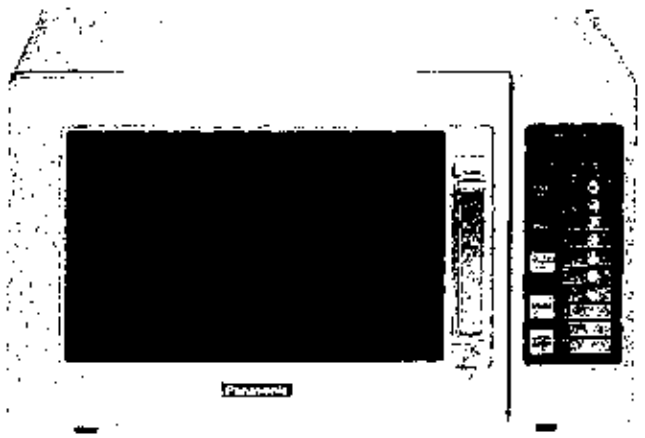
ORDER NO. MMCA9609016 C1
E10

Service Manual

Commercial Microwave Oven

NE-1056A
NE-1056C



Specifications:

Power Source:	120V AC Single Phase 60Hz
Power Requirements:	1680 W (14.6 A) ••• NE-1056A; 1650 W (14.2 A) ••• NE-1056C
Output:	1000 W full power (IEC705-88)
Microwave Frequency:	2,450MHz
Timer:	99 min. 99 sec.
Outside Dimensions:	12" (H) X 20⅛" (W) X 14⅞" (D) 306mm (H) X 510mm (W) X 360mm (D)
Inside Dimensions:	8⅛" (H) X 13" (W) X 13" (D) 205mm (H) X 330mm (W) X 330mm (D)
Weight:	Approx. 37 lbs. Approx. 16.8 kg.
Output Power: IEC705-88 Test Procedure	
Specifications subject to change without notice	

Panasonic®

⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

WARNING

1. This product should be serviced only by trained qualified personnel.
2. Though this product has been manufactured in compliance with:
   "Federal Performance Standard 21 CFR Subchapter J" (D.H.H.S.): U.S.A. models
   or "Radiation Emitting Devices Act" (Health and Welfare Canada): Canadian models
   it is very important all repairs should be made in accordance with procedures described in this manual to avoid being exposed to excessive microwave radiation.
3. Check for radiation leakage before and after every servicing according to the "procedure for measuring radiation leakage".
4. If the unit cannot be repaired on site, advise the customer not to use until unit be repaired.
5. Any serviceman who learns of any accident pertaining to microwave radiation leakage including the oven operating with open door should immediately notify the appropriate address listed below and Center for Devices and Radiological Health, DHHS.

IN U.S.A. (MSC)	Matsushita Services Company 50 Meadowland Parkway, Secaucus, New Jersey 07094 Attention: Technical Service Division. (201) 348-7000	IN PUERTO RICO (PSC)	PSC San Gabriel Industrial Park 65th Infantry Ave. Km.9.5 Carolina, Puerto Rico 00985 (787)750-4300
		IN CANADA (MELCA)	Matsushita Electric of Canada Limited 5770 Ambler Drive, Mississauga, Ontario, L4W2T3 (905) 624-5010

6. There are special components used in the microwave oven which are important for safety. These parts are marked with a ⚠ on the replacement parts list. It is essential that these critical parts should be replaced only with the manufacturer's specified parts to prevent microwave leakage, shock, fire, or other hazards. Do not modify the original design.

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

(A) Do not operate or allow the oven to be operated with the door open.

(B) Make the following safety checks on all ovens to be serviced before activating the magnetron or other microwave source, and make repairs as necessary:
   (1) Interlock operation
   (2) Proper door closing
   (3) Seal and sealing surfaces (arcing, wear, and other damage)
   (4) Damage to or loosening of hinges and latches.
   (5) Evidence of dropping or abuse

(C) Before turning on microwave power for any service test or inspection within the microwave generating compartments, check the magnetron, waveguide or transmission line, and cavity for proper alignment, integrity and connections.

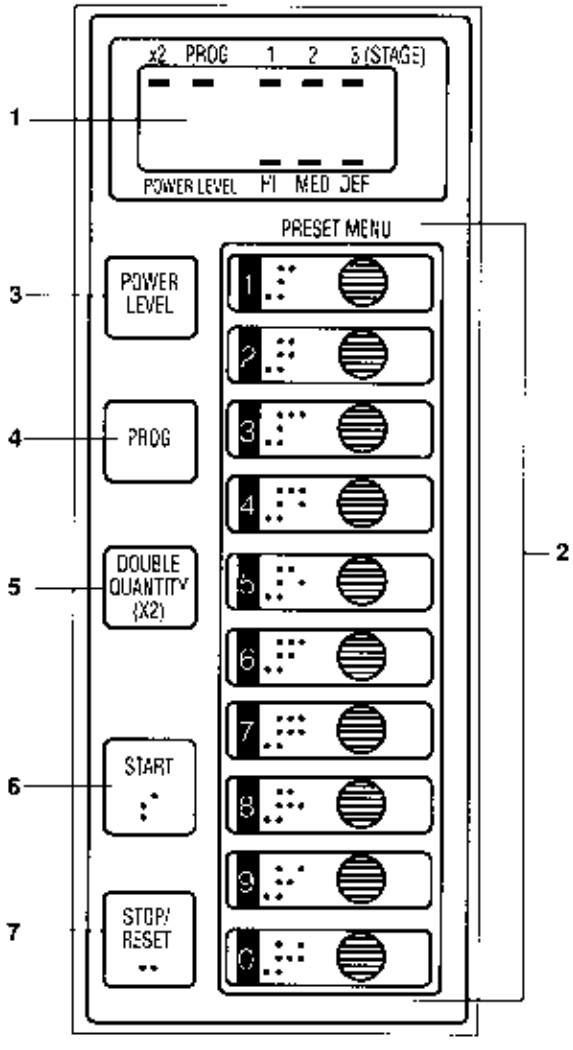
(D) Any defective or misadjusted components in the interlock, monitor, door seal, and microwave generation and transmission systems shall be repaired, replaced, or adjusted by procedures described in this manual before the oven is released to the owner.

(E) A microwave leakage check to verify compliance with the Federal Performance Standard should be performed on each oven prior to release to the owner.

CONTENTS

CONTROL PANEL

NE-1056A
NE-1056C



1 **Digital Display Window**
2 **Memory Pads**
3 **Power Level Selector Pad**
4 **Prog (Program) Pad**
5 **Double Quantity Pad (X2)**
6 **Start Pad**
7 **Stop/Reset Pad**

OPERATION PROCEDURE

1. Manual Heating for Single Stage

OPERATION	DISPLAY
1. Plug the power supply cord into wall receptacle.	
2. Open the door. Place a water load in the oven and close the door.	0
3. Press [Power Level] pad once. (Sets to HIGH power)	1 HI
4. Press [2] [0] [0] pads. (Sets to 2 minutes)	1 2 00 HI
5. Press [Start] pad. (Sets to 2 minutes)	1 1 59 HI
6. When the time is up, you hear 5 beeps. Display blinks zero.	0
7. Open the door and take out the water load. Display stops blinking.	0
8. Close the door. 1 minute later, display will return blank.	

2. Manual Heating for 2nd Stage

OPERATION	DISPLAY
1. Follow step 1 to 4 for 1st stage	1 2 00 HI
2. Press [Power Level] pad 2 times. (Sets MED power)	1 2 MED
3. Press [1] [0] [0] pads. (Sets to 1 minute)	1 2 1 00 MED
4. Press [Start] pad. Total time for both stages will be displayed.	1 2 3 00 HI MED
5. When the first stage time is up, you hear one beep sound. (2nd stage)	2 59 MED
6. When the time is up, you hear 5 beeps. Display blinks zero.	0
7. Open the door and take out the water load. Display stops blinking.	0
8. Close the door. 1 minute later, display will turn blank.	

3. Memory Setting for Single Stage Operation Oven is not in program lock mode.

OPERATION	DISPLAY
1. Press [Prog] pad. NOTE: Display must be blank to start programming.	PROG
2. Press [5] pad (Sets to memory pad 5)	When memory 5 is blank PROG 5
3. If memory was previously programmed, the pad number and the previously selected time and power level will appear in the display.	When memory was programmed e.g. high power one minute single stage PROG 1 5 PROG 1 1 00 HI
4. The pad number and Stage Heating Indicator will appear in the display again.	PROG 1 5

OPERATION	DISPLAY
5. Press Power Level pad 2 times (Sets to MED power)	PROG 1 — MED
6. Press 3, 0 pads. (Sets to 30 seconds)	PROG 1 — 30 — MED
7. Press Prog pad again.	PROG 1 — 5
8. 2 seconds later, the time and power level setting for single stage will appear in the display	PROG 1 — 30 — MED
	X2 PROG 1 — 5
9. 2 seconds later, Double Quantity Heating Indicator and then the double heating time will appear in the display.	X2 PROG 1 — 1 00 — MED
10. 2 seconds later, the display will go blank.	

4. Memory setting for 2nd stage

OPERATION	DISPLAY
1. Follow steps 1 to 4 for memory setting for single stage. (MED power, 30 seconds for 1st stage)	PROG 1 — 30 — MED
2. Press Power Level pad 3 times. (Sets defrost power for 2nd stage)	PROG 1 2 — DEF
3. Press 2, 0, 0 pad.	PROG 1 2 — 2 00 — DEF
4. Press Prog pad.	PROG 1 2 — 5

OPERATION	DISPLAY
5. 2 seconds later, the display shows your setting program	PROG 1 — 30 — MED
	PROG 2 — 2 00 — DEF
6. This indicates double cooking time. Example: This means: If you press "5", oven will operate 30 sec-MED, 2 min-DEF. If you press "X2" and "5" oven will operate 1 min-MED, 4 min-DEF.	X2 PROG 1 2 — 5
	X2 PROG 1 — 1 00 — MED
	X2 PROG 2 — 4 00 — DEF
7. After all of your programming has been completed, the display will go blank.	

5. Memory Pad Heating

OPERATION	DISPLAY
1. Plug the power supply cord into wall receptacle.	
2. Open the door. Place a water load in the oven and close the door.	0
3. Press 7 pad. (Sets for 2 minutes)	PROG 1 — 7
4. Press Start pad.	PROG 1 — 2 00 — H
5. When the time is up, you hear 5 beeps. Display blinks zero.	0

OPERATION	DISPLAY
6. Open the door and take out water load. Display stops blinking.	0
7. Close the door, display will return blank after 1 minute.	

OPERATION	DISPLAY
5. Press Prog pad again. You have completed programming the beep tone option.	PROG 2 bE EP
6. 2 seconds later, the display will return to "0".	0

6. To Read Cycle Counter

OPERATION	DISPLAY
1. Open the door and leave it open.	0
2. While pressing Stop/Reset pad, press Power Level pad. eg. 0010 means the oven has been used 1,000 times. 9999 means the oven has been used 999,900 times.	00 10
3. 2 seconds later, the display will return to "0".	0

7. To Select Beep Tone Options (ON of OFF of Beep Tone)

OPERATION	DISPLAY
1. Open the door.	0
2. Press Prog pad.	0
3. Press 0 pad.	PROG 1 bE EP
4. Press 0 pad again. (No beep tone setting)	PROG 2 bE EP

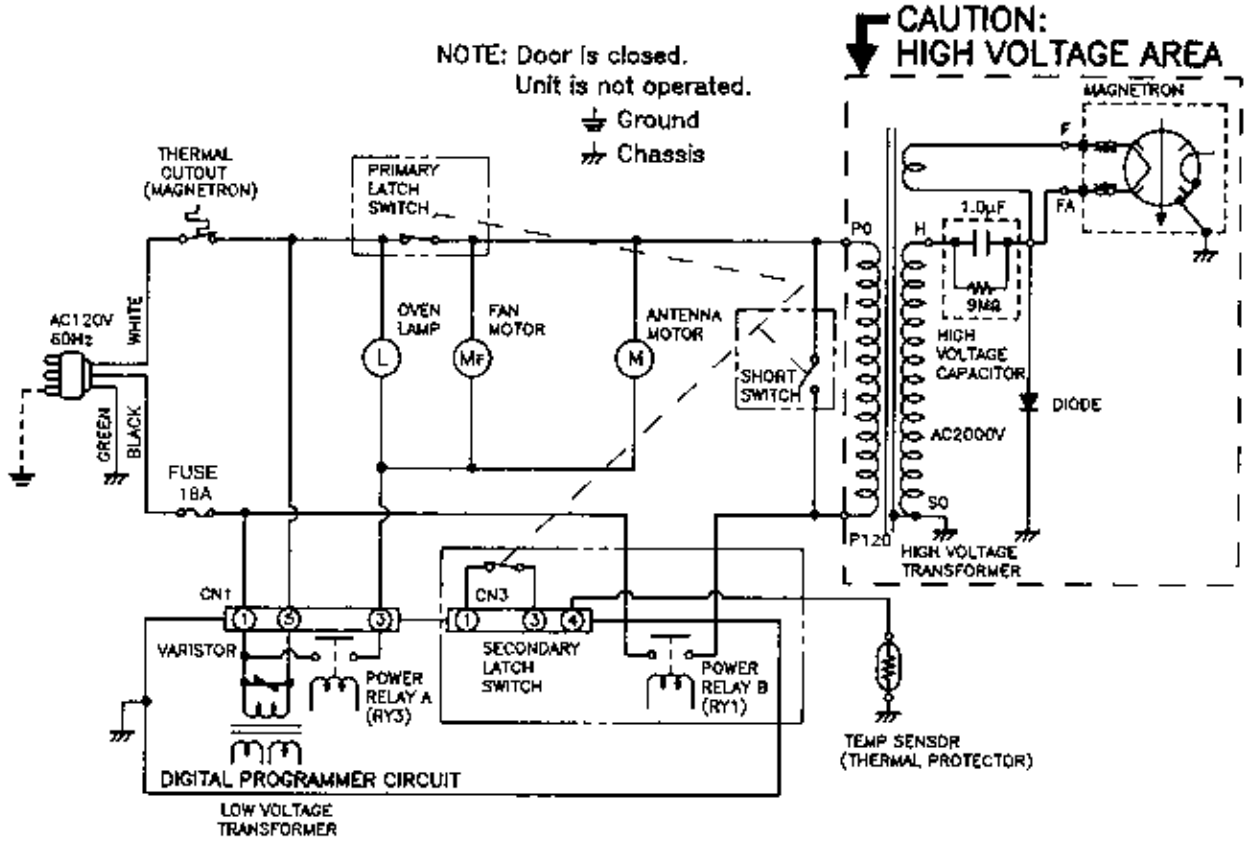
8. To Lock Program of Memory Pad

OPERATION	DISPLAY
1. Plug the power supply cord into wall receptacle. – Display must be blank –	
2. Press and hold in the Prog pad until the display shows "P" and "L". (Approximately 6 seconds) NOTE: When oven is in "program lock mode", display will not show anything and remain blank.	PROG PROG P L

