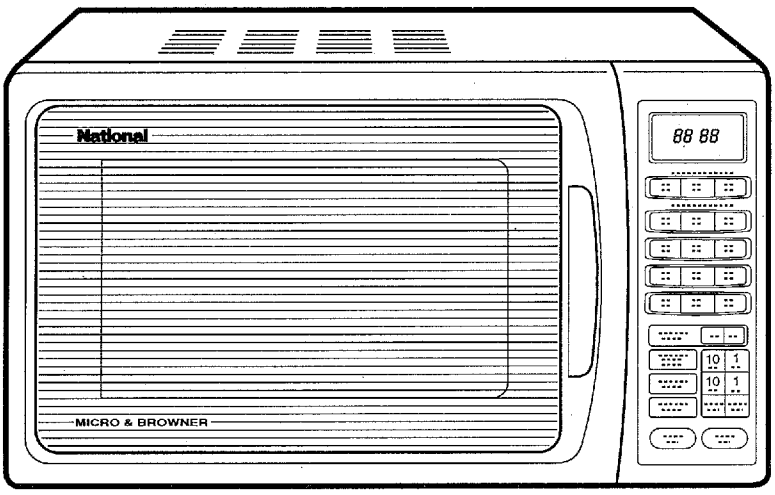
ORDER NO. MOD9609114C3

Service Manual

Microwave Oven

NN-K536W
NN-K536WS
NN-K566W
NN-K566WS
NN-K586W
NN-K586WS



Specifications

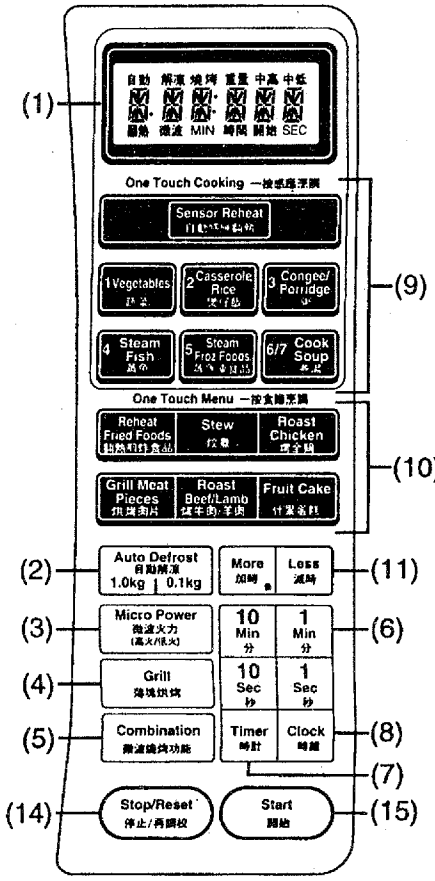
Power Source :		220 V AC Single Phase 50 Hz
Power Requirement :		1,400 W
Output:	Microwave	900 W (IEC-705)
	Heater	1,100 W (NN-K536W/WS), 1,300 W (NN-K566W/WS, NN-K586W/WS)
Microwave Frequency :		2450 MHz
Timer :		99 min. 99 sec.
Outside Dimensions :		306 mm (H) X 510 mm (W) X 385 mm (D) ····· NN-K536W/WS 306 mm (H) X 510 mm (W) X 370 mm (D) ····· NN-K586W/WS, 566W/WS
Oven Cavity Dimensions :		200 mm (H) X 330 mm (W) X 330 mm (D)
Weight :		17.5 kg
Specifications subject to change without notice.		

National®

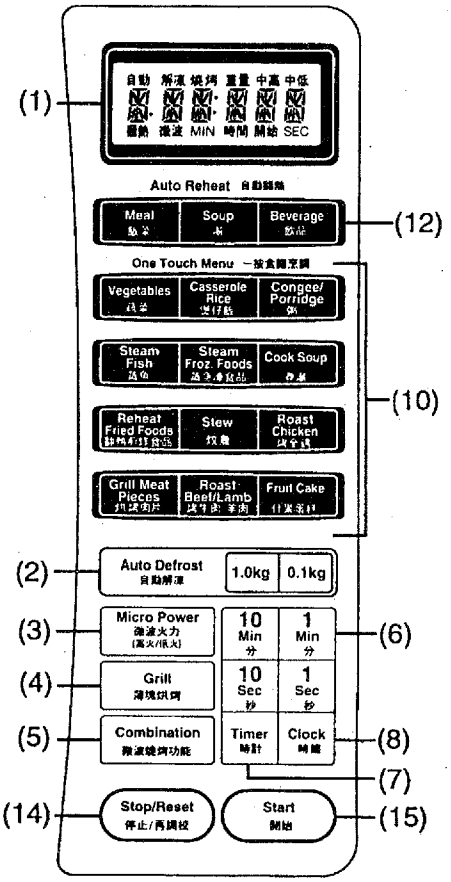
© 1996 Matsushita Electric Industrial Co.,Ltd.
All rights reserved. Unauthorized copying and distribution is a violation of law.

CONTROL PANEL

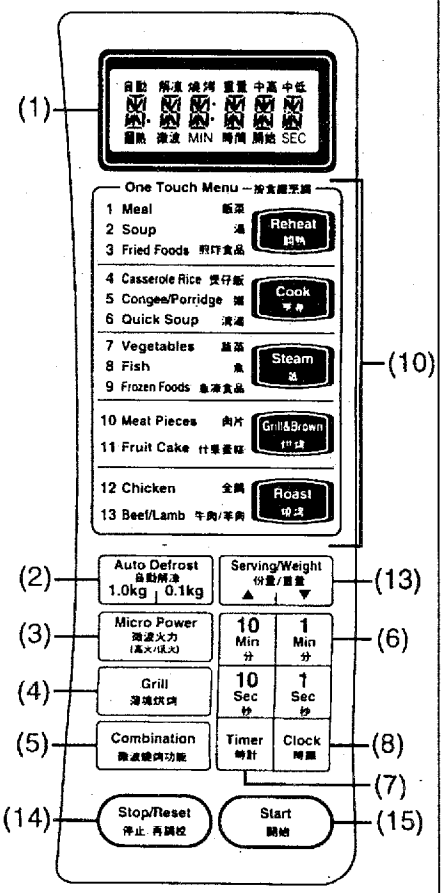
NN-K586W



NN-K566W



NN-K536W



(1) Display Window
(2) Auto Defrost Pads
(3) Microwave Power Pad
(4) Grill Pad
(5) Combination Pad

(6) Time Pads
(7) Timer Pad
(8) Clock Pad
(9) One Touch Cooking Pads
(10) One Touch Menu Pads

(11) More/Less Pads
(12) Auto Reheat Pads
(13) Serving/Weight Pads

Pull Door Handle:
Pull to open the door. Opening the door during cooking will stop the cooking process without cancelling the program. Cooking resumes as soon as the door is closed and Start Pad is pressed. The oven light will turn on and stay on whenever the door is opened. It is quite safe to open the door at any time during a cooking program and there is no risk of microwave exposure.

Beep Sound:
When a pad is pressed correctly, a beep will be heard. If a pad is pressed and no beep is heard, the unit has not accepted the instruction. The oven will beep twice between programmed stages. At the end of any complete program, the oven will beep five times.

(14) Stop/Reset Pad
Before cooking: One tap clears your instructions.
During cooking: One tap temporarily stops the cooking process. Another tap cancels all your instructions and time of day will appear in the display.

(15) Start Pad
One tap allows oven to begin functioning. If door is opened or Stop/Reset Pad is tapped once during oven operation, Start Pad must again be pressed to restart oven.

⚠ 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

* This product should be serviced only by trained, qualified personnel.
This service manual covers products for following markets.
When troubleshooting or replacing parts, please refer to the country identifications shown below for your applicable product specification.

HNE·····For Hong Kong XNE·····For China

CONTENTS

(Page)

FEATURE CHART

FEATURE / MODEL	NN-K586W/WS	NN-K566W/WS	NN-K536W/WS
MEMORY STAGE	3	3	3
GRILL	○	○	○
COMBINATION	○	○	○
AUTO WEIGHT DEFROST	○	○	○
SENSOR COOK	○	—	—
SENSOR REHEAT	○	—	—
ONE TOUCH COOK	○	○	○
DELAY/STAND	○	○	○
DIGITAL CLOCK	○	○	○
WORD PROMPTING	○	○	○

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 8A 250V fuse is blown due to the operation of short switch:

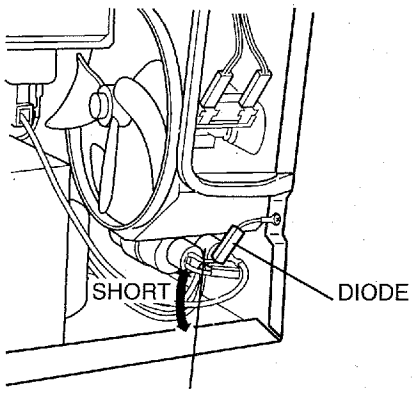
WARNING

When the 8A 250V. fuse is blown due to the operation of short switch, you must replace Primary latch switch and short switch. Also replace power relay 1 (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.



01-003M

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.

CAUTION
MICROWAVE RADIATION

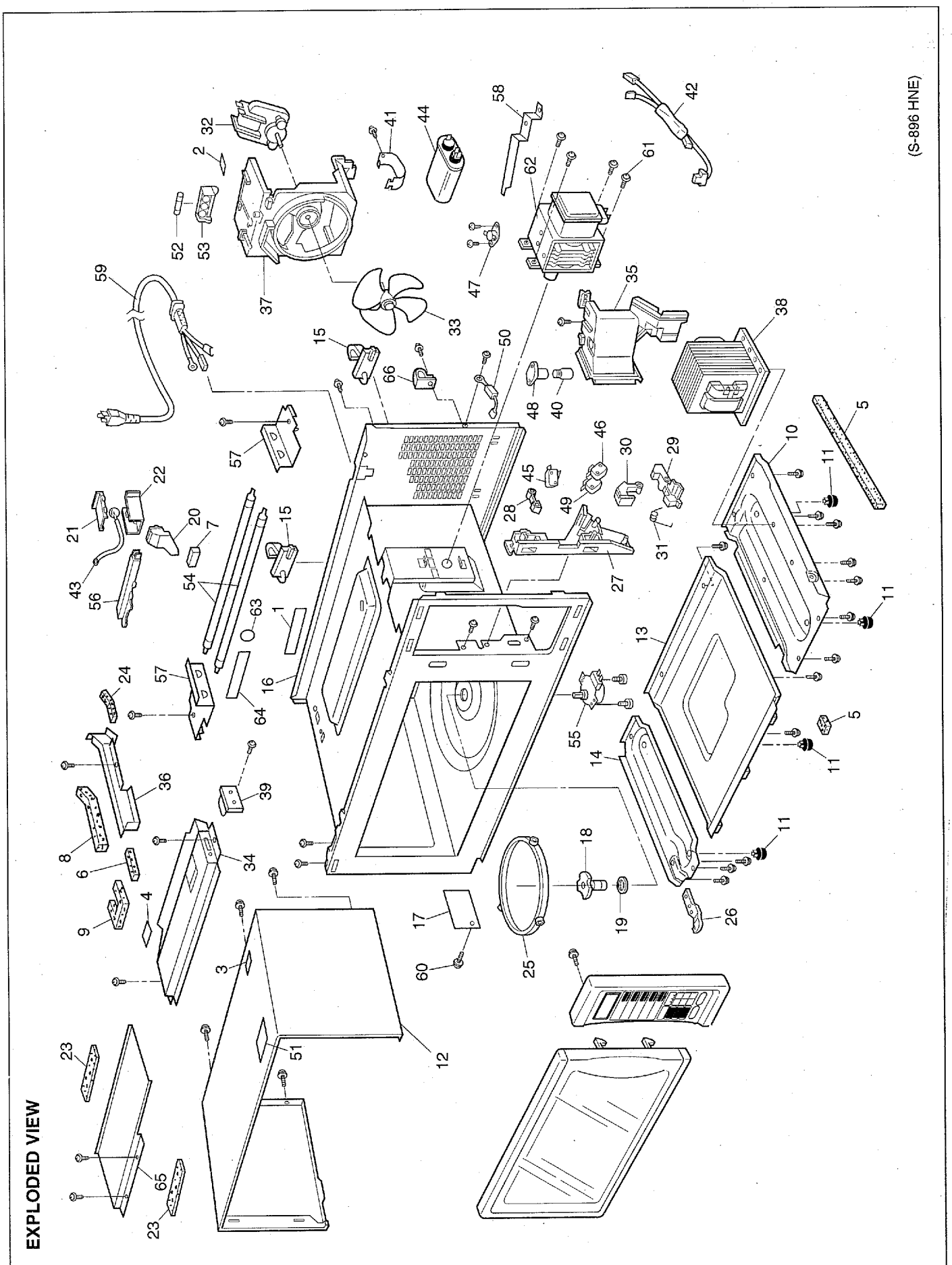
DO NOT BECOME EXPOSED TO RADIATION FROM THE MICROWAVE GENERATOR OR OTHER PARTS CONDUCTING MICROWAVE ENERGY.

