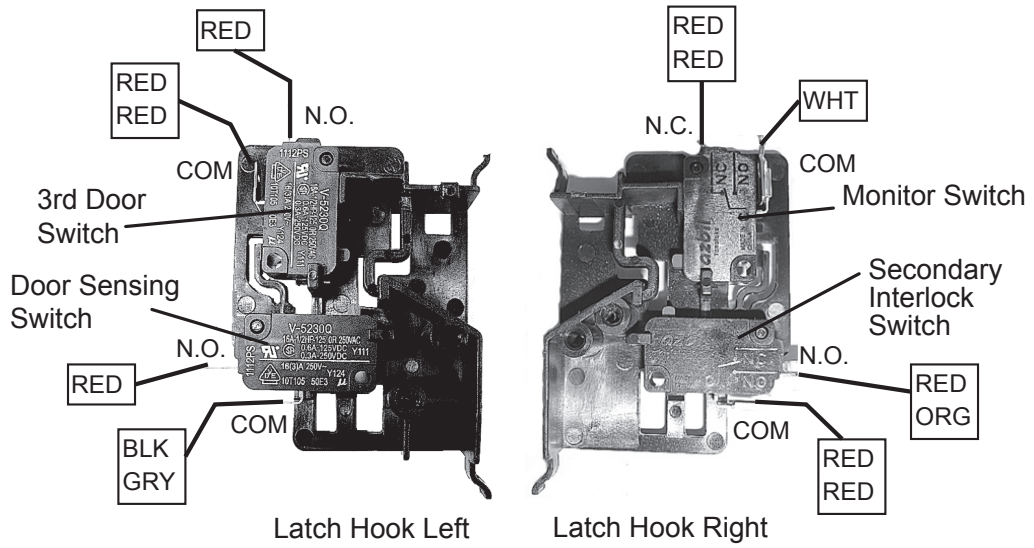
## 2. DISPLAY UNIT



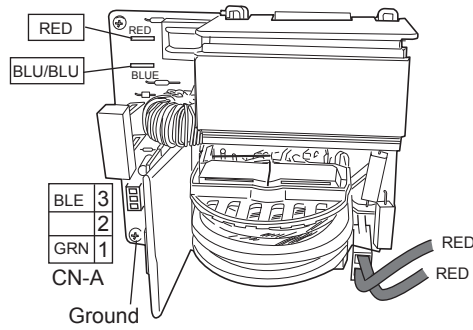


### 3. OTHER COMPONENTS

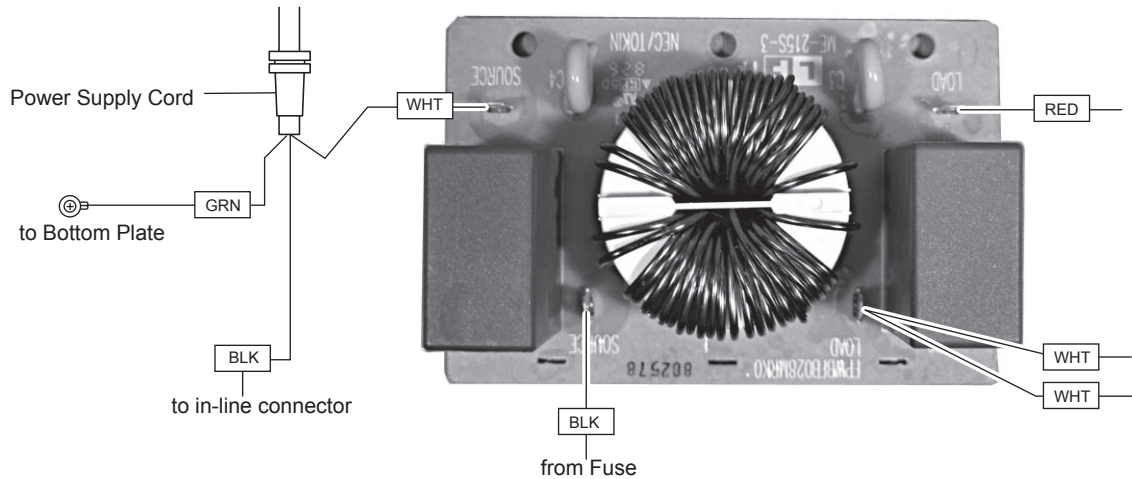
