# FOR SERVICE TECHNICIAN'S USE ONLY



## ⚠ DANGER

**Electrical Shock Hazard**

**Only authorized technicians should perform diagnostic voltage measurements.**

**After performing voltage measurements, disconnect power before servicing.**

**Failure to follow these instructions can result in death or electrical shock.**

## ⚠ WARNING

**Electrical Shock Hazard**

**Disconnect power before servicing.**

**Replace all parts and panels before operating.**

**Failure to do so can result in death or electrical shock.**

### Voltage Measurement Safety Information

**When performing live voltage measurements, you must do the following:**

- **Verify the controls are in the off position so that the appliance does not start when energized.**
- **Allow enough space to perform the voltage measurements without obstructions.**
- **Keep other people a safe distance away from the appliance to prevent potential injury.**
- **Always use the proper testing equipment.**
- **After voltage measurements, always disconnect power before servicing.**

# 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, waveguide 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 service 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.

**f.** Do not attempt to operate the oven if the door glass is broken.

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## FAILURE CODE INDICATIONS

**NOTE:** Many of the problems listed in the chart below may be solved by power cycling: Unplug microwave oven or disconnect power. After 1 minute, plug in microwave oven or reconnect power.

| Display | Likely Failure Condition | Recommended Repair Procedure |
|---|---|---|
| Enter the Diagnostics mode (press CANCEL - CANCEL - START) and press COOK TIME/POWER to verify the failure code. If the failure code displayed matches complaint, see chart below for details. | | |
| F1E4 | Microwave ACU PCBA failure | **1.** Unplug microwave oven or disconnect power.<br>**2.** Replace ACU PCBA.<br>**3.** Replace all parts and panels before operating.<br>**4.** Plug in microwave oven or reconnect power. |
| F2E1 | Stuck key failure | **1.** Unplug microwave oven or disconnect power.<br>**2.** Replace touch panel.<br>**3.** Replace all parts and panels before operating.<br>**4.** Plug in microwave oven or reconnect power. |
| F4E1 | Cavity temperature sensor failure | **1.** Enter the Diagnostics mode (press CANCEL - CANCEL - START), and then press CONVECT to display the cavity temperature sensor reading. Verify the sensor temperature reading is at room temperature (typically 50ºF to 90ºF [10ºC to 32ºC]) and verify failure code. If failure code matches complaint, continue to Step 2.<br>**2.** Unplug microwave oven or disconnect power.<br>**3.** Disconnect sensor from ACU PCBA.<br>**4.** Measure sensor resistance between connector pins and confirm reading is between 9.7kΩ and 10.3kΩ at room temperature. If measurement is not correct, or if a short or open circuit is found, replace sensor.<br>**5.** Replace all parts and panels before operating.<br>**6.** Plug in microwave oven or reconnect power.<br>**7.** Enter the Diagnostics mode (press CANCEL - CANCEL - START), and then press CONVECT to display the cavity temperature sensor reading. Verify the sensor temperature reading. If the reading is correct, stop.<br>**8.** If the reading is still not correct, unplug microwave oven or disconnect power.<br>**9.** Replace ACU PCBA.<br>**10.** Replace all parts and panels before operating.<br>**11.** Plug in microwave oven or reconnect power. |
| F4E4 | Humidity sensor error | **1.** Enter the Diagnostics mode (press CANCEL - CANCEL - START), and then press COOK to display the humidity sensor reading. If display does not show "8891," continue to Step 2.<br>**2.** Unplug microwave oven or disconnect power.<br>**3.** Connect a new humidity sensor to the ACU PCBA P6 connector.<br>**4.** Replace all parts and panels before operating.<br>**5.** Plug in microwave oven or reconnect power.<br>**6.** Enter the Diagnostics mode (press CANCEL - CANCEL - START), and then press COOK to see if failure code reappears.<br>**NOTE:** There may be a delay (approximately 1 minute, 20 seconds) before the failure code is displayed.<br>**7.** If the failure code reappears, unplug microwave oven or disconnect power.<br>**8.** Replace ACU PCBA.<br>**9.** Replace all parts and panels before operating.<br>**10.** Plug in microwave oven or reconnect power. |
| F4E9 | Popcorn error | **1.** Enter the Diagnostics mode (press CANCEL - CANCEL - START), and then press POPCORN.<br>**2.** Knock on the microwave oven door no fewer than 12 times within 5 seconds to check if the counter display operates properly.<br>**3.** If the counter does not operate properly, unplug microwave oven or disconnect power.<br>**4.** Check to see if the sound channel is blocked or the tube is loosened.<br>**5.** If the sound channel and tube are not blocked, connect a new Popcorn cable to the ACU PCBA.<br>**6.** Replace all parts and panels before operating.<br>**7.** Plug in microwave oven or reconnect power.<br>**8.** If failure code reappears, unplug microwave oven or disconnect power.<br>**9.** Replace Popcorn PCBA.<br>**10.** Replace all parts and panels before operating.<br>**11.** Plug in microwave oven or reconnect power.<br>**12.** If failure code reappears, unplug microwave oven or disconnect power.<br>**13.** Replace ACU PCBA.<br>**14.** Replace all parts and panels before operating.<br>**15.** Plug in microwave oven or reconnect power. |
| F8E5 | Exhaust air template detector failure | **1.** Enter the Diagnostics mode (press CANCEL - CANCEL - START), and then press WARM HOLD to display the HF NTC thermistor reading. Verify the temperature reading is at room temperature (typically 50ºF to 90ºF [10ºC to 32ºC]) and verify failure code. If failure code matches complaint, continue to Step 2.<br>**2.** Unplug microwave oven or disconnect power.<br>**3.** Disconnect HF NTC thermistor cable from ACU PCBA.<br>**4.** Measure resistance between connector pins and confirm reading is between 9.5kΩ and 10.5kΩ at room temperature. If measurement is not correct or a short or open circuit is found, replace HF NTC thermistor.<br>**5.** Replace all parts and panels before operating.<br>**6.** Plug in microwave oven or reconnect power.<br>**7.** Enter the Diagnostics mode (press CANCEL - CANCEL - START), and then press WARM HOLD to display the HF NTC thermistor reading. Verify the temperature reading. If it is still not correct, replace ACU PCBA.<br>**8.** If failure does not appear, stop. |