IMPORTANT NOTICE

1. The following components have potentials above 250V while the appliance is operated.
   - ※ Magnetron
   - ※ High voltage transformer
   - ※ High voltage diode
   - ※ High voltage capacitor
   - ※ Protector diode

   Pay special attention on these portions.
2. When the appliance is operated with the door hinge or magnetron fixed incorrectly, the microwave leakage can reach more than 5mW/cm^2. After repair or exchange, it is very important to check if magnetron and the door hinge is correctly fixed.

EXPLODED VIEW AND PARTS LIST



PARTS LIST

NOTE 1: When ordering replacement part(s), please use part number(s) shown in this parts list. Do not use description of the part.

2: 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.

3: Alphabet marks in Remarks colums (i.e. HNE etc) indicate parts applicable to only specified country models as follows.

HNE: For Hong Kong, XNE: For China

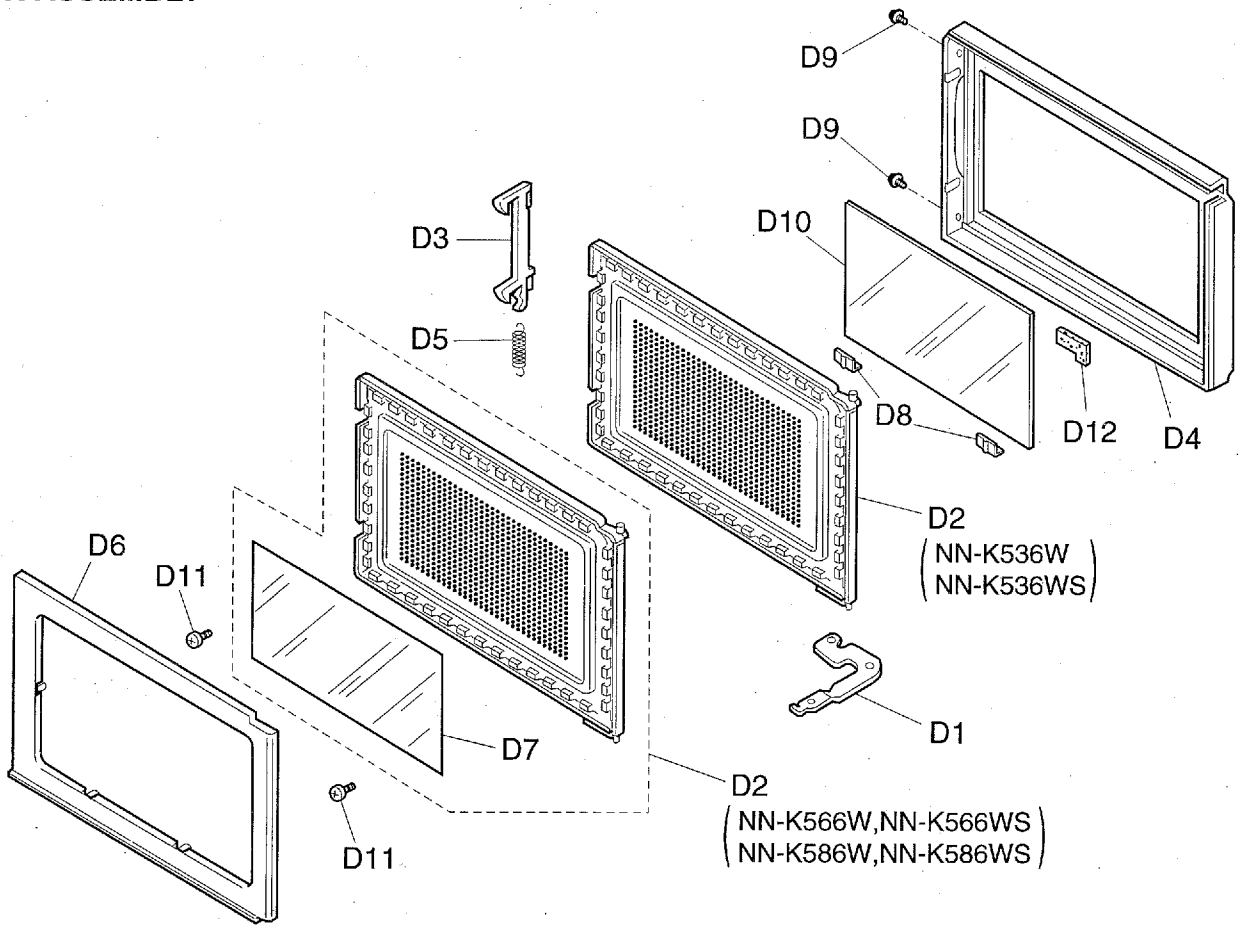
Parts without these marks can be used for all models.

Ref. No.		Part No.	Part Name & Description	Pcs/ Set	Remarks
1		A00065460JP	CAUTION LABEL	1	NN-K536W,NN-K566W,NN-K586W
1		A00067680XN	CAUTION LABEL	1	NN-K536WS,NN-K566WS,NN-K586WS
2		ANE0033770XN	FUSE LABEL	1	
3		A01505870GS	CAUTION LABEL	1	
4		A04907530HN	HEATER LABEL	1	NN-K536W,NN-K536WS
4		A04906520HN	HEATER LABEL	1	NN-K566W,NN-K566WS,NN-K586W,NN-K586WS
5		ANE000Z000AA	CUSHION RUBBER A	2	
6		ANE000Z000AB	CUSHION RUBBER C	1	NN-K566W,NN-K566WS,NN-K586W,NN-K586WS
7		ANE0925000BD	CUSHION RUBBER C	1	NN-K586W,NN-K586WS
8		ANE0963000AK	CUSHION RUBBER D	1	NN-K536W,NN-K536WS
9		ANE0963000AN	CUSHION RUBBER D	1	
10		A10016520GP	BASE	1	
11		ANE1008-3W0	RUBBER FOOT	4	
12		A10098980HXN	CABINET BODY (U)	1	(NOTE 4)
13		A10266520GP	BASE C	1	
14		A11296520GP	BASE B	1	
15		A11405840GP	STOPPER	2	NN-K536W,NN-K536WS
15		A11406520GP	STOPPER	2	NN-K566W,NN-K566WS,NN-K586W,NN-K586WS
16	⚠	A200A7530HN	OVEN	1	NN-K536W,NN-K536WS (NOTE 4)
16	⚠	A200A8970XN	OVEN	1	NN-K566W,NN-K566WS (NOTE 4)
16	⚠	A200A8980XN	OVEN	1	NN-K586W,NN-K586WS (NOTE 4)
17		A20556520GP	COVER	1	
18		A21315540AP	PULLEY SHAFT	1	NN-K536W,NN-K536WS
18		A21315870GP	PULLEY SHAFT	1	NN-K566W,NN-K566WS,NN-K586W,NN-K586WS
19		ANE2177-F80	WASHER	1	
20		A40268980HN	AIR GUIDE B	1	NN-K586W,NN-K586WS
21		A22135540AP	SENSOR BRACKET A	1	NN-K586W,NN-K586WS
22		A22145540AP	SENSOR BRACKET B	1	NN-K586W,NN-K586WS
23		A22588960HN	ADIABATIC MATERIAL C	2	
24		A22587530HN	ADIABATIC MATERIAL	1	NN-K536W,NN-K536WS
25		A290D5870GP	ROLLER RING (U)	1	NN-K566W,NN-K566WS,NN-K586W,NN-K586WS
25		A290D6150WN	ROLLER RING (U)	1	NN-K536W,NN-K536WS
26	⚠	A30077050AP	LOWER HINGE	1	
27		A3020-1480	DOOR HOOK	1	
28		A3136-1480	HOOK SPACER A	1	
29		A3137-1480	HOOK SPACER B	1	
30		A3138-1480	HOOK SPACER C	1	
31		A3097-1480	SPRING	1	
32		A400A4760JP	FAN MOTOR	1	AC,26W,SINGLE
33		ANE40086W0AP	FAN	1	
34		A40247530HN	EXHAUST GUIDE	1	NN-K536W,NN-K536WS
34		A40246520GP	EXHAUST GUIDE	1	NN-K566W,NN-K566WS,NN-K586W,NN-K586WS
35		A40254760JP	AIR GUIDE A	1	
36		A40266520GP	AIR GUIDE B	1	
37		A41445540AP	ORIFICE	1	
38	⚠	A600B8980HN	H.V.TRANSFORMER	1	NN-K566W,NN-K566WS,NN-K586W,NN-K586WS (1.6KVA)
38	⚠	A600B5540HN	H.V.TRANSFORMER	1	NN-K536W,NN-K536WS (1.7KVA)
39		A601L5150AP	TEMP SENSOR	1	

Ref. No.		Part No.	Part Name & Description	Pcs/ Set	Remarks
40		A60304080BP	INCANDESCENT LAMP	1	20W,240V
41		A60374760GP	CAPACITOR BRACKET	1	
42		A606V4760JP	PROTECTOR DIODE	1	
43		A607S7050AP	STEAM SENSOR	1	NN-K586W,NN-K586WS
44		A60904080GP	H.V.CAPACITOR	1	1.14MF,AC2100V
45	⚠	A6142-1450	MICROSWITCH	1	(V-16G-3C26) PRIMARY LATCH SWITCH
46	⚠	A61425180AP	MICROSWITCH	1	(L-3C2-2) SECONDARY LATCH SWITCH
47	⚠	A61454000AP	THERMAL CUTOUT	1	
48	⚠	A61524000AP	SOCKET	1	
49		ANE6161-3X0	MICRO SWITCH	1	(V-16G-1C25) SHORT SWITCH
50	⚠	A62024000AP	DIODE,SI	1	
51		A02448980XN	CAUTION LABEL	1	
52	⚠	ANE6230Z70BP	FUSE	1	8A
53		A62314000AP	FUSE HOLDER	1	
54		A630G7530HN	HEATER A	2	NN-K536W,NN-K536WS
54		A630G6520HN	HEATER A	1	NN-K566W,NN-K566WS,NN-K586W,NN-K586WS
55		A63268960JP	TURNTABLE MOTOR	1	3W
56		A64508980XN	EXHAUST GUIDE B	1	NN-K586W,NN-K586WS
57		A64607530HN	HEATER MOUNTING PLATE	2	
58		A66266520GP	THERMAL CUTOUT MOUNT	1	
59	⚠	A900C7530HN	AC CORD W/PLUG	1	NN-K536W,NN-K566W,NN-K586W 220V
59	⚠	A900C6550XN	AC CORD W/PLUG	1	NN-K536WS,NN-K566WS,NN-K586WS 220V
60		XST4+5VS	SCREW	1	(4X5) FOR COVER
61		XTWANE4+10RU	SCREW	4	(4X10) FOR MAGNETRON
62	⚠	2M210-M1F	MAGNETRON	1	
63		A02357530XN	CCIB LABEL	1	NN-K536WS,NN-K566WS,NN-K536WS
64		A01578960XN	NAME PLATE	1	NN-K536WS
64		A01578970XN	NAME PLATE	1	NN-K566WS
64		A01578980XN	NAME PLATE	1	NN-K586WS
65		A40968980HN	INSULATION PLATE	1	
66		ANE9079-810	HOLDER G	1	

NOTE 4 : Please order name plate together. (XNE Model only.)

