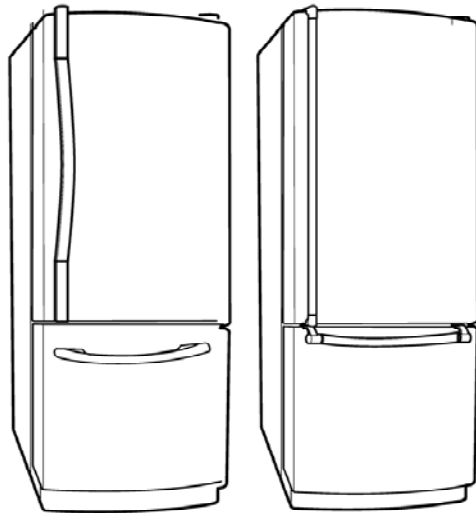




# REFRIGERATOR

# SERVICE MANUAL

**CAUTION**  
BEFORE SERVICING THE UNIT,  
READ THE SAFETY PRECAUTIONS IN THIS MANUAL.



**Models :**  
LRDC20731SW  
LRDC20731WW  
LRTC20731ST  
LRDC20731TT  
LRDN20725TT  
LRDN20725SW  
LRDN20720BQ  
LRDN20720WW  
LRDN20720BK

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## SAFETY PRECAUTIONS

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Please read the following instructions before servicing your refrigerator:

1. Check the refrigerator for current leakage.
2. To prevent electric shock, unplug before servicing.
3. Always check line voltage and amperage.
4. Use standard electrical components.
5. Don't touch metal products in the freezer with wet hands. This may cause frostbite.
6. Prevent water from spilling onto electric elements or the machine parts.
7. Before tilting the refrigerator, remove all materials from on or in the refrigerator
8. When servicing the evaporator, wear gloves to prevent injuries from the sharp evaporator fins.
9. Service on the refrigerator should be performed by a qualified technician. Sealed system repair must be performed by a CFC certified technician.

# 1. SPECIFICATIONS

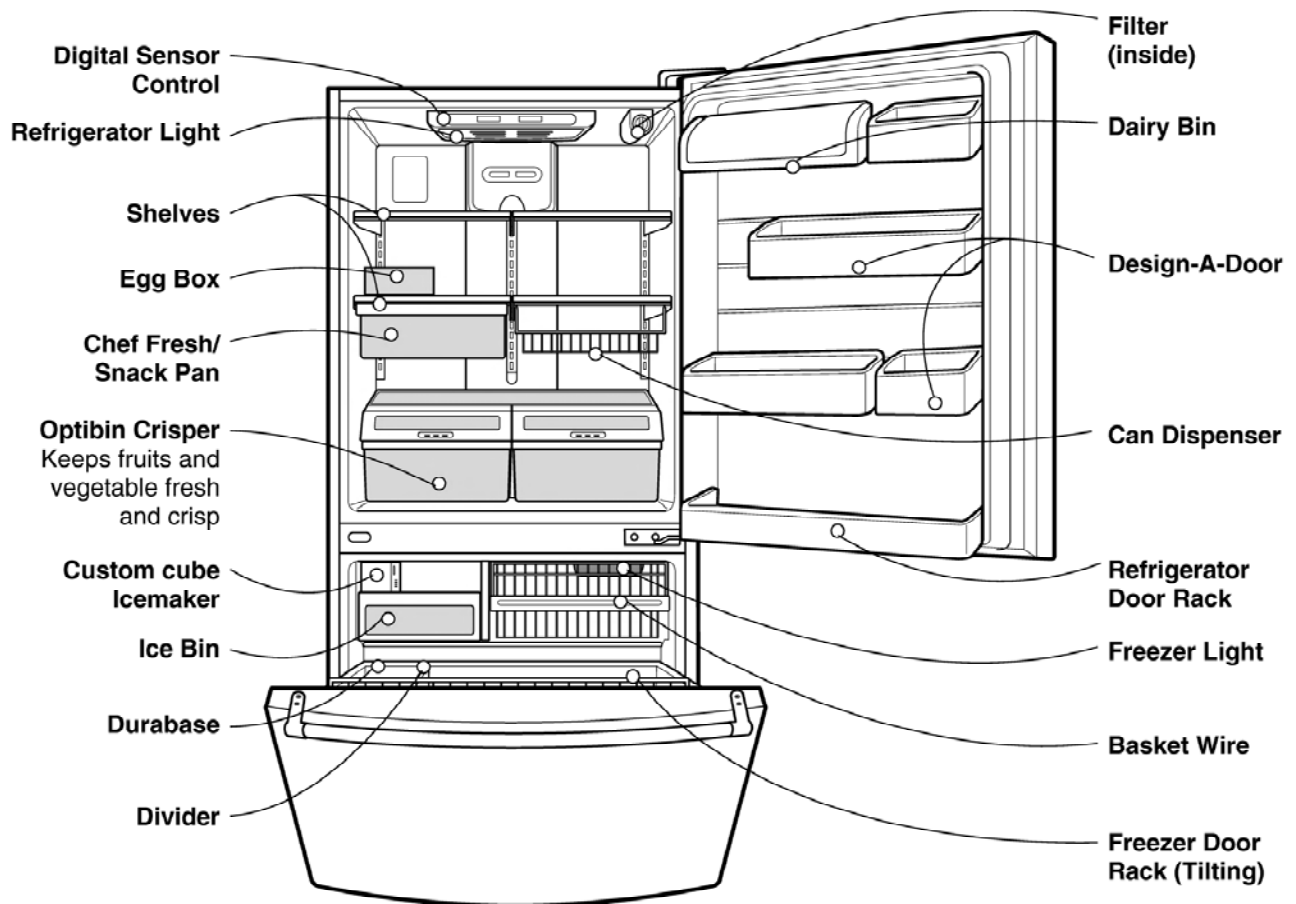
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20 cu. ft. / 22 cu. ft.

ITEMS	SPECIFICATIONS	ITEMS	SPECIFICATIONS	
DOOR DESIGN	Side Rounded	VEGETABLE TRAY	Opaque Drawer Type	
DIMENSIONS (inches)	29 7/8 x 31 3/4 x 67 7/8 (WxDxH) 20cu.ft	COMPRESSOR	PTC Starting Type	
	32 7/8 x 31 3/4 x 69 1/2 (WxDxH) 22cu.ft Dispenser	EVAPORATOR	Fin Tube Type	
	32 7/8 x 31 3/4 x 68 1/2 (WxDxH) 22cu.ft	CONDENSER	Wire Condenser	
NET WEIGHT (pounds)	238.4 (20cu.ft)	REFRIGERANT	R-134a (115 g)	
	246.9 (22cu.ft)	LUBRICATING OIL	Freol @ 10G (310 cc)	
COOLING SYSTEM	Fan Cooling	DEFROSTING DEVICE	SHEATH HEATER	
TEMPERATURE CONTROL	Micom Control	LAMP	REFRIGERATOR	60 W (2EA)
DEFROSTING SYSTEM	Full Automatic Heater Defrost		FREEZER	40 W (1EA)
DOOR FINISH	Embossed Metal, VCM, Stainless			
HANDLE TYPE	Bar			
INNER CASE	ABS Resin			
INSULATION	Polyurethane Foam			

## 2. PARTS IDENTIFICATION

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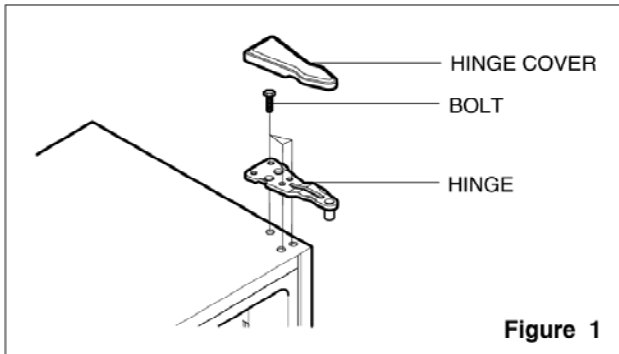


# 3. DISASSEMBLY

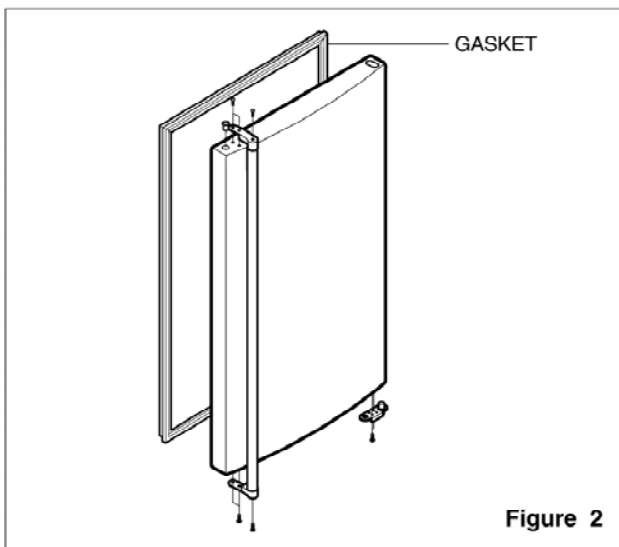
## 3-1 DOOR

### ● Refrigerator Door

1. Remove the hinge cover by pulling it upwards.
2. Loosen the hexagonal bolts attaching the upper hinge to the body and lift the freezer door.

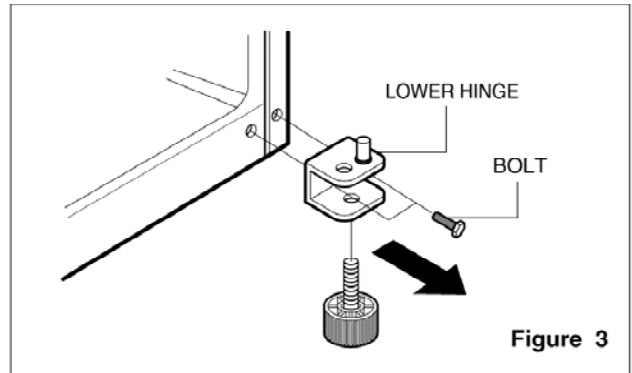


3. Pull out the door gasket to remove from the door foam assembly.



### ● Freezer Door

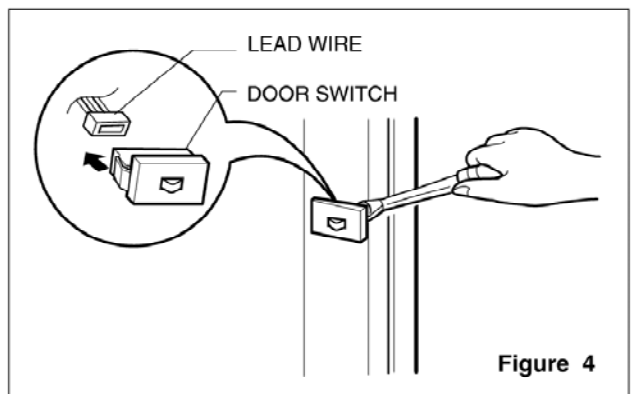
1. Loosen the hexagonal bolts attaching the lower hinge to the body to remove the refrigerator door only.



2. Pull out the door gasket to remove from the door foam assembly.

## 3-2 DOOR SWITCH

1. To remove the door switch, pry it out with a slotted-type driver, as shown in (Figure 4).
2. Disconnect the lead wire from the switch.



### 3-3 FAN AND FAN MOTOR

1. Remove the freezer shelf. (If your refrigerator has an icemaker, remove the icemaker first)
2. Remove the grille by pulling it out and by loosening a screw.
3. Remove the Fan Motor assembly by loosening 2 screws and disassemble the shroud.
4. Pull out the fan and separate the Fan Motor and Bracket.

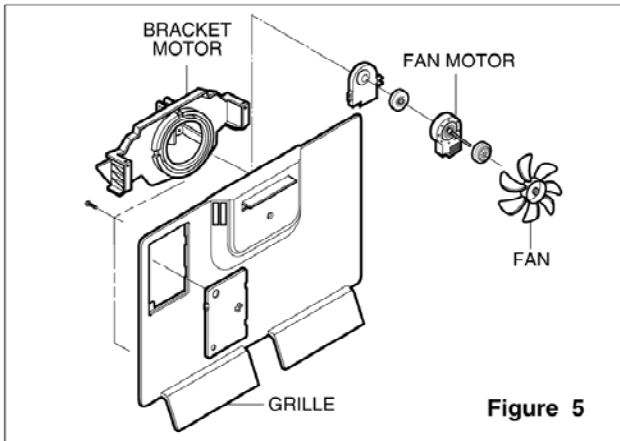


Figure 5

### 3-4 DEFROST CONTROL ASSEMBLY

Defrost Control assembly consists of Defrost Sensor and FUSE-M.

The Defrost Sensor works to defrost automatically. It is attached to the metal side of the Evaporator and senses its temperature. At 72°C, it turns the Defrost Heater off.

Fuse-M is a safety device for preventing over-heating of the Heater when defrosting.

1. Pull out the grille assembly. (Figure 6)
2. Separate the connector with the Defrost Control assembly and replace the Defrost Control assembly after cutting the Tie Wrap. (Figure 7)

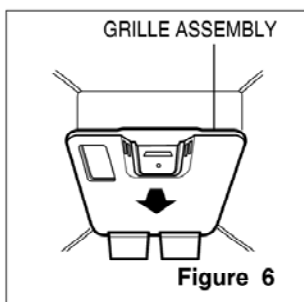


Figure 6

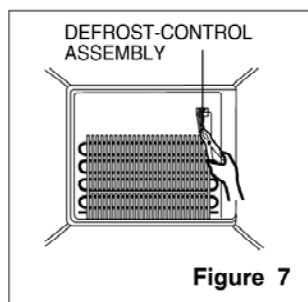


Figure 7

### 3-5 LAMP

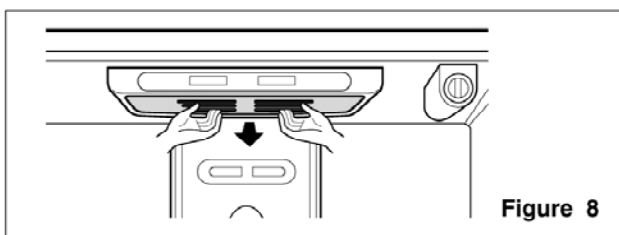


Figure 8

### 3-5-1 Refrigerator Compartment Lamp

1. Unplug the power cord from the outlet.
2. Remove refrigerator shelves.
3. Release the hooks on both ends of the lamp shield and pull the shield downward to remove it.
4. Turn the lamp counterclockwise.
5. Assemble in reverse order of disassembly. Replacement bulb must be the same specification as the original (Max. 60 W-2EA).

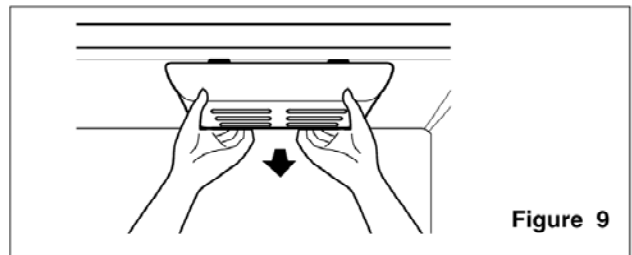


Figure 9

### 3-5-2 Freezer Compartment Lamp

1. Unplug refrigerator or disconnect power.
2. Reach behind light shield to remove bulb.
3. Replace bulb with a 40-watt appliance bulb.
4. Plug in refrigerator or reconnect power.

### 3-6 CONTROL BOX-REFRIGERATOR

1. First, remove all shelves in the refrigerator, then remove the Refrigerator control Box by loosening 2 screws.

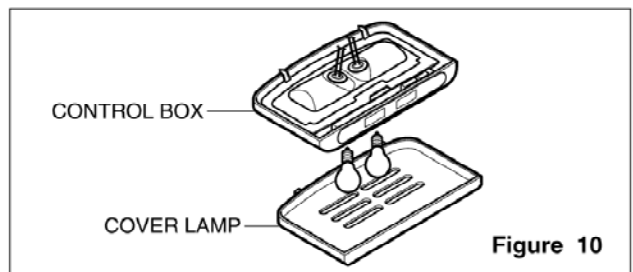


Figure 10

2. Remove the Refrigerator Control Box by pulling it downward.
3. Disconnect the lead wire on the right position and separate the lamp sockets.

### 3-7 MULTI DUCT

1. Remove an upper and lower Cap by using a flat screwdriver, and loosen 3 screws. (Figure 11)
2. Disconnect the lead wire on the bottom position.

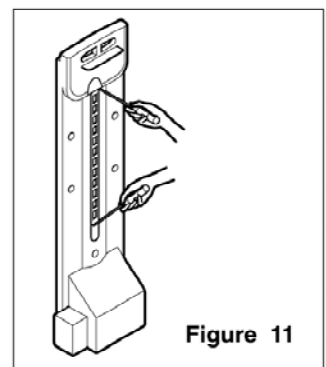


Figure 11

# 4. ADJUSTMENT

## 4-1 COMPRESSOR

### 4-1-1 Role

The compressor intakes low temperature and low pressure gas from the evaporator of the refrigerator and compresses this gas to high-temperature and high-pressure gas. It then delivers the gas to the condenser.

### 4-1-2 Composition

The compressor includes overload protection. The PTC starter and OLP (overload protector) are attached to the outside of the compressor. Since the compressor is manufactured to tolerances of 1 micron and is hermetically sealed in a dust and moisture-free environment, use extreme caution when repairing it.

### 4-1-3 Note for Usage

- (1) Be careful not to allow over-voltage and over-current.
- (2) If compressor is dropped or handled carelessly, poor operation and noise may result.
- (3) Use proper electric components appropriate to the Particular Compressor in your product.
- (4) Keep Compressor dry.  
If the Compressor gets wet (in the rain or a damp environment) and rust forms in the pin of the Hermetic Terminal, poor operation and contact may result.
- (5) When replacing the Compressor, be careful that dust, humidity, and soldering flux don't contaminate the inside of the compressor. Dust, humidity, and solder flux contaminate the cylinder and may cause noise, improper operation or even cause it to lock up.

## 4-2 PTC-STARTER

### 4-2-1 Composition of PTC-Starter

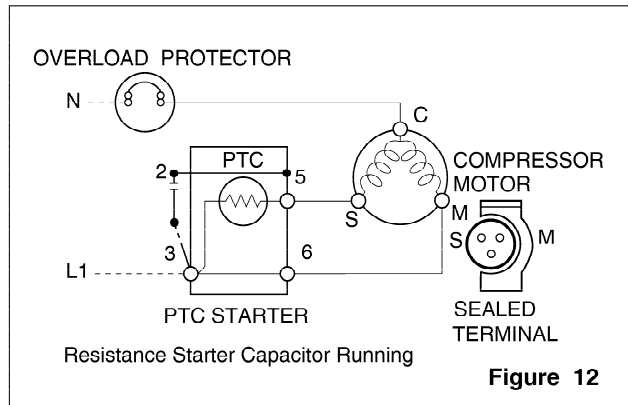
- (1) PTC (Positive Temperature Coefficient) is a no-contact semiconductor starting device which uses ceramic material consisting of BaTiO<sub>3</sub>.
- (2) The higher the temperature is, the higher the resistance value. These features are used as a starting device for the Motor.

### 4-2-2 Role of PTC-Starter

- (1) The PTC is attached to the Sealed Compressor and is used for starting the Motor.
- (2) The compressor is a single-phase induction motor. Durign the starting operation, the PTC allows current flow to both the start winding and main winding.

## 4-2-3 PTC-Applied Circuit Diagram

### ● Starting Method for the Motor



## 4-2-4 Motor Restarting and PTC Cooling

- (1) It requires approximately 5 minutes for the pressure to equalize before the compressor can restart.
- (2) The PTC device generates heat during operation. Therefore, it must be allowed to cool before the compressor can restart.

## 4-2-5 Relation of PTC-Starter and OLP

- (1) If the compressor attempts to restart before the PTC device is cooled, the PTC device will allow current to flow only to the main winding.
- (2) The OLP will open because of the over current condition. This same process will continue (3 to 5 times) when the compressor attempts to restart until the PTC device has cooled. The correct OLP must be properly attached to prevent damage to the compressor.

Parts may appear physically identical but could have different electrical ratings. Replace parts by part number and model number. Using an incorrect part could result in damage to the product, fire, injury, or possibly death.

## 4-2-6 Note for Using the PTC-Starter

- (1) Be careful not to allow over-voltage and over-current.
- (2) Do not drop or handle carelessly.
- (3) Keep away from any liquid.  
If liquid such as oil or water enters the PTC, PTC materials may fail due to breakdown of their insulating capabilities.
- (4) If the exterior of the PTC is damaged, the resistance value may be altered. This can cause damage to the compressor and result in a no-start or hard-to-start condition.
- (5) Always use the PTC designed for the compressor and make sure it is properly attached to the compressor. Parts may appear physically identical but could have different electrical ratings. Replace parts by part number and model number. Using an incorrect part could result in damage to the product, fire, injury, or possibly death.

### 4-3 OLP (OVERLOAD PROTECTOR)

#### 4-3-1 Definition of OLP

- (1) OLP (OVERLOAD PROTECTOR) is attached to the Compressor and protects the Motor by opening the circuit to the Motor if the temperature rises and activating the bimetal spring in the OLP.
- (2) When high current flows to the Compressor motor, the Bimetal works by heating the heater inside the OLP, and the OLP protects the Motor by cutting off the current flowing to the Compressor Motor.

#### 4-3-2 Role of the OLP

- (1) The OLP is attached to the Sealed Compressor used for the Refrigerator. It prevents the Motor Coil from being started in the Compressor.
- (2) For normal operation of the OLP, do not turn the Adjust Screw of the OLP in any way.

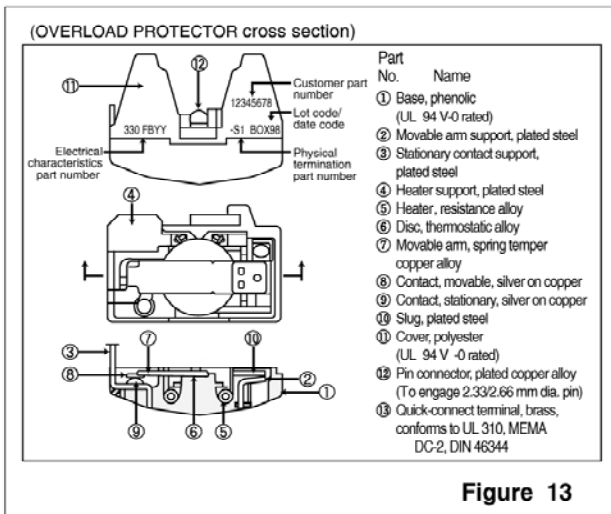
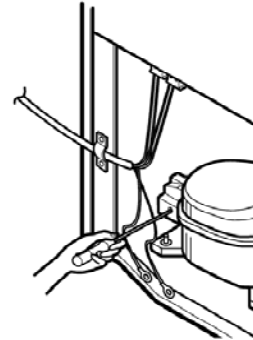
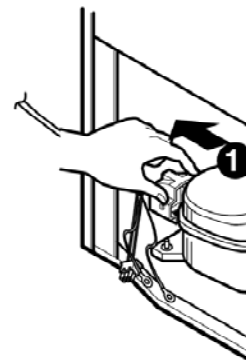


Figure 13

### 4-4 TO REMOVE THE COVER PTC



- 1) Remove the Cover Back M/C.
- (2) Remove the screw on Cover PTC.



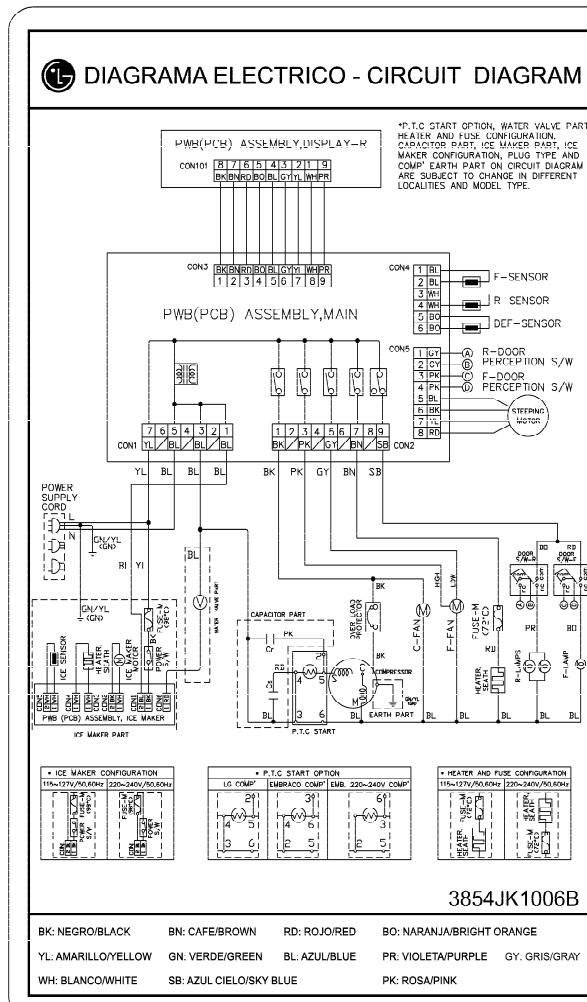
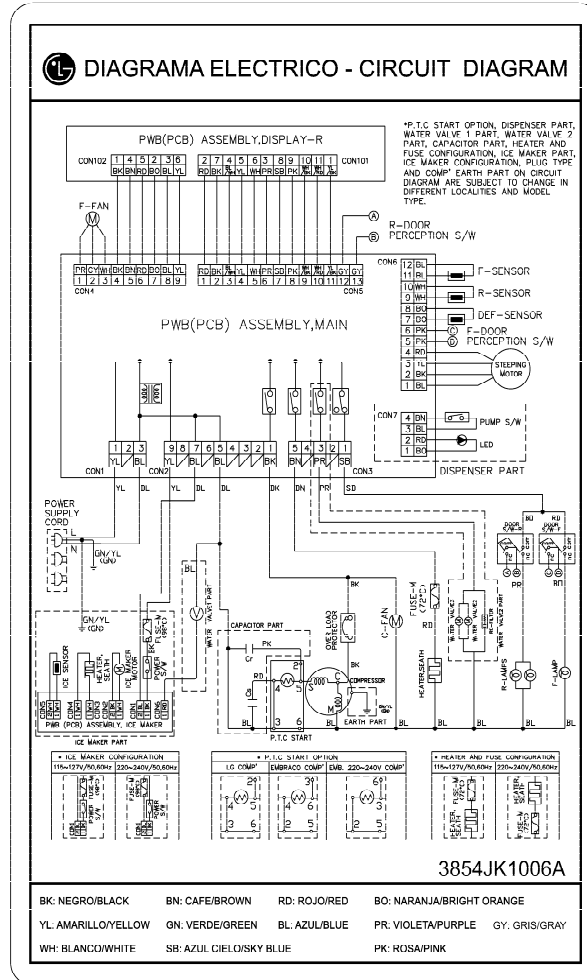
- (3) Remove two Housings on upper part of Cover PTC.
- (4) Take out the cover PTC from upper to lower position like ①.



