COMPONENT REPLACEMENT AND ADJUSTMENT PROCEDURE

CAUTION: DISCONNECT OVEN FROM POWER SUPPLY BEFORE REMOVING OUTER CASE.
DISCHARGE HIGH VOLTAGE CAPACITOR BEFORE TOUCHING ANY OVEN COMPONENTS OR WIRING AFTER REMOVING OUTER CASE.

WARNING FOR WIRING

To prevent an electric shock, take the following manners.

1. Before wiring,
   1) Disconnect the power supply.
   2) Open the door and wedge the door open.
   3) Discharge the high voltage capacitor and wait for 60 seconds.
2. Don't let the wire leads touch to the followiong parts;
   1) High voltage parts:
      Magnetron, High voltage transformer, High voltage capacitor and High voltage rectifier assembly.
   2) Hot parts:
      Convection heater, Oven lamp, Magnetron, High voltage transformer and Oven cavity.
   3) Sharp edge:
      Bottom plate, Oven cavity, Weveguide flange, Chassis support and other metallic plate.
   4) Movable parts (to prevent a fault)
      Fan blade, Fan motor, Switch, Switch lever, Open button.
3. Do not catch the wire leads in the outer case cabinet.
4. Insert the positive lock connector certainly until its pin is locked. And make sure that the wire leads should not come off even if the wire leads is pulled.
5. To prevent an error function, connect the wire leads correctly, referring to the Pictorial Diagram.

To remove the components, procedure as follows.

1. Disconnect oven from power supply.
2. Remove screws from rear and along the side edge of case.
3. Slide the entire case back out about 1 inch (3 cm) to free it from retaining clips on the cavity face plate.
4. Lift entire case from the unit.

CAUTION: DISCONNECT OVEN FROM POWER SUPPLY BEFORE REMOVING OUTER CASE.

POWER TRANSFORMER REMOVAL

1. Disconnect oven from power supply and remove outer case.
2. Discharge high voltage capacitor.
3. Disconnect filament leads of transformer from the magnetron and capacitor.
4. Disconnect high voltage lead of capacitor from the transformer.
5. Disconnect wire leads from the transformer.
6. Remove two (2) screws holding the transformer to the base cabinet.

Re-install

1. Rest the transformer on the base cabinet with its primary terminals toward rear cabinet.
2. Insert the two edges of the transformer into two metal tabs of the base cabinet.
3. Make sure the transformer is mounted correctly to the corners underneath those tabs.
4. After re-installing the transformer, secure the transformer with two screws to the base cabinet, one is with outer tooth washer and the other is without outer-tooth washer.
5. Re-connect the wire leads (primary and high voltage) and high voltage lead to the transformer and filament leads of transformer to the magnetron and capacitor, referring to the "Pictorial Diagram".
6. Re-install the outer case and check that the oven is operating properly.

NOTE HOT (ORANGE) WIRE MUST BE CONNECTED TO THE POWER TRANSFORMER TERMINAL NEAREST TO THE TRANSFORMER MOUNTING SCREW.

MAGNETRON REMOVAL

1. Disconnect oven from power supply and remove outer case.
2. Discharge the high voltage capacitor. Disconnect filament lead of transformer from magnetron. Disconnect high voltage wire lead from magnetron.
3. Carefully remove four (4) mounting screws hold the magnetron to waveguide, when removing the screws holding the magnetron to prevent it from falling.
4. Remove the magnetron from the unit with care so the magnetron tube should not hit by any metal object around the tube.

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

HIGH VOLTAGE RECTIFIER ASSEMBLY REMOVAL

1. Disconnect oven from power supply and remove outer case.
2. Discharge the high voltage capacitor.
3. Remove one (1) screw holding the rectifier assembly to the capacitor holder.
4. Disconnect the rectifier assembly from the capacitor and magnetron.

CAUTION: WHEN REPLACING THE SILICON RECTIFIER ASSEMBLY, THE GROUND SIDE TERMINAL MUST BE SECURED FIRMLY WITH A GROUNDING SCREW.