9. To Release the Memory Pad Program Lock

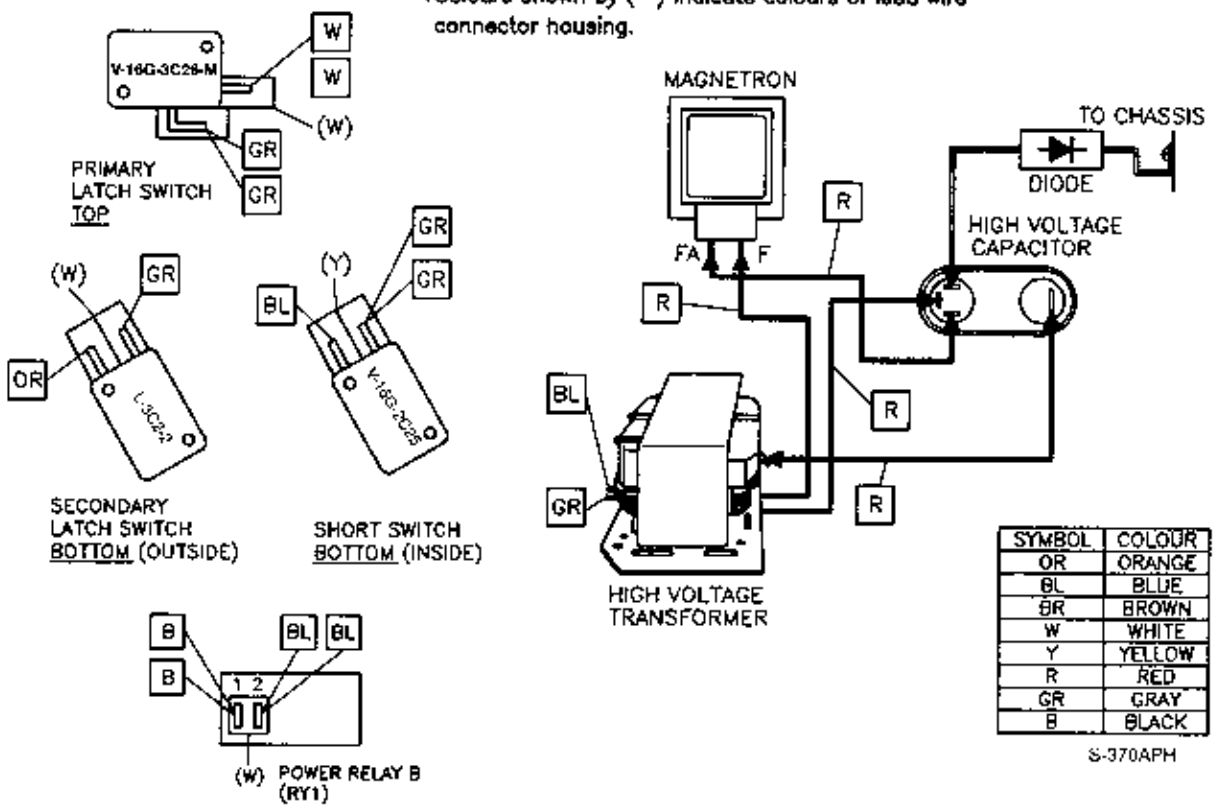
OPERATION	DISPLAY
1. Plug the power supply cord into wall receptacle.	
2. While pressing and holding the Stop/Reset pad, press and hold in the Prog pad until the display shows "P" and "L". (Approximately 6 seconds) NOTE: When oven is in "program lock mode", display will not show anything and remain blank	PROG PROG P

SCHEMATIC DIAGRAM (NE-1056A) (APH)



WIRING DIAGRAM

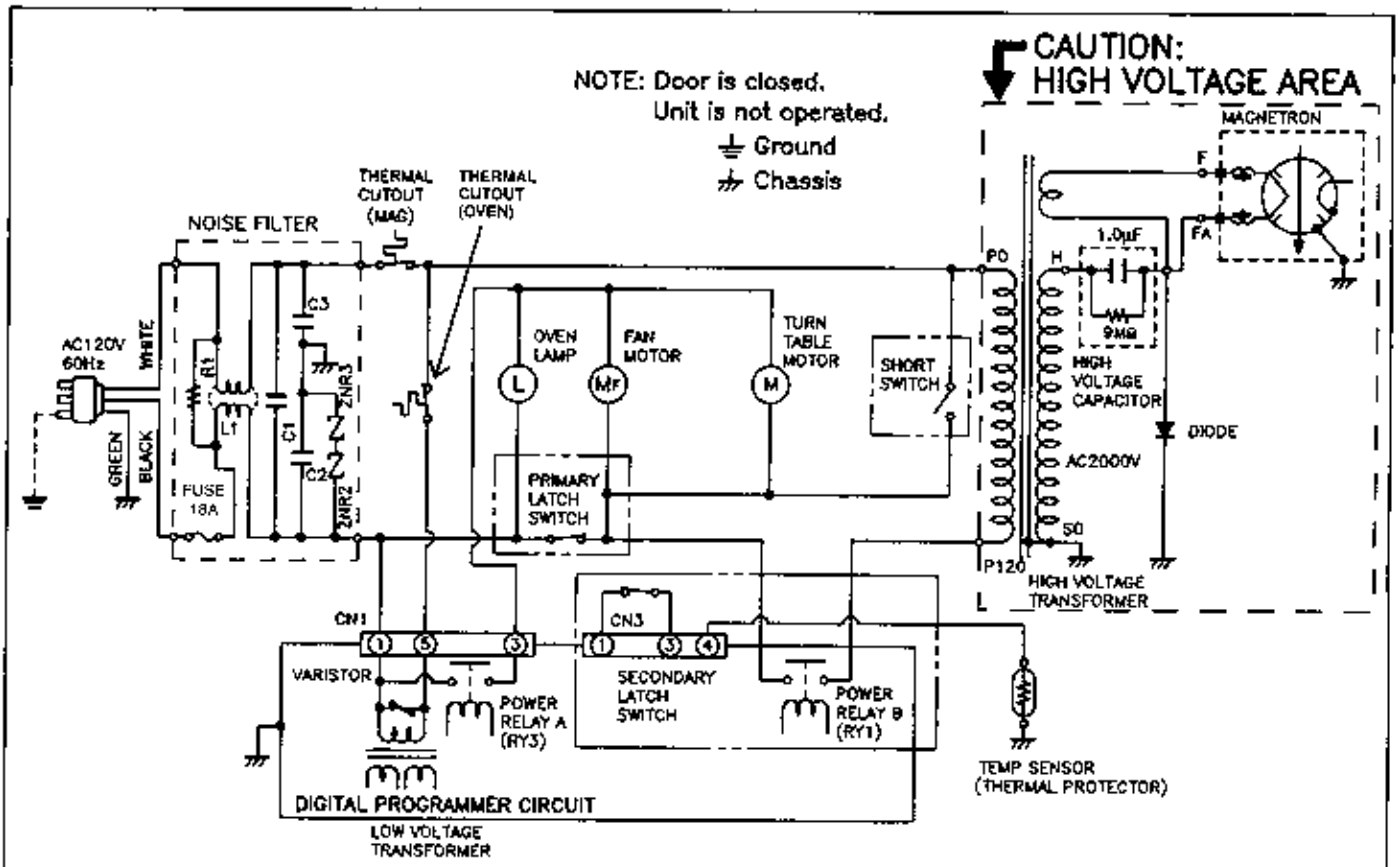
NOTE: •When replacing, check the lead wire colour as shown.
•Colours shown by ( ) indicate colours of lead wire connector housing.



SYMBOL	COLOUR
OR	ORANGE
BL	BLUE
BR	BROWN
W	WHITE
Y	YELLOW
R	RED
GR	GRAY
B	BLACK

S-370APH

SCHEMATIC DIAGRAM (NE-1056C) (CPH)



WIRING DIAGRAM

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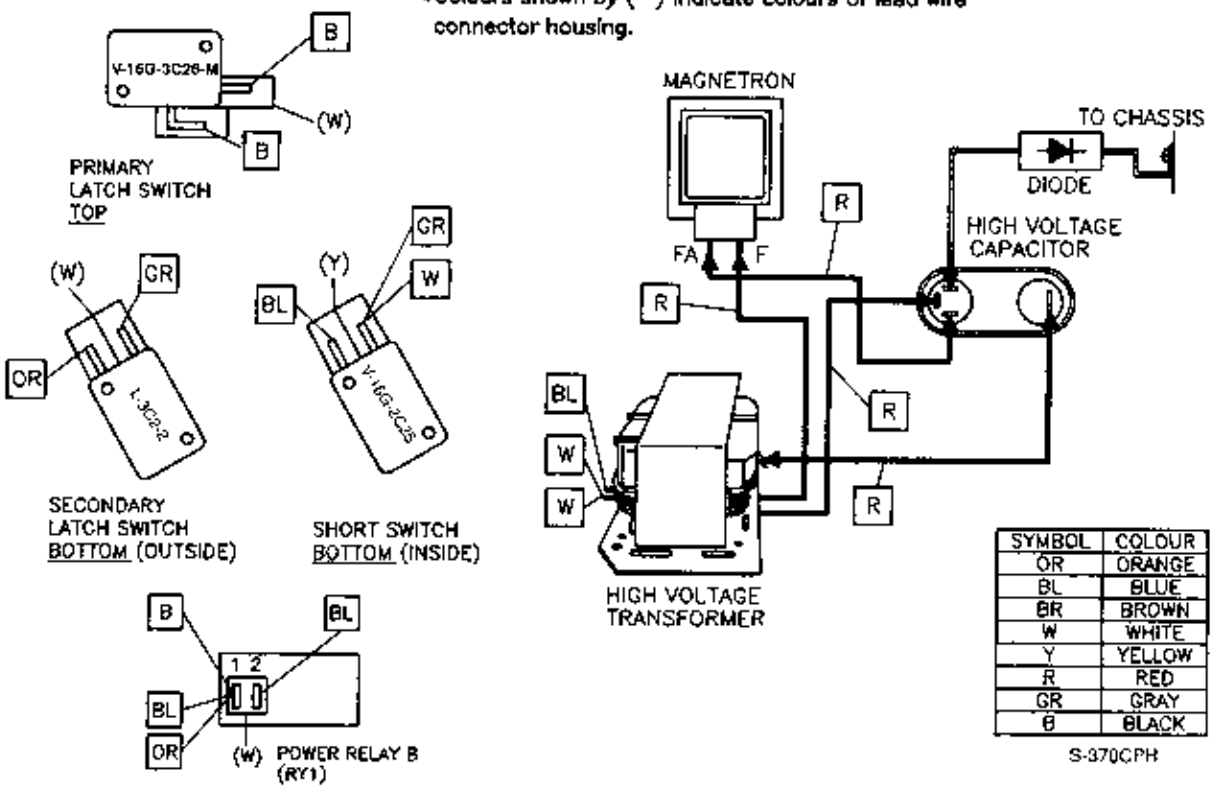


SYMBOL	COLOUR
OR	ORANGE
BL	BLUE
BR	BROWN
W	WHITE
Y	YELLOW
R	RED
GR	GRAY
B	BLACK

S-370CPH

DESCRIPTION OF OPERATING SEQUENCE

1. **Variable power cooking control**

The coil of power relay B (RY1) is energized intermittently by the digital programmer circuit, when the oven is set at any power selection except for High power position. The digital programmer circuit controls the ON-OFF time of power relay B contacts in order to vary the output power of the microwave oven from "Low" to "High" power. One companies ON and OFF cycle of power relay B is 22 seconds. The relation between indications on the control panel and the output of the microwave oven is as shown in table.

NOTE: The ON/OFF time ratio does not correspond with the percentage of microwave power since approximately 2 seconds are required for heating of magnetron filament.

POWER SETTING	*OUTPUT POWER (W) APPROX.	ON OFF TIME OF POWER RELAY B (RY1)	
		ON (SEC)	OFF (SEC)
HIGH	1000	22	0
MEDIUM	500	11	11
DEFROST	181	Cyclic Defrost	

*IEC-705-88 test procedure.
Specifications subject to change without notice

2. Cyclic defrost

When defrost power and defrosting time is selected and Start pad is touched:

(A) The digital programmer circuit (DPC) divides the total defrosting time into 8 equal periods, consisting of four defrosting periods, each followed by a standing period

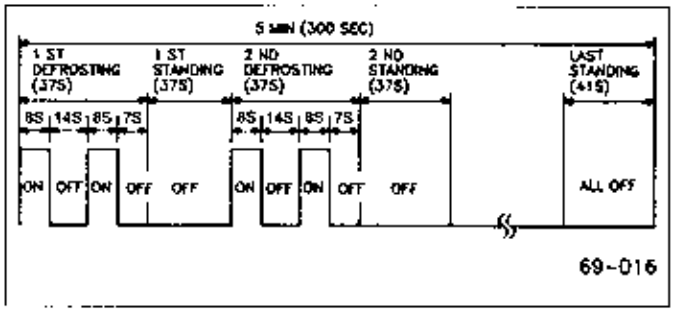
(B) During defrosting power periods, power relay B is energized for 8 seconds and de energized for 14 seconds by DPC.

(C) During Standing periods, power relay B is always open resulting in no microwave power

NOTE: Defrost time selected is converted into seconds by the DPC but display will show selected time in minutes and seconds as programmed. The total number of seconds is divided into 8 time periods. The remainder (seconds not equally divisible by 8) are added to the last standing time period.)

Example: If defosting time is selected for 5 minutes, each operating period will be as follows: (See **Figure.**)
5 minutes = 300 seconds
300/8 = 37 and remainder is 4 seconds
The 4 seconds is added to the last time period.

NOTE: When defrosting time is selected for not more than 7 seconds, the power relay B will not be energized at all.



CAUTIONS TO BE OBSERVED WHEN TROUBLESHOOTING

Unlike many other appliances, the microwave oven is high-voltage, high-current equipment. Though it is free from danger in ordinary use, extreme care should be taken during repair.

CAUTION

Servicemen should remove their watches whenever working close to or replacing the magnetron.

1. Check the grounding

Do not operate on a 2-wire extension cord. The microwave oven is designed to be used when grounded. It is imperative, therefore, to make sure it is grounded properly before beginning repair work.

2. Warning about the electric charge in the high voltage capacitor

For about 30 seconds after the oven is turned off, an electric charge remains in the high voltage capacitor.