#### LATCH SWITCHES



#### INVERTER UNIT

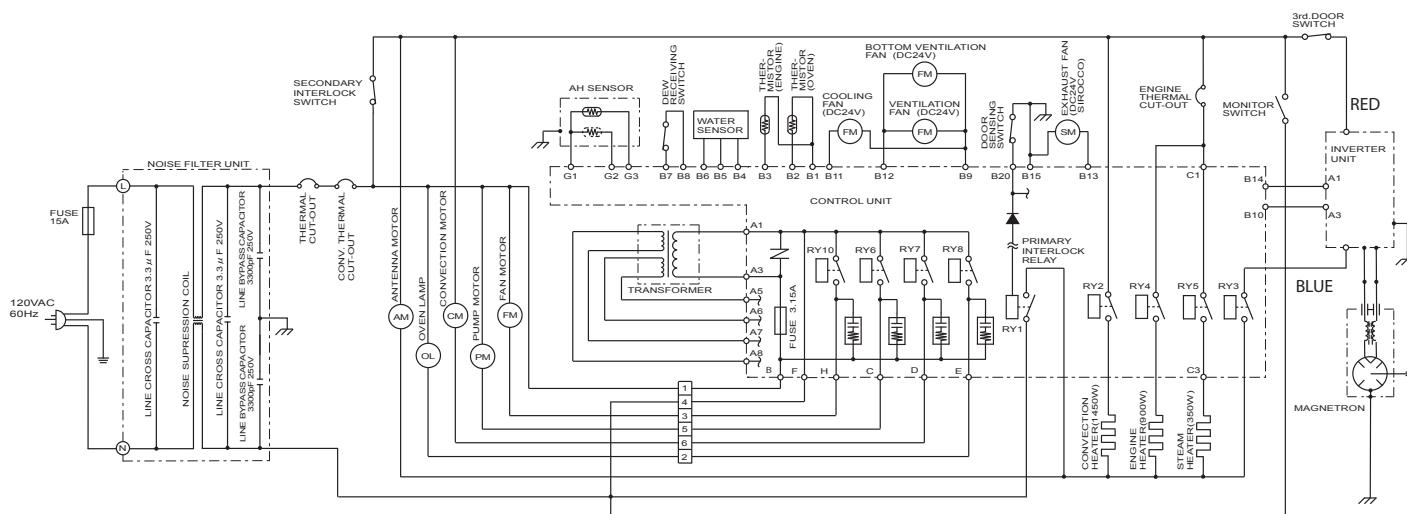


#### NOISE FILTER

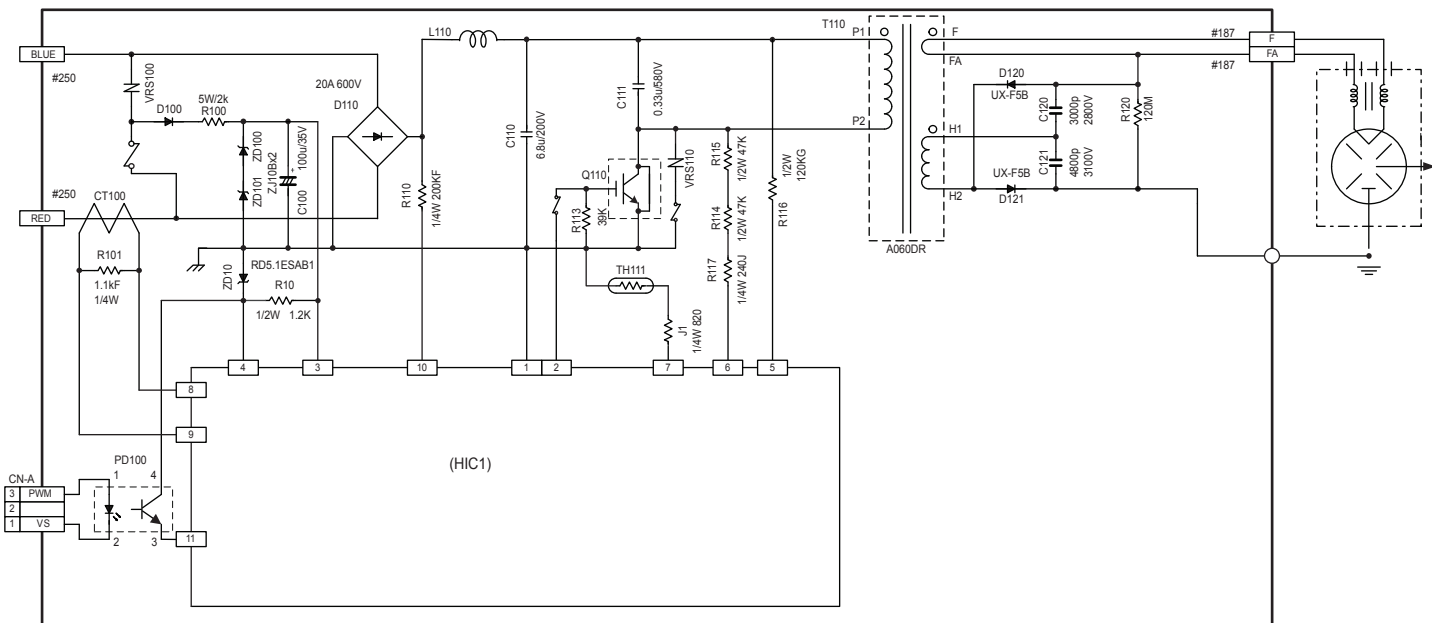


# MAIN CIRCUIT

SCHEMATIC DIAGRAM (DOOR CLOSED COOK OFF CONDITION)



