



Fast Track Trouble shooting

Model: ME18H704



IMPORTANT SAFETY NOTICE – “For Technicians Only” This service data sheet is intended for use by persons having electrical, electronic, and mechanical experience and knowledge at a level generally considered acceptable in the appliance repair trade. Any attempt to repair a major appliance may result in personal injury and property damage. The manufacturer or seller cannot be responsible, nor assume any liability for injury or damage of any kind arising from the use of this data sheet.

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Support Information:

HELP: 1-888-751-4086 (Tech Sup. – ASC/SSD)

1-866-894-0637 (Tech Sup. - FE/ME)

GSPN: <http://gspn3.samsungcsportal.com/main.jsp>

PLUS ONE: <http://my.plus1solutions.net/clientPortals/samsung>

Bulletins:

!!!! It is always recommended to discharge a microwave's capacitor prior to commencing any service

SERVICE TIPS

- If fuse is blown by the Monitor Switch, replace the PRIMARY , DOOR SENSING , MONITOR SWITCH & POWER RELAY
- Checking continuity of switches or transformer, make sure the power is OFF, and one of the lead wires is disconnected
- **High Voltage Warning!** Do not attempt to measure any of the voltages on the high voltage side

Error Code	Cause and countermeasure
-SE-	Key short error(10 sec.). Replace assy control panel or smart board.
E-11	Sensor open error. Check unplugged sensor, wiring or smart board. If necessary, replace sensor. If error code appears when starting sensor function, replace smart board.
E-12	Sensor short error. Check shorted sensor or smart board. If necessary, replace sensor. If error code appears when starting sensor function, replace smart board.

High Voltage Transformer Test

1. Remove connectors from the transformer terminals and check continuity.

2. Normal resistance readings are as follows:

For ME18H704SFB,W,S/AA

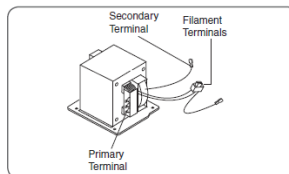
SHV-U1870D	
Secondary	Approx. 125.0 Ω $\pm$ 2%
Filament	Shows Continuity
Primary	Approx. 0.390 Ω $\pm$ 2% (Hi) Approx. 0.430 Ω $\pm$ 2% (Low)

(Room temperature = 20°C)

For ME18H704SFB,W,S/AC

SHV-U1850A	
Secondary	Approx. 131.0 Ω $\pm$ 2%
Filament	Shows Continuity
Primary	Approx. 0.440 Ω $\pm$ 2% (Hi) Approx. 0.480 Ω $\pm$ 2% (Low)

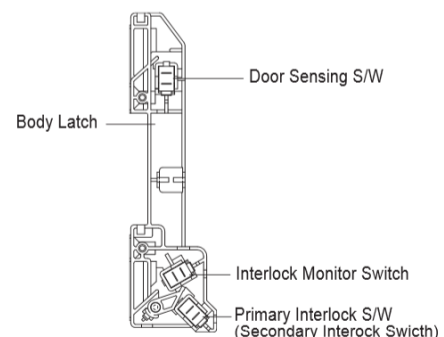
(Room temperature = 20°C)



Interlock Switch Test

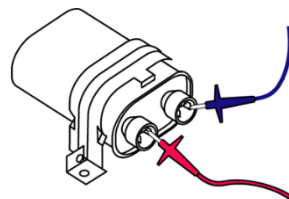
IMPORTANT! There is NO adjustment on the door switches

	Door Open	Door Closed
Primary Interlock switch	∞	0
Monitor switch(COM-NC)	0	∞
Monitor switch(COM-NO)	∞	0
Door Sensing S/W (Secondary Interlock S/W)	∞	0



High Voltage Capacitor Test

1. Check continuity of the capacitor with the meter set at the highest resistance scale.
2. Once the capacitor is charged, a normal capacitor shows continuity for a short time, and then indicates 9MΩ.
3. A shorted capacitor will show continuous continuity.
4. An open capacitor will show constant 9MΩ.
5. Resistance between each terminal and chassis should read infinite.

