

SHARP

SERVICE MANUAL

SX8M301KB6001



MICROWAVE DRAWER MODEL

KB-6001NS

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

WARNING TO SERVICE PERSONNEL:

This service manual is intended for use by persons having electrical and mechanical training and a level of knowledge of these subjects generally considered acceptable in the appliance repair trade. Sharp Electronics Corporation cannot be responsible, nor assume any liability, for injury or damage of any kind arising from the use of this manual.

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 Capacitor, High Voltage Power Transformer, High Voltage Rectifier, Heat Sink, Magnetron and High Voltage Harness etc...)

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SHARP ELECTRONICS CORPORATION

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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 SHARP ELECTRONICS CORPORATION immediately @1-800-237-4277.

If the unit operates with the door open, service person should 1) tell the user not to operate the oven and 2) contact SHARP ELECTRONICS CORPORATION and Food and Drug Administration's Center for Devices and Radiological Health immediately.

Service personnel should inform SHARP ELECTRONICS CORPORATION of any certified unit found with emissions in excess of $4\text{mW}/\text{cm}^2$. 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 Oven units contain circuitry capable of producing very high voltage and current, contact with following parts may result in a severe, possibly fatal, electrical shock.

(Example)

High Voltage Capacitor, High Voltage Power Transformer, Magnetron, High Voltage Rectifier Assembly, High Voltage Harness, Heating Elements, etc..

Read the Service Manual carefully and follow all instructions.

Before Servicing

1. Disconnect the power supply cord , and then remove cabinet.
2. Open the drawer and keep it open.
3. Discharge high voltage capacitor.

**WARNING: RISK OF ELECTRIC SHOCK.
DISCHARGE THE HIGH-VOLTAGE
CAPACITOR BEFORE SERVICING.**

The high-voltage capacitor remains charged about 60 seconds after the oven has been switched off. Wait for 60 seconds and then short-circuit the connection of the high-voltage capacitor (that is the connecting lead of the high-voltage rectifier) against the chassis with the use of an insulated screwdriver.

Whenever troubleshooting is performed the power supply must be disconnected. It may, in some cases, be necessary to connect the power supply after the outer case has been removed, in this event:

1. Disconnect the power supply cord, and then remove necessary covers.
2. Open the drawer and keep it open.
3. Discharge high voltage capacitor.
4. Disconnect the leads to the primary of the power transformer.
5. Ensure that the leads remain isolated from other components and oven chassis by using insulation tape.
6. After that procedure, reconnect the power supply cord.

When the testing is completed,

1. Disconnect the power supply cord, and then remove covers.
2. Open the drawer and keep it open.
3. Discharge high voltage capacitor.
4. Reconnect the leads to the primary of the power transformer.
5. Reinstall the covers.
6. Reconnect the power supply cord.
7. Run the unit and check all functions.

After repairing

1. Reconnect all leads removed from components during testing.
2. Reinstall the covers.
3. Reconnect the power supply cord.
4. Run the oven and check all functions.

Microwave ovens should not be operated empty. To test for the presence of microwave energy within a cavity, place a cup of cold water on the oven tray, close the drawer 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 a microwave leakage test should be carried out.

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:

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

- 2) Place the load of 275 ± 15 ml (9.8 oz) of tap water initially at $20\pm 5^\circ\text{C}$ (68°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 Full Power Cooking Mode.
- 4) Close the drawer 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-drawer leakage test (microwave measurement):

- 1) Grasp the probe of the survey instrument and hold it perpendicular to the gap between the drawer 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 drawer 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 drawer, pull the drawer 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

SHARP

MICROWAVE DRAWER

KB-6001NS

FOREWORD

This Manual has been prepared to provide Sharp Electronics Corp. Service Personnel and Service Information for the MICROWAVE DRAWER.

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 not any 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;

**High Voltage Capacitor, Power Transformer, Magnetron, High Voltage Rectifier Assembly, High Voltage Harness;
If provided, Vent Hood, Fan assembly, Cooling Fan Motor.**

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

SCHEMATICS

TEST PROCEDURE

MICROWAVE DRAWER
DISASSEMBLY AND
ADJUSTMENT PROCEDURE

WIRING DIAGRAM

PARTS LIST

SHARP ELECTRONICS CORPORATION

SHARP PLAZA, MAHWAH,
NEW JERSEY 07430-2135

MICROWAVE DRAWER SPECIFICATION

| ITEM | DESCRIPTION |
|---|--|
| Power Requirements | 120 Volts 14.5 Amperes, 60 Hz Single phase, 3 wire grounded |
| Power Output | 1000 watts (IEC TEST PROCEDURE) Operating frequency of 2450MHz |
| Cooking Cavity Dimensions 1.0 Cubic Feet | Width 17-11/32 Height 5-7/8" Depth 17-1/8" |
| Outside Dimensions (Including drawer handle) | Width 23-7/8" Height 15-9/32" Depth 26-1/16" |
| Control Complement | Touch Control System Clock (1:00 - 12:59) Timer (0 - 99 min. 99 seconds) Microwave Power for Variable Cooking Repetition Rate; P-HI Full power throughout the cooking time P-90..... approx. 90% of Full Power P-80..... approx. 80% of Full Power P-70..... approx. 70% of Full Power P-60..... approx. 60% of Full Power P-50..... approx. 50% of Full Power P-40..... approx. 40% of Full Power P-30 approx. 30% of Full Power P-20..... approx. 20% of Full Power P-10..... approx. 10% of Full Power P-0..... No power throughout the cooking time START/MINUTE PLUS pad, Defrost pad, Number selection pad, Keep-warm pad, Power Level pad, Timer/Clock pad, Stop/Clear pad, Sensor Reheat, Sensor Popcorn, Sensor Cook, Setup/Custom Help, Control Lock / On/Off, Reheat. |
| Oven Cavity Light | Yes |
| Safety Standard | UL Listed FCC Authorized DHHS Rules, CFR, Title 21, Chapter 1, Sub chapter J |

GENERAL INFORMATION

GROUNDING INSTRUCTIONS

This oven is equipped with a three prong grounding plug. It must be plugged into a wall receptacle that is properly installed and grounded in accordance with the National Electrical Code and local codes and ordinances. In the event of an electrical short circuit, grounding reduces the risk of electric shock by providing an escape wire for the electric current.

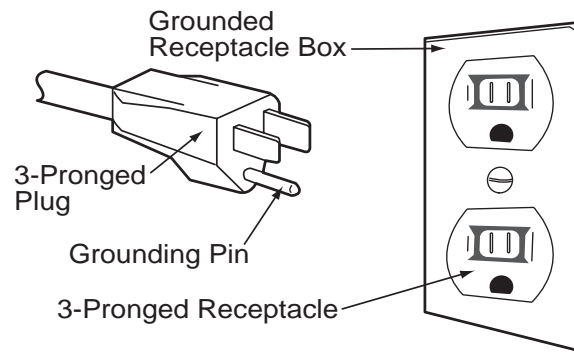
WARNING: Improper use of the grounding plug can result in a risk of electric shock.

Electrical Requirements

The electrical requirements are a 120 volt 60 Hz, AC only, 15 or 20 amp. fused electrical supply. It is recommended that a separate circuit serving only this appliance be provided. When installing this appliance, observe all applicable codes and ordinances.

Where a two-pronged wall-receptacle is encountered, it is the personal responsibility and obligation of the customer to contact a qualified electrician and have it replaced with a properly grounded three-pronged wall receptacle or have a grounding adapter properly grounded and polarized. If an extension cord must be used, it should be a 3-wire, 15 amp. or higher rated cord. Do not drape over a counter top or table where it can be pulled on by children or tripped over accidentally.

CAUTION: DO NOT UNDER ANY CIRCUMSTANCES CUT OR REMOVE THE ROUND GROUNDING PRONG FROM THIS PLUG.



NOTE:

The directed features are disabled after one minute when the oven is not in use. These features are automatically enabled when the door is opened and closed or the STOP/ CLEAR pad is pressed.

OPERATION

DESCRIPTION OF OPERATING SEQUENCE

The following is a description of component functions during oven operation.

OFF CONDITION

Closing the drawer activates the door sensing switch and secondary interlock switch. (In this condition, the monitor switch contacts are opened.)

When oven is plugged in, 120 volts A.C. is supplied to the control unit. (Page 10).

1. The display will show flashing "Enjoy Your Drawer Touch Clear and Touch Clock".

To set any program or set the clock, you must first touch the STOP/CLEAR pad. The display will clear, and " : " will appear.

COOKING CONDITION

Program desired cooking time by touching the NUMBER pads. Program the power level by touching the POWER LEVEL pad and then a Number pad.

When the START pad is touched, the following operations occur:

1. The contacts of relays are closed and components connected to the relays are turned on as follows. (For details, refer to Page 10)

| RELAY | CONNECTED COMPONENTS |
|-------|------------------------------------|
| RY-1 | oven lamp/stir fan motor/fan motor |
| RY-2 | power transformer |

2. 120 volts A.C. is supplied to the primary winding of the power transformer and is converted to about 3.3 volts A.C. output on the filament winding, and approximately 2370 volts A.C. on the high voltage winding.
3. The filament winding voltage heats the magnetron filament and the H.V. winding voltage is sent to a voltage doubler circuit.
4. The microwave energy produced by the magnetron is channelled through the waveguide into the cavity feed-box, and then into the cavity where the food is placed to be cooked.
5. Upon completion of the cooking time, the power transformer, oven lamp, etc. are turned off, and the generation of microwave energy is stopped. The oven will revert to the OFF condition.
6. When the drawer is opened during a cook cycle, the monitor switch, door sensing switch, secondary interlock switch, relay (RY1) and primary interlock relay are activated with the following results. The circuits to the stir fan motor, the cooling fan motor, and the high voltage components are de-energized, the oven lamp remains on, and the digital read-out displays the time still remaining in the cook cycle when the door was opened.
7. The monitor switch electrically monitors the operation of

the secondary interlock switch and secondary interlock relay and is mechanically associated with the drawer so that it will function in the following sequence.

8. When the drawer opens from the closed position, the primary interlock relay (RY2) and secondary interlock switch open their contacts. And contacts of the relay (RY1) remains closed. Then the monitor switch contacts close.
9. When the drawer is closed from the open position, the monitor switch contacts open first. Then the contacts of the secondary interlock switch and door sensing switch close. And contacts of the relay (RY1) open.

If the secondary interlock switch and primary interlock relay (RY2) fail with the contacts closed when the drawer is opened, the closing of the monitor switch contacts will form a short circuit through the fuse, secondary interlock switch, relay (RY1) and secondary interlock relay (RY2), causing the fuse to blow.

POWER LEVEL P-0 TO P-90 COOKING

When Variable Cooking Power is programmed, the 120 volts A.C. is supplied to the power transformer intermittently through the contacts of relay (RY-2) which is operated by the control unit within a 32 second time base. Microwave power operation is as follows:

| VARI-MODE | ON TIME | OFF TIME |
|--------------------------------------|---------|----------|
| Power 10(P-HI) (100% power) | 32 sec. | 0 sec. |
| Power 9(P-90) (approx. 90% power) | 30 sec. | 2 sec. |
| Power 8(P-80) (approx. 80% power) | 26 sec. | 6 sec. |
| Power 7(P-70) (approx. 70% power) | 24 sec. | 8 sec. |
| Power 6(P-60) (approx. 60% power) | 22 sec. | 10 sec. |
| Power 5(P-50) (approx. 50% power) | 18 sec. | 14 sec. |
| Power 4(P-40) (approx. 40% power) | 16 sec. | 16 sec. |
| Power 3(P-30) (approx. 30% power) | 12 sec. | 20 sec. |
| Power 2(P-20) (approx. 20% power) | 8 sec. | 24 sec. |
| Power 1(P-10) (approx. 10% power) | 6 sec. | 26 sec. |
| Power 0(P-0) (0% power) | 0 sec. | 32 sec. |

Note: The ON/OFF time ratio does not correspond with the percentage of microwave power, because approx. 2 seconds are needed for heating of the magnetron filament.

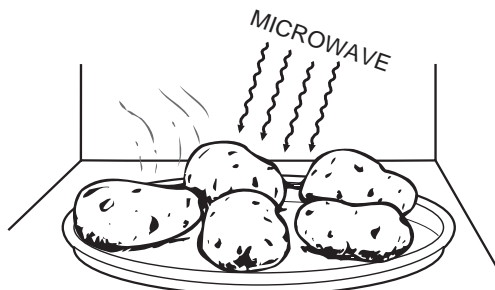
SENSOR COOKING CONDITION

Using the SENSOR function, food is cooked without figuring time, power level or quantity. When the oven senses enough steam from the food, it relays the information to its microprocessor which will calculate the remaining cooking time and power level needed for best results. When the food is cooked, water vapor is developed. the sensor "senses" the vapor and its resistance increase gradually. When the resistance reaches the value set according to the menu, supplementary cooking is started.

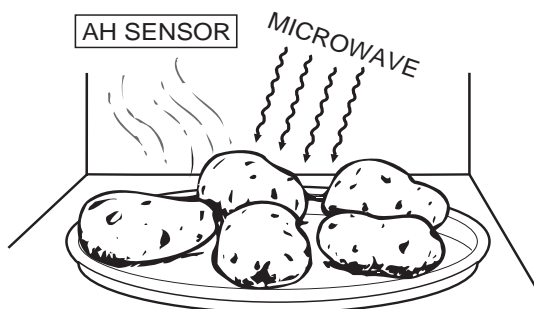
The time of supplementary cooking is determined by experiment with each food category and inputted into the LSI. An example of how sensor works: (Potatoes)



1. Potatoes at room temperature. Vapor is emitted very slowly.



2. Heat Potatoes. Moisture and humidity is emitted very rapidly. You can smell the aroma as it cooks.



3. Sensor detects moisture and humidity and calculates cooking time and variable power.

Cooking Sequence.

1. Touch one of the SENSOR pads.

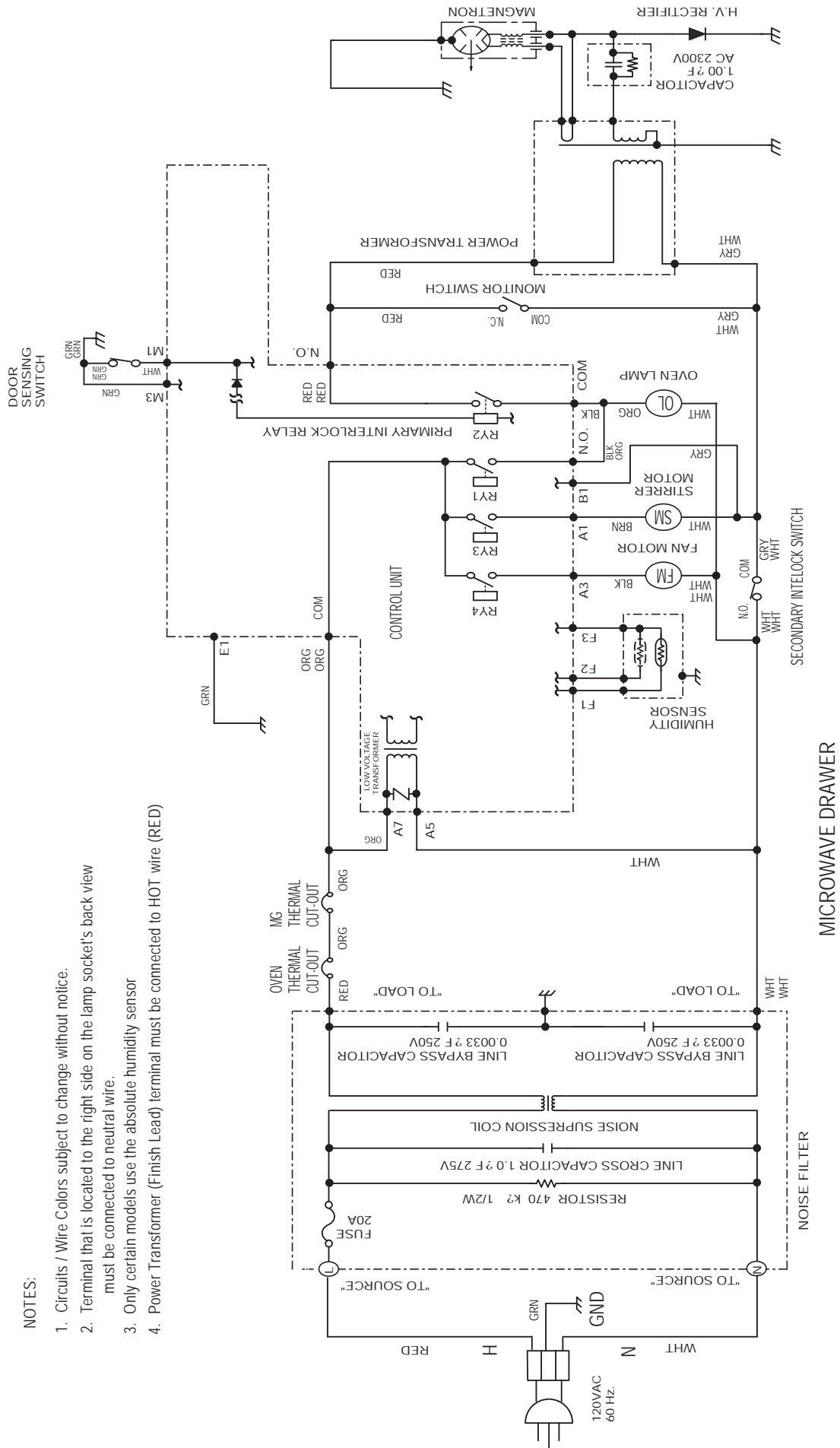
NOTE: The oven should not be operated on sensor immediately after plugging in the unit. Wait two minutes before cooking on SENSOR.