HIGH VOLTAGE CAPACITOR REMOVAL

1. Disconnect oven from power supply and remove outer case.
2. Discharge the high voltage capacitor.
3. Disconnect the high voltage wire leads and rectifier assembly from high voltage capacitor and magnetron.
4. Disconnect filament lead of transformer from high voltage capacitor.
5. Disconnect high voltage wire lead of capacitor from transformer.
6. Remove one (1) screw and washer holding the rectifier from the capacitor holder.
7. Remove one (1) screw holding the capacitor holder to the rear cabinet.
8. Remove the capacitor from the holder.

POSITIVE LOCK® CONNECTOR (NO-CASE TYPE) REMOVAL

Push the lever of positive lock® connector. Pull down on the positive lock® connector.

CAUTION: WHEN YOU CONNECTING THE POSITIVE LOCK® CONNECTORS TO THE TERMINALS, INSTALL THE POSITIVE LOCK® SO THAT THE LEVER FACES YOU.

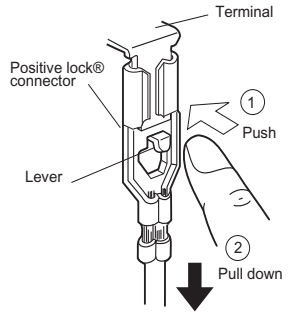


Figure C-1. Positive lock®connector

CONVECTION MOTOR REMOVAL

1. Disconnect oven from power supply and remove outer case.
2. Discharge the high voltage capacitor.
3. Disconnect wire leads from the convection motor. Remove the convection fan belt.
4. Remove two (2) screws holding the convection motor mounting angle to the heater duct and base cabinet.
5. Take out the convection motor assembly from the unit. The convection motor assembly is now free.
6. Remove two (2) screws and nuts holding the motor to mounting angle.
7. Remove pulley (M) from the motor shaft. Convection motor is now free.

TURNTABLE MOTOR REMOVAL

1. Disconnect the oven from power supply. Remove the turntable tray, and the turntable support out of the oven cavity.
2. Turn the oven upside down and remove one (1) screw holding the turntable motor cover to the base plate and take off the turntable motor cover.
3. Disconnect wire lead from the turntable motor.
4. Remove the two (2) screws holding the turntable motor and coupling mounting plate to the oven cavity bottom.
5. Turntable motor, Coupling mounting plate and Thermal protection plate bottom will be free.

DAMPER ASSEMBLY REMOVAL

1. Disconnect oven from power supply and remove outer case.
2. Discharge the high voltage capacitor.
3. Disconnect wire leads from damper motor and damper switch.
4. Remove two (2) oven side screws holding damper motor angle to thermal protection plate (right).
5. Damper assembly is free.
6. Remove one (1) screw holding damper motor to damper motor angle and one (1) screw holding damper switch to damper motor angle.
7. Damper motor and switch are free.

HEATER UNIT ASSEMBLY REMOVAL
(HEATING ELEMENT/CONVECTION FAN/CONVECTION MOTOR/THERMISTOR)

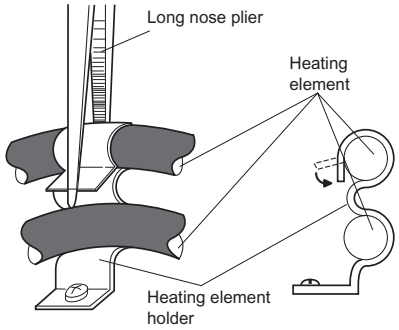
THERMISTOR REMOVAL

1. Disconnect oven from power supply and remove outer case cabinet.
2. Discharge the high voltage capacitor.
   Disconnect wire leads from H.V. capacitor and remove four (4) screws holding rear cabinet to bottom plate and three (3) screws holding to heater unit assembly and two (2) screws holding steam duct to top of oven cavity. Disconnect wire leads from power supply cord terminals.
3. Disconnect wire leads from thermistor. Remove two (2) screws from thremistor.
4. Disconnect wire leads from convection motor, thermal cut-out and heater element.
5. Remove nine (9) screws holding heater duct to the oven cavity.
6. Remove two (2) screws holding heater duct to base cabinet. Release two (2) snap bands holding wire harness to the thermal cover (convection).
7. The heater unit is now free.