- (5) Turn 45° in the direction of ② and take it out.
- (6) Assembly in reverse order of disassembly.

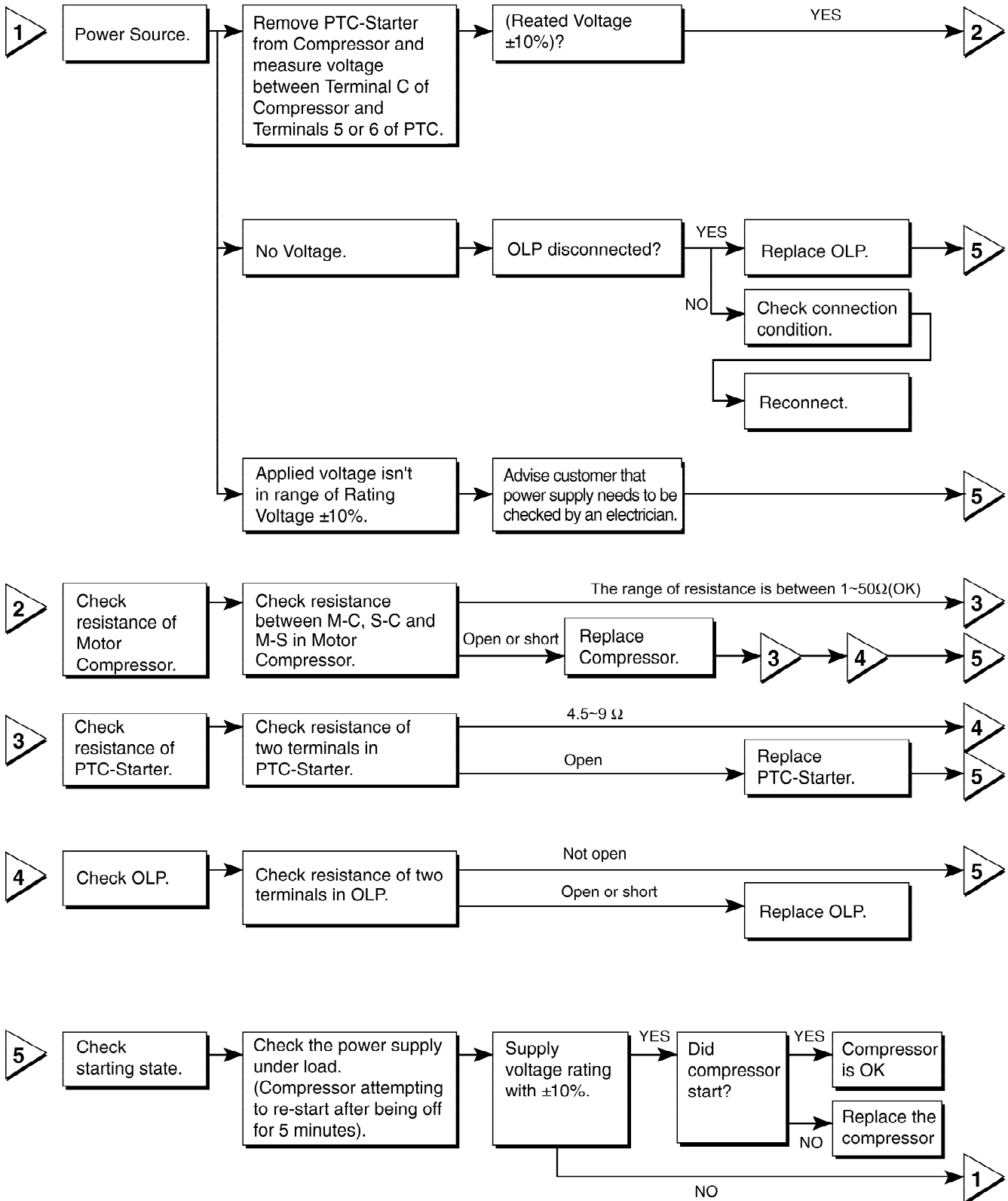


# 5. CIRCUIT DIAGRAM



# 6. TROUBLESHOOTING

## 6-1 COMPRESSOR AND ELECTRIC COMPONENTS



## 6-2 PTC AND OLP

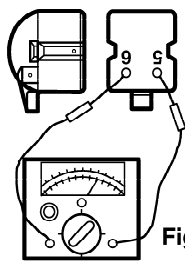
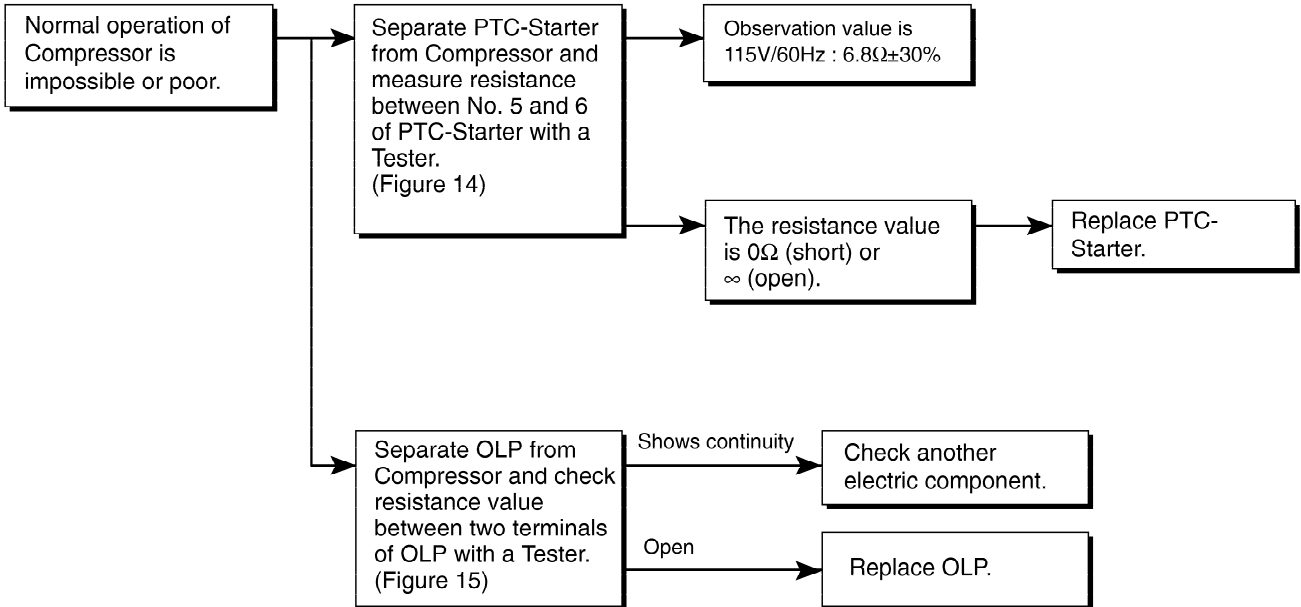


Figure 14

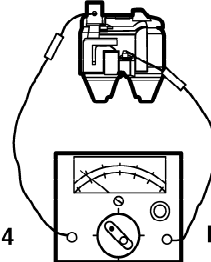
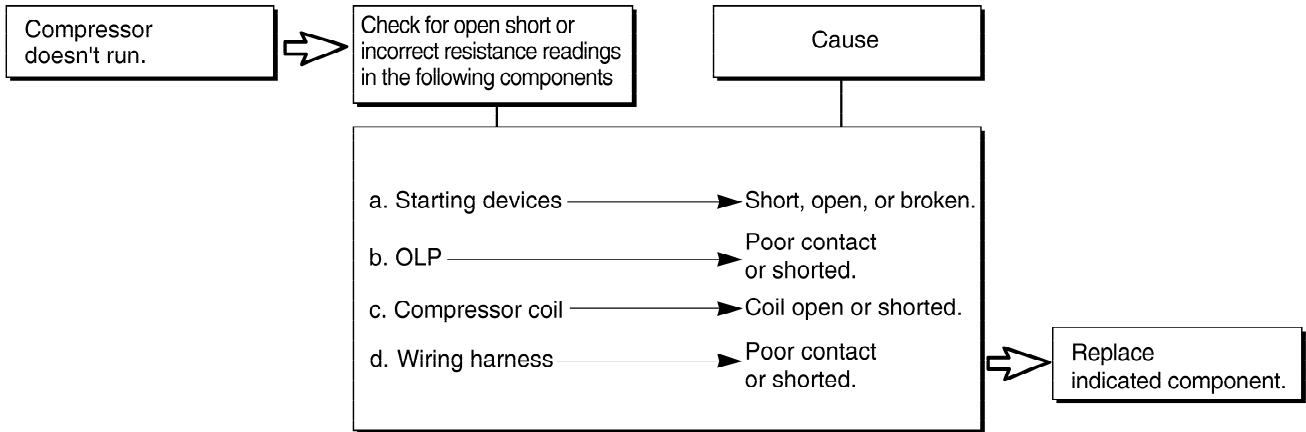


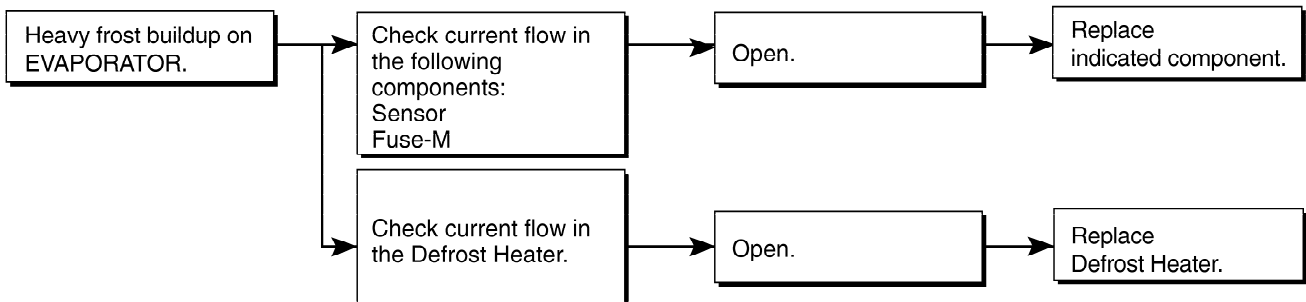
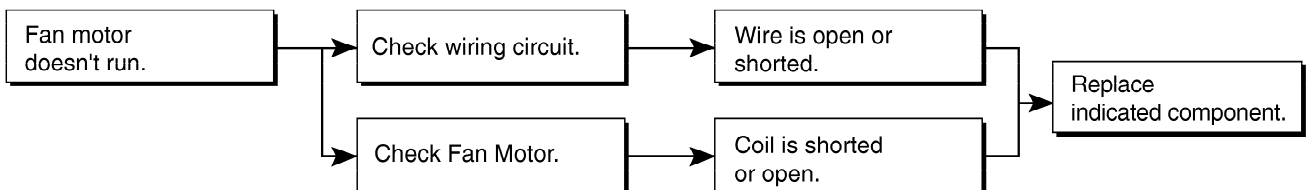
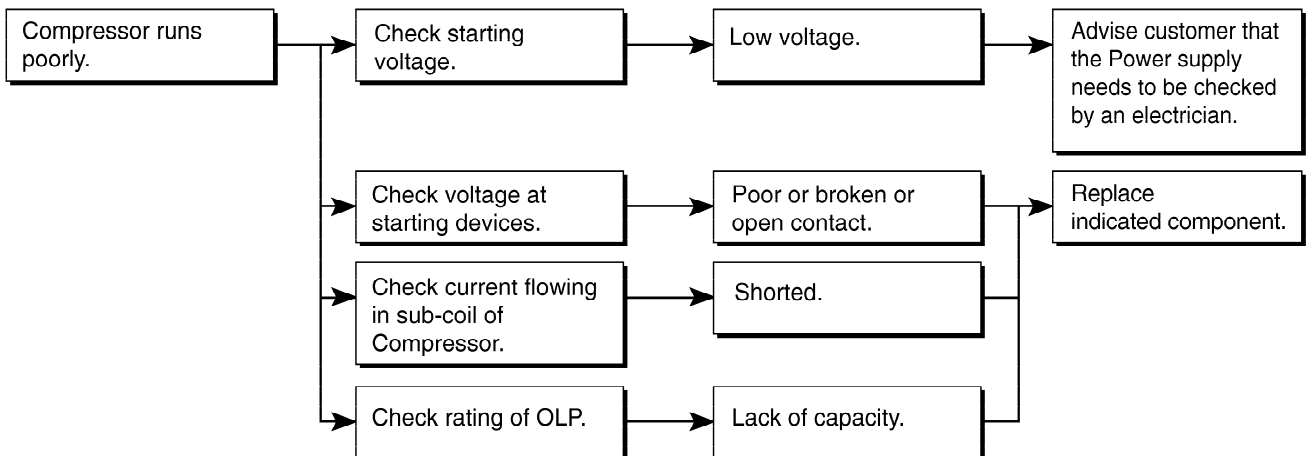
Figure 15

### 6-3 OTHER ELECTRICAL COMPONENTS

#### ▼ Not cooling at all



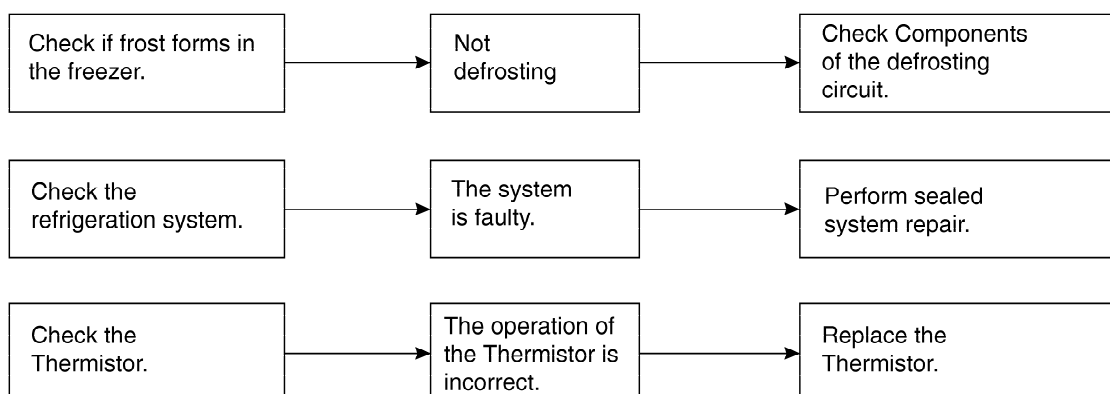
#### ▼ Poor cooling performance



## 6-4 SERVICE DIAGNOSIS CHART

COMPLAINT	POINTS TO BE CHECKED	REMEDY
No Cooling.	<ul style="list-style-type: none"> <li>• Is the power cord unplugged from the outlet?</li> <li>• Check if the power switch is set to OFF.</li> <li>• Check if the fuse of the power switch is shorted.</li> <li>• Measure the voltage of the power outlet.</li> </ul>	<ul style="list-style-type: none"> <li>• Plug into the outlet.</li> <li>• Set the switch to ON.</li> <li>• Replace the fuse.</li> <li>• If the voltage is low, correct the wiring.</li> </ul>
Cools poorly.	<ul style="list-style-type: none"> <li>• Check if the unit is placed too close to the wall.</li> <li>• Check if the unit is placed too close to the stove, gas cooker, or in direct sunlight.</li> <li>• Is the ambient temperature too high or the room door closed?</li> <li>• Check if food put in the refrigerator is hot.</li> <li>• Did you open the door of the unit too often or check if the door is sealed properly?</li> <li>• Check if the Control is set to <b>Warm position</b>.</li> </ul>	<ul style="list-style-type: none"> <li>• Place the unit about 4 inches (10 cm) from the wall.</li> <li>• Place the unit away from these heat sources.</li> <li>• Lower the ambient temperature.</li> <li>• Put in foods after they have cooled down.</li> <li>• Don't open the door too often and close it firmly.</li> <li>• Set the control to <b>Recommended position</b>.</li> </ul>
Foods in the Refrigerator are frozen.	<ul style="list-style-type: none"> <li>• Is food placed in the cooling air outlet?</li> <li>• Check if the control is set to <b>colder position</b>.</li> <li>• Is the ambient temperature below 41°F(5°C)?</li> </ul>	<ul style="list-style-type: none"> <li>• Place foods in the high-temperature section. (front part)</li> <li>• Set the control to <b>Recommended position</b>.</li> <li>• Set the control to <b>Warm position</b>.</li> </ul>
Condensation or ice forms inside the unit.	<ul style="list-style-type: none"> <li>• Is liquid food sealed?</li> <li>• Check if food put in the refrigerator is hot.</li> <li>• Did you open the door of the unit too often or check if the door is sealed properly?</li> </ul>	<ul style="list-style-type: none"> <li>• Seal liquid foods with wrap.</li> <li>• Put in foods after they have cooled down.</li> <li>• Don't open the door too often and close it firmly.</li> </ul>
Condensation forms in the Exterior Case.	<ul style="list-style-type: none"> <li>• Check if the ambient temperature and humidity of the surrounding air are high.</li> <li>• Is there a gap in the door gasket?</li> </ul>	<ul style="list-style-type: none"> <li>• Wipe moisture with a dry cloth. It will disappear in low temperature and humidity.</li> <li>• Fill up the gap.</li> </ul>
There is abnormal noise.	<ul style="list-style-type: none"> <li>• Is the unit positioned in a firm and even place?</li> <li>• Are any unnecessary objects placed in the back side of the unit?</li> <li>• Check if the Drip Tray is not firmly fixed.</li> <li>• Check if the cover of the compressor enclosure in the lower front side is taken out.</li> </ul>	<ul style="list-style-type: none"> <li>• Adjust the Leveling Screw, and position the refrigerator in a firm place.</li> <li>• Remove the objects.</li> <li>• Fix the Drip Tray firmly in the original position.</li> <li>• Place the cover in its original position.</li> </ul>
Door does not close well.	<ul style="list-style-type: none"> <li>• Check if the door gasket is dirty with an item like juice.</li> <li>• Is the refrigerator level?</li> <li>• Is there too much food in the refrigerator?</li> </ul>	<ul style="list-style-type: none"> <li>• Clean the door gasket.</li> <li>• Position in the firm place and level the Leveling Screw.</li> <li>• Make sure food stored in shelves does not prevent the door from closing.</li> </ul>
Ice and foods smell unpleasant.	<ul style="list-style-type: none"> <li>• Check if the inside of the unit is dirty.</li> <li>• Are foods with a strong odor unwrapped?</li> <li>• The unit smells of plastic.</li> </ul>	<ul style="list-style-type: none"> <li>• Clean the inside of the unit.</li> <li>• Wrap foods that have a strong odor.</li> <li>• New products smell of plastic, but this will go away after 1-2 weeks.</li> </ul>

● Other possible problems:



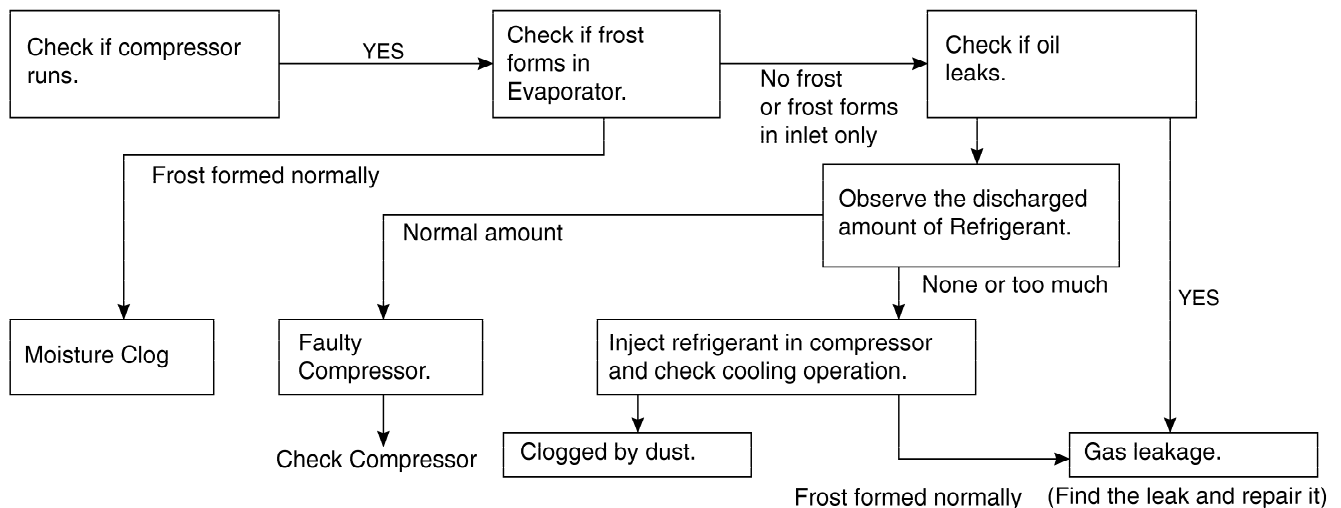
## 6-5 REFRIGERATION CYCLE

### ▼ Troubleshooting Chart

CAUSE		STATE OF THE UNIT	STATE OF THE EVAPORATOR	TEMPERATURE OF THE COMPRESSOR	REMARKS
LEAKAGE	PARTIAL LEAKAGE	Freezer compartment and Refrigerator don't cool normally.	Low flowing sound of Refrigerant is heard and frost forms in inlet only.	A little higher than ambient temperature.	<ul style="list-style-type: none"> <li>Refrigerant level is low due to a leak.</li> <li>Normal cooling is possible by restoring the normal amount of refrigerant and repairing the leak.</li> </ul>
	COMPLETE LEAKAGE	Freezer compartment and Refrigerator don't cool normally.	Flowing sound of refrigerant is not heard and frost isn't formed.	Equal to ambient temperature.	<ul style="list-style-type: none"> <li>No discharging of Refrigerant.</li> <li>Normal cooling is possible by restoring the normal amount of refrigerant and repairing the leak.</li> </ul>
CLOGGED BY DUST	PARTIAL CLOG	Freezer compartment and Refrigerator don't cool normally.	Flowing sound of refrigerant is heard and frost forms in inlet only.	A little higher than ambient temperature.	<ul style="list-style-type: none"> <li>Normal discharging of the refrigerant.</li> <li>The capillary tube is faulty.</li> </ul>
	WHOLE CLOG	Freezer compartment and Refrigerator don't cool.	Flowing sound of refrigerant is not heard and frost isn't formed.	Equal to ambient temperature.	<ul style="list-style-type: none"> <li>Normal discharging of the Refrigerant.</li> </ul>
MOISTURE CLOG		Cooling operation stops periodically.	Flowing sound of refrigerant is not heard and frost melts.	Lower than ambient temperature.	<ul style="list-style-type: none"> <li>Cooling operation restarts when heating the inlet of the capillary tube.</li> </ul>
DEFECTIVE COMPRESSION	COMP-RESSION	Freezer and Refrigerator don't cool.	Low flowing sound of refrigerant is heard and frost forms in inlet only.	A little higher ambient temperature.	<ul style="list-style-type: none"> <li>Low pressure at high side of compressor due to low refrigerant level.</li> </ul>
	NO COMP-RESSION	No compressing operation.	Flowing sound of refrigerant is not heard and there is no frost.	Equal to ambient temperature.	<ul style="list-style-type: none"> <li>No pressure in the high pressure part of the compressor.</li> </ul>

### ▼ Leakage Detection

- Observe the discharging point of the refrigerant, which may be in the oil discharging part of the compressor and in a hole in the evaporator.



