

This Base Manual covers all
Commercial Microwave Ovens.
Refer to individual Technical Sheet
for information on specific models.

Service

Commercial Microwave Oven 2001 Models

Service Manual for Amana®

ASE7000
ASE9000
MC23MP
MC23MPT
MC23MPT2
RC17S
RC17SD2
RC17SED
RC22S
RC22S3
RC25S
RC27S
RC30S

This manual is to be used by qualified appliance technicians only. Amana does not assume any responsibility for property damage or personal injury for improper service procedures done by an unqualified person.

Amana

RS2240003
Revision 0
October 2001

Important Information

Pride and workmanship go into every product to provide our customers with quality products. It is possible, however, that during its lifetime a product may require service. Products should be serviced only by a qualified service technician who is familiar with the safety procedures required in the repair and who is equipped with the proper tools, parts, testing instruments and the appropriate service manual. **REVIEW ALL SERVICE INFORMATION IN THE APPROPRIATE SERVICE MANUAL BEFORE BEGINNING REPAIRS.**

Important Notices for Consumers and Servicers



WARNING

To avoid risk of serious injury or death, repairs should not be attempted by an unauthorized person, dangerous conditions (such as exposure to electrical shock) may result.



CAUTION

Amana will not be responsible for any injury or property damage from improper service procedures. If performing service on your own product, assume responsibility for any personal injury or property damage which may result.

To locate an authorized servicer, please consult your telephone book or the dealer from whom you purchased this product. For further assistance, please contact:

CONSUMER AFFAIRS DEPT.
AMANA APPLIANCES, INC.
AMANA, IOWA 52204

**OR
CALL**

1-319-622-5511
and ask for
Consumer Affairs

If outside the United States contact:

AMANA
ATTN: CONSUMER AFFAIRS DEPT
AMANA, IOWA 52204, USA
Telephone: (319) 622-5511
Facsimile: (319) 622-2180
TELEX: 4330076 AMANA
CABLE: "AMANA", AMANA, IOWA, USA

Recognize Safety Symbols, Words, and Labels



DANGER

DANGER - Immediate hazards which **WILL** result in severe personal injury or death.



WARNING

WARNING - Hazards or unsafe practices which **COULD** result in severe personal injury or death.



CAUTION

CAUTION - Hazards or unsafe practices which **COULD** result in minor personal injury or product or property damage.

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Important Product Information

WARNING

Precautions to be observed before and during servicing to avoid possible exposure to excessive microwave energy or electrical shock, disconnect power to oven.

Do not operate or allow oven to be operated with door open.

Make the following safety checks on all ovens to be serviced before activating the magnetron or other microwave source, and make repairs as necessary:

- Interlock operation
- Proper door closing
- Seal and sealing surfaces (arcing, wear, and other damage)
- Damage to or loosening of hinges, and latches
- Evidence of dropping or abuse

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.

Any failed or misadjusted components in the interlock, monitor, door seal, microwave generation, and transmission systems shall be repaired, replaced or adjusted by procedures described in this manual before oven is released to the consumer.

Check microwave leakage to verify compliance with the federal performance standard should be performed on each oven prior to releasing to the consumer.

WIRING

Good service practice is to never route wiring over terminals and/or sharp edges. This applies to any wiring without regard to the circuit voltage. Wire insulation material and thickness is designed and regulated for electrical spacing purpose only, but cannot always be relied upon because of possible cuts and/or abrasions, which can occur during servicing.

WARNING

To avoid risk of electrical shock, personal injury or death; make sure to follow grounding instructions.

Grounding Instructions

WARNING

Do not remove grounding prong when installing grounded appliance in a home or business that does not have three wire grounding receptacle. Under no condition is grounding prong to be cut off or removed. It is the personal responsibility of the consumer to contact a qualified electrician and have properly grounded three prong wall receptacle installed in accordance with appropriate local electrical codes.

Should a two prong adapter plug be required temporarily it is the personal responsibility of the consumer to have it replaced with a properly polarized and grounded three prong receptacle or the two prong adapter properly grounded by a qualified electrician in accordance with appropriate electrical codes.

Servicing of Grounded Products

The standard accepted color coding for grounding wires is GREEN or GREEN WITH YELLOW STRIPE. These ground leads are NOT to be used as current carrying conductors. It is extremely important that the technician replace any and all grounds prior to completion of the service call. Under no condition should ground wire be left off, which can cause a potential hazard to technicians and consumer.

Important Safety Information



CAUTION

Do not become exposed to radiation from the microwave generator or other parts conducting microwave energy.

Basic design of this microwave oven makes it an inherently safe device to both use and service. However, there are some precautions which should be followed when servicing microwave ovens to maintain this safety. These are as follows:

1. Always operate unit from an adequately grounded outlet. Do not operate on a two-wire extension cord.
2. Before servicing unit (if unit is operable) perform microwave leakage test.
3. Oven should never be operated if door does not fit properly against seal, hinge/hinge bearings are damaged or broken; choke is damaged, (pieces missing, etc.); or any other visible damage can be noted. Check choke area to ensure that this area is clean and free of all foreign matter. If any above problems occur take the following steps:
 - Tell the user not to operate the oven.
 - Contact Amana immediately.
4. If oven operates with door open and produces microwave energy, take the following steps:
 - Tell the user not to operate the oven.
 - Contact Amana immediately.
5. Always have oven disconnected when outer case is removed except when making "live" tests called for in the service manual. Do not reach into equipment area while unit is energized. Make all connections for the test and check them for tightness before plugging cord into outlet.
6. Always ground capacitors on magnetron filter box and H.V. capacitor with an insulated-handle screwdriver before working in high voltage area of equipment compartment. Some types of failures will leave a charge in capacitors and the discharge could cause a reflex action which could make you injure yourself.
7. In the area of the transformer, capacitor, diode, and magnetron there is HIGH VOLTAGE. When unit is operating, keep area clean and free of anything which could possibly cause an arc or ground, etc.
8. **DO NOT** for any reason defeat interlock switches, there is no valid reason for this action at any time; nor will it be condoned by Amana.
9. Microwave ovens should never be operated with:
 - Any components removed and/or bypassed
 - Any of the safety interlocks are found to be defective
 - Any of the seal surfaces which are failing, missing or damaged
10. To ensure that unit does not emit excessive microwave leakage and to meet Department of Health and Human Services guidelines check oven for microwave leakage using Narda Model 8110B or Holaday HI1501, HI1510, HI1710 leakage monitor as outlined in instructions. Maximum leakage level allowed is 4mw/cm².
11. If servicer encounters an emission reading over 4mw/cm², servicer is to cease repair and contact Amana Service Department immediately for further direction. Amana will contact the proper Government Agency upon verification of test results.
12. Install or locate this equipment **ONLY** in accordance with the installation instructions in this manual.
13. Some products such as whole eggs and sealed containers – for example, closed glass jars – may explode and **SHOULD NOT** be **HEATED** in this equipment.
14. Use this equipment **ONLY** for its intended use as described in this manual. Do not use corrosive chemicals or vapors in this equipment. This type of equipment is specifically designed to heat or cook. It is not designed for industrial or laboratory use.
15. As with any equipment, **CLOSE SUPERVISION** is necessary when used by **CHILDREN**.
16. **DO NOT** operate this equipment if it has a damaged cord or plug, if it is not working properly, or if it has been damaged or dropped.
17. This equipment, including power cord, must be serviced **ONLY** by qualified service personnel. Special tools are required to service equipment. Contact nearest authorized service facility for examination, repair, or adjustment.
18. **DO NOT** cover or block any openings on the equipment.
19. **DO NOT** store this equipment outdoors. **DO NOT** use this product near water – for example, near a kitchen sink, in a wet basement or near a swimming pool, and the like.
20. **DO NOT** immerse cord or plug in water.
21. Keep cord **AWAY** from **HEATED** surfaces.
22. **DO NOT** let cord hang over edge of table or counter.

Important Safety Information

CAUTION

To avoid risk of personal injury or death of fire in the oven cavity:

- **DO NOT** overcook food. Carefully attend equipment if paper, plastic or other combustible materials are placed inside the equipment to facilitate cooking.
- Remove wire twist-ties from paper or plastic bags before placing bag in equipment.
- **KEEP equipment DOOR CLOSED**, turn equipment off, and disconnect the power cord or shut off power at the fuse or circuit breaker panel if materials inside the equipment should ignite. Fire may spread if door is opened.
- **DO NOT** use the cavity for storage purposes. **DO NOT** leave paper products, cooking utensils or food in the cavity when not in use.

CAUTION

To avoid personal injury or property damage, observe the following:

1. Briskly stir or pour liquids before heating with microwave energy to prevent spontaneous boiling or eruption. Do not overheat. If air is not mixed into a liquid, liquid can erupt in equipment or after removal from equipment.
2. Do not deep fat fry in equipment. Fat could overheat and be hazardous to handle.
3. Do not cook or reheat eggs in shell or with an unbroken yolk using microwave energy. Pressure may build up and erupt. Pierce yolk with fork or knife before cooking.
4. Pierce skin of potatoes, tomatoes, and similar foods before cooking with microwave energy. When skin is pierced, steam escapes evenly.
5. Pop popcorn in microwave mode only. If equipment is preheated or hot, allow equipment to cool before popping popcorn or bag may ignite.
6. Do not use regular cooking thermometers in equipment when cooking. Most cooking thermometers contain mercury and may cause an electrical arc, malfunction, or damage to equipment.
7. Do not heat baby bottles in equipment.
8. Do not use metal utensils in equipment except when recommended by microwave food manufacturers. Heat food in containers made of glass or china if possible.
9. Never use paper, plastic or other combustible materials that are not intended for cooking. If equipment temperature is high, material may ignite.
10. Do not use paper towels which contain nylon or other synthetic fibers. Heated synthetics could melt and cause paper to ignite.
11. Do not heat sealed containers or plastic bags in equipment. Food or liquid could expand quickly and cause container or bag to break. Pierce or open container or bag before heating.
12. Racks, utensils, and equipment surfaces may become hot during or after use. Use utensils or protective clothing, like pan grips or dry oven mitts, when necessary to avoid burns.
13. Do not use rack position if rack hook breaks. Replace broken hooks immediately.
14. Do not unplug equipment immediately after use. Internal fan must cool equipment to avoid damage of electrical components.

Product Information

Antenna

Distributes microwave energy throughout the cavity.

Blower/Fan Assembly

Circulates cooling air throughout the microwave oven compartment and cavity.

Splatter Shield

Covers and protects the antenna assembly.

Door Interlock and Monitoring Switch

NOTE: When the line fuse is blown the Interlock Switch Assembly must be replaced.

Interlock switch (assembly) mounts behind oven cavity front bulkhead. It is actuated by door hook and guide attached to the door.

Monitoring switch (contacts 7 and 8) is actuated by the door guide.

The secondary interlock switch (contacts 2 and 3) and primary interlock switch (contacts 4 and 5) are actuated by the door hook.

The secondary interlock switch is in series with the interlock monitoring switch in the monitor circuit.

If a malfunction occurs in the secondary interlock when door opens, current will flow through the monitor switch causing the oven fuse to open.

If a faulty door interlock switch has allowed current through the monitor switch, the switch assembly must be replaced (see interlock switch testing) before replacing fuse.



DANGER

To avoid severe personal injury or death avoid contacting any high voltage parts. The capacitors are at high voltage (4000 volt) potential and it is extremely important that they be grounded before handling.

Transformer High Voltage

High voltage transformer is used in this unit, which supplies high voltage A.C. for operation of the magnetron tube.

High Voltage Capacitor

Doubles the A.C. output voltage from the high voltage transformer.

High Voltage Diode (Rectifier)

Is connected at the output side of the high voltage capacitor. It changes voltage from A.C. to D.C. It passes current in one direction and blocks it in the other. Also called a rectifier.

Magnetron

With filament voltage and high D.C. voltage from the output of the H.V. capacitor, diode junction the magnetron will put out an electromagnetic radio frequency of 2450 MHz to heat the food load in the oven.

Thermal Protectors

At a predetermined temperature the thermal cut-outs will open or close. The oven will indicate an error code in the display, initiate cooling fan operation, or prevent the generation of microwave energy.

- Magnetron thermal cut-out is mounted directly on the body of the magnetron.
- Oven cavity thermal cutout is mounted inside the exhaust duct.

Touch Panels

Allows consumer operation and programming of oven.

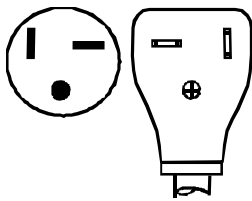
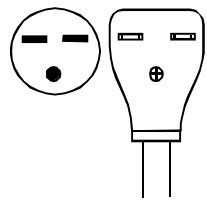
Triacs

Triacs are controlled by high voltage circuit boards. Triacs control one side of the power line going to the high voltage power transformer.

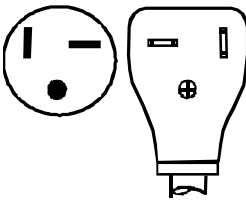
- Microwave triacs are mounted on back of oven cavity panel.

Specifications

ASE7000, ASE9000, RC17S, RC17SD2, RC22S, RC22S3, RC25S, RC27S, RC30S

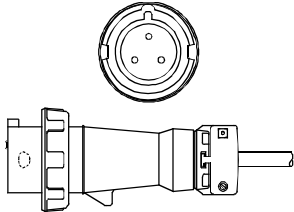
Nominal Microwave Energy (IEC705)	1700 W	2200 W	2500 W	2700 W	3000 W
Power Source					
Voltage AC	208/230	208/230	208/230	208/230	208/230
Frequency	60 Hz	60 Hz	60 Hz	60 Hz	60 Hz
Amperage	20 A	20 A	20 A	30 A	30 A
Single Phase, 3-wire ground	X	X	X	X	X
Power					
Frequency	2450 MHz	2450 MHz	2450 MHz	2450 MHz	2450 MHz
Power Consumption	2700 W	3200 W	3700 W	4100 W	4400 W
Receptacle and Plug	 NEMA 6-20P			 NEMA 6-30P	

DQ22HSI

Nominal Microwave Energy (IEC705)	2200 W
Power Source	
Voltage AC	208/230
Frequency	60 Hz
Amperage	20 A
Single Phase, 3-wire ground	X
Power	
Frequency	2450 MHz
Power Consumption	3200 W
Receptacle and Plug	 NEMA 6-20P

Specifications

MC23MP, MC23MPT, MC23MPT2

Nominal Microwave Energy (IEC705)	2200 W
Power Source	
Voltage AC	208/230
Frequency	60 Hz
Amperage	20 A
Single Phase, 3-wire ground	X
Power	
Frequency	2450 MHz
Power Consumption	3200 W
Receptacle and Plug	
MP	 20 Amp Hubbell 320P6WM2

Installation

Grounding Instructions

NOTE: Do not under any circumstances cut or remove grounding prong from the plug or bend power prongs to fit receptacle other than one shown for your equipment. Such abuse of the plug can result in electrical shock or overheating.



WARNING

Improper use of grounding plug can result in a risk of electrical shock or death.

This equipment **MUST** be grounded. In the event of an electrical short circuit, grounding reduces risk of electric shock by providing an escape wire for electric current. This oven is equipped with a cord having grounding wire with a grounding plug. Plug must be plugged into an outlet that is properly installed and grounded. **DO NOT** use a two-prong adapter.

Consult a qualified electrician or servicer if grounding instructions are not completely understood or if doubt exists as to whether the equipment is properly grounded.

Do not use an extension cord. If product power cord is too short, have a qualified electrician install an appropriate receptacle. This equipment should be plugged into a separate 60 Hz circuit with the appropriate electrical rating label. When the oven is on a circuit with other equipment, an increase in cooking times may be required and fuses can be blown.

Unpacking Oven

- Inspect oven for damage such as dents in door or inside oven cavity.
- Report any dents or breakage to source of purchase immediately.
- **Do not attempt to use oven if damaged.**
- Remove all materials from oven interior.
- If oven has been stored in extremely cold area, wait a few hours before connecting power.

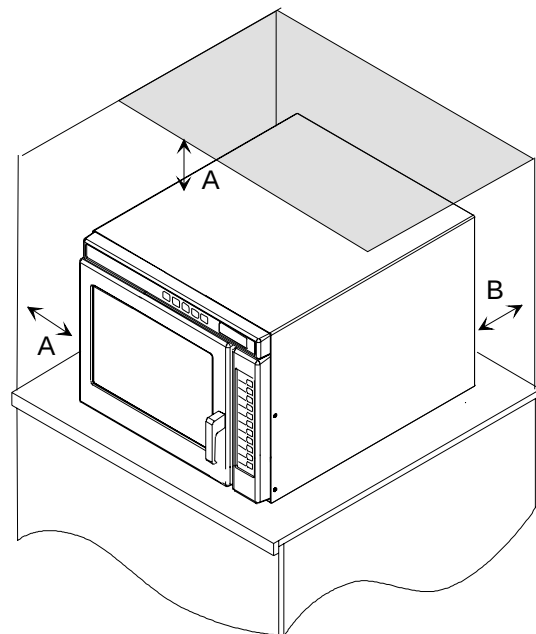
Radio Interference

Microwave operation may cause interference to radio, television or a similar oven. Reduce or eliminate interference by doing the following:

- Clean door and sealing surfaces of oven according to instructions in *Care and Cleaning* section.
- Place radio, television, etc. as far as possible from oven.
- Use a properly installed antenna on radio, television, etc. to obtain stronger signal reception.