When replacing or checking parts, remove the power plug from the outlet and short the terminal of the high voltage capacitor (terminal of lead wire from diode) to chassis ground with an insulated handle screwdriver to discharge.

WARNING

There is high-voltage present, with high-current capabilities in the circuits of the high voltage winding and filament winding of the high voltage transformer. It is extremely dangerous to work on or near these circuits with oven energized.

DO NOT measure the voltage in the high voltage circuit including filament voltage of magnetron.

WARNING

Never touch any circuit wiring with your hand nor with an insulated tool during operation.

3. When parts must be replaced, remove the power plug from the outlet.

4. When the 18 Amp fuse is blown due to the operation of short switch:

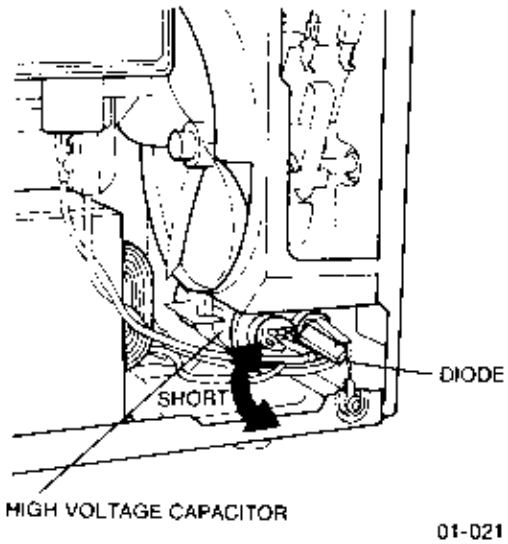
WARNING

When the 18 Amp. fuse if blown due to the operation of short switch, you must replace Primary latch switch and short switch. Also replace power relay B (RY1) when the continuity check reads shorted contacts (1-2).

(A) This is mandatory. Refer to "Adjustments and Measurement" for these switches.
(B) When replacing the fuse, confirm that it has the appropriate rating for these models.
(C) When replacing faulty switches, be sure mounting tabs are not bent, broken or otherwise deficient in their ability to hold the switches.

5. Avoid inserting nails, wire, etc. through any holes in the unit during operation.

Never insert a wire, nail or any other metal object through the lamp holes on the cavity or any other holes or gaps, because such objects may work as an antenna and cause microwave leakage.



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Touch chassis side first then short to the high voltage capacitor terminal.

6. Confirm after repair

(A) After repair or replacement of parts, make sure that the screws of the oven, etc. are neither loose nor missing.
Microwaves might leak if screws are not properly tightened.
(B) Make sure that all electrical connections are tight before inserting the plug into the wall outlet.
(C) Check for microwave energy leakage. (Refer to procedure for measuring microwave energy leakage.)

DISASSEMBLY AND PARTS REPLACEMENT PROCEDURE

1. Magnetron

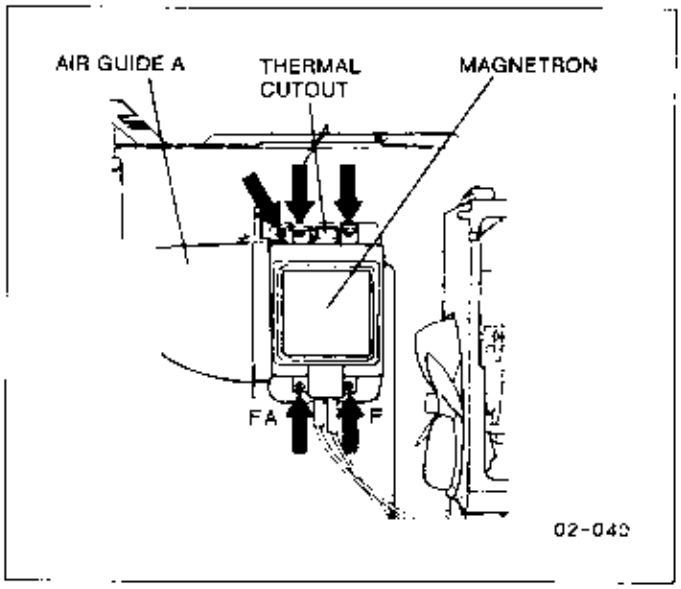
(A) Discharge the high voltage capacitor.
(B) Remove 2 screws holding magnetron thermal cutout.
(C) Remove 1 screw holding air guide A.
(D) Disconnect 2 high voltage lead wires from magnetron filament terminals.
(E) Remove 4 screws holding the magnetron.
NOTE: After replacement of the magnetron, tighten mounting screws properly making sure there is no gap between the waveguide and the magnetron to prevent microwave leakage.

CAUTION

When replacing the magnetron, be sure the antenna gasket is in place.

CAUTION

When connecting 2 filament lead wires to the magnetron terminals, be sure to connect the lead wires in the correct position. The lead wire of high voltage transformer should be connected to "F terminal" and the lead wire from high voltage capacitor should be connected to "FA terminal".



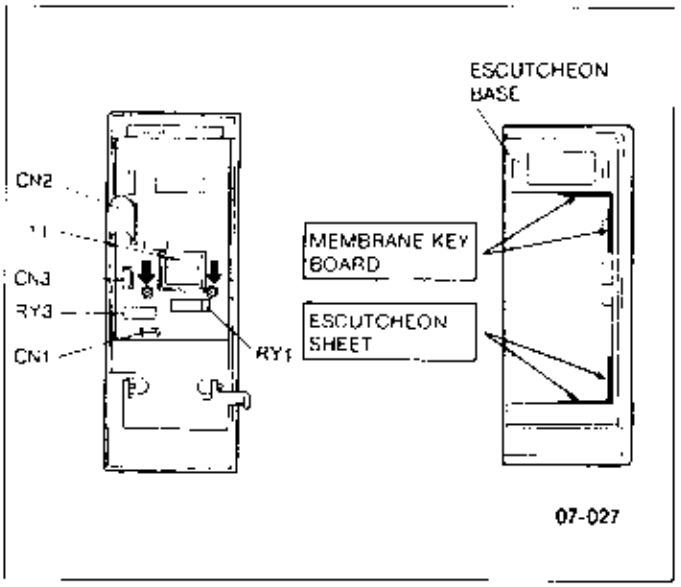
2. Digital Programmer Circuit (DPC) and membrane key board.

NOTE: Be sure to ground any static electric charge built up on your body before handling the DPC.
(A) Disconnect all connectors from D.P.C.
(B) Remove 1 screw holding escutcheon base and slide the escutcheon base upward slightly.
(C) Release flat cable connector's lock of DPC by pushing both levers to inside and pull them upward, and remove flat cable of membrane key board
(D) Remove 2 screws holding DPC.

<u>To replace membrane key board</u>

(E) Remove escutcheon bracket from escutcheon base by freeing 4 catch hooks on the escutcheon base.
(F) Peel off the tab of membrane key board from escutcheon base.
(G) Peel off the dislpay filter from escutcheon base.
(H) Push the upper part of key board (display window portion) from back of escutcheon base and peel off escutcheon sheet and membrane key board completely from escutcheon base.

NOTE: 1. The membrane key board is attached to the escutcheon base with double faced adhesive tape. Therefore, applying hot air such as using a hair dryer is recommended for smoother removal.
2. When installing new membrane key board, make sure that the surface of escutcheon base is cleaned sufficiently so that any problems (shorted contacts or uneven surface) can be avoided.
3. Alignment position of membrane key board is as follows (see figure);
Membrane key board: Right and upper edges
Escutcheon sheet: Right and lower edges

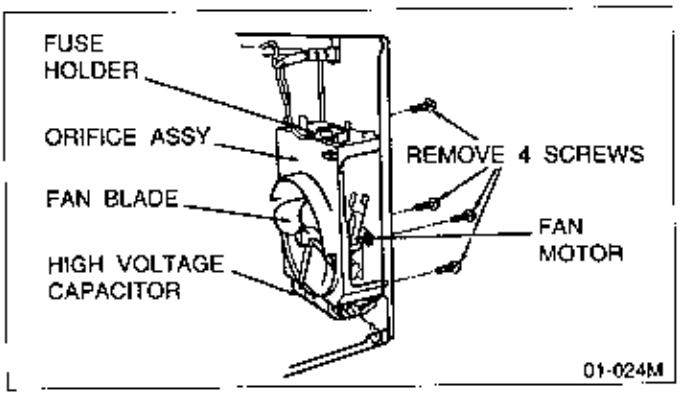


3. Low voltage transformer and/or power relays (RY1, RY3)

NOTE: Be sure to ground any static electric charge built up on your body before handling the DPC.
(A) Using solder wick or a desoldering tool and 30W soldering iron, carefully remove all solder from the terminal pins of the low voltage transformer and/or power relays.
NOTE: Do not use a soldering iron or desoldering tool of more than 30 watts on DPC contacts.
(B) With all the terminal pins cleaned and seperated from DPC contacts, remove the defective transformer/power relays and install new transformer/power relays making sure all terminal pins are inserted completely. Resolder all terminal contacts carefully.

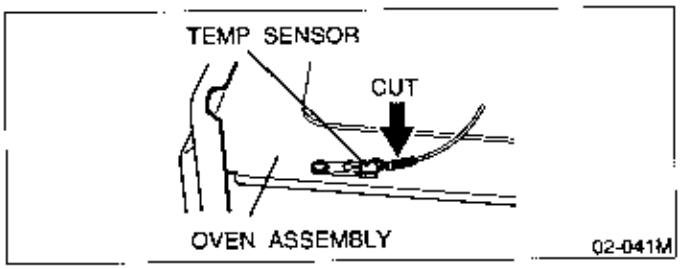
4. Fan motor

(A) Disconnect 2 lead wires from fan motor terminals.
(B) Disconnect 2 lead wires from fuse holder terminals.
(C) Disconnect 4 high voltage lead wires from high voltage capacitor terminals.
(D) Remove 4 screws holding fan motor and orifice assy and detach the orifice assy with fan motor from oven assy.
(E) Remove fan blade from the fan motor shaft by pulling it straight out.
(F) Separate the fan motor from the orifice assy by freeing 2 catch hooks on the orifice assy.



5. Temp sensor (thermal protector)

(A) Cut a lead wire at the top of sensor terminals.
(B) Remove 1 screw holding the temp sensor and replace with new one.
(C) Solder the lead wires securely to the sensor terminals.

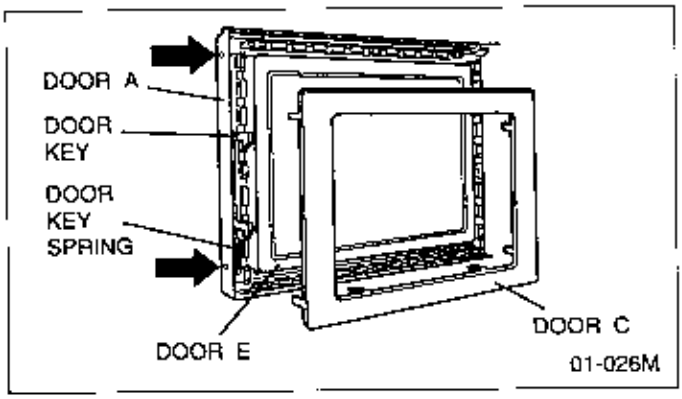


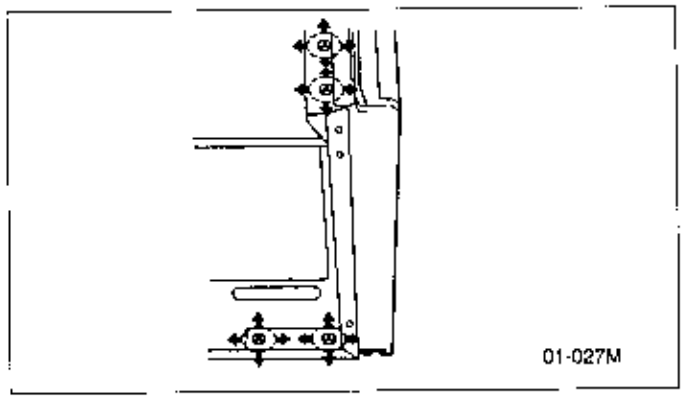
6. Door assembly

(A) Open the door and remove door C from door E by carefully pulling outward starting from upper right hand corner.
(B) Remove door key and door key spring.
(C) Remove 2 screws holding side frame of door A.
(D) Seperate the door A from the door E by freeing catch hooks on the door A using a flat screwdriver.

After replacment of the defective component parts of the door, reassemble it and follow the instructions below for proper installation and adjustment so as to prevent an excessive microwave leakage.

(1) When mounting the door to the oven, be sure to adjust the door parallel to the bottom line of the oven face plate by moving the upper hinge and lower hinge in the direction necessary for proper alignment.
(2) Adjust so that the door has no play between the inner door surface and oven front surface. If the door assembly is not mounted properly, microwave power may leak from the clearance between the door and oven.
(3) Perform the microwave leakage test.





7. Stirrer motor

(A) Remove 6 screws holding motor cover.
(B) Disconnect 2 lead wires from stirrer motor.
(C) Remove 2 screws holding stirrer motor.

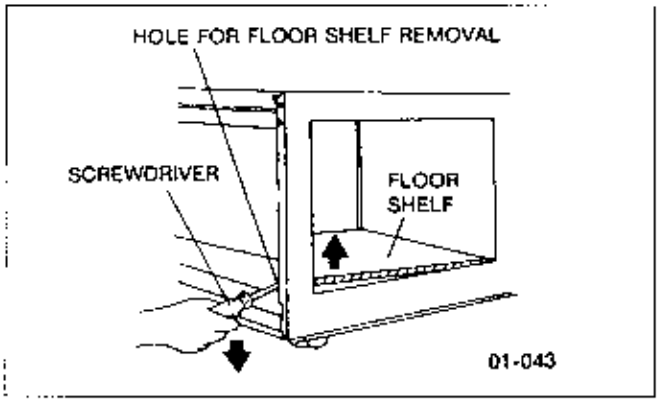
8. Floor shelf and/or moving antenna

(A) Insert a phillips type screwdriver or equivalent approx. 2" (5cm) in shaft length in the hole in the left side oven wall as shown in Figure.
(B) Carefully lift up the floor shelf by prying up with the screwdriver until the floor shelf is lifted up over the level of oven front opening.
(C) Remove the floor shelf by lifting it out through the oven front.

To replace moving antenna,

(D) Remove the moving antenna by simply lifting it up off the stirrer motor shaft.

NOTE: When replacing the moving antenna, make sure the plastic stirrer spacers are correctly in place. They are necessary to stabilize the antenna by gliding around the oven bottom as the antenna turns.