# INVERTER UNIT CIRCUIT



REF. NO.	PART NO.	DESCRIPTION
<b>OVEN PARTS</b>		
<b>ELECTRIC PARTS</b>		
1-1	CHET-A004WRKZ	Engine unit assembly
1-2	FH-HZA100WREZ	Thermistor (Engine)
1-3	RTHM-A144WRZZ	Thermal cut out (Engine)
1-5	RTHM-A116WRE0	Thermal cut out (Fan)
1-10	FDTCTA240WRKZ	AH Sensor
1-15	FH-HZA099WREZ	Thermistor (Oven)
1-16	RMOTDA248WRZZ	Turntable motor (Antenna motor)
1-17	QSW-MA085WRE0	Door sensing switch
1-18	FFS-BA038WRKZ	Monitor fuse (15A) and monitor switch
1-19	QSW-MA085WRE0	Secondary interlock switch
1-21	FMOT-A037WRKZ	Tube pump assembly
1-21-1	RMOTDA248WRZZ	Turntable motor
1-21-2	XHPS740P08K00	Tap tight screw (4mm x 8mm)
1-22	RHET-A361WRZZ	Convection heater
1-25	RLMPTA087WRZZ	Oven lamp
1-26	RMOT-A028WRZZ	Fan motor (Ventilation)
1-27	RV-MZA366WRZZ	Magnetron
1-28	RMOTEA457WRZZ	Convection motor
1-29	RMOT-A029WRZZ	Fan motor
1-30	RMOT-A033WRZZ	Fan motor (Bottom ventilation)
1-32	RTHM-A157WRZZ	Thermal cut out (Convection)

<b>MECHANICAL PARTS</b>		
8-1	LANGKB372WRPZ	Thermo mount plate
8-2	PTUBXA071WREZ	Sub water tube
8-3	*****	Oven cavity assembly (Not a replaceable part)
8-8	PCUS-A221WREZ	Cushion
8-13	HDECQA409WRFZ	Panel R
8-18	FDUC-A472WRYZ	Exhaust duct assembly
8-21	LANGKB126WRPZ	TT motor mount angle
8-22	FSLDHA077WRYZ	Heat cover r assembly
8-28	FTNK-A053WRKZ	Tank assembly (Reservoir)
8-28-1	PCOVPA525WRFZ	Tank lid (Reservoir lid)
8-32	MJNTPA016WRFZ	WL joint
8-33	MSPRPA106WREZ	Tank spring
8-34	PCOVPA536WRFZ	Tank cover
8-35	PCOVPA527WRFZ	Tank cover L
8-36	PJNT-A020WRFZ	WL joint upper
8-37	PPAC-A131WREZ	Pump packing
8-38	PTUBXA069WREZ	Water tube
8-39	LANGKB449WRPZ	Conv. Motor mounting angle
8-40	LANGKB360WRPZ	Conv. cover angle A
8-41	LANGKB424WRPZ	Conv. cover angle B
8-42	LANGKB364WRPZ	Conv. cover angle C
8-43	LBNDKA180WRPZ	Heater mounting
8-44	NFANMA064WRWZ	Fan blade
8-45	NFANMA069WRPZ	Cooling fan
8-46	PDUC-B086WRWZ	Convection duct
8-47	PFFF-A305WREZ	Heater insulation
8-48	PSLDHA281WRPZ	Conv cover
8-49	PSPA-A147WREZ	Spacer
8-50	LANGKB315WRPZ	Side angle
8-51	LANGKB340WRPZ	Rear angle
8-52	LANGKB344WRPZ	Water proof angle
8-53	LANGKB353WRKZ	Oven support angle
8-55	LANGQA792WRPZ	Lamp mounting angle
8-56	LBNDKA166WREZ	Wire holder
8-70	PCUS-A210WREZ	Cushion
8-71	PCUS-A211WREZ	Cushion
8-72	PCUS-A212WREZ	Cushion
8-74	PCUS-A214WREZ	Cushion
8-75	PCUS-A215WREZ	Cushion
8-76	PCUS-A216WREZ	Cushion
8-77	PCUS-A217WREZ	Cushion
8-78	PCUS-A218WREZ	Cushion
8-80	PGLSPA743WREZ	Lamp glass
8-81	PPAC-A119WREZ	Lamp packing
8-82	PPAC-A133WREZ	Engine packing B
8-83	PSKR-A504WRPZ	Bottom shield plate

NOTE: Reference numbers are not sequential, due to some parts not having a reference number.