Oven Placement

- Do not install oven next to or above source of heat, such as pizza oven or deep fat fryer. This could cause microwave oven to operate improperly and could shorten life of electrical parts.
- Do not block or obstruct oven filter. Allow access for cleaning.
- Install oven on level countertop surface.
- Place warning label in a conspicuous place close to microwave oven.
- Outlet should be located so that plug is accessible when oven is in place.



A—Allow at least 7 " (17.8 cm) of clearance around top and sides of oven. Proper air flow around oven cools electrical components. With restricted air flow, oven may not operate properly and life of electrical parts is reduced.

B—Allow at least 2 9/16 " (6.5 cm) between air discharge on back of oven and back wall.

Care and Cleaning

Clean oven frequently to maximize oven life, performance, and efficiency. A dirty oven cooks inefficiently because moisture, spills, and grease absorb microwave energy.



WARNING

To avoid electrical shock, severe personal injury or death; disconnect power to unit before cleaning.



CAUTION

To prevent personal injury; handle utensils, racks, and door with care. Utensils, racks, and door may become hot during operation.

Recommended Maintenance Schedule

Schedule Maintenance Cleaning (**Not Covered Under Warranty**)

Recommended Cleaning Schedule

Schedule Several Daily Cleanings

- Clean interior, exterior, and door according to instructions.
- If possible, clean spills immediately.
- Clean air filter and air vents regularly to prevent overheating.
- Wipe dry after cleaning.

Clean After Use

- Clean exterior according to Cleaning Oven Exterior instructions.
- Clean oven cavity according to Cleaning Oven Cavity instructions.
- Wipe dry after cleaning.

Cleaning Oven Exterior

Clean door and other exterior surfaces with a clean cloth, sponge or nylon pad using a mild detergent diluted in warm water. Use commercial degreasers if heavily soiled.

- Do not use harsh or abrasive cleaners or cleaners containing ammonia.
- Do not use water pressure type cleaning systems.
- Remove excess water from cloth before wiping oven.

Cleaning Oven Cavity

Rub vigorously with nylon scouring pad to loosen debris. Wipe clean with warm, damp clean cloth.

- Use only a plastic putty knife, nylon scouring pad or equivalent, to aid in removing soil or build-up from the oven interior.
- **Do not use** knife, **metal** utensil, or **steel wool pad** to remove baked on material.

Air Filter

Air filter must be cleaned regularly to prevent overheating of oven. The air filter is located directly below the oven door.

1. Remove the filter retaining screws, located on the outside edges of the filter.
2. Remove the air filter.
3. Wash filter in a mild detergent solution made with warm water.
4. Rinse and dry thoroughly.
5. Replace filter and screws.

NOTE: Clean air filter regularly to prevent overheating, which may damage oven.

Discharge Air Vents

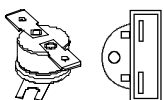
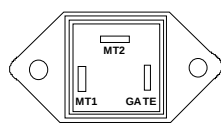
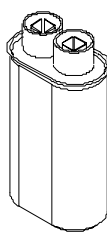
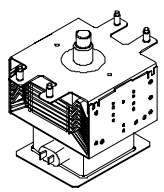
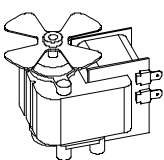
Check for a buildup of cooking vapors along discharge louvers in back of oven. Clean air vent with damp cloth to ensure proper airflow. Dry thoroughly.

Component Testing Procedures



WARNING

To avoid risk of electrical shock, personal injury or death; disconnect power to oven and discharge capacitor before servicing, unless testing requires power.

Illustration	Component	Test	Results
	Thermal cutout	Disconnect all wires from TCO. Measure resistance across terminals. Magnetron TCO Cavity TCO	Open at 300°F (149°C) and closed at 257°F (125°C) Opens at 262°F (128°C)
	Diode	Discharge Capacitor Remove diode lead from capacitor and connect ohmmeter. Reverse leads for second test.	Infinite resistance should be measured in one direction and 50KΩ or more in the opposite direction. NOTE: Ohmmeter must contain a battery of 6 volts minimum.
 Triac 1 (center) Triac 2 (left) Triac 3 (right)	Triac	Resistance Check Disconnect wires to triac. Measure resistance from: MT1 to MT2 MT1 to Gate..... MT2 to Gate..... All terminals to ground	Caution - Do not operate oven with wire to terminal MT2 removed. Infinite Approximately 60 Ω Infinite Infinite
		Voltage Check Measure voltage from: MT1 to Gate	0.8 VAC when energized. If no voltage, check H.V. board and wiring.
	Capacitor Some unit may use more than one type of capacitor. Refer to Parts Manual for correct capacitor quantity.	Discharge Capacitor Remove wires from capacitor terminals and connect ohmmeter, set on highest resistance scale to terminals. Also check between each terminal and capacitor case.	Between Terminals: Meter should momentarily deflect towards zero then return to over 5 MΩ. If no deflection occurs, or if continuous deflection occurs, replace capacitor. Terminal to Case: Infinite resistance
	Snubber assembly	Disconnect wires to snubber. Measure resistance across terminals	Infinite
	Magnetron	Discharge Capacitor Remove wires from magnetron and connect ohmmeter to terminals. Also check between each terminal and ground.	Between Terminals: Less than 1 Ω Each terminal to ground measures Infinite resistance. Note: This test is not conclusive. If oven does not heat and all other components test good replace the magnetron and retest.
	Blower motor	Remove all wires from motor. Measure resistance across coil	Approximately 25 Ω

Component Testing Procedures



WARNING

To avoid risk of electrical shock, personal injury or death; disconnect power to oven and discharge capacitor before servicing, unless testing requires power.

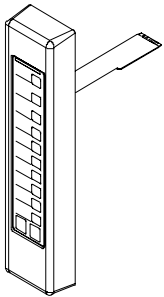
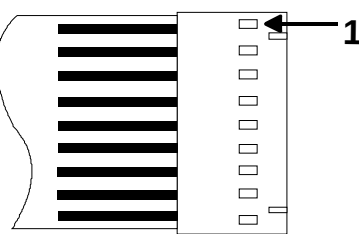
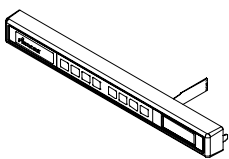
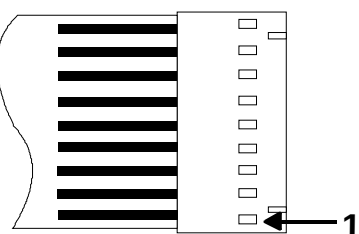
Illustration	Component	Test	Results
	Auto Transformer 	Discharge Capacitors Remove all wires from terminals. Measure resistance from: 230 V to 0 V 208 V to 0 V 120 V to 0 V	Approximately 38 Ω Approximately 37 Ω Approximately 25 Ω
	Transformer 	Discharge Capacitor Remove all wires from terminals. Measure resistance from: 230 to COM 208 to COM 230 to Ground 208 to Ground Terminal 5 to 6 Terminal 4 to Ground	Less than 1 Ω Less than 1 Ω Infinite Infinite Less than 1 Ω Approximately 65 Ω
	Transformer 	Discharge Capacitor Remove all wires from terminals. Measure resistance from: 230 to COM 208 to COM 230 to Ground 208 to Ground Terminal 5 to 6 Terminal 4 to Ground	Less than 1.1 Ω Less than 1 Ω Infinite Infinite Less than 1 Ω Approximately 70 Ω
	Interlock switch Door Closed 2 — 3 Secondary 4 — 5 Primary 7 — 8 Monitor	Disconnect wires to switch. With door open measure resistance from: Terminal 2 to 3 Terminal 4 to 5 Terminal 7 to 8 With door closed measure resistance from: Terminal 2 to 3 Terminal 4 to 5 Terminal 7 to 8	Infinite Infinite Indicates continuity Indicates continuity Indicates continuity Infinite
	Lamp receptacle (some models)	Test continuity of receptacle terminals.	Indicates continuity if bulb is good and screwed in.
	Antenna motor	Remove all wires from terminals. Measure resistance from: Terminal to terminal	Approximately 12K Ω
Refer to Parts Manual for proper power cord part number.	Power cord	Measure resistance of wires.	Continuity should be indicated on each wire. Verify polarity and grounding.

Component Testing Procedures

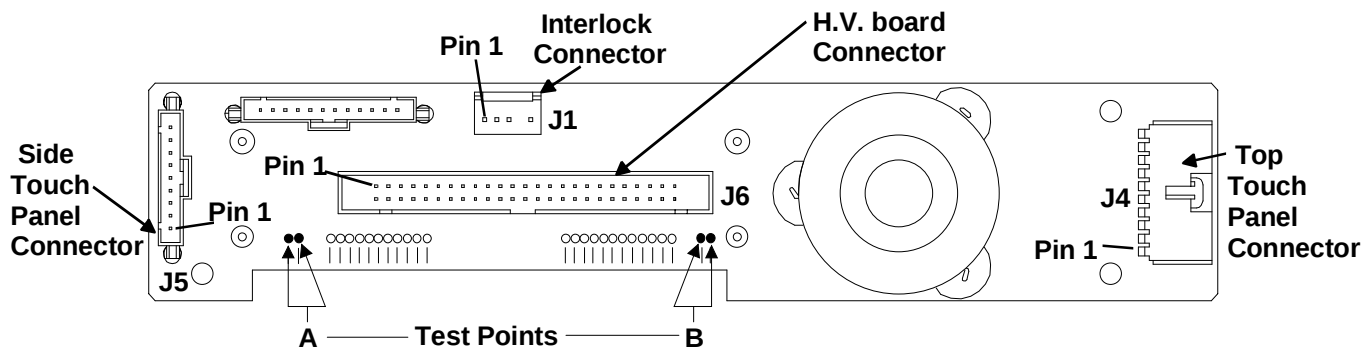


WARNING

To avoid risk of electrical shock, personal injury or death; disconnect power to oven and discharge capacitor before servicing, unless testing requires power.

Illustration	Component	Test	Results		
	Side touch panel	Continuity is indicated as 100 Ω and below. 	Pad	Trace	Measurement
			1 2 3 4 5 6 7 8 9 0 Start Stop/Reset	3 & 5 3 & 6 3 & 7 3 & 8 3 & 9 4 & 5 4 & 6 4 & 7 4 & 8 4 & 9 5 & 6 6 & 9	Continuity Continuity Continuity Continuity Continuity Continuity Continuity Continuity Continuity Continuity Continuity Continuity
	Top touch panel	Removal of touch panel is required to perform test. Continuity is indicated as 100 Ω and below. 	Pad	Trace	Measurement
			Time Entry Power Level Stage Program Save Quantity Menu Hidden Pad	5 & 7 5 & 8 5 & 9 6 & 7 6 & 8 7 & 9 8 & 9	Continuity Continuity Continuity Continuity Continuity Continuity Continuity

Display board



Function	Test Set-Up	Meter Setting	Probe Placement	Results
Input to Display Board	At Display Board	Volts	Test points A and B	3.0 VAC If voltage is present and no display is indicated, replace display board. If no voltage is present, check wire harness connections and H.V. board.

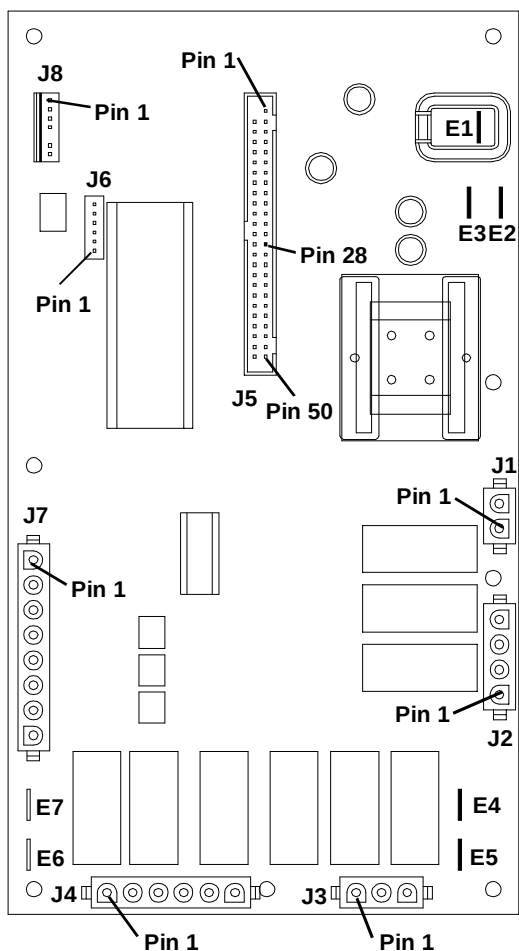
Component Testing Procedures



WARNING

To avoid risk of electrical shock, personal injury or death; disconnect power to oven and discharge capacitor before servicing, unless testing requires power.

H.V. board



Function	Test Set-Up	Meter Setting	Probe Placement	Results
Input to H.V. board	At H.V. board	Volts	J1 pin 1 (Brown wire) & J1 pin 2 (White wire)	Line voltage
Output to display board	Disconnect J5 connector, blower runs continuously	Volts	J5 pin 28 & J5 pin 50	- 24 VDC

NOTE: For the following test, place oven in Service Test Mode (see page 21).

Relay	Function	Test Set-Up	Meter Setting	Probe Placement	Results
K1 at 230 VAC line voltage	Blower motor Antenna motor Cavity light	Disconnect J2 connector	Ohms	J1 pin 1 (Brown wire) & J2 pin 4	Test mode 5 off - no continuity Test mode 5 on - < 1 Ω
K2 at 208 VAC line voltage	Blower motor Antenna motor Cavity light	Disconnect J2 connector	Ohms	J1 pin 1 (Brown wire) & J2 pin 3	Test mode 5 off - no continuity Test mode 5 on - < 1 Ω

Component Testing Procedures



WARNING

To avoid risk of electrical shock, personal injury or death; disconnect power to oven and discharge capacitor before servicing, unless testing requires power.

H.V. Board – Relay Test

Three Magnetron Models

Relay	Function	Test Set-Up	Meter Setting	Probe Placement	Results
K8	Magnetron 1 (Top rear) at 230 VAC	All wires connected to H.V. board	VAC	E2 (Black wire) & J4 pin 2 (Red wire)	Test mode 1 off - line voltage Test mode 1 on - 0 volts
K9	Magnetron 1 (Top rear) at 208 VAC	All wires connected to H.V. board	VAC	E2 (Black wire) & J4 pin 1 (White wire)	Test mode 1 off - line voltage Test mode 1 on - 0 volts
K4	Magnetron 2 (Top front) at 230 VAC	All wires connected to H.V. board	VAC	E5 (Red wire) & J3 pin 1 (Gray wire)	Test mode 2 off - line voltage Test mode 2 on - 0 volts
K5	Magnetron 2 (Top front) at 208 VAC	All wires connected to H.V. board	VAC	E5 (Red wire) & J3 pin 3 (Orange wire)	Test mode 2 off - line voltage Test mode 2 on - 0 volts
K6	Magnetron 3 (Bottom) at 230 VAC	All wires connected to H.V. board	VAC	J4 pin 4 (Black wire) & J4 pin 6 (Black wire)	Test mode 3 off - line voltage Test mode 3 on - 0 volts
K7	Magnetron 3 (Bottom) at 208 VAC	All wires connected to H.V. board	VAC	J4 pin 4 (Black wire) & J4 pin 5 (Brown wire)	Test mode 3 off - line voltage Test mode 3 on - 0 volts

Two Magnetron Models

Relay	Function	Test Set-Up	Meter Setting	Probe Placement	Results
K8	Magnetron 1 (Top rear) at 230 VAC	All wires connected to H.V. board	VAC	E5 (Red wire) & J4 pin 2 (Red wire)	Test mode 1 off - line voltage Test mode 1 on - 0 volts
K9	Magnetron 1 (Top rear) at 208 VAC	All wires connected to H.V. board	VAC	E5 (Red wire) & J4 pin 1 (White wire)	Test mode 1 off - line voltage Test mode 1 on - 0 volts
K6	Magnetron 3 (Bottom) at 230 VAC	All wires connected to H.V. board	VAC	J4 pin 4 (Black wire) & J4 pin 6 (Black wire)	Test mode 3 off - line voltage Test mode 3 on - 0 volts
K7	Magnetron 3 (Bottom) at 208 VAC	All wires connected to H.V. board	VAC	J4 pin 4 (Black wire) & J4 pin 5 (Brown wire)	Test mode 3 off - line voltage Test mode 3 on - 0 volts