COMPONENT TEST PROCEDURE

CAUTION

1. High voltage is present at the high voltage terminal of the high voltage transformer during any cook cycle.
2. It is neither necessary nor advisable to attempt measurement of the high voltage.
3. Before touching any oven components, or wiring, always unplug the oven from its power source and discharge the high voltage capacitor.

1. Primary Latch Switch, Secondary (Secondary Latch Switch and Power Relay B) Interlocks.

(A) Unplug the lead connectors to Power Relay B and verify continuity of the power relay B 1-2 terminals.
(B) Unplug lead connectors to Primary Latch Switch and Secondary Latch Switch.
(C) Test the continuity of switches at door opened and closed positions with ohm meter (low scale).
Normal continuity readings should be as follows.

	Door Opened	Door Closed
Primary Latch Switch	∞ Ω (open)	0 Ω (close)
Secondary Latch Switch	∞ Ω (open)	0 Ω (close)
Power Relay B	∞ Ω (open)	∞ Ω (open)

2. Short Switch & Monitor

(A) Unplug lead wires from H.V. transformer primary terminals.
(B) Connect test probes of ohm meter to the disconnected leads which were connected to H.V. Transformer.
(C) Test the continuity of short switch with door opened and closed positions using lowest scale of the ohm meter.
Normal continuity readings should be as follows.

Door Opened	Door Closed
0 Ω	∞ Ω

3. High voltage transformer

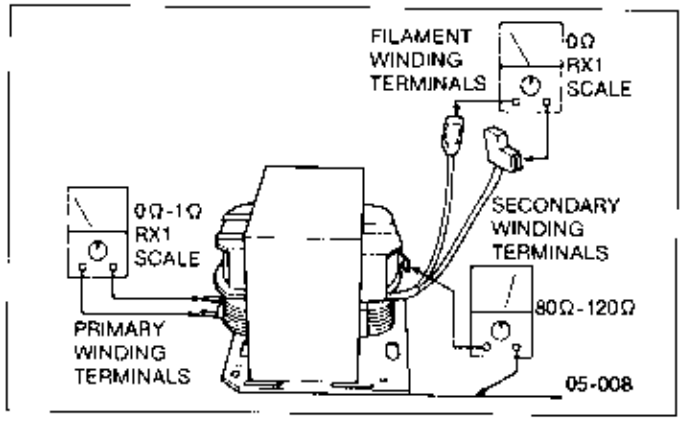
(A) Remove connectors from the transformer terminals and check continuity.
(B) Normal (cold) resistance readings should be as follows:
Secondary winding . . . . . Approx. 80Ω~120Ω
Filament winding . . . . . Approx. 0Ω
Primary winding . . . . . Approx. 0Ω~1Ω

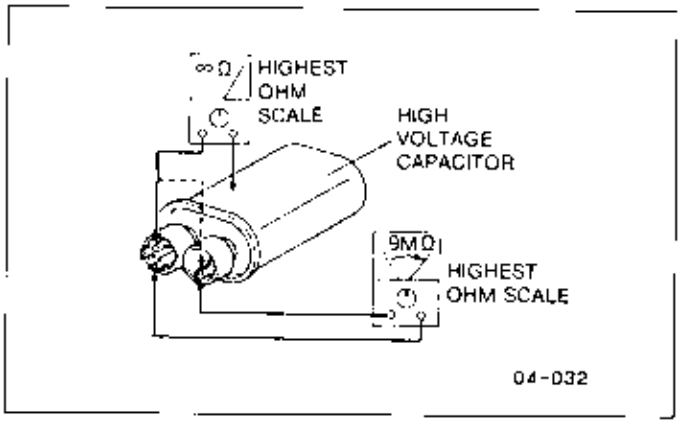
4. High voltage capacitor

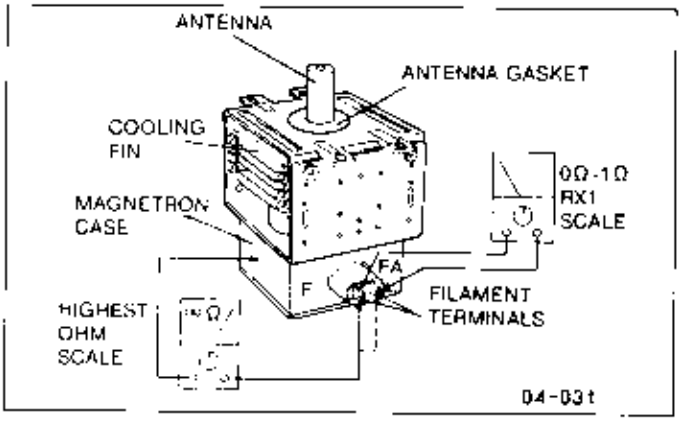
(A) Check continuity of capacitor with meter on highest OHM scale.
(B) A normal capacitor will show continuity for a short time, and then indicate 9MΩ once the capacitor is charged.
(C) A shorted capacitor will show continuous continuity.
(D) An open capacitor will show constant 9MΩ.
(E) Resistance between each terminal and chassis should be infinite.

5. Magnetron

Continuity checks can only indicate an open filament or a shorted magnetron. To diagnosis for an open filament or shorted magnetron,
(A) Isolate magnetron from the circuit by disconnecting the leads.
(B) A continuity check across magnetron filament terminals should indicate one ohm or less.
(C) A continuity check between each filament terminal and magnetron case should read open.



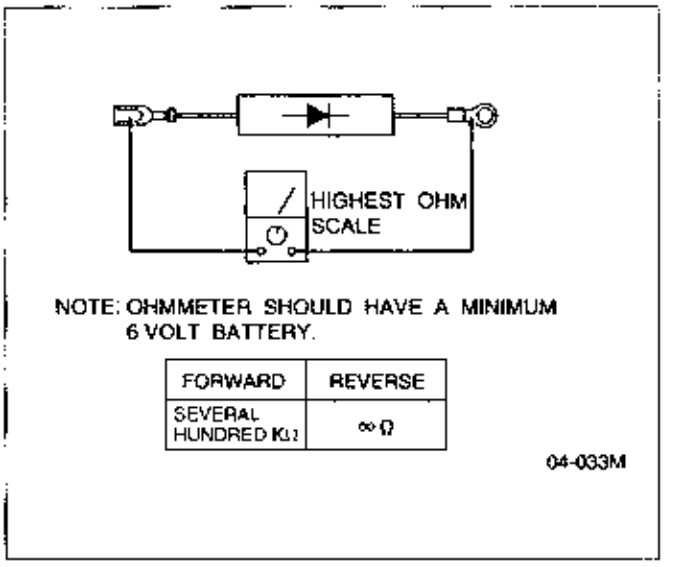




6. Diode

(A) Isolate the diode from the circuit by disconnecting the leads.

(B) With the ohmmeter set on the highest resistance scale, measure the resistance across the diode terminals. Reverse the meter leads and again observe the resistance reading. Meter with 6V, 9V or higher voltage batteries should be used to check the front-to-back resistance of the diode, otherwise an infinite resistance may be read in both directions.
A normal diode's resistance will be infinite in one direction and several hundred KΩ in the other direction.

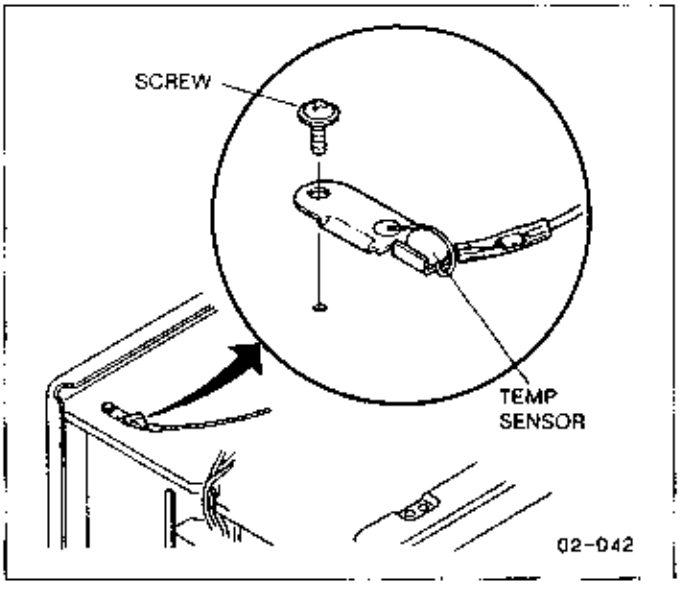


7. Membrane key board (Membrane switch assembly)

Check continuity between switch terminals, by tapping an appropriate pad on the key board. The contacts assignment of the respective pads on the key board is as shown in digital programmer circuit.

8. Temp sensor (Thermal protector)

A temp sensor is mounted on top of the oven cavity at the left side. Its purpose is to automatically shut off the oven in case the cavity overheats for any reason.
The thermal protector will operate at 257°F (125°C).
The device is connected to the DPC on touch control models. When the thermal protector exceeds its temperature it will turn off the power to oven cavity and display will go to reset mode.
The cooking program can be reset after cool-down.
THERMISTOR RESISTANCE VALUE
30K-120K at 10°C-30°C (50°F-86°F)



MEASUREMENTS AND ADJUSTMENTS

WARNING

* For continued protection against radiation hazard, replace only with identical replacement parts (For touch models Part No. J6142-1450 Type No. V-16G-3C26-M for Primary latch switch Part No. A61425180AP, Type No. L-3C2-2 for Secondary latch switch and Part No. ANE6178420, Type No. V-16G-2C25 for short switch)
* When the 18 Amp. fuse is blown due to the operation of short switch, you must replace Primary latch switch and short switch. Also replace power relay B (Part. No. AEG5J1EG12B/AEG5J1EG18B, Type No. G5J-1-TP) when the continuity check reads shorted contacts (1—2). Then follow the adjustment procedures below.
* Interlock switch replacement — In replacing faulty switches, be sure mounting tabs are not bent, broken or otherwise deficient in their ability to hold the switches.
* Refer to schematic diagram to ensure proper connection.

1. Adjustment of Primary latch switch, Secondary latch switch and Short switch.

(A) When mounting Primary latch switch, Secondary latch switch and short switch to door hook assembly, mount the Primary latch switch, the Secondary latch switch and the short switch to the door hook assembly as shown in table.

NOTE: No specific adjustment during installation of Primary latch switch, Secondary latch switch and short switch to the door hook is necessary.

(B) When mounting the door hook assembly to the oven assembly, adjust the door hook assembly by moving it in the direction of arrow in table so that the oven door will not have any play in it. Check for play in the door by pulling the door assembly. Make sure that the latch keys move smoothly after adjustment is completed. Completely tighten the screws holding the door hook assembly to the oven assembly.

(C) Reconnect the short switch and check the continuity of the monitor circuit and all latch switches again by following the components test procedures.

2. Measurement of microwave output

The output power of the magnetron can be determined by performing IEC standard test procedures. However, due to the complexity of IEC test procedures, it is recommended to test the magnetron using the simple method outlined below.

Necessary Equipment:

*1 liter beaker *Glass thermometer

*Wrist watch or stopwatch

NOTE: Check the line voltage under load. Low voltage will lower the magnetron output. Take the temperature readings and heating time as accurate as possible.

(A) Fill the beaker with exactly one liter of tap water. Stir the water using the thermometer and record the beaker's temperature (recorded as T1).

(B) Place the beaker on the center of glass cook plate. Set the oven for High power and heat it for exactly one minute.

(C) Stir the water again and read the temperature of the beaker (recorded as T2).

(D) The normal temperature rise at High power position for each model is as shown in table.

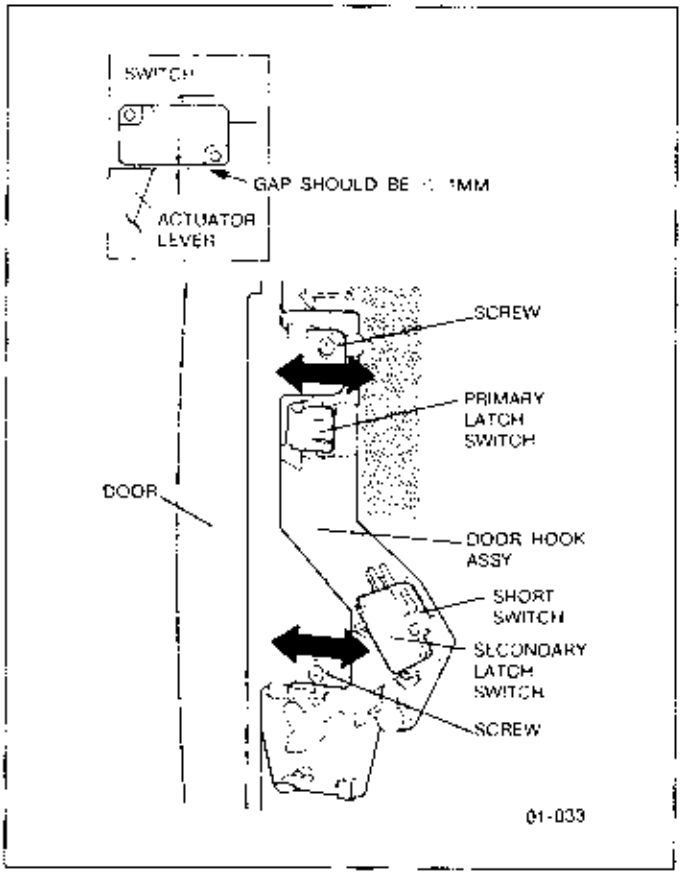


TABLE (1ℓ-1min. test)

RATED OUTPUT	TEMPERATURE RISE
1000W (IEC705-88)	Min. 15.4°F (8.6°C)

PROCEDURE FOR MEASURING MICROWAVE ENERGY LEAKAGE

WARNING

Check for radiation leakage after every servicing. Should the leakage be more than 2 mW/cm² (1mW/cm² for Canada) inform MSC, PSC, or MELCA immediately. After repairing or replacing any radiation safety device, keep a written record for future reference, as required by D.H.H.S. and Health and Welfare Canada regulation. This requirement must be strictly observed. In addition, the leakage reading must be recorded on the service repair ticket while in the customer's home.

NOTE: The U.S. Government standard is 5 mW/cm² while in the customer's home. 2 mW/cm² stated here is our own voluntary standard. (1 mW/cm² for Canada)

1. Equipment

- *Electromagnetic radiation monitor
- *Glass thermometer 212°F or 100°C
- *600cc glass beaker

2. Procedure for measuring radiation leakage.

Note before measuring.

(1) Do not exceed meter full scale deflection. Leakage monitor should initially be set to the highest scale.

(2) To prevent false readings the test probe should be held by the grip portion of the handle only and moved along the shaded area shown in Figure no faster than 1 inch/sec (2.5 cm/sec).

(3) Leakage with the outer panel removed ------ less than 5mW/cm².