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## PRIMARY, SECONDARY, AND MONITOR INTERLOCK SWITCH CHECKOUT PROCEDURES

**IMPORTANT:** Before checking the interlock switches, unplug microwave oven or disconnect power. Be sure to disconnect all of the wires at the switch being tested before making any continuity readings.

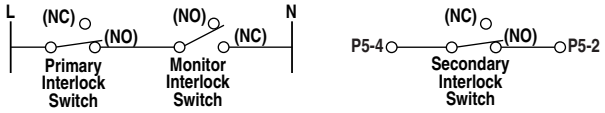
**NOTE:** The Secondary Interlock Switch is mounted in the door lock switch cradle independent of the Monitor Interlock Switch and Primary Interlock Switch. The Monitor Interlock Switch and the Primary Interlock Switch can be identified by the wire colors that are connected to the terminals of the switches. See the chart below for wire color designation.

| Switch | Check By | Door Open | Door Closed |
|---|---|---|---|
| Primary Interlock | **1.** Unplug microwave oven or disconnect power.<br>**2.** Disconnect the wires at the Primary Interlock Switch.<br>**3.** Check from the common terminal (black/brown wires) to the normally open terminal (black/white wires). | - | + |
| | **1.** Unplug microwave oven or disconnect power.<br>**2.** Disconnect the wires at the Primary Interlock Switch.<br>**3.** Check from the common terminal (black/brown wires) to the normally closed terminal (orange wire). | + | - |
| Monitor Interlock | **1.** Unplug microwave oven or disconnect power.<br>**2.** Disconnect the wires at the Monitor Interlock Switch.<br>**3.** Check from the common terminal (white/red wires) to the normally closed terminal (blue/white wires). | + | - |
| Secondary Interlock | **1.** Unplug microwave oven or disconnect power.<br>**2.** Disconnect the wires at the Secondary Interlock Switch.<br>**3.** Check from the common terminal (white/blue wires) to the normally open terminal (blue/blue wires). | - | + |

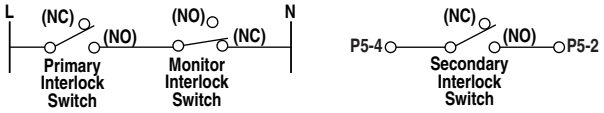
(+) Continuity (-) No Continuity

**NOTE:** These diagrams are not intended to show a complete circuit; they represent the position of switches during "DOOR OPEN" or "DOOR CLOSED" (continuity checks only).