REF. NO.	PART NO.	DESCRIPTION
8-84	PSLDHA292WRPZ	Heat cover bottom
8-85	PSLDHA293WRPZ	Heat cover L
8-86	PSLDHA283WRPZ	Heat cover upper
8-87	PTUBXA070WREZ	Drain tube
8-88	PZETPA001WRFZ	Inverter shield plate
8-100	LANGKB394WRPZ	Steam duct angle
8-101	FDUC-A488WRKZ	Steam duct sub assembly
8-102	PCUS-A222WREZ	Cushion
8-104	PCUS-A237WREZ	Cushion
8-105	PSHEPB398WRPZ	Water guide
8-106	PSHEPB407WRPZ	Air guide sheet R
8-107	PCUS-A261WREZ	Cushion
8-108	PDUC-B136WRFZ	Joint duct Front
8-109	PDUC-B137WRFZ	Joint duct Rear
8-110	PPAC-A112WREZ	Duct packing
8-111	PGID-A087WRPZ	Air guide sheet
8-113	PPAC-A136WREZ	Joint duct packing L
8-114	PPAC-A137WREZ	Joint duct packing S
8-116	FDUC-A478WRYZ	Intake duct sub assembly
8-117	LANGKB415WRPZ	Fan mounting angle
8-121	LANGKB374WRFZ	Latch hook right
8-122	LANGKB377WRFZ	Latch hook left
8-123	LANGKB426WRPZ	Duct divide plate
8-128	PSLDHA295WRPZ	Latch L reflector
8-129	LANGKB406WRWZ	Insertion angle A
8-130	LANGKB407WRWZ	Insertion angle B
8-131	LBND-A033WREZ	Hose band
8-132	LBND-A047WREZ	Hose band
8-133	PFPF-A306WREZ	Heater insulation U
8-134	PSLDHA296WRPZ	Motor reflector
8-137	TCAUAA327WRRZ	Monitor caution
8-140	FSFTTA068WRFZ	Shaft assembly
8-141	MSPRCA153WREZ	TT spring (antenna motor)
8-142	PCUS-A260WREZ	Cushion
8-143	LANGKB390WRPZ	CONV. Cover angle D
8-144	PCUS-A255WREZ	Cushion
8-145	PCUS-A234WREZ	Cushion
8-146	PSPAFA002WREZ	Spacer
8-147	PCUS-A209WREZ	Cushion
8-148	PCUS-A256WREZ	Cushion
8-149	MSPRCA184WREZ	Thermistor spring
8-150	TCAUAA414WRRZ	Monitor caution (french)
8-151	PCUSUA697WRPZ	Cushion