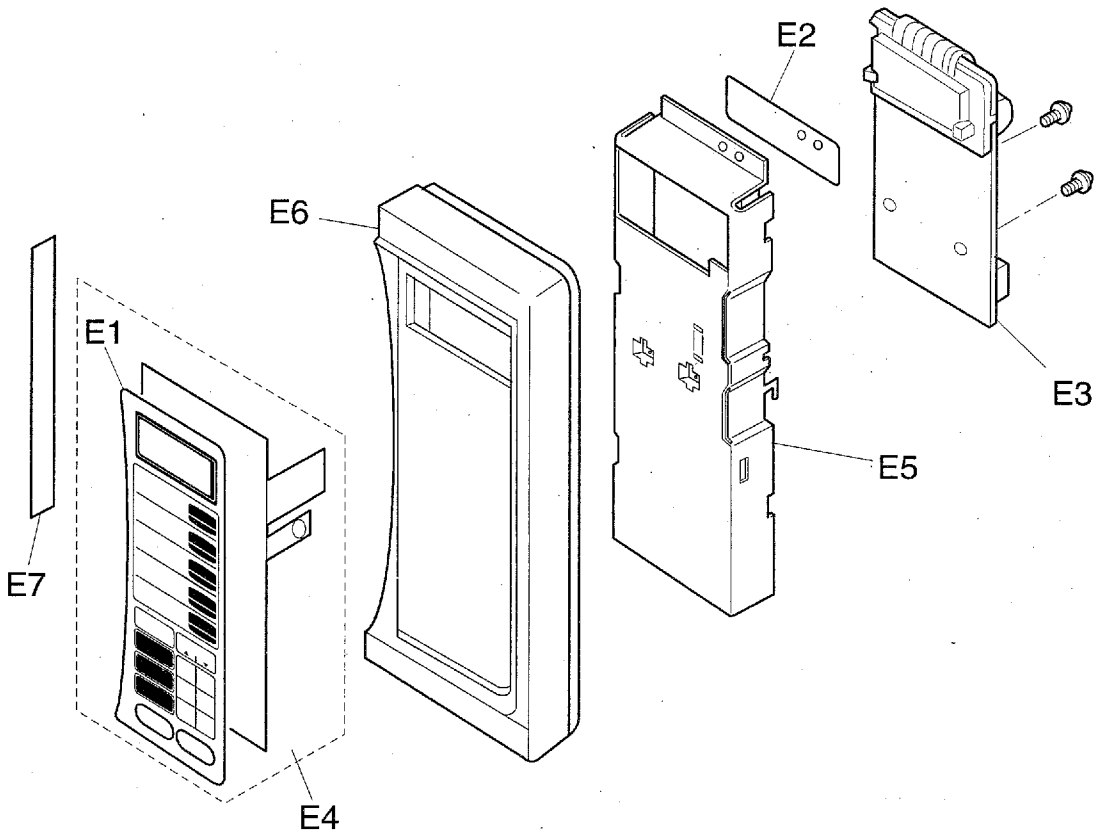
DOOR ASSEMBLY



(S-896 HNE)

Ref. No.		Part No.	Part Name & Description	Pcs/ Set	Remarks
D1	⚠	A30067300AP	UPPER HINGE	1	
D2	⚠	A302K8960HN	DOOR E (U)	1	NN-K536W,NN-K536WS
D2	⚠	A302K8980HN	DOOR E (U)	1	NN-K566W,NN-K566WS,NN-K586W,NN-K586WS
D3		A3018-1480	DOOR KEY A	1	
D4	⚠	A30018960HHN	DOOR A	1	
D5		A30214000AP	DOOR KEY SPRING	1	
D6	⚠	A30858960HN	DOOR C	1	
D7	⚠	A31457200AP	DOOR SCREEN A	1	NN-K536W,NN-K536WS
D8		A32778960HN	DOOR SCREEN BRACKET	2	
D9		XTBANE3+8BC	SCREW	2	3X8
D10	⚠	A31468970HN	DOOR SCREEN B	1	NN-K536W,NN-K536WS,NN-K566W,NN-K566WS
D10	⚠	A31468980HN	DOOR SCREEN B	1	NN-K586W,NN-K586WS
D11		XTN3+7Q	SCREW	2	3X7
D12		A09628660HN	CUSHION RUBBER D	1	NN-K536W,NN-K536WS

ESCUTCHEON BASE ASSEMBLY

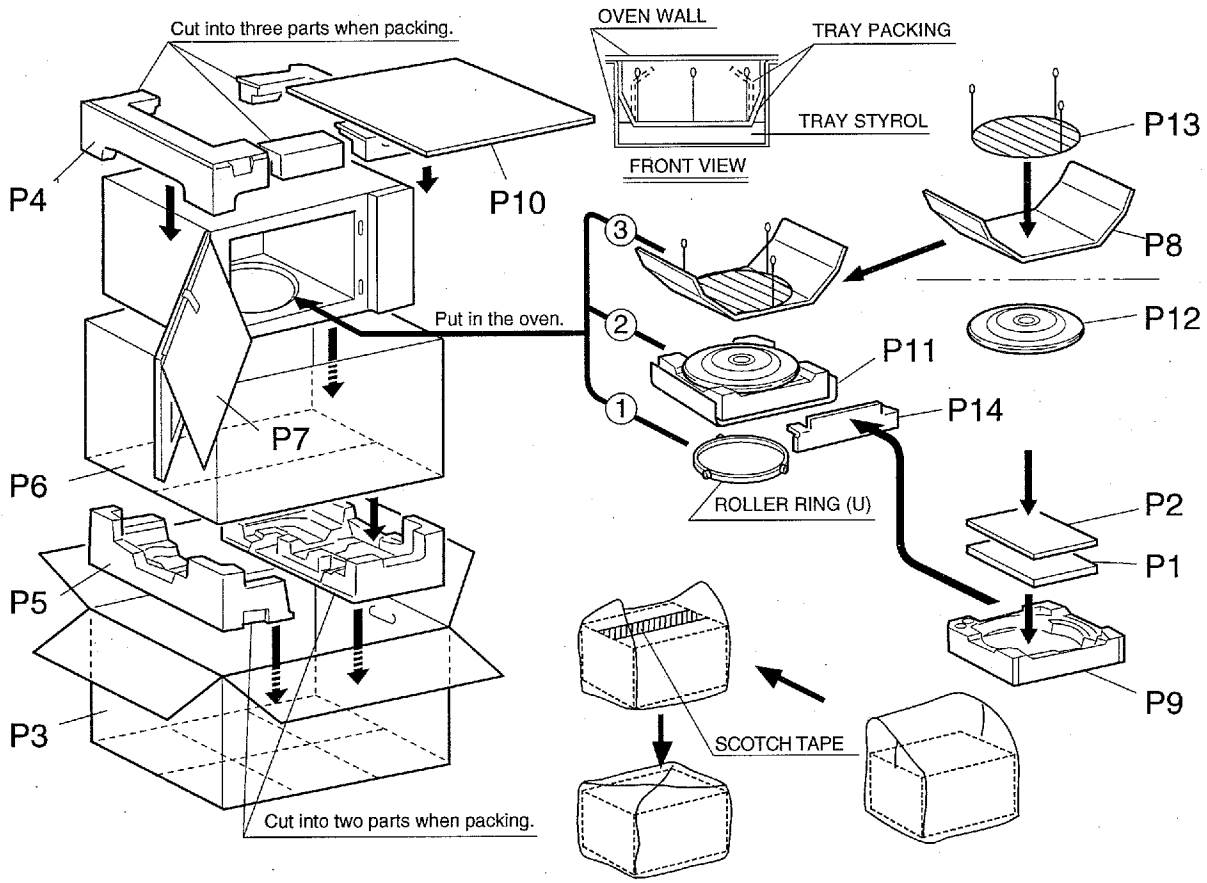


(S-896 HNE)

Ref. No.		Part No.	Part Name & Description	Pcs/ Set	Remarks
E1		A83378960HHN	ESCUTCHEON SHEET	1	NN-K536W
E1		A83378960HXN	ESCUTCHEON SHEET	1	NN-K536WS
E1		A83378970HHN	ESCUTCHEON SHEET	1	NN-K566W
E1		A83378970HXN	ESCUTCHEON SHEET	1	NN-K566WS
E1		A83378980HHN	ESCUTCHEON SHEET	1	NN-K586W
E1		A83378980HXN	ESCUTCHEON SHEET	1	NN-K586WS
E2		A82518980HN	ESCUTCHEON SPACER B	1	
E3		A603L8960HN	D.P.CIRCUIT (U)	1	NN-K536W RTL (W/COMPONENT)
E3		A603L8960XN	D.P.CIRCUIT (U)	1	NN-K536WS RTL (W/COMPONENT)
E3		A603L8970HN	D.P.CIRCUIT (U)	1	NN-K566W RTL (W/COMPONENT)
E3		A603L8970XN	D.P.CIRCUIT (U)	1	NN-K566WS RTL (W/COMPONENT)
E3		A603L8980HN	D.P.CIRCUIT (U)	1	NN-K586W RTL (W/COMPONENT)
E3		A603L8980XN	D.P.CIRCUIT (U)	1	NN-K586WS RTL (W/COMPONENT)
E4		A630Y8960HN	MEMBRANE SWITCH (U)	1	NN-K536W (W/ESCUTCHEON SHEET, ADHERE SHEET)
E4		A630Y8960XN	MEMBRANE SWITCH (U)	1	NN-K536WS (W/ESCUTCHEON SHEET, ADHERE SHEET)
E4		A630Y8970HN	MEMBRANE SWITCH (U)	1	NN-K566W (W/ESCUTCHEON SHEET, ADHERE SHEET)
E4		A630Y8970XN	MEMBRANE SWITCH (U)	1	NN-K566WS (W/ESCUTCHEON SHEET, ADHERE SHEET)
E4		A630Y8980HN	MEMBRANE SWITCH (U)	1	NN-K586W (W/ESCUTCHEON SHEET, ADHERE SHEET)
E4		A630Y8980XN	MEMBRANE SWITCH (U)	1	NN-K586WS (W/ESCUTCHEON SHEET, ADHERE SHEET)
E5		A81278960HN	BACK PANEL	1	NN-K536W,NN-K536WS
E5		A81278980HN	BACK PANEL	1	NN-K566W,NN-K566WS,NN-K586W,NN-K586WS
E6		A800L8980HHN	ESCUTCHEON BASE	1	(NOTE 5) W/ADHERE SHEET
E7		A01578960HN	NAME PLATE	1	NN-K536W
E7		A01578970HN	NAME PLATE	1	NN-K566W
E7		A01578980HN	NAME PLATE	1	NN-K586W

NOTE 5 : Please order name plate together. (HNE Model only.)