### Door Closed




### Door Open



# FOR SERVICE TECHNICIAN'S USE ONLY

## NOT HEATING TROUBLESHOOTING INSTRUCTION

**IMPORTANT:** High voltage is present at the magnetron and high-voltage capacitor terminals. Avoid direct contact when power is connected to these components to avoid serious injury or possible death. Always be sure that the high-voltage capacitor is discharged before accessing any of these components.

For a no-heat condition, refer to the following step-by-step instructions:

1. Unplug microwave oven or disconnect power.
2. Discharge the high-voltage capacitor.
3. Disconnect the high-voltage transformer primary windings.
4. Attach the voltmeter leads to the high-voltage transformer primary input wires.
5. Plug in microwave oven or reconnect power.
6. Close door and program the microwave oven to operate for 30 seconds.
7. Press START.
8. Check the input voltage at the high-voltage transformer primary input wires. If the voltage is not close to the rating voltage 120 +/-15 VAC, unplug microwave oven or disconnect power. Check the circuitry as follows:
   - Measure resistance of the fuse, microswitches, and thermostats. Replace any failed components (refer to the wiring diagram).
   - Check for loose terminals (refer to the wiring diagram). Check all of the terminals on the main route from the power supply to the high-voltage transformer.
   - Check for loose or failed connectors on the ACU PCBA (P1, P2, P4). If these check out OK, plug in microwave oven or reconnect power.
   - Check for ACU PCBA failure. Refer to "ACU PCBA Pin Voltage Matrix."
9. If the input voltage at the high-voltage transformer primary input wires is close to the rating voltage 120 +/-15 VAC, unplug microwave oven or disconnect power.
10. Check the power supply components. Refer to the "Component Tests" section.
    - High-voltage transformer
    - High-voltage capacitor
    - High-voltage diode
11. If the power supply components check out OK, check the connection between the magnetron and the high-voltage transformer.
12. If all of the components check out OK, replace the magnetron.
13. Reconnect the high-voltage transformer primary windings.

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## ACU PCBA PIN VOLTAGE MATRIX

**Check for proper voltage by completing the following steps:**

1. Unplug microwave oven or disconnect power.
2. Connect voltage measurement equipment to the terminals listed below. (P1-3 and P2-3 are neutral.)
3. Plug in microwave oven or reconnect power, and confirm voltage reading.
4. Unplug microwave oven or disconnect power.

**NOTE:** For 50V and over, the tolerance is +/-15V. For 0V, the tolerance is +/-3V.

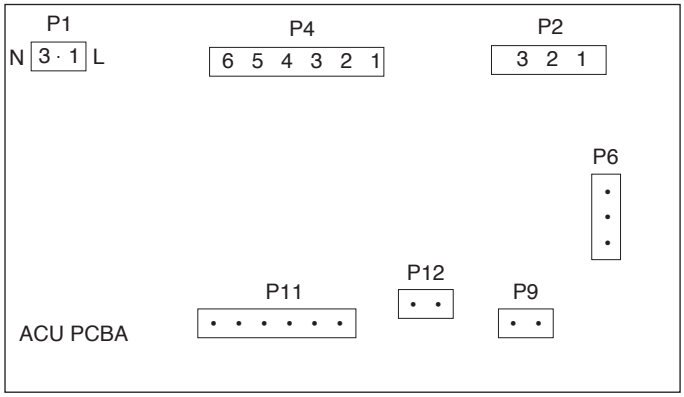
**Abbreviations**

CL - Cavity Light
HL - Hood Light | N - Neutral | FC - Forced Convection | HF - Hood Fan | L - Line Voltage | TT - Turntable Motor | NFS - Neutral for Switch

**NOTE:** When checking voltage readings on ACU PCBA, connect the grounding test lead of voltmeter to ACU PCBA neutral wire. Use the positive test lead to probe connectors designated below.