HEATING ELEMENT REMOVAL

1. Remove two (2) screws holding heating element to heater duct.
2. Loosen two (2) screws holding holders to heater duct and take heating element out of heating element holders.
3. Heating element is free.

NOTE: After installed the heating element completely, bent top of the heating element holder to inside using by long nose pliers as shown following illustration.



OVEN LAMP AND LAMP SOCKET REMOVAL

1. Disconnect oven from power supply and remove outer case.
2. Discharge high voltage capacitor.
3. Bend the tab of the air guide holding the lamp socket.
4. Lift up the oven lamp socket.
5. Pull the wire leads from the oven lamp socket by pushing the terminal hole of the oven lamp socket with the small flat type screw driver.
6. Now, the oven lamp socket is free.

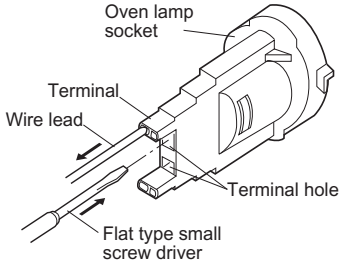


Figure C-2. Oven lamp socket

FAN MOTOR REMOVAL

1. Disconnect oven from power supply and remove outer case.
2. Discharge high voltage capacitor.
3. Disconnect the wire leads from the fan motor.
4. Remove one (1) screw holding the fan motor grounding wire to the air guide (Right).
5. Remove three (3) screws holding the chassis support to the rear cabinet, waveguide and control panel back plate.
6. Remove the chassis support from the oven.
7. Remove one (1) screw holding the magnetron air guide to the waveguide.
8. Remove the magnetron air guide from the waveguide.
9. Disconnect wire leads from the fan motor.
10. Release the main harness from the hole of the fan duct.
11. Release the thermistor harness from the hole of the fan duct.
12. Release one (1) tab holding the fan duct to the rear cabinet.
13. Release one (1) tab holding the fan duct to the air guide (Right).
14. Remove the fan duct assembly from the oven.
15. Remove the fan blade from the fan motor shaft according the following procedure.

1) Hold the edge of the rotor of the fan motor by using a pair of grove joint pliers.

CAUTION:

- *** Make sure that any pieces do not enter the gap between the rotor and the stator of the fan motor because the rotor is easily shaven by pliers and metal pieces may be produced.**
- *** Do not touch the pliers to the coil of the fan motor because the coil may be cut or injured.**
- *** Do not disfigure the bracket by touching with the pliers.**

2) Remove the fan blade from the shaft of the fan motor by pulling and rotating the fan blade with your hand.
3) Now, the fan blade will be free.

CAUTION:

- *** Do not use this removed fan blade again because the hole (for shaft) of it may become bigger than a standard one.**

16. Remove the two (2) screws and nuts holding the fan motor to the fan duct.
17. Now, the fan motor is free.

INSTALLATION

1. Install the fan motor to the fan duct with the two (2) screws and nuts.
2. Install the fan blade to the fan motor shaft according the following procedure.

1) Hold the center of the bracket which supports the shaft of the fan motor on the flat table.
2) Apply the screw lock tight into the hole (for shaft) of the fan blade.
3) Install the fan blade to the shaft of fan motor by pushing the fan blade with a small, light weight, ball peen hammer or rubber mallet.

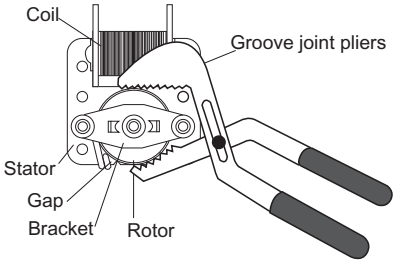
CAUTION:

*** Do not hit the fan blade strongly when installed because the bracket may be disfigured.**

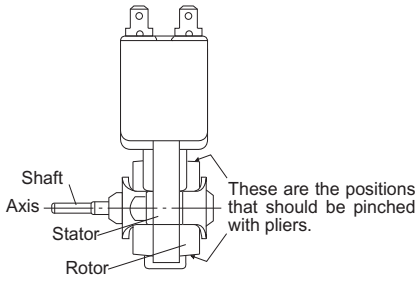
*** Make sure that the fan blade rotates smooth after installation.**