2. The coil of shut-off relay (RY-1) is energized, but the power transformer is not turned on.
3. After about 16 seconds, the cook relay (RY-2) is energized. The power transformer is turned on, microwave energy is produced and first stage is started. The 16 seconds is the cooling time required to remove any vapor from the oven cavity and sensor.

NOTE: During this first stage, do not open the drawer or touch STOP/CLEAR pad.

4. When the sensor detects the vapor emitted from the food, the display switches over to the remaining cooking time and the timer counts down to zero. At this time, the drawer may be opened to stir, turn or season food.
5. When the timer reaches zero, an audible signal sounds. The shut-off relay and cook relay are de-energized and the power transformer, oven lamp, etc. are turned off.
6. Opening the drawer or touching the STOP/CLEAR pad, the time of the day will reappear on the display and the oven will revert to an OFF condition. When the timer reaches zero, an audible signal sounds.

SCHEMATIC (OFF CONDITION)



NOTES:

1. Circuits / Wire Colors subject to change without notice.
2. Terminal that is located to the right side on the lamp socket's back view must be connected to neutral wire.
3. Only certain models use the absolute humidity sensor
4. Power Transformer (Finish Lead) terminal must be connected to HOT wire (RED)

TEST PROCEDURES

| PROCEDURE LETTER | COMPONENT TEST |
|---------------------|---|
| A | <p><u>TOUCH CONTROL PANEL ASSEMBLY TEST</u></p> <p>The touch control panel consists of circuits including semiconductors such as LSI, ICs, etc. Therefore, unlike conventional microwave ovens, proper maintenance cannot be performed with only a voltmeter and ohmmeter.</p> <p>In this service manual, the touch control panel assembly is divided into three units, Control Unit, Keyboard Unit and Power Unit, and troubleshooting by unit replacement is described according to the symptoms indicated.</p> <p>Before testing,</p> <ol style="list-style-type: none"> 1) Disconnect the power supply cord, and then disassemble as per "MICROWAVE DRAWER DISASSEMBLY" page 22. 2) Open the drawer and block it open. 3) Discharge high voltage capacitor. 4) Disconnect the leads to the primary of the power transformer. 5) Ensure that these leads remain isolated from other components and oven chassis by using insulation tape. <ol style="list-style-type: none"> 1. Keyboard Unit. <p>NOTE ;</p> <ol style="list-style-type: none"> 1) Check Keyboard unit connection before replacement. 2) Reconnect all leads removed from components during testing. 3) Re-install the covers. 4) Reconnect the power supply cord after the covers are installed. 5) Run the oven and check all functions. <p>The following symptoms indicate a defective keyboard unit.</p> <ol style="list-style-type: none"> a) When touching the pads, a certain pad produces no signal at all. b) When touching a number pad, two figures or more are displayed. c) When touching the pads, sometimes a pad produces no signal. <p>If the Keyboard unit is defective.</p> <ol style="list-style-type: none"> 1) Disconnect the power supply cord, and then remove covers. 2) Open the drawer and block it open. 3) Discharge high voltage capacitor. 4) Replace the Keyboard unit. 5) Reconnect all leads removed from components during testing. 6) Re-install the covers. 7) Reconnect the power supply cord after the covers are installed. 8) Run the oven and check all functions. 2. Control Unit <p>The following symptoms indicate a defective control unit. Before replacing the control unit, perform the Keyboard unit test (Procedure B) to determine if control unit is faulty.</p> <ol style="list-style-type: none"> 2-1 In connection with indicators <ol style="list-style-type: none"> a) At a certain digit, all or some segments do not light up. b) At a certain digit, brightness is low. c) Only one indicator does not light. d) The corresponding segments of all digits do not light up; or they continue to light up. e) Wrong figure appears. f) A certain group of indicators do not light up. g) The figure of all digits flicker. 2-2 Other possible problems caused by defective control unit. <ol style="list-style-type: none"> a) Buzzer does not sound or continues to sound. b) Clock does not operate properly. c) Cooking is not possible. 3. Power Unit or Touch Control Transformer <ol style="list-style-type: none"> a) Fan motor, stirrer motor, oven lamp or electrical parts do not turn on or do not turn off. b) Digital display on the control unit does not show anything. <p>When testing is completed,</p> <ol style="list-style-type: none"> 1) Disconnect the power supply cord, and then disassemble as per "MICROWAVE DRAWER DISASSEMBLY" page 22. 2) Open the drawer and block it open. 3) Discharge high voltage capacitor. |

TEST PROCEDURES

PROCEDURE LETTER

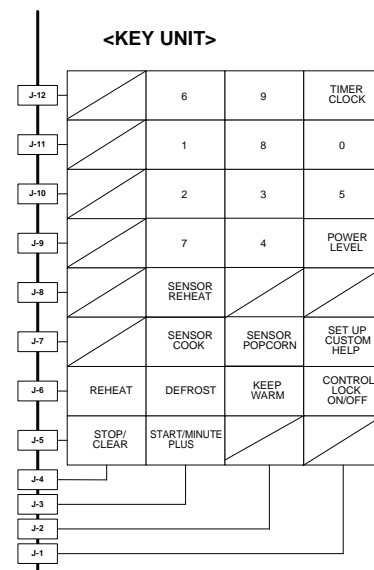
COMPONENT TEST

- 4) Reconnect all leads removed from components during testing.
- 5) Re-install the covers.
- 6) Reconnect the power supply cord after the covers are installed.
- 7) Run the oven and check all functions.

B

KEY UNIT TEST

1. Disconnect the power supply cord, and then remove outer case.
2. Open the drawer and block it open.
3. Discharge high voltage capacitor.
4. If the display fails to clear when the STOP/CLEAR pad is depressed, first verify the flat ribbon cable is making good contact, verify that the door sensing switch (stop switch) operates properly; that is the contacts are closed when the drawer is closed and open when the drawer is open. If the door sensing switch (stop switch) is good, disconnect the flat ribbon cable that connects the key unit to the control unit and make sure the drawer sensing switch is closed (either close the drawer or short the door sensing switch connector). Use the Key unit matrix indicated on the control panel schematic and place a jumper wire between the pins that correspond to the STOP/CLEAR pad making momentary contact. If the control unit responds by clearing with a beep the key unit is faulty and must be replaced. If the control unit does not respond, it is faulty and must be replaced. If a specific pad does not respond, the above method may be used (after clearing the control unit) to determine if the control unit or key pad is at fault.
5. Reconnect all leads removed from components during testing.
6. Re-install the outer case (cabinet).
7. Reconnect the power supply cord after the outer case is installed.
8. Run the oven and check all functions.



C

RELAY TEST

1. Disconnect the power supply cord, and then remove outer case.
 2. Open the door and block it open.
 3. Discharge high voltage capacitor.
 4. Disconnect the leads to the primary of the power transformer.
 5. Ensure that these leads remain isolated from other components and oven chassis by using insulation tape.
 6. After that procedure, re-connect the power supply cord.
 7. Remove the outer case and check voltage between Pin Nos. 5 and 7 of the 4 pin connector (CN-A) on the power unit with an A.C. voltmeter.
The meter should indicate 120 volts, if not check oven circuit.
- RY1, RY2, RY3 and RY4 Relay Test**
These relays are operated by D.C. voltage
Check voltage at the relay coil with a D.C. voltmeter during the microwave cooking operation.
- | | |
|---------------------------|--|
| DC. voltage indicated | Defective relay. |
| DC. voltage not indicated | Check diode which is connected to the relay coil. If diode is good, control unit is defective. |

| RELAY SYMBOL | OPERATIONAL VOLTAGE | CONNECTED COMPONENTS |
|--------------|---------------------|--------------------------------------|
| RY1 | Approx. 26V D.C. | Oven lamp / Common |
| RY2 | Approx. 25V D.C. | Power transformer |
| RY3 | Approx. 26V D.C. | Stirrer motor |
| RY4 | Approx. 26V D.C. | Fan motor |
| RY5 | Approx. 26V D.C. | Switching regulator for drawer motor |

8. Disconnect the power supply cord, and then remove outer case.
9. Open the door and block it open.
10. Discharge high voltage capacitor.

TEST PROCEDURES

| PROCEDURE LETTER | COMPONENT TEST |
|------------------|----------------|
|------------------|----------------|

- 11.Re-install the outer case (cabinet).
- 12.Reconnect the power supply cord after the outer case is installed.
- 13.Run the oven and check all function.

D DEFROST TEST

WARNING : The oven should be fully assembled before following procedure.

- (1) Place one cup of water in the center of the tray in the oven cavity.
- (2) Close the drawer, touch the Defrost pad. Then select Steaks/Chops by touching the number pad 2. And touch the number pad 5. (Now, weight 0.5lb is set.) And then touch the start pad.
- (3) The oven is in Defrost cooking condition.
- (4) The oven will operate as follows

| WEIGHT | 1ST STAGE | | 2ND STAGE | | 3RD. STAGE | |
|--------|-----------|--------|-----------|--------|------------|--------|
| | LEVEL | TIME | LEVEL | TIME | LEVEL | TIME |
| 0.5lb | 60% | 20sec. | 40% | 20sec. | 30% | 45sec. |

- (5) If improper operation is indicated, the control unit is probably defective and should be checked.

E PROCEDURES TO BE TAKEN WHEN THE FUSE ON THE PRINTED WIRING BOARD (PWB) IS OPEN.

To protect the electronic circuits, this model is provided with a fuse added to the primary on the PWB.

1. Fuse check and repairs.
 - 1) Disconnect the power supply cord.
 - 2) Remove the outer case cabinet.
 - 3) Open the door and block it open.
 - 4) Discharge high voltage capacitor.
 - 5) If the Fuse is blown, replace power unit.
 - 6) Make a visual inspection of the varistor. Check for burned damage. If the varistor has been burned, replace the power unit.
 - 7) Examine the touch control transformer with a tester for the presence of layer short-circuit (check the primary coil resistance which is approximately $151.6\Omega \pm 10\%$). If any abnormal condition is detected, replace the touch control transformer.
 - 8) Reconnect all leads removed from components during testing.
 - 9) Re-install the outer case (cabinet).
 - 10) Reconnect the power supply cord after the outer case is installed.
 - 11) Run the oven and check all functions.
2. Follow the troubleshooting guide given below, if indicator does not light up after above check and repairs are finished.
 - 1) Disconnect the power supply cord.
 - 2) Remove the outer case cabinet.
 - 3) Open the door and block it open.
 - 4) Discharge high voltage capacitor.
 - 5) Disconnect the leads to the primary of the power transformer.
 - 6) Ensure that these leads remain isolated from other components and oven chassis by using insulation tape.
 - 7) After that procedure, re-connect the power supply cord.
 - 8) Follow the troubleshooting guide given below for repair.

| STEPS | OCCURRENCE | CAUSE OR CORRECTION |
|-------|---|---|
| 1 | The rated AC voltage is not present between Pin Nos. 5 and 7 of the 4-pin connector (CN-A). | Check supply voltage and oven power cord. |
| 2 | The rated AC voltage is present at primary side of touch control transformer. | Touch control transformer or secondary circuit defective. Check and replace touch control transformer or power unit |

TEST PROCEDURES

PROCEDURE LETTER

COMPONENT TEST

- 9) Discharge high voltage capacitor.
- 10) Reconnect all leads removed from components during testing.
- 11) Re-install the outer case (cabinet).
- 12) Reconnect the power supply cord after the outer case is installed.
- 13) Run the oven and check all functions.

F

AH SENSOR TEST

Checking the initial sensor cooking condition

WARNING : The oven should be fully assembled before following procedure.

- (1) The oven should be plugged in at least two minutes before sensor cooking.
- (2) Room temperature should not exceed 95°F (35°C).
- (3) The unit should not be installed in any area where heat and steam are generated. The unit should not be installed, for example, next to a conventional surface unit. Refer to the "INSTALLATION INSTRUCTIONS" of the operation manual.
- (4) Exhaust vents are provided on the back of the unit for proper cooling and air flow in the cavity. To permit adequate ventilation, be sure to install so as not to block these vents. There should be some space for air circulation.
- (5) Be sure the exterior of the cooking container and the interior of the oven are dry. Wipe off any moisture with a dry cloth or paper towel.
- (6) The Sensor works with food at normal storage temperature. For example, chicken pieces would be at refrigerator temperature and canned soup at room temperature.
- (7) Avoid using aerosol sprays or cleaning solvents near the oven while using Sensor settings. The sensor will detect the vapor given off by the spray and turn off before food is properly cooked.
- (8) If the sensor has not detected the vapor of the food, ERROR will appear and the oven will shut off.

Water load cooking test

WARNING : The oven should be fully assembled before following procedure.

Make sure the oven has been plugged in at least two minutes before checking sensor cook operation. The cabinet should be installed and screws tightened.

- (1) Fill approximately 200 milliliters (7.2 oz) of tap water in a 1000 milliliter measuring cup.
- (2) Place the container on the center of tray in the oven cavity.
- (3) Close the drawer.
- (4) Touch the TIMER/CLOCK pad once, the POWER LEVEL pad twice and the START pad once. And touch the number pad 1 once and the number pad 4 once. Now, the oven is in the sensor cooking condition, and "AH20" and "ON" will appear in the display.
- (5) The oven will operate for the first 16 seconds, without generating microwave energy.

NOTE: ERROR will appear if the door is opened or STOP/CLEAR pad is touched during first stage of sensor cooking.

- (6) After approximately 16 seconds, microwave energy is produced.

If ERROR is displayed or the oven does not turn off, replace the AH sensor or check the control unit, refer to explanation below. If the oven stops after 5 minutes and no ERROR code is displayed, then the AH sensor is normal. Check other parts except the AH sensor.

TESTING METHOD FOR AH SENSOR AND/OR CONTROL UNIT

To determine if the sensor is defective, the simplest method is to replace it with a new replacement sensor.