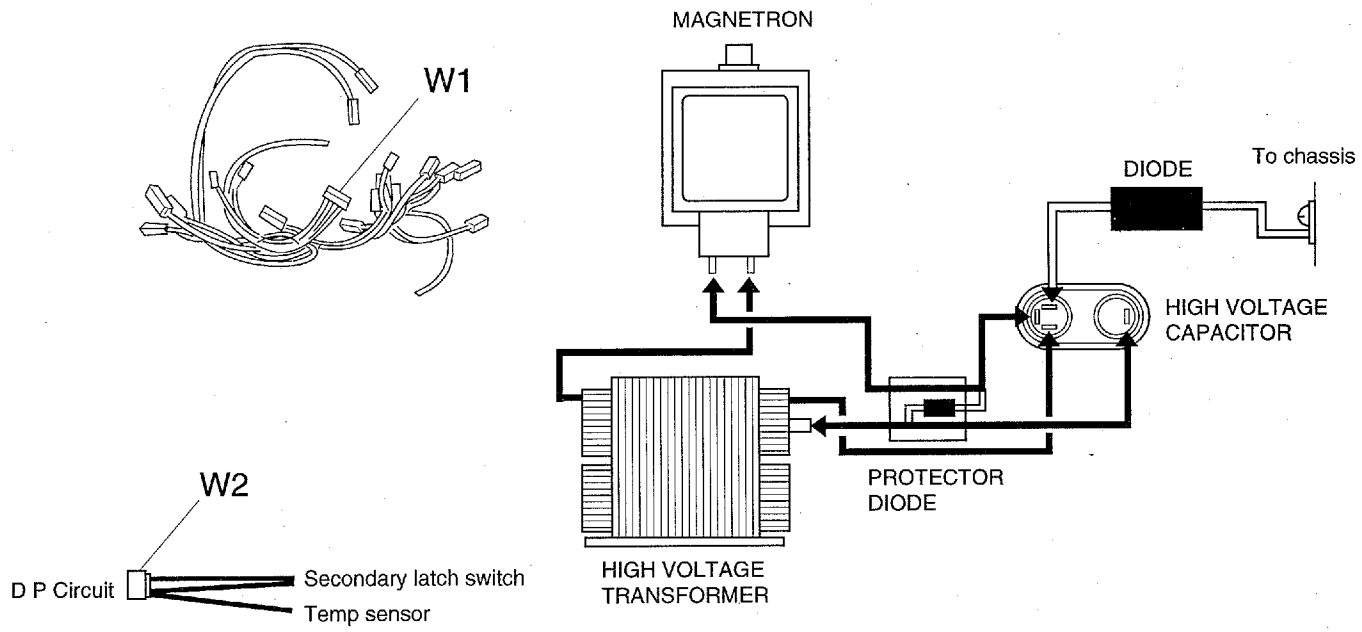
PACKING AND ACCESSORIES



(S-896 HNE)

Ref. No.		Part No.	Part Name & Description	Pcs/ Set	Remarks
P1		A000B6250HN	COOK BOOK	1	NN-K536W,NN-K566W,NN-K586W
P2		A00038980HN	INSTRUCTION BOOK	1	NN-K536W,NN-K566W,NN-K586W
P2		A00038980XN	INSTRUCTION BOOK(U)	1	NN-K536WS,NN-K566WS,NN-K586WS (W/CAUTION SHEET)
P3		A01028960HN	PACKING CASE,PAPER	1	NN-K536W
P3		A01028960XN	PACKING CASE,PAPER	1	NN-K536WS
P3		A01028970HN	PACKING CASE,PAPER	1	NN-K566W
P3		A01028970XN	PACKING CASE,PAPER	1	NN-K566WS
P3		A01028980HN	PACKING CASE,PAPER	1	NN-K586W
P3		A01028980XN	PACKING CASE,PAPER	2	NN-K586WS
P4		A01047200HN	UPPER FILLER	1	
P5		A01057200HN	LOWER FILLER	1	
P6		A01064830AP	VINYL COVER	1	
P7		ANE01072Q0AP	DOOR SHEET	1	
P8		A01086520EP	TRAY PACKING	1	
P9		A01136520GP	TRAY STYROL	1	
P10		A01264800XN	REINFORCE MATERIAL	1	NN-K536WS,NN-K566WS,NN-K586WS
P11		A0192-1100	PACKING	1	NN-K566W,NN-K566WS,NN-K586W,NN-K586WS
P12		A06017210QP	COOKING TRAY	1	
P13		A06025870UP	OVEN RACK	1	
P14		A01457530XN	DOOR SHEET B	1	NN-K536W,NN-K536WS

WIRING MATERIAL



(S-896 HNE)

Ref. No.		Part No.	Part Name & Description	Pcs/ Set	Remarks
W1		A030A8960HN	LEAD WIRE HARNESS	1	
W2		A03538980GP	LEAD WIRE	1	

TROUBLESHOOTING GUIDE

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. AC is present at the shaded area ▨ of the digital programmer circuit (Terminals of power relay's 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	CAUSE	CORRECTIONS
1.	Oven is dead. Fuse is OK. No display and no operation at all.	1. Open or loose lead wire harness	
		2. Open thermal cutout (Magnetron)	Check fan motor when thermal cutout is defective.
		3. Open low voltage transformer 4. Defective DPC	
2.	Oven does not accept key input (Program)	1. Key input is not in-sequence	Refer to operation procedure.
		2. Open or loose connection of membrane key pad to DPC (Flat cable) 3. Shorted or open membrane key board	
		4. Defective DPC	Refer to DPC troubleshooting.
3.	Oven lamp and turntable motor turn on when oven is plugged in with door closed.	1. Misalignment or loose wiring of secondary latch switch	Adjust door and latch switches.
		2. Defective secondary latch switch	
4.	Timer starts count down but no microwave oscillation.	1. Off-alignment of latch switches	Adjust door and latch switches.
		2. Defective primary latch switch 3. Defective short switch 4. Open or loose wiring of power relay (RY1) 5. Defective power relay 1 (RY1) 6. Defective DPC. 7. Open or loose connection of high voltage circuit especially magnetron filament circuit NOTE: Large contact resistance will bring lower magnetron filament voltage and causing magnetron to lower output and/or intermittent oscillation.	
		8. Defective high voltage component H.V. Transformer H.V. Capacitor H.V. Diode Magnetron	Check high voltage component according to component test procedure and replace if it is defective.

[TROUBLE 2] Fuse is blown

	SYMPTOM	CAUSE	CORRECTIONS
1.	8A fuse is blown.	1. Shorted lead wire harness	
		2. Defective short switch	Check adjustment of latch switches and door
		3. Defective primary latch switch	
		4. Shorted H.V. Capacitor	
		5. Shorted H.V. Diode	Replace H.V. Diode and protector diode (*NOTE)
		6. Defective magnetron	Replace magnetron and protector diode (*NOTE)
		7. Shorted H.V. Transformer	Replace H.V.Transformer and protector diode (*NOTE)
		8. Shorted Protector diode	
		9. Shorted heater	
		10. Defective power relays	
		11. Defective DPC	
	※NOTE: Be sure to replace protector diode together with those H.V.Components. In this case, only D2 of protector diode may be shorted due to faulty H.V.Component. Therefore, if protector diode is not replaced together, high voltage transformer will be damaged (over heated).		

[TROUBLE 3] Other troubles

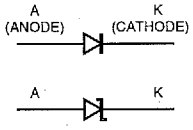
	SYMPTOM	CAUSE	CORRECTIONS
1.	Microwave output is low. Oven takes longer time to cook food.	1. Decrease in power source voltage	Consult electrician
		2. Open or loose wiring of magnetron filament circuit. (Intermittent oscillation) 3. Aging change of magnetron	
2.	Turntable motor and oven lamp turn on when door is openes.	1. Shorted primary latch switch	
3.	Oven cancels program as soon as start button is pressed.	1. Open or loose wiring of temp sensor 2. Defective temp sensor	Check tighten screws on escutcheon base bracket, D.P.C. board and temp sensor.
		3. Defective DPC	Refer to DPC troubleshooting.
4.	Loud buzzing noise can be heard.	1. Loose fan and fan motor 2. Loose screws on H.V.Transformer	
5.	Oven stops operation during cooking.	1. Off-alignment of latch switches	Adjust door and latch switches.
		2. Open or loose wiring of primary and secondary latch switch 3. Operation of thermal cutout (Magnetron)	
6.	Turntable motor does not rotate.	1. Open or loose wiring of turntable motor 2. Devective turntable motor	

【TROUBLE 4】 Trouble related to Digital programmer circuit

SYMPTOM	STEP	CHECK	RESULT	CAUSE/CORRECTIONS
No display when oven is first plugged in	1	Fuse pattern of DPC	Normal	STEP 2
			Open	Shorted circuit of ZNR, L. V. T., Oven Lamp etc. Replace DPC
	2	Low voltage transformer (LVT) secondary voltage	Abnormal 0V	LVT
			Normal	→ Step 3
	3	IC-1 pin 4 voltage (Emitter of Q1)	Abnormal	ZD1,Q1
			Normal ≒ 5V	→ Step 4
	4	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
No beep sound	1	IC-1 pin 23 voltage	Abnormal	IC-1
			Normal	BZ, Q2
Power relay A(RY-2) does not turn on even though the program has been set and the start pad is tapped	1	IC-1 pin 8 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-2
			RY-2 turns on	IC-2
No microwave oscillation at any power setting	1	IC-1 pin 5 and pin 64 voltages while operation at high powe	Abnormal	IC-1
			Normal 5---≒5V, 64---≒5V	→ Step 2
	2	Q4 transistor	Abnormal	Q4
			Normal	IC-2, RY-1, Q3
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



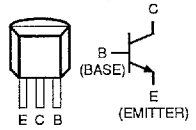
	FORWARD	REVERSE
A-K	SMALL	∞

Transistor

NPN Transistor

2SC·····

2SD·····

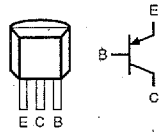


	FORWARD	REVERSE
B-E	SMALL	∞
B-C	SMALL	∞
C-E	∞	∞

PNP Transistor

2SA·····

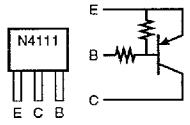
2SB·····



	FORWARD	REVERSE
B-E	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	∞

MEASUREMENTS AND ADJUSTMENTS

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 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

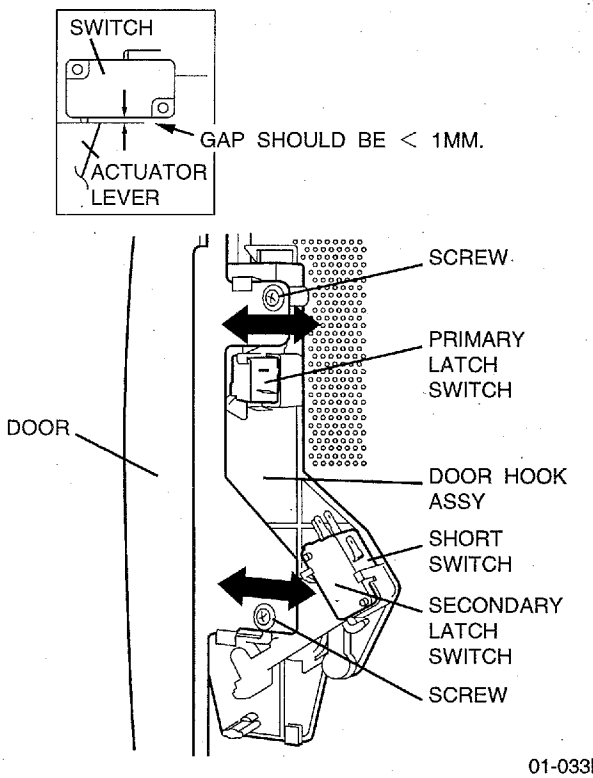
NOTE: Check the line voltage under load. Low voltage will lower the magnetron output. Take the temperature readings and heating time as accurate as possible.

(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 models is as shown in table.



01-033M

Please confirm that the gap between the switch housing and switch actuator levers is no more than 1.0mm when the door is closed.