| | | MW Oven Plugged In—Sitting Idle—ACV Readings | | | | | | | | | | | | | | MW Oven Running—ACV Readings |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pin Name | Wire Color | Power On, Door Closed | Power On, Door Open | Hood Fan Motor—High | Hood Fan Motor—High, Door Open | Hood Fan Motor—Med-High | Hood Fan Motor—Med-High, Door Open | Hood Fan Motor—Medium | Hood Fan Motor—Medium, Door Open | Hood Fan Motor—Low | Hood Fan Motor—Low, Door Open | Hood Light—High | Hood Light—High, Door Open | Hood Light—Low | Hood Light—Low, Door Open | MW Oven Start |
| P1-1 (L) | Brown | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 |
| P1-3 (N) | White | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 |
| P2-1 (NFS) | White | 0 | 120 | 0 | 120 | 0 | 120 | 0 | 120 | 0 | 120 | 0 | 120 | 0 | 120 | 6.3 |
| P2-2 (Door) | Orange | 0 | 120 | 0 | 120 | 0 | 120 | 0 | 120 | 0 | 120 | 0 | 120 | 0 | 120 | 50 |
| P2-3 (N) | Green/Blue | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 |
| P4-1 (FC-V) | Blue | 0 | 120 | 0 | 120 | 0 | 120 | 0 | 120 | 0 | 120 | 0 | 120 | 0 | 120 | 0 |
| P4-2 (TT) | Red | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 120 |
| P4-3 (CL) | Green | 0 | 120 | 0 | 120 | 0 | 120 | 0 | 120 | 0 | 120 | 0 | 120 | 0 | 120 | 120 |
| P4-4 (HL) | Yellow | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 120 | 120 | 68 | 68 | 0 |
| P4-5 (HF) | Black | 0 | 0 | 120 | 120 | 88 | 88 | 78 | 78 | 64 | 64 | 0 | 0 | 0 | 0 | 0 |
| P4-6 (HF-R) | Gray | 0 | 0 | 120 | 120 | 89 | 89 | 78 | 78 | 83 | 83 | 0 | 0 | 0 | 0 | 0 |

## CONNECTORS ON ACU PCBA




**NOTE:** There are purposely empty terminals between each of the numbered terminals on P1 connector.

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## TOUCH PANEL

### Touch Panel and ACU PCBA Test

The microwave hood combination is provided with a self-diagnostic routine that can be accessed through the touch keypad.

### To initiate diagnostic routine:

1. Plug in microwave oven or reconnect power and press the Cancel keypad to standby (":").
2. Close door, then press CANCEL - CANCEL - START within 3 seconds.

   All display segments will be lit to indicate the Test mode has been entered. In the upper left corner of the display, either the condition of the ACU PCBA will be displayed ("GOOD") or the most recent error code.
3. Open door. The model number will be displayed.
4. Close door. All display segments will be lit.
5. Press indicated keypad for correct display readout and beep.

**NOTE:** If the Cancel keypad is pressed during this diagnostic routine, you will exit the Test mode.

### Key Tables for Test Mode

| Key Name | Function | Upper Row Display | Buzzer |
|---|---|---|---|
| Start/Add 1 Min | Display UI SW and ACU PCB SW, Touch SW, EE PROM data, and Gee Version | UI:xx.xx.xx, ACU:xx.xx.xx, TH:xx.xx.xx EE:xx.xx.xx Gee:xx.xx.xx | Yes |
| Light | - | key 30 | 1 beep |
| Vent Fan | - | key 28 | 1 beep |
| Reheat | - | key 08 | 1 beep |
| Popcorn | - | Popcorn Testing, Popcorn Pass, or Popcorn Fail* | 1 beep |
| Defrost | - | key 05 | 1 beep |
| Baked Potato | - | key 14 | 1 beep |
| Soften/Melt | - | key 09 | 1 beep |
| Vegetable | - | key 06 | 1 beep |
| Steam/Simmer | - | key 12 | 1 beep |
| Keep Warm | NTC ambient temperature check | 0000-0120 | 1 beep |
| Cook | Humidity Sensor check | 7000-9999 | 1 beep |
| Cook Time/ Power | Failure history check | If no error history: GOOD If error history: FxEx YY FxEx YY... | 1 beep |
| < | - | key 45 | 1 beep |
| > | - | key 46 | 1 beep |
| Turntable | - | key 29 | 1 beep |
| Select Choice | - | key 27 | 1 beep |
| Timer Set/Off | Erase Service Error records | GOOD | 1 beep |