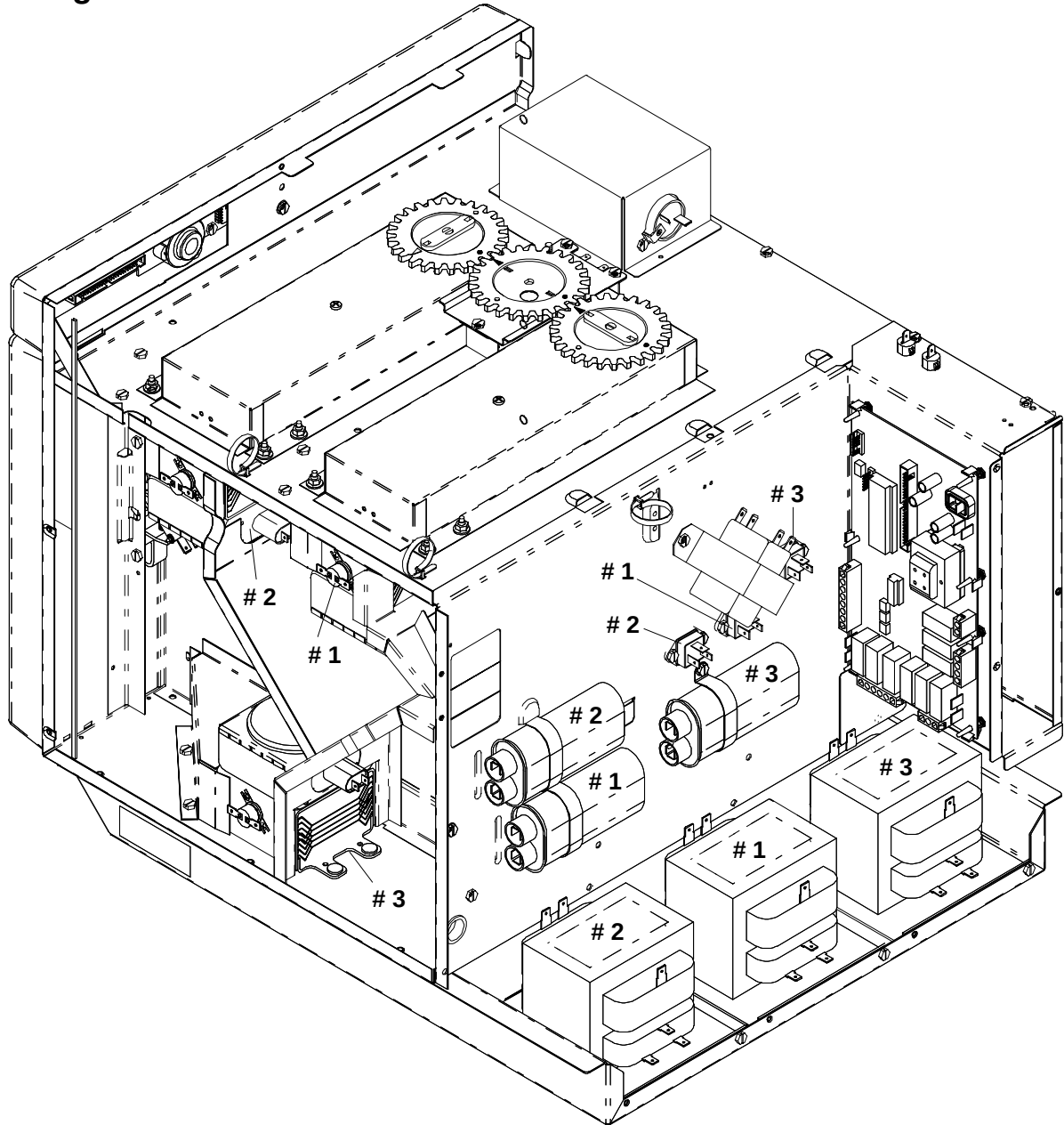
Component Testing Procedures



WARNING

To avoid risk of electrical shock, personal injury or death; disconnect power to oven and discharge capacitor before servicing, unless testing requires power.

Three Magnetron Models



H.V. System # 1	H.V. System # 2	H.V. System # 3
Top Rear Magnetron Center Transformer Bottom Center Capacitor Diode Center Triac	Top Front Magnetron Left Transformer Top Left Capacitor Diode Left Triac	Bottom Magnetron Right Transformer Right Capacitor Diode Right Triac

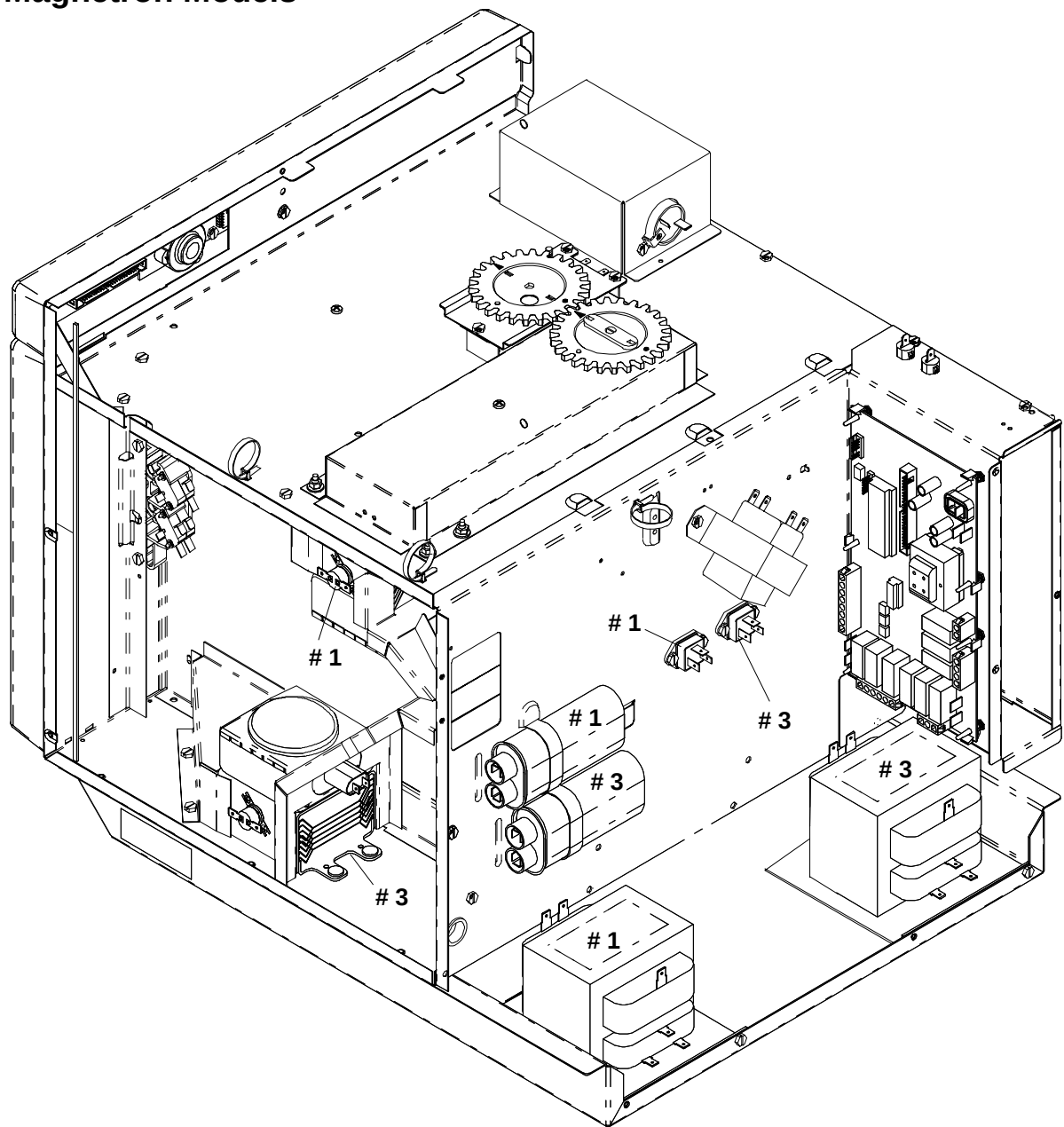
Component Testing Procedures



WARNING

To avoid risk of electrical shock, personal injury or death; disconnect power to oven and discharge capacitor before servicing, unless testing requires power.

Two Magnetron Models



H.V. System # 1	H.V. System # 3
Top Rear Magnetron Left Transformer Top Capacitor Diode Left Triac	Bottom Magnetron Right Transformer Bottom Capacitor Diode Right Triac

Power Testing Procedure



WARNING

To avoid risk of electrical shock, personal injury or death; disconnect power to oven and discharge capacitor before servicing, unless testing requires power.

Power Test (Traditional Test Method)

Test equipment required is Amana power test kit R0157397 (Fahrenheit), or Menumaster power test kit M95D5 (Celsius).

1. Fill the plastic container to the 1000 ml. line with cool tap water.
2. Using the thermometer; stir the water, measure, and record the water temperature.

Initial water temperature should be approximately 60°F (16°C).

3. Place container on the center of the oven shelf and heat the water for
33 seconds for ovens with more than 1550 watts or 63 seconds for ovens with less than 1550 watts.

NOTE: Use a watch second hand, not the oven timer.

4. Stir the water, measure and record the temperature of the water after heating time is complete.
5. Subtract the starting water temperature (Step 2), from the ending water temperature (Step 4) to obtain the temperature rise (ΔT).
6. See the Traditional Power Test Temperature Chart below.

NOTES: •The IEC-705 test method requires precision measurements and equipment. It is not practical to perform the IEC test in the field. To convert the traditional power test results to the approximate IEC-705 rating, take the traditional power test results and add 150 watts per magnetron for the unit being tested.

Example: 1400 — watts output using the traditional power test for model RC17S
 + 300 — watts (2 magnetrons X 150 watts)
 1700 — Approximate IEC-705 results

- Always perform power test three times for accuracy, changing the water after each test is performed.
- Variation or errors in the test procedure will cause a variance in the temperature rise. Additional power tests should be made if temperature rise appears marginal.
- Low line voltage will cause lower temperature rise.

Traditional Power Test Temperature Chart

THIRTY-THREE (33) SECONDS run time chart for units more than 1550 Watts cooking power

Fahrenheit				Celsius			
ΔT (°F)	Cooking Power Output	ΔT (°F)	Cooking Power Output	ΔT (°C)	Cooking Power Output	ΔT (°C)	Cooking Power Output
16	1240	27	2092	9.....	1260	15.....	2100
17	1317	28	2170	9.5.....	1330	15.5.....	2170
18	1395	29	2247	10.....	1400	16.....	2240
19	1472	30	2325	10.5.....	1470	16.5.....	2310
20	1550	31	2402	11.....	1540	17.....	2380
21	1627	32	2480	11.5.....	1610	17.5.....	2450
22	1705	33	2557	12.....	1680	18.....	2520
23	1782	34	2635	12.5.....	1750	18.5.....	2590
24	1860	35	2712	13.....	1820	19.....	2660
25	1937	36	2790	13.5.....	1890	19.5.....	2730
26	2015	37	2867	14.....	1960	20.....	2800
				14.5.....	2030	20.5.....	2870

Display Diagnostics



WARNING

To avoid risk of electrical shock, personal injury, or death, disconnect power to oven and discharge capacitor before servicing, unless testing requires it.



CAUTION

All repairs as described in this troubleshooting section are to be performed only after the caution procedures one through eight listed below have been followed.

1. Check grounding before checking for possible causes.
2. Be careful of the high voltage circuit.
3. Discharge high voltage capacitor.
4. When checking the continuity of the switches or the high voltage transformer, disconnect one lead wire from these parts and then check continuity with the AC plug removed. To do otherwise may result in a false reading or damage to your meter.
5. Do not touch any parts of the circuitry on the P.C. Board circuit since static electric discharge may damage this control panel. Always touch yourself to ground while working on this panel to discharge any static charge in your body.
6. 208/230 VAC is present in the high voltage circuit board, power relay and primary circuit of low voltage transformer.
7. When troubleshooting, be cautious of possible electrical hazard.
8. When testing convection operation, convection fan may start at any time or if oven is hot.

Error Codes

During operation, the display may show the following service codes:

NOTE: Before scheduling service for any error codes, instruct customer to unplug oven for 1 minute, reconnect power, and retest. If unit operates properly, no service call is required.

Display	Description	Corrective Action
Err1	Failed H.V. Board	Replace H.V. board.
Err2	Failed H.V. Board Failed Touch Panel	Replace H.V. board. Replace Touch Panel.
Err3	Failed H.V. Board Failed Touch Panel	Replace H.V. board. Replace Touch Panel.
Err4	Failed H.V. Board	Replace H.V. board.
Err5	Failed Touch Panel	NOTE: If Touch Panel is pressed for more than 30 seconds, this error code will appear. 1. Disconnect oven from power supply. 2. Disconnect side touch panel connector from display board (J5). 3. Reconnect oven to power supply. 4. If "Err5" reappears after 30 seconds, replace top touch panel. 5. If "Err5" does not reappear after 30 seconds, replace side touch panel.
Err6	Failed H.V. Board	Replace H.V. board.
HOT		• Open TCO (magnetron). • Blower motor inoperative. • Restricted air filter. • H.V. board inoperative. • High ambient temperature. • Oven operated empty or with light loads. • Broken or loose wire.
Door	Door Interlock Primary Switch	• Verify latch mechanism moves freely on door. • Verify J1 connector on display board is properly seated. • Test interlock switch assembly and perform door adjustment if necessary. • Replace interlock switch assembly.

Service Test



WARNING

To avoid risk of electrical shock, personal injury or death; disconnect power to oven and discharge capacitor before servicing, unless testing requires power.

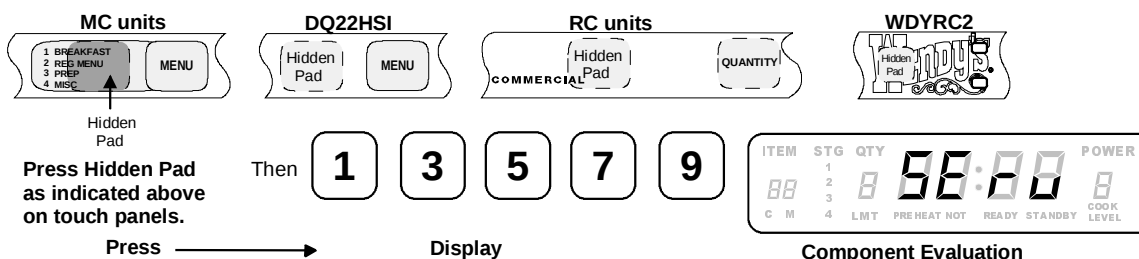
**NOTE: Unit must be in OFF condition
or
INITIAL power up mode.**



To Enter Service Test Mode, oven door must be closed.

NOTE: Pads will not beep when accessing Service Test Mode.

To EXIT Service Test Mode press STOP/RESET pad.

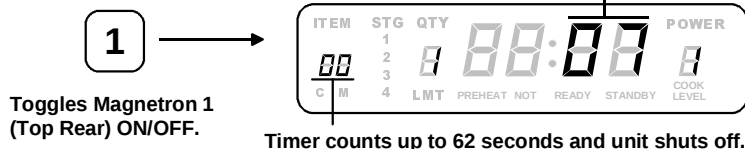


0 = Deactivated
1 = Activated



Indicates
Service
Mode

High Voltage System # 1

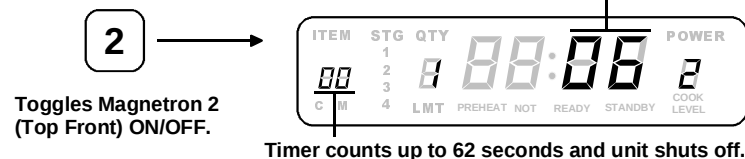


If no Amperage, check for line voltage at H.V. transformer primary winding.

If no voltage, check:

- Interlock switch (secondary)
 - Triac 1
 - H.V. board (relay K8 if 230 VAC, K9 if 208 VAC, and triac 1 drive voltage T1 - G)
 - Wiring
- If voltage is present, check:
- H.V. components and wiring.

High Voltage System # 2



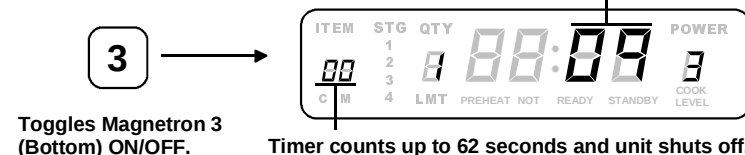
If no Amperage, check for line voltage at H.V. transformer primary winding.

If no voltage, check:

- Interlock switch (secondary)
 - Triac 2
 - H.V. board (relay K4 if 208 VAC, K5 if 230 VAC, and triac 2 drive voltage T1 - G)
 - Wiring
- If voltage is present, check:
- H.V. components and wiring.

**NOTE: Not Applicable on Two Magnetron models:
DQ22HSI, RC17S, RC17SD2, and RC22S.**

High Voltage System # 3



If no Amperage, check for line voltage at H.V. transformer primary winding.