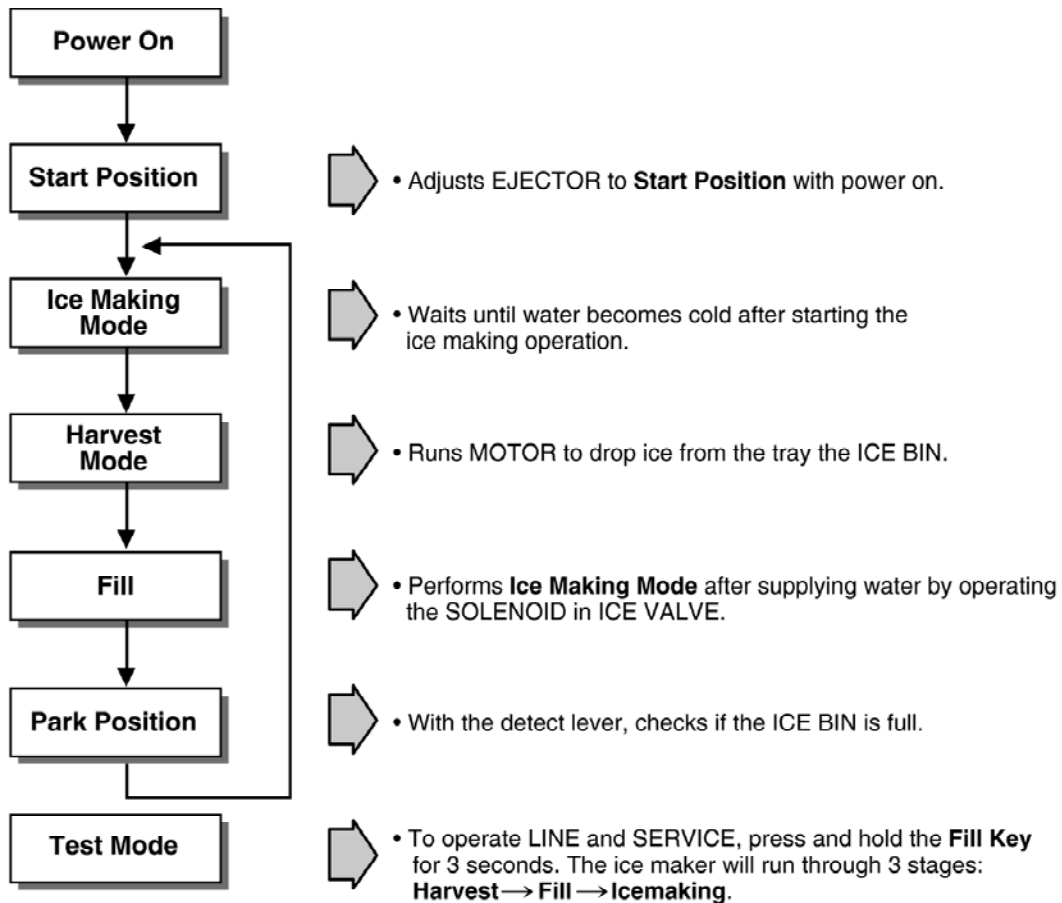
▼ General Control of Refrigerating Cycle

NO.	ITEMS	UNIT	STANDARDS	PURPOSES	REMARKS	
1	Pipe and piping system opening time	Min.	Pipe: within 1 hour. Comp: within 10 minutes. Drier: within 20 minutes.	To protect moisture penetration.	The opening time should be reduced to a half of the standards during rain and rainy seasons (the penetration of water into the pipe is dangerous).	
2	Welding	Nitrogen pressure	Weld under Nitrogen atmosphere. (N <sub>2</sub> pressure: 0.1~0.2 kg/cm <sup>2</sup> )	To protect oxide scale formation.	- Refer to repair note in each part. - R-134a refrigerant is more susceptible to leaks than R-12 and requires more care during welding. - Do not apply force to pipes before and after welding to protect pipe from cracking.	
3	N <sub>2</sub> sealed parts	Confirm N <sub>2</sub> leak	Confirm the sound of pressure relief when removing the rubber cap. Sound: usable No sound: not usable	To protect moisture penetration.	- In case of evaporator parts, if it doesn't make sound when removing rubber cap, blow dry air or N <sub>2</sub> gas for more than 1 min. and then use the parts.	
4	Refrigeration Cycle	Evacuation time	Min.	More than 40 minutes	To remove moisture.	
		Vacuum degree	Torr	Below 0.03 (ref)		Note: Only applicable to the model equipped with reverse flow protect plate.
		Vacuum	EA	High and low pressure sides are evacuated at the same time for models above 200 l.		Vacuum efficiency can be improved by operating compressor during evacuation.
		Vacuum piping	EA	Use R-134a manifold exclusively.	To protect mixing of mineral and ester oils.	The rubber pipes for R-12 refrigerant will be melted when they are used for R-134a refrigerant (causes of leak.)
		Pipe coupler	EA	Use R-134a manifold exclusively.	To protect R-12 refrigerant mixing.	
		Outlet (Socket)		R-134a manifold exclusively.	To protect R-12 refrigerant mixing.	
		Plug		R-134a manifold exclusively.	To protect R-12 refrigerant mixing.	
5	Refrigerant weighing	EA	Use R-134a exclusively. Weighing allowance: ±5g Note: Winter: -5g Summer: +5g	Do not mix with R-12 refrigerant.	- Do not weigh the refrigerant at too hot or too cold an area. (77°F [25°C] is adequate.) - Make Copper charging canister (Device filling refrigerant) Socket: 2SV Plug: 2PV R-134a Note: Do not burn O-ring (bushing) during welding.	
6	Drier replacement		- Use R-134a exclusively for R-134a refrigerator. - Replace drier whenever repairing refrigerator cycle piping.	To remove the moisture from pipe inside.		
7	Leak check		- Do not use soapy water for check. It may be sucked into the pipe by a vacuum.	Defect in refrigerant leak area.	- Check for an oil leak at the refrigerant leak area. Use an electronic leak detector if an oil leak is not found. - The electronic leak detector is very sensitive to halogen gas in the air. It also can detect R-141b in urethane. Practice many times before using this type of detector to avoid false readings.	

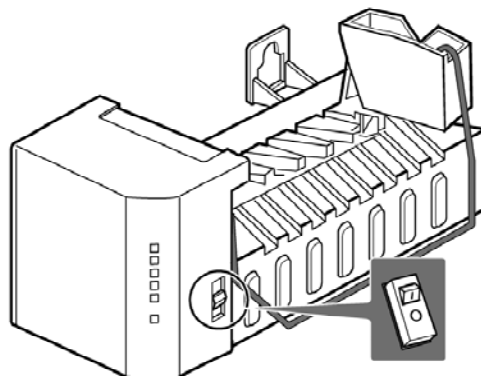
# 7. OPERATION PRINCIPLE AND REPAIR METHOD OF ICEMAKER

## 7-1 OPERATION PRINCIPLE

### 7-1-1 Operation Principle of IceMaker



1. Turning the Icemaker stop switch off (O) stops the ice making function.
2. Setting the Icemaker switch to OFF and then turning it back on will reset the icemaker control.





## 7-2 CONTROL METHOD ACCORDING TO FUNCTIONS

### 7-2-1 Start Position

1. After POWER OFF or Power Outage, check the EJECTOR's position with MICOM initialization to restart.
2. How to check if it is in place:
  - Check **HIGH/LOW** signals from HALL SENSOR in MICOM PIN.
3. Control Method to check if it is in place:
  - (1) EJECTOR is in place,
    - It is an initialized control, so the mode can be changed to ice making control.
  - (2) EJECTOR isn't in place:
    - A. If EJECTOR is back in place within 2 minutes with the motor on, it is being initialized. If not, go to Step B.
    - B. If EJECTOR is back in place within 18 minutes with the heater on (to control Heater on its OFF condition), it is being initialized. If not, it is not functioning. Repeat Step B with Heater and Motor off.

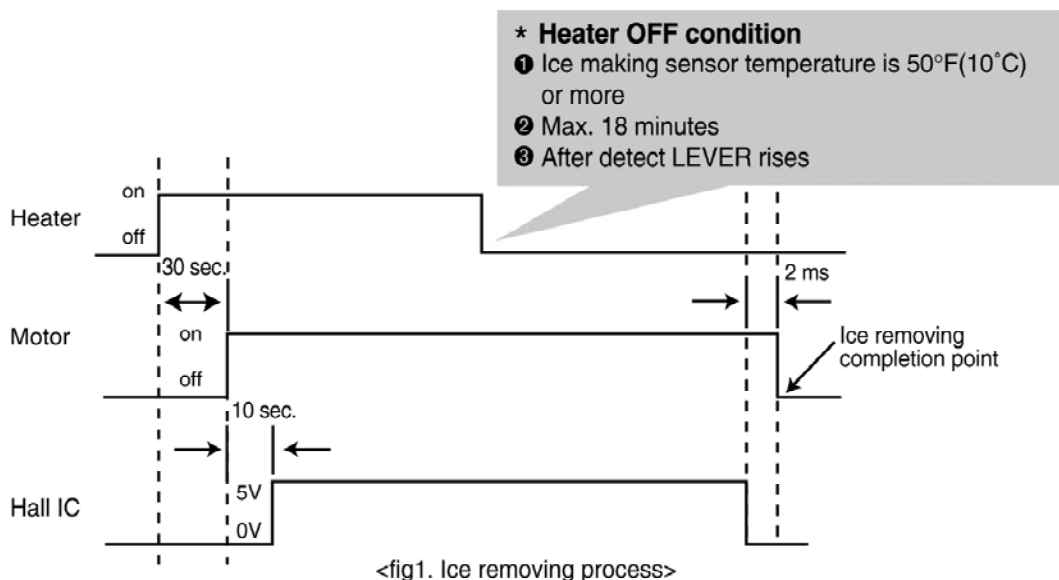
### 7-2-2 Ice Making Mode

1. Ice Making control refers to the freezing of supplied water in the ice trays. Complete ice making operations by measuring the temperature of the Tray with Ice-Making SENSOR.
2. Ice Making starts after completing fulfilled ice control and initial control.
3. The Ice Making function is completed when the sensor reaches 19°F(-7°C), 60 to 240 minutes after starting.
4. If the temperature sensor is defective, the ice-making function will be completed in 4 hours.

### 7-2-3 Harvest Mode

1. Ice-removing control refers to the operation of dropping cubes into the ice bin from the tray when ice-making has completed.
2. Ice removing control mode:
  - (1) Operates Heater for 30 seconds; then operate MOTOR.
  - (2) After performing Step 1 (to control the Heater on its off condition), Ice-Removal control will be back in place within 18 minutes. (Hall SENSOR sign = OV). Ice removal is then complete. Then change the mode to the water supply control. If this control phase fails to start, it is not functioning. Put the Heater and Motor in the off position. Restart every 2 hours. (Refer to fig.1)






**NOTE :** If the motor malfunctions and starts before the detect lever rises, MICOM regards the Ice-Removing phase as completed. Water then starts flowing. To prevent this, MICOM doesn't switch to water-supply mode, but restarts the ice-removing mode. If this happens 3 times, the motor is malfunctioning and you should stop the loads (Heater, Motor). Then restart the Ice-Removing mode every 2 hours. (See Step 2 above.)



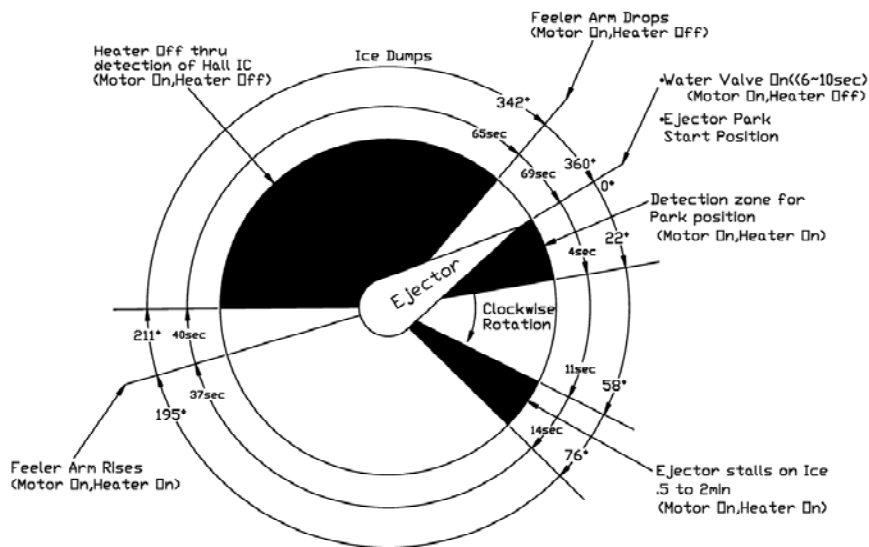
**7-2-4 Fill / Park Position**

1. When Ice-Removing control (Normal Ice-Removing control, Ice-Removing control for test) has completed, and the EJECTOR is in place, this control operates the ICE SOLENOID by time check in the compressor enclosure of the refrigerator. Then it supplies water to the ice making tray.
2. Water supply level is adjustable in levels 1-5 by pressing the water supply control Switch and fill time will be determined by the selected level.

**Water supply amount TABLE**

STAGE	TIME TO SUPPLY	INDICATIONS	REMARKS
1	6 sec.		The water amount will vary depending on the water control Switch setting, as well as the water pressure of the connected water line.
2	7 sec.		
3	8 sec.		
4	9 sec.		
5	10 sec.		






**NOTE :** Below is an example used by another vendor as an explanation of what is taking place.



### 7-2-5 Function TEST



1. This is a compulsory operation for TEST, SVC, cleaning, etc. It is operated by pressing the water supply control KEY for 3 seconds.
2. It operates in the Ice Making mode, but not in the Ice-Removing mode or water supply process. (If there is an ERROR, it can only be checked in the TEST mode.)
3. If the water supply control KEY is pressed for 3 seconds in the Ice-Making mode (no matter what condition the Ice-Making tray is in) the Ice-Removing operation starts immediately. Water is not yet frozen, so water is poured instead of ice. If the control doesn't operate normally in the TEST mode, check and repair as needed.
4. After water is supplied, the normal CYCLE is followed: **ice making** → **Harvest** → **Fill** → **Park Position**.
5. When Stage 5 is completed in the TEST mode, minimize MICOM in 5 seconds, the time needed to supply water resets to the previous status in the TEST mode.

#### Diagnosis TABLE

STAGE	ITEMS	INDICATOR	REMARKS
1	HEATER		Five seconds after heater starts, heater will go off if temperature recorded by sensor is 10°C or lever is in up position.
2	MOTOR		Five seconds after heater starts, you can confirm that motor is moving.
3	HALL IC (detection of position) I		You can confirm Hall IC detection of position.
4	VALVE		Two seconds after detection of initial position, you can confirm that valve is on.
5	HALL IC (detection of full-filled Ice) II		You can check whether hall is sensing Full ice condition. (If there is a full-filled error, the fifth LED is not on.)
6	reset	Mark previous status on TEST mode	Five seconds after fifth stage is completed, the icemaker reset at initial status.

### 7-3 DEFECT DIAGNOSIS FUNCTION

#### 7-3-1 ERROR CODES shown on Ice Maker water supply control panel

NO	DIVISION	INDICATOR	CONTENTS	REMARKS
1	Normal	Mark time to supply	None	Display switch operates properly
2	Ice-Making Sensor malfunction		Cut or short-circuited wire	Make sure that the wire on each sensor is connected.
3	Ice Maker Kit malfunction		When ejector blades don't reach park position over 18 minutes since Harvest Mode starts.	Defects of HALL IC/MOTOR/HEATER/RELAY

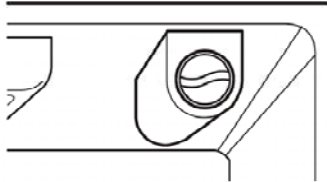
ERROR indicators in table can be checked only in TEST mode.

# 8 WATER FILTER

## 8.1 WATER FILTER CARTRIDGE REPLACEMENT

### FILTER (on some models)

It is recommended that you replace the filter when the water filter indicator light turns on or your water dispenser or ice maker decreases noticeably.



After changing the water filter cartridge, reset the water filter status display and indicator light by pressing and holding the **BUTTON** for 3 seconds.

### How to change the old cartridge.

1. Turn the shutoff valve off (house valve).\*



2. Dispense water from the system to empty the tubing (approximately for 50 seconds).\*



3. Remove the old cartridge.

Rotate the knob of the cartridge counter clockwise.



When the cartridge is removed, it will click out of place.



**NOTE:** There will be water in the cartridge. Some spilling may occur through the hole at rear bottom side of cover. You may use a cup or something like that to prevent spilt water drop into food.

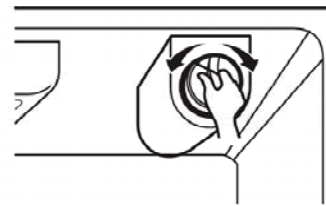
Pull out the cartridge.



4. Replace with a new cartridge.

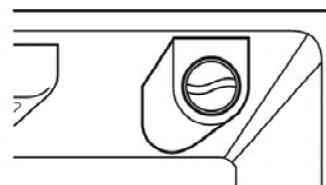
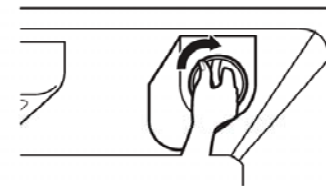
Take the new cartridge out of its packaging and remove protective cover from the o-rings.

With cartridge knob in the vertical position, push the new filter cartridge into the cover until it stops.



If you can't turn the filter from side to side, it isn't inserted. Push it in firmly and twist it into place. You will hear it click into place.

Using its handle, twist the cartridge clockwise about 1/4 turn. You will hear when it clicks into place.



5. Turn the shutoff valve on (house valve).\*



6. Flush water out from the system until air gets eliminated and water start to dispense (approximately for 60 seconds).\*



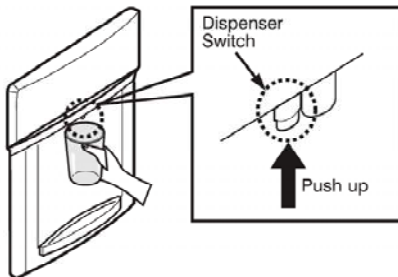
**NOTE:** To purchase replacement water filter cartridges, visit your local appliance dealer or part distributor. You can also visit our website : [www.lgappliances.com](http://www.lgappliances.com) or call 1-877-714-7481.

\*Steps 1,2,5 & 6 only for models with water dispenser.

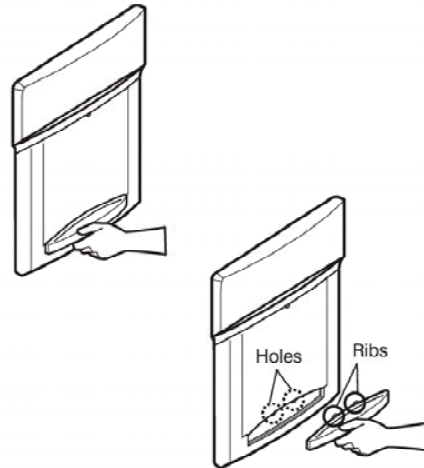
## 8.2 WATER DISPENSER(On some models)

### WATER DISPENSER

2. Tilt up the front of tray slightly and snap the ribs into the holes to replace the tray.



1. Push up the dispenser switch with a cup until you hear click to get cold water.  
Tray can be easily removed by pressing and pulling it.



**Important:** If no water dispensed when the refrigerator is first installed, there may be air in the water line system. Press the dispenser switch for at least two minutes to remove trapped air from the water line and to fill the water system.

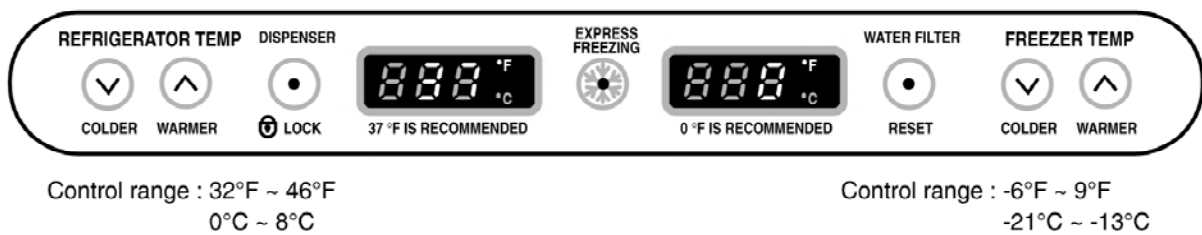
# 9. DESCRIPTION OF FUNCTION & CIRCUIT OF MICOM

## 9-1 FUNCTION

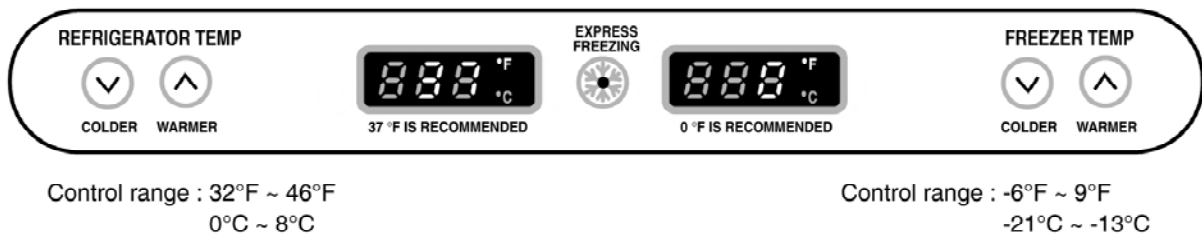
### 9-1-1 Function

1. When the appliance is plugged in, it is set to 37 °F for the Refrigerator and 0 °F for the Freezer.  
You can adjust the Refrigerator and the Freezer control temperature by pressing the COLDER button or the WARMER button.
2. When the power is initially applied or restored after a power failure, it is set to the setting temperature as you set before power off. (applied to DISPENSER MODEL)

### DISPENSER MODEL



### BEST MODEL



### 9-1-2 How to Change the Temperature Mode to °F / °C

1. The setting temperature mode can be changed to °F / °C by pressing and holding COLDER key of Freezer and COLDER key of Refrigerator over 1 seconds. at the same time.
2. The initial setting is °F. Whenever the mode is changed, the LED lights are changed.

### 9-1-3 Dispenser Lock

1. Press and hold the DISPENSER LOCK button for 3 seconds to lock the dispenser.
2. When locked, the LED is off and the dispenser function is turned off.
3. Press and hold the DISPENSER LOCK button again for 3 seconds to unlock the dispenser. The LED will be on and the dispenser will function normally.

#### 9-1-4 CONTROL OF FREEZER FAN MOTOR

1. Freezer fan motor has high and standard speeds.
2. High speed is used at power-up, for express freezing, and when refrigerator is overloaded.  
Standard speeds is used for general purposes.
3. To improve cooling speed, the RPM of the freezer fan motor change from normal speed to high.
4. High speed (2700RPM) : Initial power on or load corresponding operation, express freezing.  
Normal speed (2400RPM) : General working conditions.
5. Fan motor stops when refrigerator or freezer door opens.

#### 9-1-5 EXPRESS FREEZING

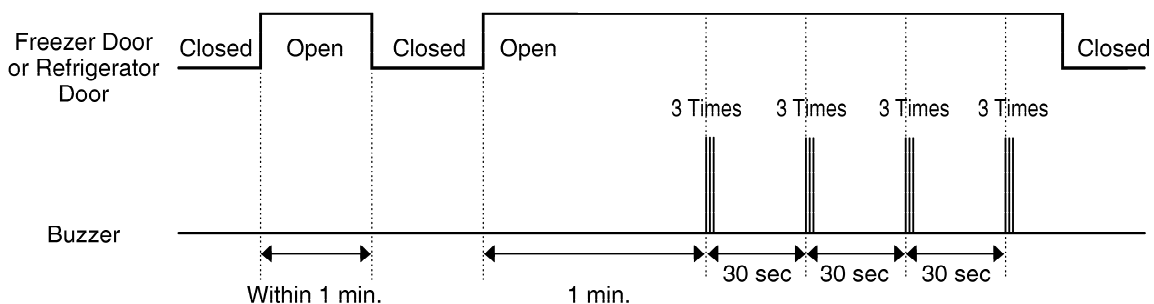
1. The purpose of this function is to intensify the cooling speed of freezer and to increase the amount of ice.
2. Whenever selection switch is pressed, selection/release, the LED will turn ON or OFF.
3. If there is a power cutage and the refrigerator is power on again, EXPRESS FREEZING function will be canceled.
4. To activate these function, to press the Express Freezing key and the LED will turn ON. This function will remain activated for 24 hrs. The first three hours the compressor and Freezer Fan will be ON. The next 21 hours the freezer will be controlled at the lowest temperature. After 24 hours or if the Express Freezing key is pressed again, the freezer will return to its previous temperature.
5. For the first three hours notice the following cases:
  - (1) Compressor and freezer fan (HIGH RPM) continuously operate for three hours.
  - (2) If defrost starts during EXPRESS FREEZING, EXPRESS FREEZING operates for the rest of time after defrost is completed, when EXPRESS FREEZING operation time is less than 90 minutes.  
If EXPRESS FREEZING operates for more than 90 minutes, the EXPRESS FREEZING will operate for two hours after defrost is completed.
  - (3) If EXPRESS FREEZING is pressed during defrost, EXPRESS FREEZING LED is on but this function will start seven minutes after defrost is completed and it shall operate for three hours.
  - (4) If EXPRESS FREEZING is selected within seven minutes after compressor has stopped, the compressor (compressor delays seven minutes) shall start after the balance of the delay time.
  - (5) The fan motor in the freezer compartment runs at high speed during EXPRESS FREEZING .
6. For the rest of the 21 hours, the freezer will be controlled at the lowest temperature.

#### 9-1-6 REFRIGERATOR LAMP AUTO OFF

1. To avoid heat damage caused by the lamp, it is turned off automatically when the refrigerator door is open for more than 7 minutes.