TABLE (1 ℓ -1min. test)

OUTPUT	TEMPERATURE RISE
900W	Min. 8.0°C

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. High voltage transformer

(A) Remove connections from the transformer terminals and check continuity.
(B) Normal (cold) resistance readings should be as follows:

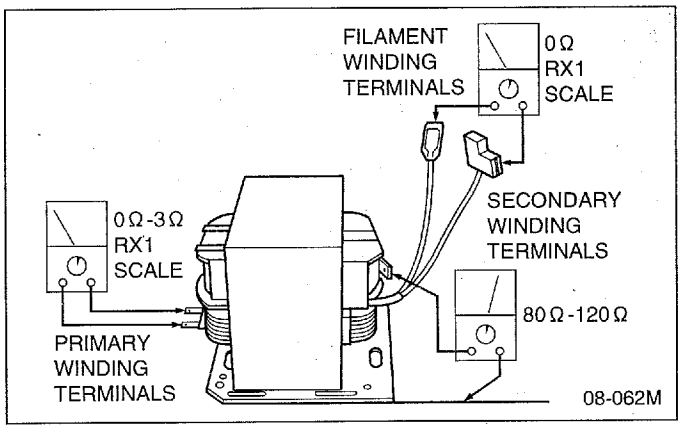
Secondary winding ..... Approx. 80Ω~120Ω
Filament winding ..... Approx. 0Ω
Primary winding ..... Approx. 0Ω~3Ω

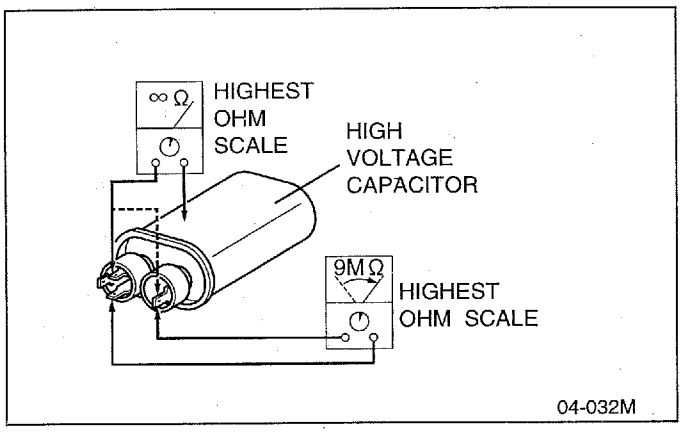
2. High voltage capacitor

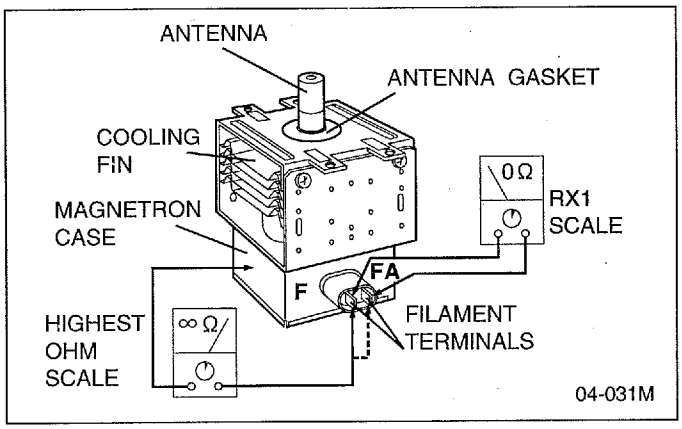
(A) Check continuity of capacitor with meter on highest OHM scale.
(B) A normal capacitor will show continuity for a short time, and then indicate 9MΩ once the capacitor is charged.
(C) A shorted capacitor will show continuous continuity.
(D) An open capacitor will show constant 9MΩ.
(E) Resistance between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

3. Magnetron

Continuity checks can only indicate an open filament or a shorted magnetron. To diagnose 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.

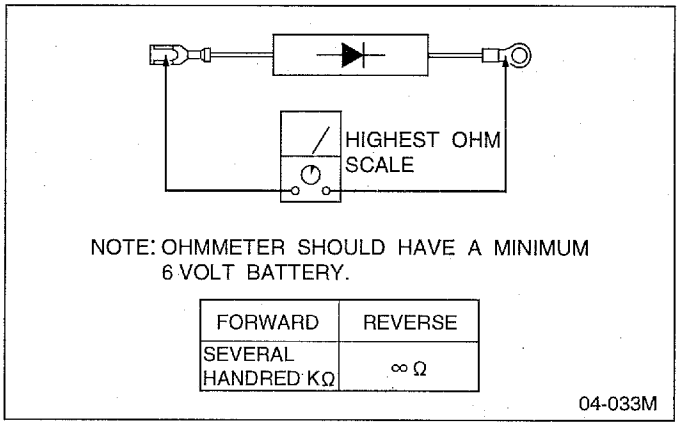






4. Diode

(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.

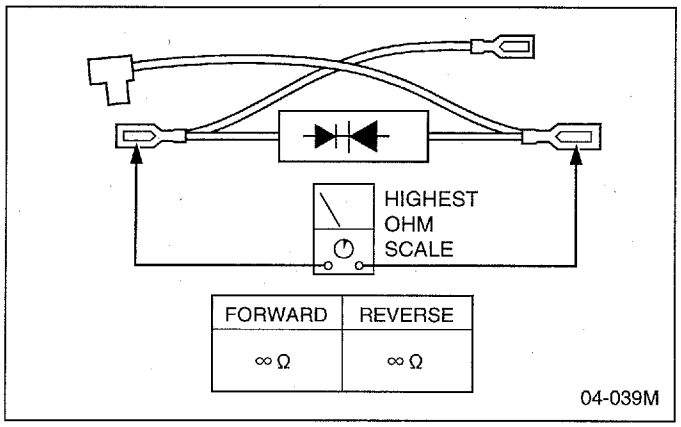


5. Membrane key board (Membrane switch assembly)

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.

6. Protector diode

(A) Isolate the protector diode assembly from the circuit by disconnecting its leads.
(B) With the ohmmeter set on the highest resistance scale, measure the resistance across the protector diode terminals.
Reverse the meter leads and again observe the resistance reading.
A normal protector diode's resistance will be infinite in both directions.
It is faulty if it shows continuity in one or both directions.



7. Temp sensor (Thermal protector)

A temp sensor is mounted on exhaust guide. 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)

DISASSEMBLY AND PARTS REPLACEMENT PROCEDURE

1. Magnetron

(A) Discharge the high voltage capacitor.
(B) Remove 1 screw holding thermal cutout mount plate.
(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.

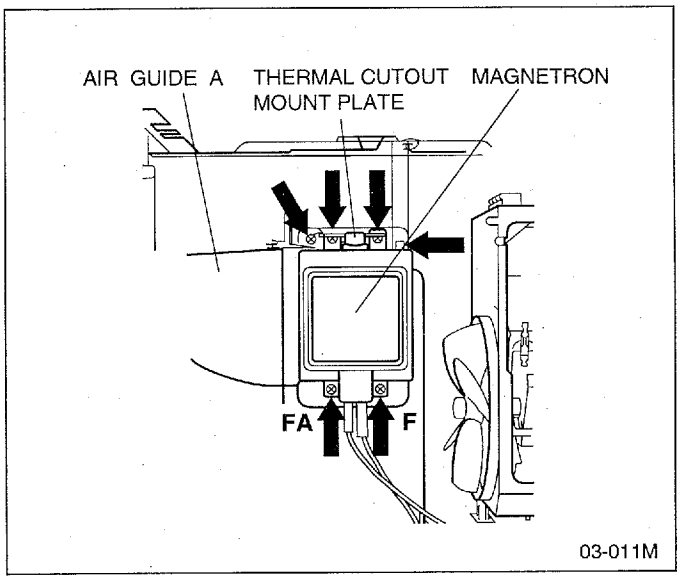
NOTE: After replacement of the magnetron, tighten mounting screws properly making sure there is no gap between the waveguide and the magnetron to prevent microwave leakage.

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.

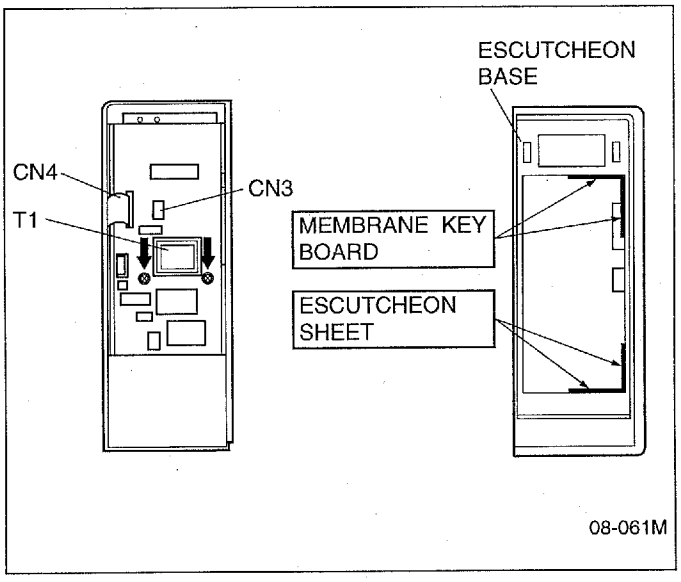
NOTE: Be sure to ground any static electric charge built up on your body, before handling the DPC.

(A) Disconnect all connectors from D.P.C.
(B) Remove 2 screws holding escutcheon base and slide the escutcheon base upward slightly.
(C) Release CN2 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.

To replace membrane key board

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

NOTE: Be sure to ground any static electric charge built up on your body before handling the DPC.

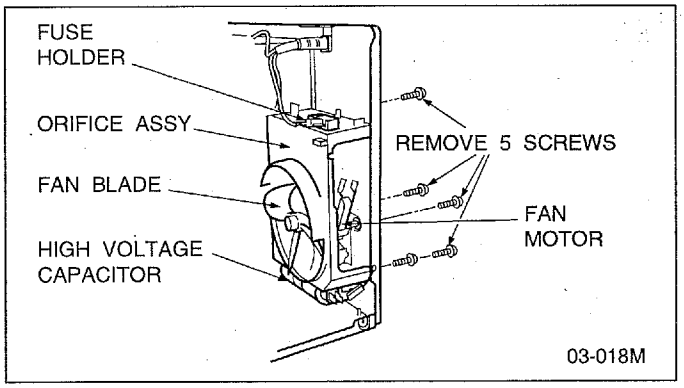
(A) Using solder wick or a desoldering tool and 30W soldering iron, carefully remove all solder from the terminal pins of the low voltage transformer and/or power relays.

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 separated 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 5 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.

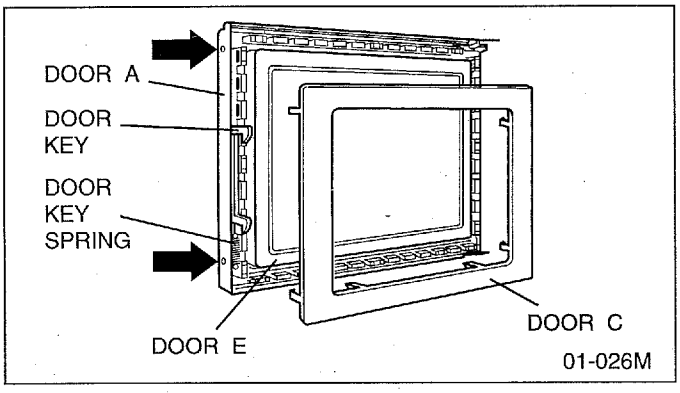


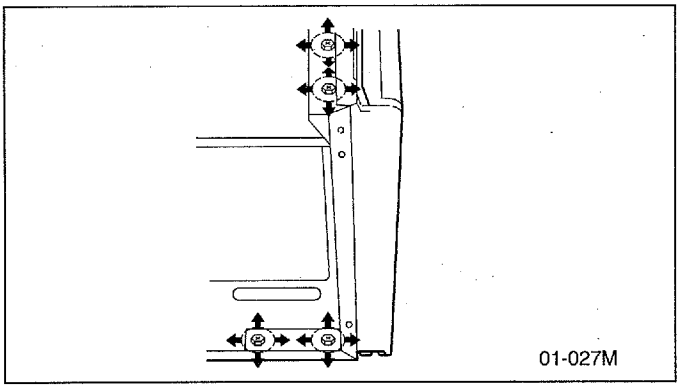
5. Door assembly

(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 frames of door A.
(D) Separate the door A from the door E by freeing catch hooks on the door A using a flat screwdriver.

After replacement 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.

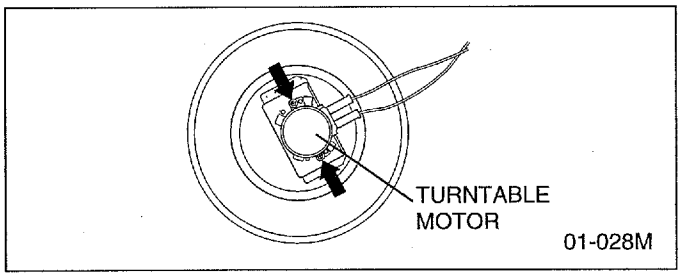
(1) When mounting the door to the oven, be sure to adjust the door parallel to the bottom line of the oven face plate by moving the upper hinge and lower hinge in the direction necessary for proper alignment.
(2) Adjust so that the door has no play between the inner door surface and oven front surface.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





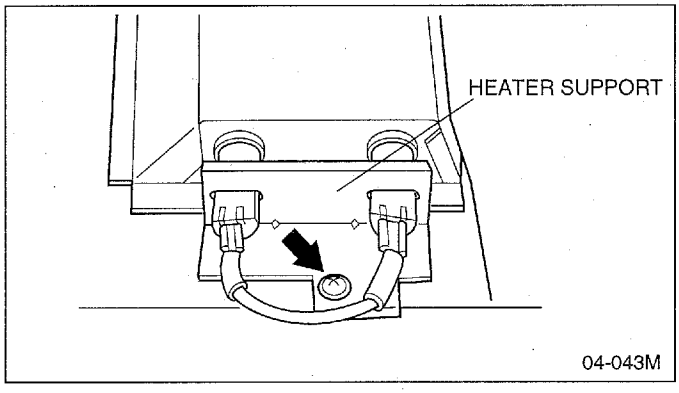
6. Turntable motor

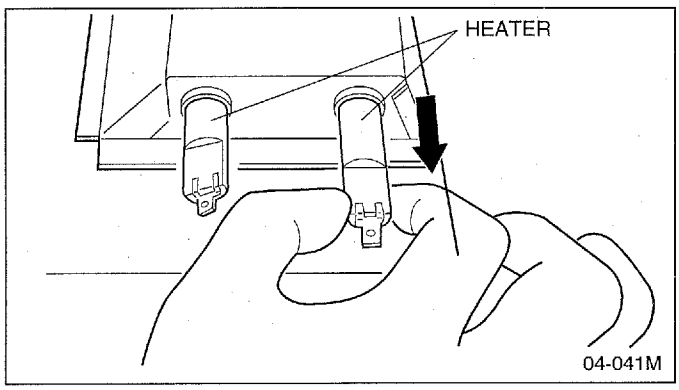
(A) Remove 2 screws holding motor cover.
(B) Disconnect 2 lead wires from turntable motor.
(C) Remove 2 screws holding turntable motor.