If no voltage, check:

- Interlock switch (secondary)
 - Triac 3
 - H.V. board (relay K6 if 230 VAC, K7 if 208 VAC, and triac 3 drive voltage T1 - G)
 - Wiring
- If voltage is present, check:
- H.V. components and wiring.

Service Test



WARNING

To avoid risk of electrical shock, personal injury or death; disconnect power to oven and discharge capacitor before servicing, unless testing requires power.

Press →

Display

Component Evaluation

4

NOT ACTIVE



- This mode is NOT active with these models.

5

Toggles
Blower Motor
Antenna Motor(s)
Cavity Light (if applicable)
ON/OFF.



- If no fan operation, check:
- Blower motor and wheel
 - Antenna motor
 - Cavity light (if applicable)
 - H.V. board relay K1 - 230 V relay K2 - 208V
 - Wiring

6

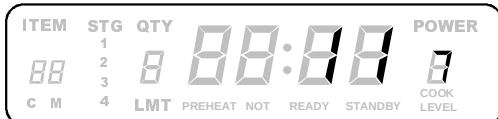
NOT ACTIVE



- This mode is NOT active with these models.

7

Displays # of
Magnetron Hours.



8

Displays # of Door Cycles
with a 1 to 1 ratio rounded
to the nearest ten



9

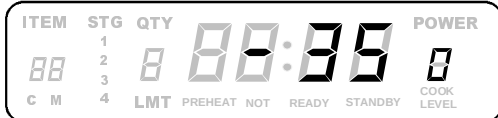
Clears Hours and Cycles
(press START to activate)
(Resets to 0).



NOTE: This will not appear on later production models.

0

Temperature OFFSET
NOT APPLICABLE



- Temperature OFFSET is NOT applicable with these models.

Microwave Leakage Test



WARNING

Check for radiation leakage after servicing. Should the leakage be more than 4mW/cm² inform Amana immediately. After repairing or replacing any radiation safety device, keep a written record for future reference, as required by D.H.H.S. and HEW regulations. This requirement must be strictly observed. In addition, the leakage reading must be recorded on the service repair ticket while at the customer's location.

Equipment

- Electromagnetic radiation monitor
- 600 cc glass beaker

Procedure For Measuring Radiation Leakage

Note before measuring -

- Do not exceed meter full scale deflection. Leak monitor should initially be set to the highest scale.
 - To prevent false readings the test probe should be held by the grip portion of the handle only.
 - The scan speed is equal to one inch per antenna revolution or one inch per second if antenna speed is unknown.
 - Areas to be checked are all door seal areas and any venting parts.
 - Leakage with the outer panel removed, 4mW/cm² or less.
 - Leakage for fully assembled oven with door normally closed, 4mW/cm² or less.
 - Leakage for a fully assembly oven (before the latch switch (primary) is interrupted) while pulling the door, 4mW/cm² or less.
1. Open the oven door and verify that there is only one rack in place on the bottom rack hooks.
 2. Pour 275 ± 15 cc (9 oz ± 1/2 oz) of 20 ± 5°C. (68 ± 9°F.) water in a glass beaker which is graduated to 600 cc and place the beaker in the center of rack.
 3. Set the radiation monitor to 2450 MHz and use it following the manufacturer's recommended test procedure to assure correct results.
 4. While measuring the leakage, always use the two inch (5 cm) spacer supplied with the probe.
 5. Press the start pad or turn on the timer and with the magnetron oscillating, measure the leakage by holding the probe perpendicular to the surface being measured.

Measurement With the Outer Case Removed



DANGER

To avoid risk of personal injury or death avoid contacting any high voltage components.

Whenever you replace the magnetron, measure for radiation leakage before the outer case is installed and after all necessary components are replaced or adjusted. Special care should be taken in measuring around the magnetron.

Measurement With a Fully Assembled Oven

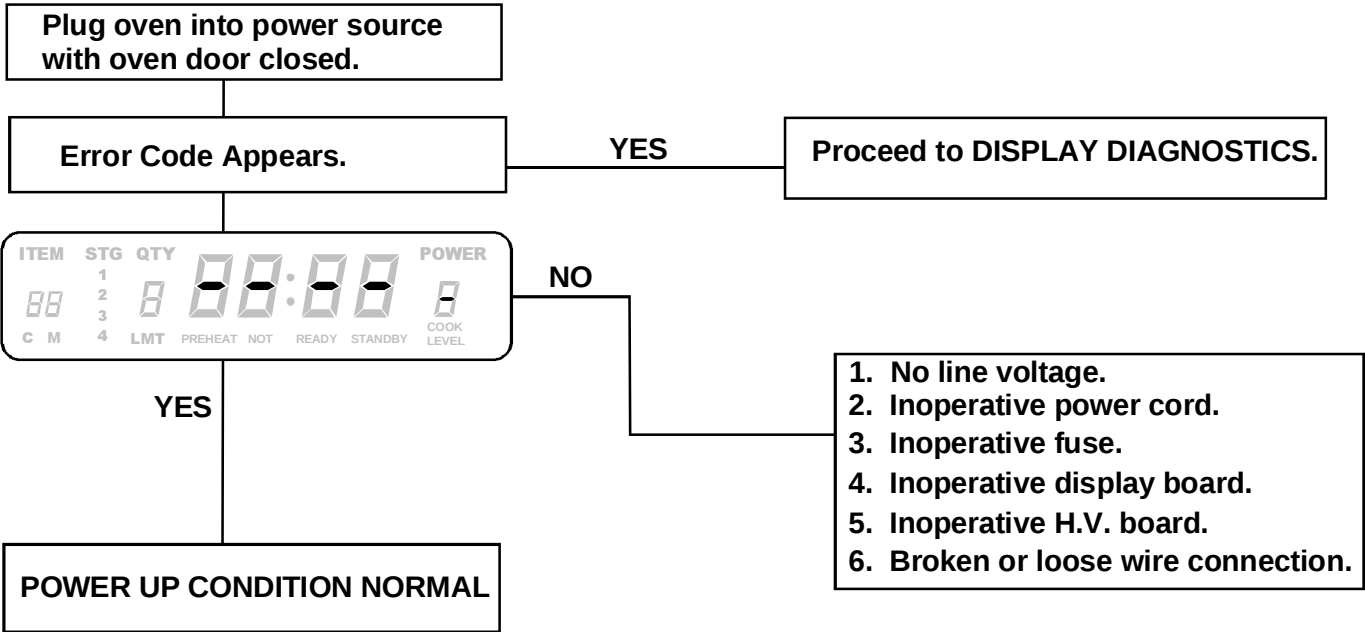
After all components, including the outer panel are fully assembled, measure for radiation leakage around the door periphery, the door viewing window, the exhaust opening, and air inlet openings.

Record Keeping and Notification After Measurement

1. After any adjustment or repair to a microwave oven, a leakage reading must be taken. Record this leakage reading on the repair ticket even if it is zero.
2. A copy of the repair ticket and the microwave leakage reading should be kept by the repair facility.

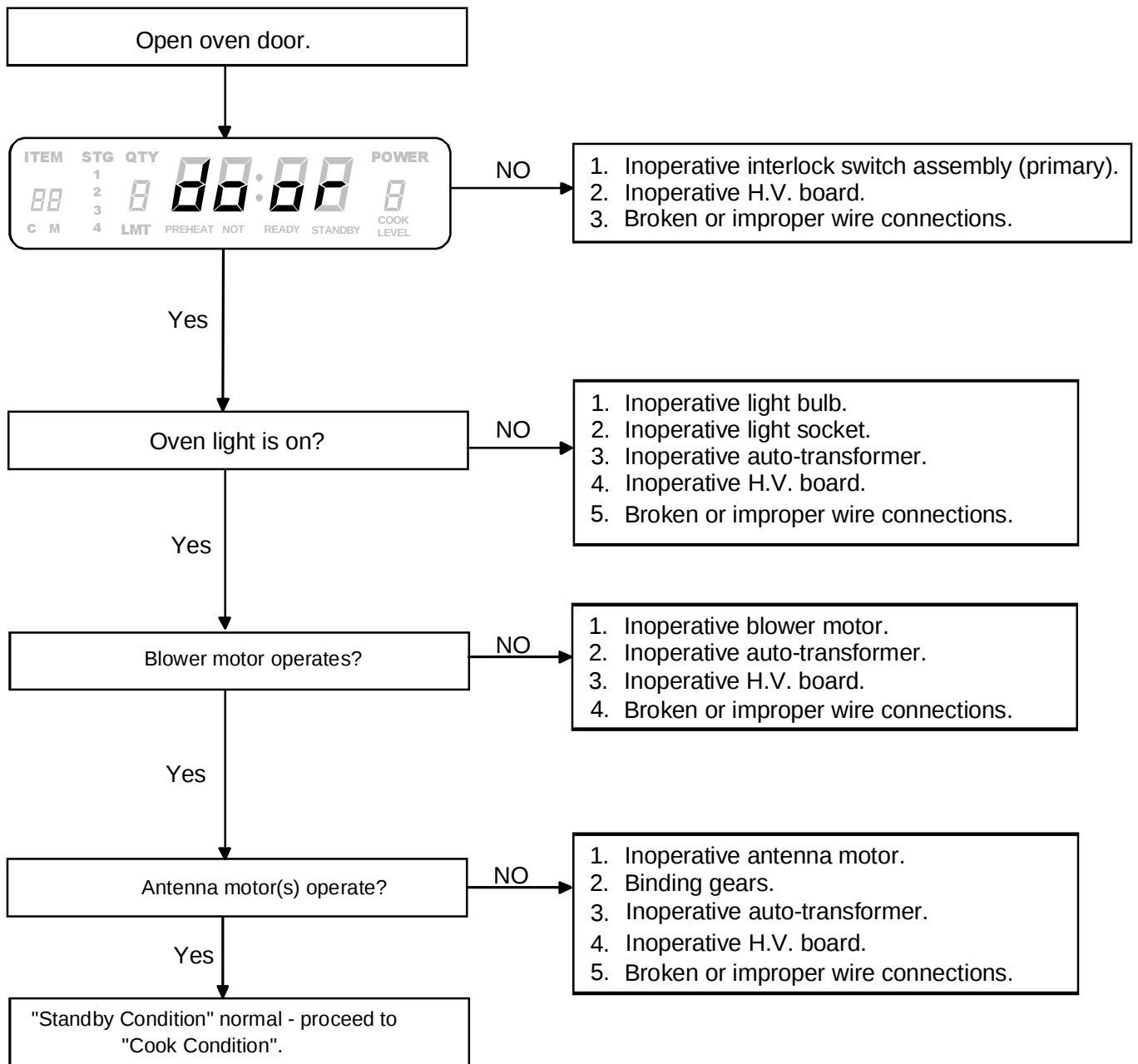
Troubleshooting

Power Up



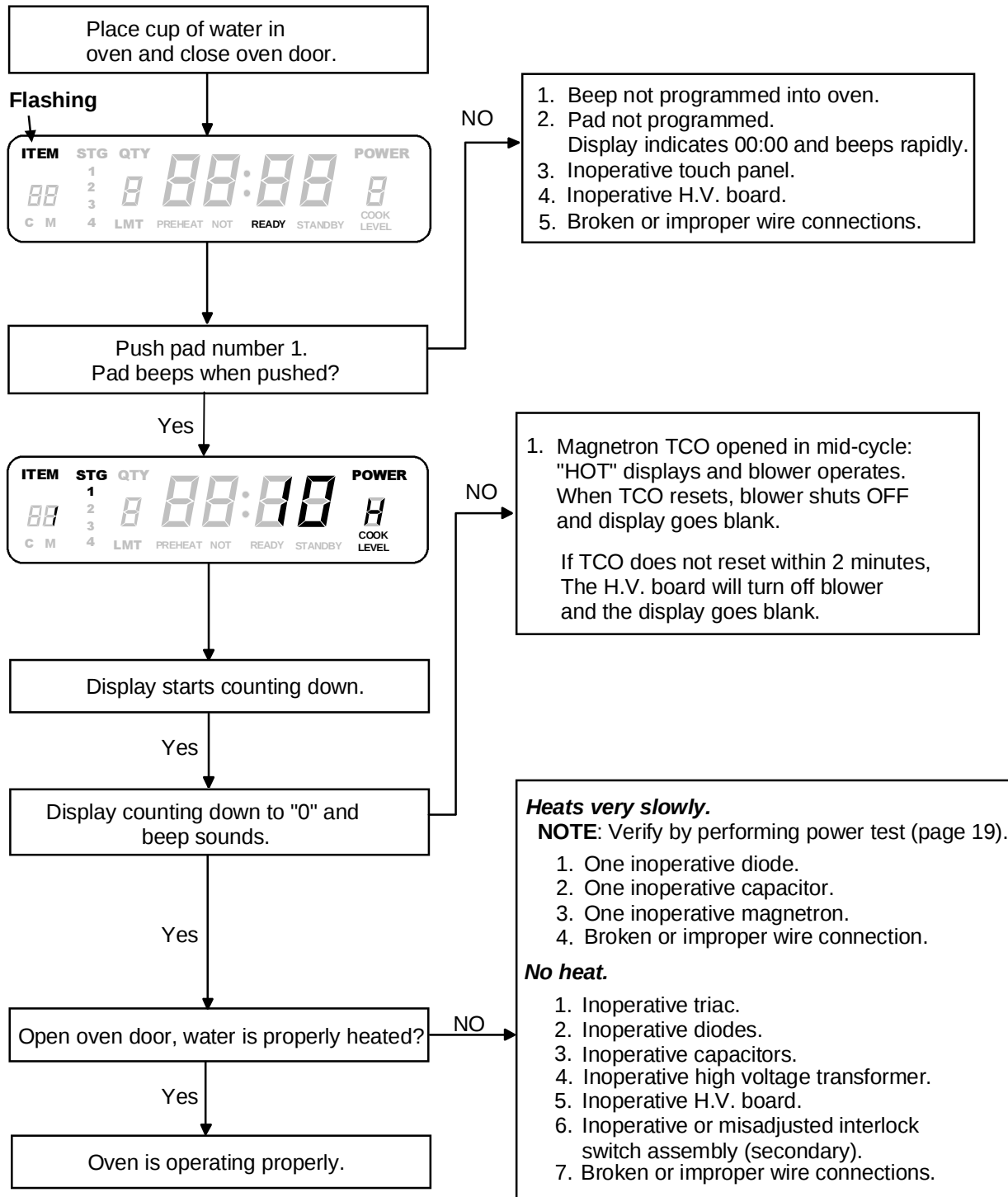
Troubleshooting

Standby Condition



Troubleshooting

Cook Condition



NOTE: Shut down after cook cycle - door closed - factory preset at 60 seconds, but can be changed with user options.
Shut down, door open - approximately 2 minutes. Blower shuts down and display indicates **door**.

Disassembly

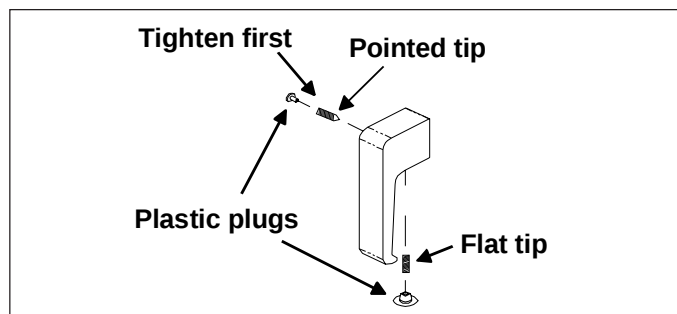


WARNING

To avoid the risk of electrical shock, personal injury or death; disconnect power to oven and discharge capacitors before following any disassembly procedure.

Door Handle

Remove door handle by removing plastic plugs to gain access to set screws. Loosen set screws (3/32 inch allen screws), one located to the left of the door handle and one located on the bottom of the door handle.

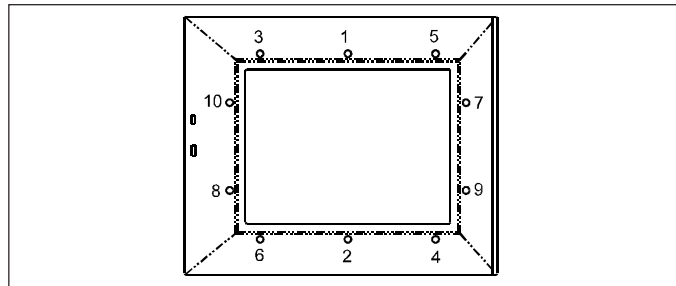


NOTE: When replacing door handle, tighten side set screw first.

NOTE: If set screws are removed, the set screw with the flat end must be used in the bottom of the door handle.