- (1) Disconnect the power supply cord, and then disassemble as per "MICROWAVE DRAWER DISASSEMBLY" page 22.
- (2) Open the drawer and block it open.
- (3) Discharge high voltage capacitor.
- (4) Remove the AH sensor.
- (5) Install the new AH sensor.
- (6) Reconnect all leads removed from components during testing.
- (7) Re-install the covers.
- (8) Reconnect the power supply cord after the covers are installed.
- (9) Reconnect the oven to the power supply and check the sensor cook operation as follows:
 - 9-1. Fill approximately 200 milliliters (7.2 oz) of tap water in a 1000 milliliter measuring cup.

TEST PROCEDURES

**PROCEDURE
LETTER**

COMPONENT TEST

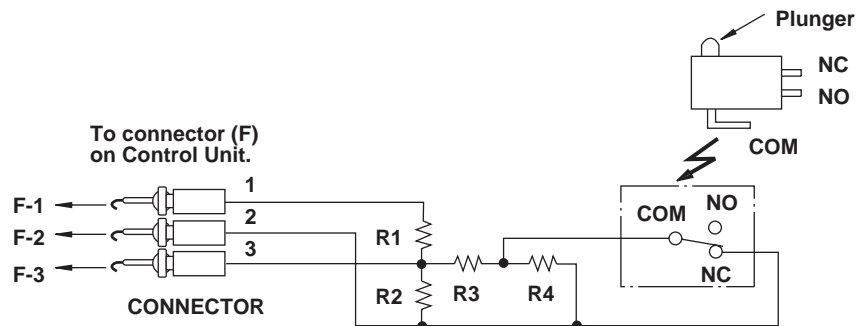
- 9-2. Place the container on the center of tray in the oven cavity.
 - 9-3. Close the drawer.
 - 9-4. Touch the TIMER/CLOCK pad once, the POWER LEVEL pad twice and the START pad once. And touch the number pad 1 once and the number pad 4 once.
 - 9-5. The control panel is in automatic Sensor operation.
 - 9-6. The oven turns off automatically, and the time for detecting moisture will be displayed.
- If new sensor does not operate properly, the problem is with the control unit, and refer to explanation below.

CHECKING CONTROL UNIT

- (1) Disconnect the power supply cord, and then disassemble as per "MICROWAVE DRAWER DISASSEMBLY" page 22.
- (2) Open the drawer and block it open.
- (3) Discharge high voltage capacitor.
- (4) Disconnect the sensor connector that is mounted to control panel.
- (5) Then connect the dummy resistor circuit (see fig.) to the sensor connector of control panel.
- (6) Disconnect the leads to the primary of the power transformer.
- (7) Ensure that these leads remain isolated from other components and oven chassis by using insulation tape.
- (8) After that procedure, re-connect the power supply cord.
- (9) Check the sensor cook operation proceed as follows:
 - 9-1. Close the door. Touch the TIMER/CLOCK pad once, the POWER LEVEL pad twice and the START pad once. And touch the number pad 1 once and the number pad 4 once.
 - 9-2. The control panel is in the sensor cooking operation.
 - 9-3. After approximately 25 seconds, push plunger of select switch for more than 3 seconds. This condition is same as judgement by AH sensor.
 - 9-4. After approximately 3 seconds, the display shows " X X . X X " which is the time for detecting moisture.

If the above is not the case, the control unit is probably defective.
If the above is proper, the AH sensor is probably defective.
- (10) Disconnect the power supply cord, and then remove covers.
- (11) Open the drawer and block it open.
- (12) Discharge high voltage capacitor.
- (13) Disconnect the dummy resistor circuit from the sensor connector of control panel.
- (14) Carry out necessary repair.
- (15) Reconnect all leads removed from components during testing and repairing.
- (16) Re-install the covers.
- (17) Reconnect the power supply cord after the outer case is installed. Run the oven and check all functions.
- (18) Carry out "Water load cooking test" again and ensure that the oven works properly.

R1, R2 : 22Ω ± 1% 1/2W
R3 : 4.3kΩ ± 5% 1/4W
R4 : 1MΩ ± 5% 1/4W



TEST PROCEDURES

**PROCEDURE
LETTER**

COMPONENT TEST

Refer to the disassembly instructions found on Page 22.

G

MAGNETRON ASSEMBLY TEST

1. Disconnect the power supply cord.
2. Open the drawer and keep it open.
3. To discharge high voltage capacitor, wait for 60 seconds.
4. 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.
5. 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.
6. Reconnect all leads removed from components during testing.
7. Reassemble the unit.
8. Reconnect the power supply cord.
9. Run the oven and check all functions.

MICROWAVE OUTPUT POWER

The following test procedure should be carried out with the microwave oven in a fully assembled condition.

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 following components 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 POWER 10(HIGH) 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 28° to 54°F (16° to 30°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.

H

THERMAL CUT-OUT TEST

1. Disconnect the power supply cord.
2. Open the drawer and keep it open.
3. To discharge high voltage capacitor, wait for 60 seconds.
4. A continuity check across the thermal cut-out terminals should indicate a closed circuit unless the temperature of the thermal cut-out reaches approximately 293°F(145°C).
An open thermal cut-out indicates overheating of the oven, exchange the oven thermal cut-out and check inside of oven cavity and for improper setting of cooking time or operation of control unit. Check for restricted air flow through the vent holes of the oven cavity, especially the cooling fan and air guide.
5. Reconnect all leads removed from components during testing.
6. Reassemble the unit.
7. Reconnect the power supply cord.
8. Run the unit and check all functions.

**CAUTION: IF THE THERMAL CUT-OUT INDICATES AN OPEN CIRCUIT AT ROOM TEMPERATURE,
REPLACE THERMAL CUT-OUT.**

TEST PROCEDURES

PROCEDURE LETTER

COMPONENT TEST

I

SECONDARY INTERLOCK SWITCH TEST

1. Disconnect the power supply cord.
2. Open the drawer and keep it open.
3. To discharge high voltage capacitor, wait for 60 seconds.
4. Isolate the switch and connect the ohmmeter to the common (COM.) and normally open (NO) terminal of the switch. The meter should indicate an open circuit with the drawer open and a closed circuit with the drawer closed. If improper operation is indicated, replace the secondary interlock switch.
5. Reconnect all leads removed from components during testing.
6. Reassemble the unit.
7. Reconnect the power supply cord.
8. Run the oven and check all functions.

J

STOP SWITCH TEST

STOP SWITCH

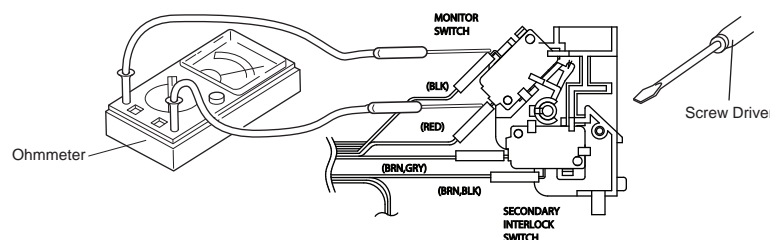
1. Disconnect the power supply cord.
2. Open the drawer and keep it open.
3. To discharge high voltage capacitor, wait for 60 seconds.
4. Isolate the switch and connect the ohmmeter to the common (COM.) and normally open (NO) terminal of the switch. The meter should indicate an open circuit with the drawer open and a closed circuit with the drawer closed. If improper operation is indicated, replace the stop switch.
5. Reconnect all leads removed from components during testing.
6. Reassemble the unit.
7. Reconnect the power supply cord.
8. Run the oven and check all functions.

NOTE: If the stop switch contacts fail in the open position and the door is closed, the cooling fan motor, stirrer motor and oven light will be activated by RY1.

K

MONITOR SWITCH TEST

1. Disconnect the power supply cord.
2. Open the drawer and keep it open.
3. To discharge high voltage capacitor, wait for 60 seconds.
4. Before performing this test, make sure that the secondary interlock switch is operating, according to the above Switch Test Procedure. Disconnect the wire lead from the monitor switch (COM) terminal. Check the monitor switch operation by using the ohmmeter as follows. When the drawer is open, the meter should indicate a closed circuit. When the monitor switch actuator is pushed by a screw driver through the lower latch hole on the front plate of the oven cavity with the drawer opened (in this condition the plunger of the monitor switch is pushed in), the meter should indicate an open circuit. If improper operation is indicated, the switch may be defective and both the monitor switch, plus fuse will need to be replaced. After testing the monitor switch, reconnect the wire lead to the monitor switch (COM) terminal and check the continuity of the monitor circuit.
5. Reconnect all leads removed from components during testing.
6. Reassemble the unit.
7. Reconnect the power supply cord.
8. Run the oven and check all functions.



TEST PROCEDURES

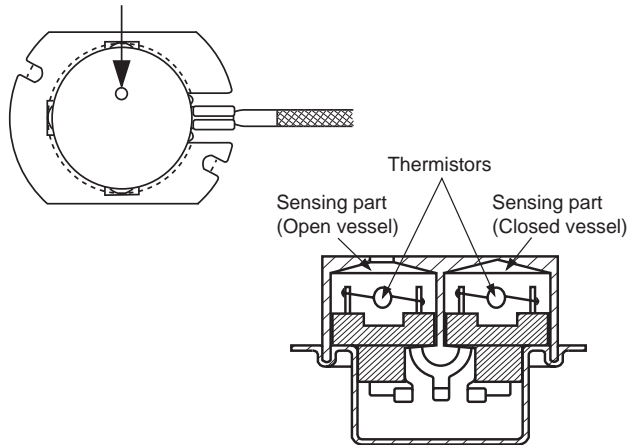
| PROCEDURE LETTER | COMPONENT TEST |
|---------------------|---|
| L | <p><u>BLOWN MONITOR FUSE TEST</u></p> <ol style="list-style-type: none"> 1. Disconnect the power supply cord. 2. Open the drawer and block it open. 3. To discharge high voltage capacitor, wait for 60 seconds. 4. If the monitor fuse is blown when the drawer is opened, check the primary interlock switch, secondary interlock switch and monitor switch according to the "TEST PROCEDURE" for those switches before replacing the blown monitor fuse. <p>CAUTION: BEFORE REPLACING A BLOWN MONITOR FUSE, TEST THE SECONDARY INTERLOCK SWITCH, STOP SWITCH AND MONITOR SWITCH FOR PROPER OPERATION.</p> <p>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-BA018/KIT, even if the monitor switch operates normally. The monitor fuse and monitor switch assembly is comprised of a 20 ampere fuse and switch.</p> <ol style="list-style-type: none"> 5. Reconnect all leads removed from components during testing. 6. Reassemble the unit. 7. Reconnect the power supply cord. 8. Run the oven and check all functions. |
| M | <p><u>POWER TRANSFORMER TEST</u></p> <ol style="list-style-type: none"> 1. Disconnect the power supply cord. 2. Open the drawer and block it open. 3. Discharge high voltage capacitor. 4. Disconnect the primary input terminals and measure the resistance of the transformer with an ohmmeter. Check for continuity of the coils with an ohmmeter. On the R x 1 scale, the resistance of the primary coil should be less than 1 ohm and the resistance of the high voltage coil should be approximately 90 ohms; the resistance of the filament coil should be less than 1 ohm. 5. Reconnect all leads removed from components during testing. 6. Reassemble the unit. 7. Reconnect the power supply cord. 8. Run the oven and check all functions. <p>CAUTION: (HIGH VOLTAGES ARE PRESENT AT THE HIGH VOLTAGE TERMINAL, SO DO NOT ATTEMPT TO MEASURE THE FILAMENT AND HIGH VOLTAGE.)</p> |

HUMIDITY SENSOR CIRCUIT

(1) Structure of Humidity Sensor

The humidity sensor includes two thermistors as shown in the illustration. One thermistor is housed in the closed vessel filled with dry air while another in the open vessel. Each sensor is provided with the protective cover made of metal mesh to be protected from the external airflow.

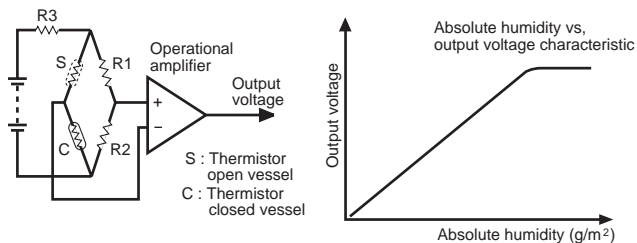
ventilation opening for sensing



(2) Operational Principle of Humidity Sensor

The figure below shows the basic structure of an absolute humidity sensor. A bridge circuit is formed by two thermistors and two resistors (R1 and R2). The output of the bridge circuit is to be amplified by the operational amplifier.

Each thermistor is supplied with a current to keep it heated at about 150°C (302°F), the resultant heat is dissipated in the air and if the two thermistors are placed in different humidity conditions they show different degrees of heat conductivity leading to a potential difference between them causing an output voltage from the bridge circuit, the intensity of which is increased as the absolute humidity of the air increases. Since the output is varied every minute, it is amplified by the operational amplifier.



(3) Detector Circuit of Humidity Sensor Circuit

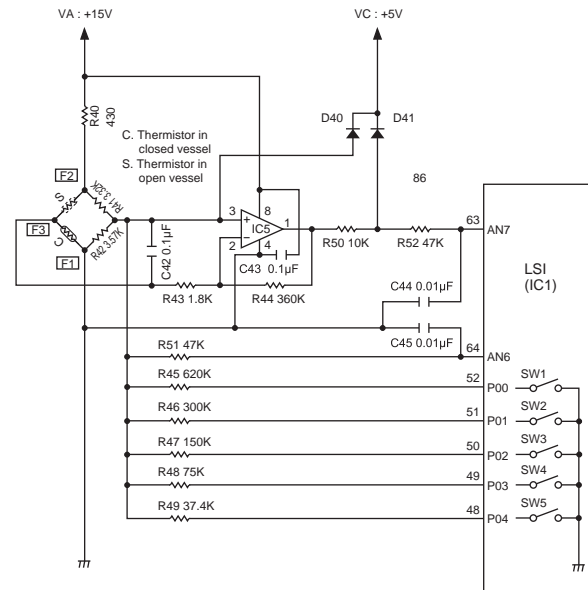
This detector circuit is used to detect the output voltage of the absolute humidity circuit to allow the LSI to control sensor cooking of the unit. When the unit is set in the sensor cooking mode, 16 seconds clearing cycle occurs than the detector circuit starts to function and the LSI observes the initial voltage available at its AN6 terminal.

With this voltage given, the switches SW1 to SW5 in the LSI are turned on in such a way as to change the resistance values in parallel with R45 ~ R49. Changing

the resistance values results in that there is the same potential at both F-3 terminal of the absolute humidity sensor and AN6 terminal of the LSI. The voltage of AN7 terminal will indicate about +2.5V. This initial balancing is set up about 16 seconds after the unit is put in the Sensor Cooking mode. As the sensor cooking proceeds, the food is heated to generate moisture by which the resistance balance of the bridge circuit is deviated to increase the voltage available at AN6 terminal of the LSI.

Then the LSI observes that voltage at AN7 terminal and compares it with its initial value, and when the comparison rate reaches the preset value (fixed for each menu to be cooked), the LSI causes the unit to stop sensor cooking; thereafter, the unit goes in the next operation automatically.

When the LSI starts to detect the initial voltage at AN7 terminal 16 seconds after the unit has been put in the Sensor Cooking mode, if it is not possible to balance the bridge circuit due to disconnection of the absolute humidity sensor, ERROR will appear on the display and the cooking is stopped.



PRECAUTIONS FOR USING LEAD-FREE SOLDER

1. Employing lead-free solder

The "Main PWB" of this model employs lead-free solder. This is indicated by the "LF" symbol printed on the PWB and in the service manual. The suffix letter indicates the alloy type of the solder.

Example:

LFa
Sn-Ag-Cu

Indicates lead-free solder of tin, silver and copper.

2. Using lead-free wire solder

When repairing a PWB with the "LF" symbol, only lead-free solder should be used. (Using normal tin/lead alloy solder may result in cold soldered joints and damage to printed patterns.)