7. Quartz heater

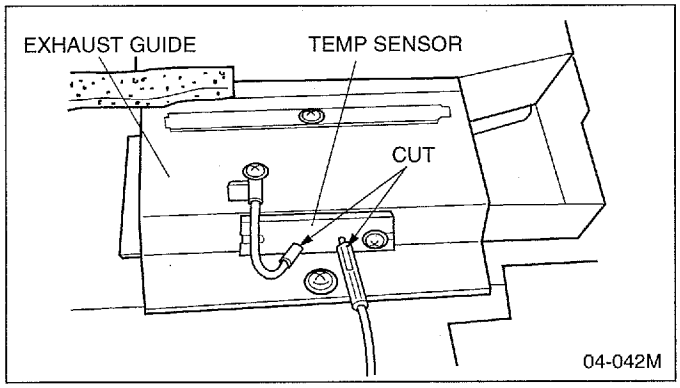
(A) Disconnect lead wires from heater terminals.
(B) Remove 1 screw holding heater supports.
(C) Remove the heater by pulling it out.





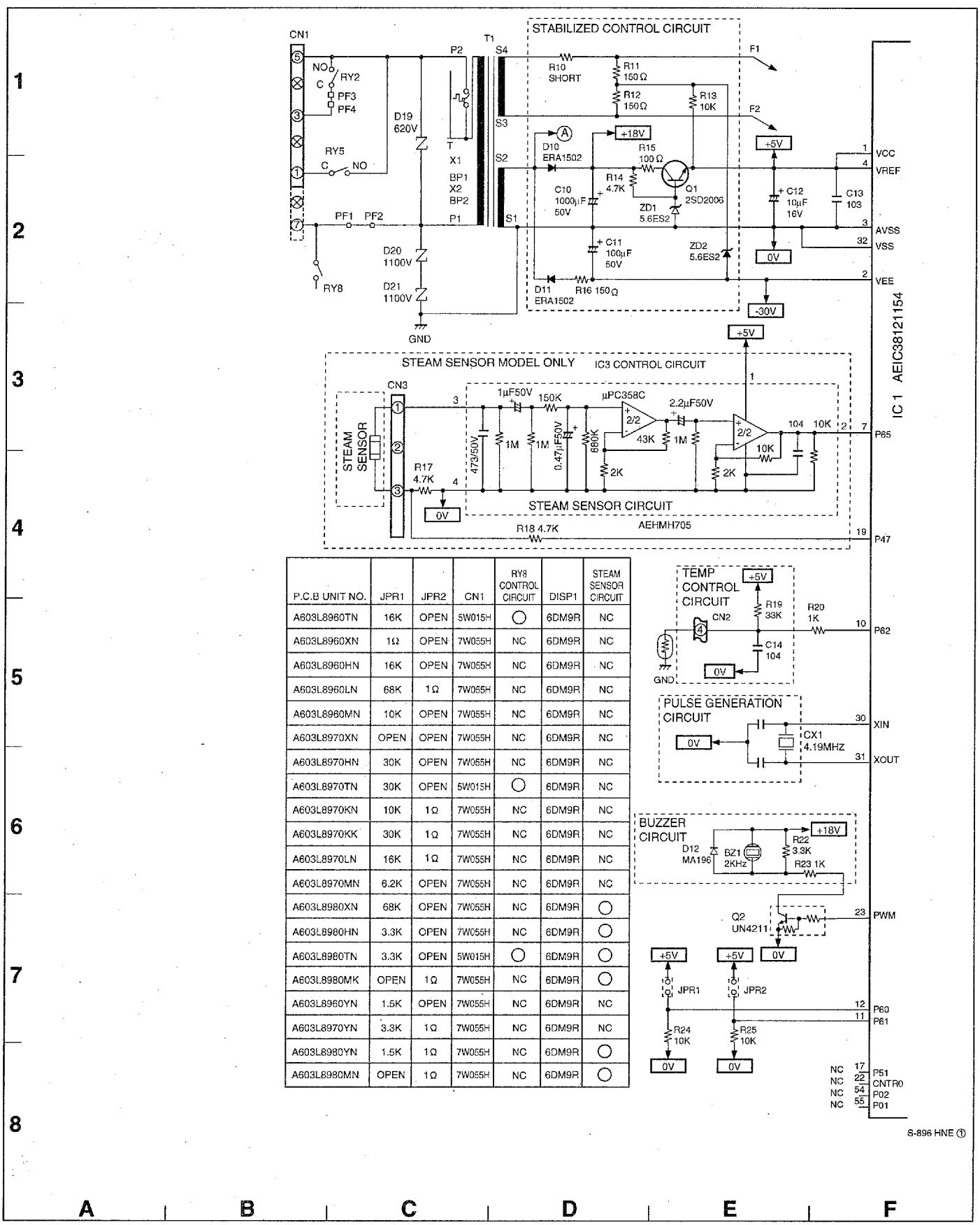
8. Temp sensor (thermal protector)

(A) Cut 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.

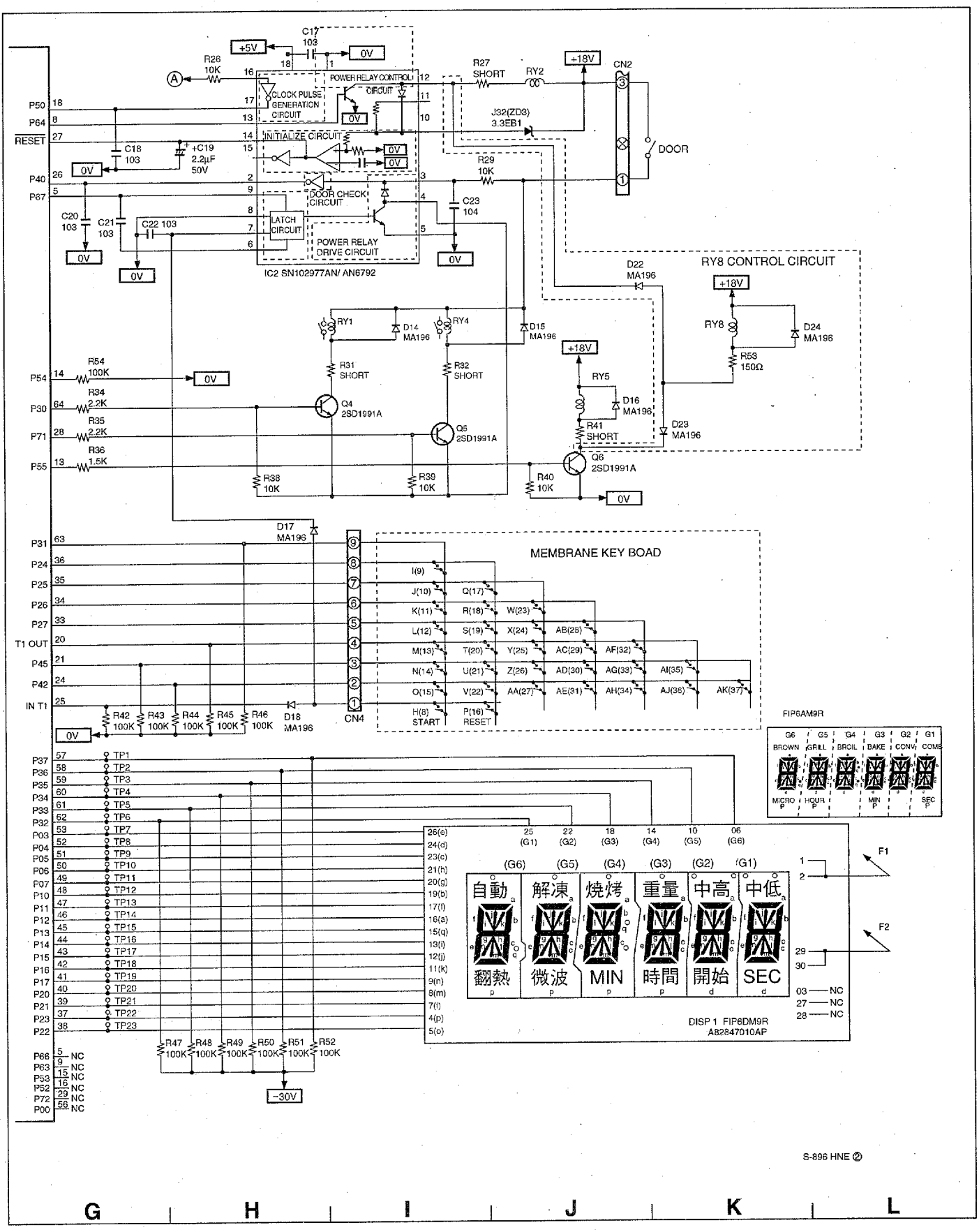


DIGITAL PROGRAMMER CIRCUIT

SCHEMATIC DIAGRAM



P.C.B UNIT NO.	JPR1	JPR2	CN1	RY8 CONTROL CIRCUIT	DISP1	STEAM SENSOR CIRCUIT
A603L8960TN	16K	OPEN	5W015H	○	6DM9R	NC
A603L8960XN	1Ω	OPEN	7W055H	NC	6DM9R	NC
A603L8960HN	16K	OPEN	7W055H	NC	6DM9R	NC
A603L8960LN	68K	1Ω	7W055H	NC	6DM9R	NC
A603L8960MN	10K	OPEN	7W055H	NC	6DM9R	NC
A603L8970XN	OPEN	OPEN	7W055H	NC	6DM9R	NC
A603L8970HN	30K	OPEN	7W055H	NC	6DM9R	NC
A603L8970TN	30K	OPEN	5W015H	○	6DM9R	NC
A603L8970KN	10K	1Ω	7W055H	NC	6DM9R	NC
A603L8970KK	30K	1Ω	7W055H	NC	6DM9R	NC
A603L8970LN	16K	1Ω	7W055H	NC	6DM9R	NC
A603L8970MN	6.2K	OPEN	7W055H	NC	6DM9R	NC
A603L8980XN	68K	OPEN	7W055H	NC	6DM9R	○
A603L8980HN	3.3K	OPEN	7W055H	NC	6DM9R	○
A603L8980TN	3.3K	OPEN	5W015H	○	6DM9R	○
A603L8980MK	OPEN	1Ω	7W055H	NC	6DM9R	○
A603L8960YN	1.5K	OPEN	7W055H	NC	6DM9R	NC
A603L8970YN	3.3K	1Ω	7W055H	NC	6DM9R	NC
A603L8980YN	1.5K	1Ω	7W055H	NC	6DM9R	○
A603L8980MN	OPEN	1Ω	7W055H	NC	6DM9R	○