| Key Name | Function | Upper Row Display | Buzzer |
|---|---|---|---|
| Setup/Clock | Error history check | If no error history: GOOD If error history: FxEx FxEx... | 1 beep |
| Convect Bake | - | 0000-0260 | 1 beep |
| Convect Roast | - | key 53 | 1 beep |
| 1 | Cavity Light ON | Cavity Lamp | 1 beep |
| 2 | Cavity Light and Turntable ON | Light and Turntable | 1 beep |
| 3 | TT, CL, MW Relays 4913 and 4903 (1000W) ON | MW Turbo On | 1 beep |
| 4 | - | key 34 | 1 beep |
| 5 | - | key 35 | 1 beep |
| 6 | Hood Light Relay 4910 ON | Hood Light High | 1 beep |
| 7 | Hood Light Relay 4909 ON | Hood Light Low | 1 beep |
| 8 | Vent Fan Relay 4911 ON (High Speed) | Hood Fan Highest | 1 beep |
| 9 | Vent Fan ON Relay 4911 OFF (Low Speed) | Hood Fan Lowest | 1 beep |
| 0 | TT, CL, MW Relays 4913 and 4903 (900W) ON | MW | 1 beep |
| Cancel | Exit Test Mode | | 1 beep |

*Knock on microwave oven door 12-24 times, and then the result (Pass or Fail) will be displayed.

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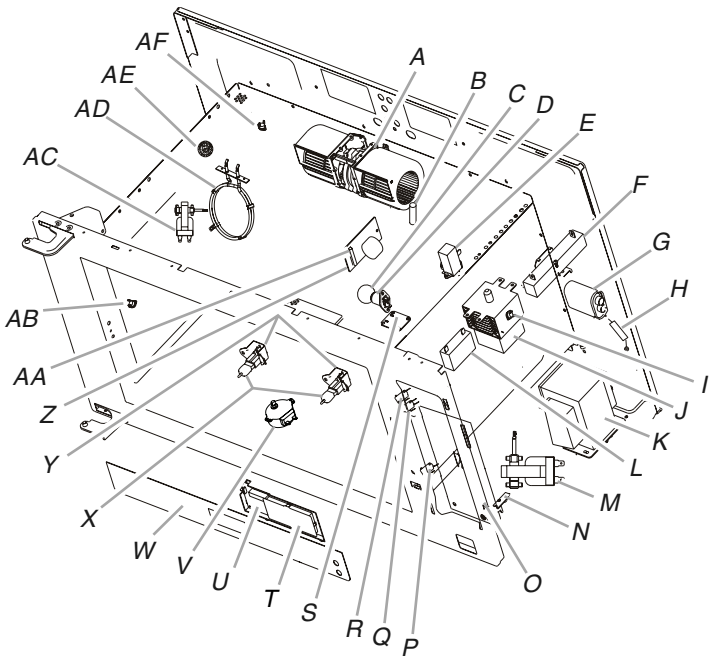
## PARTS LAYOUT (NOT TO SCALE)




*A. Hood fan motor assembly*
*B. FC thermistor*
*C. Cavity light*
*D. Cavity light holder*
*E. FC thermoactuator*
*F. Power resistor*
*G. H.V. capacitor*
*H. H.V. diode*
*I. Magnetron thermostat—opens at 293ºF (145ºC), closes at 221ºF (105ºC)*
*J. Magnetron*
*K. H.V. transformer*
*L. Motor capacitor*
*M. Cooling fan motor*
*N. HF NTC thermistor*
*O. ACU and UI PCBA*
*P. Secondary interlock switch*
*Q. Monitor interlock switch*
*R. Primary interlock switch*
*S. Popcorn PCBA*
*T. Display board*
*U. Lens*
*V. Turntable motor*
*W. Touch foil*
*X. Hood (cooktop) light*
*Y. Hood (cooktop) light holder*
*Z. AC line filter board*
*AA. Main fuse (20 amp)*
*AB. FC thermostat—opens at 329ºF (165ºC), closes at 266ºF (130ºC)*
*AC. FC motor*
*AD. FC ring heater*
*AE. Humidity sensor*
*AF. Cavity thermostat—opens at 329ºF (165ºC), non-resettable*

## POWER OUTPUT MEASUREMENT

The power output of the magnetron can be measured using the following "Voltage Measurement at Power Source" and "Output Test."

Before you perform the test:

- Make sure that the oven cavity is cool and clean.
- Check the line voltage at the wall outlet while microwave oven is operating. See "Voltage Measurement at Power Source."