As the melting point of lead-free solder is approximately 40°C higher than tin/lead alloy solder, it is recommend that a dedicated bit is used, and that the iron temperature is adjusted accordingly.

3. Soldering

As the melting point of lead-free solder (Sn-Ag-Cu) is higher and has poorer wet ability, (flow), to prevent damage to the land of the PWB, extreme care should be taken not to leave the bit in contact with the PWB for an extended period of time. Remove the bit as soon as a good flow is achieved. The high content of tin in lead free solder will cause premature corrosion of the bit. To reduce wear on the bit, reduce the temperature or turn off the iron when it is not required.

Leaving different types of solder on the bit will cause contamination of the different alloys, which will alter their characteristics, making good soldering more difficult. It will be necessary to clean and replace bits more often when

COMPONENT REPLACEMENT AND ADJUSTMENT PROCEDURE

WARNING AGAINST HIGH VOLTAGE:

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

(Example)

High Voltage Capacitor, Power Transformer, Magnetron, High Voltage Rectifier Assembly, High Voltage Harness etc..

WARNING: To Avoid possible exposure to microwave energy, please follow the instructions below before servicing the oven.

1. Disconnect the power supply cord.
2. Make sure that a definite "click" can be heard when the microwave oven drawer is unlatched. (Hold the drawer in a closed position with one hand, then pull the drawer open, this causes the latch leads to rise, it is then possible to hear a "click" as the drawer switches operate.)
3. Visually check the drawer 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. Drawer does not close firmly.
2. Drawer latch hook is damaged.
3. The drawer gasket or seal is damaged.
4. The drawer is bent or warped.
5. There are defective parts in the drawer 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 drawer is not closed.

WARNING FOR WIRING

To prevent an electric shock, take the following precautions:

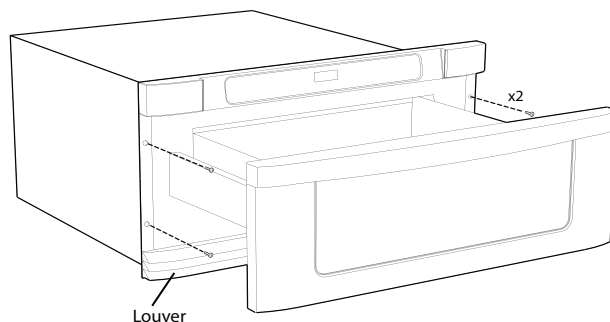
1. Before wiring:
 - 1) Disconnect the power supply cord.
 - 2) Open the drawer.
 - 3) Wait 60 seconds, then discharge the high voltage capacitor.
2. Don't let the wire leads touch to the following parts:
 - 1) High voltage parts:
Magnetron, High voltage transformer, High voltage capacitor and High voltage rectifier assembly.
 - 2) Hot parts:
Oven lamp, Magnetron, High voltage transformer and Oven cavity.

MICROWAVE DRAWER DISASSEMBLY

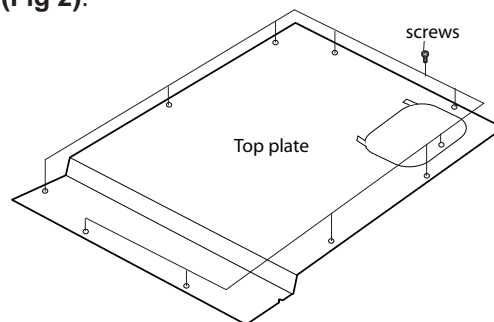
WARNING: Follow all safety precautions as stated at the beginning of this Service Manual before proceeding!

1. Before removing Microwave Drawer, take measures to protect the Drawer louver by either removing the louver or by letting the louver over hang off flat protected surface (**Fig 1**).

Fig. 1

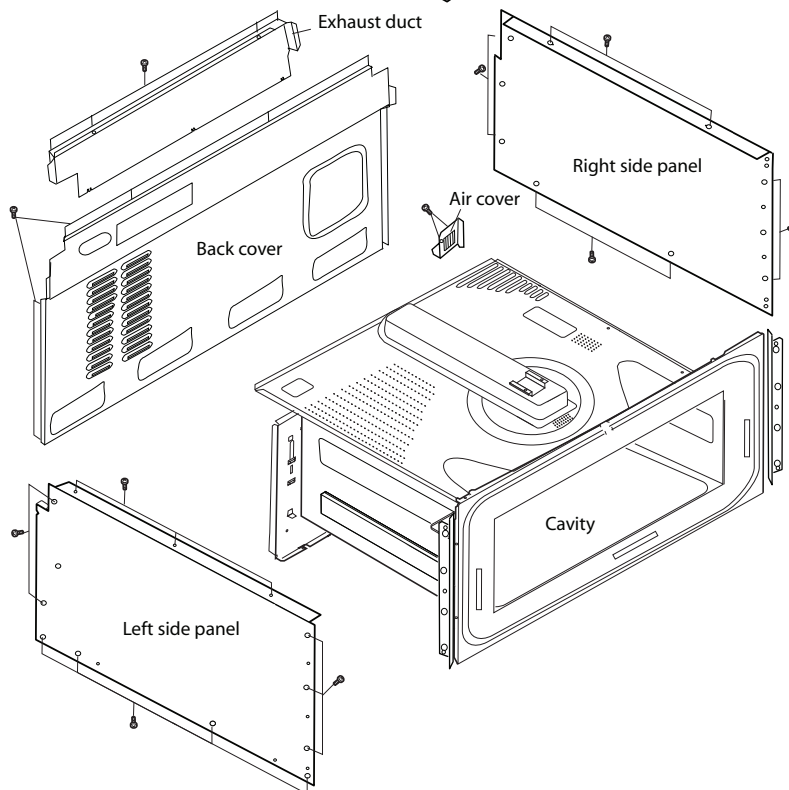


2. Open the Drawer to access the 4 mounting screws holding the unit on to the wall or cabinet opening. (**Fig 1**).
3. Close Drawer and carefully pull the unit out from opening and unplug the power supply cord.
4. Remove top cover. (**Fig 2**).
5. Remove air cover from back of unit, then both side panels. (**Fig 2**).



6. Remove exhaust duct and back cover. (**Fig 2**).

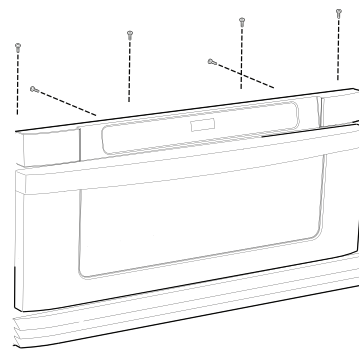
Fig. 2



NOTE: You now have access to various components for the Drawer.

- To remove the Control Panel Frame Assembly, remove the (5) screws holding the CP frame to the C/P angle in the back (**Fig 3**).

Fig. 3



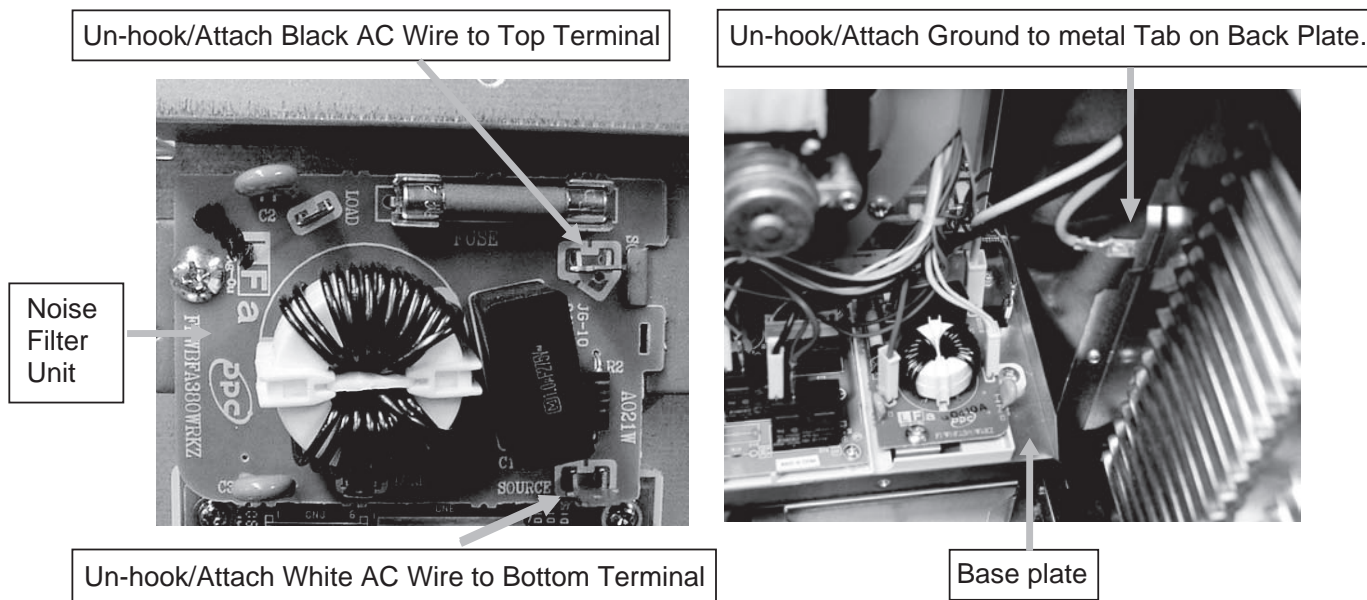
- Unsnap the top C/P frame assembly away from the C/P frame and unplug all wires. The C/P frame assembly is now free.

At this point, you will have access to all parts of the Microwave Drawer.

POWER CORD REPLACEMENT

- Un-hook the black and white AC terminals from the Noise Filter PWB and green ground wire from the back plate. (**Fig 4**).
- Attach the black and white AC terminals from the new Power Cord to the Noise Filter as shown in figure 4. Note: The green ground wire terminal can be attached when reassembling the back plate to the drawer cavity.

Fig. 4

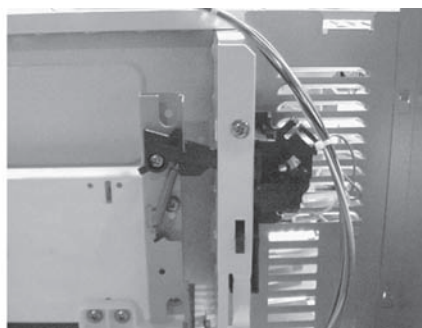


STOP SWITCH, SECONDARY INTERLOCK SWITCH AND MONITOR SWITCH REMOVAL

1. Follow the Microwave Drawer disassembly as previously stated
2. Open the drawer and keep it open.
3. To discharge the high voltage capacitor, wait for 60 seconds.
4. Remove the screw holding the latch hook to the oven flange.
5. Remove the latch hook from the oven flange.
6. Disconnect the wire leads of each switch.
7. Remove each switch from the latch hook by pushing the one (1) stopper tab holding each switch.
8. Now, each switch is free.



Latch Hook Left



Latch Hook Right

Re-install

1. Re-install each switch in its place. The secondary interlock switch is in the lower position and the monitor switch is in the top position, located on the left side of the unit. The door sensing switch by itself on the right side of the unit.
2. Re-connect wire leads to each switch. Refer to pictorial diagram.
3. Secure the latch hooks with mounting screws to oven flange.
4. Make sure that the monitor switch is operating properly and check continuity of the monitor circuit. Refer to chapter "Test Procedure" and "Adjustment procedure".

STOP SWITCH, SECONDARY INTERLOCK SWITCH AND MONITOR SWITCH ADJUSTMENT

1. Follow the Microwave Drawer disassembly as previously stated
2. Open the drawer and keep it open.
3. To discharge the high voltage capacitor, wait for 60 seconds.
4. If the door sensing switch, secondary interlock switch and monitor switch do not operate properly due to a misadjustment, the following adjustment should be made.
6. Loosen the screw holding latch hook to the oven cavity flange.
7. With drawer closed, adjust latch hook by moving it back and forth, and up and down. In and out play of the door allowed by the upper and lower position of the latch hook should be less than 0.5mm. The vertical position of the latch hook should be adjusted so that the secondary interlock switch is activated with the drawer closed. The horizontal position of the latch hook should be adjusted so that the monitor switch and drawer sensing switch are activated with the drawer closed.
8. Secure the screws with washers firmly.
9. Check all of the switches operation. If any switch has not activated fully, you will need to adjust the slide rail attached to the Microwave cavity.
10. This is done by following the steps to remove the "DRAWER/SLIDE RAIL REMOVAL" on page 25. After you have removed the slide rails, loosen the "2" screws holding the slide rail to the Microwave cavity and tilt the front end up and the rear end down, then tighten the

screws (**Fig. S-1**).

11. Check and assure that the cap nuts on the Drawer Support Angles are centered when passing through the cavity face plate.

After adjustment, check the following.

1. In and out play of door remains less than 0.5mm when in the latched position. First check upper position of latch hook, pushing and pulling upper portion of drawer toward the oven face. Then check lower portion of the latch hook, pushing and pulling lower portion of the door toward the oven face. Both results (play in the door) should be less than 0.5mm.
2. The secondary interlock switch interrupts the circuit before the door can be opened.
3. Monitor switch contacts close when door is opened.
4. Door sensing switch contacts open when door is opened.
5. Reassemble the unit and check for microwave leakage around door with an approved microwave survey meter. (Refer to Microwave Measurement Procedure.)

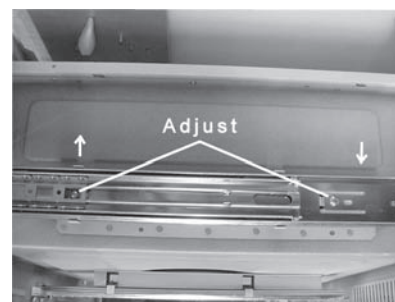


Fig. S-1

DRAWER/SLIDE RAIL REMOVAL

DRAWER ASSEMBLY AND CHOKE REMOVAL

1. Follow the Microwave Drawer disassembly as previously stated
2. Open the drawer and keep it open.
3. To discharge the high voltage capacitor, wait for 60 seconds.
4. Remove the both right and left side panels.
5. Remove (2) Drawer Support Covers from Choke Cover as shown in (Fig. D-1).
6. Insert a putty knife (thickness of about 0.5mm) into the gap between the choke cover and the door frame.
7. Carefully slide choke cover away from drawer as far as possible.
8. Remove (6) screws from all (3) drawer Support Angles as shown in (Fig. D-2).
9. Unhook Drawer Support Angles from drawer, then remove.
10. Now, the door assembly is free and the Choke Cover can now be removed.

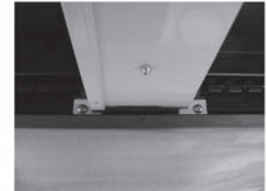
Fig. D-1



NOTE:

To remove only the Microwave Drawer, follow steps 1, 2, 5, 8, 9 & 10 as instructed under "DRAWER ASSEMBLY AND CHOKE REMOVAL".

Fig. D-2



DRAWER SUPPORT ANGLE REMOVAL

1. Remove Drawer Assembly and Choke Cover as stated in "DRAWER ASSEMBLY AND CHOKE REMOVAL".
2. Remove (2) screws from right or left Latch Angle Assembly, then remove Angle assembly (Fig. D-4).
3. Separate Slide Rails by moving inside lever of Slide Rails. The Slide Rail will now separate by pulling straight forward and out (Fig. D-3).
4. At this point, you can replace either Latch Angle Assy or Latch Angles.

To reassemble, just reverse the above order.

After reassembly, do the following.

- (A) Make sure that drawer sensing switch, secondary interlock switch and monitor switch are operating properly. (Refer to chapter "Test Procedures".)
- (B) An approved microwave survey meter should be used to assure compliance with proper microwave radiation emission limitation standards.