## SCREW, WASHER AND NUT

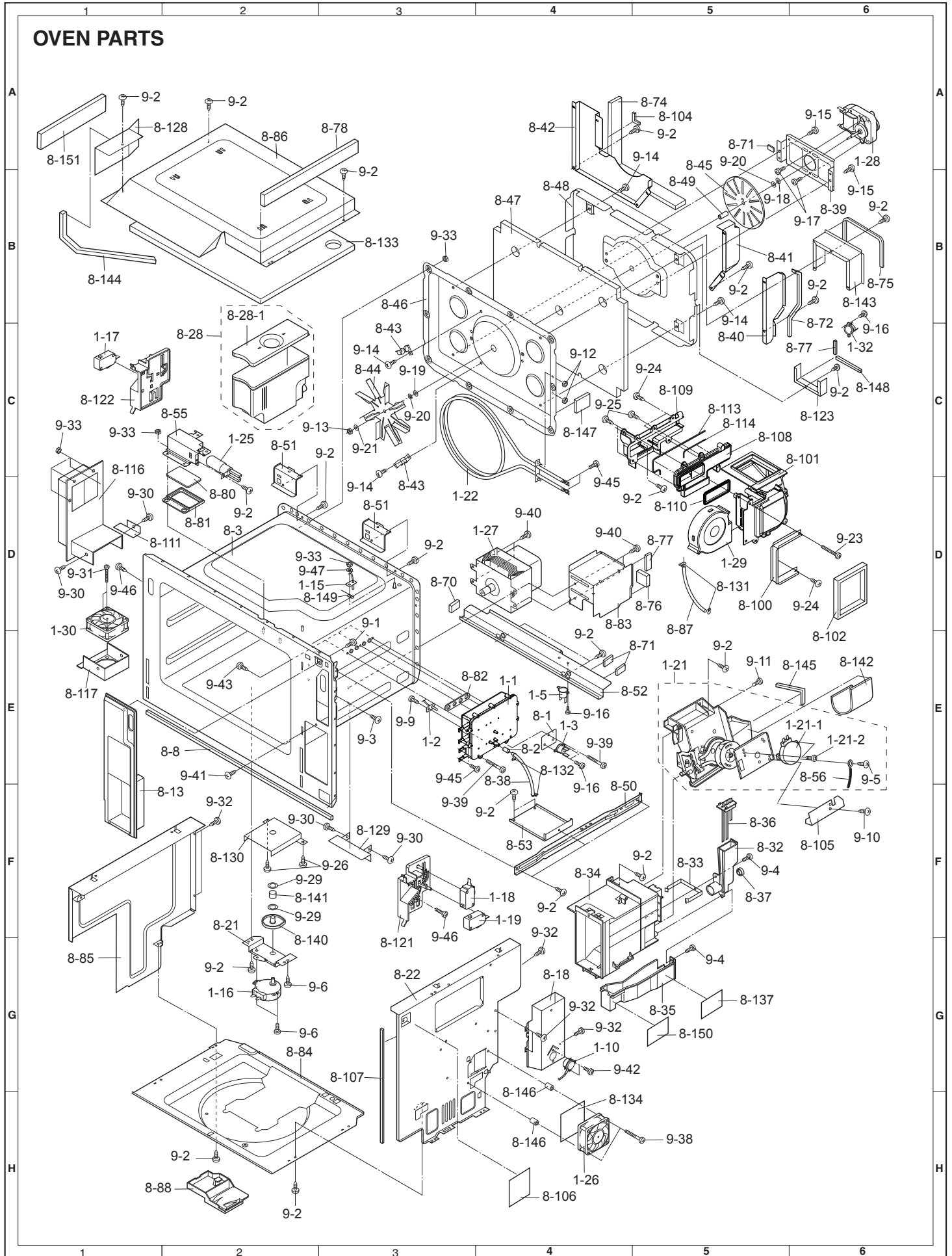
9-1	XOTS740P10000	Screw; 4mm x 10mm
9-2	XOTS740P08000	Screw; 4mm x 8mm
9-3	LX-BZA138WREZ	Special screw
9-4	XEBS730P10000	Screw; 3mm x 10mm
9-5	XHTS740P08000	Screw; 4mm x 8mm
9-6	XHPS740P08K00	Screw; ;4mm x 8mm
9-9	XBTS740P08000	Screw; 4mm x 8mm
9-10	XEPS740P08000	Screw; 4mm x 8mm
9-11	XETS740P10000	Screw; 4mm x 10mm
9-12	XNEUW40-32000	Nut
9-13	LX-NZA002WRE0	Nut
9-14	XOTWW40P06000	Screw; 4mm x 6mm
9-15	XOTWW40P08000	Screw; 4mm x 8mm
9-16	XCBS730P08000	Screw; 3mm x 8mm
9-17	XBPS740P06KS0	Screw; 4mm x 6mm
9-18	XREUW40-06000	E ring
9-19	XWHUW48-15120	Washer
9-20	XWHUW40-08000	Washer
9-21	XWSUW40-10000	Spring washer
9-23	XEPS740P40000	Screw; 4mm x 40mm
9-24	XEPS740P10000	Screw ;4mm x 10mm
9-25	XEPS740P14000	Screw; 4mm x 14mm
9-26	XHPS740P06000	Screw; 4mm x 6mm
9-29	XWHS700-05180	Washer

NOTE: Reference numbers are not sequential, due to some parts not having a reference number.

REF. NO.	PART NO.	DESCRIPTION
9-30	XOTS740P06000	Screw; 4mm x 6mm
9-31	XOBS740P30000	Screw; 4mm x 30mm
9-32	LX-CZA088WREZ	Special screw (Knock type)
9-33	XNES740-32000	Nut
9-38	XTPS740P40000	Screw; 4mm x 40mm
9-39	XUBS740P36000	Screw; 4mm x 36mm
9-40	LX-BZA171WREZ	Special screw
9-41	LX-CZA084WREZ	Special screw
9-42	XFPWW30P06000	Screw 3mm x 6mm
9-43	LX-BZA202WREZ	Special screw
9-45	LX-BZA144WREZ	Special screw
9-46	LX-CZ0052WRE0	Special screw
9-47	XWHS740-08100	Washer

NOTE: Reference numbers are not sequential, due to some parts not having a reference number.