(4) Leakage for a fully assembled oven with door normally closed----- less than 2mW/cm² (1mW/cm² for Canada).

(5) Leakage for a fully assembled oven [Before the latch switch (primary) is interrupted] while pulling the door------ less than 2mW/cm².

(A) Pour 275 ± 15cc (9ozs ± 1/2oz) of 20 ±5°C (68 ± 9°F) water in a beaker which is graduated to 600cc. and place in the center of the oven.

(B) Set the radiation monitor to 2450MHz and use it following the manufacturer's recommended test procedure to assure correct results.

(C) When measuring the leakage, always use the 2 inch (5cm) spacer supplied with the probe.

(D) Tap the start pad or set the timer and with the magnetron oscillating, measure the leakage by holding the probe perpendicular to the surface being measured.

(1) **Measurement with the outer panel removed.**

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

WARNING

Avoid contacting any high voltage parts.

(2) **Measurements with a fully assembled oven.**

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

3. Record keeping and notification after measurement

(A) 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.

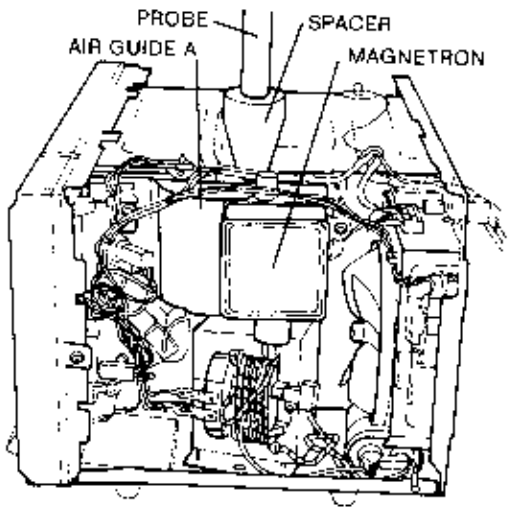
A copy of this repair ticket and the microwave leakage reading should be kept by repair facility.

(B) Should the radiation leakage be more than 2 mW/cm² (1mW/cm² for Canada) after determining that all parts are in good condition, functioning properly, and genuine replacement parts as listed in this manual have been used, immediately notify MSC, PSC or MELCA.

4. At least once a year, have the radiation monitor checked for calibration by its manufacturer.

WARNING

AVOID CONTACTING ANY HIGH VOLTAGE PARTS.



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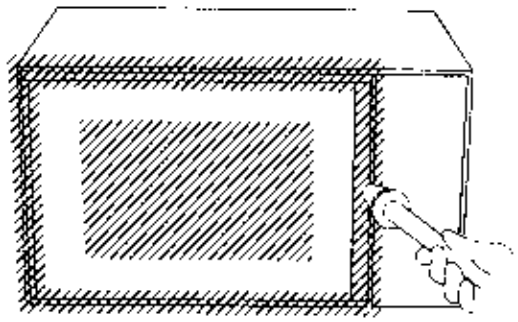


01-035

MOVE PROBE ALONG SHADED AREA (////) AROUND EXHAUST OPENINGS (as shown) AND AROUND AIR INLET OPENING

TROUBLESHOOTING GUIDE (NE-1056A, NE-1056C)

CAUTION

1. Check grounding before checking for trouble.
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.
   When disconnecting a plastic connector from a terminal, you must hold the plastic connector instead of the lead wire and then disconnect it, otherwise lead wire may be open or the connector cannot by removed.
5. Do not touch any parts of the circuitry on the digital programmer 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. A 120V AC is present at the shaded area ▒▒ of the digital programmer circuit (Terminals of power relay B and primary circuit of low voltage transformer). When troubleshooting, be cautious of possible electrical shock hazard.

First of all operate the microwave oven following the correct operating procedures in order to find the exact cause of any trouble.

[TROUBLE 1] Oven does not start cooking

SYMPTOM	STEP	CHECK	RESULT	CAUSE/CORRECTIONS
Oven is dead. No display at all.	1	Fuse	Blown	→ TROUBLE 2
			Normal	→ STEP 2
	2	Thermal cutout	Faulty (open)	Thermal cutout ※ Check fan motor when thermal cutout is defective
			Normal	→ TROUBLE 4
Display lit but timer does not start count down.	1	Secondary latch switch { Door closed 0 Ω { Door opened ∞ Ω	Faulty	Secondary latch switch
			Normal	→ TROUBLE 4 Loose lead wire
Timer starts count down but no microwave oscillation.	1	Primary latch switch { Door closed 0 Ω { Door opened ∞ Ω	Faulty	Primary latch switch
			Normal	→ STEP 2
	2	High voltage transformer primary voltage	No voltage applied	→ STEP 3
			Power supply voltage applied	→ STEP 4
	3	Is 18 (12)V DC applied to power relay B?	No voltage applied	→ TROUBLE 4
			Voltage applied	Power relay B
	4	Check high voltage component according to component test procedure H.V.Transformer H.V.Capacitor H.V.Diode Magnetron	Faulty	Replace faulty H.V.Component Loose lead wire

[TROUBLE 2] Fuse is blown

SYMPTOM	STEP	CHECK	RESULT	CAUSE/CORRECTIONS
Main fuse blown.	1	Primary latch switch Secondary latch switch { Door closed 0 Ω { Door opened ∞ Ω and also power relay B (RY 1), when power relay B is located within monitor circuit.	Abnormal	Primary latch switch & short switch (※NOTE)
			Normal	→ STEP 2
	2	Short switch { Door closed ∞ Ω { Door opened 0 Ω	Abnormal	Primary latch switch & Short switch (※NOTE)
			Normal	→ STEP 3
	3	H.V.Capacitor	Faulty	H.V.Capacitor
			Normal	→ STEP 4
	※NOTE: All these switches must be replaced at same time. (Refer to adjustment instructions.) Check continuity of power relay B's contacts (between 1 and 2) and the secondary latch switch, and replace if there is a shorted contacts.			

[TROUBLE 3] Other troubles

SYMPTOM	POSSIBLE CAUSE	NOTES
Microwave output power is low. First of all, check if output power is really low by following "Measurement of microwave output".	1. Decrease in power source voltage 2. Aging change of magnetron	
Oven lamp and fan motor turn on when door is open.	1. Shorted contacts of primary latch switch	
Oven lamp and fan motor turn on when power supply cord is plugged into wall receptacle.	1. Open Secondary latch switch. 2. Shorted contacts of power relay A. (RY3) 3. Defective digital programmer circuit. (See trouble 4)	
"F33" appears in display window.	1. Open temp. sensor. 2. Defective D.P.C.	
"F34" appears in display window.	1. Short temp. sensor. 2. Defective D.P.C.	
"F01" appears in display window and oven beeps.	1. Food is overcooked and oven exhaust temperature too high. (over 130°C)	After cool down (approx. 10 minutes) unplug oven to reset display.
"F04" appears in display window.	1. Malfunctioning keypad stays on for more than 2 minutes.	
Display returns to "0" or blank mode.	1. Malfunctioning keypad stays on for more than 1 minute while cooking.	

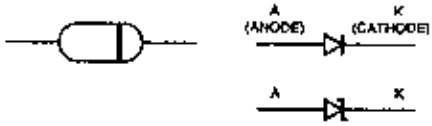
[TROUBLE 4] Trouble related to Digital programmer circuit

SYMPTOM	STEP	CHECK	RESULT	CAUSE/CORRECTIONS
No Display when oven is first plugged in.	1	Low voltage transformer (LVT) secondary voltage	Abnormal 0V	LVT
			Normal	→ Step 2
	2	IC-1 pin 64 voltage (Emitter of Q1)	Abnormal	ZD1,Q1
			Normal = 5V	→ Step 3
	3	IC-1 pin 27 voltage (14 pin of IC-2)	Abnormal	IC-2
			Normal ≒ 5V	→ IC-1, CX1, DISPLAY
No key input.	1	Membrane switch continuity	Abnormal	Membrane switch
			Normal	IC-1

SYMPTOM	STEP	CHECK	RESULT	CAUSE/CORRECTIONS
No beep sound.	1	IC-1 pin 23 voltage	Abnormal	IC-1
			Normal	BZ, Q3, Q4, Q8, Q9
Power relay A (RY-3) does not turn on even though the program has been set and the start pad is tapped.	1	IC-1 pin 12 voltage while operation	Abnormal	IC-1
			Normal ≒ 5V	→ Step 2
	2	short circuit between pin 1 and pin 12 of IC-2	Still not turn on	RY-3
			RY-2 turns on	IC-2
No microwave oscillation at any power setting.	1	IC-1 pin 10 and pin 20 voltages while operation at high power	Abnormal	IC-1
			Normal ≒ 5V	→ Step 2
	2	Q7 transistor	Abnormal	Q4
			Normal	IC-2, RY-1
Dark or unclear display.	1	Replace display and check operation	Normal	DISPLAY
			Abnormal	IC-1
Missing or lighting of unnecessary segment.	1	Replace IC-1 and check operation	Normal	IC-1
			Abnormal	DISPLAY