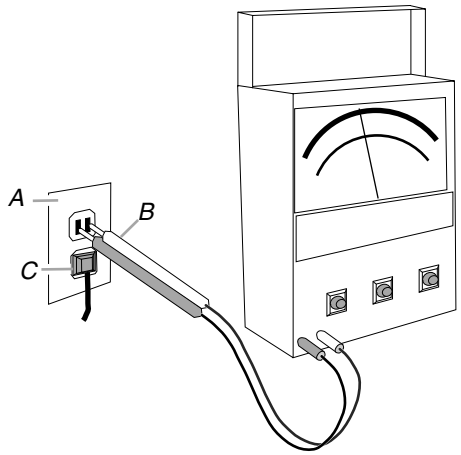
### Tools Needed

- 2-cup measuring cup
- Thermometer
- Voltmeter/ohmmeter

### Voltage Measurement at Power Source

1. Fill the measuring cup with 2 cups (500 mL) of tap water.
2. Place in the center of the microwave oven cavity.
3. Operate the microwave oven on high power for 1 minute.
4. While the microwave oven is operating, measure the line voltage at the power source. See "Measure Voltage" illustration.
5. Verify the voltage is constant during microwave oven operation. If voltage drops below 108V, contact a qualified electrician to check your electrical supply.
6. Make note of the voltage while the microwave oven is running, and proceed to the output test.

### Measure Voltage




*A. House power supply wall outlet*
*B. Voltmeter/ohmmeter test leads*
*C. Microwave oven plug*

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## Output Test

1. Fill the measuring cup with 2 cups (500 mL) of 70ºF (21ºC) tap water.
2. Stir the water with the thermometer to ensure uniform temperature. Add warm or cool water to bring the water to the correct temperature.
3. Place the measuring cup in the center of the microwave oven cavity.
4. Operate the microwave oven on high power for 1 minute.
5. Remove the measuring cup and stir the water with the thermometer for about 20 seconds.
6. Record the temperature of the water.
7. Refer to the model serial tag on the microwave oven to acquire wattage output rating of the microwave oven.
8. Using the following chart, determine if the output of the microwave oven is within the range listed based on the line voltage and wattage rating of the microwave oven.

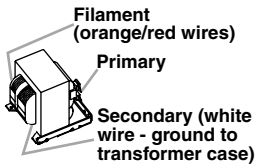
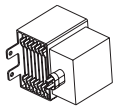
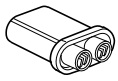
**Water Temperature for Line Voltage and Wattage Rating**

| Voltage | 700W | 1000W | 1200W |
|---|---|---|---|
| 120V | 96ºF to 102ºF (36ºC to 39ºC) | 110ºF to 116ºF (43ºC to 47ºC) | 124ºF to 130ºF (51ºC to 54ºC) |
| 108V | 91ºF to 97ºF (33ºC to 36ºC) | 101ºF to 107ºF (38ºC to 42ºC) | 111ºF to 117ºF (44ºC to 47ºC) |

## COMPONENT TESTS

**IMPORTANT:**

- Unplug microwave oven or disconnect power.
- Discharge the high-voltage capacitor and remove the lead wires from the primary winding of the high-voltage transformer before conducting any of the following tests.
- Remove the lead wires from the related component before conducting any of the following tests.
- All operational checks using microwave energy must be done with the microwave oven loaded with a minimum of 8 oz (250 mL) of water in a microwave-safe container.
- Conduct a microwave energy test after performing any tests or repairs to the microwave oven.
- Check that all wire leads are in the correct positions before operating the microwave oven.
- Grasp wire connectors when removing the wire leads from microwave oven parts.
- All testing must be done with an ohmmeter having a sensitivity of 20,000 ohms per volt DC or greater and powered by at least a 9-volt battery.

| Components | Test/Results |
|---|---|
| **H.V. Transformer**<br>  | 1. Unplug microwave oven or disconnect power.<br>2. Remove wire leads.<br>3. Measure resistance:<br>■ Primary winding: Less than 0.5 ohm (approximate)<br>■ Secondary winding: 120 ohms (approximate)<br>■ Filament winding: 0 ohms<br>■ Primary winding to grounding: Normal: Infinite<br>■ Filament winding to grounding: Normal: Infinite |
| **Magnetron**<br>  | 1. Unplug microwave oven or disconnect power.<br>2. Remove wire leads.<br>3. Measure resistance:<br>■ Filament terminal: Normal: Less than 1 ohm<br>■ Filament to chassis: Normal: Infinite |
| **H.V. Capacitor**<br>  | 1. Unplug microwave oven or disconnect power.<br>2. Remove wire leads.<br>3. Measure resistance:<br>■ Terminal to terminal: Normal: Momentarily indicates several ohms and then gradually returns to infinite.<br>■ Terminal to case: Normal: Infinite |