# OVEN PARTS



REF. NO.	PART NO.	DESCRIPTION
<b>CABINET PARTS</b>		

**ELECTRIC PARTS**

1-7	DPWBFC587WРУZ	Inverter unit assembly
1-8	FACCDА074WRE0	Power supply cord
1-9	DPWВFB192MRU0	Control unit
1-11	FPWВFB028MRK0	Noise filter unit
1-14	RTRNPA167DRZZ	Transformer
1-18	FFS-BA038WRKZ	Monitor fuse (15A) and monitor switch
1-20	RMOTEА456WRZZ	AC Fan motor
1-31	QFSHDA009WRE0	Fuse holder
1-33	QSW-MA086WRE0	Dew tray switch
1-34	RMOT-A028WRZZ	Fan motor (Cooling)

**CABINET PARTS**

7-1	FCABDA063WRWZ	Back plate assembly
7-2	FDАI-A363WRYZ	Bottom plate assembly
7-3	GCABUB163WRPZ	Outer case cabinet

**MECHANICAL PARTS**

8-4	GCOVPA021WRFZ	Dew tray cover
8-5	GCUPPA033WRFZ	Dew tray
8-6	GLEGPA108WRFZ	Back shade guide
8-7	LHLDPA006WRFZ	PWB holder
8-8	PCUS-A221WREZ	Cushion
8-9	PGID-A123WRFZ	Dew tray guide L
8-10	PGID-A124WRFZ	Dew tray guide R
8-11	PPAC-A069WREZ	Stopper
8-12	PSKR-A496WRFZ	Dew shield
8-19	FHNG-A389WRYZ	Left hinge assembly
8-20	FHNG-A390WRYZ	Right hinge assembly
8-29	NFANJA057WRFZ	Fan blade
8-30	PCUS-A199WREZ	Cushion
8-31	PDUC-B169WRFZ	Fan duct
8-54	LANGKB358WRPZ	Motor angle
8-58	MCAMPA171WRMZ	L door cam
8-59	MCAMPA173WRMZ	R door cam
8-60	MSPRTA258WREZ	Door spring-R
8-61	MSPRTB036MRE0	Door spring-L
8-62	PCOV-A109WRPZ	Filter cover
8-63	PCOV-A154WRFZ	Exhaust cover
8-65	PCUS-A204WREZ	Cushion
8-66	PCUS-A205WREZ	Cushion
8-67	PCUS-A206WREZ	Cushion
8-68	MLEVPA285WRFZ	Lever
8-69	MSPRCA177WREZ	Dew tray spring
8-79	PCUS-A223WREZ	Dew tray guide cushion
8-94	PCUS-A234WREZ	Cushion
8-95	PCUS-A293WREZ	Cushion
8-98	GCAP-A014WRFZ	Steam cap
8-112	PPAC-A143WREZ	Steam duct packing
8-115	PCUS-A240WREZ	Bottom cushion L
8-120	LANGQA835WRFZ	Dew tray SW angle
8-127	PSPAJA011WRFZ	Side spacer
8-135	TCAUAA411WRRZ	Caution label
8-136	TCAUAA412WRRZ	Caution label
8-137	TCAUAA413WRRZ	Caution label

**SCREW, WASHER AND NUT**

9-1	XOTS740P10000	Screw; 4mm x 10mm
9-2	XOTS740P08000	Screw; 4mm x 8mm
9-3	LX-BZA138WREZ	Special screw
9-4	XEBS730P10000	Screw; 3mm x 10mm
9-5	XHTS740P08000	Screw; 4mm x 8mm
9-6	XHPS740P08K00	Screw; ;4mm x 8mm
9-7	XETS740P08000	Screw; 4mm x 8mm
9-8	XETS740P20KS0	Screw; 4mm x 20mm
9-24	XEPS740P10000	Screw ;4mm x 10mm
9-32	LX-CZA088WREZ	Special screw (Knock type)
9-34	LX-BZA148WREZ	Special screw
9-35	LX-CZA071WRE0	Special screw
9-36	XEPS740P06000	Screw; 4mm x 6mm
9-37	XOBS740P30000	Screw; 4mm x 30mm
9-44	XHPS740P10XS0	Screw; 4mm x 10mm