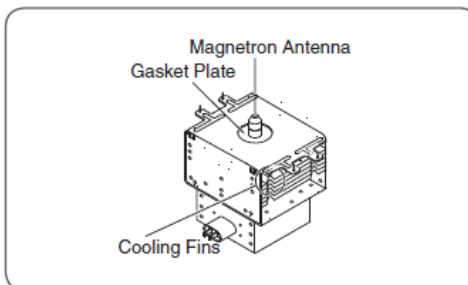


High Voltage Diode Test

1. Isolate the diode from the circuit by disconnecting its leads.
2. With the ohm-meter set at the highest resistance scale, measure across the diode terminals. Reverse the meter leads and read the resistance. A 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). The resistance of a normal diode will be infinite in one direction and several hundred KΩ in the other direction.

Magnetron Test

1. Continuity checks can indicate only an open filament or a shorted magnetron. To diagnose an open filament or shorted magnetron.
2. Isolate the magnetron from the circuit by disconnecting its leads.
3. A continuity check across the magnetron filament terminals should indicate one ohm or less.
4. A continuity check between each filament terminal and magnetron case should read open.



Main Relay & Power Control Relay Test

1. The relays are located on the PCB Ass'y. Isolate them from the main circuit by disconnecting the leads.
2. Operate the microwave oven with a water load in the oven. Set the power level to high.
3. Check continuity between terminals of the relays after the start pad is pressed.

Vent Exhaust/Blower Motor Test

The run capacitor is located behind the top grill above the control area. The capacitor is used for more torque and electrical phasing. Without the capacitor the blower might run but would be much slower

To Test Capacitor

1. Remove grill, discharge capacitor and disconnect one capacitor lead.
2. Make appropriate capacitor check (with analog meter needle should rise then fall, cap is charging then discharging).

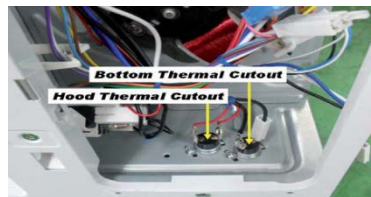
To Test Blower Windings

1. Disconnect power and remove grill.
2. Open control panel and discharge capacitor.
3. Disconnect two wires to run capacitor. Continuity test across the two wires should be approximately 50 ohms of resistance. This test allows you to read across all three windings at the same time.

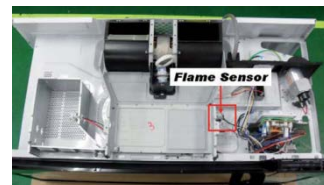
To Test TCO's (Thermal Cut Outs)

There are 4 different thermal cutouts in this unit with 4 different purposes. They are :

1. Oven thermal cutout (flame sensor), on cavity top.
2. Hood thermal cutout, inside control area on duct.
3. Bottom thermal cutout, on floor of control area.
4. Magnetron thermal cutout, on magnetron.



1. Oven Thermal Cut Out Open at 248F/120C non resettable - NORMALLY CLOSED
2. Hood Thermal Cut Out close at 158F/70C. Open at 104F/40C. Resettable -NORMALLY OPEN
3. Bottom Thermal Cut Out open at 248F/120C non resettable – NORMALLY CLOSED
4. Magnetron Term Cut out open at 302F/150C & close at 140F/60C. Resettable – NORMALLY CLOSED



Sensor Testing

The Sensor Cooking Function uses a special gas sensor which detects both humidity(steam) and hydrocarbons(food odors) during the cooking process. Before conducting either of the sensor tests below, ensure the unit is plugged into a wall outlet for at least 5 minutes. If already plugged in, proceed. The sensor is a plug-in device located in the vent area at the top left hand corner of the cavity behind the grill.

SENSOR TEST (QUICK TEST)

1. With 2 fingers touch and hold the following pads at the same time : **Auto Defrost** and **Popcorn**
2. Observe diagnostic number in display (Numbers approximate).
 - 15-185 (Normal-verify with "detection test")
 - 213 or Higher (Sensor failed to open, sensor unplugged, wiring or smart board.)
 - Less then 6 (shorted sensor, or smart board).