*** Make sure that the axis of the shaft is not slanted.**

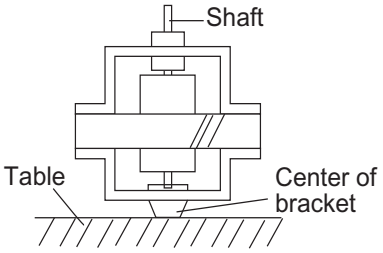
3. Reset the fan duct assembly to its place.
4. Install the tabs of fan duct to the rear cabinet and air guide.
5. Install the magnetron air guide with the one (1) screw.
6. Reinstall the main harness and thermistor harness to each hole of the fan duct.
7. Reinstall the chassis support to the control panel back plate, waveguide and rear cabinet with the three (3) screws.
8. Re-connect the wire leads to the fan motor, referring to the pictorial diagram.
9. Re-install the fan motor grounding wire to the air guide (Right) with one (1) screw.



Rear View



Side View



POWER SUPPLY CORD REPLACEMENT

Removal

1. Disconnect oven from power supply and remove outer case.
2. Discharge high voltage capacitor.
3. Disconnect the white and black wires of the power supply cord from the noise filter.
4. Remove the one (1) screw holding the earth wire of the power supply cord to the base cabinet.
5. Remove the power supply cord from the rear cabinet.

Re-install

1. Insert the power supply cord into the rear cabinet.
2. Connect the white and black wires of the power supply cord into the terminal of noise filter, referring to the Pictorial Diagram.
3. Re-install the earth wire of the power supply cord to the base cabinet with the one (1) screw.

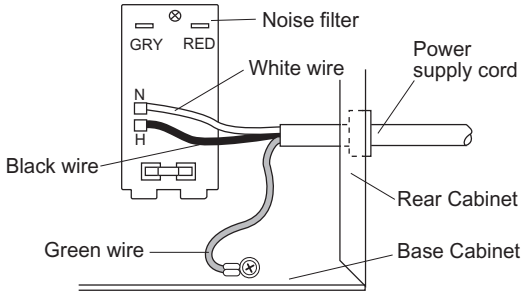


Figure C-3. Power supply cord replacement

CONTROL PANEL ASSEMBLY REMOVAL

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 wire leads from panel components including the Key Unit cable from the IC1 plug.
5. Remove one (1) screw holding the control panel back plate to the chassis support.
6. Remove two (2) screws holding the bottom edge of the back plate to the cabinet base.
7. Remove one (1) screw holding the back plate to the oven cavity flange.
8. Lift up and pull the control panel assembly forward.
7. Remove the 4 screws holding the Control Unit to the Touch Control Panel and carefully lift off.
8. Use reverse order to re-install new Control unit.

THIRD DOOR SWITCH, DOOR SENSING SWITCH, PRIMARY INTERLOCK SWITCH AND MONITOR SWITCH

REMOVAL

1. Disconnect oven from power supply and remove outer case.
2. Discharge high voltage capacitor.
3. Remove the control panel assembly, refer to "Control Panel Removal".
4. Disconnect wire leads from each of the switches and fuse holder.
5. Remove two (2) screws holding latch hook to oven flange.
6. Remove latch hook assembly from oven flange.
7. Push outward on the one (1) stopper tabs holding each of switches place.
8. Switch is now free.
   At this time switch lever will be free, do not lose it.

Re-install

1. Re-install switch lever and each interlock switch in its place. The primary interlock switch is in the lower position and the door sensing switch and thir door switch are in the upper position and the monitor switch is in the middle position.
2. Re-connect wire leads to each switches and fuse holder. Refer to pictorial diagram.
3. Secure latch hook (with two (2) 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.