#### 9-1-7 Alarm for Open Door

1. This feature sounds a buzzer when the freezer or refrigerator door is not closed within 1 minute after it is opened.
2. One minute after the door is opened, the buzzer sounds three times each for 1/2 seconds. These tones repeat every 30 seconds.
3. The alarm is cancelled when the freezer or the refrigerator is closed while the buzzer sounds.



### 9-1-8 Buzzer Sound

When the button on the front Display is pushed, a Ding~ Dong~ sound is produced.  
(Refer to the Buzzer Circuit 8-2-4 No. 3)

### 9-1-9 Defrosting (removing frost)

1. Defrosting starts each time the COMPRESSOR running time reaches 7 hours.
2. For initial power on or for restoring power, defrosting starts when the compressor running time reaches 4 hours.
3. Defrosting stops if the sensor temperature reaches 46.4°F(8°C) or more. If the sensor doesn't reach 46.4°F(8°C) in 2 hours, the defrost mode is malfunctioning. (Refer to the defect diagnosis function, 8-1-13.)
4. Defrosting won't function if its sensor is defective (wires are cut or short circuited)

### 9-1-10 Filter Replacement Indication

1. In 6 months after the UNIT (refrigerator) is power on, or after 28,000 seconds of dispenser use, the water filter Indicator LED (red color) will be ON.
2. When the water filter indicator LED is illuminated, you should change the water filter. After this, you must press the water filter button for three seconds and you will hear a ding-dong sound.  
The LED will be OFF. This operation will indicate that the UNIT is reset to its initial conditions, so this process is restarted.

### 9-1-11 Power Failure Compensation Function

1. When the UNIT is power off, the Fresh Food and Freezer Temperature notches, the filter elapsed time for replacement, the temperature mode (°C or °F) and the dispenser lock mode are saved in the EEPROM.
2. When the UNIT is power on, the MICOM will read the specified EEPROM addresses to restore the values indicated in the previous paragraph.

### 9-1-12 Electrical Parts Are Turned On Sequentially

Electrical parts such as COMP, defrosting heater, freezer FAN, etc. are turned on in the following order to prevent noise and parts damage. Several parts are started at the same time at initial power on and are turned off together when TEST is completed.

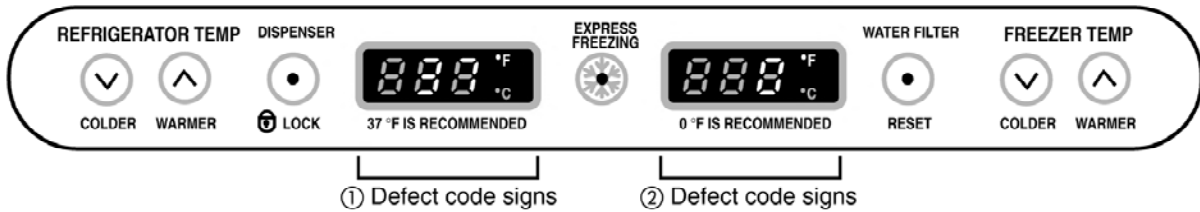
OPERATING		ORDERS				
Initial power on	Temperature of Defrosting Sensor is 113°F(45°C) or more (when unit is newly purchased or when moved)	<b>POWER ON</b>	in 1/2 second →	<b>COMP ON</b>	in 1/2 second →	<b>Freezer FAN ON</b>
	Temperature of defrosting sensor is lower than 113°F(45°C) (when power cuts, SERVICE)	<b>POWER ON</b>	in 1/2 second →	<b>Defrosting heater ON</b>	in 10 second →	<b>Defrosting heater OFF</b>
		in 1/2 second →	<b>COMP ON</b>	in 1/2 second →	<b>Freezer FAN ON</b>	
	Reset to normal operation from TEST MODE	<b>Total load OFF</b>	in 7 minute →	<b>COMP ON</b>	in 1/2 second →	<b>Freezer FAN ON</b>



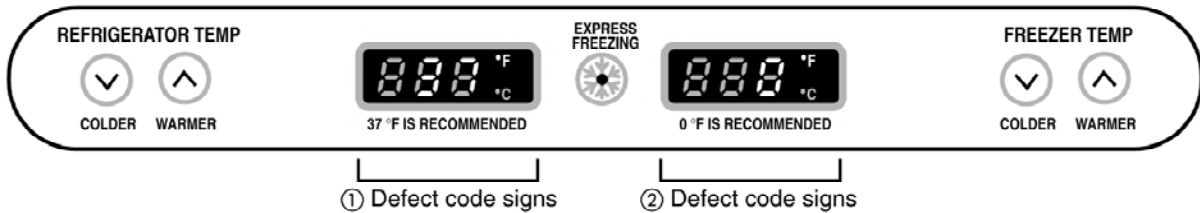
### 9-1-13 Defect Diagnosis Function

1. Automatic diagnosis makes servicing the refrigerator easy.
2. When a defect occurs, the buttons will not operate; but the tones, such as ding, will sound.
3. When the defect CODE removes the sign, it returns to normal operation (RESET).
4. The defect CODE shows on the Refrigerator and Freezer Display.

#### DISPENSER MODEL



#### BEST MODEL



#### ERROR CODE on display panel

NO	ITEM	ERROR CODE		CONTENTS	REMARKS
		①	②		
1	Failure of freezer sensor	<i>Er</i>	<i>FS</i>	Cut or short circuit wire	Inspect Connecting wires on each sensor
2	Failure of Refrigerator sensor	<i>Er</i>	<i>rS</i>	Cut or short circuit wire	
3	Failure of defrost sensor	<i>Er</i>	<i>dS</i>	Cut or short circuit wire	
4	Failure of defrost mode	<i>Er</i>	<i>dH</i>	When defrost sensor doesn't reach 8°C within 2 hours after starting defrost.	Snapping of defrost heater or Temperature fuse, pull-out of Connector (indicated minimum 2 Hours after failure occurs)
5	Failure of BLDC FAN MOTOR at freezing compartment.	<i>Er</i>	<i>FF</i>	If there is no fan motor signal For more than 65sec. in Operation fan motor	Poor motor, hooking to Wires of fan, contact of structures to fan, snapping or short circuit of Lead wire

### 9-1-14 TEST Mode

1. The Test mode allows checking the PCB and the function of the product as well as finding out the defective part in case of an error.
2. The test mode is operated by pressing two buttons at Display panel.
3. While in the test mode, the function control button is not recognized, but the recognition tone (beep~) sounds.
4. After exiting the test mode, be sure to reset by unplugging and then plugging in the appliance.
5. If an error, such as a sensor failure, is detected while in the test mode, the test mode is cleared and the error code is displayed.
6. While an error code is displayed, the test mode will not be activated.

MODE	MANIPULATION	CONTENTS	REMARKS
TEST1	Push Express Freezing key and COLDER KEY of Freezer Temp. at the same time over 3 seconds.	<ol style="list-style-type: none"> <li>1. Continuous operation of the COMPRESSOR</li> <li>2. Continuous operation of the freezer fan</li> <li>3. STEPPING DAMPER OPEN</li> <li>4. Defrosting Heater OFF</li> <li>5. Every DISPLAY LED ON</li> </ol>	
TEST2	Push Express Freezing key and COLDER KEY of Freezer Temp. at the same time over 3 seconds in TEST MODE 1	<ol style="list-style-type: none"> <li>1. COMP OFF</li> <li>2. Freezer FAN OFF</li> <li>3. STEPPING DAMPER CLOSE</li> <li>4. Defrosting heater ON</li> <li>5. DISPLAY LED shows <b>222</b></li> </ol>	Reset if the temperature of the Defrosting sensor is 46°F(8°C) or more.
Reset	Push Express Freezing key and COLDER KEY of Freezer Temp. at the same time over 3 seconds. in TEST MODE 2	Reset to the previously setting before TEST MODE	The compressor will Start after a 7-minute delay.

**NOTE** : LED CHECK MODE: When the WARMER button in the refrigerator temperature control and the WARMER button in the freezer temperature control are pushed and held for 1 second or longer, every LED on the display turns on at the same time. When the buttons are released, the previous mode is restored.

\* Freezer Fan RPM Variable Check:

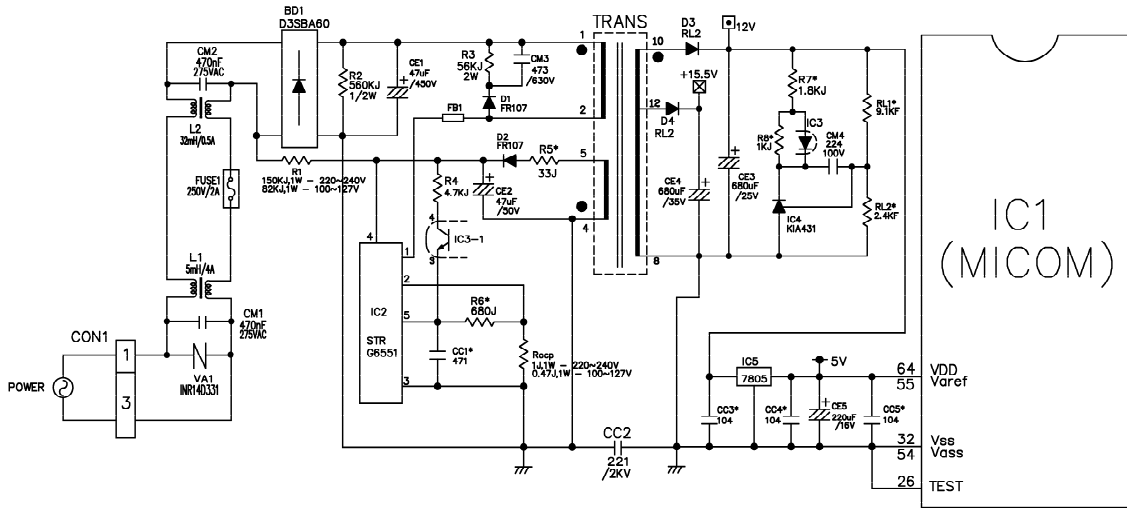
In case the freezer fan is in operation when the WARMER KEY in Refrigerator and Freezer Temp. Control are pressed for more than one second at the same time freezer fan RPM changes. (for example if high speed, to normal speed or if normal speed, to high speed for 30 seconds)  
After 30 seconds, it turns to its original RPM.

\* Demonstration MODE:

1. When the WARMER KEY of refrigerator Temp. control or of freezer Temp. control in the the warmest temperature's status are pushed and held for 3 seconds or longer, It converts to Demonstration Mode.
2. It shows **OFF** on the display panel.
3. In this status, all Loads are off (Compressor / Fan / Damper / Heater)  
(Even is Demonstration Mode, the refrigerator Lamp automatic off function works normally and can be demonstrated)
4. Exit the test mode and reset the display by pressing the COLDER and WARMER buttons.

## 9-2 PCB FUNCTION

### 9-2-1 Power Circuit



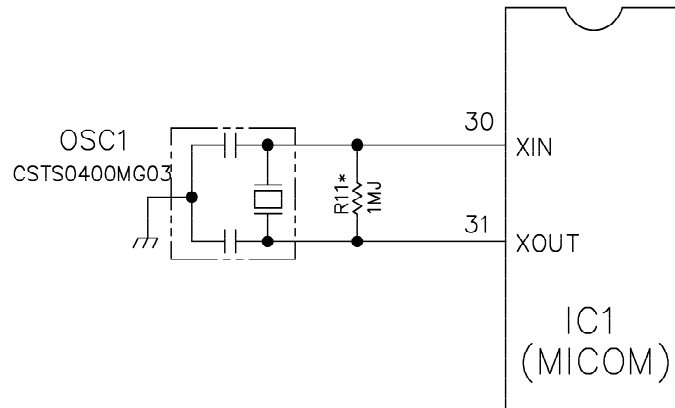
The secondary part of the TRANSFORMER is composed of the power supply for the display, the BLDC FAN Motor drive (15.5 V), the relay drive (12 Vdc) and the MICOM and IC (5 Vdc).

The voltage for each part is as follows:

PART	VA 1	CE 3	CE 4	CE 5
VOLTAGE	115 Vac	12 Vdc	15.5 Vdc	5 V

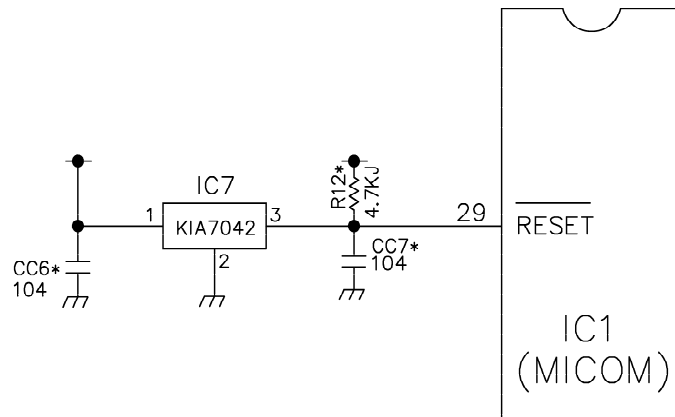
VA1 is a part for preventing over voltage and noise. When 385V or higher power is applied, the inside elements are short-circuited and broken, resulting in blowout of the fuse in order to protect the elements of the secondary part of the TRANSFORMER.

### 9-2-2 Oscillation Circuit



This circuit generates the base clock for calculating time and the synchro clock for transmitting data from and to the inside logic elements of the IC1 (MICOM). Be sure to use specific replacement parts, since calculating time by the IC1 may be changed. If changed, the OSC1 SPEC will not work.

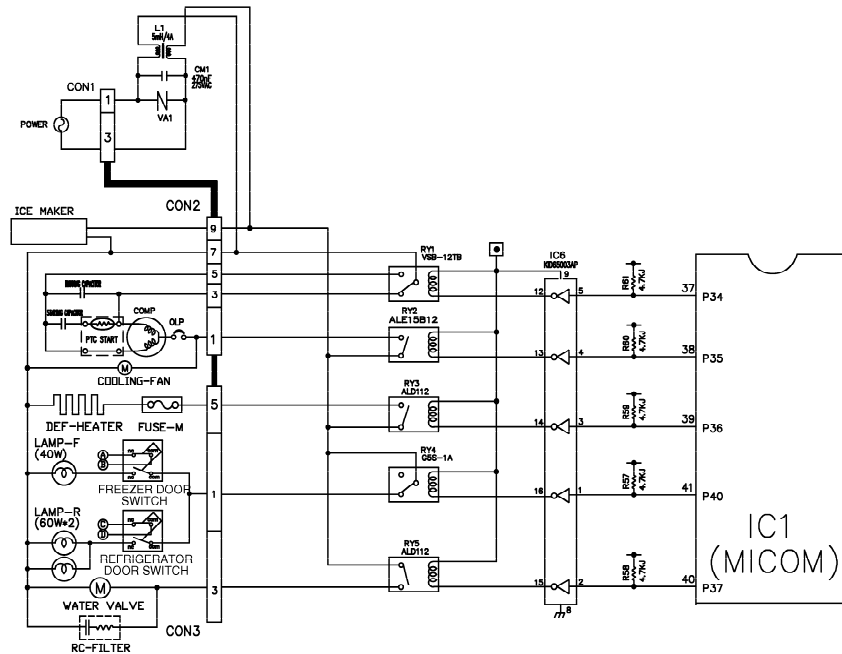
### 9-2-3 Reset Circuit



The RESET circuit allows all the functions to start at the initial conditions by initializing various parts, including the RAM inside the MICOM (IC1) when the power is initially supplied or the power supply to the MICOM is restored after a momentary power failure. For the initial 10ms of power supply, LOW voltage is applied to the MICOM RESET terminal. During a normal operation, 5V is applied to the RESET terminal. (If a malfunction occurs in the RESET IC, the MICOM will not operate.)

## 9-2-4 Load / Buzzer Drive & Open Door Detection Circuit

### 1. Load Drive Condition Check

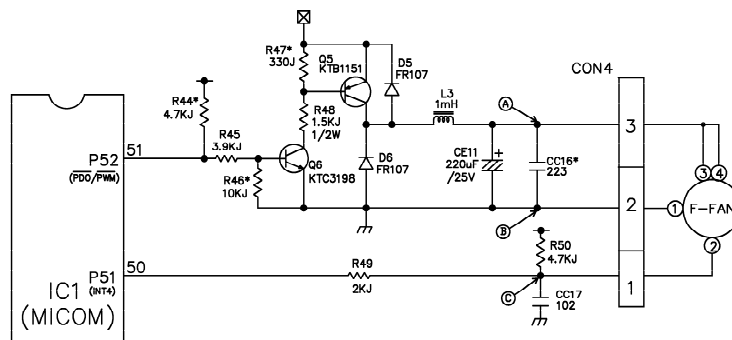


LOAD TYPE		COMP	DEFROSTING HEATER	LAMP	TCM POWER MODE (OPTIONAL)	VALVE (DISPENSER MDL)
Measurement Location (IC6)		NO.13	NO.14	NO.16	NO.12	NO.15
Condition	ON	1V or below				
	OFF	12V				

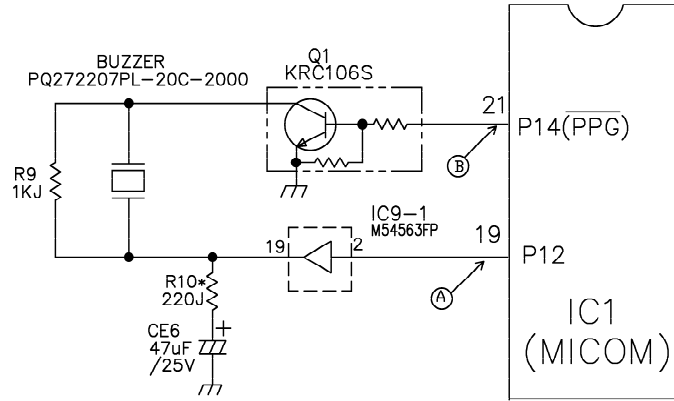
### 2. Fan motor driving circuit (freezing compartment fan)

1. This circuit makes standby power 0 by cutting off power supplied to ISs inside of the fan motor in the fan motor OFF.
2. This is a circuit to perform a temporary change of speed for the fan motor and applies DC voltage up to 7.5V ~ 16V to motor.
3. This circuit prevents over-driving the fan motor by cutting off power applied to the fan motor in the lock of fan motor by sensing the operation RPM of the fan motor.

	(a) part	(b) part	(c) part
MOTOR OFF	2V or less	0V	5V
MOTOR ON	13V~15V	0V	2V~3V

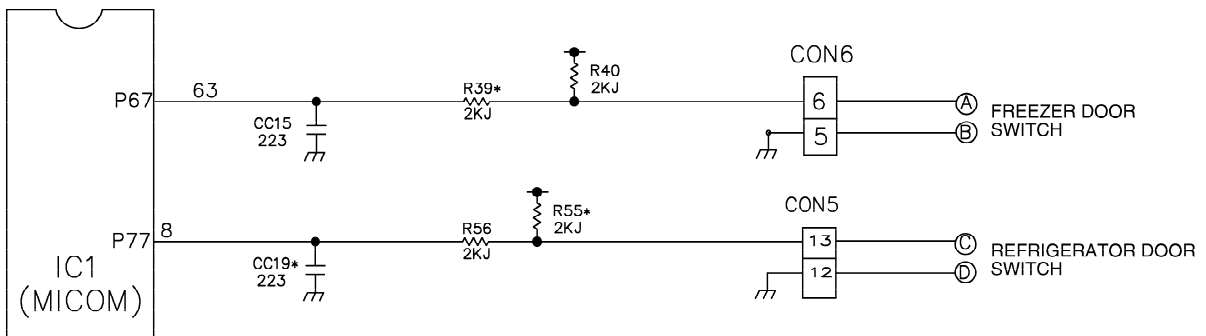


### 3. Buzzer Drive Condition Check



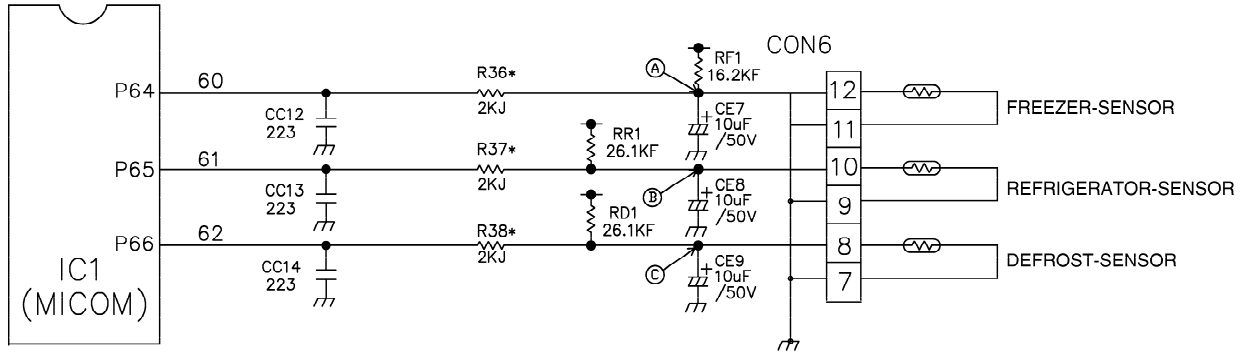
Condition Measurement Location	Tone (Ding~Dong~) when the button on the display is pushed.	Alarm for open door (beep-beep-beep)	OFF
IC1 (A)			0 V
IC1 (B)			0 V

### 4. Open Door Detection Circuit Check



Measurement Location	(PIN NO.63 & PIN NO.8)
Freezer/ Refrigerator Door Closed	5 V
Freezer/ Refrigerator Door Open	0 V

### 9-2-5 Temperature Sensor Circuit

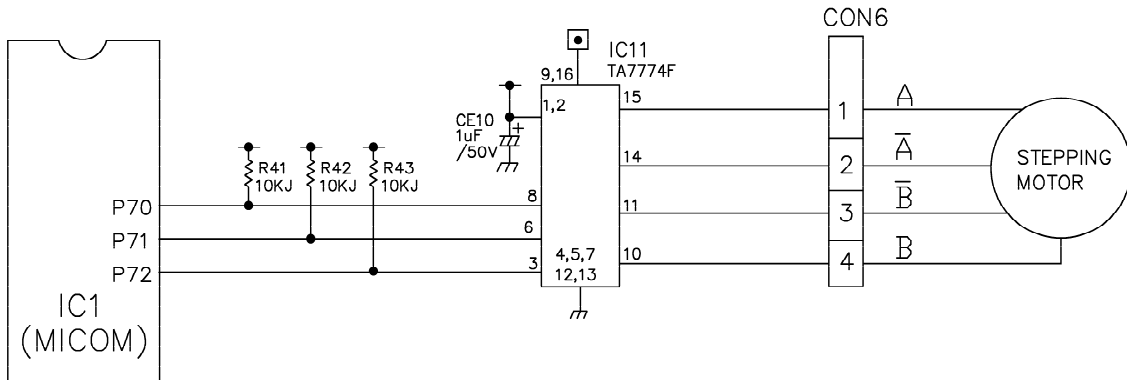


The upper CIRCUIT reads REFRIGERATOR temperature, FREEZER Temperature, and DEFROST-SENSOR temperature for defrosting and the indoor temperature for compensating for the surrounding temperature into MICOM. OPENING or SHORT state of each TEMPERATURE SENSOR are as follows:

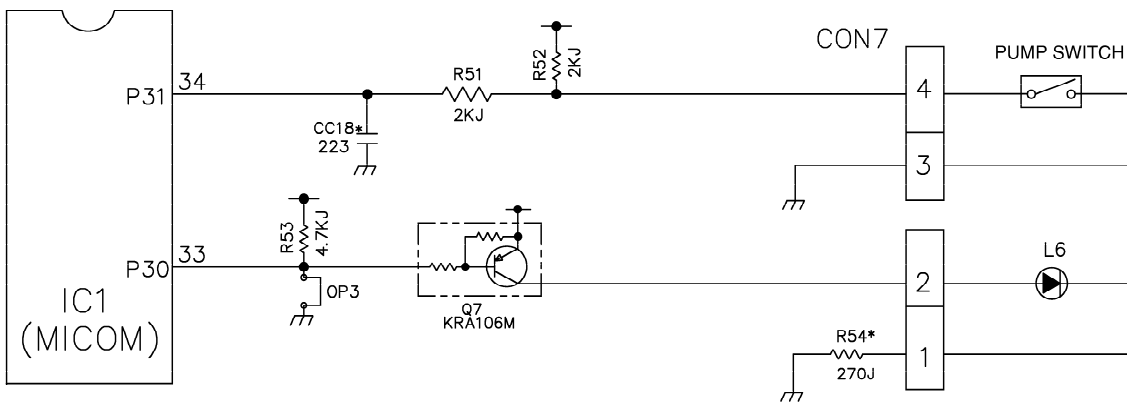
SENSOR	CHECK POINT	NORMAL (-30°C ~ 50°C)	SHORT-CIRCUITED	OPEN
Freezer Sensor	POINT (A) Voltage	0.5 V ~ 4.5 V	0 V	5 V
Refrigerator Sensor	POINT (B) Voltage			
Defrosting Sensor	POINT (C) Voltage			

### 9-2-6 Refrigeration Compartment Stepping Motor Damper Circuit

\* The circuit shown below is the damper circuit to regulate the refrigerator temperature.