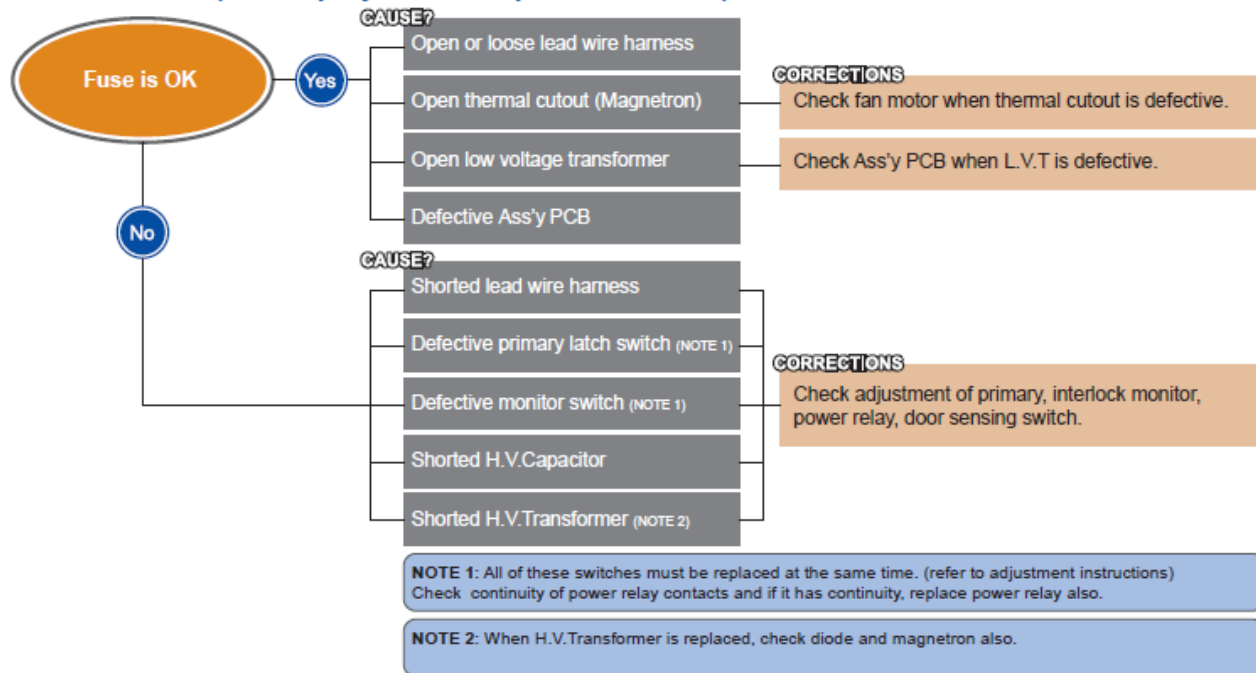
NOTE : Only heater terminals (H ; Black and Red leads) can be checked with ohmmeter(30Ω).

CAUTION : DO NOT ATTEMPT TO CHECK SENSOR TERMINALS (White and Orange leads).
 ✱ CAN DAMAGE SENSOR.



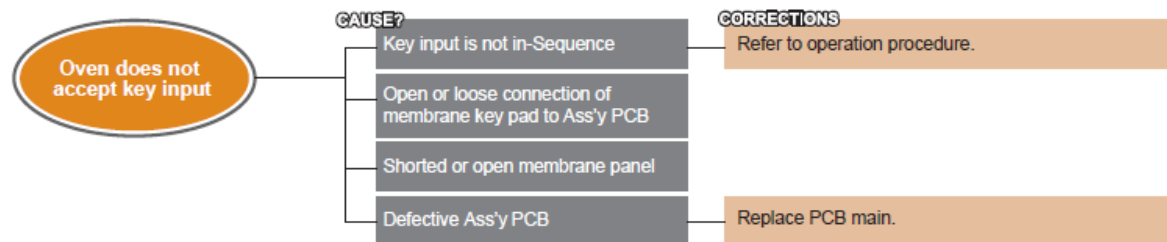
Trouble Shooting

Oven is dead. (No display and no operation at all.)