Door

1. Remove latch handle.
2. Remove outer door ring assembly from inner door ring by removing 10 y-drive screws.



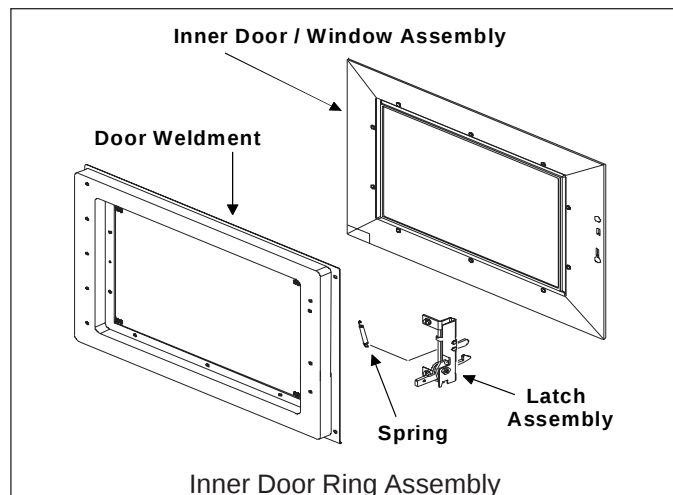
NOTE: When reinstalling outer door, tighten screws in pattern as shown above.

Outer Door

The outer door assembly consists of the outer door, outer window, and lens retainer. These components are available only as a complete assembly.

Inner Door Ring Assembly

1. Remove latch handle.
2. Remove outer door assembly.
3. Remove 5 hinge screws securing inner door ring assembly.



The door ring assembly consists of the inner door ring, the inner door panel, and latch assembly. These components are available only as a complete assembly.

Hinge

1. Remove outer case.
2. Remove door latch handle.
3. Remove outer door assembly.
4. Remove nine hinge mounting screws from hinge (five on front, 4 on side).

NOTE: Reinstall foam gasket on side of hinge when reinstalling.

5. When reinstalling hinge mounting screws, keep the side screws loose and the front screws tight, close door, press door against oven on the hinge side and tighten side hinge mounting screws in the sequence shown below.

Disassembly



WARNING

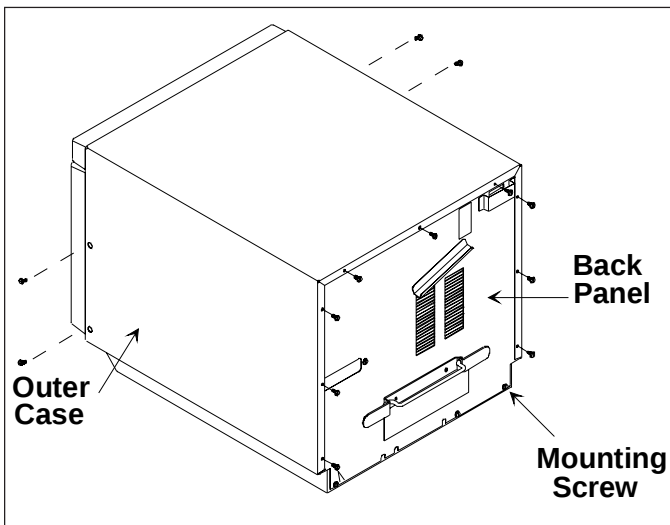
To avoid the risk of electrical shock, personal injury or death; disconnect power to oven and discharge capacitors before following any disassembly procedure.

Outer Case

1. Remove screws securing outer case to chassis, see illustration below.
2. Slide outer case back and lift off.
3. Reassemble outer case in reverse order.

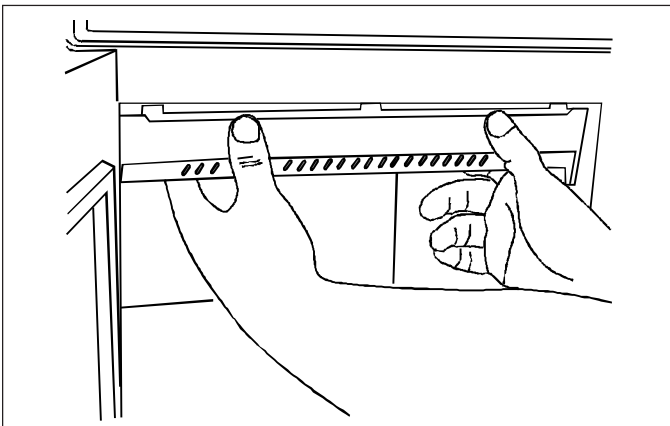
Back Panel

1. Remove outer case.
2. Remove screws securing back panel.
3. Reassemble back panel in reverse order.



Splatter Shield

1. See "Component Location" Figure 2, for location.
2. Place fingers on front of shield, push forward, and down.
 - When removing and replacing splatter shield, be careful not to bend antenna.



3. Reinstall splatter shield by fitting tabs into slots at top of oven cavity back. Lift and press front of shield until shield snaps into place.

Top Touch Panel Assembly

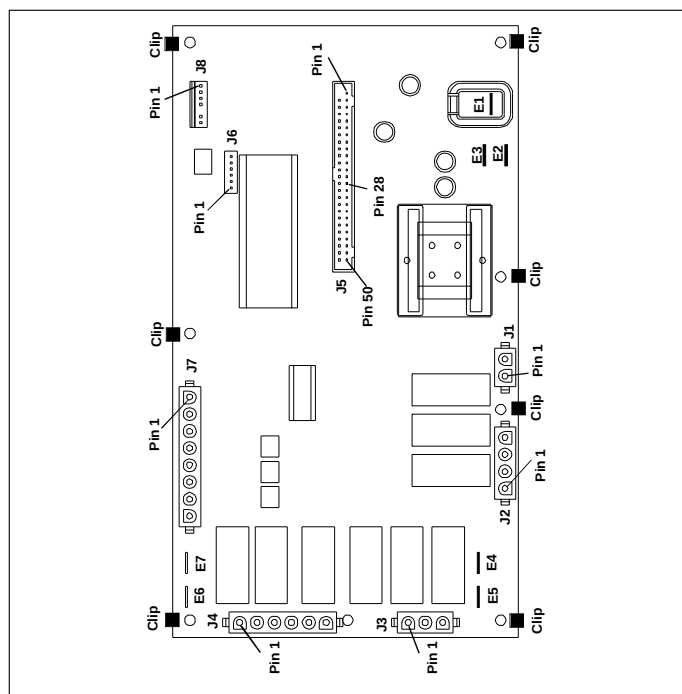
1. See "Component Location" Figure 1, for location.
2. Remove outer case.
3. Disconnect wire connectors at display board.
4. Remove screws securing top touch panel to unit.
5. Remove screws securing display board to top touch panel assembly.
6. Disconnect touch panel connector from display board.
7. Reassemble touch panel in reverse order.

Side Touch Panel Assembly

1. See "Component Location" Figure 1, for location.
2. Remove outer case.
3. Disconnect ribbon cable from display board.
4. Remove mounting screws securing side touch panel to unit.
5. Reassemble touch panel in reverse order.

High Voltage Circuit Board

1. See "Component Location" Figure 3, for location.
2. Remove outer case.
3. Unplug connectors.
4. Disconnect wires from terminal locations on H.V. board.
5. Release mounting clips and remove board from plastic supports.
6. Reassemble high voltage board in reverse order.



NOTE: When reassembling, verify cable connection with illustration of cable locations.

Disassembly



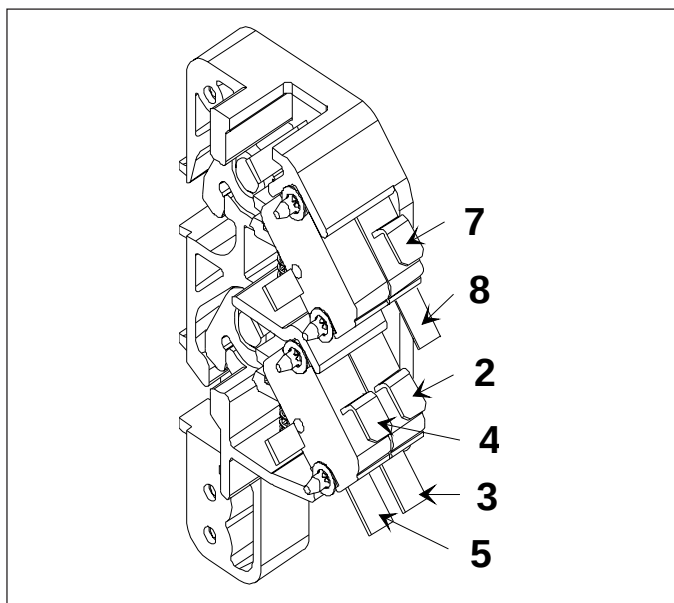
WARNING

To avoid the risk of electrical shock, personal injury or death; disconnect power to oven and discharge capacitors before following any disassembly procedure.

Interlock Switch Module

1. See "Component Location" Figure 1, for location.
2. Remove outer case.
3. Disconnect wiring from interlock switch assembly.
4. Remove mounting screws securing interlock switch.
5. When replacing assembly, all wires must be connected before operating oven.

NOTE: When the line fuse is blown **interlock switch module** must be replaced.



Adjustment

1. To adjust interlock switch assembly, close door.
2. Loosen bottom and top screw on the interlock switch assembly, allowing switch assembly to move in or out.
3. With door closed, push forward on interlock assembly to engage door latch. Then pull back on interlock assembly until door is "snug" against front oven cavity and tighten bottom screw first, then top screw.
4. Door will remain latched when proper adjustment is made.

NOTE: If door is not properly adjusted display will indicate **door** when the door is closed.

Display Module

1. See "Component Location" Figure 1, for location.
2. Remove outer case.
3. Remove top touch panel, see "Top Touch Panel" Assembly procedure.
4. Remove screws securing display module to top touch panel.
5. Reassemble display module in reverse order.

Top Rear Magnetron

1. See "Component Location" Figure 2, for location.
2. Remove outer case and back panel.
3. Remove wires from TCO and magnetron.
4. Remove screws securing top rear exhaust duct to cavity top. Do not attempt to remove exhaust duct at this time.
5. Remove magnetron mounting nuts.
6. Remove magnetron and exhaust duct.
7. Remove allen screws securing magnetron thermal cutout bracket to magnetron.
8. When replacing magnetron, verify wire mesh gasket is reinstalled properly.

NOTE: Slide exhaust duct on magnetron before reinstalling magnetron.

Top Front Magnetron

1. See "Component Location" Figure 2, for location.
2. Remove outer case and back panel.
3. Remove wires from TCO and magnetron.
4. Release center flow divider tabs from bottom flow divider and tilt center divider upward.
5. Remove screws securing top front exhaust duct to cavity top. Do not attempt to remove exhaust duct at this time.
6. Remove magnetron mounting nuts.
6. Remove magnetron, exhaust duct, and center flow divider.
7. Remove allen screws securing magnetron thermal cutout bracket to magnetron.
8. When replacing magnetron, verify wire mesh gasket is reinstalled properly.

NOTE: Slide exhaust duct and center flow divider on magnetron before reinstalling magnetron.

Bottom Magnetron

1. See "Component Location" Figure 2, for location.
2. Remove outer case and back panel.
3. Remove wires from TCO and magnetron.
4. Remove screws securing bottom exhaust duct to cavity bottom.
5. Lay oven on it's left side.
6. Remove bottom access panel.
7. Remove magnetron mounting nuts.
8. Remove magnetron and exhaust duct.
9. When replacing magnetron, verify wire mesh gasket is reinstalled properly.

NOTE: Slide exhaust duct on magnetron before reinstalling magnetron.

Disassembly



WARNING

To avoid the risk of electrical shock, personal injury or death; disconnect power to oven and discharge capacitors before following any disassembly procedure.

Magnetron Cutout (TCO)

1. See "Component Location" Figure 2, for location.
2. Remove outer case.
3. Remove wiring from selected thermal cutout.
4. Remove screws securing thermal cutout.
5. Reassemble thermal cutout in reverse order.

Cavity Thermal Cutout (TCO)

1. Remove outer case.
2. Remove left side air exhaust panel.
3. Remove wires from TCO.
4. Remove TCO.
5. Reassemble thermal cutout in reverse order.

Triacs

1. See "Component Location" Figure 3, for location.
2. Remove outer case and back panel.
3. Remove wires from terminals of selected triac.
4. Remove screws securing triac to chassis.
5. Reassemble triac in reverse order.

Capacitor

1. See "Component Location" Figure 3, for location.
2. Remove outer case and back panel.
3. Discharge capacitor and remove wires from terminals.
4. Remove capacitor bracket mounting screw.
5. Reassemble capacitor in reverse order.

NOTE: Capacitor bracket must be installed into indented slot located on cavity wall.

Transformer

1. See "Component Location" Figure 3, for location.
2. Remove outer case and back panel.
3. Remove screws securing transformer to chassis.
4. Pry upward and back to release transformer from chassis.
5. Remove wire connections from transformer.

NOTE: When placing transformer back into chassis. Front portion of transformer **must** slide into base pan tabs.

6. Reassemble transformer in reverse order.

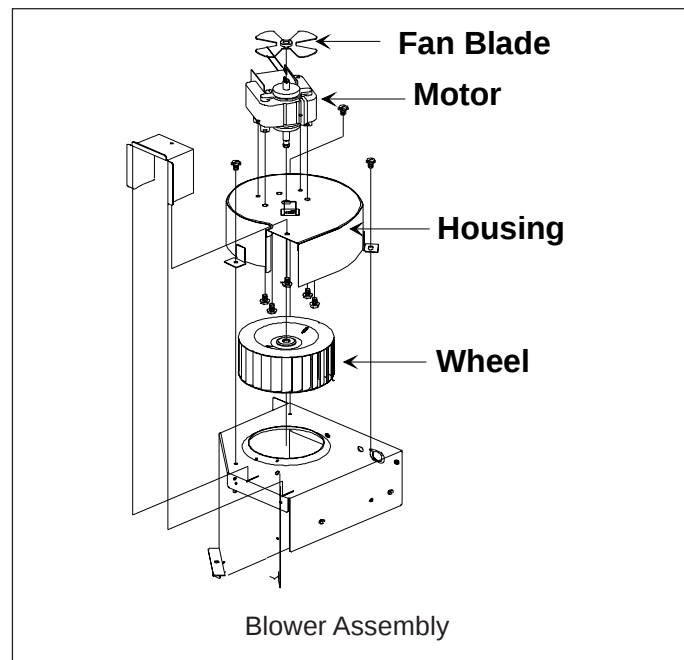
Auto Transformer

1. See "Component Location" Figure 2, for location.
2. Remove outer case and back panel.
3. Remove screw securing auto transformer mounting bracket.
4. Reassemble auto transformer in reverse order.

Microwave Blower Wheel and Motor

1. Remove outer case and back panel.
2. Remove wiring from blower motor terminals.
3. Remove screws securing blower assembly to bracket.
4. Remove assembly from oven.
5. Loosen allen set screw securing blower wheel to motor shaft.
6. Remove blower wheel.
7. Remove screws securing motor to scroll.
8. Reassemble blower wheel and motor in reverse order.

NOTE: When reinstalling blower wheel, push blower wheel on shaft, tighten, and rotate to insure clearance between blower wheel, and blower housing.



Fan Blade

1. Pull blade off shaft.
2. When reinstalling blade, push blade on shaft and rotate to insure clearance between fan blade and motor mounting bolt.

Disassembly



WARNING

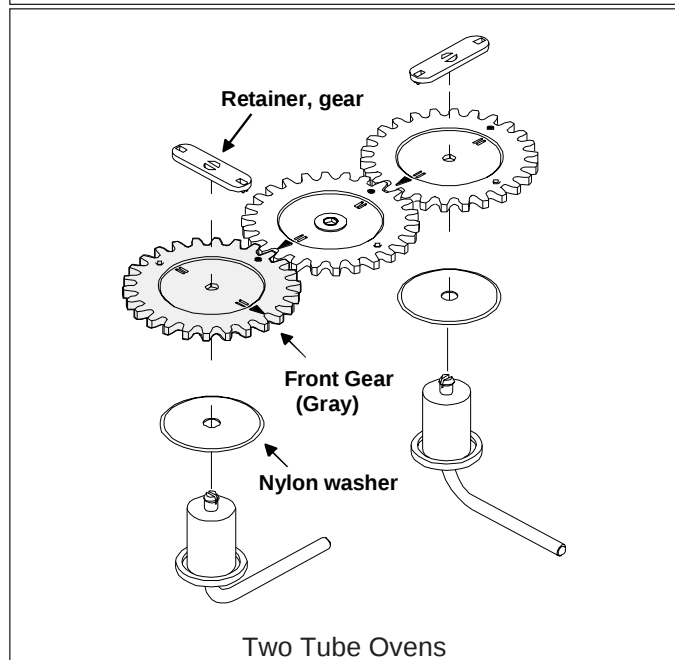
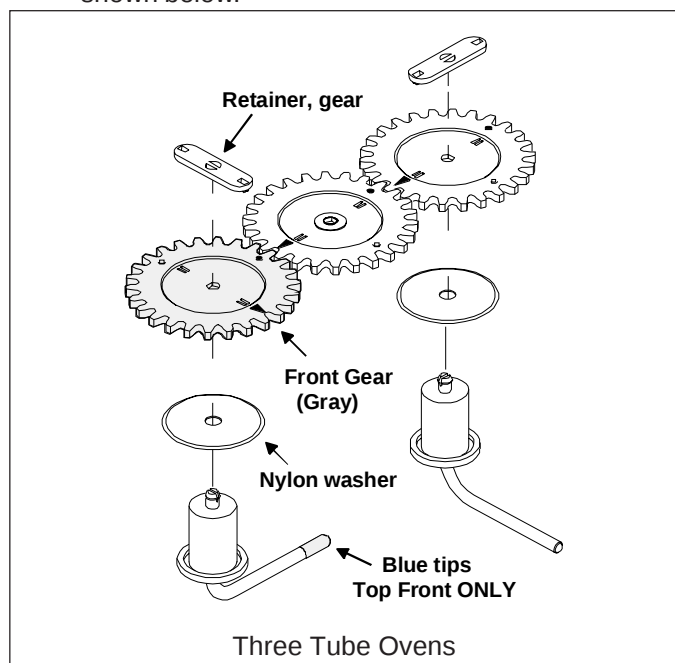
To avoid the risk of electrical shock, personal injury or death; disconnect power to oven and discharge capacitors before following any disassembly procedure.