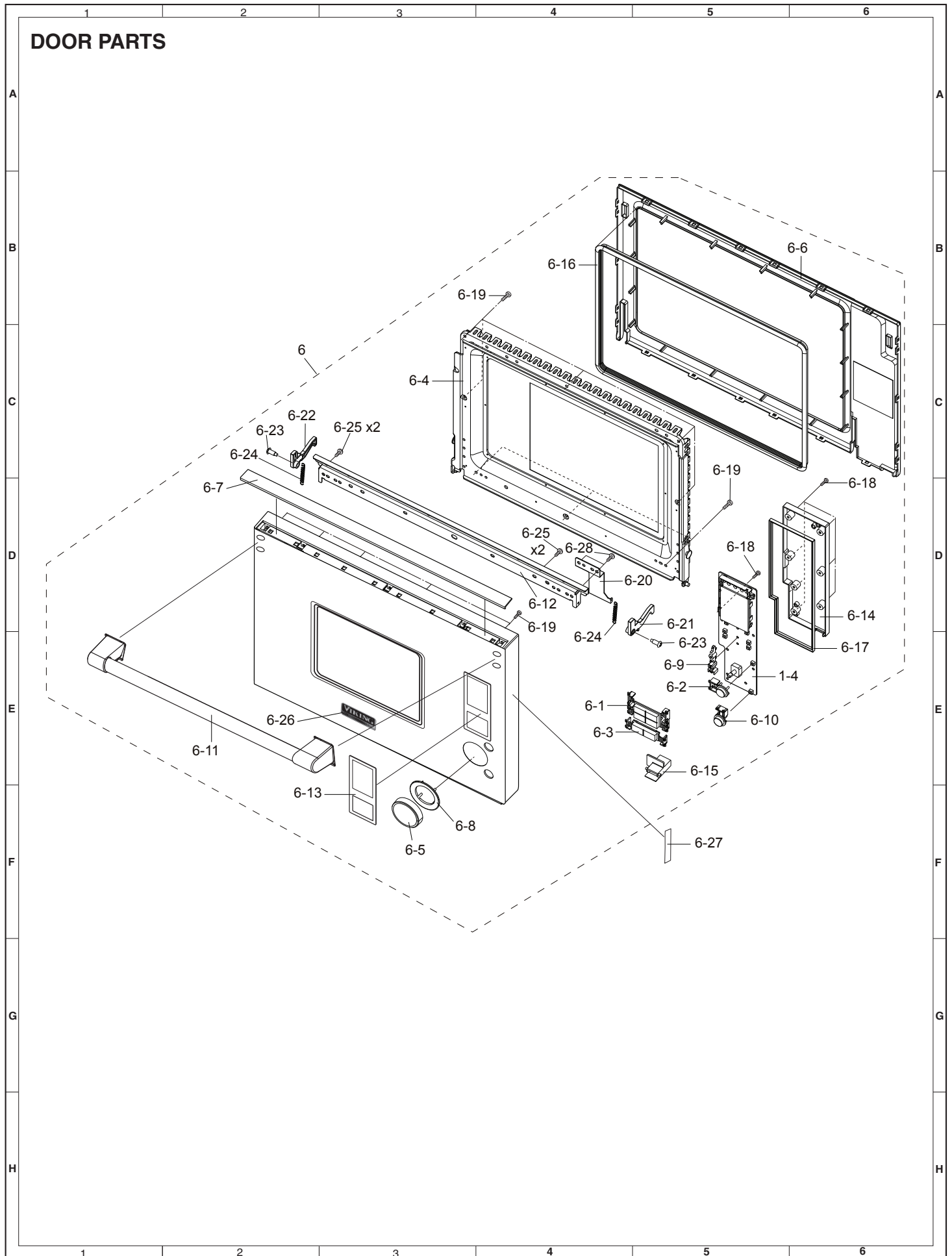






REF. NO.	PART NO.	DESCRIPTION
<b>DOOR PARTS</b>		
1-4	DPWBFB191MRU0	Display unit
6	DDORFB155MRK0	Door assembly
6-1	JBTN-B227MRR0	Steam button
6-2	JBTN-B225MRR0	Enter button
6-3	JBTN-B228MRR0	Start button
6-4	FDORFA461WRKZ	Door panel assembly
6-5	FKNBKA224WRKZ	Encoder button assembly
6-6	GCOVHA541WRFZ	Door cover
6-7	HDECAB832MRT0	Frame dec. upper
6-8	HDECQB109MRP0	Encoder base
6-9	LHLD-A334WRFZ	Button support
6-10	JBTN-B226MRR0	Info button
6-11	FHNDPB023MRK0	Door Handle assy
6-12	LANGKB452WRWZ	Door support angle
6-13	HDECAB831MRT0	Panel dec right S
6-14	PCOVPA506WRFZ	Switch PWB cover
6-15	PCOVPA507WRFZ	Wire protect cover
6-16	PPAC-A149WREZ	Door packing
6-17	PPAC-A117WREZ	PWB packing
6-18	XEBS730P12000	Screw 3mm x 12mm
6-19	XEPS740P10000	Tapping screw (4mm x 10mm)
6-20	LANGKB453WRWZ	Latch spring mounting angle right
6-21	LHLD-A332WRFZ	Latch head right
6-22	LHLD-A333WRFZ	Latch head left
6-23	LX-BZ0202WRE0	Special screw
6-24	MSPRTA265WREZ	Spring
6-25	XHTS740P12000	Door handle screw
6-26	HBDGBB019MRK0	Badge
6-27	TCAUHB008MRR0	User caution label
6-28	XETS740P10000	Screw M4 x 10mm

NOTE: Reference numbers are not sequential, due to some parts not having a reference number.