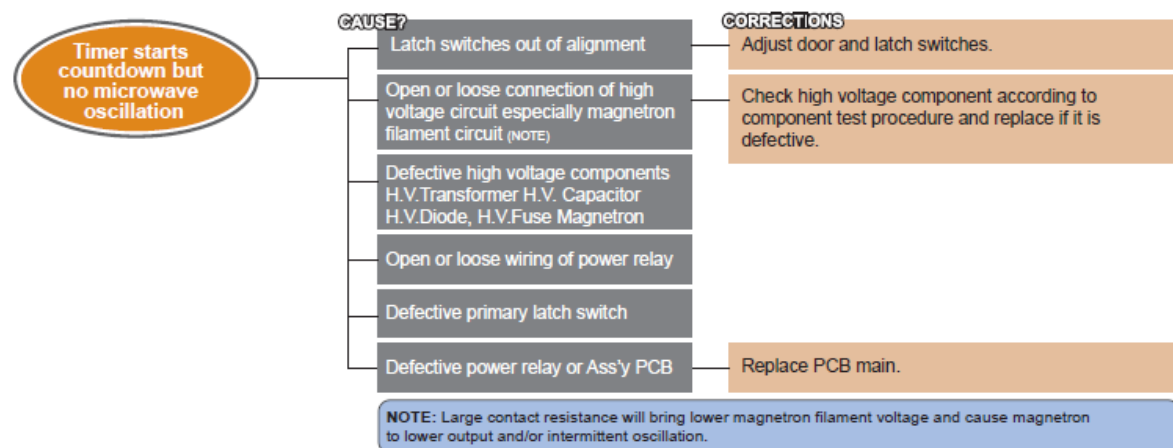
Trouble Shooting

Oven does not accept key input (Program)

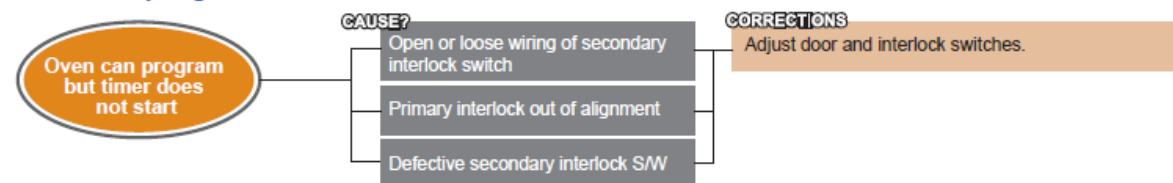


Timer starts countdown but no microwave oscillation.

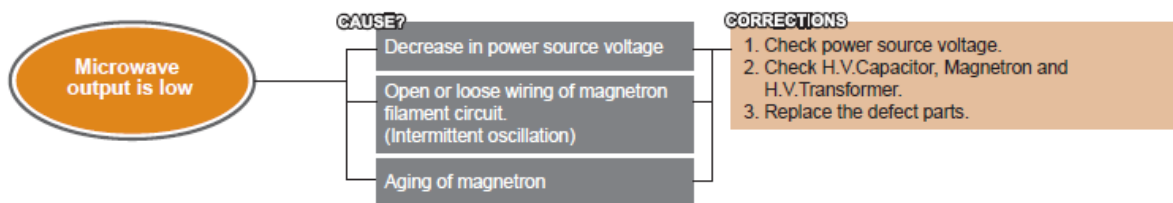
(No heat while oven lamp and fan motor turn on.)



Oven can program but timer does not start.