HOW TO CHECK THE SEMICONDUCTORS USING AN OHM METER

Diode



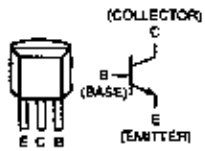
	FORWARD	REVERSE
A-K	SMALL	∞

Transistor

NPN Transistor

2SC⋯⋯

2SD⋯⋯

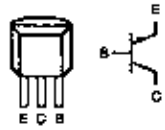


	FORWARD	REVERSE
B-E	SMALL	∞
B-C	SMALL	∞
C-E	∞	∞

PNP Transistor

2SA⋯⋯

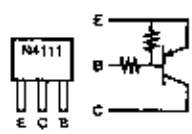
2SB⋯⋯



	FORWARD	REVERSE
E-B	SMALL	∞
C-B	SMALL	∞
C-E	∞	∞

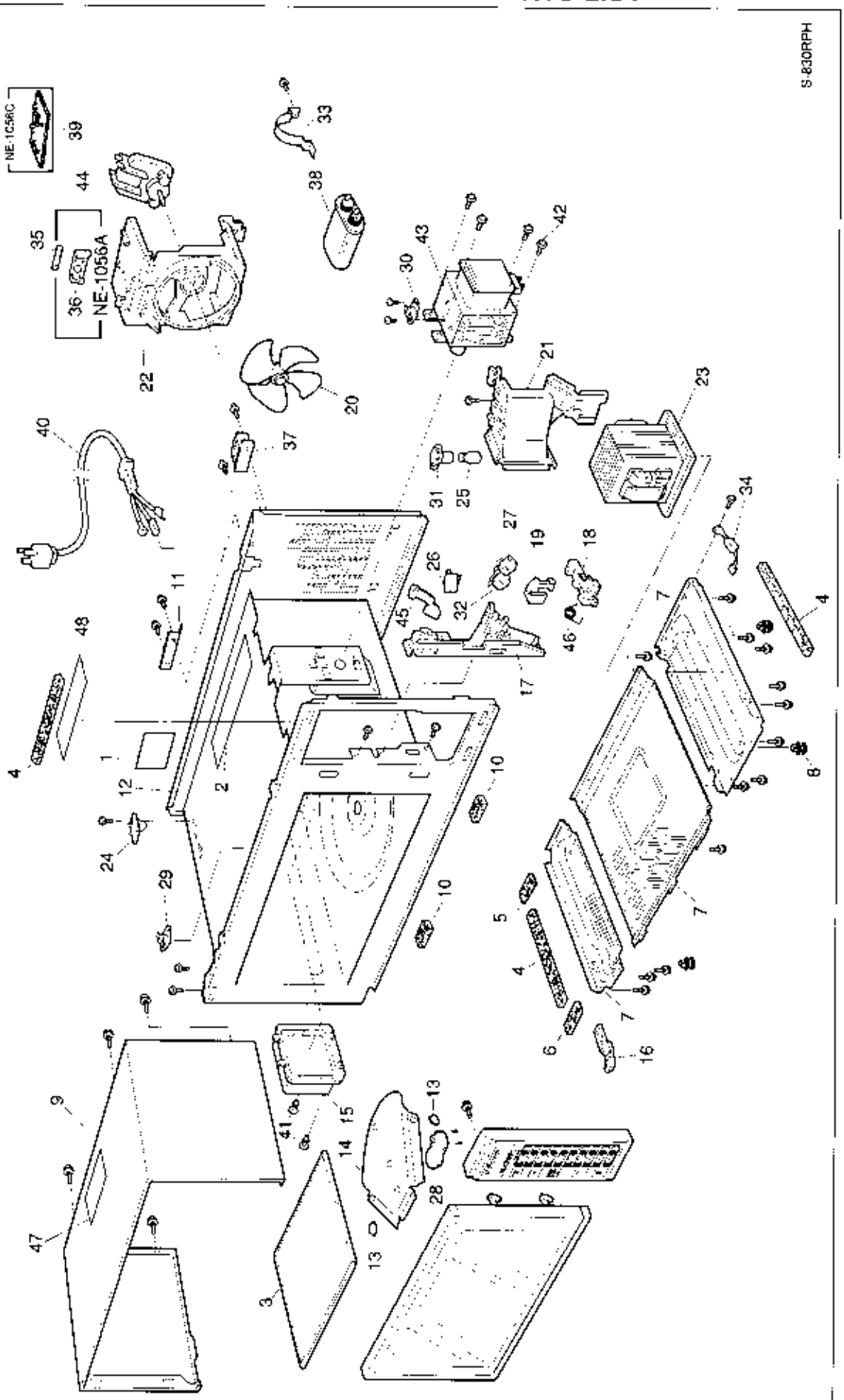
Digital Transistor

PNP Transistor



	FORWARD	REVERSE
E-B	10kΩ~30kΩ	10kΩ~30kΩ
C-B	50kΩ~90kΩ	∞
C-E	40kΩ~80kΩ	∞

EXPLODED VIEW AND PARTS LIST

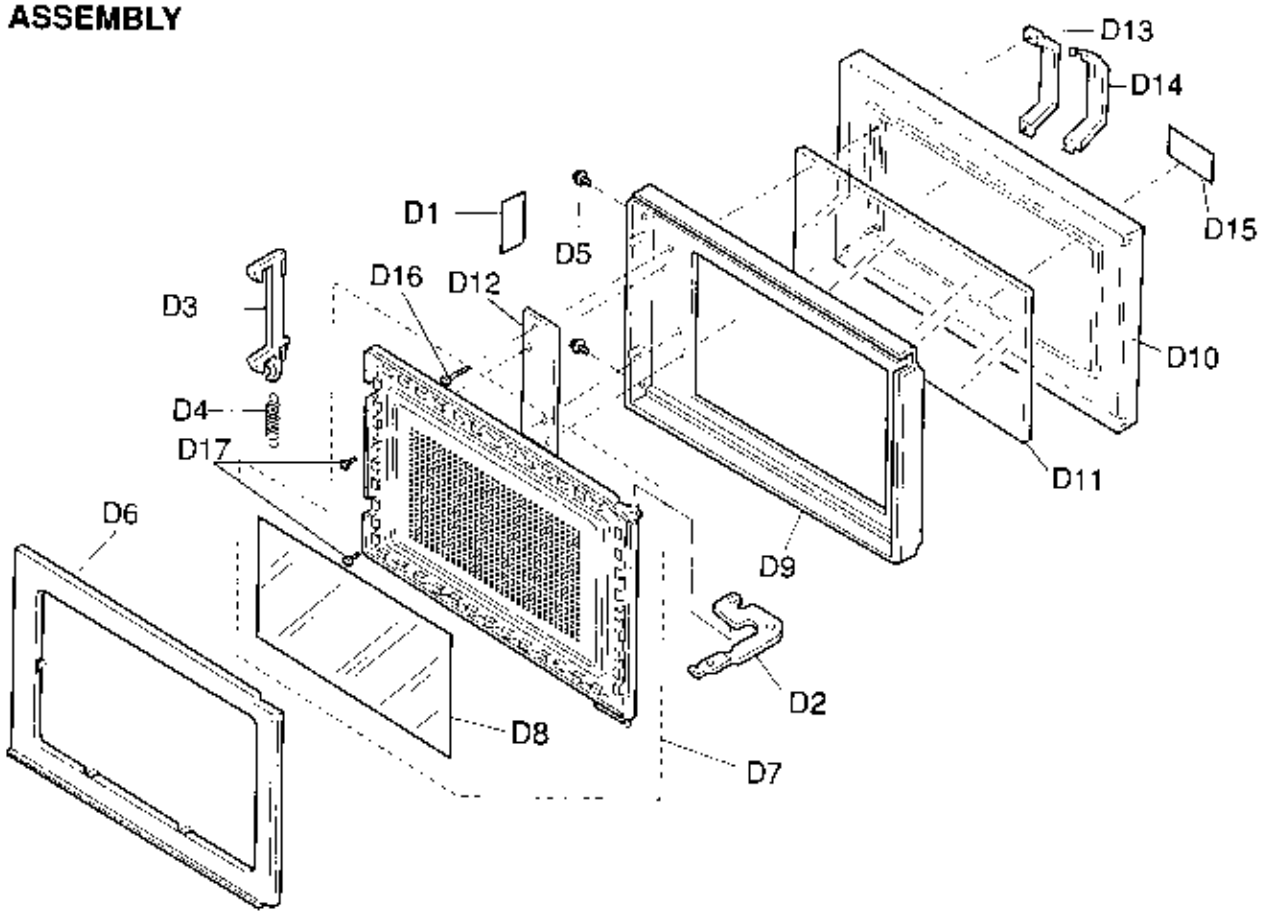


PARTS LIST

NOTES: • When ordering replacement part(s), please use part number(s) shown in this parts list.
Do not use description of the part.
• Important safety notice:
Components identified by ⚠ mark have special characteristics important for safety.
When replacing any of these components, use only manufacturer's specified parts.
• Items marked * supplied by MMCA. (U.S.A.)

Ref.No.		Part No.	Part Name & Description	Pcs/Set	Remarks
*1		B00066260AP	CAUTION LABEL	1	NE-1056A
*1		B00067600CP	CAUTION LABEL	1	NE-1056C
*2		B00333700AP	FUSE LABEL	1	NE-1056A
*2		B00333700CP	FUSE LABEL	1	NE-1056C
3		A010T5690AQ	CERAMIC SHELF	1	
*4		AMQ0902000AH	CUSHION RUBBER A	3	
*5		AMQ0902000BA	CUSHION RUBBER A	1	
*6		AMQ0904000BB	CUSHION RUBBER A	1	
*7		B100A3130AP	BASE	1	(3 PIECE)
8		A10083130AP	RUBBER FOOT	4	
*9		B10093700AP	CABINET BODY	1	
*10		AMQ0902000BA	CUSHION RUBBER A	4	
*11		B10613130AP	REAR COVER	1	
*12	⚠	B201A3700AP	OVEN	1	NE-1056A
*12	⚠	B201A3700CP	OVEN	1	NE-1056C
*13		B20194210AQ	ANTENNA SPACER	2	
*14		B202K5000AP	MOVING ANTENNA	1	
*15		B20553700AP	CEILING COVER	1	
*16	⚠	B30077050AP	LOWER HINGE (B)	1	
*17		B3020-1480	DOOR HOOK A	1	
*18		B3137-1480	HOOK SPACER B	1	
*19		B3138-1480	HOOK SPACER C	1	
*20		B40086260AP	FAN	1	
*21		B40258250AP	AIR GUIDE A	1	
*22		B41447630AP	ORIFICE	1	
*23	⚠	B600B3700AP	H.V. TRANSFORMER	1	(1.5 KVA)
24		A601L5180AP	TEMP SENSOR	1	
*25		B60304740AQ	INCANDESCENT LAMP	1	
26	⚠	ANE6142-1450	MICRO SWITCH	1	(V-16G-3C26-M) PRIMARY LATCH SWITCH
27	⚠	A61425180AP	MICRO SWITCH	1	(L-3C2-2) SECONDARY LATCH SWITCH
28		A61446030AP	ANTENNA MOTOR	1	(2.5W)
*29	⚠	B61456210AP	THERMAL CUTOUT	1	NE-1056C (FOR OVEN)
*30	⚠	B61456210AP	THERMAL CUTOUT	1	(FOR MAGNETRON)
*31	⚠	B61524740AQ	SOCKET	1	
32	⚠	ANE6178420	MICRO SWITCH	1	(V-16G-2C25) SHORT SWITCH
*33		B61884060AP	CAPACITOR BRACKET	1	
*34	⚠	B62024000AP	DIODE, SI	1	
*35	⚠	B62308250AP	FUSE	1	(18A)
36	⚠	A62314000AP	FUSE HOLDER	1	NE-1056A
37		B11404960AQ	STOPPER A	1	
38	⚠	B63907050AP	H.V. CAPACITOR	1	(1uF, AC2100V)
*39		B692Y7600CP	NOISE FILTER (U)	1	NE-1056C
*40	⚠	B900C3700AP	AC CORD W/PLUG	1	NE-1056A (120V)
*40	⚠	B900C3700CP	AC CORD W/PLUG	1	NE-1056C (120V)
*41		B9082930AP	PLASTIC RIVET	2	(FOR COVER)
42		XTT4+8B	SCREW	4	(4X8) FOR MAGNETRON
*43	⚠	2M244-M1F	MAGNETRON	1	
*44		B400A3700AP	FAN MOTOR	1	(AC, 24W, SINGLE)
*45		B3136-1480	HOOK SPACER A	1	
*46		J3097-1480	LATCH SPRING	1	
*47		B01723650AP	CAUTION LABEL	1	
*48		CAN-4230	CLEAR TAPE	1	

DOOR ASSEMBLY



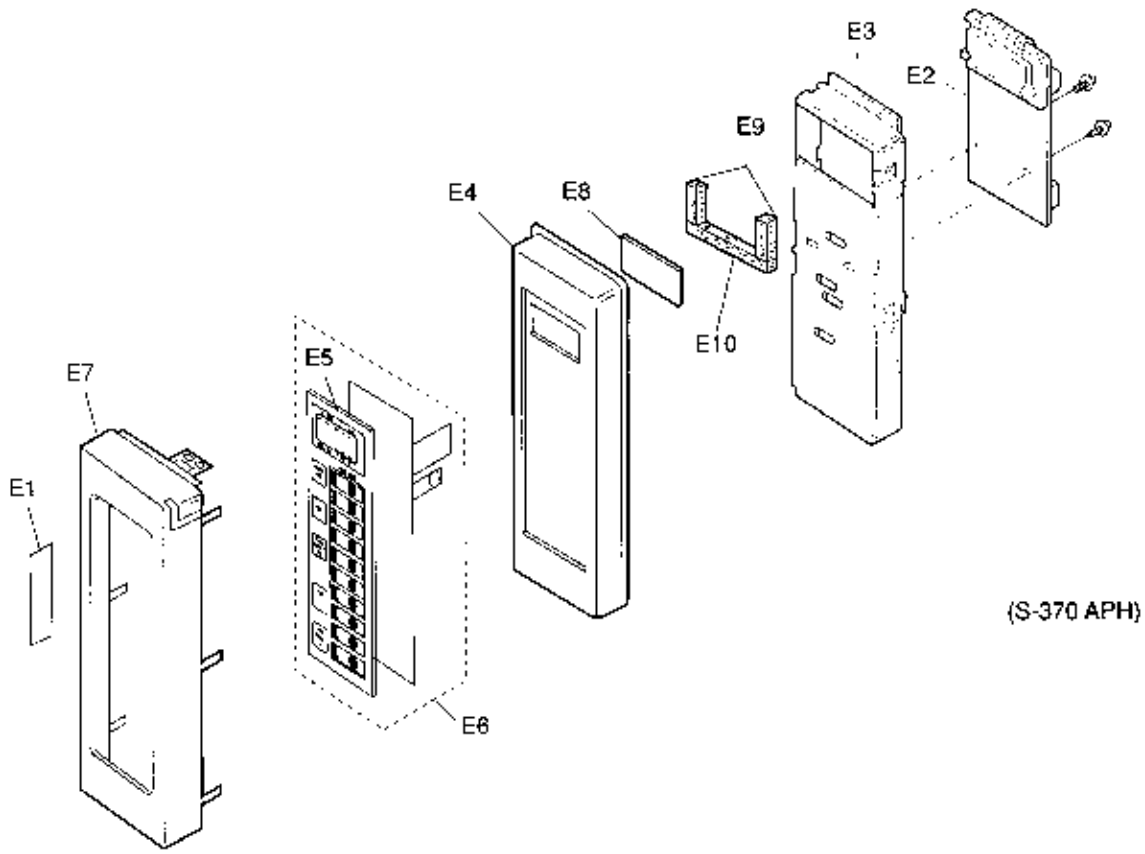
(S-370 APH)

Ref.No.		Part No.	Part Name & Description	Pcs/Set	Remarks
*D1		B02454180AP	DHHS LABEL	1	NE-1056A
*D1		B04114180CP	CSA LABEL	1	NE-1056C
*D2	⚠	B30067050AP	UPPER HINGE (A)	1	
*D3		B3018-1480	DOOR KEY A	1	
*D4		B30214000AP	DOOR KEY SPRING	1	
*D5		XTBANE3+8BC	SCREW	2	
*D6	⚠	B30858340AP	DOOR C / BLACK	1	
*D7	⚠	B302K8340AP	DOOR E (U) / BLACK	1	
*D8	⚠	B31457200AP	DOOR SCREEN A	1	
*D9	⚠	A30013700AP	DOOR A / 1.5 BLACK	1	
*D10		A300A3700AP	DOOR B (U)	1	(NOTE 1)
*D11		A31463700AP	DOOR SCREEN B (GLASS)	1	
*D12		A32863700AP	HANDLE BRACKET	1	
*D13		A30703700AP	HANDLE PIECE A	1	
*D14		A31343700AP	HANDLE PIECE B	1	
*D15		A31463700AP	DOOR PANEL	1	
*D16		XYEANE4+C16T	SCREW	2	
*D17		XTN4+8J	SCREW	2	

NOTE 1: Please order Door B and DHHS Label or CSA Label together.

SEE SUPPLEMENT

ESCUTCHEON BASE ASSEMBLY

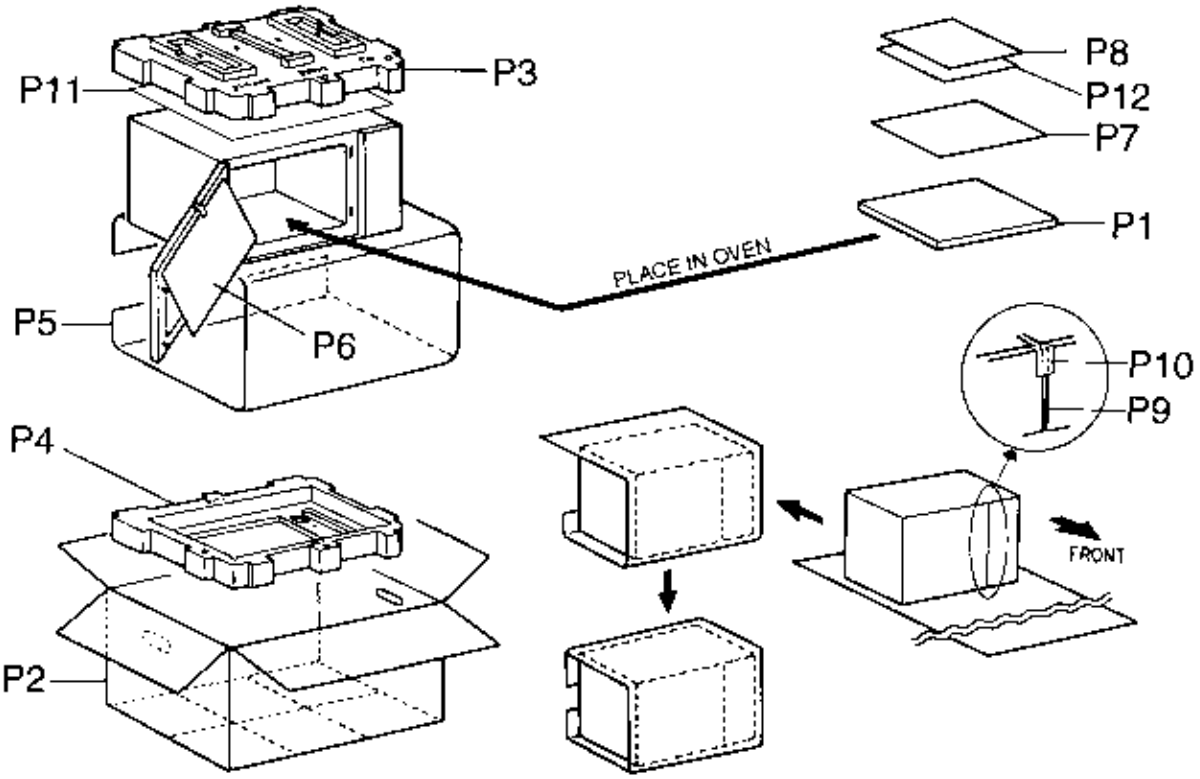


Ref.No.	Part No.	Part Name & Description	Pcs/Set	Remarks
*E1	B00073700AP	NAME PLATE	1	NE-1056A
*E2	A603L3700AP	D.P. CIRCUIT (U)	1	RTL (W/COMPONENTS)
*E3	A81273700AP	BACK PLATE	1	
*E4	A80343700AP	ESCUTCHEON BASE	1	(NOTE 2)
*E5	B630Y3700AP	MEMBRANE SWITCH (U)	1	(W/ ESCUTCHEON SHEET)
*E6	B83373700AP	ESCUTCHEON SHEET	1	
*E7	A800N3700AP	ESCUTCHEON BASE A (U)	1	
*E8	B80026640AP	DISPLAY LENS	1	
*E9	AMQ0923000AB	CUSHION RUBBER C	2	
*E10	AMQ0903000AG	CUSHION RUBBER A	1	

NOTE 2: Please order Escutcheon Base and Name Plate together.