THIRD DOOR SWITCH, DOOR SENSING SWITCH, PRIMARY INTERLOCK SWITCH AND MONITOR SWITCH ADJUSTMENT

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

1. Loosen the two (2) screws holding latch hook to the oven cavity front flange.
2. With door closed, adjust latch hook by moving it back and forth, and up and down. In and out play of the door allowed by the latch hook should be less than 0.5mm. The vertical position of the latch hook should be adjusted so that the door sensing switch and primary interlock switch are activated with the door closed. The horizontal position of the latch hook should be adjusted so that the plungers of the monitor switch and the third door switch are pressed with the door closed.
3. Secure the screws with washers firmly.
4. Check the all switches operation. If each switch has not activated with the door closed, loosen the screw and adjust it.

After adjustment, check the following.

1. In and out play of door remains less than 0.5mm at the latched position.
2. The door sensing switch and primary interlock switch interrupt the circuit before the door can be opened.
3. Monitor switch contacts close when door is opened.
4. The third door switch contacts open when the door is opened.
5. Re-install outer case and check for microwave leakage around door with an approved microwave survey meter (Refer to Microwave Measurement Procedure.)

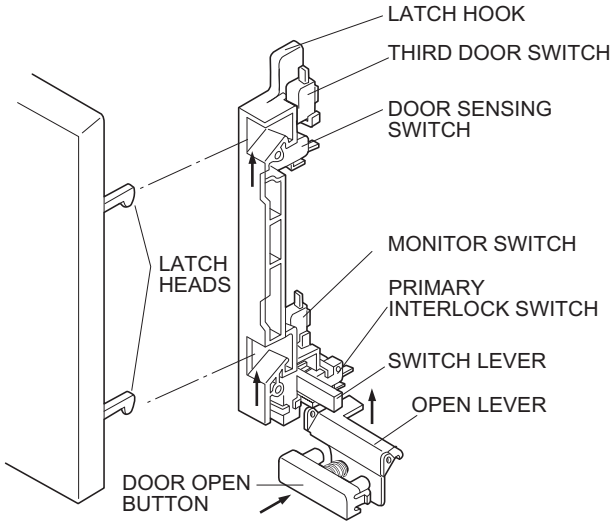


Figure C-4. Latch Switch Adjustments

DOOR REPLACEMENT AND ADJUSTMENT

REMOVAL

1. Disconnect oven from power supply and remove the outer case.
   Remove turntable tray and turntable support from oven cavity.
2. Remove three (3) screws holding lower oven hinge.
3. Remove the lower oven hinge from oven cavity bottom flange.
4. Remove door assembly from upper oven hinge on the oven.
5. Door assembly is now free.

Note: When the individual parts are replaced, refer to "Door Disassembly".

6. On re-installing door, insert the upper oven hinge into the door hinge pin. Then while holding door in place.

7. Make sure the door is parallel with oven face lines (left and upper side lines) and door latch heads pass through latch holes correctly.
8. Insert the lower oven hinge into oven cavity bottom flange and then engaged the door hinge pin. Then secure the lower oven hinge firmly with tree (3) mounting screws.

Note: After any service to the door;

(A) Make sure that door sensing switch and secondary interlock 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.

DOOR ADJUSTMENT

The door can be adjusted by keeping screws of each hinge loose.

After adjustment, make sure of the following :

1. Door 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. Door is positioned with its face pressed toward cavity face plate.
4. Re-install outer case and check for microwave leakage around door with an approved microwave 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 oven cavity during cook cycle. This function does not require that door be airtight, moisture (condensation)-tight or light-tight. Therefore, occasional appearance of moisture, light or sensing of gentle warm air movement around oven door is not abnormal and do not of themselves indicate a leakage of microwave energy from oven cavity. If such were the case, your oven could not be equipped with a vent, the very purpose of which is to exhaust the vapor-laden air from the oven cavity.