REF. NO.	PART NO.	DESCRIPTION
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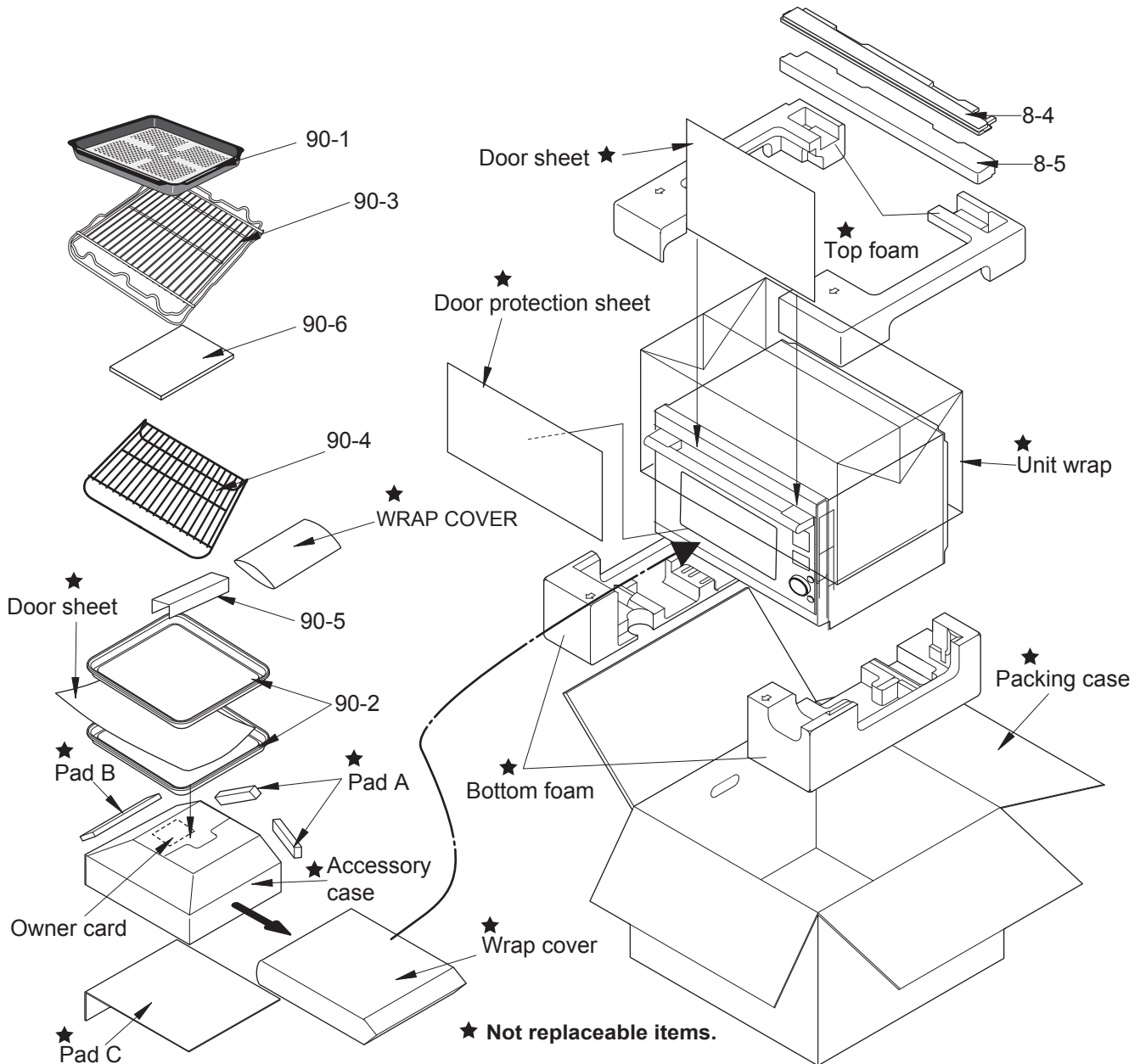
**ACCESSORY PARTS AND PACKING**

8-4	GCOVPA021WRFZ	Dew tray cover
8-5	GCUPPA033WRFZ	Dew tray
90-1	PSRA-A046WRTZ	Steam tray
90-2	PSRA-A074WRHZ	Base tray 30l
90-3	UAMI-A165WRTZ	Rack 30L
90-4	UAMI-A166WRTZ	Rack 30L
90-5	PGIDMA021WRFZ	Guide
90-6	UDSKDB002MRK4	Viking CD (all literature)

**OTHER PARTS**

1-12	FW-VZC207WREZ	Control harness
1-13	FW-VZC353WREZ	Main harness
1-23	FW-VZC355WREZ	Antenna motor harness
1-24	QW-HZA132WRZZ	High voltage harness
8-57	LHLDWA013WRE0	Purse lock LL
8-64	LHLDWA012WRE0	Purse lock L

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