After any servicing, make sure of the following :

1. Drawer latch heads smoothly catch latch hook through latch holes and that latch head goes through center of latch hole.
2. Deviation of door alignment from horizontal line of cavity face plate is to be less than 1.0mm.
3. Drawer is positioned with its face pressed toward cavity face plate.
4. Reassemble the unit and check for microwave leakage around drawer with an approved microwave survey meter. (Refer to Microwave Measurement Procedure.)

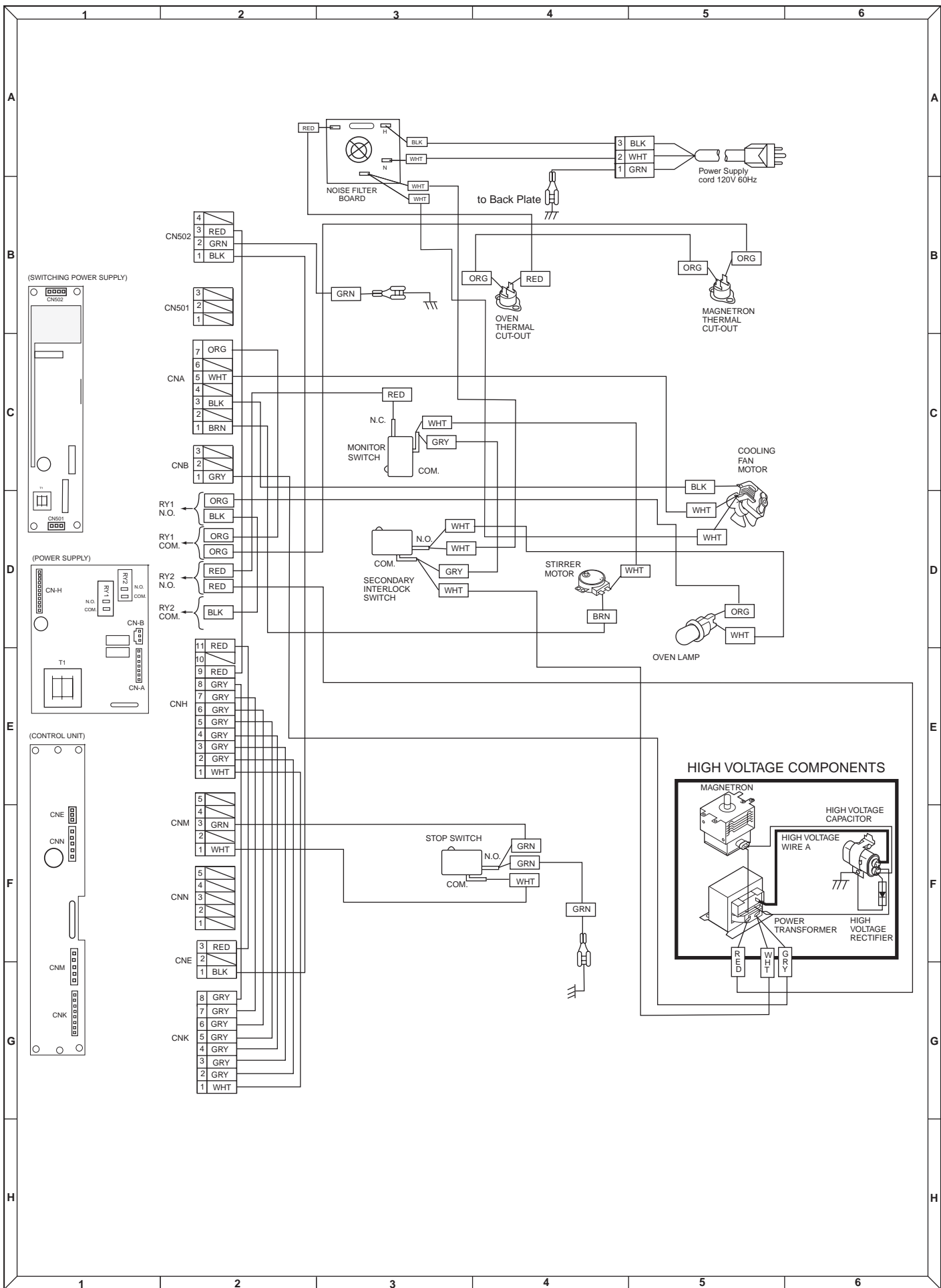
Note: The drawer on a microwave oven is designed to act as an electronic seal preventing the leakage of microwave energy from oven cavity during cook cycle. This function does not require that door be air-tight, moisture (condensation)-tight or light-tight. Therefore, occasional appearance of moisture, light or sensing of gentle warm air movement around oven drawer is not abnormal and does not indicate a leakage of microwave energy from oven cavity.

Fig. D-3



Fig. D-4





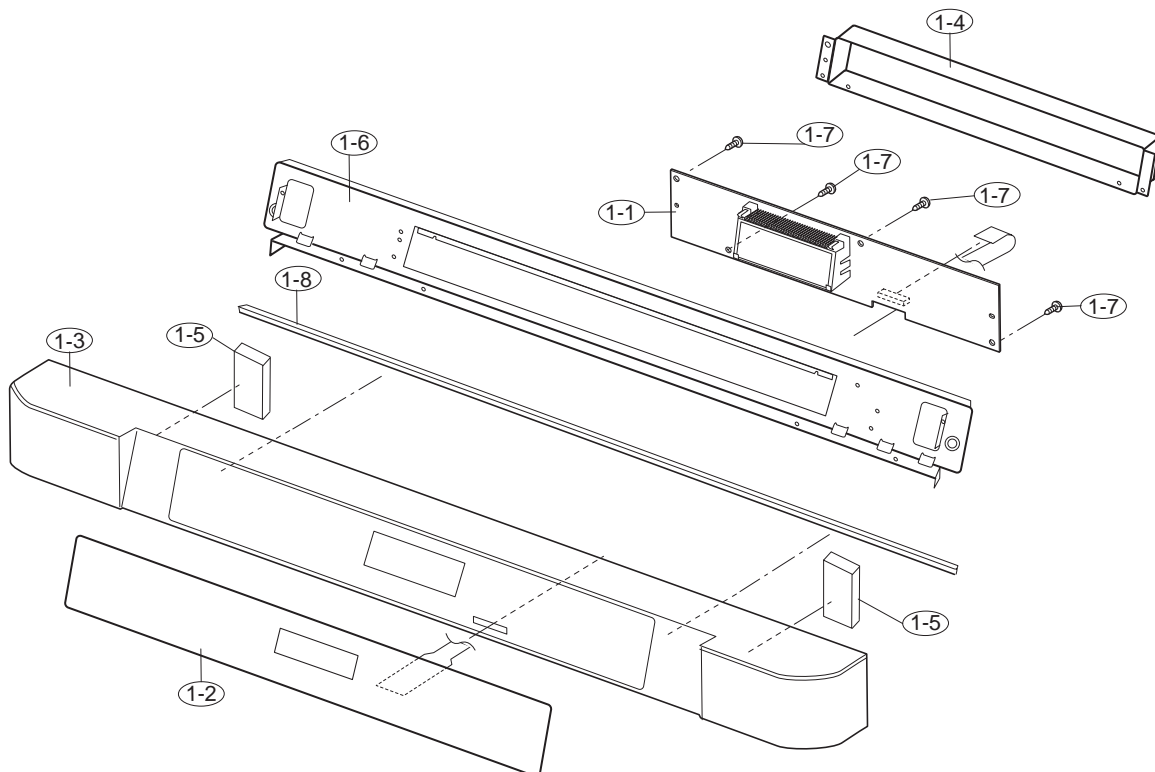
CONTROL PANEL PARTS LIST

Note: The parts marked "Δ" may cause undue microwave exposure.
 The parts marked "*" are used in voltage more than 250V.

"§" MARK: PARTS DELIVERY SECTION

| REF. NO. | PART NO. | § | DESCRIPTION | Q'TY | CODE |
|----------|----------------|---|----------------------|------|------|
| 1-1 | DPWBFB170MRU0 | M | Control unit | 1 | BN |
| 1-2 | FUNTKB512MRE0 | M | Key unit | 1 | AR |
| 1-3 | FPNLCB533MRK0A | M | C/P frame assy | 1 | AX |
| 1-4 | PCOVPB202MRP0 | M | C/P cover | 1 | AM |
| 1-5 | PCUSUB106MRP0 | M | C/P cushion | 2 | AA |
| 1-6 | LANGTB239MRP0 | M | C/P angle | 1 | AL |
| 1-7 | XEPS730P08XS0 | M | Screw | 4 | AB |
| 1-8 | PSEL-B002MRE0 | M | Moisture seal gasket | 1 | AN |

CONTROL PANEL



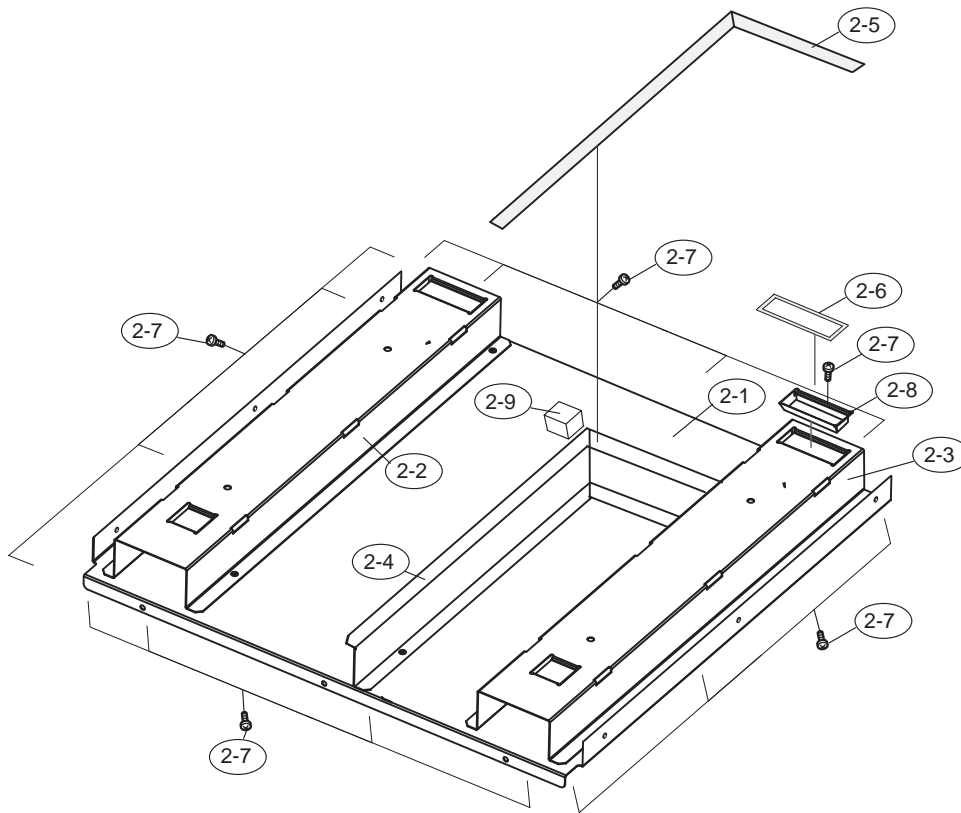
BOTTOM COVER PARTS LIST

Note: The parts marked "Δ" may cause undue microwave exposure.

The parts marked "*" are used in voltage more than 250V.

"§" MARK: PARTS DELIVERY SECTION

| REF. NO. | PART NO. | § | DESCRIPTION | Q'TY | CODE |
|----------|---------------|---|------------------|------|------|
| 2-1 | PCOVPB192MRP0 | M | Bottom cover | 1 | AV |
| 2-2 | LANG-B043MRP0 | M | Air guide L | 1 | AQ |
| 2-3 | LANG-B047MRP0 | M | Air guide R | 1 | AN |
| 2-4 | PSKR-B023MRP0 | M | Partition angle | 1 | AH |
| 2-5 | PCUSUB104MRP0 | M | Bottom cushion A | 1 | AB |
| 2-6 | PCUSGB063MRP0 | M | Bottom cushion B | 1 | AB |
| 2-7 | XOTS740P12000 | M | Screw | 14 | AB |
| 2-8 | PDUC-B173MRF0 | M | Exhaust guide | 1 | AK |
| 2-9 | PCUSGB082MRP0 | M | Cushion | 1 | AD |



MICROWAVE DRAWER PARTS LIST

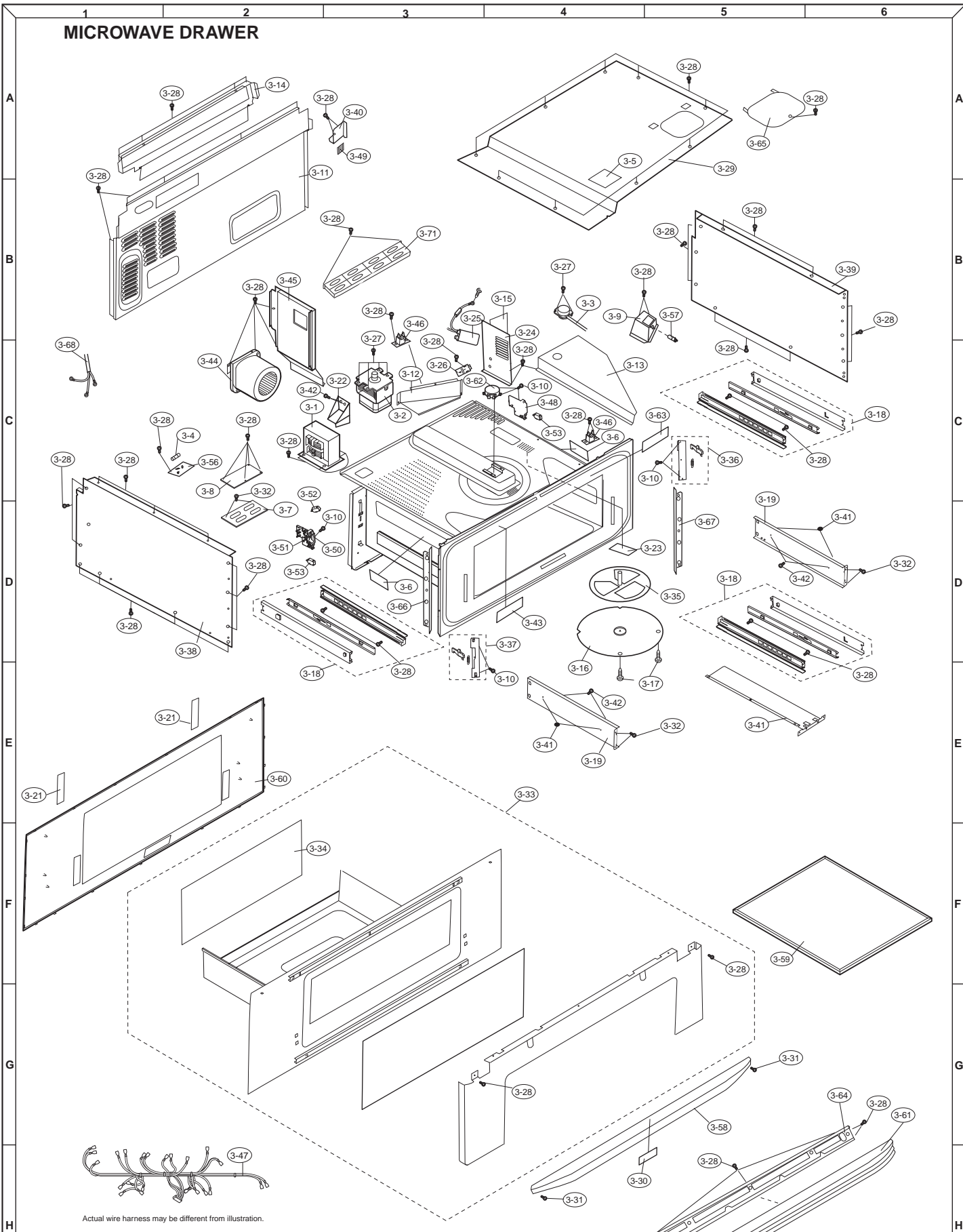
Note: The parts marked "Δ" may cause undue microwave exposure.