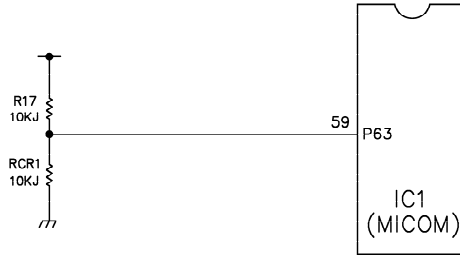
### 9-2-7 Dispenser Input/LED Output Circuit





**9-2-8 Temperature Compensation & Overcooling/Undercooling Compensation Circuit**

**1. Refrigerator Temperature Compensation**



Refrigerator		Remark
Resistance (RCR)	Temperature Compensation	
180 KΩ	+2.5°C	Compensation by raising the temperature ↑
56 KΩ	+2.0°C	
33 KΩ	+1.5°C	
18 KΩ	+1.0°C	
12 KΩ	+0.5°C	
10 KΩ	0 °C	Standard Temperature
8.2 KΩ	-0.5°C	Compensation by lowering the temperature ↓
5.6 KΩ	-1.0°C	
3.3 KΩ	-1.5°C	
2 KΩ	-2.0°C	
470 Ω	-2.5°C	

▶ Table of Temperature Compensation by adjusting the resistance (difference from the current temperature) e.g., If the refrigerator compensation resistance (RCR) is changed from 10K (the current resistance) to 18K (the adjustment resistance), the temperature of the refrigerator rises 33.8°F(+1°C).

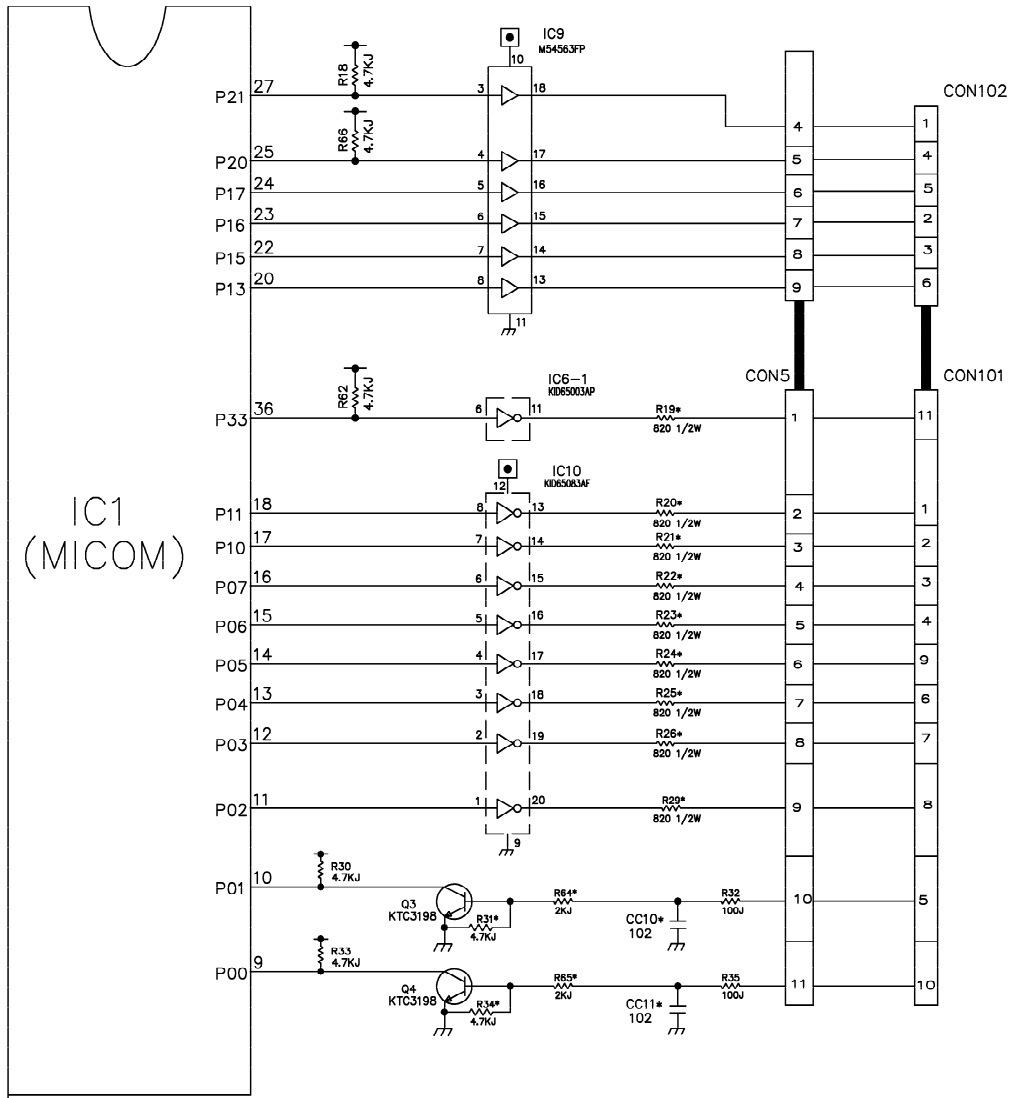
**2. The temperature compensation for refrigerator compartment is in the following table:**

	Revised resistance / Present resistance	470Ω	2kΩ	3.3kΩ	5.6kΩ	8.2kΩ	10kΩ	12kΩ	18kΩ	33kΩ	56kΩ	180kΩ
Refrigerator (RCR)	470Ω	No change	0.5°C Up	1°C Up	1.5°C Up	2°C Up	2.5°C Up	3°C Up	3.5°C Up	4°C Up	4.5°C Up	5°C Up
	2kΩ	0.5°C Down	No Change	0.5°C Up	1°C Up	1.5°C Up	2°C Up	2.5°C Up	3°C Up	3.5°C Up	4°C Up	4.5°C Up
	3.3kΩ	1°C Down	0.5°C Down	No Change	0.5°C Up	1°C Up	1.5°C Up	2°C Up	2.5°C Up	3°C Up	3.5°C Up	4°C Up
	5.6kΩ	1.5°C Down	1°C Down	0.5°C Down	No Change	0.5°C Up	1°C Up	1.5°C Up	2°C Up	2.5°C Up	3°C Up	3.5°C Up
	8.2kΩ	2°C Down	1.5°C Down	1°C Down	0.5°C Down	No Change	0.5°C Up	1°C Up	1.5°C Up	2°C Up	2.5°C Up	3°C Up
	10kΩ	2.5°C Down	2°C Down	1.5°C Down	1°C Down	0.5°C Down	No Change	0.5°C Up	1°C Up	1.5°C Up	2°C Up	2.5°C Up
	12kΩ	3°C Down	2.5°C Down	2°C Down	1.5°C Down	1°C Down	0.5°C Down	No Change	0.5°C Up	1°C Up	1.5°C Up	2°C Up
	18kΩ	3.5°C Down	3°C Down	2.5°C Down	2°C Down	1.5°C Down	1°C Down	0.5°C Down	No Change	0.5°C Up	1°C Up	1.5°C Up
	33kΩ	4°C Down	3.5°C Down	3°C Down	2.5°C Down	2°C Down	1.5°C Down	1°C Down	0.5°C Down	No Change	0.5°C Up	1°C Up
	56kΩ	4.5°C Down	4°C Down	3.5°C Down	3°C Down	2.5°C Down	2°C Down	1.5°C Down	1°C Down	0.5°C Down	No Change	0.5°C Up
	180kΩ	5°C Down	4.5°C Down	4°C Down	3.5°C Down	3°C Down	2.5°C Down	2°C Down	1.5°C Down	1°C Down	0.5°C Down	No Change

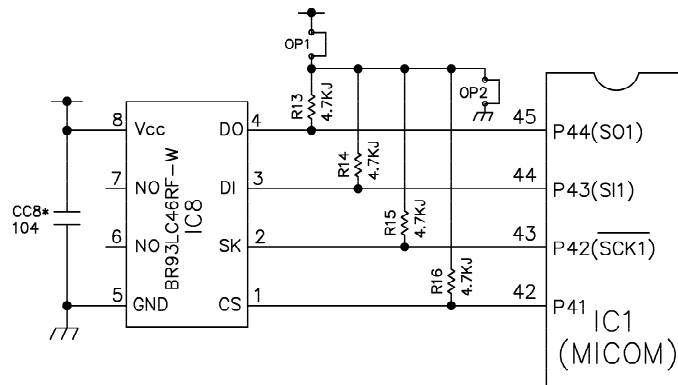
**NOTE:** This circuit is designed to input the necessary temperature compensation values into the MICOM. This adjusts the refrigerator temperature, which is different in each model.

### 9-2-9 Key Button Input & Display Light-On Circuit

◆ The circuit shown above determines whether a function control key on the operation display is pushed. It also turns on the corresponding function indication LED (LED Module) SEVEN SEGMENT DISPLAY (SEVEN SEGMENT DISPLAY MODULE). The drive type is the scan type



### 9-2-10 Power Failure Compensation Circuit (DISPENSER MODEL)



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### 9-3 RESISTANCE SPECIFICATION OF SENSOR

TEMPERATURE DETECTED BY SENSOR	RESISTANCE OF FREEZER SENSOR	RESISTANCE OF REFRIGERATOR & DEFROST SENSOR & ROOM SENSOR
- 20 °C	22.3 KΩ	77 KΩ
- 15 °C	16.9 KΩ	60 KΩ
- 10 °C	13.0 KΩ	47.3 KΩ
- 5 °C	10.1 KΩ	38.4 KΩ
0 °C	7.8 KΩ	30 KΩ
+ 5 °C	6.2 KΩ	24.1 KΩ
+ 10 °C	4.9 KΩ	19.5 KΩ
+ 15 °C	3.9 KΩ	15.9 KΩ
+ 20 °C	3.1 KΩ	13 KΩ
+ 25 °C	2.5 KΩ	11 KΩ
+ 30 °C	2.0 KΩ	8.9 KΩ
+ 40 °C	1.4 KΩ	6.2 KΩ
+ 50 °C	0.8 KΩ	4.3 KΩ

- The resistance of the SENSOR has a  $\pm 5\%$  common difference.
- Measure the resistance of the SENSOR after leaving it for over 3 minutes in the measuring temperature. This delay is necessary due to sensor response speed.

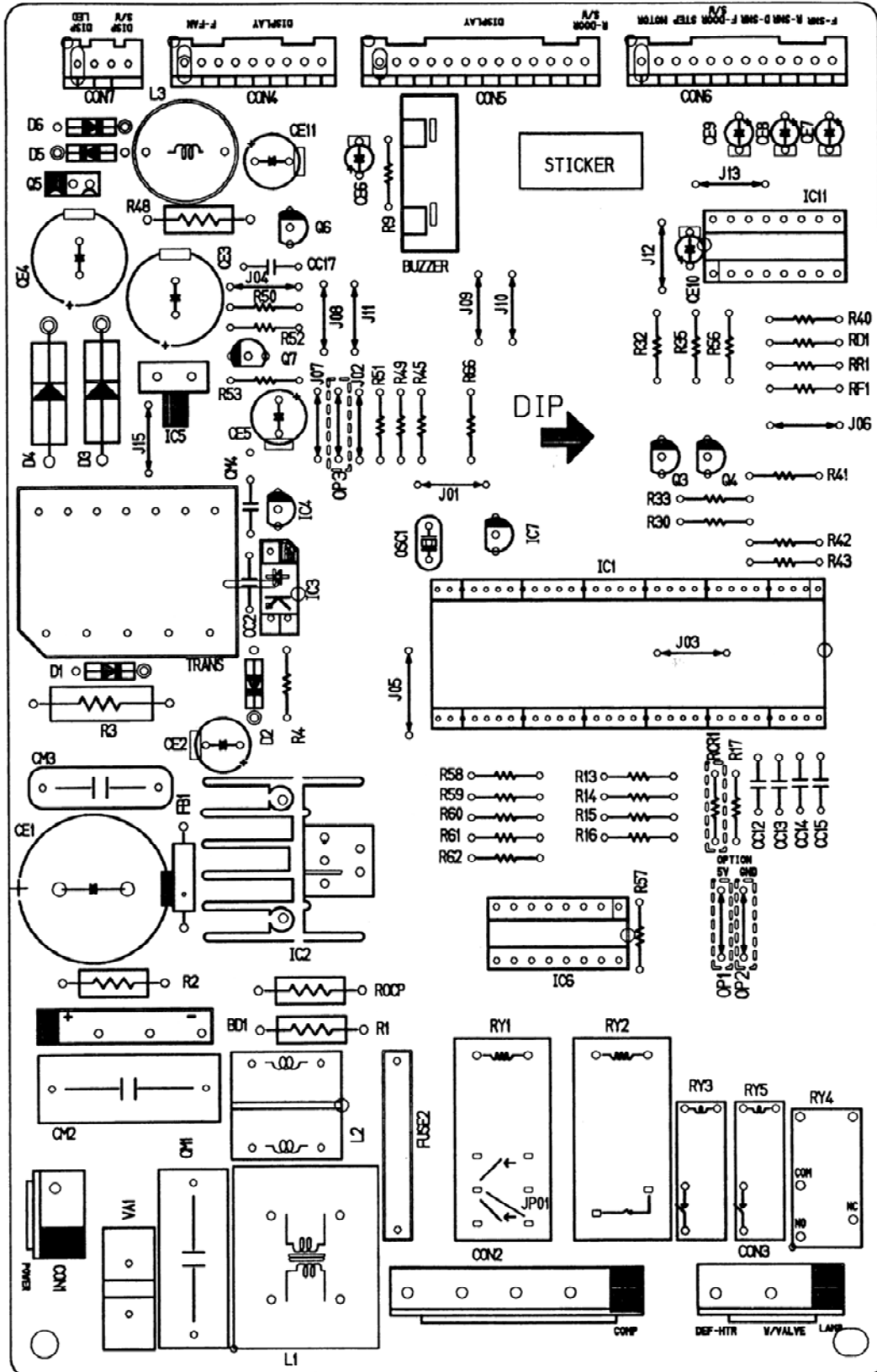
## 9-4 TROUBLESHOOTING

PROBLEM	INDICATED BY	CHECK	CHECKING METHOD	CAUSE	SOLUTION
POWER SOURCE is poor.	1. The whole DISPLAY LED/SEVEN SEGMENT DISPLAY is off. 2. DISPLAY LED/ SEVEN SEGMENT DISPLAY operates abnormally	1. FREEZER/ REFRIGERATOR.	Check if FREEZER/ REFRIGERATOR DOOR IS OPEN and check display.	POWER SOURCE is poor.	Check outlet Voltage.
		2. If LAMP is dim. 3. The connection of the MAIN PWB CONNECTOR.	Check visually. Check connection of CONNECTOR.	Applied voltage error. CONNECTOR connection is poor. TRANS FUSE is open.	Use boosting TRANS. Reconnect CONNECTOR. Replace TRANS.
COOLING is poor.	NO COOLING.	1. If the COMPRESSOR operate.	USE TEST MODE1 (forced COOLING). If less than 7 minutes pass after compressor shuts off, don't press the KEY and wait.	COMPRESSOR locked or blocked. OLP, PTC is poor. COMPRESSOR RELAY is poor.	Replace COMPRESSOR. Replace OLP, PTC. Replace MAIN PWB.
			2. If refrigerant is leaking.	Measure the amount of frost sticking on EVAPORATOR and the surface temperature of the condenser pipe.	Refrigerant leakage.
		1. If FAN MOTOR operates.	USE TEST MODE1 (forced COOLING).	FAN MOTOR is poor. CONNECTING WIRE is poor.	Replace the FAN MOTOR. Certify the MOTOR and the connection of the black wire of the MAIN PWB CONNECTOR (CON2).
			2. If DEFROSTING is normal. 3. If SENSOR is normal. 4. Door Line contact.	Check the amount of frost sticking on the EVAPORATOR. Check the resistance of the Refrigerator SENSOR. Check the seal when the door is closed.	DEFROSTING is poor. SENSOR RESISTANCE is poor. Door liner damaged.

<b>PROBLEM</b>	<b>INDICATED BY</b>	<b>CHECK</b>	<b>CHECKING METHOD</b>	<b>CAUSE</b>	<b>SOLUTION</b>
COOLING is poor.	If REFRIGERATOR TEMPERATURE is too low.	1. If FREEZER TEMPERATURE is normal.	Check is FREEZER TEMPERATURE is too low.		Make sure the DOOR is attached.
		2. If amount of cool air from FAN MOTOR is sufficient.	Make sure that the amount and speed of cool air are sufficient by touching the check supplied on the REFRIGERATOR.	FAN MOTOR is poor. Passage of cool air is blocked. EVA frozen.	Replace FAN MOTOR. Remove impurities. See <b>DEFROSTING is poor.</b>
		3. Door Line contact.	Check door seal when door is closed.	Door liner damaged.	Replace Door liner.
DEFROSTING is poor.	NO DEFROSTING.	1. If HEATER emits heat.	USE TEST MODE2 (forced DEFROSTING).	HEATER disconnection.	Replace HEATER.
				TEMPERATURE FUSE disconnection.	Replace TEMPERATURE FUSE.
				Connection is poor.	Check EVAPORATOR connection and wire of MAIN PWB CONNECTOR.
				DEFROST-SENSOR is poor.	Replace DEFROST-SENSOR.
				HEATER RELAY is poor.	Replace RY3 of MAIN PWB.
				DRAIN PIPE is blocked.	Remove ice and impurities. Check HEATER PLATE resistance.
		3. If ice remains after DEFROSTING.	Make sure that DEFROST SENSOR is connected. Make sure that FREEZER/ REFRIGERATOR DOOR is closed.	Connection is poor. DOOR does not close properly.	Reassemble the DEFROST-SENSOR. Reassemble DOOR. Replace GASKET.

# 9-5 MAIN PWB ASSEMBLY AND PARTS LIST

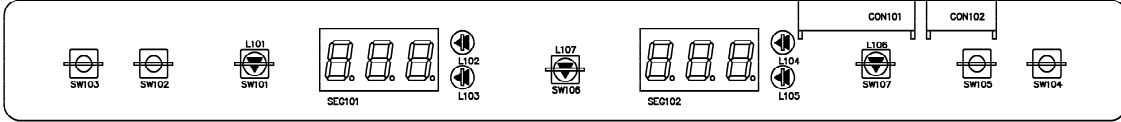
## 9-5-1 Main PWB Assembly





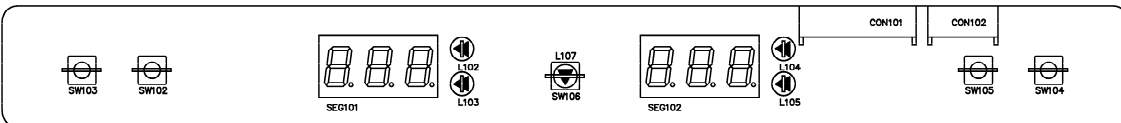
### 9-5-3 PWB Assembly, Display, And Parts List

#### Dispenser Model



No	P/N/D	DESCRIPTION	SPEC	MAKER	REMARK
1	6870JB8090A	PWB(PCB)	KS-PJT DISPENSER DISPLAY	DDD SAN	-
2	-	-	-	-	-
3	6630JB8005D	WAFER	SMAW250-11	YEON HO	CON101
4	6630JB8004U	WAFER	SMAW250-06	YEON HO	CON102
5	6600JB8005A	SWITCH,TACT	KPT-1105A	KYUNG IN	SW102~105
6	6600RRT002K	SWITCH,TACT	JTP1230A JEIL 12V DC 50MA	JEIL	SW102~105
7	6600JB8004A	TACT S/W	KPT-1109R	KYUNG IN	SW101,SW107
8	-	TACT S/W	KPT-1109G	KYUNG IN	SW106
9	6327JB8001A	DISPLAY LED ASSEMBLY	LN4023-13EWRS GREEN 2.1V 1.7MCD	LEDTECH	SEG1,SEG2
10	0DLLE0059AA	LED	LT8323-41-BCN 2.1V D3 TP GREEN	LEDTECH	L102~105
11	0DD414809AA	DIODE,SWITCHING	1N4148 26MM	PYUNG CHANG	D107~113
12	0DD400400A	DIODE,SWITCHING	1N4004	DELTA	D101~106
13	6854B50001A	JUMP WIRE	0.6MM 52MM TP TAPING SN<10MM>	-	J01~06,J08~13
14	9VWF0120000	SOLDER(ROSIN WIRE) RS0	D1.20	HEE SUNG	-
15	49111004	SOLDER,SOLDERING	H63A	-	-
16	59333105	FLUX	SGJ0.825-0.830 KOREA F.H-206	KDKI	-

#### Best Model

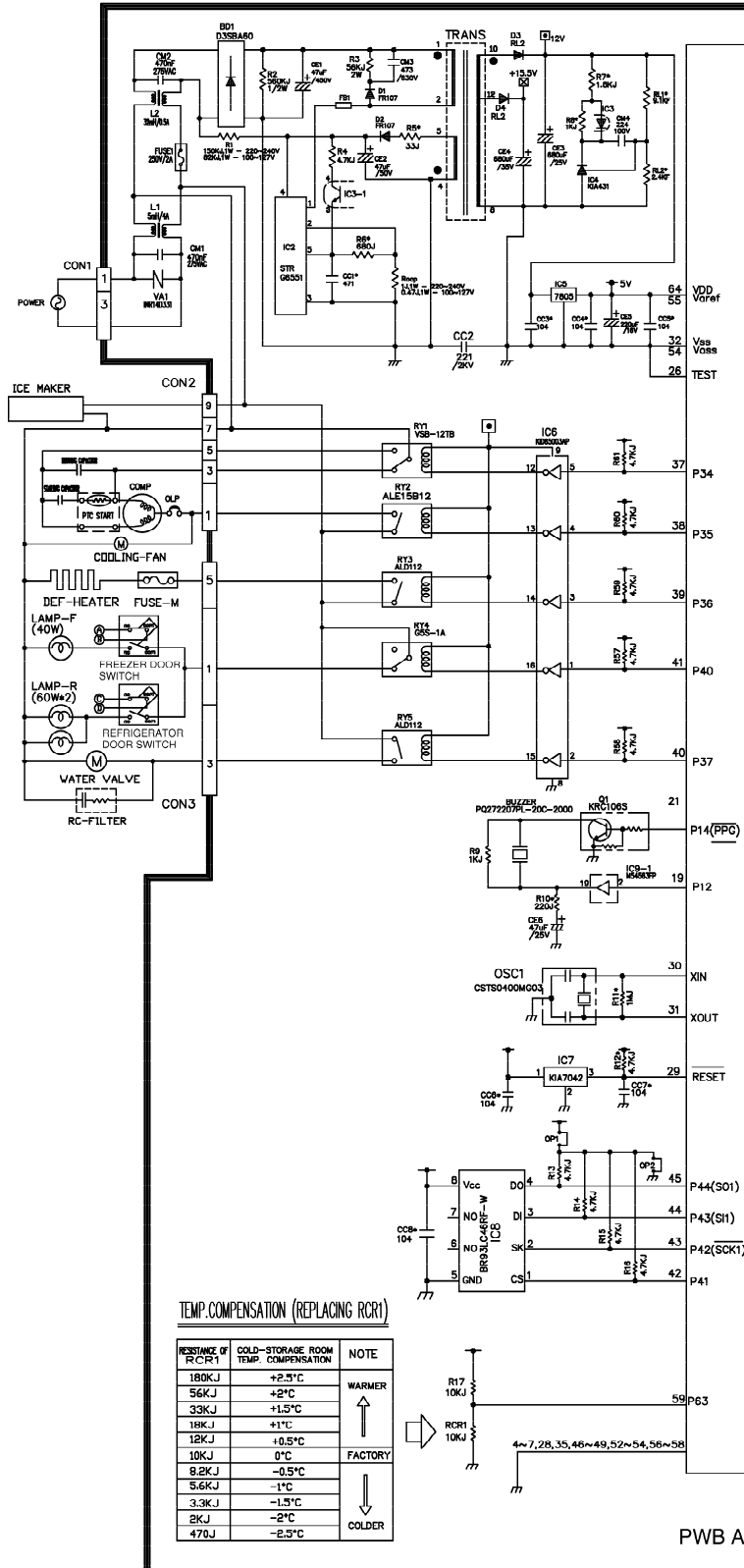


No	P/N/D	DESCRIPTION	SPEC	MAKER	REMARK
1	6870JB8090A	PWB(PCB)	KS-PJT DISPENSER DISPLAY	DDD SAN	-
2	-	-	-	-	-
3	6630JB8005D	WAFER	SMAW250-11	YEON HO	CON101
4	6630JB8004U	WAFER	SMAW250-06	YEON HO	CON102
5	6600JB8005A	SWITCH,TACT	KPT-1105A	KYUNG IN	SW102~105
6	6600RRT002K	SWITCH,TACT	JTP1230A JEIL 12V DC 50MA	JEIL	SW102~105
7	6600JB8004A	TACT S/W	KPT-1109R	KYUNG IN	SW106
8	-	TACT S/W	KPT-1109G	KYUNG IN	SW106
9	6327JB8001A	DISPLAY LED ASSEMBLY	LN4023-13EWRS GREEN 2.1V 1.7MCD	LEDTECH	SEG1,SEG2
10	0DLLE0059AA	LED	LT8323-41-BCN 2.1V D3 TP GREEN	LEDTECH	L102~105
11	0DD414809AA	DIODE,SWITCHING	1N4148 26MM	PYUNG CHANG	D107~113
12	0DD400400A	DIODE,SWITCHING	1N4004	DELTA	D101~106
13	6854B50001A	JUMP WIRE	0.6MM 52MM TP TAPING SN<10MM>	-	J01~06,J08~13
14	9VWF0120000	SOLDER(ROSIN WIRE) RS0	D1.20	HEE SUNG	-
15	49111004	SOLDER,SOLDERING	H63A	-	-
16	59333105	FLUX	SGJ0.825-0.830 KOREA F.H-206	KDKI	-