Top Antennas

1. See "Component Location" Figure 1, for location.
2. Remove outer case and grease shield.
3. Remove gear retainer from plastic gear.
4. While supporting antenna, carefully pry gear from antenna shaft.
5. Remove nylon washer from antenna shaft.
6. Remove antenna from oven cavity.

NOTE: Important items when re-installing antenna:

- Place nylon washer between gear and cavity.
- On 3-tube ovens, top gears must be aligned as shown below.



Bottom Antenna

1. Remove oven tray, see "Oven Tray Removal" procedure.
2. Lay oven on it's left side and open oven door.
3. Remove bottom access cover.
4. Remove gear retainer from plastic gear.
5. While supporting antenna, carefully pry gear from antenna shaft.
6. Remove nylon washer from antenna shaft.
7. Remove antenna from oven cavity.

NOTE: Important items when re-installing antenna:

- Place nylon washer between gear and cavity.

Antenna Motors

1. Remove outer case from oven.
2. Remove wires connected to antenna motor.
3. Remove screws securing motor assembly to cavity.
4. Remove motor from unit.
5. Reassemble in reverse order

NOTE: On 3-tube models, top antenna gears must be aligned as illustrated in "Top Antennas" procedure.

Oven Tray Removal / Installation

1. Using a utility knife, cut RTV seal around perimeter of tray.
2. Using a heat gun, apply heat to front lip of tray to release hot melt glue.
3. Pry upward on front lip of tray to remove.
4. Thoroughly remove all traces of old RTV and degrease the tray, cavity bottom, walls, and front flange.
5. Place tray in center of cavity. Do not allow tray to touch side walls.
6. Apply a generous bead of RTV sealant around perimeter of tray.
7. Apply a light water spray to the fresh RTV sealant.
8. Using RTV scrapper, Amana part # R0000039, remove excess RTV.

NOTE: Allow RTV to set for 1 hour before using.

Disassembly



WARNING

To avoid the risk of electrical shock, personal injury or death; disconnect power to oven and discharge capacitors before following any disassembly procedure.

Fuse

1. See "Component Location" Figure 3, for location.
2. Remove outer case.
3. Replace fuse and reassemble in reverse order.

NOTE: If fuse needs replaced, interlock assembly must be replace.

Power Cord

1. Remove outer case and back panel.
2. Disconnect wiring.
3. Remove strain relief by compressing with pliers.
4. Remove power cord.
5. Reassemble power cord in reverse order.

Light Socket

1. Remove outer case.
2. Remove screws securing lamp cover bracket.
3. Unscrew light bulb from socket.
4. Disconnect wire terminals to light socket.
5. Remove screw securing light socket to light retainer.
6. Reassemble light socket in reverse order.

Replacing Oven Light Bulb



WARNING

To avoid electrical shock which can cause severe personal injury or death, unplug power cord or open circuit breaker to oven before replacing light bulb. After replacing light bulb, restore power.



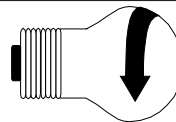
CAUTION

To avoid personal injury or property damage, observe the following:

- Allow oven and light bulb to cool.
- Wear gloves when replacing light bulb.

Tools Needed

- Protective gloves
- Phillips screwdriver
- 40-watt, 120-volt appliance bulb (available from authorized distributor or servicer)



To remove bulb, turn in direction shown.

1. Remove screw from access cover on top left wall of oven exterior. Remove access cover.
2. Remove old bulb and replace with new bulb.
3. Replace access cover and screw by reversing procedure in step 1.

Disassembly



WARNING

To avoid the risk of electrical shock, personal injury or death; disconnect power to oven and discharge capacitors before following any disassembly procedure.

Component Location

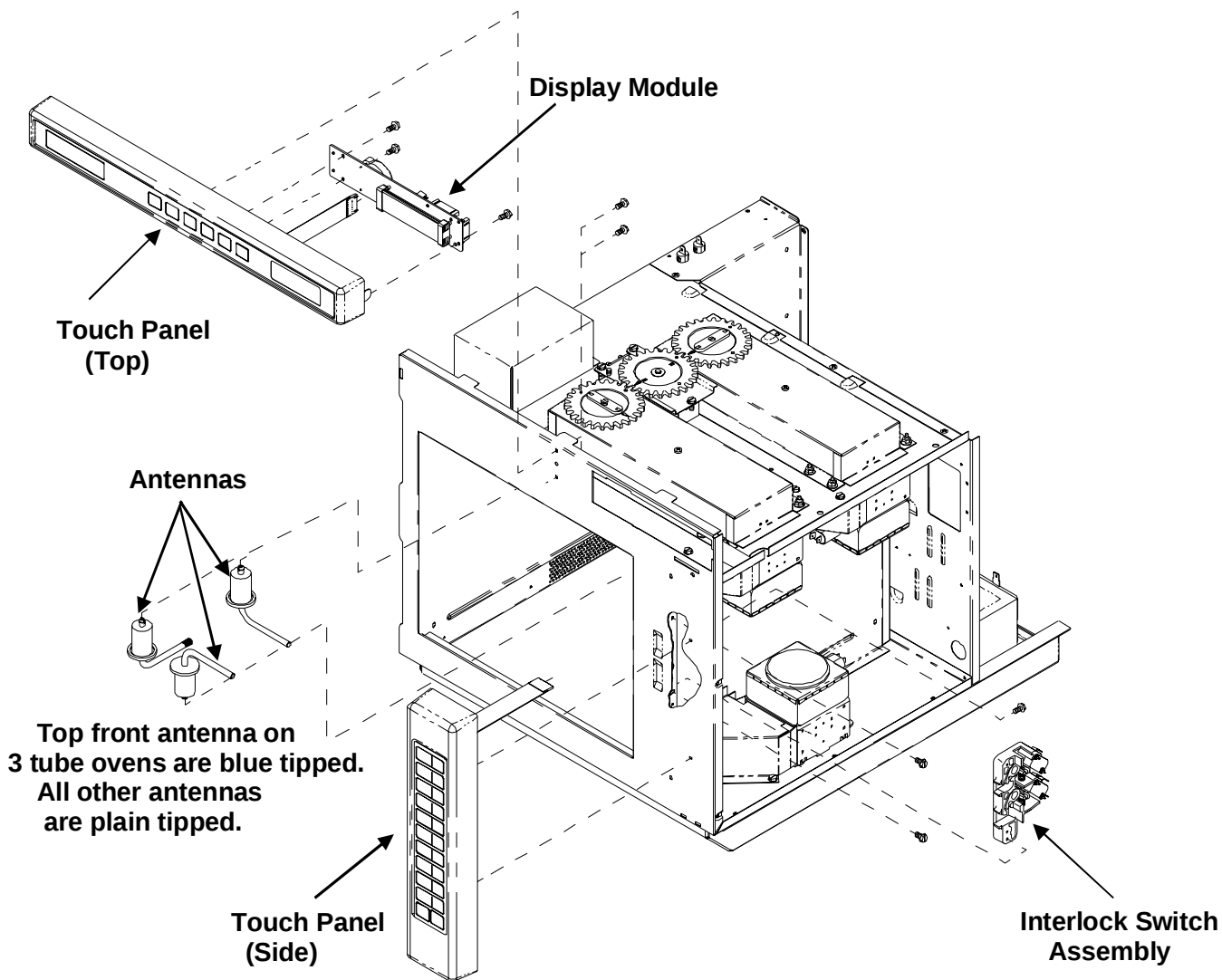


Figure 1

Disassembly



WARNING

To avoid the risk of electrical shock, personal injury or death; disconnect power to oven and discharge capacitors before following any disassembly procedure.

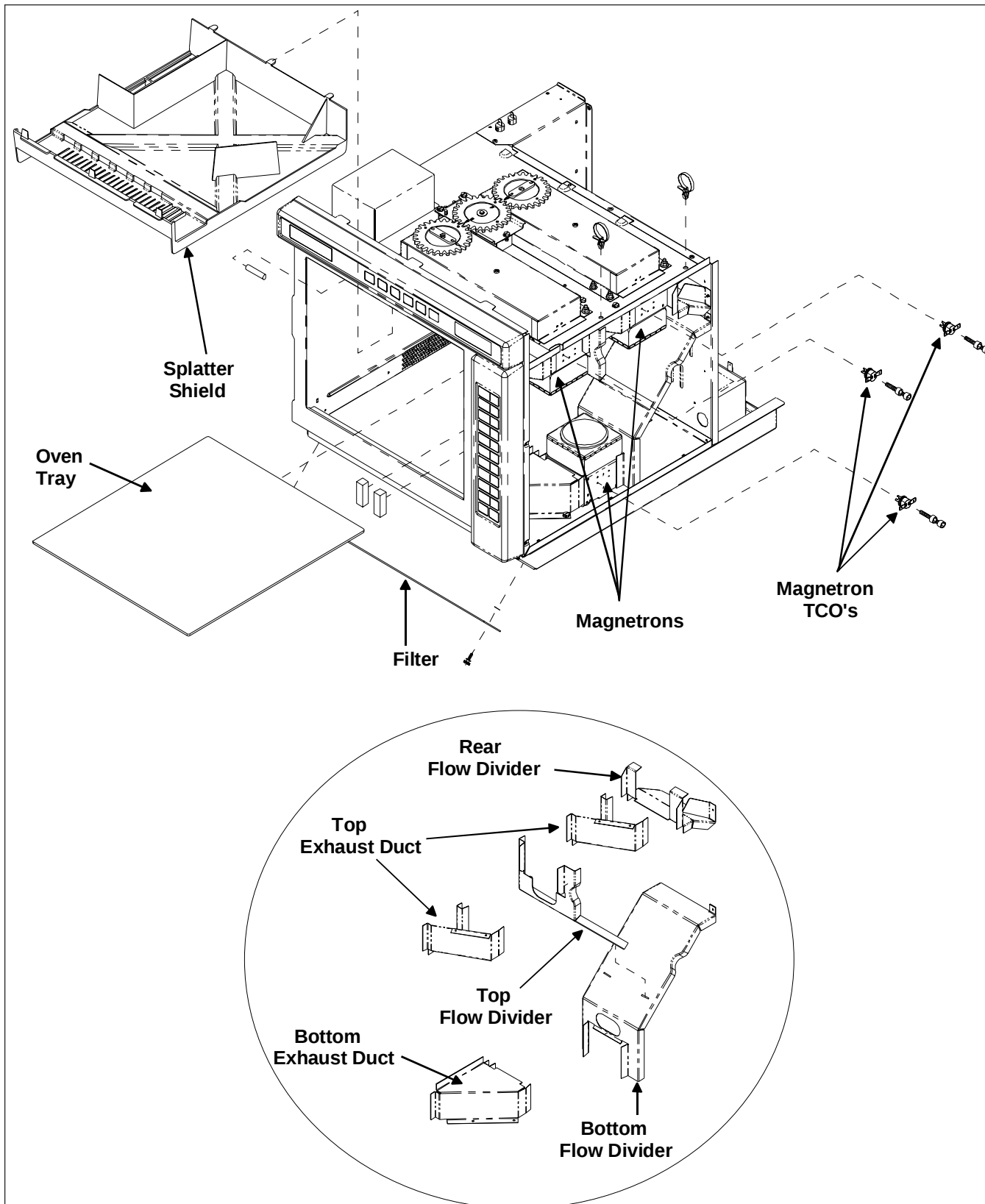


Figure 2

Disassembly



WARNING

To avoid the risk of electrical shock, personal injury or death; disconnect power to oven and discharge capacitors before following any disassembly procedure.

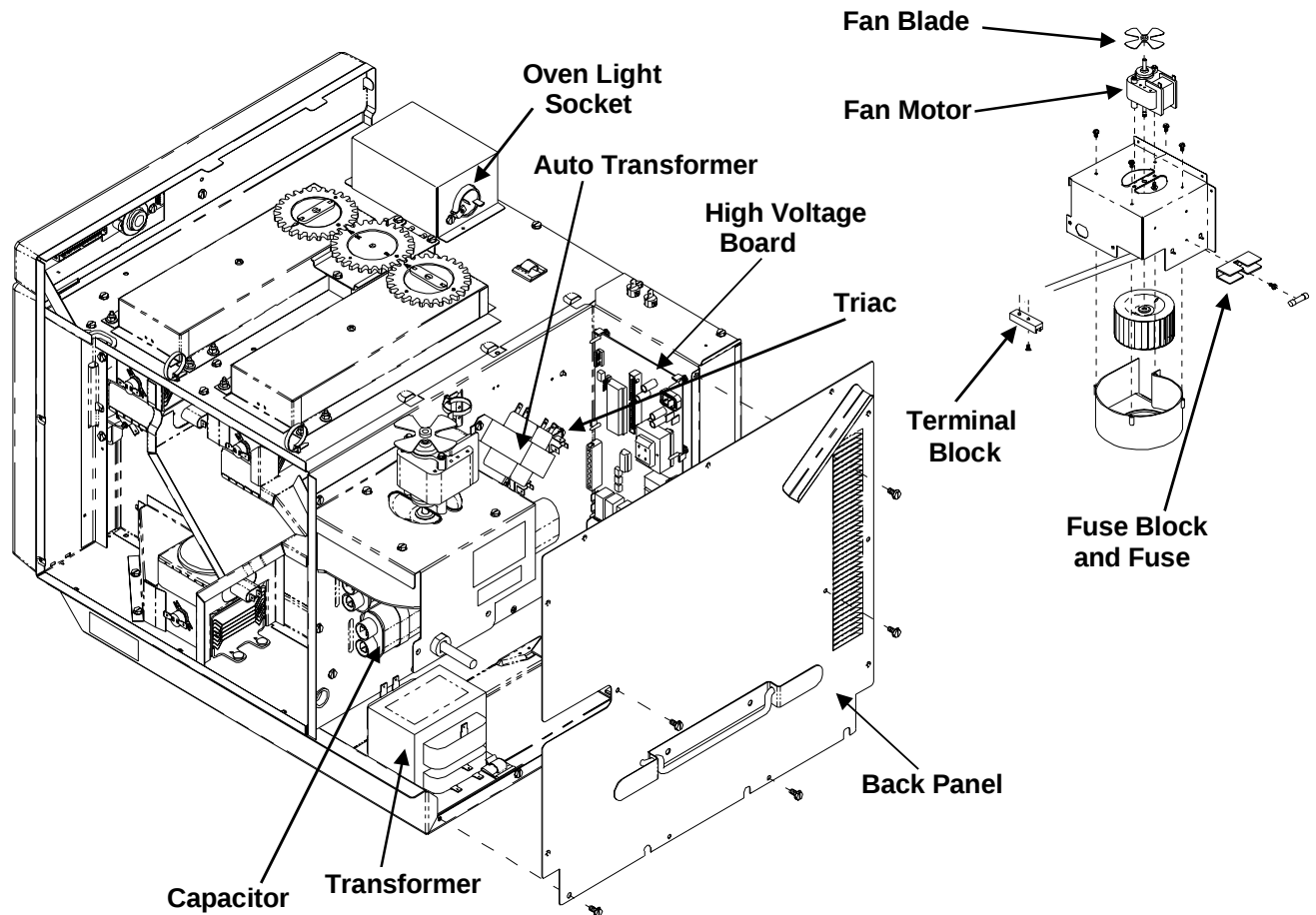


Figure 3

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Appendix A

Operating Instructions for ASE7000, ASE9000, RC17S, RC17SD2, RC17SED, RC22S, RC22S3, RC25S, RC27S, RC30S

Display and Features

? There are words in the display that never actually display.

The display is used for many different models of microwaves. Depending on the model, certain words or symbols may never be highlighted or become visible.