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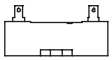
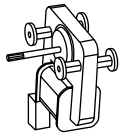
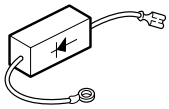
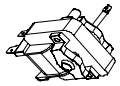
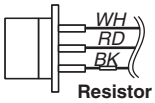
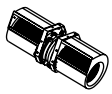
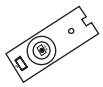
| Components | Test/Results |
|---|---|
| **Motor Capacitor**<br>  | **1.** Unplug microwave oven or disconnect power.<br>**2.** Remove wire leads.<br>**3.** Measure motor capacitor:<br>■ Normal: Momentarily 0 ohms, then goes to infinite |
| **Cooling Fan Motor**<br>  | **1.** Unplug microwave oven or disconnect power.<br>**2.** Remove wire leads.<br>**3.** Measure resistance:<br>■ Normal: 40 to 60 ohms (approximate) |
| **H.V. Diode**<br>  | **NOTE:** Some inexpensive meters may indicate infinite resistance in both directions.<br>**1.** Unplug microwave oven or disconnect power.<br>**2.** Measure resistance:<br>■ Forward: Normal: Continuity<br>■ Reverse: Normal: Infinite |
| **Turntable Motor**<br> | **1.** Unplug microwave oven or disconnect power.<br>**2.** Remove wire leads.<br>**3.** Measure resistance:<br>■ Normal: 2.4k to 3.2k ohms (approximate) |
| **FC Motor**<br>  | **1.** Unplug microwave oven or disconnect power.<br>**2.** Remove wire leads.<br>**3.** Measure resistance:<br>■ Normal: 23 to 25 ohms |
| **Humidity Sensor**<br>  <br>**Resistor** | **1.** Unplug microwave oven or disconnect power.<br>**2.** Remove the 3-pin connector from the electronic control (P6).<br>**NOTE:** Do not remove the attached resistor which is used for internal resistance calibration.<br>**3.** Measure resistance across pins 1 and 3 and across pins 2 and 3:<br>■ Normal: 2.8k ohms (approximate) at 77ºF (28ºC) +/-18ºF (-10ºC) |
| **Hood Exhaust Fan Motor**<br>  | **1.** Unplug microwave oven or disconnect power.<br>**2.** Remove wire leads.<br>**3.** Measure resistance:<br>■ High Speed—Normal: Red (RD) and Blue (BU) wires: 70 to 100 ohms (approximate); Blue (BU) and Black (BK) wires: 30 to 60 ohms (approximate)<br>■ Low Speed—Normal: Red (RD) and Blue (BU) wires: 70 to 100 ohms (approximate); Blue (BU) and White (WH) wires: 50 to 80 ohms (approximate) |
| **HF NTC Thermistor**<br>  | **1.** If "NTC SHORT, CALL FOR SERVICE" or "NTC OPEN, CALL FOR SERVICE" scrolls on display, unplug microwave oven or disconnect power.<br>**2.** Measure resistance:<br>■ Normal: 10k ohms +/-5% at 77ºF (25ºC) |

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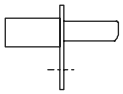
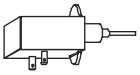
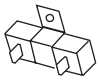
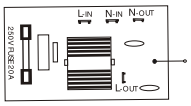
| Components | Test/Results |
|---|---|
| **FC Thermistor**<br>  | **1.** Unplug microwave oven or disconnect power.<br>**2.** Remove wire leads.<br>**3.** Measure resistance:<br>■ Normal: 230k +/-20% ohm at 77ºF (25ºC) |
| **FC Ring Heater**<br> | **1.** Unplug microwave oven or disconnect power.<br>**2.** Remove wire leads.<br>**3.** Measure resistance:<br>■ Normal: 9 +/-3 ohms |
| **FC Thermoactuator**<br>  | **1.** Unplug microwave oven or disconnect power.<br>**2.** Remove wire leads.<br>**3.** Measure resistance:<br>■ Normal: 1.2k +/-0.5k ohms |
| **Power Resistor**<br>  | **1.** Unplug microwave oven or disconnect power.<br>**2.** Remove wire leads.<br>**3.** Measure resistance:<br>■ Normal: 20 ohms/25W |
| **AC Line Filter Board**<br>  | **1.** Unplug microwave oven or disconnect power.<br>**2.** Remove wire leads.<br>**3.** Measure resistance:<br>■ Normal: L-IN to L-OUT (coil): Less than 1 ohm; N-IN to N-OUT (coil): Less than 1 ohm |
| **Thermostats**<br>**FC / Magnetron/ Cavity Thermostat**<br> | **NOTE:** Refer to "Parts Layout" for opening and closing temperatures.<br>**1.** Unplug microwave oven or disconnect power.<br>**2.** Remove wire leads.<br>**3.** Measure continuity:<br>■ Normal: Continuity |