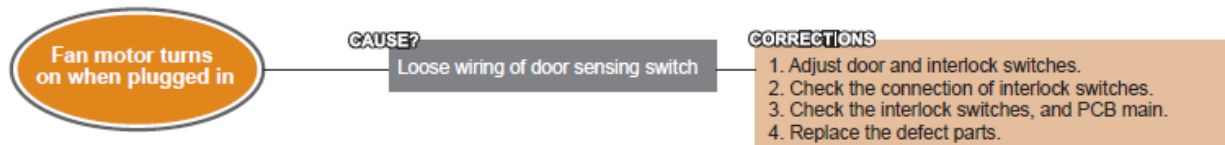


Microwave output is low. (Oven takes longer time to cook food.)



Trouble Shooting

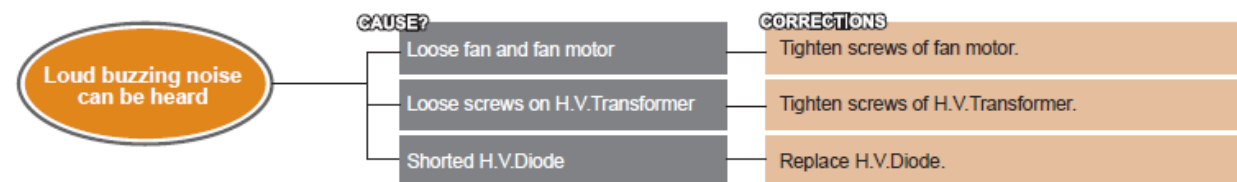
Fan motor turns on when plugged in.



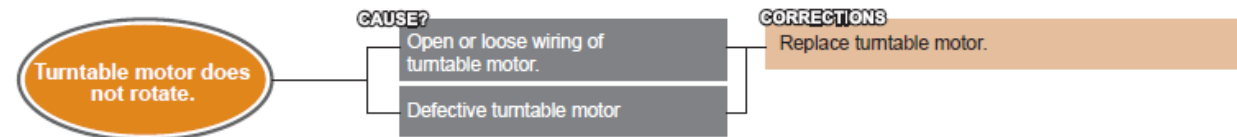
Oven does not operate and return to the plugged in mode.



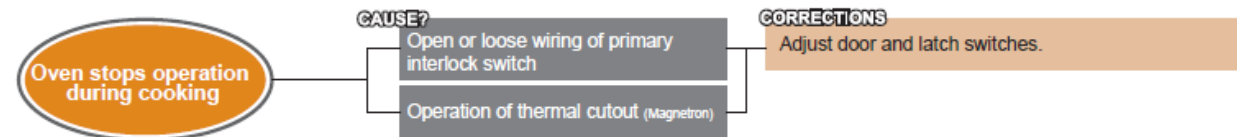
Loud buzzing noise can be heard.



Turntable motor does not rotate.



Oven stops operation during cooking.

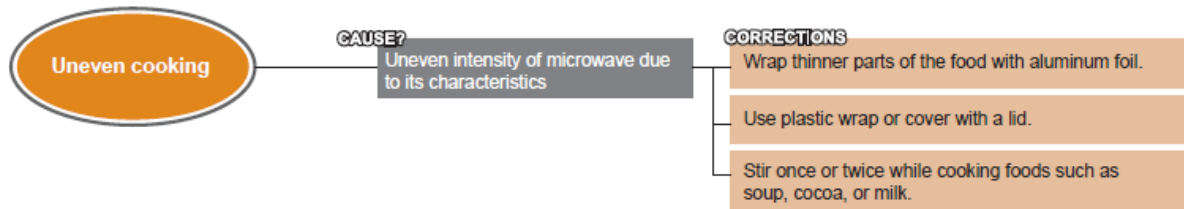


Sparks.