The parts marked "*" are used in voltage more than 250V.

"§" MARK: PARTS DELIVERY SECTION

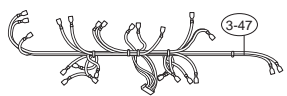
| REF. NO. | PART NO. | § | DESCRIPTION | Q'TY | CODE |
|----------|----------------|---|--|------|------|
| Δ 3- 1 | RTRN-B091MRE0 | M | Transformer | 1 | BD |
| 3- 2 | RV-MZA365WRZZ | M | Magnetron | 1 | AZ |
| 3- 3 | FDTCTA234WRKZ | M | Sensor assy | 1 | AP |
| 3- 4 | FFS-BA018/KIT | M | Monitor switch (V-16G-2C25) with fuse (20A) assembly | 1 | AH |
| 3- 5 | TMAPCB111MRR0 | M | Schematic | 1 | AB |
| 3- 6 | TCAUAB050MRR0 | M | Monitor caution label | 2 | AD |
| 3- 7 | LHLD-B034MRF0 | M | Power supply unit holder | 1 | AC |
| 3- 8 | DPWFBF149MRU0 | M | Power supply | 2 | AZ |
| 3- 9 | LANGTB221MRP0 | M | Oven lamp angle | 1 | AF |
| 3-10 | LX-CZ0052WRE0 | M | Screw/washer | 6 | AA |
| 3-11 | GCABDB012MRP0A | M | Back plate | 1 | AU |
| 3-12 | PDUC-B141MRP0 | M | Mag duct | 1 | AE |
| 3-13 | PDUC-B142MRP0A | M | Sensor duct | 1 | AK |
| 3-14 | PDUC-B161MRP0A | M | Exhaust duct A | 1 | AK |
| 3-15 | PDUC-B162MRP0A | M | Exhaust duct B | 1 | AG |
| 3-16 | FCOVPB052MRY0A | M | Stir cover assy | 1 | AP |
| 3-17 | PCLICB003MRE0 | M | Canoe clip | 3 | AB |
| 3-18 | MSLIFB006MRE0 | M | Slide rail | 3 | AU |
| 3-19 | LANGTB120MRT0A | M | Door support angle A | 2 | AY |
| 3-20 | LANGTB211MRT0A | M | Door support angle B | 1 | AB |
| 3-21 | GCOVHB060MRF0 | M | Door support cover | 2 | AH |
| 3-22 | PSKR-B025MRF0 | M | Magnetron air guide | 1 | AC |
| 3-23 | PFILWB005MRP0 | M | Lamp filter | 1 | AB |
| 3-24 | PDUC-B162MRP0A | M | Partition angle | 1 | AG |
| * 3-25 | FC-QZB052MRK0A | M | HVC assy | 1 | AP |
| 3-26 | LBNDKB007MRP0 | M | HVC band | 1 | AB |
| 3-27 | XCBS730P08000 | M | Screw | 3 | AB |
| 3-28 | XOTS740P12000 | M | Screw | 80 | AB |
| 3-29 | PCOVPB169MRP0A | M | Top cover | 1 | AE |
| 3-30 | TLAB-B060MRR0 | M | Menu label | 1 | AC |
| 3-31 | XOTS740P12RV0 | M | Screw | 4 | AB |
| 3-32 | XEPS730P10XS0 | M | Power unit assy screw | 2 | AC |
| 3-33 | DDORFB134MRK0 | M | Door assy | 1 | BT |
| 3-34 | PSHEPB184MRE0 | M | Sealer film | 1 | AQ |
| 3-35 | FFAN-B019MRK0 | M | Stirrer fan assy | 1 | AT |
| 3-36 | FANGTB015MRK0 | M | Latch angle assy R | 1 | AL |
| 3-37 | FANGTB016MRK0 | M | Latch angle assy L | 1 | AL |
| 3-38 | GCABUB158MRP0A | M | Side cabinet L | 1 | AN |
| 3-39 | GCABUB157MRP0A | M | Side cabinet R | 1 | AN |
| 3-40 | PCOVPB143MRP0 | M | Air cover | 1 | AE |
| 3-41 | LX-NZB006MRE0 | M | Cap nut | 6 | AA |
| 3-42 | XHTS740P08000 | M | Screw | 4 | AD |
| 3-43 | TCAUKB001MRR0 | M | Stirrer cover cleaning label | 1 | AA |
| 3-44 | FMOTEA499WRKZ | M | Fan motor | 1 | AY |
| 3-45 | LANGTB224MRP0 | M | Fan motor angle | 1 | AG |
| 3-46 | RTHM-A135WRZZ | M | Thermal cut-out | 2 | AD |
| 3-47 | FW-VZB349MRE0 | M | Harness assy | 1 | AU |
| 3-48 | PHOK-A079WRF0 | M | Latch hook R | 1 | AH |
| 3-49 | PCUSUB108MRP0 | M | Cushion | 1 | AB |
| 3-50 | PHOK-A080WRF0 | M | Latch hook L | 1 | AF |
| 3-51 | MLEVPA214WRF0 | M | Switch lever L | 1 | AK |
| 3-52 | QSW-MA---WRE0 | M | Monitor switch - must replace by assy. (3-4) | 1 | AE |
| 3-53 | QSW-MA085WRE0 | M | Switch | 4 | AE |
| 3-54 | XOTS740P08000 | M | Screw | 2 | AC |
| 3-55 | XEPS730P10XS0 | M | Screw | 4 | AC |
| 3-56 | FPWBFA437WRKZ | M | Noise filter unit | 1 | AM |
| 3-57 | RLMPTA099WRZZ | M | Oven lamp/socket | 1 | AE |
| 3-58 | JHNDPB071MRT0 | M | Door handle | 1 | AY |
| 3-59 | FGLSPB002MRY0 | M | Oven tray assy | 1 | BK |
| 3-60 | GCOVHB058MRF0 | M | Choke cover | 1 | AN |
| 3-61 | PDIF-B062MRT0 | M | Louver | 1 | AX |
| 3-62 | RMOTDA261WRZZ | M | Stirrer motor | 4 | AH |
| 3-63 | TCAUHB009MRR0 | M | User caution label | 1 | AA |
| 3-64 | LANGTB180MRP0 | M | Louver angle | 1 | AL |
| 3-65 | PCOVPB130MRP0 | M | Cover | 1 | AG |
| 3-66 | LANGTB193MRT0 | M | Side angle L | 1 | AN |
| 3-67 | LANGTB194MRT0 | M | Side angle R | 1 | AN |
| 3-68 | FACCDDB020MRE0 | M | Power supply cord | 1 | AM |

MICROWAVE DRAWER



Actual wire harness may be different from illustration.

MICROWAVE DRAWER HARNESSES

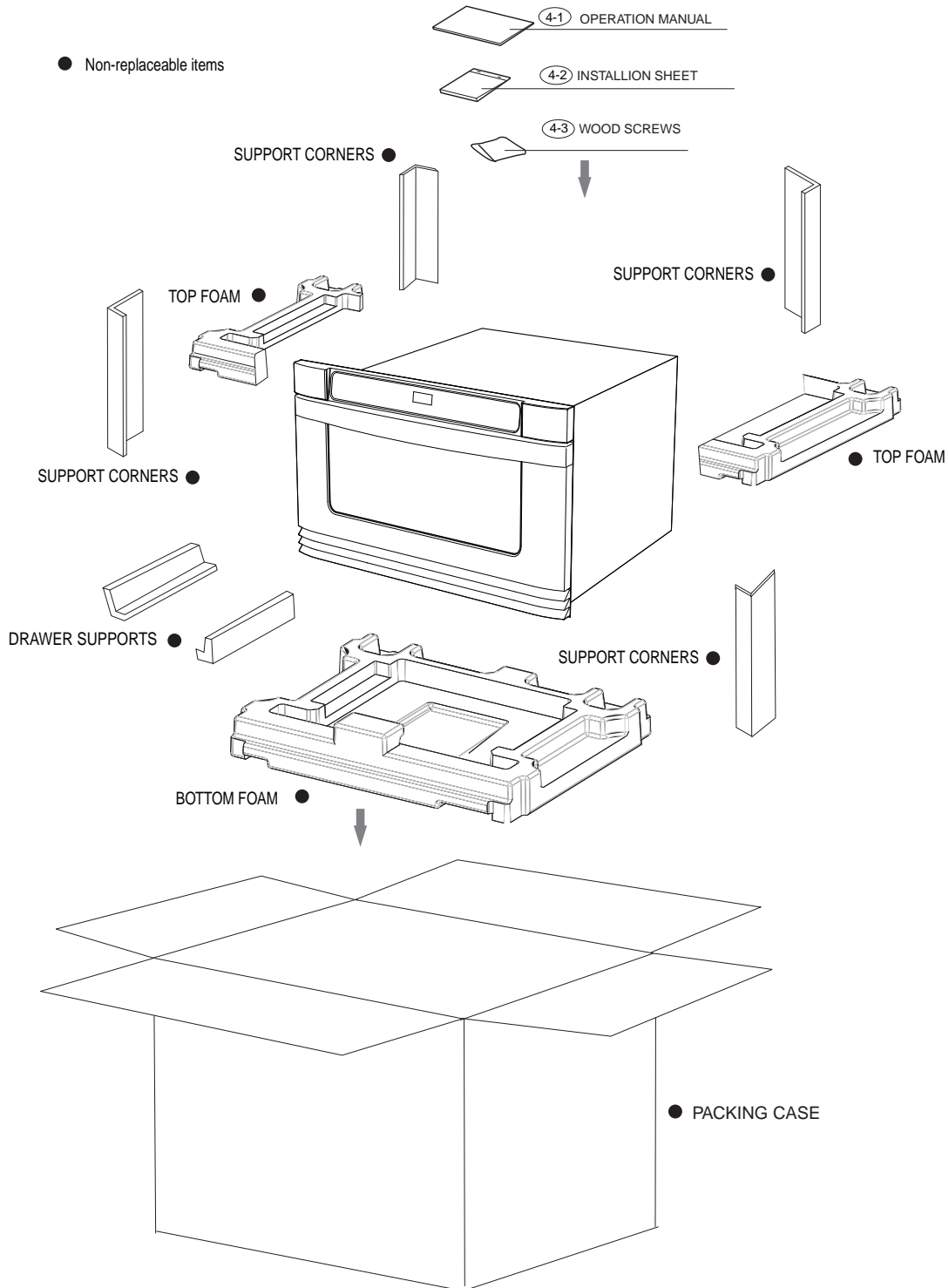


PACKING PARTS LIST

**Note: The parts marked "△" may cause undue microwave exposure.
The parts marked "*" are used in voltage more than 250V.**

"§" MARK: PARTS DELIVERY SECTION

| REF. NO. | PART NO. | § | DESCRIPTION | Q'TY | CODE |
|----------|---------------|---|---------------------------|------|------|
| 4- 1 | TINS-B001MRK0 | M | Operation manual | 1 | AT |
| 4- 2 | TINS-B002MRR0 | M | Installation instructions | 1 | AP |
| 4- 3 | XTPS740P20000 | M | Wood screws | 4 | AA |



SHARP

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SHARP SERVICE MANUAL

SX8M303KB6100

WARMING DRAWER



MODELS

KB-6100NS (shown above)
KB-6100NK
KB-6100NW

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SHARP CORPORATION

This document has been published to be used for after sales service only.
The contents are subject to change without notice.

BEFORE SERVICING

Before servicing or cleaning unit, switch power OFF at service panel and lock the service disconnect to prevent power from being switched on accidentally. When the service disconnecting means cannot be locked, securely fasten a prominent warning device, such as a tag, to the service panel.

If the Warming Drawer fails to perform, contact SHARP ELECTRONICS CORPORATION at 1-800-237-4277.

PRECAUTIONS TO BE OBSERVED BEFORE AND DURING SERVICING TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK OR INJURY.

To avoid personal injury and/or property damage, it is important that Safe Servicing Practices be observed. The following are some limited examples of safe practices:

1. DO NOT attempt a product repair if you doubt your ability to complete it in a safe and satisfactory manner.
2. Before servicing or moving an appliance: Remove power cord from electrical outlet, trip circuit breaker to the OFF position, or remove fuse.
3. Never interfere with the proper operation of any safety device.
4. Use The Correct Replacement Parts Cataloged For This Appliance. Substitutions May Defeat Compliance With Safety Standards Set For Home Appliances.
5. GROUNDING: The standard color code for safety ground wires is GREEN, or GREEN with YELLOW STRIPES. DO NOT use ground leads as current-carrying conductors. It is EXTREMELY important that the service technician reestablish all safety grounds prior to completion of service. Failure to do so will create a hazard.
6. Prior to returning the product to service, ensure that:
 - All electrical connections are correct and secure.
 - All electrical leads are properly dressed and secured away from sharp edges, high-temperature components, and moving parts
 - All non-insulated electrical terminals, connectors, heaters, etc. are adequately spaced away from all metal parts and panels
 - All safety grounds (both internal and external) are correctly and securely connected
 - All panels are properly and securely reassembled

SERVICE MANUAL

SHARP

WARMING DRAWER

KB-6100NS
KB-6100NK
KB-6100NW

FOREWORD

This Manual has been prepared to provide Sharp Electronics Corp. Service Personnel with Operation and Service Information for the SHARP WARMING DRAWER.

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.

Special attention should be given to avoid electrical shock.

A 120V, single phase, 60 Hz, AC only 15 or 20 amp electrical supply, properly grounded in accordance with the National Electric code and local codes and ordinances is required.

IMPORTANT The appliance is equipped with a three-prong grounding plug for protection against possible electric shock hazards. It must be plugged into a dedicated, grounded, electrical outlet. If only a two-prong electrical outlet is available, it is the responsibility of the customer to have it replaced with a dedicated, properly grounded three-prong electrical outlet. Do not under any circumstances:

- Cut or remove the third (ground) prong from the powercord.
- Use a power cord that is frayed or damaged.
- Connect the appliance to an extension cord.
- Do not use an adaptor to fit plug to outlet.