Cooking Display

DISPLAYS	DESCRIPTION
00:00	Displays cooking time. If stage cooking is programmed, total cooking time is displayed.
COOK LEVEL	COOK LEVEL displays the current microwave power level. 100% is the highest setting (full power), and 0% is lowest (no microwave energy used).
ITEM	ITEM displays the single or double digit entry of a programmed cooking condition when using a programmed pad. ITEM also flashes when a cooking condition can be started or programmed.
STG	STG displays with a single number. This number is the stage the oven is at in the cooking condition. Up to four stages can be programmed.
READY	READY displays when oven is ready to use.
POWER	POWER displays during active microwave generation in the oven. POWER will not display when power setting is at 0; and POWER will turn on and off when microwave energy is set at less than 100% (full power).
QTY	Displays when the Quantity pad has been used.

Programming Display

DISPLAYS	DESCRIPTION
P _{ro} 9	Displays when oven is in programming mode for single pad or double pad memory.
OP: --	Displays when oven is in user option mode. User options can then be set or specified.
STG	Displays stage number during cooking or when programming a specific cooking stage. Stage number (1 through 4) indicates the stage that is being used.

Operating Instructions for ASE7000, ASE9000, RC17S, RC17SD2, RC17SED, RC22S, RC22S3, RC25S, RC27S, RC30S

Display and Features

Amana COMMERCIAL

QUANTITY

TIME
ENTRY

POWER
LEVEL

STAGE

PROGRAM
SAVE



Single Pad Programming

This feature enables each numbered pad to be programmed for a specific use, such as cooking a certain number of potatoes or defrosting and then cooking vegetables or other frozen foods. To use this feature, simply program the pad to the desired length of time and power level. To use this feature, press the pad once and the microwave will begin cooking.



Start Pad

The start pad is used to begin a manual time entry cooking cycle.



Double Pad Programming

This feature enables 100 programmed entries to be made. Each entry will be assigned a double digit number, for example 01, 05, or 20. When using the double pad programming, two pads must be pressed to start the cooking cycle.



STOP/RESET pad

The STOP/RESET pad stops a cooking sequence in progress, clears out any remaining time, and also ends a programming or user option cycle. When the STOP/RESET pad is used to end a programming or option change, the changes are discarded.



Manual Time Entry

In addition to programmable pads, this microwave also accepts specific time entry by using the TIME ENTRY pad. Using manual time entry does not affect the programmed buttons.



Quantity Pad

The quantity pad increases a preset cooking time by a percentage of the original cooking time. The user specifies the percentage and it can be changed for individual cooking sequences. Quantity can be increased up to 8 times. Once pressed, QTY will display with the number times the cooking time will be extended. This feature is very useful for cooking multiple servings of foods such as potatoes or slices of pizza.

Mid-Cycle Cooking Pause

The cooking pause is a feature unique to this series of microwaves. This pause enables extra ingredients to be added, cooking progress to be checked, or for food to sit a necessary amount of time between cooking time or power settings. To utilize Cooking Pause, follow programming sequences for programmable pads.

STG Stage Cooking

1

Stage cooking is a cooking sequence with specific power stage changes. The user can program up to four different power level changes and the specific amount of cooking time at each power level. Each power level/cooking time combination is known as a stage. Up to four stages can be programmed.

OP:- - User Options

This microwave can be set for specific user preferences. Options such as beep volume, and the number of programmable pads can be changed. To change different options, see *User Options* in this manual.

Operating Instructions for ASE7000, ASE9000, RC17S, RC17SD2, RC17SED, RC22S, RC22S3, RC25S, RC27S, RC30S

Microwave Cooking

Microwave cooking uses high frequency energy waves to heat the food. When cooking, microwave energy causes food molecules to move rapidly. This rapid movement between the food molecules creates heat, which cooks the food. POWER displays when oven is generating microwave energy for the current cycle.

The microwave stopped cooking

This series of microwaves has the added feature of a mid-cycle cooking pause. This feature is designed to stop halfway through a programmed cycle. This pause can be used to rotate food, stir food, or add needed ingredients during the cooking cycle. During a mid-cycle cooking pause, the microwave beeps continuously and PAUS displays until the oven door is opened and again closed. To continue the cooking cycle, simply press the start button.

Manual Time Entry

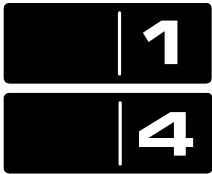
To cook food using a specific entered time and power level.

1. Open oven door and place food in oven. Close door.
 - **READY** displays. Fan and light will turn on.
 - **ITEM** flashes when keyboard can be set.
2. Press TIME ENTRY pad.
 - **00:00** displays.
 - **STG** displays with current cooking stage.
 - If pad does not work, open and close oven door and try again.
3. Enter cooking time by using the numbered pads.
4. Press POWER LEVEL pad to change power level.
 - **COOK LEVEL** displays with the current power setting.
 - If power level is set to high **H** displays.
 - For a lower microwave power, press pads 1 (for 10%) through 9 (for 90%).
5. If stage cooking is desired, press STAGE and repeat steps 2 through 4.
 - As many as 4 different stages can be programmed.
6. Press START pad.
 - Oven operates and time counts down.
 - **POWER, COOK LEVEL** and cooking time display.
7. At end of cooking cycle oven beeps and shuts off. **Done** displays.

Preprogrammed Pads

To cook food using pads preprogrammed with cooking sequences.

1. Open oven door and place food in oven. Close door.
 - **READY** displays. Fan and light will turn on.
 - **ITEM** flashes when keyboard can be set.
2. Press desired pad.
 - For single pad entry, press only one pad.
 - For double pad entry, press the two pads, in order, of the double digit number for the desired cooking sequence.
 - To change single or double pad entry option see *User Options* section in this manual.
3. Oven begins to cook.
 - **POWER, COOK LEVEL** and total cooking time display as set for that pad.
 - For additional cooking time, press preprogrammed pad again.
4. At end of cooking cycle oven beeps and shuts off. **Done** displays.



Factory Settings

Pad	Time	Pad	Time
1	10 sec.	6	1:30 min.
2	20 sec.	7	2 min.
3	30 sec.	8	3 min.
4	45 sec.	9	4 min.
5	1 min.	0	5 min.

Operating Instructions for ASE7000, ASE9000, RC17S, RC17SD2, RC17SED, RC22S, RC22S3, RC25S, RC27S, RC30S

Programming Pads

Oven is shipped from the factory set for single pad programming. To change the oven default to double pad programming, see *User Option* section. To program the amount of time or power level setting for a pad:

1. **ITEM** must flash in display.
2. Press PROGRAM SAVE.
 - Programming mode begins.
 - **Pro9** displays.
 - Oven is in programming mode.
3. Press pad to be programmed or reprogrammed.
 - Display will change to review all settings for the pad.
 - The pad number that is being programmed displays below the word **ITEM**.
4. Press TIME ENTRY to program amount of cooking time.
 - Enter desired cooking time by using numeric key pads.
 - Maximum cooking time is 60 minutes.
5. Press POWER LEVEL to program level of microwave power.
 - Press POWER LEVEL again to set to **H** (High).
 - For a lower microwave power, press pads 1 (for 10%) through 9 (for 90%).
6. Press Quantity pad if different cooking factor is desired.
 - Default of CF:80 displays.
 - Enter desired cooking factor by using numeric key pads (1 for 10% through 0 for 100%).
7. Press PROGRAM SAVE to save the program changes.
8. To discard changes, press STOP/RESET.

Programming Multiple Stages

Stage cooking allows consecutive cooking cycles without interruption. Up to four different cooking cycles can be programmed into a memory pad.

To use stage cooking:

1. Follow steps 1 through 5 above.
6. Press STAGE.
 - This will begin programming for the next cooking stage.
 - Display indicates stage to be programmed.
 - Enter cook time and power level as in steps 4 and 5.
 - To enter another cooking stage for that pad, press STAGE pad again.
 - Up to four different stages can be programmed.
 - Total cooking time (all stages totaled) is 60 minutes.
7. Press Quantity pad.
 - CF:80 displays.
 - Enter desired cooking factor by using numeric key pads (1 for 10% through 0 for 100%).
8. Press PROGRAM SAVE to save the program and changes.
9. To discard changes, press STOP/RESET before pressing PROGRAM SAVE.

STAGE

What is stage cooking?

Stage cooking enables several different cooking cycles, or stages, to be used consecutively without repeated input from the user. Stage cooking can be set to defrost food initially, then cook it, and then keep the food warm until serving time. The total cooking time for all combined stages cannot exceed 60 minutes.

Example of Stage Cooking Conditions

	Stage 1	Stage 2	Stage 3
Power	H (high)	3	9
Time	2:30	1:30	1:30

What is a quantity cook factor?

Each preprogrammed cooking cycle can be set with a specific cooking factor. The cooking factor is the amount of extra time added as a percentage of the original time. Each time the quantity pad is pressed, the cooking time will be increased by the user-specified percentage. Amana's default cooking factor is 80%.

Mid-Cycle Pause

To add a pause to a programmed cooking cycle

1. Press HIDDEN PAD after entering time or power level.
2. **LMT** displays. This indicates the program is set for a mid-cycle pause.
3. Continue programming pad as desired.

When programmed pad is used, pause will occur in the middle of total programmed time. Oven will beep continuously and **PAUS** displays until door is open and shut. To continue cycle, press START pad.

Operating Instructions for ASE7000, ASE9000, RC17S, RC17SD2, RC17SED, RC22S, RC22S3, RC25S, RC27S, RC30S

User Options



COMMERCIAL

HIDDEN
PAD

QUANTITY

TIME
ENTRY

Didn't like an option?

Factory settings are marked in bold.
To change the oven back to the factory setting, simply select the option that is marked in bold.

My changes weren't saved.

In order for any changes to be saved, the PROGRAM SAVE pad must be pressed after selecting an option. Pressing the STOP/RESET pad will not save changes.

Changing user options

Options such as single or double pad programming and beep volume can be changed to suit individual preferences.

To change options READY must display without ITEM:

1. Press hidden pad.
 - Pad is unmarked.
 - Nothing will be displayed when hidden pad is pressed.
2. Press PROGRAM SAVE pad.
 - **OP:--** displays. Oven is now in options mode.
3. Press number pad that controls option to be changed.
 - See table below for options.
 - Current option will display.
4. Press number pad again to change the option.
 - Each time pad is pressed, option will change.
 - Match code displayed with code for desired option.
5. Press PROGRAM SAVE pad to save changes.
 - To change additional options, repeat steps 3 and 4.
 - Changes take affect after PROGRAM SAVE pad is pressed.
 - Press STOP/RESET to return to READY, or open and close oven door.

Numbered Pads	Display	Options (Factory Settings in Bold)
1 Preprogrammed Pads	OP:10	Allows 10 (0-9) preprogrammed pads.
	OP:11	Allows 100 (00-99) preprogrammed pads.
2 Manual Time Entry	OP:20	Manual time entry/cooking not allowed, reprogramming pads not allowed
	OP:21	Manual time entry/cooking allowed, reprogramming pads allowed
3 Reset to READY mode	OP:30	Opening oven door does not reset oven back to ready mode
	OP:31	Opening oven door resets the oven back to ready mode
4 Keybeep	OP:40	Keys do not beep when pressed (keybeep off)
	OP:41	Keys beep when pressed (keybeep on)
5 Keybeep Volume	OP:50	Keybeep volume OFF
	OP:51	Keybeep volume low
	OP:52	Keybeep volume medium
	OP:53	Keybeep volume high
6 Food Done Signal	OP:60	Food done signal is a continuous beep until reset by user
	OP:61	Food done signal is a three second beep
	OP:62	Food done signal is four beeps, continuously
	OP:63	Food done signal is four beeps, four times
7 Keypad Time Entry	OP:70	Keypad time entry window is 15 seconds
	OP:71	Keypad time entry window is 30 seconds
	OP:72	Keypad time entry window is one minute
	OP:73	Keypad time entry window is two minutes

Operating Instructions for DQ22HSI

Display and Features

? There are words in the display that never actually display.

The display is used for many different models of microwaves. Depending on the model, certain words or symbols may never be highlighted or become visible.

Cooking Display

DISPLAYS	DESCRIPTION
00:00	Displays cooking time. If stage cooking is programmed, total cooking time is displayed.
COOK LEVEL	COOK LEVEL displays the current microwave power level. 100 is the highest setting (full power), and 0 is lowest (no microwave energy used).
ITEM	ITEM displays the single or double digit entry of a programmed cooking condition when using a programmed pad. ITEM also flashes when a cooking condition can be started or programmed.
STG	STG displays with a single number. This is the stage the oven is at in the cooking condition.
READY	READY displays when oven is ready to use.
POWER	POWER displays during active microwave generation in the oven. POWER will not display when power setting is at 0; and POWER will turn on and off when microwave energy is set at less than 100% (full power).
QTY	Displays when the Quantity pad has been used.

Programming Display

DISPLAYS	DESCRIPTION
P _{ro9}	Displays when oven is in programming mode for single pad or double pad memory.
OP: --	Displays when oven is in user option mode. User options can then be set or specified.
STG	Displays stage number during cooking or when programming a specific cooking stage. Stage number (1 through 4) indicates the stage that is being used.

Operating Instructions for DQ22HSI

Display and Features



Double Pad Programming

This feature enables 100 programmed entries to be made. Using double pad programming with the menu option increases the number of entries possible to a total of 400. Each entry will be assigned a double digit number, for example 11, 21, or 83. When using the double pad programming, two pads must be pressed to start the cooking cycle.

NOTE: Your Dairy Queen® boosting oven is pre-programmed at the factory for double pad programming. All the necessary codes, except bulk heating times for BBQ, are entered. The BBQ heating times will vary depending on your supplier of BBQ.



Manual Time Entry

In addition to programmable pads, this microwave also accepts specific time entry by using the TIME ENTRY pad. Using manual time entry does not affect the programmed buttons.



Quantity Pad

The quantity pad increases the cooking time depending upon how many items are placed in the oven. The user specifies the amount of items placed in the oven after entering the product code. Once pressed QTY will display along with the number of items in the oven.

STG Stage Cooking

1 Stage cooking is a cooking sequence with specific power stage changes. The user can program up to four different power level changes and the specific amount of cooking time at each power level. Each power level/cooking time combination is known as a stage. Up to four stages can be programmed.

OP:-- User Options

This microwave can be set for specific user preferences. Options such as beep volume, and the number of programmable pads can be changed. To change different options, see *User Options* in this manual.



START Pad

The start pad is used to begin a manual time entry cooking cycle.



STOP/RESET pad

The STOP/RESET pad stops a cooking sequence in progress, clears out any remaining time, and also ends a programming or user option cycle. When the STOP/RESET pad is used to end a programming or option change, the changes are discarded.



MENU Pad

The menu pad allows four different menus to be used. Each menu allows 100 different items to be programmed. By using menu pads the total number of possible programs increases from 100 to 400. Dairy Queen® is menu 1. Texas County Foods® is menu 4.

Operating Instructions for DQ22HSI

Microwave Cooking

Microwave cooking uses high frequency energy waves to heat the food. When cooking, microwave energy causes food molecules to move rapidly. This rapid movement between the food molecules creates heat, which cooks the food. **POWER** displays when oven is generating microwave energy for the current cycle.

Manual Time Entry

To cook food using a specific entered time and power level.

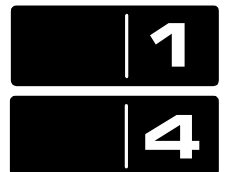
1. Open oven door and place food in oven. Close door.
 - **READY** displays. Fan and light will turn on.
 - **ITEM** flashes when keyboard can be set.
2. Press **TIME ENTRY** pad.
 - **0000** displays.
 - **STG** displays with current cooking stage.
 - If pad does not work, open and close oven door and try again.
3. Enter cooking time by using the numbered pads.
4. Press **POWER LEVEL** pad to change power level.
 - **COOK LEVEL** displays with the current power setting.
 - If power level is set to high **H** displays.
 - For a lower microwave power, press pads 1 (for 10%) through 9 (for 90%).
5. If stage cooking is desired, press **STAGE** and repeat steps 2 through 4.
 - As many as 4 different stages can be programmed.
6. Press **START** pad.
 - Oven operates and time counts down.
 - **POWER**, **COOK LEVEL** and cooking time display.
7. At end of cooking cycle oven beeps and shuts off. **done** displays.

Preprogrammed Pads

To cook food using pads preprogrammed with cooking sequences. All pads come preprogrammed from the Amana factory.

NOTE: Your Dairy Queen® boosting oven is pre-programmed at the factory for double pad programming. All the necessary codes, except bulk heating times for BBQ, are entered. The BBQ heating times will vary depending on your supplier of BBQ.

1. Open oven door and place food in oven. Close door.
 - **READY** displays. Fan and light will turn on.
 - **ITEM** flashes when keyboard can be set.
2. Press desired pads.
3. **QTY** displays.
 - Enter quantity to cook.
4. Oven begins to cook.
 - **POWER**, **COOK LEVEL** and total cooking time display as set for that pad.
 - For additional cooking time, press preprogrammed pad again.
5. At end of cooking cycle oven beeps and shuts off. **done** displays.