+5V
C17 103
0V
R26 10K
POWER RELAY CONTROL CIRCUIT
CLOCK PULSE GENERATION CIRCUIT
INITIALIZE CIRCUIT
DOOR CHECK CIRCUIT
LATCH CIRCUIT
POWER RELAY DRIVE CIRCUIT
IC2 SN102977AN/ AN6792
R27 SHORT
RY2
+18V
CN2
J32(ZD3) 3.3EB1
DOOR
R29 10K
C23 104
C18 103
+C19 2.2µF 50V
C20 103
C21 103
C22 103
RESET
P50
P64
P40
P67
RY8 CONTROL CIRCUIT
D22 MA196
RY8
D24 MA196
R53 150Ω
RY1
D14 MA196
RY4
D15 MA196
R31 SHORT
R32 SHORT
RY5
D16 MA196
R41 SHORT
D23 MA196
R54 100K
R34 2.2K
R35 2.2K
R36 1.5K
Q4 2SD1991A
Q5 2SD1991A
Q6 2SD1991A
R38 10K
R39 10K
R40 10K
P54
P30
P71
P55
D17 MA196
D18 MA196
CN4
MEMBRANE KEY BOAD
P31
P24
P25
P26
P27
T1 OUT
P45
P42
IN T1
R42 100K
R43 100K
R44 100K
R45 100K
R46 100K
FIP6AM9R
G6 BROWN
G5 GRILL
G4 BROIL
G3 BAKE
G2 CONV
G1 COMB
MICRO P
HOUR P
MIN P
SEC P
TP1
TP2
TP3
TP4
TP5
TP6
TP7
TP8
TP9
TP10
TP11
TP12
TP13
TP14
TP15
TP16
TP17
TP18
TP19
TP20
TP21
TP22
TP23
R47 100K
R48 100K
R49 100K
R50 100K
R51 100K
R52 100K
-30V
自動
解凍
焼烤
重量
中高
中低
翻熱
微波
MIN
時間
開始
SEC
F1
F2
DISP 1 FIP6DM9R
A82847010AP
S-896 HNE ②

DIGITAL PROGRAMMER CIRCUIT

PARTS LIST

Ref. No.	Part No.	Description	Pcs/ Set	Remarks
BZ	AEFB22EP20TL	BUZZER	1	2.0KHZ
C10	ECA1HM102E	ELECTROLYTIC CAPACITOR,AL	1	1000MF/50V
C11	ECEA1HU101B	ELECTROLYTIC CAPACITOR,AL	1	100MF/50V
C12	ECEA1CKA100B	ELECTROLYTIC CAPACITOR,AL	1	10MF/16V
C13,14,17,22	ECBT1E103ZF5	CERAMIC CAPACITOR	6	0.01MF/25V
C18,23	AECF50F104Z	CERAMIC CAPACITOR	2	0.1MF/50V
C19	ECEA1HKA2R2B	ELECTROLYTIC CAPACITOR,AL	1	2.2MF/50V
CN1	AEEMMD05507W	CONNECTOR	1	7PIN
CN2	AEEMMF00D04W	CONNECTOR	1	4PIN
CN4	AEEM09FDZBTM	CONNECTOR	1	
CX1	AEFFT4R19GWT	CERAMIC RESONATOR	1	CST4.19MGW
D10,11	AEDNERA1502	DIODE,SI	2	1.0A
D12,14,15,18	MA196-(TA5)	DIODE,SI	6	0.1A
D19	ERZC10DK621F	VARISTOR	1	10K621U
D20,21	ERZC10DK112A	VARISTOR	2	10K112
DISP1	AEFR6DM9R	DISPLAY TUBE	1	FIP6DM9R
IC1	AEIC38121154	IC	1	
IC2	AN6752	IC	1	
IC3	AEHMH705	IC	1	NN-K586W, NN-K586WS
J32	AEDZ3R3EB1T	ZENNER DIODE,SI	1	RD3.3EB1T
JPR1	ERD25VJ163T	CARBON FILM RESISTOR	1	NN-K536W 16KΩ,1/4W,5%
JPR1	ERD25VJ1R0T	CARBON FILM RESISTOR	1	NN-K536WS 1Ω,1/4W,5%
JPR1	ERD25VJ303T	CARBON FILM RESISTOR	1	NN-K566W 30KΩ,1/4W,5%
JPR1	ERD25VJ332T	CARBON FILM RESISTOR	1	NN-K586W 3.3KΩ,1/4W,5%
JPR1	ERD25VJ683T	CARBON FILM RESISTOR	1	NN-K586WS 68KΩ,1/4W,5%
Q1	2SD2006QRTA	TRANSISTOR,SI,1.2W	1	150MHZ
Q2	UN4211-(TA)	TRANSISTOR,SI,300MHZ	1	
Q4,5,6	2SD1991AQSTA	TRANSISTOR,SI,400MW	3	200MHZ
R11,12,16	ERDS2TJ151T	CARBON FILM RESISTOR	3	150Ω,1/4W,5%
R13,24,25, 38,39,40	ERDS2TJ103T	CARBON FILM RESISTOR	8	10KΩ,1/4W,5%
R14	ERDS2TJ472T	CARBON FILM RESISTOR	1	NN-K536W, NN-K536WS, NN-K566W, NN-K566WS 4.7KΩ,1/4W,5%
R14,17,18	ERDS2TJ472T	CARBON FILM RESISTOR	3	NN-K586W, NN-K586WS 4.7KΩ,1/4W,5%
R15	ERDS2TJ101T	CARBON FILM RESISTOR	1	100Ω,1/4W,5%
R19	ERDS2TJ333T	CARBON FILM RESISTOR	1	33KΩ,1/4W 5%
R20,23	ERDS2TJ102T	CARBON FILM RESISTOR	2	1.0KΩ,1/4W,5%
R22	ERDS2TJ332T	CARBON FILM RESISTOR	1	3.3KΩ,1/4W,5%
R34,35	ERDS2TJ222T	CARBON FILM RESISTOR	2	2.2KΩ,1/4W,5%
R36	ERDS2TJ152T	CARBON FILM RESISTOR	1	1.5KΩ,1/4W,5%
R42,43,44, 47,48,51,52, 54	ERDS2TJ104T	CARBON FILM RESISTOR	12	100KΩ,1/4W,5%
RY1,4	⚠ AEG5J1EM18B	POWER RELAY	2	G5J-1-TP-M-ER18
RY2,5	⚠ AEBGG5N1A18	POWER RELAY	2	G5N-1A18V
SPACER	A82847010AP	SPACER CUSHION	1	
T1	ETP41KDN81LN	L.V.TRANSFORMER	1	ETP41KDN81LN
ZD1,2	AEDZ5R6ES2T1	ZENNZR DIODE,SI	2	RD5.6ES2

Ref. No.	Part No.	Description	Pcs/ Set	Remarks

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	Pcs/ Set	Remarks
	AT40P003	3 pin Extension Cable	1	Cable No. 48
	AT40P004	4 pin Extension Cable	1	Cable No. 47
	AT40E006	1 pin X6 Extension Cable	1	Cable No. 9
	AT40P007	7 pin Extension Cable	1	Cable No. 53

DPC COMMON CHECKER AND ITS CABLE

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

Ref. No.	Part No.	Description	Pcs/ Set	Remarks
	ANE600ZK70GP	DPC. Common Checker	1	
	AT30A8040GP	DPC. Checker Cable	1	TNG
	AT30A8960XN	DPC. Checker Cable	1	EXCEPT TNG

WP-551(M)
S-896 HNE
Printed in Japan
Ⓗ, Ⓕ & Ⓔ

DESCRIPTION OF OPERATING SEQUENCE

1. Variable power cooking control

The coil of power relay 1 (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 1 contacts in order to vary the output power of the microwave oven from "Low" to "High" power. One complete 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 1: 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.

2: If microwave cooking is over 9 minutes with HIGH power, fan motor rotates for 1 minute after cooking to cool oven and electric components.

POWER SETTING	OUTPUT POWER(%) APPROX.	ON-OFF TIME OF POWER RELAY 1 (RY1)	
		ON (SEC)	OFF (SEC)
HIGH	100 %	22	0
MEDIUM-HIGH	70 %	17	5
MEDIUM	55 %	13	9
MEDIUM-LOW	30 %	8	14
LOW	10 %	5	17
DEFROST	30 %	8	14

2. Grill cooking

The digital programmer circuit generates the power relay 4 control signal at ON time during grill cooking.

GRILL NO.	HEATER (RY-4)	
	ON (SEC)	OFF (SEC)
1	33	0
2	26	7

3. Combination cooking

Combination cooking is accomplished by microwave and grill cooking. The digiatal programmer circuit controls ON-OFF time of power relay 1 and 4 as shown in the table.

NOTE: After grill and combination cooking, fan motor rotates for 1 minute to cool oven and electric components.

Combination No.	HEATER (RY4)		Microwave (RY1)	
	ON (SEC)	OFF (SEC)	ON (SEC)	OFF (SEC)
1	27	6	6	27
2	21	12	12	21
3	14	19	19	14

4. Auto Defrost, One Touch Menu and Auto Reheat Control

When those auto control feature is selected and Start pad is pressed:

(A) The digital programmer circuit determines the power level and cooking time to complete cooking and indicates the operating state in the display.
The table shows the corresponding cooking times for respective weight by categories.

(B) When cooking time in the display window has elapsed, the oven turns off automatically by the controlled signal from the digital programmer circuit.

NOTE: After one touch menu and auto reheat cooking, fan motor rotates for 1 minute to cool oven and electric components.

Auto Defrost

WEIGHT SELECTED	COOKING TIME
1.0 kg	24 min. 00 sec.

Reheat Fried Food

WEIGHT SELECTED	COOKING TIME
450 g	8 min. 30 sec.

One Touch Menu (NN-K536W/WS, NN-566W/WS)

CATEGORY	SELECTED WEIGHT	COOKING TIME
Reheat meal	2 SERV	3 min. 00 sec.
Reheat soup	1 SERV	2 min. 30 sec.

5. One touch cooking (Auto sensor cooking) (NN-K586W/WS)

Auto sensor cooking is a revolutionary way to cook by microwave without setting a power level or selecting a time.
All that is necessary is to select an Auto Sensor Program before starting to cook.

Understanding Auto Sensor Cooking

As a food cooks, a certain amount of steam is produced. If the food is covered, this steam builds up and eventually escapes from the container. In Auto Sensor Cooking, a carefully designed instrument, called the steam sensor element, senses this escape of steam. Then, based upon the Auto Sensor Program selected, the unit will automatically determine the correct power level and the proper length of time it will take to cook the food.

NOTE: Auto Sensor Cooking is successful with the foods and recipes found in the Auto Sensor Cooking Guide. Because of the vast differences in food composition, items not mentioned in the Cooking Guide should be prepared in the microwave oven using power select and time features. Please consult Variable Power Microwave Cookbook for procedures.

Explanation of the Auto Sensor Cooking process

1) During the first 10 second period there is no microwave activity, and when calculating the T2 time by using the formula below make sure this 10 seconds is subtracted from the T1 time. In other words T1 time starts at the end of the 10 second period.
2) **T1 time**···The total amount of time it takes the microwave oven to switch to T2 time after the 10 second period.
3) **T2 time**···When the steam escapes from the cooking container placed in the oven, the steam sensor detects it and the microprocessor calculates the balance of cooking time. This T2 time is then shown in the display and begins counting down.

Balance of cooking time (T2 time)

The balance of cooking time which is called T2 time, can be calculated by the following formula.

T2 time (in sec.) =T1 time × K factor

NOTE: Remember, the T1 time starts after the 10 second period. The coefficient K is programmed into the microprocessor memory and they are listed in the following tables along with the P1 and P2 powers.

NOTE: When "More" or "Less" pad is selected, the K factor varies resulting in T2 time to be increased or decreased.

Example of calculating the T2 time

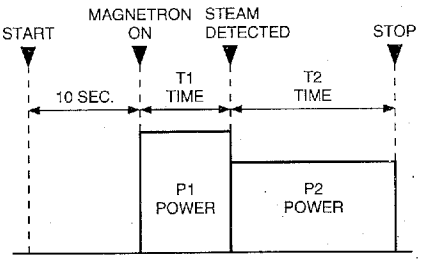
Example 1: If the T1 time is measured to be 2 minutes and 40 seconds after the 10 second period, and the Auto program selected is
Vegetables:
T2=T1 × K
= 2 min. and 40 sec. × 0.1
= 160 sec. × 0.1
= 16 sec.