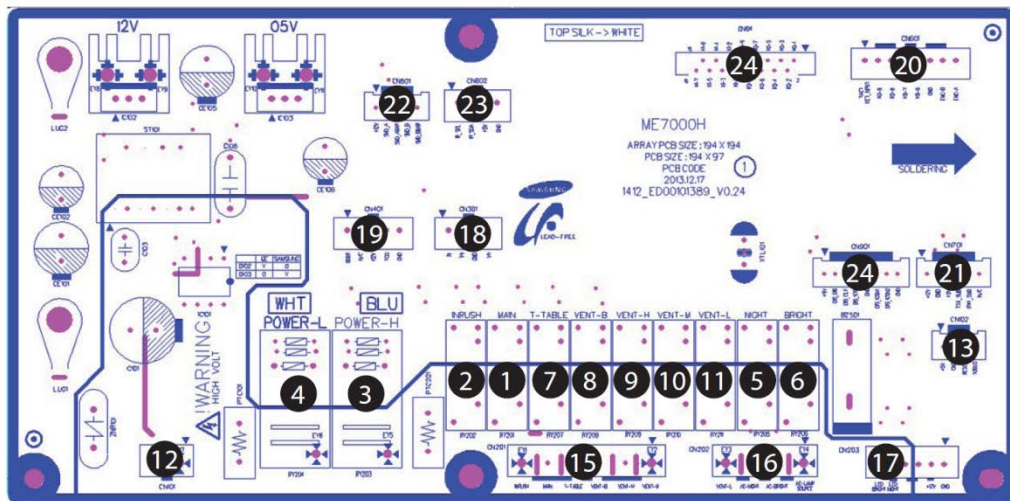
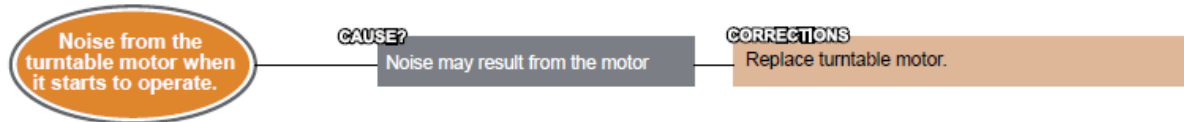


Trouble Shooting

Uneven cooking.