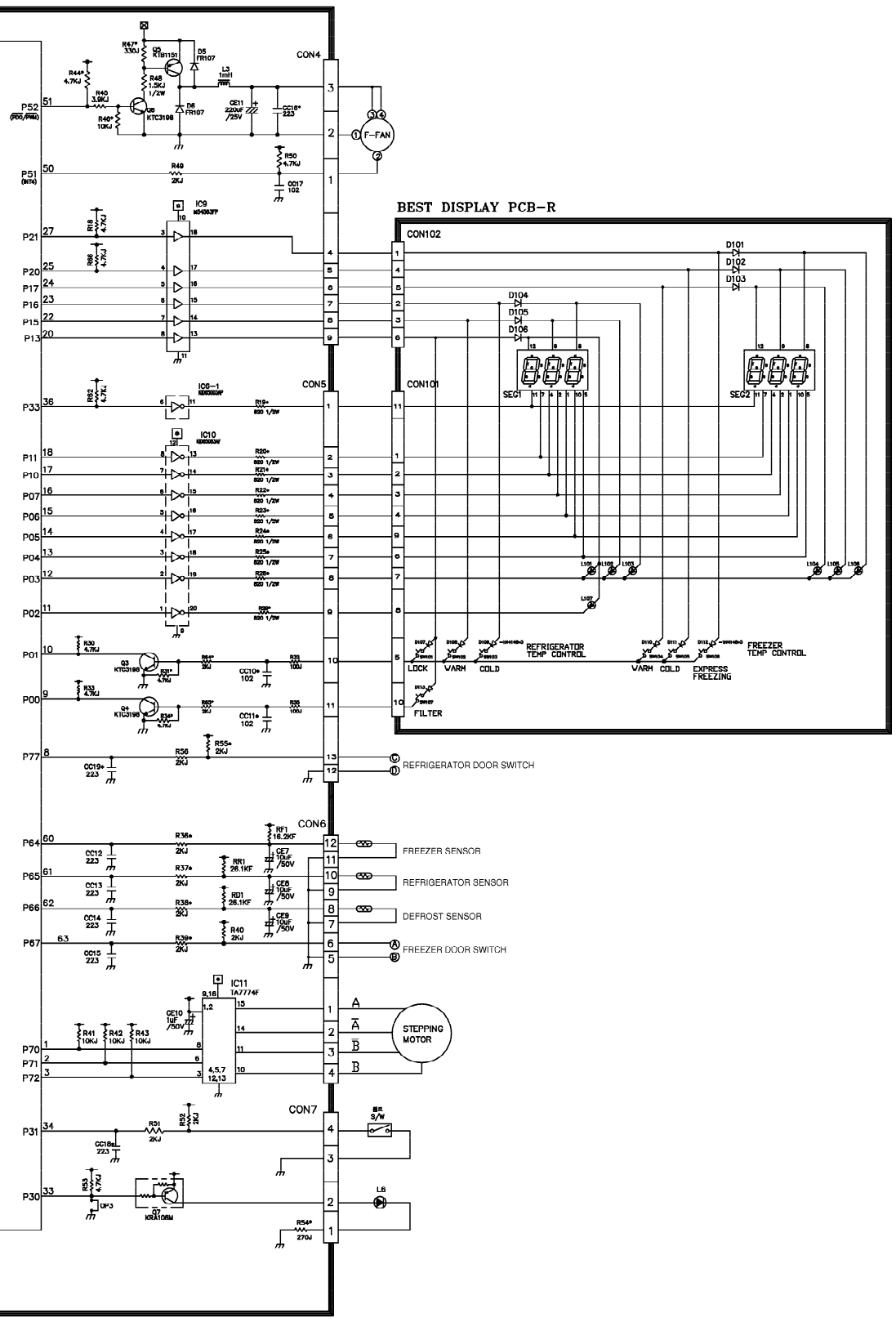
# 9-6 PWB DIAGRAM

## 9-6-1 PWB Main Assembly



TOSHIBA TMP87C840N(IC1)

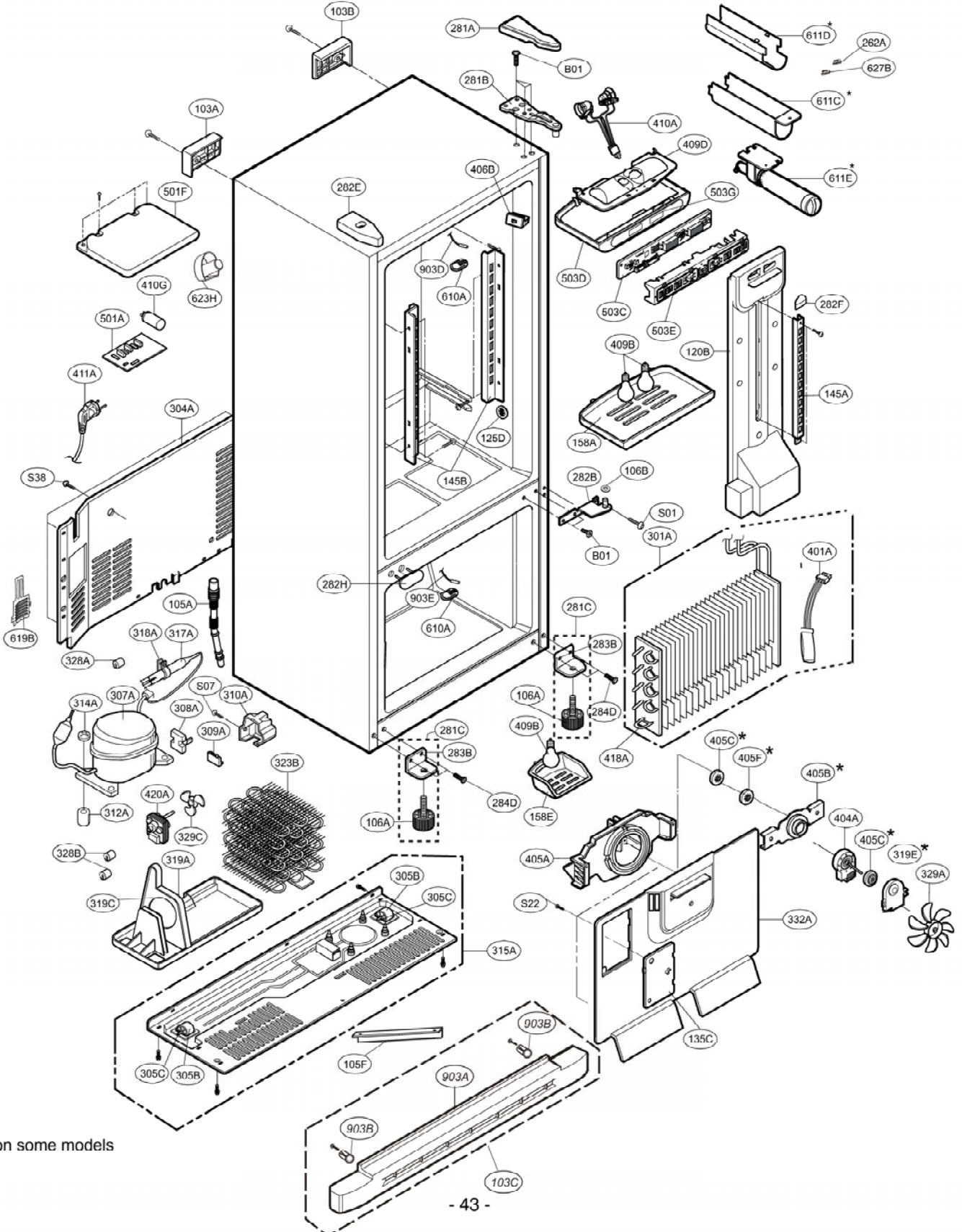
PWB ASSEMBLY



# EXPLODED VIEW

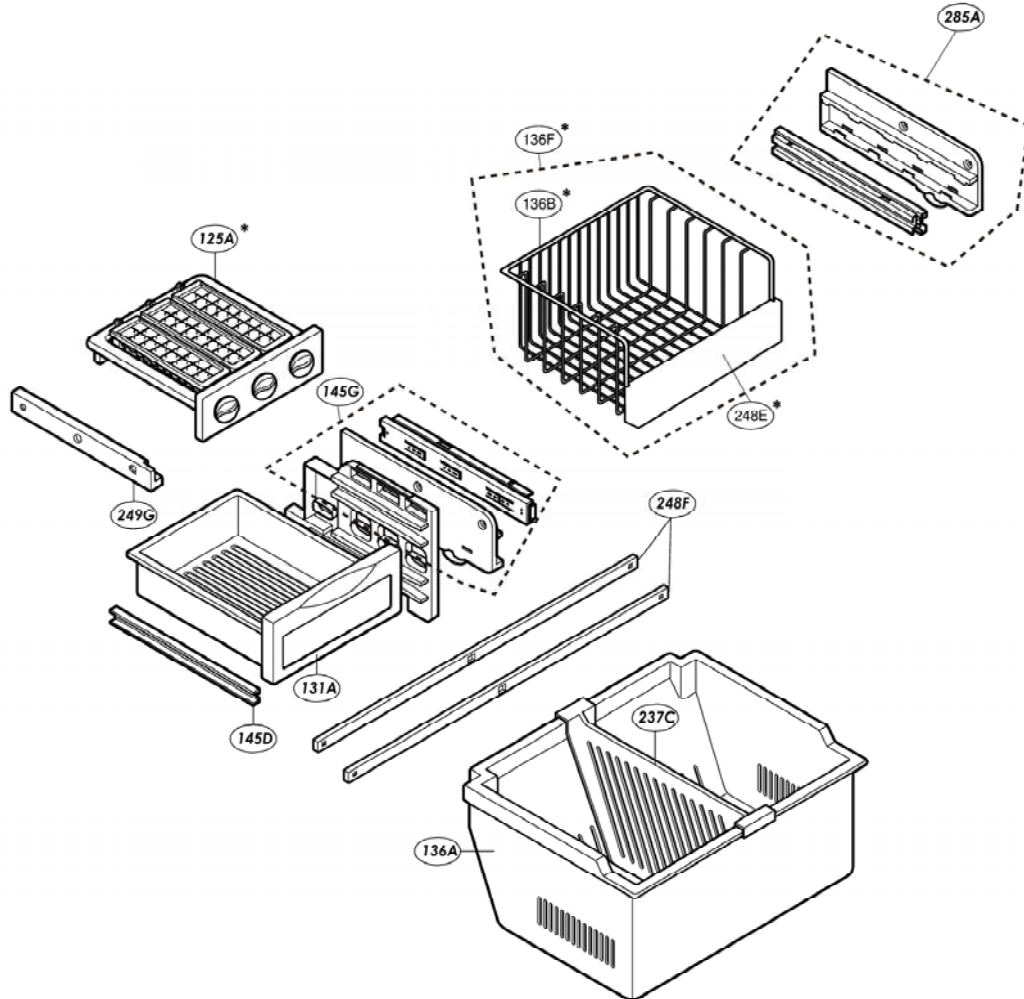
## CASE PARTS

CAUTION: Use the part number to order part, not the position number.



## FREZZER PARTS

CAUTION: Use the part number to order part, not the position number

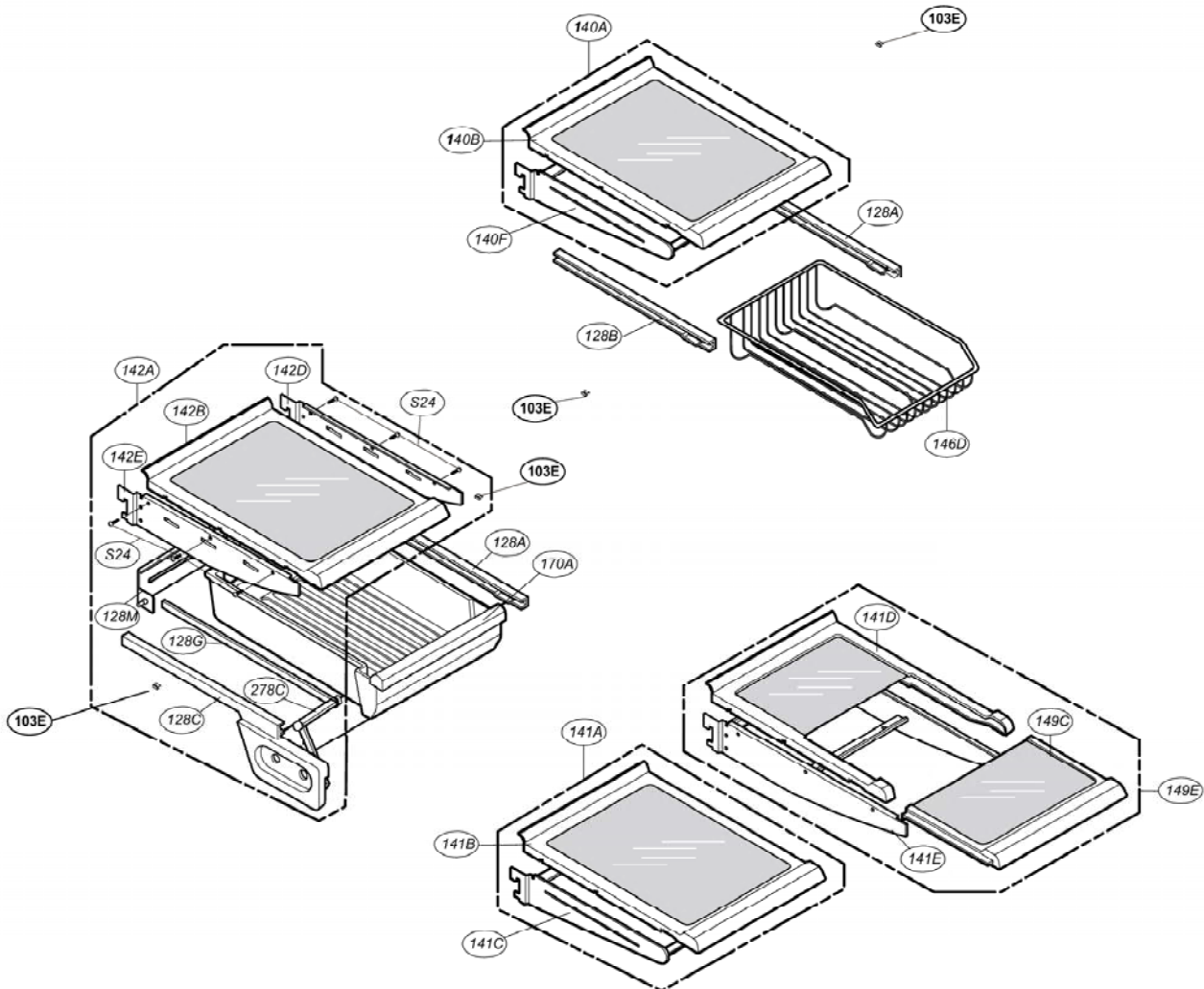


\* : on some models



## REFRIGERATOR PARTS

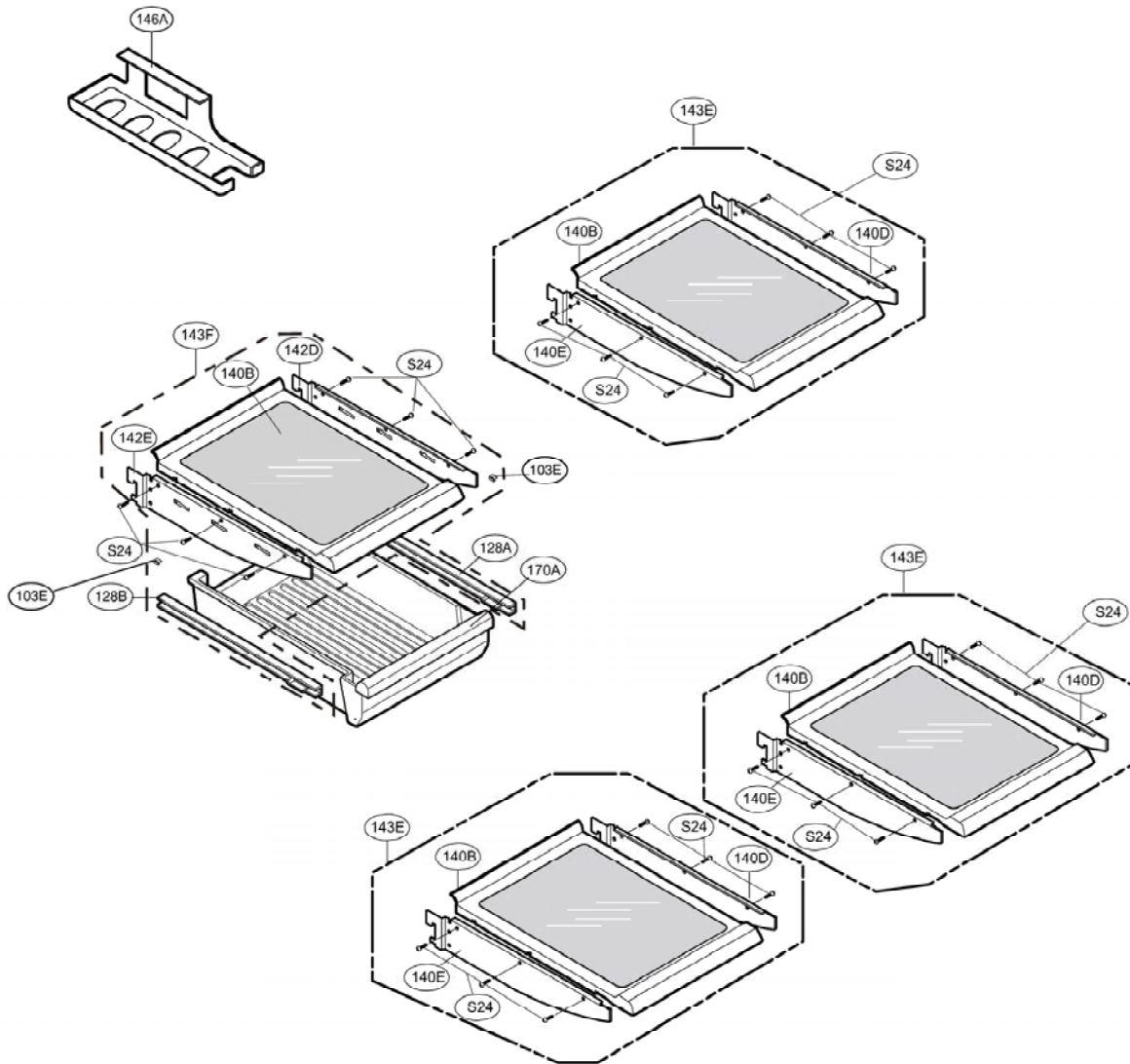
CAUTION: Use the part number to order part, not the position number.



LRDC20731WW  
LRDC20731SW  
LRDC20731ST  
LRDC20731TT

# REFRIGERATOR PARTS

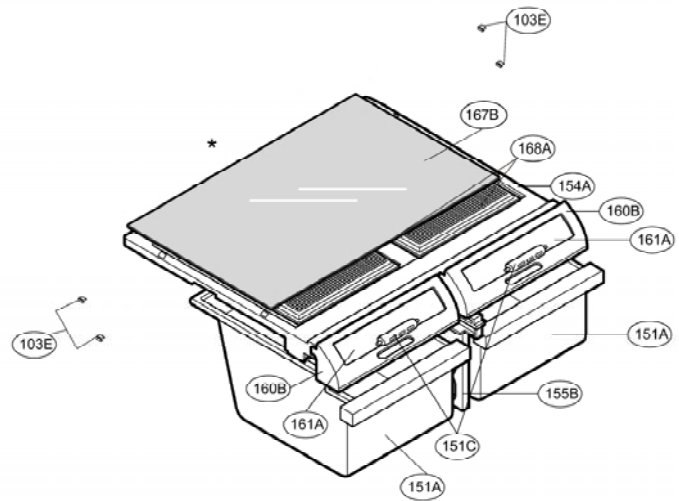
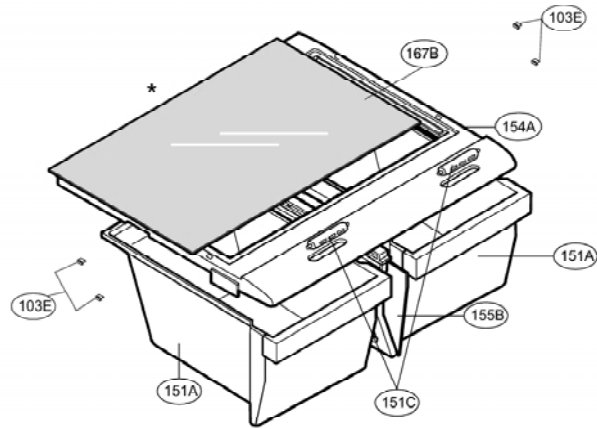
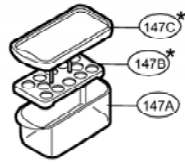
CAUTION: Use the part number to order part, not the position number.



LRDN20720BQ  
LRDN20720WW  
LRDN20720BK  
LRDN20725TT  
LRDN20725SW

# REFRIGERATOR PARTS

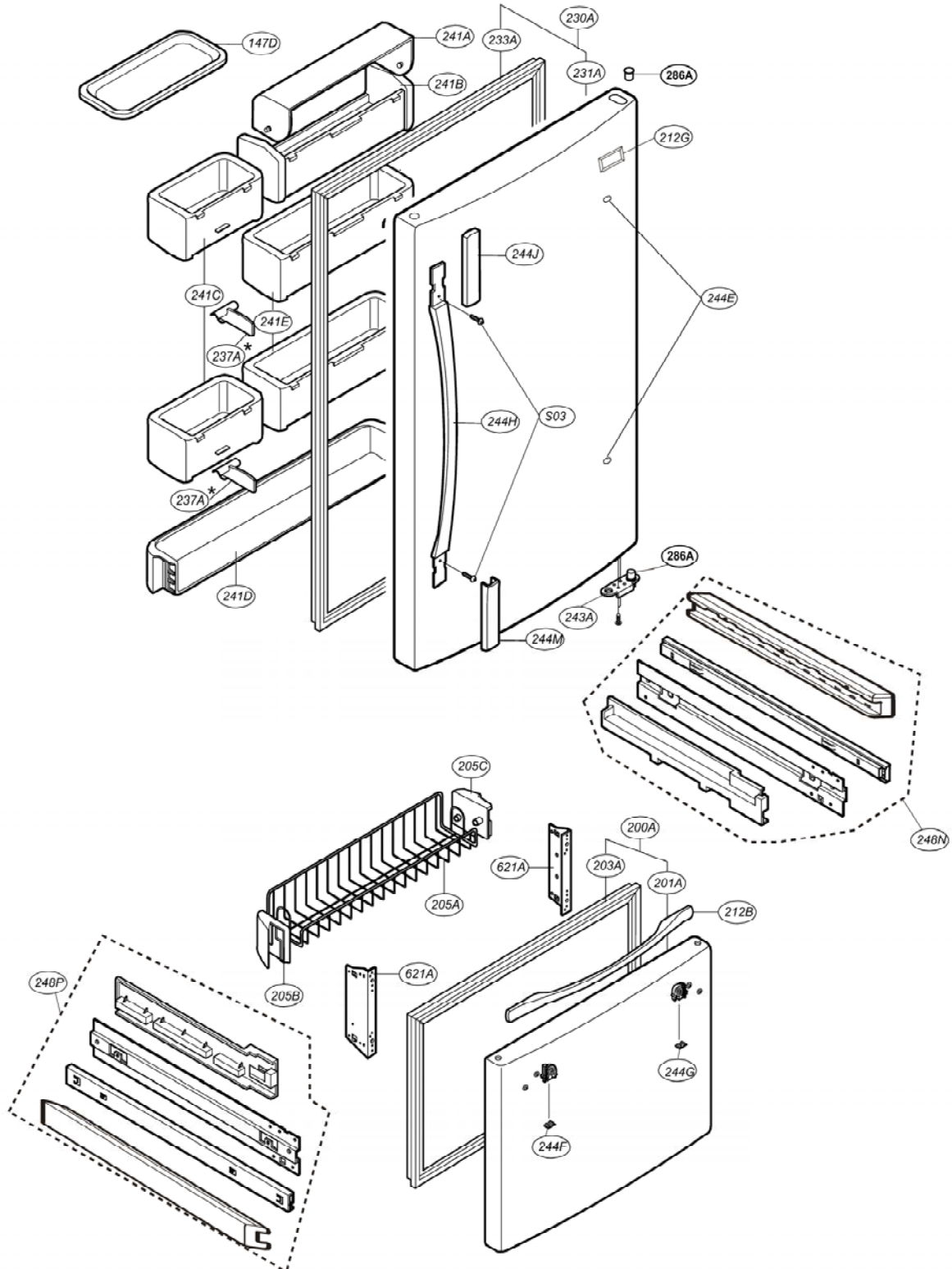
CAUTION: Use the part number to order part, not the position number.



\* : on some models

## DOOR PARTS

CAUTION: Use the part number to order part, not the position number.