6. Auto Sensor Reheat (NN-K586W/WS)

Auto Sensor Reheat is a quick and easy way to reheat refrigerator and room temperature foods.
Simply press the reheat pad. There is no need to select power level and cooking time.

NOTE: The Auto Sensor Reheat process is same as Auto Sensor Cooking process.

AUTO SENSOR COOKING/REHEAT PROCESS



60-021M

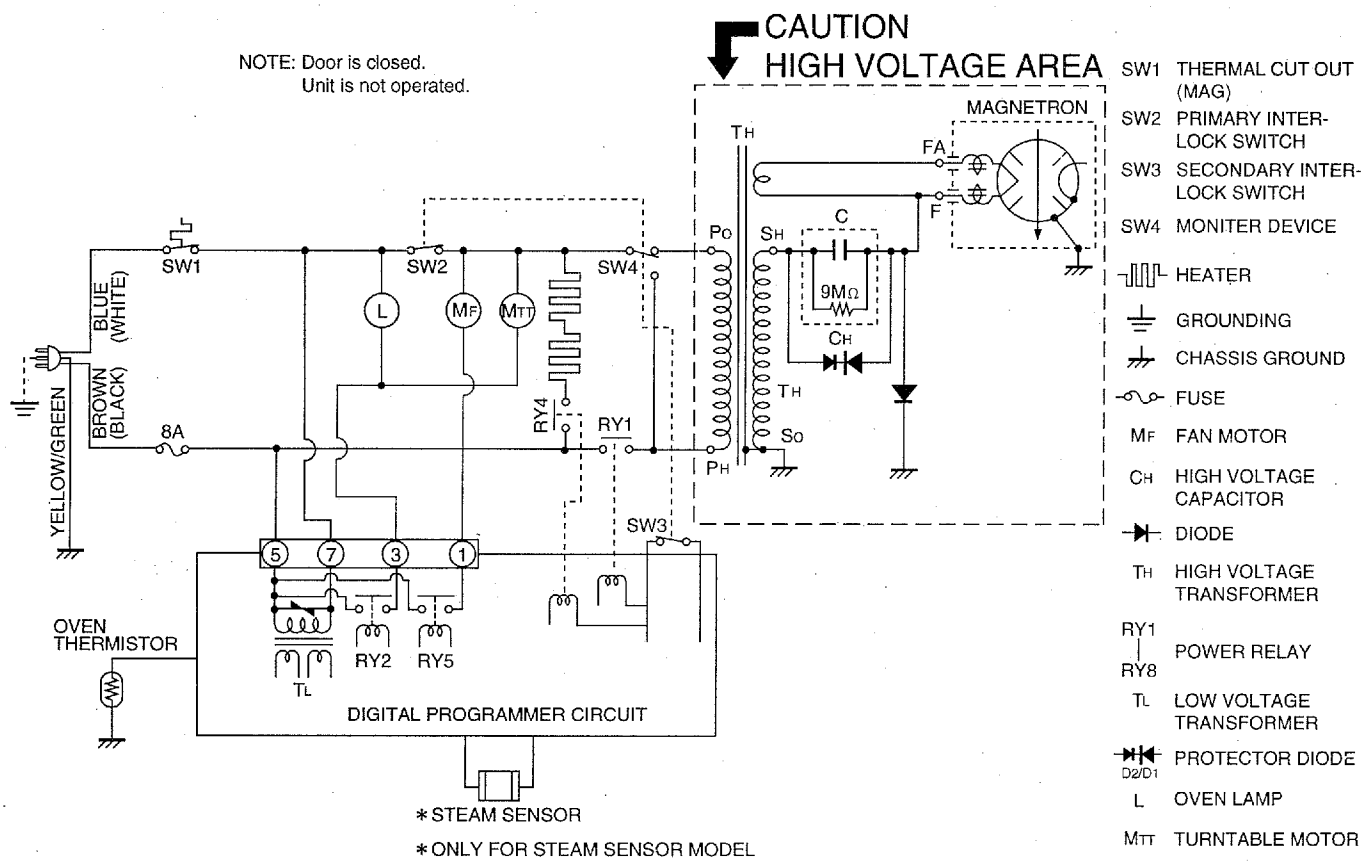
One Touch Cooking (Auto Sensor Cook)

Category	P1 Power	P2 Power	K factor Standard
Vegetables	HIGH	LOW	0.1

Sensor Reheat

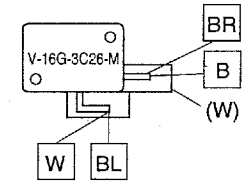
Category	P1 Power	P2 Power	K factor Standard
Sensor Reheat	HIGH	M.HIGH	0.1

SCHEMATIC DIAGRAM

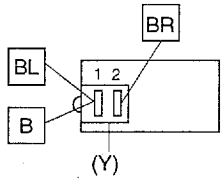


WIRING DIAGRAM

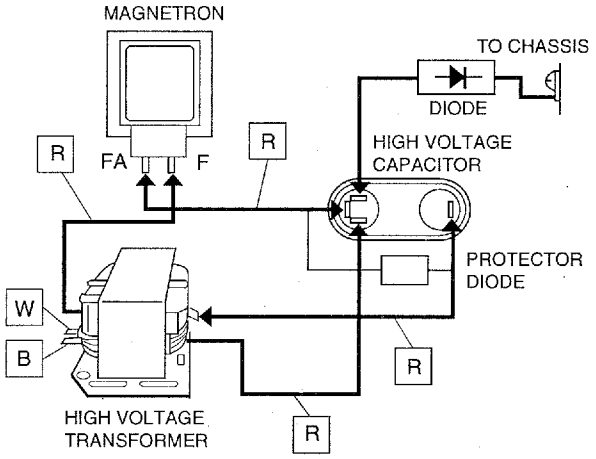
NOTE: *When replacing, check the lead wire colour as shown.
*Colours shown by ( ) indicate colours of lead wire connector housing.

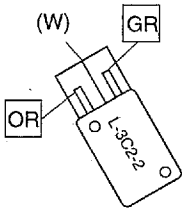


PRIMARY LATCH SWITCH TOP

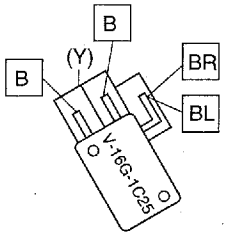


POWER RELAY 4 (RY4)

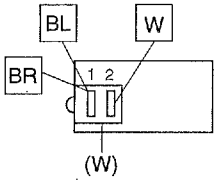




SECONDARY LATCH SWITCH BOTTOM (OUTSIDE)



SHORT SWITCH BOTTOM (INSIDE)



POWER RELAY 1 (RY1)

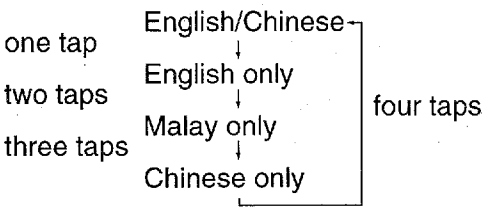
SYMBOL	COLOUR
OR	ORANGE
BL	BLUE
BR	BROWN
W	WHITE
Y	YELLOW
R	RED
GR	GRAY
B	BLACK

S-896 HNE
M026

OPERATION AND DIGITAL PROGRAMMER CIRCUIT TEST PROCEDURE

Word Prompting

The oven has four different types of display:
English/Chinese, English, Malay, and Chinese.You can select one of them just after plugging in.
Tap start pad to select type of display.



NOTE: Initial display type may differ by countries.

Operation Guide on the display:
To assist you in programming, the next operation will appear in the display. When you get used to operate the oven, you can turn off the operation guide.

To turn off:

Timer → OPERATION GUIDE OFF

Press 3 times

To turn on:

Timer → OPERATION GUIDE ON

Press 3 times

1. To Set Clock

OPERATION	SCROLL DISPLAY
1. Plug the power supply cord into wall outlet.	*WELCOM TO WORD PROMPTING* : :
2. Press **Clock** pad.	: *--SET TIME*
3. Enter time of day (TOD) by pressing appropriate **Time** pads.	*11:25* *--PRESS CLOCK*
4. Press **Clock** pad. TOD has now been resistered into the digital programmer circuit and will count up by minutes.	*11:25*

2. Time Cooking for Two Stage

OPERATION	SCROLL DISPLAY
1. Place a water load in the oven.	
2. Press **Micro Power** pad once to set High power. (1st stage)	*HIGH* *--SET TIME*
3. Set for 5 seconds by pressing **1 sec** pad 5 times.	*5* SEC *--PRESS START* *HIGH*

OPERATION	SCROLL DISPLAY
4. Press **Micro Power** pad 4 times to set Medium power. (2nd stage)	*MEDIUM* *--SET TIME*
5. Set for 1 minute by pressing **1 min** pad.	*1 00* MIN SEC *--PRESS START* *MEDIUM*
6. Press **Start** pad.	*5* SEC
7. When 1st stage cooking time has elapsed, oven automatically switches to 2nd stage cooking.	*1 00* MIN SEC
8. When 2nd stage cooking time has elapsed, oven beeps 5 times and shuts off.	*ENJOY YOUR MEAL*

3. Auto Weight Defrost

OPERATION	SCROLL DISPLAY
1. Set the weight for 1 kg by pressing **1.0 kg** pad.	*1.0KG* *--PRESS START*
2. Press **Start** Pad.	24 MIN 00 SEC
3. Press **Stop/Reset** Pad twice. Oven shuts off. Time of day or colon appears in the display.	

4. One Touch Cooking

OPERATION	SCROLL DISPLAY
1. Press **Fried Food** pad twice.	*150g* *--PRESS START*
2. Press **Start** pad.	6 MIN 15 SEC
3. Open the door and closed. Tap start pad again.	*--TURN OVER*
4. When cooking time has elapsed. Oven beeps 5 times and shuts off.	*ENJOY YOUR MEAL*

5. To Set Child Safety Lock

OPERATION	SCROLL DISPLAY
1. Press **Start** pad 3 times continuously. "LOCK" appears in the display.	*LOCK

6. To Reset Child Lock

OPERATION	SCROLL DISPLAY
1. Press **Stop/Reset** pad 3 times continuously. Time of day or colon appears in the display.	11:25

7. Demonstration Mode

The demonstration mode designed for retail store display. It is not designed for home use. Cooking will not operate during demonstration mode.
To set demonstration mode

OPERATION	SCROLL DISPLAY
1. Press Clock pad 3 times continuously. Note: To cancel demonstration mode, press Clock pad 3 times continuously.	*DEMO MODE* *--PRESS ANY KEY*

8. Sensor Cooking

NOTE : Make sure that the outer panel is installed before Sensor Cooking Test, since Auto Sensor function does not operate properly without the outer panel.

OPERATION	SCROLL DISPLAY
1. Pour 150 ± 15cc (4.5 ± 1/2 ozs) of room temperature water in a oven glassware or ceramic utensil, place the oven glassware or ceramic utensil in the center of the oven.	
2. Tap **Sensor Reheat** Pad.	*SENSOR REHEAT* *--PRESS START*
3. Tap **Start** Pad.	AUTO
4. The steam sensor detects steam about 1.5 to 4 minutes after the Start Pad is tapped. Sensor Brown Cooking (T1) automatically switches to time cooking (T2). "AUTO" disappears with beep sounds and the remainder of cooking time appears in display window. **NOTE: Cooking time will vary depending on the water temperature, the shape of beaker or the power source voltage.**	MIN 8 SEC MIN 24 SEC
5. When the balance of cooking time has elapsed, oven stops and beeps five times.	*ENJOY YOUR MEAL*

⚠ 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

* This product should be serviced only by trained, qualified personnel.
This service manual covers products for following markets.
When troubleshooting or replacing parts, please refer to the country identifications shown below for your applicable product specification.

HNE·····For Hong Kong XNE·····For China

CONTENTS

(Page)

FEATURE CHART

FEATURE \ MODEL	NN-K586W/WS	NN-K566W/WS	NN-K536W/WS
MEMORY STAGE	3	3	3
GRILL	○	○	○
COMBINATION	○	○	○
AUTO WEIGHT DEFROST	○	○	○
SENSOR COOK	○	—	—
SENSOR REHEAT	○	—	—
ONE TOUCH COOK	○	○	○
DELAY/STAND	○	○	○
DIGITAL CLOCK	○	○	○
WORD PROMPTING	○	○	○