SEE SUPPLEMENT

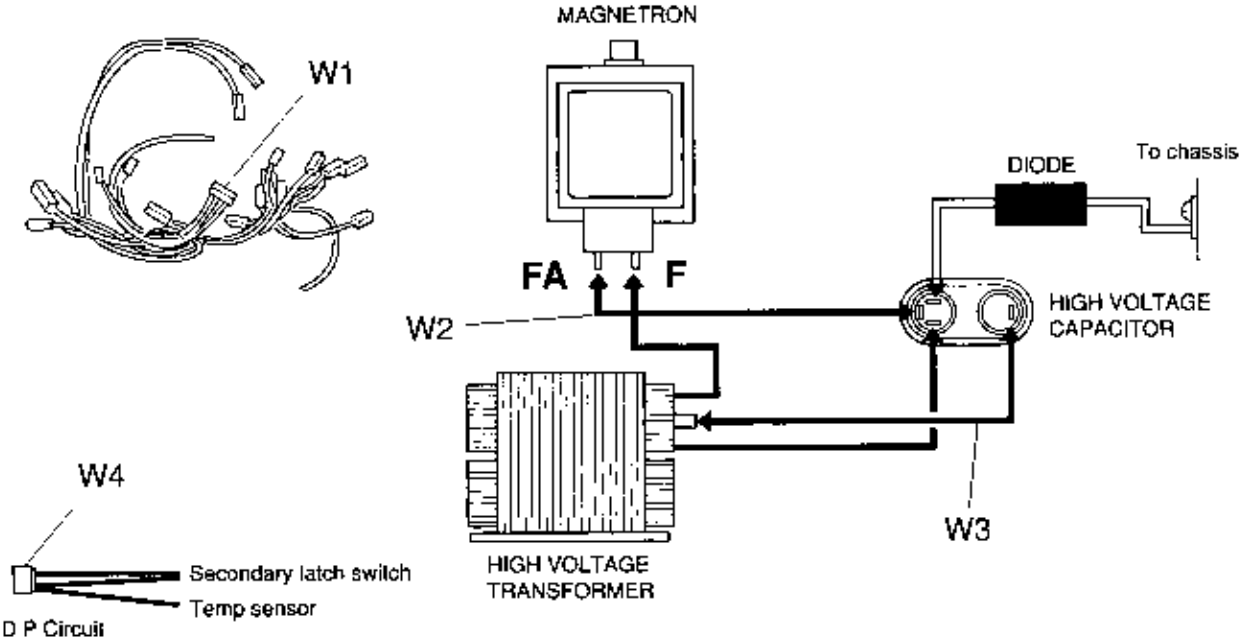
PACKING AND ACCESSORIES



(S-370 APH)

Ref.No.	Part No.	Part Name & Description	Pcs/Set	Remarks
*P1	B00033700AP	INSTRUCTION BOOK/ENGLISH	1	NE-1056A
*P1	B00033700CP	INSTRUCTION BOOK/FRENCH	1	NE-1056C
*P2	B01023140AP	PACKING CASE. PAPER	1	
*P3	B01043140AP	UPPER FILLER	1	
*P4	B01053140AP	LOWER FILLER	1	
*P5	B01067600AP	VINYL COVER SHEET	1	
*P6	B01075640AP	DOOR SHEET	1	
*P7	B03343140AP	MENU LABEL	1	
*P8	B04203700AP	OPERATING GUIDE/ENGLISH	1	NE-1056A
*P8	B04203700CP	OPERATING GUIDE/FRENCH	1	NE-1056C
*P9	B01455130AP	DOOR SHEET B	1	
*P10	TAPE-53314	PACKING TAPE	1	
*P11	B01927050AP	TOP SHEET	1	
*P12	B04243133AP	INSTRUCTION SHEET/ENGLISH/FRENCH	1	

WIRING MATERIALS



(S-370 APH)

Ref.No.		Part No.	Part Name & Description	Pcs/Set	Remarks
*W1		B030A3700AP	LEAD WIRE HARNESS	1	NE-1056A
*W1		B030A3700CP	LEAD WIRE HARNESS	1	NE-1056C
*W2		B03505540AP	LEAD WIRE	1	
*W3		B03515540AP	LEAD WIRE	1	
*W4		B03535300AP	LEAD WIRE	1	

Ref.No.		Part No.	Part Name & Description	Pcs/Set	Remarks
REF NO. 39 NOISE FILTER (U)					
C1		ECQU2A104MN	POLYESTER CAPACITOR	1	0.1MF, 250V, ±20%
C2, 3	⚠	ECKDNS472MEX	CERAMIC CAPACITOR	2	0.0047MF, 250V, ±20%
F1		A62316010BP	FUSE HOLDER	2	
L1		A621A7600CP	FILTER COIL	1	
R1		ERD25FJ564S	CARBON FILM RESISTOR	1	560kΩ, 1/4W, ±5%
ZNR2,3		ERZC10DK112W	VARISTOR	2	

DIGITAL PROGRAMMER CIRCUIT PARTS LIST

(For NE-1056A, NE-1056C)

NOTE: ITEMS MARKED * ARE SUPPLIED BY MMCA (U.S.A.)

REF No.	PART NO.	DESCRIPTION	QTY	REMARKS
BZ	AEFBZ2EP201L	BUZZER	1	
C1	ECEA1VU102B	ELECTROLYTIC CAPACITOR, AL	1	1000uF/35V/-10% +30%
C2	ECEA1HU101B	ELECTROLYTIC CAPACITOR, AL	1	100uF/50V/-10% +30%
C3,4,7,16,17,18	AECF50F1047	CERAMIC CAPACITOR	6	0.1uF/50V/-20% +80%
C5	ECEA1CU100B	ELECTROLYTIC CAPACITOR, AL	1	10uF/16V/-10% +30%
C6,9,11,13, 14,15	AECB150F1032	CERAMIC CAPACITOR	6	0.01uF/25V/-20% +80%
C12	ECEA1HU2R2B	ELECTROLYTIC CAPACITOR, AL	1	2.2uF/50V/-10% +30%
CN1	AEDMMC01505W	CONNECTOR	1	
CN2	AEFMM11FD7BTM	CONNECTOR	1	
CN3	AEEMM3000P04W	CONNECTOR	1	
CX1	EF0GC4194T4	CERAMIC RESONATOR	1	4.19MHz
D1,2,3	AEDNEHA1502	DIODE, SI	3	
D4,5,6,7,8,10	MA796-(TA)	DIODE, SI	6	
DISP	A54564130BP	FLUORESCENT TUBE	1	
*IC1	AEIC50940507	L.S.I.	1	
*IC2	AEIC1C9977AN	I.C.	1	
*IC3	AEICX24D01	I.C.	1	
Q1	2SD2006-RTA	TRANSISTOR, SI, 750MW	1	(120MHz)
Q2	2SA720-RTA	TRANSISTOR, SI, 400MW	1	
Q3,8	UN4111-(TA)	TRANSISTOR, SI, 300MW	2	
Q4,9	UN4211-(TA)	TRANSISTOR, SI, 300MW	2	
Q7	2SC1815GR-TA	TRANSISTOR, SI, 400MW	1	(200MHz)
R1,2	ERDS2TJ201T	CARBON FILM RESISTOR	2	200Ω, 1/4W, ±5%
R3,4	ERDS2TJ302T	CARBON FILM RESISTOR	2	3KΩ, 1/4W, ±5%
R5,11,14,19, 22,23	ERDS2TJ103T	CARBON FILM RESISTOR	6	10KΩ, 1/4W, ±5%
R6	ERDS2TJ301T	CARBON FILM RESISTOR	3	300Ω, 1/4W, ±5%
R7,8,10	ERDS2TJ102T	CARBON FILM RESISTOR	3	1.0KΩ, 1/4W, ±5%
R9	ERDS2TJ332T	CARBON FILM RESISTOR	1	3.3KΩ, 1/4W, ±5%
R12	ERDS2TJ333T	CARBON FILM RESISTOR	1	33KΩ, 1/4W, ±5%
R15,24	ERDS2TJ104T	CARBON FILM RESISTOR	2	100KΩ, 1/4W, ±5%
R20	ERDS2TJ432T	CARBON FILM RESISTOR	11	4.3KΩ, 1/4W, ±5%
R21	ERDS2TJ105T	CARBON FILM RESISTOR	1	1MΩ, 1/4W, ±5%
R25	ERDS2TJ3R0T	CARBON FILM RESISTOR	1	3Ω, 1/4W, ±5%
R27	ERDS2TJ271T	CARBON FILM RESISTOR	1	270Ω, 1/4W, ±5%

REF No.	PART NO.	DESCRIPTION	QTY	REMARKS
RY1	AEGSJ1EM108	POWER RELAY	1	(18V)
RY3	AEGG5B18P-1	POWER RELAY	1	(18V)
T1	ETP41K210B	I.V. TRANSFORMER	1	
Z1	AEXB04223JM	COMPOUND-RESISTOR	1	22K X 4
Z2	AEXB04104JM	COMPOUND-RESISTOR	1	100K X 4
ZD1	AEDZ5R6ES3T1	DIODE, SI	1	RD5R6ES3T1
ZD2	AEDZ27ES3T1	DIODE, SI	1	RD27ES3T1
ZD3	AEDZ4R3ES1T1	DIODE, SI	1	RD4R3ES1T1
ZD4	AEDZ16ES1T1	DIODE, SI	1	
ZNR	ERZC10DK471F	VARISTOR	1	

SERVICE FIXTURES AND TOOLS

EXTENSION CABLES

NOTE: To be used when repairing the DPC board assembly directly on the oven for easy access of the board.

REF No.	PART NO.	DESCRIPTION	QTY	REMARKS
	AT4CM304	4 pin Extension Cable	1	Cable No. 16
	AT4CM305	5 pin Extension Cable	1	Cable No. 17
	AT4CE005	1 pinX6 Extension Cable	1	Cable No. 9

DPC COMMON CHECKER AND ITS CABLE

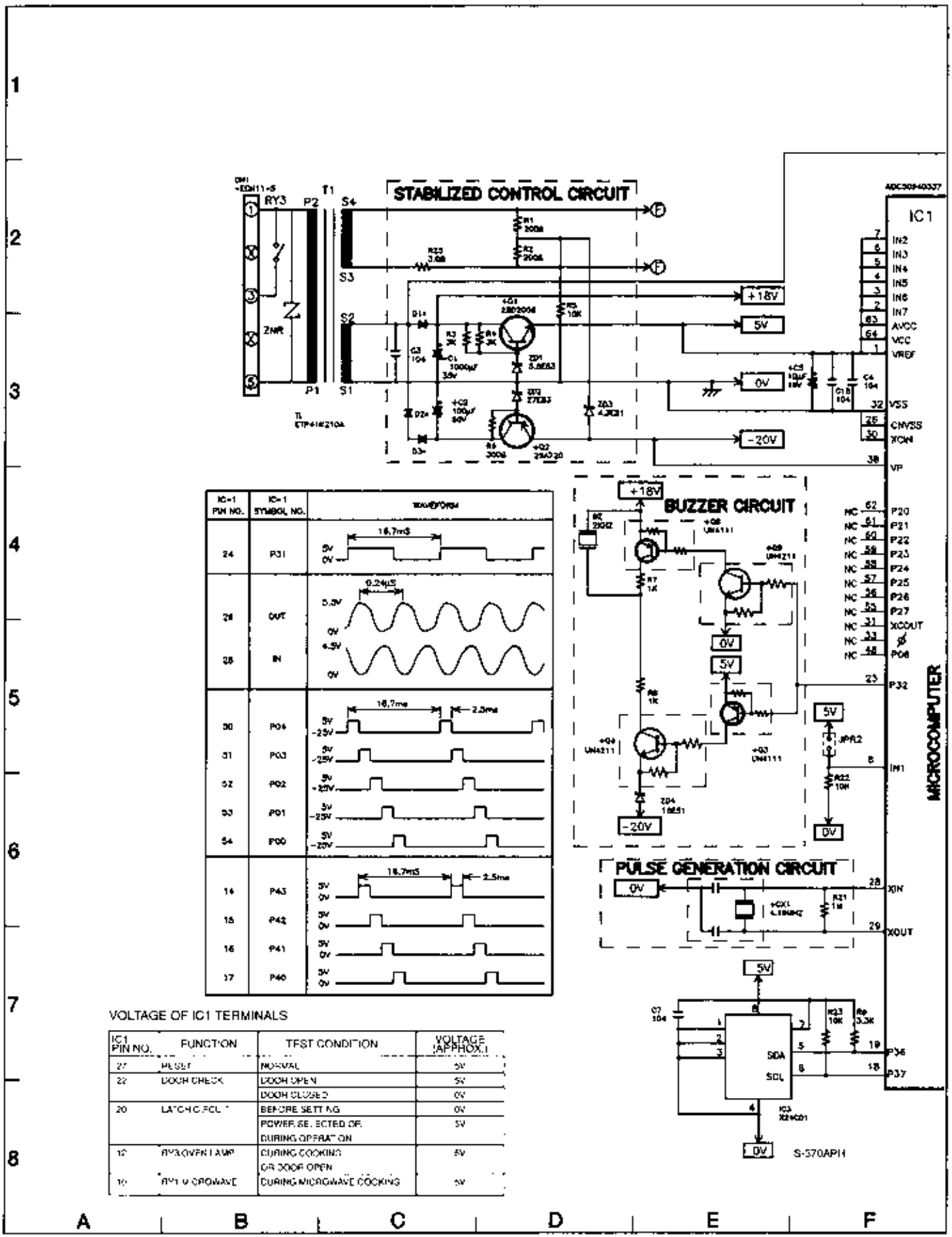
NOTE: To be used only when DPC common checker is available.