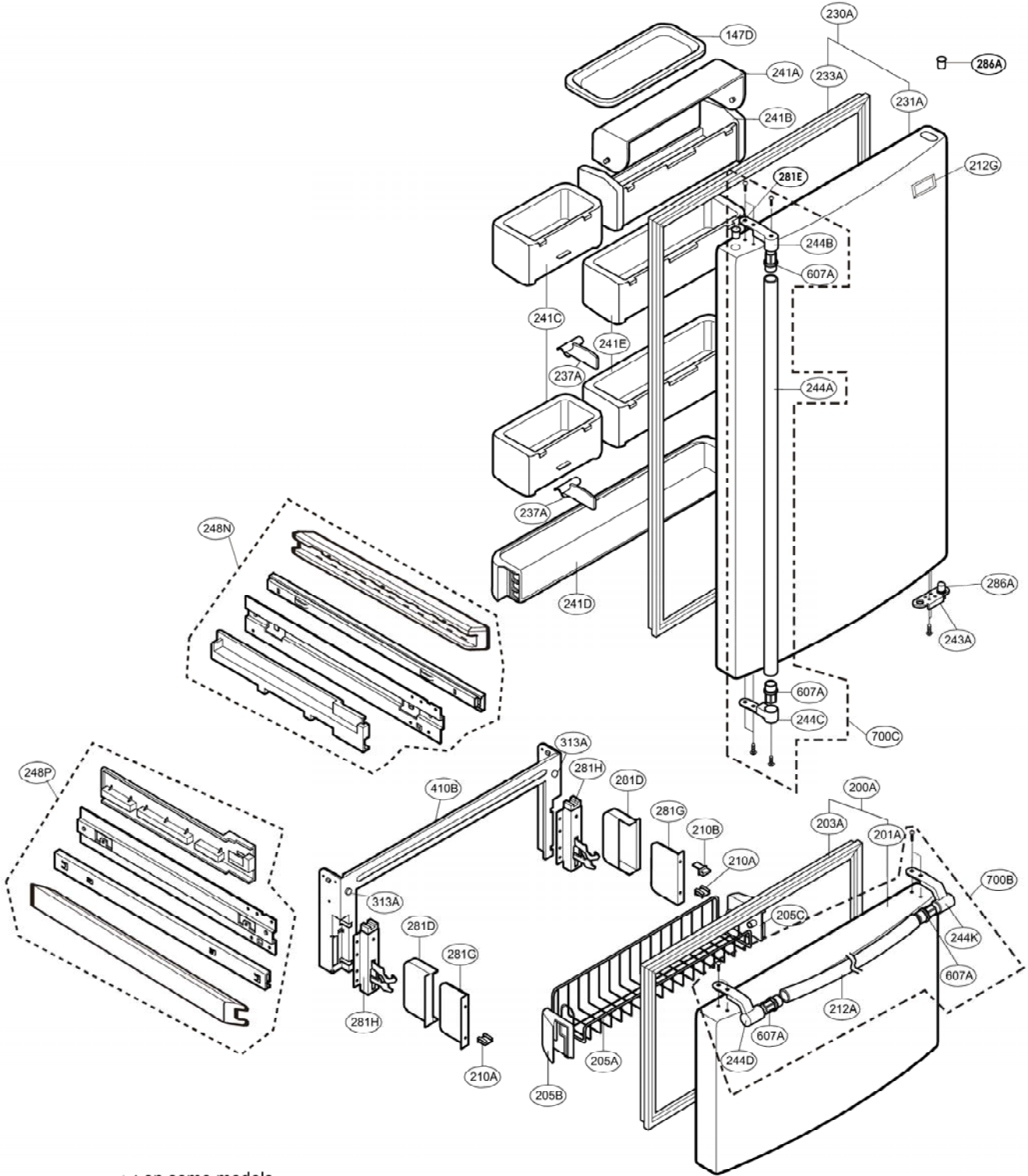


\*: on some models



# DOOR PARTS

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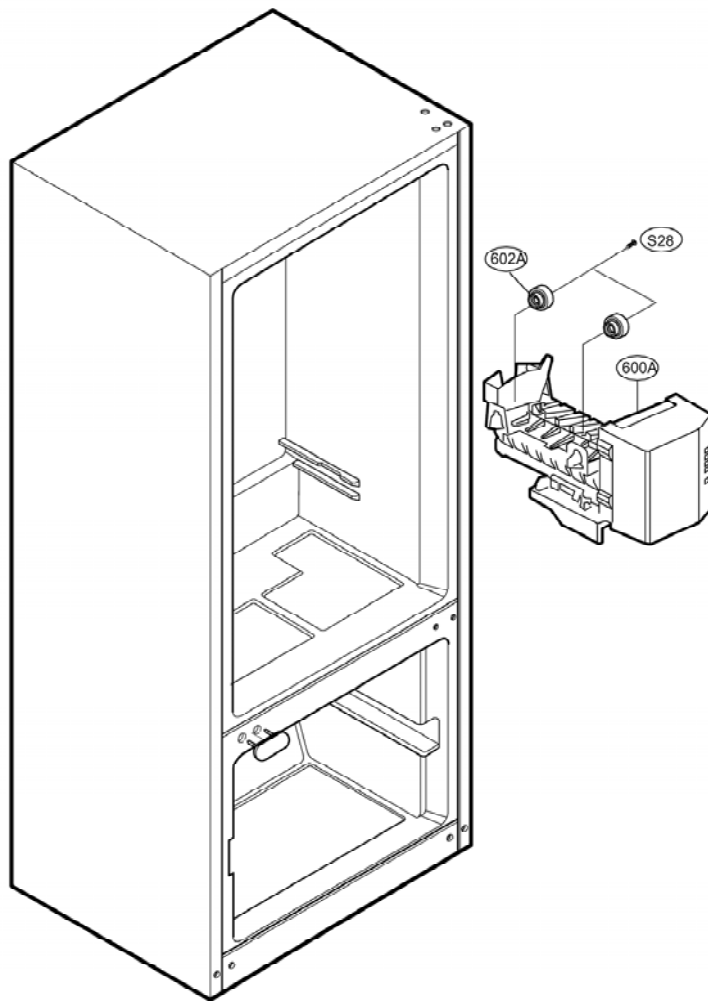


\* : on some models

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## ICE MAKER PARTS

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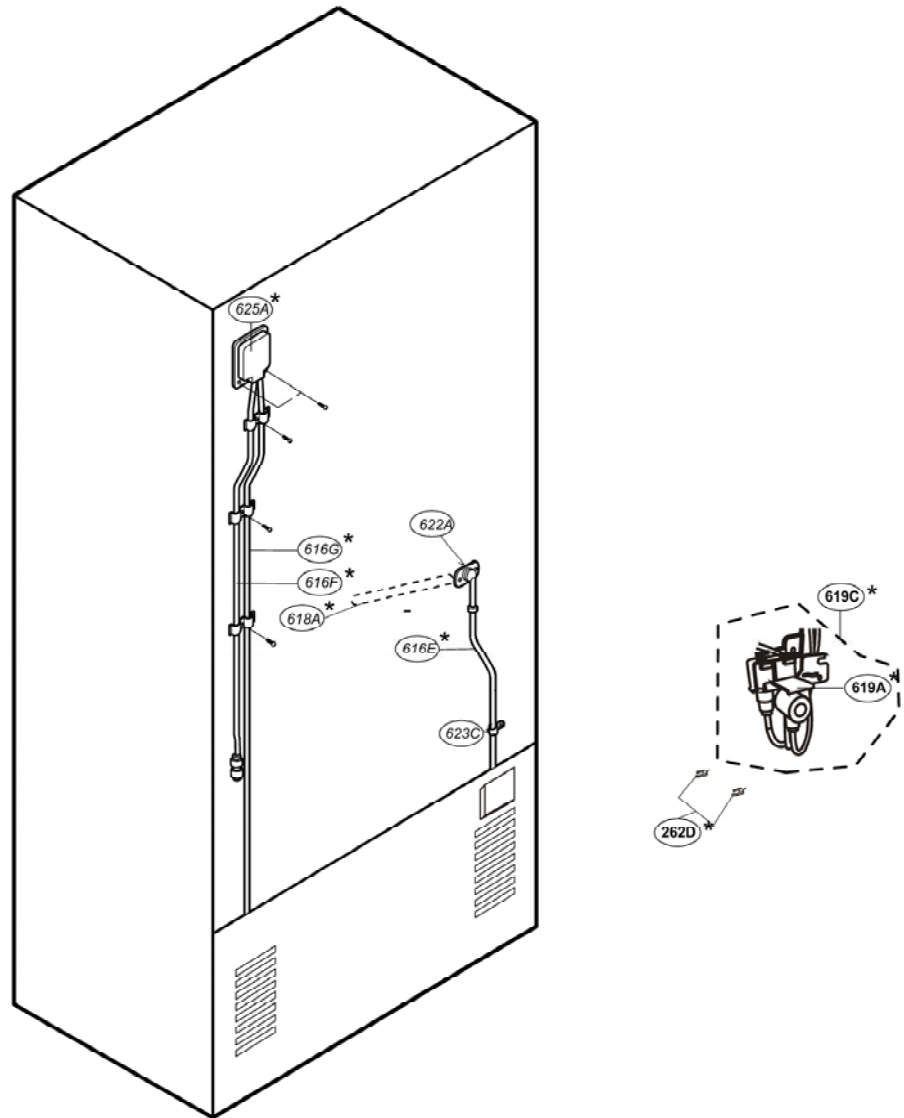


\* : on some models

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## ICE & WATER PARTS

CAUTION: Use the part number to order part, not the position number.



\*: on some models









## LRDN20725TT

LOC	DESCRIPCION	NO. DE PARTE	LOC	DESCRIPCION	NO. DE PARTE
103A	HANDLE,BACK	3650JJ2003M	281C	HINGE ASSEMBLY,L	4775JJ2008A
103B	HANDLE,BACK	3650JJ2003L	282B	HINGE ASSEMBLY,C	4775JJ8002C
103C	COVER ASSEMBLY,LOWER	3551JJ1015E	282E	CAP,HINGE	5006JJ2001F
103E	RAIL,SLIDE	5218JJ3001A	282F	DECO,DUCT	3806JJ2006E
105A	DRAIN ASSEMBLY,PIPE-Z	5251JJ2003A	282H	CAP,HINGE	5006JJ3004A
105F	SKIRT,LOWER	5070JJ3002A	283B	HINGE,L	4774JJ3001A
106A	LEG ASSEMBLY,ADJUST	4779JJ2001A	284D	SCREW,DRAWING	1STZJA3004K
106B	WASHER,DRAWING	4J00382C	285A	GUIDE ASSEMBLY,RAIL	4975JJ2007G
120B	DUCT ASSEMBLY,MULTI	5209JJ1002A	286A	BUSH	4984JJ3003A
125A	TRAY ASSEMBLY,ICE	3391JJ1009B	286A	BUSH	4984JJ3003A
125D	HOLDER,BRACKET	4930JJ3007A	301A	EVAPORATOR ASSEMBLY	5421JJ1001A
128A	GUIDE ASSEMBLY,RAIL	4975JJ2002A	304A	COVER ASSEMBLY,BACK-M/C	3551JJ2008A
128B	GUIDE ASSEMBLY,RAIL	4975JJ2002B	305B	ROLLER	4580JJ3001A
131A	BANK ASSEMBLY,ICE	5075JJ1001B	305C	PIN,DRAWING	4J04238A
135C	COVER,GRILLE FAN	3550JJ2030A	307A	COMPRESSOR,SET ASSEMBLY	2521C-A5725
136A	TRAY ASSEMBLY,DRAWER	3391JJ1011A	308A	P.T.C ASSEMBLY	6748C-0004D
136B	TRAY,DRAWER	3390JJ1088A	309A	O.L.P	6750CR0004S
136F	TRAY ASSEMBLY,DRAWER	3391JJ1033A	310A	COVER,P.T.C	3550JA2042A
140B	SHELF ASSEMBLY,R	5027JJ2007A	312A	RUBBER,SEAT	5040JA3031A
140B	SHELF ASSEMBLY,R	5027JJ2007A	314A	STOPPER,COMP	4620JA3009A
140D	SHELF,NET	5026JJ2001G	315A	COMP BASE ASSEMBLY,STD	3103JJ1001K
140E	SHELF,NET	5026JJ2001H	317A	DRIER ASSEMBLY	5851JJ2002B
142D	SHELF,NET	5026JJ2001L	318A	HOLDER,DRIER	4930JJ3002A
142E	SHELF,NET	5026JJ2001M	319A	TRAY,DRIP	3390JJ0003A
143E	SHELF ASSEMBLY,R	5027JJ1008A	319C	GUIDE,FAN	4974JJ1009A
143F	SHELF ASSEMBLY,R	5027JJ1008C	323B	CONDENSER ASSEMBLY,WIRE	5403JJ1005A
145A	HOLDER,SHELF	4930JJ2003A	328A	RUBBER,DAMPING	4J03020A
145B	HOLDER,SHELF	4930JJ2004A	328B	RUBBER,DAMPING	4J04328A
145D	GUIDE,RAIL	4974JJ1012A	329A	FAN ASSEMBLY	5901JJ1005A
145G	GUIDE ASSEMBLY,RAIL	4975JJ2005H	329C	FAN ASSEMBLY	5901JJ1004B
146A	CAN STORAGE,LOWER	5047JJ1001A	332A	GRILLE ASSEMBLY,FAN	3531JJ1004B
147A	BANK,DAIRY	5074JJ1005A	401A	CONTROLLER ASSEMBLY(CIRC)	6615JB2005C
151A	TRAY ASSEMBLY,VEGETABLE	3391JJ1020D	404A	MOTOR(MECH),FAN	4680JK1002B
151C	KNOB,SHUTTER	4940JJ2003B	405A	BRACKET ASSEMBLY,MOTOR	4811JJ2002B
154A	COVER,T/V	3550JL1006D	405B	BRACKET,MOTOR	4810JA3007A
155B	SUPPORTER ASSEMBLY,COVER-T	4081JJ2001B	405C	RUBBER,MOTOR-N	J756-00008B
158A	COVER,LAMP	3550JJ1040A	406B	SWITCH,[PUSH]	6600JB1004A
158E	COVER,LAMP	3550JJ1051A	409B	LAMP,[INCANDESCENT]	6912JK2002C
167B	GLASS,SHELF	4890JL1002G	409D	REFLECTOR,LAMP	3034JJ1002B
170A	TRAY ASSEMBLY,MEAT	3391JJ2004G	410A	SOCKET ASSEMBLY,LAMP	6621JK2002D
200A	DOOR ASSEMBLY,F	3581JJ8022D	410G	CAPACITOR,DRAWING	0CZZJB2003H
201A	DOOR FOAM ASSEMBLY,F	5433JJ0017V	411A	POWER CORD ASSEMBLY	6411JK1006A
203A	GASKET ASSEMBLY,DOOR	4987JJ1004G	418A	HEATER,SHEATH	5300JB1100D
205A	BASKET,DOOR	5004JJ1042A	420A	MOTOR(MECH),COOLING	4680JK1001B
205B	BASKET,TILT	5004JJ2005B	501A	PWB(PCB) ASSEMBLY,MAIN	6871JB1215A
205C	BASKET,TILT	5004JJ2005A	501F	COVER,PWB	3550JJ1042B
212A	HANDLE,F	3650JJ1017D	503C	PWB(PCB) ASSEMBLY,DISPLAY	6871JB2047A
212G	NAME PLATE,P(H)	4140JD2001C	503D	CASE,DISPLAY	3110JJ1005A
230A	DOOR ASSEMBLY,R	3581JJ8027D	503E	COVER,DISPLAY	3550JJ2031A
231A	DOOR FOAM ASSEMBLY,R	5433JJ0016L	503G	DECO,CONTROL	3806JL1009A
233A	GASKET ASSEMBLY,DOOR	4987JJ1004H	602A	HOLDER,BRACKET	4930JA3037A
237A	GUIDE,BOTTLE	4974JJ2021A	607A	HOLDER,BRACKET	4930JJ2013A
237C	GUIDE,DRAWER	4974JJ1021A	607A	HOLDER,BRACKET	4930JJ2013A
241A	COVER,TRAY	3550JL2003G	610A	COVER,SENSOR	3550JJ2020A
241B	BASKET,DOOR	5004JJ1035A	619B	COVER,VALVE	3550JJ2024A
241C	BASKET,DOOR	5004JJ1030A	621A	CONNECTOR (MECH),DOOR	4932JJ2001B
241D	BASKET,DOOR	5004JJ0002A	623H	COVER,TUBE	3550JJ2036A
241E	BASKET,DOOR	5004JJ1028A	700B	HANDLE ASSEMBLY,F	3651JJ0002A
243A	STOPPER,DOOR	4620JJ3006C	700C	HANDLE ASSEMBLY,R	3651JJ1017E
244A	HANDLE,R	3650JJ2008D	903A	COVER,LOWER	3550JJ0005C
244B	HOLDER,HANDLE	4930JJ2009A	903B	HOLDER,COVER LOWER	4930JJ2021A
244C	HOLDER,HANDLE	4930JJ2010A	903D	SENSOR	6500JK1003A
244D	HOLDER,HANDLE	4930JJ2012A	903E	SENSOR	6500JK1004A
244K	HOLDER,HANDLE	4930JJ2011A	B01	SCREW,DRAWING	1STZJA3004F
248E	DECO,TRAY	3806JJ2036A	S01	SCREW,DRAWING	1SZZJJ3010A
248F	SUPPORTER,HOLDER	4980JJ2005B	S07	SCREW,DRAWING	4000W4A003A
248N	RAIL ASSEMBLY,SLIDE	5219JJ2002A	S22	SCREW,DRAWING	3J05696C
248P	RAIL ASSEMBLY,SLIDE	5219JJ2002B	S24	SCREW,DRAWING	1SZZJA3011B
249G	GUIDE,RAIL	4974JJ1011A	S27	SCREW,DRAWING	4J01424C
281A	COVER,HINGE	3550JJ2013C	S28	SCREW,DRAWING	3J05696W
281B	HINGE ASSEMBLY,U	4775JJ2003B	S38	SCREW,DRAWING	4J00415D



## LRDN20725SW

LOC	DESCRIPCION	NO. DE PARTE	LOC	DESCRIPCION	NO. DE PARTE
103A	HANDLE,BACK	3650JJ2003E	282B	HINGE ASSEMBLY,C	4775JJ8002A
103B	HANDLE,BACK	3650JJ2003A	282E	CAP,HINGE	5006JJ2001A
103C	COVER ASSEMBLY,LOWER	3551JJ1015A	282F	DECO,DUCT	3806JL2006E
103E	RAIL,SLIDE	5218JJ3001A	282H	CAP,HINGE	5006JJ3004A
105A	DRAIN ASSEMBLY,PIPE-Z	5251JJ2003A	283B	HINGE,L	4774JJ3001A
105F	SKIRT,LOWER	5070JJ3002A	284D	SCREW,DRAWING	1STZJA3004K
106A	LEG ASSEMBLY,ADJUST	4779JJ2001A	285A	GUIDE ASSEMBLY,RAIL	4975JJ2007G
106B	WASHER,DRAWING	4J00382C	286A	BUSH	4984JJ3003A
120B	DUCT ASSEMBLY,MULTI	5209JJ1002A	286A	BUSH	4984JJ3003A
125A	TRAY ASSEMBLY,ICE	3391JJ1009B	301A	EVAPORATOR ASSEMBLY	5421JJ1001A
125D	HOLDER,BRACKET	4930JJ3007A	304A	COVER ASSEMBLY,BACK-M/C	3551JJ2008A
128A	GUIDE ASSEMBLY,RAIL	4975JJ2002A	305B	ROLLER	4580JJ3001A
128B	GUIDE ASSEMBLY,RAIL	4975JJ2002B	305B	ROLLER	4580JJ3001A
131A	BANK ASSEMBLY,ICE	5075JJ1001B	305C	PIN,DRAWING	4J04238A
135C	COVER,GRILLE FAN	3550JJ2030A	305C	PIN,DRAWING	4J04238A
136A	TRAY ASSEMBLY,DRAWER	3391JJ1011A	307A	COMPRESSOR,SET ASSEMBLY	2521C-A5725
136B	TRAY,DRAWER	3390JJ1088A	308A	P.T.C ASSEMBLY	6748C-0004D
136F	TRAY ASSEMBLY,DRAWER	3391JJ1033A	309A	O.L.P	6750CR0004S
140B	SHELF ASSEMBLY,R	5027JJ2007A	310A	COVER,P.T.C	3550JA2042A
140B	SHELF ASSEMBLY,R	5027JJ2007A	312A	RUBBER,SEAT	5040JA3031A
140D	SHELF,NET	5026JJ2001G	314A	STOPPER,COMP	4620JA3009A
140E	SHELF,NET	5026JJ2001H	315A	COMP BASE ASSEMBLY,STD	3103JJ1001K
142D	SHELF,NET	5026JJ2001L	317A	DRIER ASSEMBLY	5851JJ2002B
142E	SHELF,NET	5026JJ2001M	318A	HOLDER,DRIER	4930JJ3002A
143E	SHELF ASSEMBLY,R	5027JJ1008A	319A	TRAY,DRIP	3390JJ0003A
143F	SHELF ASSEMBLY,R	5027JJ1008C	319C	GUIDE,FAN	4974JJ1009A
145A	HOLDER,SHELF	4930JJ2003A	323B	CONDENSER ASSEMBLY,WIRE	5403JJ1005A
145B	HOLDER,SHELF	4930JJ2004A	328A	RUBBER,DAMPING	4J03020A
145D	GUIDE,RAIL	4974JJ1012A	328B	RUBBER,DAMPING	4J04328A
145G	GUIDE ASSEMBLY,RAIL	4975JJ2005H	328B	RUBBER,DAMPING	4J04328A
146A	CAN STORAGE,LOWER	5047JJ1001A	329A	FAN ASSEMBLY	5901JJ1005A
147A	BANK,DAIRY	5074JJ1005A	329C	FAN ASSEMBLY	5901JJ1004B
151A	TRAY ASSEMBLY,VEGETABLE	3391JJ1020D	332A	GRILLE ASSEMBLY,FAN	3531JJ1004B
151C	KNOB,SHUTTER	4940JJ2003B	401A	CONTROLLER ASSEMBLY(CIRC)	6615JB2005C
154A	COVER,T/V	3550JL1006D	404A	MOTOR(MECH),FAN	4680JK1002B
155B	SUPPORTER ASSEMBLY,COVER-T/V	4981JJ2001B	405A	BRACKET ASSEMBLY,MOTOR	4811JJ2002B
158A	COVER,LAMP	3550JJ1040A	405B	BRACKET,MOTOR	4810JA3007A
158E	COVER,LAMP	3550JJ1051A	405C	RUBBER,MOTOR-N	J756-00008B
167B	GLASS,SHELF	4890JL1002G	406B	SWITCH,[PUSH]	6600JB1004A
170A	TRAY ASSEMBLY,MEAT	3391JJ2004G	409B	LAMP,[INCANDESCENT]	6912JK2002C
200A	DOOR ASSEMBLY,F	3581JJ8022B	409D	REFLECTOR,LAMP	3034JJ1002B
201A	DOOR FOAM ASSEMBLY,F	5433JJ0017C	410A	SOCKET ASSEMBLY,LAMP	6621JK2002D
203A	GASKET ASSEMBLY,DOOR	4987JJ1004C	410G	CAPACITOR,DRAWING	0CZZJB2003H
205A	BASKET,DOOR	5004JJ1042A	411A	POWER CORD ASSEMBLY	6411JK1006A
205B	BASKET,TILT	5004JJ2005B	418A	HEATER,SHEATH	5300JB1100D
205C	BASKET,TILT	5004JJ2005A	420A	MOTOR(MECH),COOLING	4680JK1001B
212A	HANDLE,F	3650JJ1017J	501A	PWB(PCB) ASSEMBLY,MAIN	6871JB1215A
212G	NAME PLATE,P(H)	4140JD2001C	501F	COVER,PWB	3550JJ1042B
230A	DOOR ASSEMBLY,R	3581JJ8027B	503C	PWB(PCB) ASSEMBLY,DISPLAY	6871JB2047A
231A	DOOR FOAM ASSEMBLY,R	5433JJ0016B	503D	CASE,DISPLAY	3110JJ1005A
233A	GASKET ASSEMBLY,DOOR	4987JJ1004D	503E	COVER,DISPLAY	3550JJ2031A
237A	GUIDE,BOTTLE	4974JJ2021A	503G	DECO,CONTROL	3806JL1009A
237C	GUIDE,DRAWER	4974JJ1021A	602A	HOLDER,BRACKET	4930JA3037A
241A	COVER,TRAY	3550JL2003G	607A	HOLDER,BRACKET	4930JJ2013A
241B	BASKET,DOOR	5004JJ1035A	610A	COVER,SENSOR	3550JJ2020A
241C	BASKET,DOOR	5004JJ1030A	619B	COVER,VALVE	3550JJ2024A
241D	BASKET,DOOR	5004JJ0002A	621A	CONNECTOR (MECH),DOOR	4932JJ2001B
241E	BASKET,DOOR	5004JJ1028A	623H	COVER,TUBE	3550JJ2036A
243A	STOPPER,DOOR	4620JJ3006A	700B	HANDLE ASSEMBLY,F	3651JJ0002C
244A	HANDLE,R	3650JJ2008Q	700C	HANDLE ASSEMBLY,R	3651JJ1017G
244B	HOLDER,HANDLE	4930JJ2009E	903A	COVER,LOWER	3550JJ0005A
244C	HOLDER,HANDLE	4930JJ2010E	903B	HOLDER,COVER LOWER	4930JJ2021A
244D	HOLDER,HANDLE	4930JJ2012E	903D	SENSOR	6500JK1003A
244K	HOLDER,HANDLE	4930JJ2011E	903E	SENSOR	6500JK1004A
248E	DECO,TRAY	3806JJ2036A	B01	SCREW,DRAWING	1STZJA3004F
248F	SUPPORTER,HOLDER	4980JJ2005B	S01	SCREW,DRAWING	1SZZJJ3010A
248N	RAIL ASSEMBLY,SLIDE	5219JJ2002A	S07	SCREW,DRAWING	4000W4A003A
248P	RAIL ASSEMBLY,SLIDE	5219JJ2002B	S22	SCREW,DRAWING	3J05696C
249G	GUIDE,RAIL	4974JJ1011A	S24	SCREW,DRAWING	1SZZJA3011B
281A	COVER,HINGE	3550JJ2013A	S28	SCREW,DRAWING	3J05696W
281B	HINGE ASSEMBLY,U	4775JJ2003B	S38	SCREW,DRAWING	4J00415D
281C	HINGE ASSEMBLY,L	4775JJ2008A			