Operating Instructions for DQ22HSI

Programming Pads

Oven is shipped from the factory set for double pad programming. To program the amount of time or power level setting for a pad:

1. Press MENU button until desired menu number displays.
2. **ITEM** must flash in display.
3. Press PROGRAM SAVE.
 - Programming mode begins.
 - **Pro9** displays.
 - Oven is in programming mode.
4. Press pads to be programmed or reprogrammed.
 - Display will change to review all settings for the pad.
 - The pad number that is being programmed displays below the word **ITEM**.
5. Press TIME ENTRY to program amount of cooking time.
 - Enter desired cooking time by using numeric key pads.
 - Maximum cooking time is 60 minutes.
6. Press POWER LEVEL to program level of microwave power.
 - Press POWER LEVEL again to set to **H** (High).
 - For a lower microwave power, press pads 1 (for 10%) through 9 (for 90%).
7. Press PROGRAM SAVE to save the program changes.
8. To discard changes, press STOP/RESET.

What is stage cooking?

STAGE

Stage cooking enables several different cooking cycles, or

stages, to be used consecutively without repeated input from the user. Stage cooking can be set to defrost food initially, then cook it, and then keep the food warm until serving time. The total cooking time for all combined stages cannot exceed 60 minutes.

Stage cooking is usually used for bulk heating of products such as BBQ.

Example of Stage Cooking Conditions

	Stage 1	Stage 2	Stage 3
Power	H (high)	3	9
Time	2:30	1:30	1:30

Programming Multiple Stages

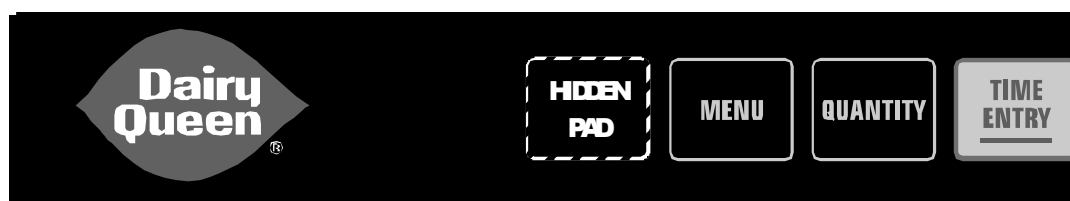
Stage cooking allows consecutive cooking cycles without interruption. Up to four different cooking cycles can be programmed into a memory pad.

To use stage cooking:

1. Follow steps 1 through 6 above.
7. Press STAGE.
 - This will begin programming for the next cooking stage.
 - Display indicates stage to be programmed.
 - Enter cook time and power level as in steps 4 and 5.
 - To enter another cooking stage for that pad, press STAGE pad again.
 - Up to four different stages can be programmed.
 - Total cooking time (all stages totalled) is 60 minutes.
8. Press PROGRAM SAVE to save the program and changes.
9. To discard changes, press STOP/RESET before pressing PROGRAM SAVE.

Operating Instructions for DQ22HSI

User Options



Didn't like an option?

Factory settings are marked in bold.
To change the oven back to the factory setting, simply select the option that is marked in bold.

My changes weren't saved.

In order for any changes to be saved, the PROGRAM SAVE pad must be pressed after selecting an option. Pressing the STOP/RESET pad will not save changes.

Changing user options

Options such as single or double pad programming, beep volume, and maximum cooking time can be changed to suit individual preferences.

To change options READY must display without ITEM:

1. Press hidden pad.
 - Pad is unmarked.
 - Nothing will be displayed when hidden pad is pressed.
2. Press PROGRAM SAVE pad.
 - **OP:** displays. Oven is now in options mode.
3. Press number pad that controls option to be changed.
 - See table below for options.
 - Current option will display.
4. Press number pad again to change the option.
 - Each time pad is pressed, option will change.
 - Match code displayed with code for desired option.
5. Press PROGRAM SAVE pad to save changes.
 - To change additional options, repeat steps 3 and 4.
 - Changes take affect after PROGRAM SAVE pad is pressed.
 - Press STOP/RESET to return to READY, or open and close oven door.

Numbered Pads	Display	Options (Factory Settings in Bold)
1 Preprogrammed Pads	OP:10	Allows 10 (0-9) preprogrammed pads.
	OP:11	Allows 100 (00-99) preprogrammed pads.
2 Manual Time Entry	OP:20	Manual time entry/cooking not allowed, reprogramming pads not allowed.
	OP:21	Manual time entry/cooking allowed, reprogramming pads allowed.
3 Reset to READY mode	OP:30	Opening oven door does not reset oven back to ready mode.
	OP:31	Opening oven door resets the oven back to ready mode.
4 Keybeep	OP:40	Keys do not beep when pressed (keybeep off).
	OP:41	Keys beep when pressed (keybeep on).
5 Keybeep Volume	OP:50	Keybeep volume OFF.
	OP:51	Keybeep volume low.
	OP:52	Keybeep volume medium.
	OP:53	Keybeep volume high.
6 Food Done Signal	OP:60	Food done signal is a continuous beep until reset by user.
	OP:61	Food done signal is a three second beep.
	OP:62	Food done signal is four beeps, continuous.
	OP:63	Food done signal is four beeps, four times.
7 Keypad Time Entry	OP:70	Keypad time entry window is 15 seconds.
	OP:71	Keypad time entry window is 30 seconds.
	OP:72	Keypad time entry window is one minute.
	OP:73	Keypad time entry window is two minutes.

Operating Instructions for MC23MP, MC23MPT, MC23MPT2

Equipment Set-Up and Close Procedures



WARNING

To avoid risk of electrical shock, severe personal injury or death, do not remove outer case at any time. Only authorized servicer should remove outer case.

Introduction

This Amana oven uses microwave technology to restore heat that is lost during the assembly of menu items. This unit may also be used in preparation of specific ingredients or components of a menu item.

Each unit is equipped with pre-programmed control panel allowing the crew person to begin the heating process based on menu item and quantity.

Hazard Communication Standard—The procedure(s) in this chapter may include the use of chemical products. These chemical products will be highlighted with **bold** face letters followed by abbreviation (**HCS**). See Hazard Communication Standard (**HCS**) Manual for appropriate Material Safety Data Sheets (**MSDS**).

Do Not Operate the Unit When Empty

When operating oven, be sure there is absorbing material (food, water) inside oven. Insufficient or improper food loads may cause magnetron(s) to overheat. Using metal containers may also cause the magnetron to overheat. When magnetrons do overheat, the thermal switch will turn the oven off to allow the magnetron to cool. Several minutes will elapse before the switch resets and allows the oven to operate.

Do Not Put Excessive Weight on Door

The oven door is NOT designed to hold excessive weight. Additional weight placed on door can cause it to become misaligned. This will result in improper oven operation.

Open

1. Verify all units are plugged into properly grounded and polarized outlets.
2. Open and close door to unit. Blower fan will start and control panel will display active menu item. Press menu pad until **m1** displays, indicating the breakfast category.



CAUTION

To avoid risk of property damage, do not use abrasive cleaners or cleaners containing ammonia. They might damage the finish. Never pour water into the bottom of oven.

Transition

At transition, be certain to change menu category by pressing desired menu pad. Units will remain in this category until **CLOSE**.

Close

1. With clean sanitized towel dipped in **McD Sanitizer (HCS)**, thoroughly wipe inside walls, floor, door and splatter shield at top of oven. Be sure to “wring” sponge or cloth to remove excess water before wiping out unit. Water pressure type cleaning systems **should not** be used to clean oven interior or exterior. If stubborn splatters exist on walls, one cup of tap water can be boiled in the oven for 1 - 2 minutes. Use your Amana wattage beaker for this procedure. Steam from boiling water will help loosen splatters.
2. Wipe exterior with clean sanitized towel soaked in **McD Sanitizer (HCS)**. Allow oven to air dry.
3. Close door after cleaning, and press appropriate menu pad for breakfast category. Unit is ready for **OPEN**.

Operating Instructions for MC23MP, MC23MPT, MC23MPT2



Cooking Display

DISPLAYS	DESCRIPTION
00:00	Displays cooking time. If stage cooking is programmed, total cooking time is displayed.
COOK LEVEL	COOK LEVEL displays the current microwave power level. 100% is the highest setting (full power), and 0% is lowest (no microwave energy used).
ITEM	ITEM displays the double digit entry of a programmed menu item when using a programmed pad. ITEM also flashes when a menu item can be started or programmed.
STG	STG displays with a single number. This is the stage the oven is at in the menu item cycle.
READY	READY displays when oven is ready to use.
POWER	POWER displays during active microwave generation in the oven. POWER will not display when power setting is at 0; and POWER will turn on and off when microwave energy is set at less than 100% (full power).
QTY	Displays when quantity needs to be entered.

Programming Display

DISPLAYS	DESCRIPTION
Pro9	Displays when oven is in programming mode for single pad or double pad memory.
OP: --	Displays when oven is in user option mode. User options can then be set or specified.
STG	Displays stage number during cooking or when programming a specific cooking stage. Stage number (1 through 4) indicates the stage that is being used.

The Control Panel

1 Numbers (1-0)

Select desired menu item and quantity program for preset programs. Numbers are also used to enter cooking times during programming mode. **Press directly on digit to activate number pads.**



Use to scroll through independent cooking programs (1-4).

TIME ENTRY Time Entry

Use to program times not in oven memory. Time entry overrides preset times.

POWER LEVEL Power Level

Selects power level. If no power level is selected, oven operates at 100 % power.

STAGE Stage Pad

Stage cooking is a cooking sequence with specific power stage changes. Each power level/cooking time combination is known as a stage. Up to four stages can be programmed.

PROGRAM SAVE Program Save

Saves programming changes to permanent memory.

Operating Instructions for MC23MP, MC23MPT, MC23MPT2

Summary of Manual Override

1. Open oven door and place food in oven.
2. Close oven door.
3. Press TIME ENTRY pad.
4. Enter desired cooking time.

If 100% power is desired, proceed to step 7.

5. Press POWER LEVEL pad.
6. Enter desired power level.
7. Press START pad.
8. At the end of cycle, open oven door and remove food.

Operating Notes

If door is opened during heating process, Q-ing energy ceases. Blower continues to operate. Close door and press START to continue oven operation and countdown timing. If RESET is pressed once while oven is operating Q-ing energy ceases, but countdown time remains in display. Press START to continue oven operation and countdown timing. If RESET is pressed twice, oven stops and current program cancels.

When unit is plugged in or repowered after the loss of electricity, it will take several seconds before dashes and menu indicator display. Once displayed, unit is operational.

Summary of Operating Preprogrammed Items

1. Open oven door and place food in oven.
2. Close oven door.
3. Press desired menu, if different from menu displaying.
4. Press two numbers representing menu item.
5. Press number pad to enter quantity.
6. Allow cooking time to expire.
7. At end of cycle, open oven door and remove food.

Manual Time Entry

To cook food using a specific entered time and power level.

1. Open oven door and place food in oven. Close door.
 - **READY** displays. Fan and light will turn on.
 - **ITEM** flashes when keypad accepts entries.
2. Press TIME ENTRY pad.
 - **00:00** displays.
 - **STG** displays with current cooking stage.
 - If pad does not work, open and close oven door and try again.
3. Enter cooking time by using the numbered pads.
4. Press POWER LEVEL pad to change power level if desired..
 - **COOK LEVEL** displays with the current power setting.
 - If power level is set to high **H** displays.
 - For a lower microwave power, press pads 1 (for 10%) through 9 (for 90%).
5. If stage cooking is desired, press STAGE pad and repeat steps 2 through 4.
 - Up to 4 different stages can be programmed.
6. Press START pad.
 - Oven operates and time counts down.
 - **POWER, COOK LEVEL** and cooking time display.
7. At end of cooking cycle oven beeps and shuts off. **Done** displays.

TIME
ENTRY

POWER
LEVEL

STAGE

START
1

Preprogrammed Items

1. Open oven door and place food in oven. Close door.
 - **READY** displays. Fan and light will turn on.
 - **ITEM** flashes when keypad accepts entries.
2. Press desired pads.
 - Press the two pads, in order, of the double digit number for the menu item.
3. Press number pad to enter quantity.
4. Oven begins to cook.
 - **POWER, COOK LEVEL** and total cooking time display as set for that pad.
5. At end of cooking cycle oven beeps and shuts off. **Done** displays.

1

4

Operating Instructions for MC23MP, MC23MPT, MC23MPT2

Programming Items

To program the amount of time or power level setting for a pad:

1. **ITEM** must flash in display.
 - If **ITEM** is not flashing in display, open and close oven door.
2. Press PROGRAM SAVE pad.
 - Programming mode begins.
 - **Pro9** displays.
3. Press MENU pad until desired menu displays.
4. Press pads representing menu item number to be programmed.
 - Display will change to review all settings for the programmed pad.
 - The menu item number that is being programmed displays below the word **ITEM**.
5. Press number pads to enter quantity.
6. Press TIME ENTRY pad to program amount of cooking time.
 - Enter desired cooking time by using numeric key pads.
 - Maximum cooking time is 60 minutes.
7. Press POWER LEVEL pad to program level of microwave power if desired.
 - Press POWER LEVEL pad again to set to **H** (High).
 - For a lower microwave power, press pads 1 (for 10%) through 9 (for 90%).
8. Press PROGRAM SAVE pad to save the program changes.

NOTE: To discard changes, press STOP/RESET pad.

PROGRAM
SAVE

1 BREAKFAST
2 REG MENU
3 PREP
4 MISC

MENU

TIME
ENTRY

POWER
LEVEL

PROGRAM
SAVE

Summary of Changing Preset Menu Items

1. ITEM must flash in display.
2. Press PROGRAM SAVE pad.
3. Press menu pad until desired menu displays.
4. Press two numbers representing menu item number.
5. Press number pads to enter quantity.
6. Press number pads to enter desired cooking time. If 100% power is desired, proceed to step 9.
7. Press POWER LEVEL pad.
8. Press number pad to enter desired power level.
9. Press PROGRAM SAVE pad.
10. Repeat steps 4 - 9 until all quantities and heating times have been entered.
11. Press STOP/RESET pad.

Programming Multiple Stages

Stage cooking allows consecutive cooking cycles without interruption. Up to **four** different cooking cycles can be programmed into a memory pad.

To use stage cooking:

1. Follow steps 1 through 7 above.
8. Press STAGE pad.
 - This will begin programming for the next cooking stage.
 - Display indicates stage to be programmed.
9. Enter cook time and power level as in steps 5 and 6 above.
10. Press STAGE pad again to enter another cooking stage for that pad.
 - Total cooking time (all stages totalled) is 60 minutes.
11. Press PROGRAM SAVE pad to save the program and changes.

NOTE: To discard changes, press STOP/RESET pad before pressing PROGRAM SAVE pad.

STAGE

PROGRAM
SAVE

Operating Instructions for MC23MP, MC23MPT, MC23MPT2

User Options



Change an option too soon?

Factory settings are marked in bold.

To change the oven back to the factory setting, simply select the option that is marked in bold.

How do I save changes?

In order for any changes to be saved, the PROGRAM SAVE pad must be pressed after selecting an option.

NOTE: Pressing the STOP/RESET pad will not save changes.

Changing user options

Options such as single or double pad programming and beep volume can be changed.

To change options READY must display without ITEM:

1. Press menu list.
 - Nothing will be displayed when menu list is pressed.
2. Press PROGRAM SAVE pad.
 - **OP**: displays. Oven is now in options mode.
3. Press number pad that controls option to be changed.
 - See table below for options.
 - Current option will display.
4. Press number pad again to change the option.
 - Each time pad is pressed, option will change.
 - Match code displayed with code for desired option.
5. Press PROGRAM SAVE pad to save changes.
 - To change additional options, repeat steps 3 and 4.
 - Changes take affect after PROGRAM SAVE pad is pressed.
6. Press STOP/RESET pad or open and close oven door to return to READY condition.

Numbered Pads	Display	Options (Factory Settings in Bold)
1 Preprogrammed Pads	OP:10 OP:11	Allows 10 (0-9) preprogrammed pads. Allows 100 (00-99) preprogrammed pads.
2 Manual Time Entry	OP:20 OP:21	Manual time entry/cooking not allowed, reprogramming pads not allowed. Manual time entry/cooking allowed, reprogramming pads allowed.
3 Reset to READY mode	OP:30 OP:31	Opening oven door does not reset oven back to ready mode. Opening oven door resets the oven back to ready mode.
4 Keybeep	OP:40 OP:41	Keys do not beep when pressed (keybeep off). Keys beep when pressed (keybeep on).
5 Keybeep Volume	OP:50 OP:51 OP:52 OP:53	Keybeep volume OFF. Keybeep volume low. Keybeep volume medium. Keybeep volume high.
6 Food Done Signal	OP:60 OP:61 OP:62 OP:63	Food done signal is a continuous beep until reset by user. Food done signal is a three second beep. Food done signal is four beeps, one time only. Food done signal is four beeps, four times.
7 Keypad Time Entry	OP:70 OP:71 OP:72 OP:73	Keypad time entry window is 15 seconds. Keypad time entry window is 30 seconds. Keypad time entry window is one minute. Keypad time entry window is two minutes.