REF No.	PART NO.	DESCRIPTION	QTY	REMARKS
	ANEG002K70AP	DPC Common Checker	1	
	AT30A5500AP	DPC Checker Cable	1	NOTE

MEMO

DIGITAL PROGRAMMER CIRCUIT (NE-1056A, NE-1056C)

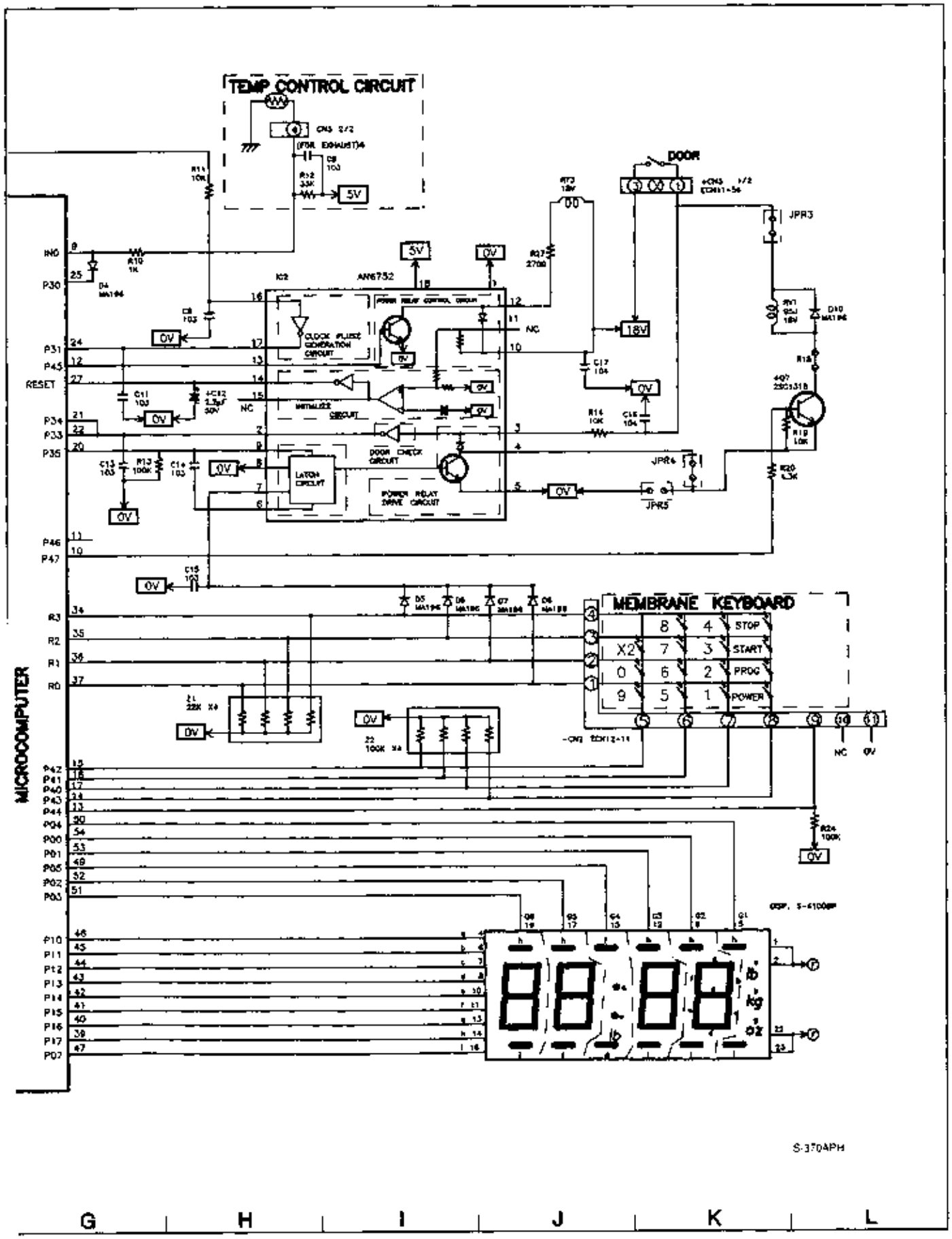
SCHEMATIC DIAGRAM



IC-1 PIN NO.	IC-1 SYMBOL NO.	WAVEFORM
24	P31	16.7mS
26	OUT	0.24μS
25	IN	
30	P04	16.7ms / 2.5ms
31	P03	
32	P02	
33	P01	
34	P00	
14	P43	16.7mS / 2.5ms
15	P42	
16	P41	
17	P40	

VOLTAGE OF IC1 TERMINALS

IC1 PIN NO.	FUNCTION	TEST CONDITION	VOLTAGE (APPROX.)
27	RESET	NORMAL	5V
22	DOOR CHECK	DOOR OPEN	5V
		DOOR CLOSED	0V
20	LATCH SOLENOID	BEFORE SETTING	0V
		POWER SELECTED OR DURING OPERATION	5V
12	RY3 (OVEN LAMP)	DURING COOKING OR DOOR OPEN	5V
10	RY1 (MICROWAVE)	DURING MICROWAVE COOKING	5V


TEMP CONTROL CIRCUIT
DOOR
MICROCOMPUTER
MEMBRANE KEYBOARD
STOP
START
PROG
POWER
CLOCK PULSE GENERATION CIRCUIT
INITIALIZE CIRCUIT
DOOR CHECK CIRCUIT
LATCH CIRCUIT
POWER RELAY DRIVE CIRCUIT
AN6752
RESET
S-370APH

DP-019
370APH
Printed in U.S.A.
(MG) (YS) (DP)

ORDER NO. MMCA9702012S1
E10

Service Manual

Commercial Microwave Oven

Supplement

NE-1056A
NE-1056C

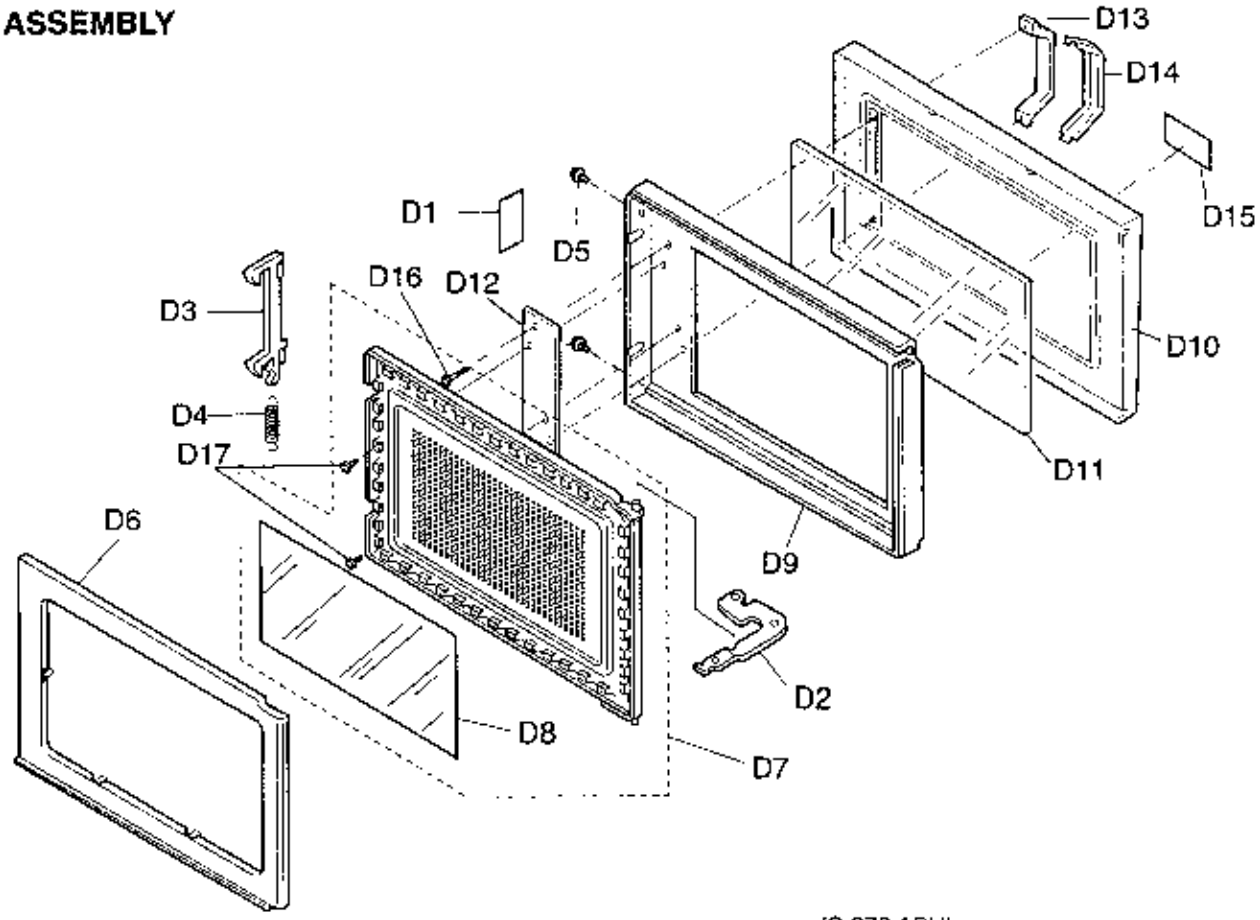
Please use this Supplement Service Manual together with Service Manual, Order No. MMCA9609016 C1. Please replace and use the revised pages 23 and 24 in this supplement in place of pages 23 and 24 in the Main Service Manual.

⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the products dealt with in this service information by anyone else could result in serious injury or death.

Panasonic

DOOR ASSEMBLY

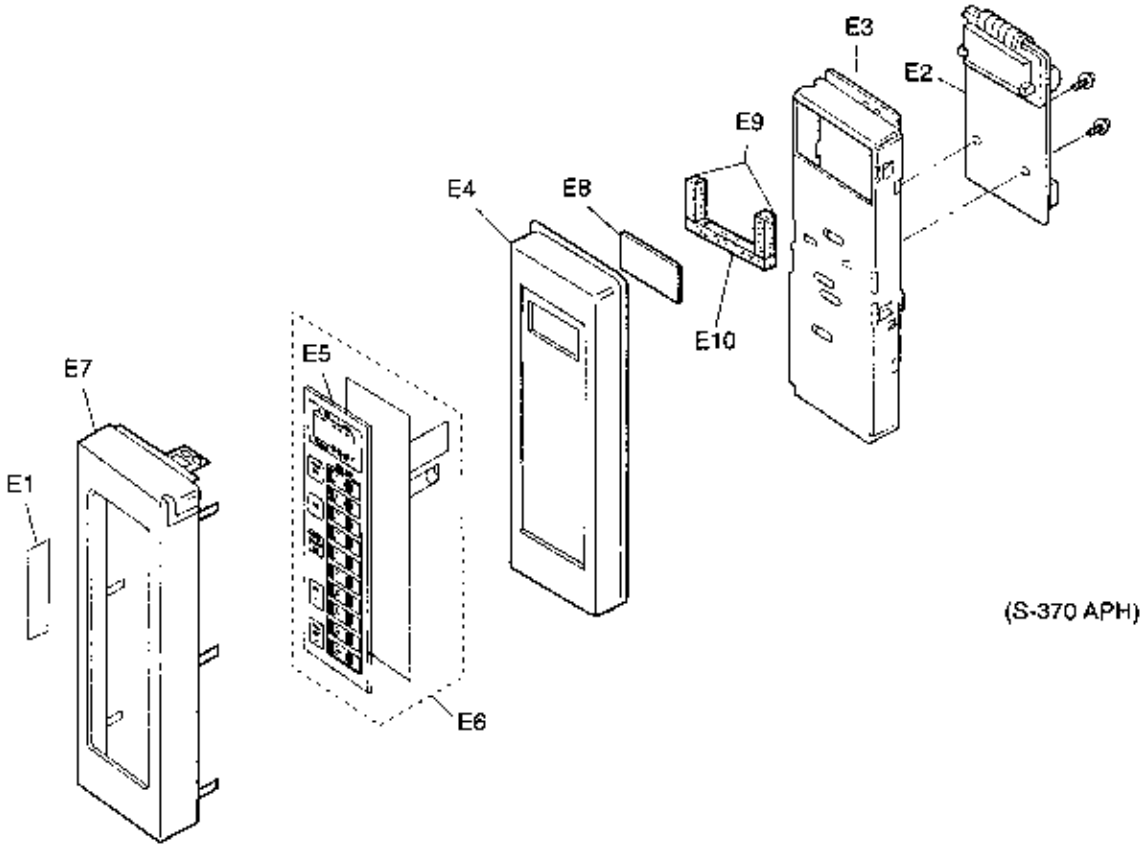


(S-370 APH)

Ref.No.		Part No.	Part Name & Description	Pcs/Set	Remarks
*D1		B02454180AP	DHHS LABEL	1	NE-1056A
*D1		B04114180CP	CSA LABEL	1	NE-1056C
*D2	⚠	B30067050AP	UPPER HINGE (A)	1	
*D3		B3018-1480	DOOR KEY A	1	
*D4		B30214000AP	DOOR KEY SPRING	1	
*D5		XTBANE3+8BC	SCREW	2	
*D6	⚠	B30858340AP	DOOR C / BLACK	1	
*D7	⚠	B302K8340AP	DOOR E (U) / BLACK	1	
*D8	⚠	B31457200AP	DOOR SCREEN A	1	
D9	⚠	A30013700AP	DOOR A / 1.5 BLACK	1	
D10		A300A3700AP	DOOR B (U)	1	(NOTE 1)
D11		A31463700AP	DOOR SCREEN B (GLASS)	1	
D12		A32863700AP	HANDLE BRACKET	1	
D13		A30703170GP	HANDLE PIECE A	1	
D14		ANE31348U0AP	HANDLE PIECE B	1	
D15		A31463700AP	DOOR PANEL	1	
*D16		XYEANE4+C16T	SCREW	2	
*D17		XTN4+8J	SCREW	2	

NOTE 1: Please order Door B and DHHS Label or CSA Label together.

ESCUTCHEON BASE ASSEMBLY



Ref.No.		Part No.	Part Name & Description	Pcs/Set	Remarks
*E1		B00073700AP	NAME PLATE	1	NE-1056A
*E2		B603L3700AP	D.P. CIRCUIT (U)	1	RTL (W/COMPONENTS)
E3		A81273700AP	BACK PLATE	1	
E4		A80343700AP	ESCUTCHEON BASE	1	(NOTE 2)
*E5		B630Y3700AP	MEMBRANE SWITCH (U)	1	(W/ ESCUTCHEON SHEET)
*E6		B83373700AP	ESCUTCHEON SHEET	1	
E7		A800N3700AP	ESCUTCHEON BASE A (U)	1	
*E8		B80028640AP	DISPLAY LENS	1	
*E9		AMQ0923000AB	CUSHION RUBBER C	2	
*E10		AMQ0903000AG	CUSHION RUBBER A	1	

NOTE 2: Please order Escutcheon Base and Name Plate together.

DP-SUP009
S-370 APH
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