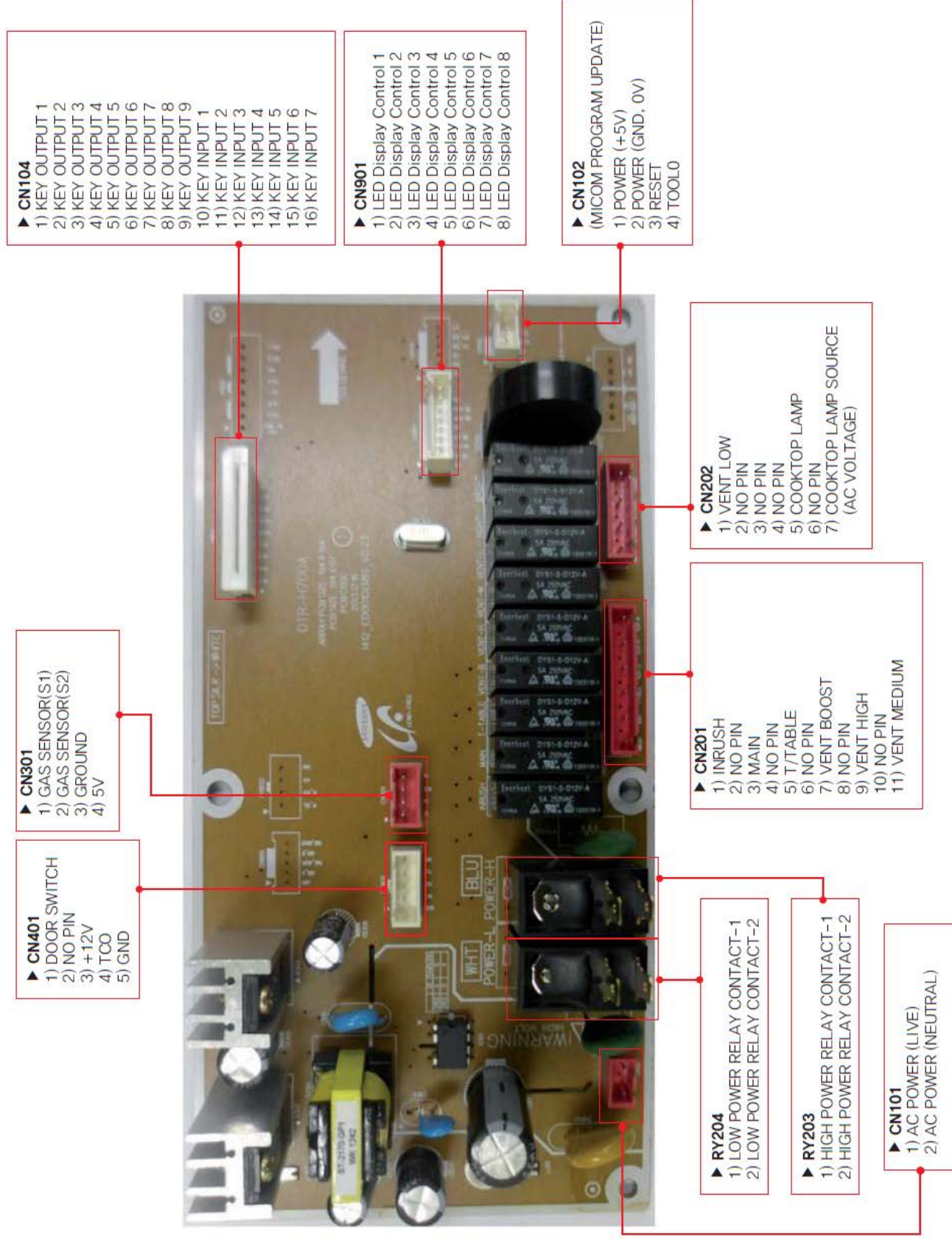


Noise from the turntable motor when it starts to operate.



No	Parts Number	Parts Name	Function and Rule
1	RY201	Main Relay	Fan, Lamp, T/T Control
2	RY202	Inrush Relay	Inrush Electric Current Decrease
3	RY203	Power High Relay	MW Power Control (High Power)
4	RY204	Power Low Relay	MW Power Control (Low Power)
5	RY205	Night Relay	Turn on Low Light
6	RY206	Bright Relay	Turn on High Light
7	RY207	Turn Table Relay	T/Table Motor Control
8	RY208	Vent Boost Relay	Turn on Boost Ventilation
9	RY209	Vent High Relay	Turn on High Ventilation
10	RY210	Vent Medium Relay	Turn on Medium Ventilation
11	RY211	Vent Low Relay	Turn on Low Ventilation
12	CN101	Power Connector	Connctet Power supply
13	CN102	On Board Writing Connector	When do MICOM revision, connect to MICOM writer. (No connection at normal times)
14	CN104	Membrane Switch Connector	A terminal for membrane switch
15	CN201	Relay Connector	A Terminal for Relay Contact (Inrush, Main, T/Table, Vent-Boost, Vent-High, Vent-Medium)
16	CN202	Relay Connector	A Terminal for Relay Contact (Vent-Low, Cooktop Lamp(AC Lamp))
17	CN203	Relay Connector	A Terminal for Relay Contact (Cooktop Lamp-Night(LED), Cooktop Lamp-Bright(LED))
18	CN301	Gas Sensor Connector	A Terminal for Gas Sensor
19	CN401	Sensing Connector	A Terminal for Door switch, TCO
20	CN601	Tact Switch & Encoder Connector	A Terminal for Tact switch and Encoder Module
21	CN701	LED Display Module Connector	A Terminal for LED Display Module
22	CN801	IR Sensor Connector 1	A Terminal for IR Sensor
23	CN802	IR Sensor Connector 2	A Terminal for IR Sensor
24	CN901	SUB Module Connector	A Terminal for SUB Module