PRODUCT DESCRIPTION

COMPONENT REPLACEMENT

PARTS LIST

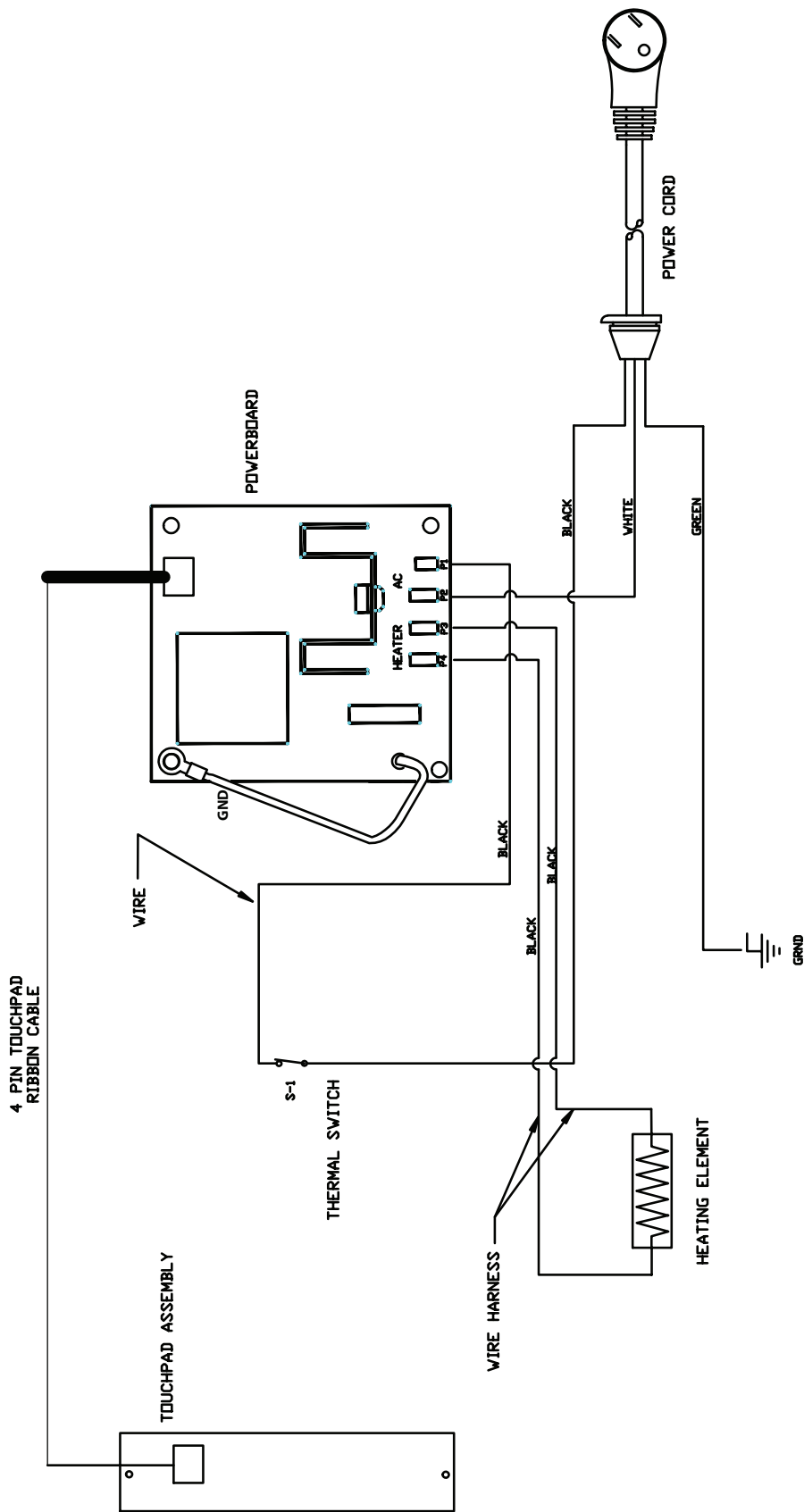
SHARP ELECTRONICS CORPORATION

SHARP PLAZA, MAHWAH,
NEW JERSEY 07430-2135

PRODUCT SPECIFICATION

| ITEM | DESCRIPTION |
|--------------------------|--|
| Power Requirements | 120 Volts, 15 amp 60 Hertz |
| Warmer Drawer Dimensions | <p style="text-align: center;"> $26\frac{1}{4}"$ $27\frac{7}{8}"$ $10\frac{1}{16}"$ $9\frac{1}{2}"$ $8\frac{3}{16}"$ $22\frac{13}{16}"$ drawer depth $1\frac{1}{16}"$ door thickness $30"$ </p> |
| Display Light | LED |
| Heating Element | 4 Amp |
| Control Complement | POWER On/OFF, Temperature pads, Time Pads, Continuous On Pad |
| Safety Standard | Canadian Standards Association Health Canada, Industry Canada UL Listed |
| Weight | Approx. 29 lbs. |

Wiring Diagram



| TEST POINTS | MEASUREMENTS |
|---------------------------------------|--|
| P1 ~ P2 | 120VAC |
| P3 ~ P4 | 120VAC @ 230°F |
| Power board ~ Touch pad Communication | Set unit to 230°F, heat more than 90°F, then set temp to 90°F and voltage cycle should be between 0 and 120VAC |
| Heating Element | 29 ~ 33 Ohms |
| Thermal switch | Open: 167°F ~ Close: 149°F |

DRAWER / ELECTRICAL COVER & POWER CORD REMOVAL

WARNING :

Before servicing or cleaning unit, switch power OFF at service panel and lock the service disconnect to prevent power from being switched on accidentally. When replacing any components inside the drawer, make sure the drawer is unplugged by removing the drawer from the cabinet.

1. Switch OFF power at service panel, to prevent accidental electrical shock, or damage to components.
2. Open drawer half way and remove the four (4) screws securing the drawer to cabinet (**Fig 1**).
3. Carefully pull drawer out and secure it while unplugging the power cord.
4. Place drawer on protective surface to prevent damage/ scratches.

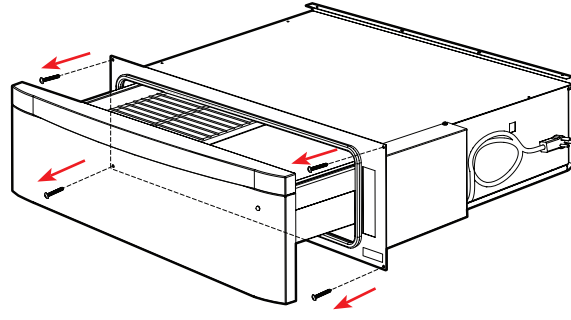


Fig 1

WARNING: DO NOT PROCEED PAST THIS POINT UNLESS THE UNIT IS OUT OF THE CABINET AND UNPLUGGED.

5. Remove the five (5) 1/4" hex screws from **Electrical Cover** (**Fig 2**).

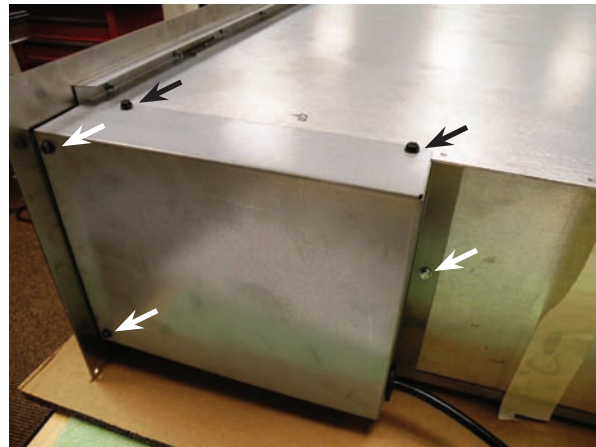


Fig 2

6. Carefully lay electrical cover down and unplug the white, black wires and unscrew the green 1/4" hex ground screw (**Fig 3**).
7. To remove the **electrical cord** from the box, pull rubber seal outward in a rotating motion (**Fig 3**). The electrical cord is now loose and can be replaced by installing in reverse order as above.

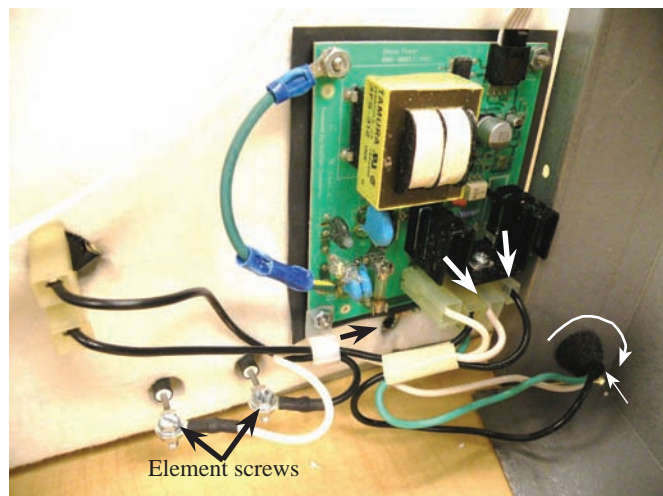


Fig 3

DRAWER / SLIDE / ELEMENT REMOVAL

1. To **remove inside drawer pan**, open the drawer to the fully opened position.

2. Locate the metal latches on both sides of the warming drawer slides (**Fig 4**).

Push both metal latches in at the same time and pull the drawer pan out.

NOTE: When the slide assembly is ordered, the cavity and drawer slides come together and you have to separate them. (**Fig 4**).

3. To reinstall the drawer, align the glide latches on both sides of the drawer with slots on the drawer.

4. Push the drawer back in until you hear two clicks, which will indicate that the drawer is securely installed.



Fig 4

5. To remove the **Element**, with the electrical cover off, remove the two (2) 1/4" hex screws holding the black & white wires to the heating element ends (**Page 6, Fig 3**).

6. With the black & white electrical wires off, remove the two (2) 1/4" hex screws inside the cavity holding the element (**Fig 5**).



Fig 5

7. Once the element is loose and ready to be removed, either remove element holder with 1/4" hex screw or carefully bend element down to clear holder (**Fig 6**). Reverse this procedure to reinstall new part.

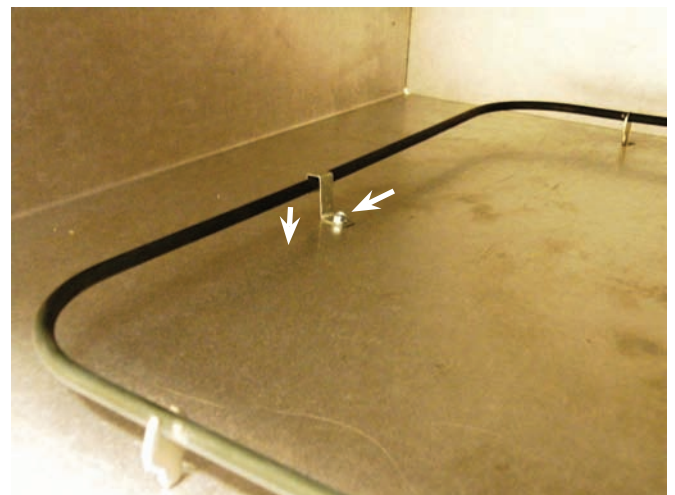


Fig 6

THERMOSTAT / POWER BOARD / INSULATION REMOVAL

1. To remove **Thermostat**, unhook ribbon cable from key unit and unplug all wires from thermostat and heating element (**Fig 7**).

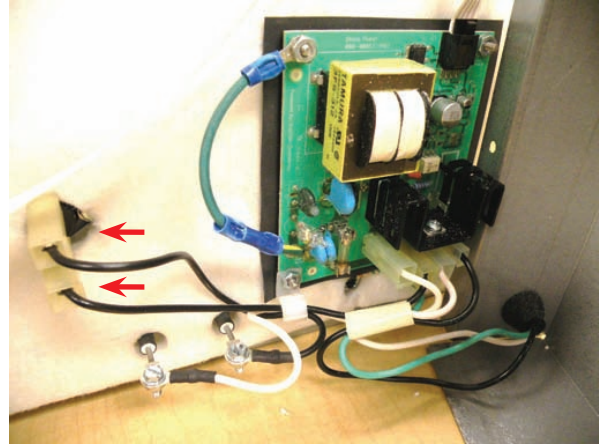


Fig 7

2. Pull insulation back and remove the two (2) 1/4" hex screws holding the thermostat (**Fig 8**).



Fig 8

3. To remove the **Power Board**, unhook all wires and ribbon. (**Fig 9**).
4. Remove five (5) 5/16 nuts and carefully remove board (**Fig 9**).
5. After the board is removed, you will be able to remove the **Dielectric barrier** (**Fig 9**) between the power board and insulation. At this point, you can replace the **insulation** if necessary.
6. Perform a reverse order to reassemble.

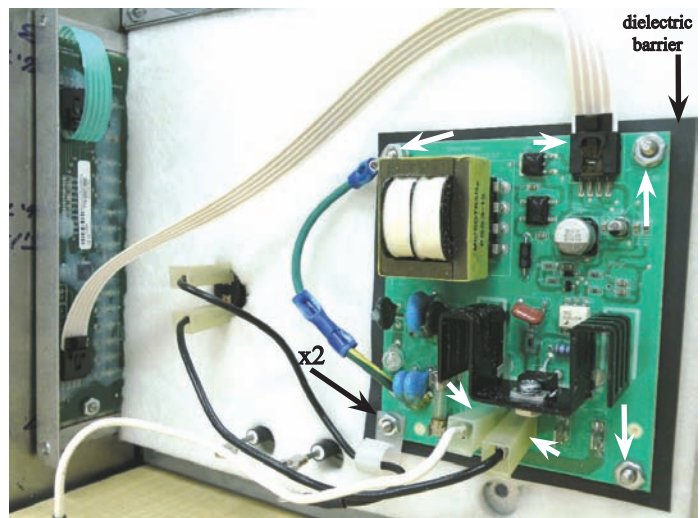


Fig 9

CONTROL PAD / CAVITY SLIDING CHANNELS REMOVAL

1. To remove **Control pad**, remove electrical cover (**page 6**), then remove ribbon cable and two (2) 1/4" nuts holding the control pad on (**Fig 10**).
2. Using a putty knife or something similar, remove control pad by breaking the adhesive holding the control pad to the back of the face plate (**Fig 11**).
Reverse this procedure to reinstall new part.



Fig 10

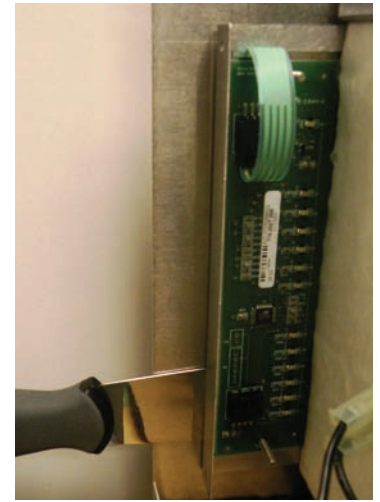


Fig 11

3. To remove the **sliding channel** inside the drawer cavity, remove the one (1) 1/4" hex screw by lining up the hole on the slide channel so that the screw is visible (**Fig 12**).
4. Once the screw is removed, slightly pull channel out and twist to the right, then pull up to release front catch. Once front is loose, pull channel forward to release back latch. Reverse this procedure to reinstall new part (**Fig 12**).



Fig 12

5. To remove the **rubber seal**, gently pull on the open end part of the seal and using a needle nose pliers, slightly squeeze the spring hook to release the seal from the face plate. (**Fig 13**).
Reverse this procedure to reinstall new part.

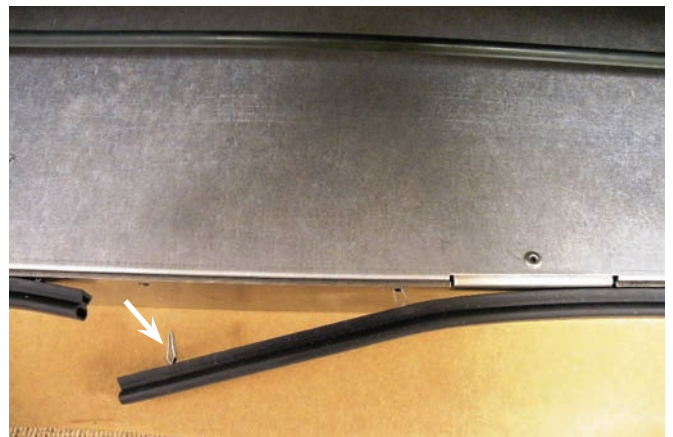


Fig 13

DRAWER SLIDE CHANNEL / MAGNET REMOVAL

1. To remove **Drawer Slide channel**, remove drawer from cavity (**page 7, Fig 4**) and remove the two (2) T-20 Torx screws on whichever side has to be removed (**Fig 14**).