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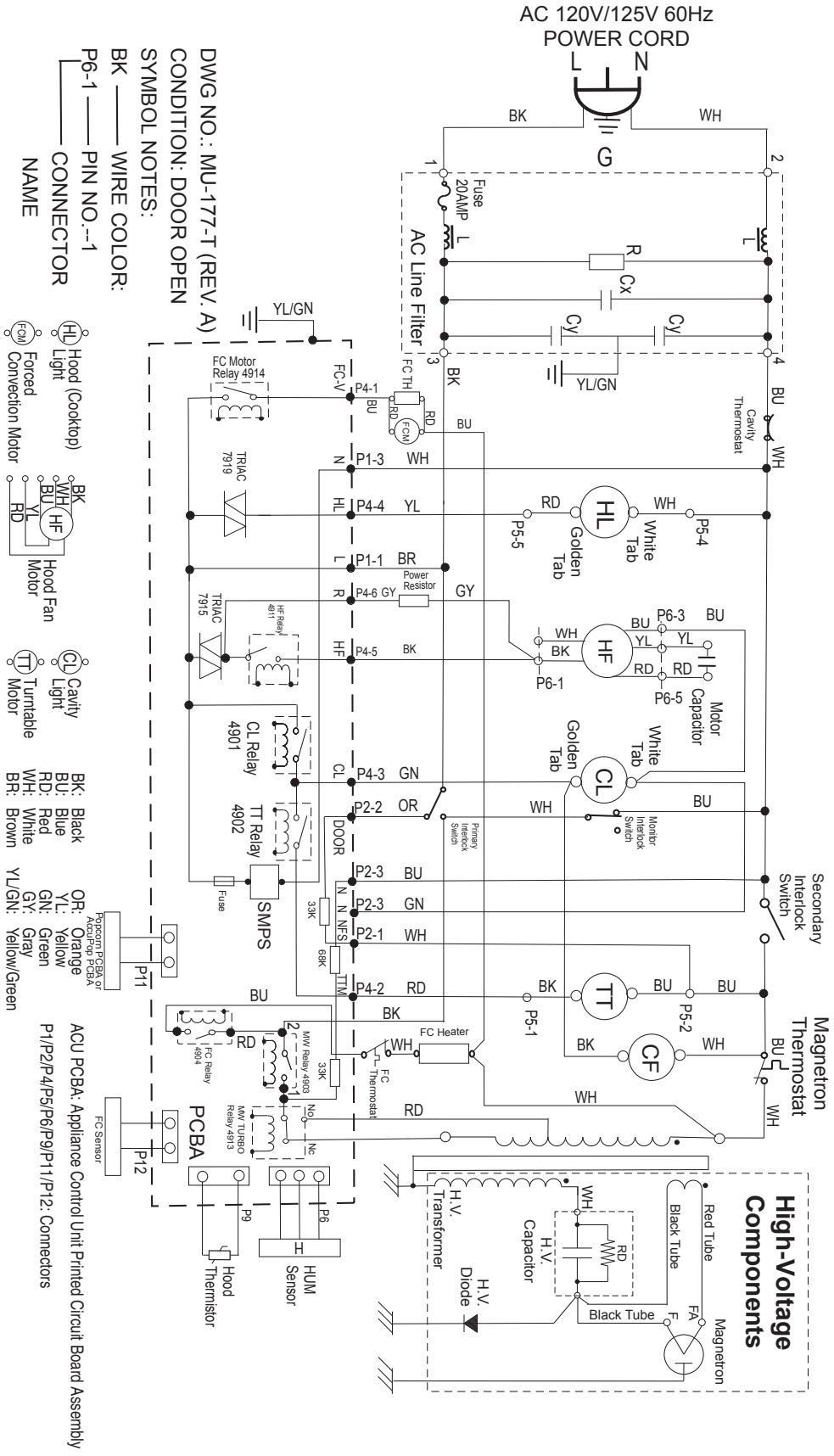
## SCHEMATIC DIAGRAM



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