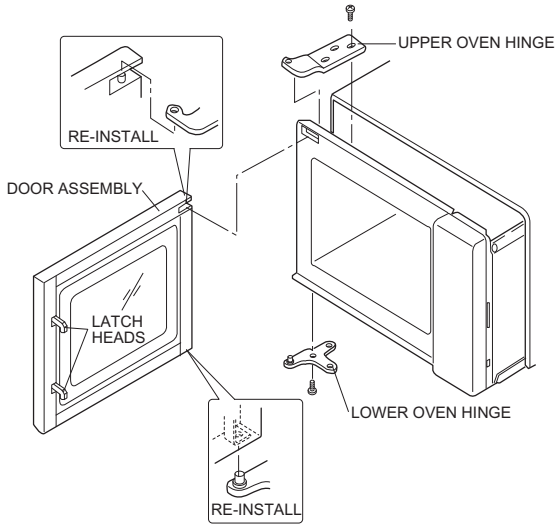


Figure C-5. Door Replacement and adjustment

DOOR DISASSEMBLY

Remove door assembly, refer to "Door Replacement".
Replacement of door components are as follows:

1. Place door assembly on a soft cloth with latches facing up.

Note: As the engaging part of choke cover and door panel are provided at several places, do not force any particular part.

2. Insert an putty knife (thickness of about 0.5mm) into the gap between the choke cover and corner portion of door panel as shown Figure C-6 to free engaging parts.
3. Lift up choke cover.
4. Now choke cover is free from door panel.

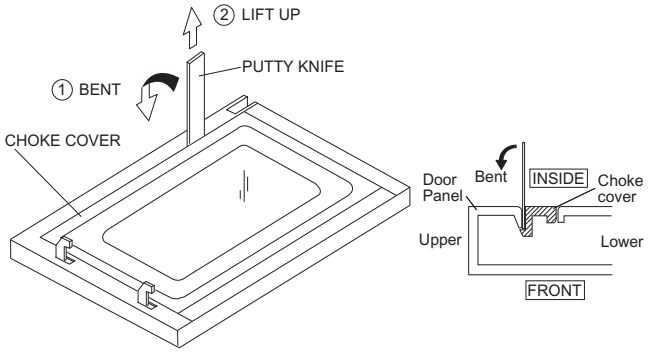


Figure C-6. Door Disassembly

MICROWAVE MEASUREMENT PROCEDURE

After adjustment of the door, interlock and monitor switches are completed individual or collectively, interlock switch test and microwave leakage test must be performed with survey instrument and test results must be confirmed to meet the requirement of the performance standard for microwave ovens as undermentioned.

Requirement

Every microwave oven shall function in such a manner that when the oven is fully assembled and operating with it's service controls and user controls adjusted to yield the maximum output, the leakage radiation, at all points at least 5 cm. from the external surface of the oven, does not exceed:

1. 1.0mW/cm^2 with the test load, 275±15ml of water at an initial temperature of 20±5°C.
2. 5.0mW/cm^2 when the outer enclosure is removed with a test load of 275±15ml water at an initial temperature of 20±5°C.
3. 5.0mW/cm^2 without a test load.

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.

Note: 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
NARDA 8200

2. Place the oven tray in the oven cavity.
3. Place the load of 275±15 ml of tap water initially at 20±5°C in the center of the oven cavity.
   The water container shall be a low form of 600 ml beaker with an inside diameter of approx. 8.5 cm and made of an electrically nonconductive 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.
4. Close the door and set the time cooking for several minutes. And start the oven. If the water load is depleted replace it.

Leakage test:

Leakage Test with Enclosure Installed.

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 2.5cm/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).
4. Measure carefully at the point of highest leakage and make sure that the highest leakage is no greater than 4mW/cm^2, and that the primary interlock switch does turn the oven OFF before any door movement.

Leakage Test without Enclosure.

1. Remove the enclosure (cabinet).
2. Grasp the probe of the survey meter and hold it perpendicular to all mechanical and electronic parts of the oven that is accessible to the user of the oven including, but not limited to, the waveguide, cavity, cavity seams, magnetron and magnetron to waveguide connection.
3. Move the probe slowly (not faster than 2.5cm/sec.), watching for the maximum indication on the meter.
4. Measure carefully at the point of highest leakage and make sure that the highest reading is under the required limit as mentioned above.

CAUTION !

Special attention should be given to avoid electrical shock because HIGH VOLTAGE is generated during this test.

No Load Test

1. Operate the oven without a load and mesure the leakage by the same method as the above test procedure "A. Test Enclosure Installed".
2. Make sure that the highest leakage should not exceed 5mW/cm^2.

Note: Do not perform this test for extended periods.