PCB Diagram

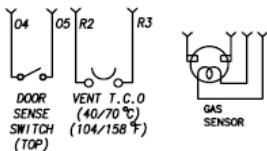
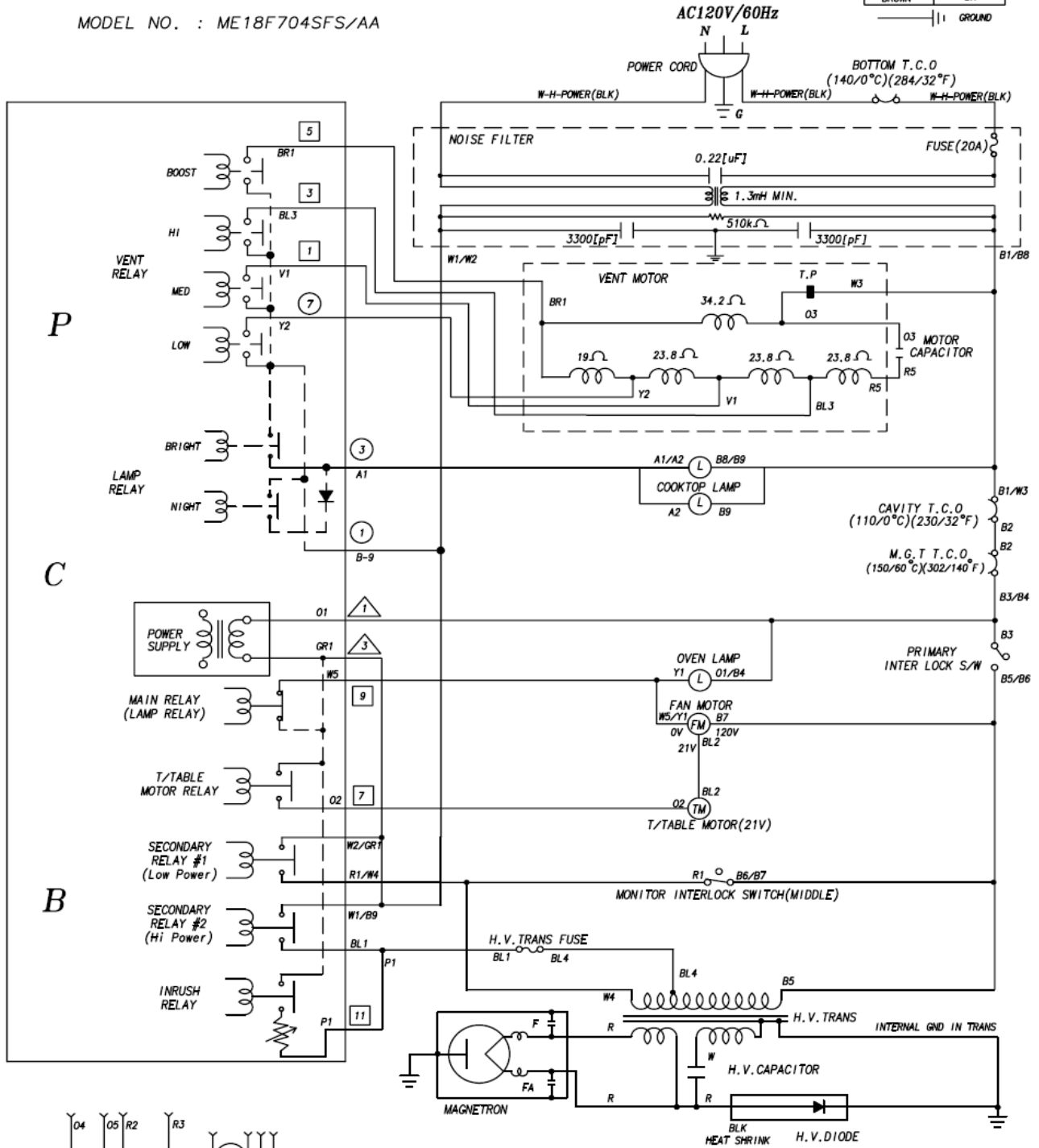


SCHEMATIC DIAGRAM

WARNING
POWER MUST BE DISCONNECTED
BEFORE SERVICING THIS APPLIANCE

COLOR	SYMBOL
GRAY	GR
WHITE	W
BLACK	B
RED	R
BLUE	BL
ORANGE	O
YELLOW	Y
GREEN	G
PINK	P
AZURE	A
VIOLET	V
BROWN	BR

MODEL NO. : ME18F704SFS/AA



QW 401

QW 301