LOC	DESCRIPCION	NO. DE PARTE	LOC	DESCRIPCION	NO. DE PARTE
103A	HANDLE,BACK	3650JJ2003F	249G	GUIDE,RAIL	4974JJ1011A
103B	HANDLE,BACK	3650JJ2003B	281A	COVER,HINGE	3550JJ2013B
103C	COVER ASSEMBLY,LOWER	3551JJ1015C	281B	HINGE ASSEMBLY,U	4775JJ2003B
103E	RAIL,SLIDE	5218JJ3001A	281C	HINGE ASSEMBLY,L	4775JJ2008A
105A	DRAIN ASSEMBLY,PIPE-Z	5251JJ2003A	282B	HINGE ASSEMBLY,C	4775JJ8002B
105F	SKIRT,LOWER	5070JJ3002A	282E	CAP,HINGE	5006JJ2001E
106A	LEG ASSEMBLY,ADJUST	4779JJ2001A	282F	DECO,DUCT	3806JL2006E
106B	WASHER,DRAWING	4J00382C	282H	CAP,HINGE	5006JJ3004A
120B	DUCT ASSEMBLY,MULTI	5209JJ1002A	283B	HINGE,L	4774JJ3001A
125A	TRAY ASSEMBLY,ICE	3391JJ1009B	284D	SCREW,DRAWING	1STZJA3004K
128A	GUIDE ASSEMBLY,RAIL	4975JJ2002A	285A	GUIDE ASSEMBLY,RAIL	4975JJ2007G
128B	GUIDE ASSEMBLY,RAIL	4975JJ2002B	286A	BUSH	4984JJ3003A
131A	BANK ASSEMBLY,ICE	5075JJ1001B	286A	BUSH	4984JJ3003A
135C	COVER,GRILLE FAN	3550JJ2030A	301A	EVAPORATOR ASSEMBLY	5421JJ1001A
136A	TRAY ASSEMBLY,DRAWER	3391JJ1011A	304A	COVER ASSEMBLY,BACK-M/C	3551JJ2008A
136B	TRAY,DRAWER	3390JJ1088A	305B	ROLLER	4580JJ3001A
136F	TRAY ASSEMBLY,DRAWER	3391JJ1033A	305C	PIN,DRAWING	4J04238A
140B	SHELF ASSEMBLY,R	5027JJ2007A	307A	COMPRESSOR,SET ASSEMBLY	2521C-A5725
140B	SHELF ASSEMBLY,R	5027JJ2007A	308A	P.T.C ASSEMBLY	6748C-0004D
140D	SHELF,NET	5026JJ2001G	309A	O.L.P	6750CR0004S
140E	SHELF,NET	5026JJ2001H	310A	COVER,P.T.C	3550JA2042A
142D	SHELF,NET	5026JJ2001L	312A	RUBBER,SEAT	5040JA3031A
142E	SHELF,NET	5026JJ2001M	314A	STOPPER,COMP	4620JA3009A
143E	SHELF ASSEMBLY,R	5027JJ1008A	315A	COMP BASE ASSEMBLY,STD	3103JJ1001K
143F	SHELF ASSEMBLY,R	5027JJ1008C	317A	DRIER ASSEMBLY	5851JJ2002B
145A	HOLDER,SHELF	4930JJ2003A	318A	HOLDER,DRIER	4930JJ3002A
145B	HOLDER,SHELF	4930JJ2004A	319A	TRAY,DRIP	3390JJ0003A
145D	GUIDE,RAIL	4974JJ1012A	319C	GUIDE,FAN	4974JJ1009A
145G	GUIDE ASSEMBLY,RAIL	4975JJ2005H	323B	CONDENSER ASSEMBLY,WIRE	5403JJ1005A
147A	BANK,DAIRY	5074JJ1005A	328A	RUBBER,DAMPING	4J03020A
151C	KNOB,SHUTTER	4940JJ2003B	329A	FAN ASSEMBLY	5901JJ1005A
154A	COVER,T/V	3550JJ1034A	329C	FAN ASSEMBLY	5901JJ1004B
155B	SUPPORTER ASSEMBLY,COVER-TA	4981JJ2001A	332A	GRILLE ASSEMBLY,FAN	3531JJ1004B
158A	COVER,LAMP	3550JJ1040A	401A	CONTROLLER ASSEMBLY(CIRC)	6615JB2005C
158E	COVER,LAMP	3550JJ1051A	404A	MOTOR(MECH),FAN	4680JK1002B
160B	DECO,TRAY	3806JL2005C	405A	BRACKET ASSEMBLY,MOTOR	4811JJ2002B
161A	COVER,TRAY	3550JJ2025A	405B	BRACKET,MOTOR	4810JA3007A
168A	COVER,MAGIC ROOM	3550JJ1036A	405C	RUBBER,MOTOR-N	J756-00008B
170A	TRAY ASSEMBLY,MEAT	3391JJ2004G	406B	SWITCH,[PUSH]	6600JB1004A
200A	DOOR ASSEMBLY,F	3581JJ8022S	409B	LAMP,[INCANDESCENT]	6912JK2002C
201A	DOOR FOAM ASSEMBLY,F	5433JJ0017M	409D	REFLECTOR,LAMP	3034JJ1002B
203A	GASKET ASSEMBLY,DOOR	4987JJ1004C	410A	SOCKET ASSEMBLY,LAMP	6621JK2002D
205A	BASKET,DOOR	5004JJ1042A	410G	CAPACITOR,DRAWING	0CZZJB2003H
205B	BASKET,TILT	5004JJ2005B	411A	POWER CORD ASSEMBLY	6411JK1006A
205C	BASKET,TILT	5004JJ2005A	418A	HEATER,SHEATH	5300JB1100D
212B	HANDLE,F	3650JJ0005B	420A	MOTOR(MECH),COOLING	4680JK1001B
212G	NAME PLATE,P(H)	4140JD2001C	501A	PWB(PCB) ASSEMBLY,MAIN	6871JB1215A
230A	DOOR ASSEMBLY,R	3581JJ8027S	501F	COVER,PWB	3550JJ1042B
231A	DOOR FOAM ASSEMBLY,R	5433JJ0016F	503C	PWB(PCB) ASSEMBLY,DISPLAY	6871JB2047A
233A	GASKET ASSEMBLY,DOOR	4987JJ1004D	503D	CASE,DISPLAY	3110JJ1005A
237A	GUIDE,BOTTLE	4974JJ2021A	503E	COVER,DISPLAY	3550JJ2031A
237C	GUIDE,DRAWER	4974JJ1021A	503G	DECO,CONTROL	3806JL1009A
241A	COVER,TRAY	3550JL2003G	602A	HOLDER,BRACKET	4930JA3037A
241B	BASKET,DOOR	5004JJ1035A	610A	COVER,SENSOR	3550JJ2020A
241C	BASKET,DOOR	5004JJ1030A	619B	COVER,VALVE	3550JJ2024A
241D	BASKET,DOOR	5004JJ0002A	621A	CONNECTOR (MECH),DOOR	4932JJ2001B
241E	BASKET,DOOR	5004JJ1028A	623H	COVER,TUBE	3550JJ2036A
243A	STOPPER,DOOR	4620JJ3006B	903A	COVER,LOWER	3550JJ0005B
244E	CAP,HANDLE	5006JJ3016B	903B	HOLDER,COVER LOWER	4930JJ2021A
244F	HOLDER,HANDLE	4930JJ1013B	903D	SENSOR	6500JK1003A
244G	HOLDER,HANDLE	4930JJ1013A	903E	SENSOR	6500JK1004A
244H	HANDLE,R	3650JJ0006B	B01	SCREW,DRAWING	1STZJA3004F
244J	DECO,HANDLE	3806JJ1020C	S01	SCREW,DRAWING	1SZZJJ3010A
244M	DECO,HANDLE	3806JJ1020D	S07	SCREW,DRAWING	4000W4A003A
248E	DECO,TRAY	3806JJ2036A	S22	SCREW,DRAWING	3J05696C
248F	SUPPORTER,HOLDER	4980JJ2005B	S24	SCREW,DRAWING	1SZZJA3011B
248N	RAIL ASSEMBLY,SLIDE	5219JJ2002A	S28	SCREW,DRAWING	3J05696W
248P	RAIL ASSEMBLY,SLIDE	5219JJ2002B	S38	SCREW,DRAWING	4J00415D

LOC	DESCRIPCION	NO. DE PARTE	LOC	DESCRIPCION	NO. DE PARTE
103A	HANDLE, BACK	3650JJ2003E	281A	COVER, HINGE	3550JJ2013A
103B	HANDLE, BACK	3650JJ2003A	281B	HINGE ASSEMBLY, U	4775JJ2003B
103C	COVER ASSEMBLY, LOWER	3551JJ1015A	281C	HINGE ASSEMBLY, L	4775JJ2008A
103E	RAIL, SLIDE	5218JJ3001A	282B	HINGE ASSEMBLY, C	4775JJ8002A
105A	DRAIN ASSEMBLY, PIPE-Z	5251JJ2003A	282E	CAP, HINGE	5006JJ2001A
105F	SKIRT, LOWER	5070JJ3002A	282F	DECO, DUCT	3806JL2006E
106A	LEG ASSEMBLY, ADJUST	4779JJ2001A	282H	CAP, HINGE	5006JJ3004A
106B	WASHER, DRAWING	4J00382C	283B	HINGE, L	4774JJ3001A
120B	DUCT ASSEMBLY, MULTI	5209JJ1002A	284D	SCREW, DRAWING	1STZJA3004K
125A	TRAY ASSEMBLY, ICE	3391JJ1009B	285A	GUIDE ASSEMBLY, RAIL	4975JJ2007G
128A	GUIDE ASSEMBLY, RAIL	4975JJ2002A	286A	BUSH	4984JJ3003A
128B	GUIDE ASSEMBLY, RAIL	4975JJ2002B	286A	BUSH	4984JJ3003A
131A	BANK ASSEMBLY, ICE	5075JJ1001B	301A	EVAPORATOR ASSEMBLY	5421JJ1001A
135C	COVER, GRILLE FAN	3550JJ2030A	304A	COVER ASSEMBLY, BACK-M/C	3551JJ2008A
136A	TRAY ASSEMBLY, DRAWER	3391JJ1011A	305B	ROLLER	4580JJ3001A
136B	TRAY, DRAWER	3390JJ1088A	305B	ROLLER	4580JJ3001A
136F	TRAY ASSEMBLY, DRAWER	3391JJ1033A	305C	PIN, DRAWING	4J04238A
140B	SHELF ASSEMBLY, R	5027JJ2007A	305C	PIN, DRAWING	4J04238A
140B	SHELF ASSEMBLY, R	5027JJ2007A	307A	COMPRESSOR, SET ASSEMBLY	2521C-A5725
140D	SHELF, NET	5026JJ2001G	308A	P.T.C ASSEMBLY	6748C-0004D
140E	SHELF, NET	5026JJ2001H	309A	O.L.P	6750CR0004S
142D	SHELF, NET	5026JJ2001L	310A	COVER, P.T.C	3550JA2042A
142E	SHELF, NET	5026JJ2001M	312A	RUBBER, SEAT	5040JA3031A
143E	SHELF ASSEMBLY, R	5027JJ1008A	314A	STOPPER, COMP	4620JA3009A
143F	SHELF ASSEMBLY, R	5027JJ1008C	315A	COMP BASE ASSEMBLY, STD	3103JJ1001K
145A	HOLDER, SHELF	4930JJ2003A	317A	DRIER ASSEMBLY	5851JJ2002B
145B	HOLDER, SHELF	4930JJ2004A	318A	HOLDER, DRIER	4930JJ3002A
145D	GUIDE, RAIL	4974JJ1012A	319A	TRAY, DRIP	3390JJ0003A
145G	GUIDE ASSEMBLY, RAIL	4975JJ2005H	319C	GUIDE, FAN	4974JJ1009A
147A	BANK, DAIRY	5074JJ1005A	323B	CONDENSER ASSEMBLY, WIRE	5403JJ1005A
151C	KNOB, SHUTTER	4940JJ2003B	328A	RUBBER, DAMPING	4J03020A
154A	COVER, TV	3550JJ1034A	328B	RUBBER, DAMPING	4J04328A
155B	SUPPORTER ASSEMBLY, COVER-TV	4981JJ2001A	328B	RUBBER, DAMPING	4J04328A
158A	COVER, LAMP	3550JJ1040A	329A	FAN ASSEMBLY	5901JJ1005A
158E	COVER, LAMP	3550JJ1051A	329C	FAN ASSEMBLY	5901JJ1004B
160B	DECO, TRAY	3806JL2005C	332A	GRILLE ASSEMBLY, FAN	3531JJ1004B
161A	COVER, TRAY	3550JJ2025A	401A	CONTROLLER ASSEMBLY (CIRC)	6615JB2005C
168A	COVER, MAGIC ROOM	3550JJ1036A	404A	MOTOR (MECH), FAN	4680JK1002B
170A	TRAY ASSEMBLY, MEAT	3391JJ2004G	405A	BRACKET ASSEMBLY, MOTOR	4811JJ2002B
200A	DOOR ASSEMBLY, F	3581JJ8022N	405B	BRACKET, MOTOR	4810JA3007A
201A	DOOR FOAM ASSEMBLY, F	5433JJ0017G	405C	RUBBER, MOTOR-N	J756-00008B
203A	GASKET ASSEMBLY, DOOR	4987JJ1004C	406B	SWITCH, [PUSH]	6600JB1004A
205A	BASKET, DOOR	5004JJ1042A	409B	LAMP, [INCANDESCENT]	6912JK2002C
205B	BASKET, TILT	5004JJ2005B	409D	REFLECTOR, LAMP	3034JJ1002B
205C	BASKET, TILT	5004JJ2005A	410A	SOCKET ASSEMBLY, LAMP	6621JK2002D
212B	HANDLE, F	3650JJ0005A	410G	CAPACITOR, DRAWING	0CZZJB2003H
212G	NAME PLATE, P(H)	4140JD2001C	411A	POWER CORD ASSEMBLY	6411JK1006A
230A	DOOR ASSEMBLY, R	3581JJ8027N	418A	HEATER, SHEATH	5300JB1100D
231A	DOOR FOAM ASSEMBLY, R	5433JJ0016C	420A	MOTOR (MECH), COOLING	4680JK1001B
233A	GASKET ASSEMBLY, DOOR	4987JJ1004D	501A	PWB(PCB) ASSEMBLY, MAIN	6871JB1215A
237A	GUIDE, BOTTLE	4974JJ2021A	501F	COVER, PWB	3550JJ1042B
237C	GUIDE, DRAWER	4974JJ1021A	503C	PWB(PCB) ASSEMBLY, DISPLAY	6871JB2047A
241A	COVER, TRAY	3550JL2003G	503D	CASE, DISPLAY	3110JJ1005A
241B	BASKET, DOOR	5004JJ1035A	503E	COVER, DISPLAY	3550JJ2031A
241C	BASKET, DOOR	5004JJ1030A	503G	DECO, CONTROL	3806JL1009A
241D	BASKET, DOOR	5004JJ0002A	602A	HOLDER, BRACKET	4930JA3037A
241E	BASKET, DOOR	5004JJ1028A	610A	COVER, SENSOR	3550JJ2020A
243A	STOPPER, DOOR	4620JJ3006A	619B	COVER, VALVE	3550JJ2024A
244E	CAP, HANDLE	5006JJ3016A	621A	CONNECTOR (MECH), DOOR	4932JJ2001B
244F	HOLDER, HANDLE	4930JJ1013B	623H	COVER, TUBE	3550JJ2036A
244G	HOLDER, HANDLE	4930JJ1013A	903A	COVER, LOWER	3550JJ0005A
244H	HANDLE, R	3650JJ0006A	903B	HOLDER, COVER LOWER	4930JJ2021A
244J	DECO, HANDLE	3806JJ1020A	903D	SENSOR	6500JK1003A
244M	DECO, HANDLE	3806JJ1020B	903E	SENSOR	6500JK1004A
248E	DECO, TRAY	3806JJ2036A	B01	SCREW, DRAWING	1STZJA3004F
248F	SUPPORTER, HOLDER	4980JJ2005B	S01	SCREW, DRAWING	1SZZJJ3010A
248N	RAIL ASSEMBLY, SLIDE	5219JJ2002A	S07	SCREW, DRAWING	4000W4A003A
248P	RAIL ASSEMBLY, SLIDE	5219JJ2002B	S22	SCREW, DRAWING	3J05696C
249G	GUIDE, RAIL	4974JJ1011A	S24	SCREW, DRAWING	1SZZJA3011B
			S28	SCREW, DRAWING	3J05696W
			S38	SCREW, DRAWING	4J00415D

LOC	DESCRIPCION	NO. DE PARTE	LOC	DESCRIPCION	NO. DE PARTE
103A	HANDLE,BACK	3650JJ2003M	281C	HINGE ASSEMBLY,L	4775JJ2008A
103B	HANDLE,BACK	3650JJ2003L	282B	HINGE ASSEMBLY,C	4775JJ8002C
103C	COVER ASSEMBLY,LOWER	3551JJ1015E	282E	CAP,HINGE	5006JJ2001F
103E	RAIL,SLIDE	5218JJ3001A	282F	DECO,DUCT	3806JL2006E
105A	DRAIN ASSEMBLY,PIPE-Z	5251JJ2003A	282H	CAP,HINGE	5006JJ3004A
105F	SKIRT,LOWER	5070JJ3002A	283B	HINGE,L	4774JJ3001A
106A	LEG ASSEMBLY,ADJUST	4779JJ2001A	284D	SCREW,DRAWING	1STZJA3004K
106B	WASHER,DRAWING	4J00382C	285A	GUIDE ASSEMBLY,RAIL	4975JJ2007G
120B	DUCT ASSEMBLY,MULTI	5209JJ1002A	286A	BUSH	4984JJ3003A
125A	TRAY ASSEMBLY,ICE	3391JJ1009B	301A	EVAPORATOR ASSEMBLY	5421JJ1001A
128A	GUIDE ASSEMBLY,RAIL	4975JJ2002A	304A	COVER ASSEMBLY,BACK-M/C	3551JJ2008A
128B	GUIDE ASSEMBLY,RAIL	4975JJ2002B	305B	ROLLER	4580JJ3001A
131A	BANK ASSEMBLY,ICE	5075JJ1001B	305C	PIN,DRAWING	4J04238A
135C	COVER,GRILLE FAN	3550JJ2030A	305C	PIN,DRAWING	4J04238A
136A	TRAY ASSEMBLY,DRAWER	3391JJ1011A	307A	COMPRESSOR,SET ASSEMBLY	2521C-A5725
136B	TRAY,DRAWER	3390JJ1088A	308A	P.T.C ASSEMBLY	6748C-0004D
136F	TRAY ASSEMBLY,DRAWER	3391JJ1033A	309A	O.L.P	6750CR0004S
140B	SHELF ASSEMBLY,R	5027JJ2007A	310A	COVER,P.T.C	3550JA2042A
140D	SHELF,NET	5026JJ2001G	312A	RUBBER,SEAT	5040JA3031A
140E	SHELF,NET	5026JJ2001H	314A	STOPPER,COMP	4620JA3009A
142D	SHELF,NET	5026JJ2001L	315A	COMP BASE ASSEMBLY,STD	3103JJ1001K
142E	SHELF,NET	5026JJ2001M	317A	DRIER ASSEMBLY	5851JJ2002B
143E	SHELF ASSEMBLY,R	5027JJ1008A	318A	HOLDER,DRIER	4930JJ3002A
143F	SHELF ASSEMBLY,R	5027JJ1008C	319A	TRAY,DRIP	3390JJ0003A
145A	HOLDER,SHELF	4930JJ2003A	319C	GUIDE,FAN	4974JJ1009A
145B	HOLDER,SHELF	4930JJ2004A	323B	CONDENSER ASSEMBLY,WIRE	5403JJ1005A
145D	GUIDE,RAIL	4974JJ1012A	328A	RUBBER,DAMPING	4J03020A
145G	GUIDE ASSEMBLY,RAIL	4975JJ2005H	328B	RUBBER,DAMPING	4J04328A
147A	BANK,DAIRY	5074JJ1005A	329A	FAN ASSEMBLY	5901JJ1005A
151C	KNOB,SHUTTER	4940JJ2003B	329C	FAN ASSEMBLY	5901JJ1004B
154A	COVER,TV	3550JJ1034A	332A	GRILLE ASSEMBLY,FAN	3531JJ1004B
155B	SUPPORTER ASSEMBLY,COVER-TV	4981JJ2001A	401A	CONTROLLER ASSEMBLY(CIRC)	6615JB2005C
158A	COVER,LAMP	3550JJ1040A	404A	MOTOR(MECH),FAN	4680JK1002B
158E	COVER,LAMP	3550JJ1051A	405A	BRACKET ASSEMBLY,MOTOR	4811JJ2002B
160B	DECO,TRAY	3806JL2005C	405B	BRACKET,MOTOR	4810JA3007A
161A	COVER,TRAY	3550JJ2025A	405C	RUBBER,MOTOR-N	J756-00008B
168A	COVER,MAGIC ROOM	3550JJ1036A	406B	SWITCH,[PUSH]	6600JB1004A
170A	TRAY ASSEMBLY,MEAT	3391JJ2004G	409B	LAMP,[INCANDESCENT]	6912JK2002C
200A	DOOR ASSEMBLY,F	3581JJ8022T	409D	REFLECTOR,LAMP	3034JJ1002B
201A	DOOR FOAM ASSEMBLY,F	5433JJ0017R	410A	SOCKET ASSEMBLY,LAMP	6621JK2002D
203A	GASKET ASSEMBLY,DOOR	4987JJ1004G	410G	CAPACITOR,DRAWING	0CZZJB2003H
205A	BASKET,DOOR	5004JJ1042A	411A	POWER CORD ASSEMBLY	6411JK1006A
205B	BASKET,TILT	5004JJ2005B	418A	HEATER,SHEATH	5300JB1100D
205C	BASKET,TILT	5004JJ2005A	420A	MOTOR(MECH),COOLING	4680JK1001B
212B	HANDLE,F	3650JJ0005C	501A	PWB(PCB) ASSEMBLY,MAIN	6871JB1215A
212G	NAME PLATE,P(H)	4140JD2001C	501F	COVER,PWB	3550JJ1042B
230A	DOOR ASSEMBLY,R	3581JJ8027T	503C	PWB(PCB) ASSEMBLY,DISPLAY	6871JB2047A
231A	DOOR FOAM ASSEMBLY,R	5433JJ0016H	503D	CASE,DISPLAY	3110JJ1005A
233A	GASKET ASSEMBLY,DOOR	4987JJ1004H	503E	COVER,DISPLAY	3550JJ2031A
237A	GUIDE,BOTTLE	4974JJ2021A	503G	DECO,CONTROL	3806JL1009A
237C	GUIDE,DRAWER	4974JJ1021A	602A	HOLDER,BRACKET	4930JA3037A
241A	COVER,TRAY	3550JL2003G	610A	COVER,SENSOR	3550JJ2020A
241B	BASKET,DOOR	5004JJ1035A	619B	COVER,VALVE	3550JJ2024A
241C	BASKET,DOOR	5004JJ1030A	621A	CONNECTOR (MECH),DOOR	4932JJ2001B
241D	BASKET,DOOR	5004JJ0002A	623H	COVER,TUBE	3550JJ2036A
241E	BASKET,DOOR	5004JJ1028A	903A	COVER,LOWER	3550JJ0005C
243A	STOPPER,DOOR	4620JJ3006C	903B	HOLDER,COVER LOWER	4930JJ2021A
244E	CAP,HANDLE	5006JJ3016C	903D	SENSOR	6500JK1003A
244F	HOLDER,HANDLE	4930JJ1013B	903E	SENSOR	6500JK1004A
244G	HOLDER,HANDLE	4930JJ1013A	B01	SCREW,DRAWING	1STZJA3004F
244H	HANDLE,R	3650JJ0006C	S01	SCREW,DRAWING	1SZZJJ3010A
244J	DECO,HANDLE	3806JJ1020E	S03	BOLT,DRAWING	1BHZJA3003D
244M	DECO,HANDLE	3806JJ1020F	S07	SCREW,DRAWING	4000W4A003A
248E	DECO,TRAY	3806JJ2036A	S22	SCREW,DRAWING	3J05696C
248F	SUPPORTER,HOLDER	4980JJ2005B	S24	SCREW,DRAWING	1SZZJA3011B
248N	RAIL ASSEMBLY,SLIDE	5219JJ2002A	S27	SCREW,DRAWING	4J01424C
248P	RAIL ASSEMBLY,SLIDE	5219JJ2002B	S28	SCREW,DRAWING	3J05696W
249G	GUIDE,RAIL	4974JJ1011A	S38	SCREW,DRAWING	4J00415D
281A	COVER,HINGE	3550JJ2013C			
281B	HINGE ASSEMBLY,U	4775JJ2003B			



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