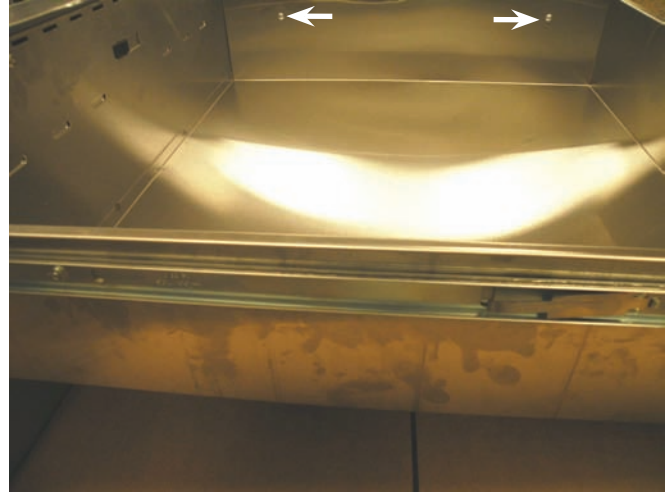


Fig 14

2. To replace the **Magnet** on the back of the drawer, remove the two (2) screws from inside the drawer holding the magnet bracket (**Fig 15**).

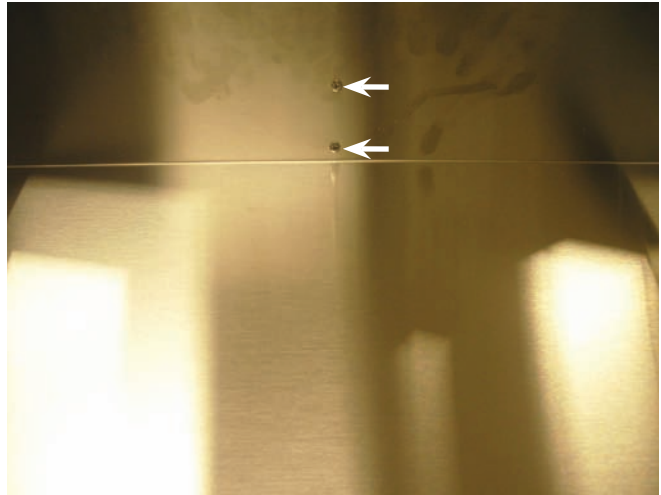


Fig 15

3. If you only need to replace the magnet, just remove the one (1) screw holding the magnet to the bracket (**Fig 16**).
Perform a reverse order to reassemble.



Fig 16

DRAWER FRONT COVER / HANDLE / VENT REMOVAL

1. To remove **Drawer Front cover**, remove the four (4) inside screws on top of the drawer (**Fig 17**), and the three (3) screws on the bottom, then lift off (**Fig 18**). Reverse this procedure to reinstall new part



Fig 17



Fig 18

2. To remove the **Drawer Handle**, with the front cover off, remove the four (4) screws from the brackets and lift off the handle (**Fig 19**). Reverse this procedure to reinstall new part.

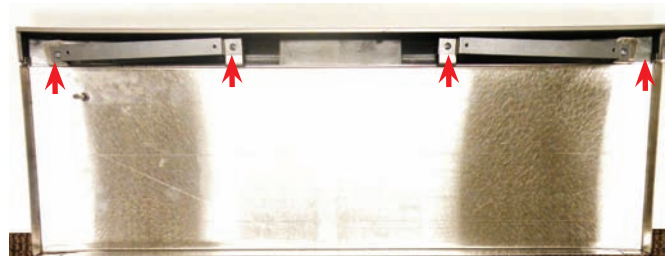


Fig 19

3. To remove the **Vent Bracket**, remove the two (2) 5/16 nuts and lift off bracket (**Fig 20**). Reverse this procedure to reinstall new part.

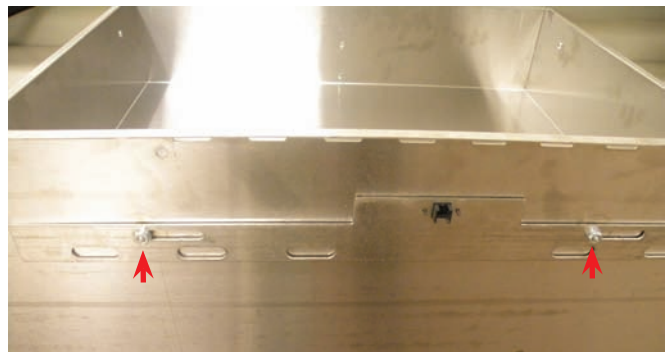
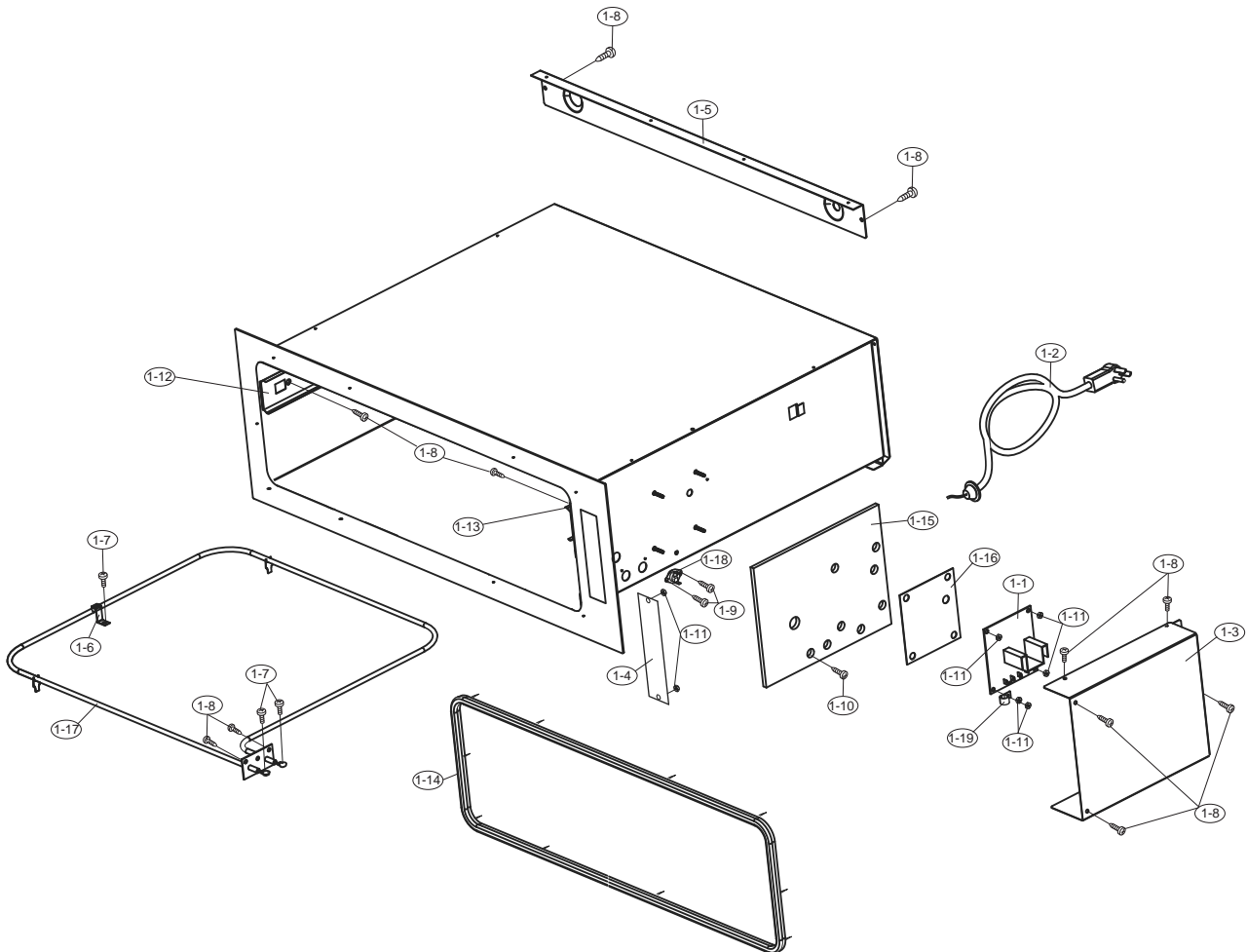


Fig 20

CAVITY PARTS LIST

Note: "§" MARK: PARTS DELIVERY SECTION

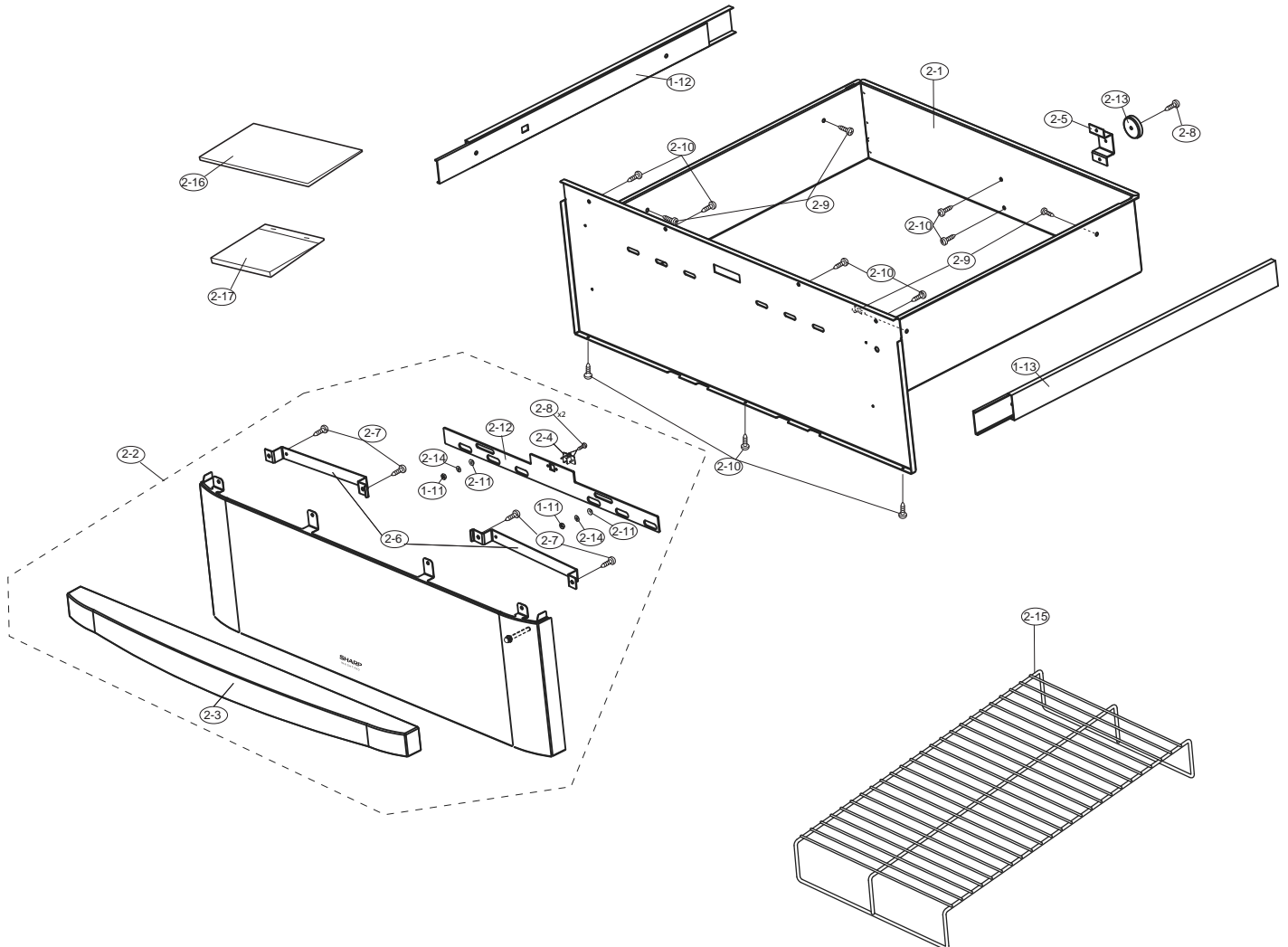
| REF. NO. | PART NO. | § | DESCRIPTION | Q'TY | CODE |
|-----------------------|---------------|---|------------------------|------|------|
| ELECTRIC PARTS | | | | | |
| 1-1 | DPWFBF173MRU0 | M | Power board | 1 | BW |
| 1-2 | FACCDB022MRE0 | M | Power cord | 1 | AY |
| 1-3 | FCOVHB008MRE0 | M | Wire box | 5 | AW |
| 1-4 | FUNTKB517MRE0 | M | Pad control | 1 | BY |
| 1-5 | LANG-B058MRP0 | M | Anti-tip bracket | 1 | AN |
| 1-6 | LBNDKB017MRP0 | M | Heating coil clip | 1 | AD |
| 1-7 | LX-BZB043MRE0 | M | Screw | 3 | AA |
| 1-8 | LX-BZB046MRE0 | M | Screw #8 18 X 1/2 | 11 | AB |
| 1-9 | LX-BZB047MRE0 | M | Screw #6 32 X 3/8 | 2 | AB |
| 1-10 | LX-BZB048MRE0 | M | Screw #8 32 X .375 GND | 1 | AC |
| 1-11 | LX-NZB014MRE0 | M | Nut #6-32 | 8 | AA |
| 1-12 | MSLIFB007MRE0 | M | Left slide assy | 1 | BF |
| 1-13 | MSLIFB008MRE0 | M | Right slide assy | 1 | BF |
| 1-14 | PSEL-B004MRE0 | M | Seal | 1 | AZ |
| 1-15 | PSHE-B002MRE0 | M | Insulation | 1 | AS |
| 1-16 | PSHE-B003MRE0 | M | Dielectric barrier | 1 | AH |
| 1-17 | RHET-B015MRE0 | M | Heating element | 1 | BE |
| 1-18 | RTHM-B007MRE0 | M | Thermostat | 1 | AW |
| 1-19 | LHLDWB004MRE0 | M | Wire harness clamp | 1 | AD |



DRAWER PARTS LIST

Note: "§" MARK: PARTS DELIVERY SECTION

| REF. NO. | PART NO. | § | DESCRIPTION | Q'TY | CODE |
|-----------------------|---------------|---|-------------------------|------|------|
| ELECTRIC PARTS | | | | | |
| 2-1 | GCOVAB094MRP0 | M | Drawer pan | 1 | CG |
| 2-2 | GCOVHB069MRE0 | M | Front panel [KB-6100NS] | 1 | CG |
| 2-2 | GCOVHB070MRE0 | M | Front panel [KB-6100NW] | 1 | CH |
| 2-2 | GCOVHB071MRE0 | M | Front panel [KB-6100NK] | 1 | CH |
| 2-3 | JHNDPB087MRT0 | M | Handle [KB-6100NS] | 1 | BD |
| 2-3 | JHNDPB089MRT0 | M | Handle [KB-6100NW] | 1 | BE |
| 2-3 | JHNDPB088MRT0 | M | Handle [KB-6100NK] | 1 | BD |
| 2-4 | JKNB-B003MRE0 | M | Vent slide knob | 1 | AM |
| 2-5 | LANGTB261MRP0 | M | Magnet bracket | 1 | AH |
| 2-6 | LBRC-B013MRE0 | M | Transition brackets | 2 | AY |
| 2-7 | LX-BZB044MRE0 | M | Screw #8 18 X 1/2 | 4 | AB |
| 2-8 | LX-BZB045MRE0 | M | Screw #8 32 X 3/8 | 1 | AB |
| 2-9 | LX-BZB049MRE0 | M | Screw #10 24 X 3/16 | 4 | AC |
| 2-10 | LX-BZB050MRE0 | M | Screw | 15 | AB |
| 2-11 | LX-WZB020MRE0 | M | Split washer | 2 | AA |
| 2-12 | PCOV-B006MRE0 | M | Vent slide | 1 | BF |
| 2-13 | PMAG-B001MRE0 | M | Magnet | 1 | AT |
| 2-14 | LX-WZB021MRE0 | M | Washer | 1 | AH |
| 2-15 | UAMI-B019MRE0 | M | Wire rack | 1 | BA |
| 2-16 | TINSEB520MRK0 | M | Operation manual | 1 | AY |
| 2-17 | TINSEB521MRRO | M | Installation manual | 1 | AK |



NOTES

NOTES

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