SERVICING PRECAUTIONS

AIR RECHARGING IN COMPRESSOR

Test the refrigeration system connecting it electrically before refilling operation. It is necessary to ascertain the function of the motor-compressor and identify the defects immediately. If defects have been found, empty the old system of possible R-134a residue by breaking off the end of the extension piece at its narrow point. (Figure 1)

Replace the filter and any damaged components. Unsolder and pull off the piece remaining inside the service tube and then attach an complete extension with male Hansen and at last, solder it to the same tube again. (Figure 2)

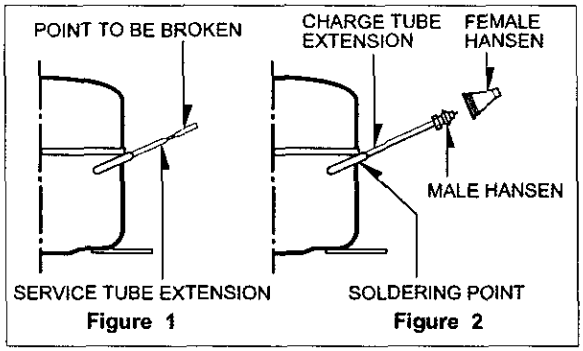


Figure 1 **Figure 2**

It is necessary to execute the soldering operation with valve open so that the fumes caused by oil residue can come out freely without blowholes between two tubes during the heating the of the point to be soldered.

The extension fitted with the male Hansen is connected to the female fitting of the vacuum pump tube. (Figure 3)

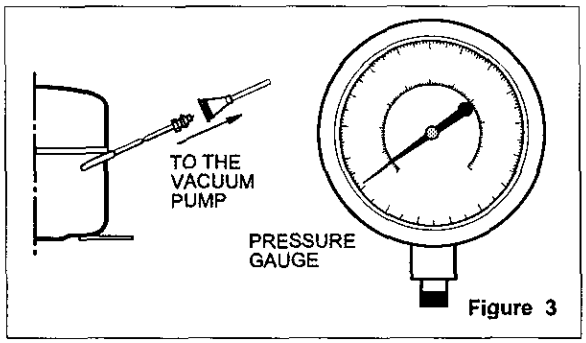


Figure 3

Air evacuating from the system begins as soon as the pump starts. The refrigeration system must be kept under vacuum until the reading on the low-pressure gauge indicates vacuum (0 absolute, -1 atm., -760 mm hg) in any case it is advisable to keep the pump running for about 30 minutes. (Figure 3)

In case that a considerable leakage occurs it will be necessary to stop the vacuum pump and to add asmall quantity of Freon to the system, if vacuum should not be obtained (pressure gauge can't fall to 1 atmosphere), start the refrigeration unit and find the leakage with the special leak-finder. When the defective soldering point is visible, re-do it after opening the extension tube valve and reestablishing the normal outside pressure inside the group.

Because the melted alloy is sucked into the tubes and block them, the pressure must be rebalanced when vacuum is in the system in soldering. As soon as the vacuum operation is over, add the quantity in grams of R-134a to the refrigeration system. Remember that every system has an exact quantity of R-134a with a tolerance of ±5 grams that can be added. (Figure 4)

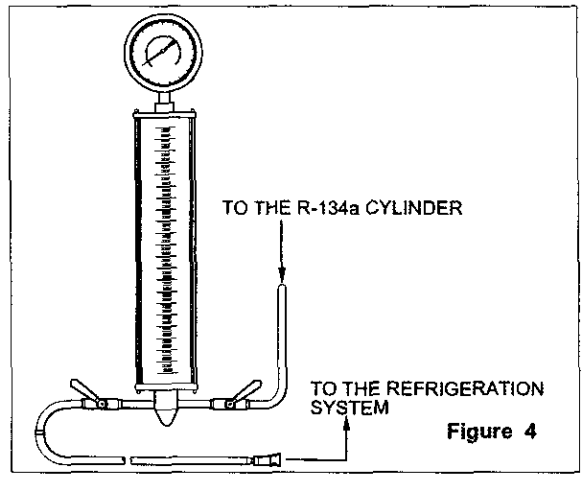


Figure 4

Before performing this operation (if the vacuum pump and refilling cylinder are connected), make sure that the valve placed between the vacuum pump and the refilling tube are closed in order to keep the Freon for addition to the system. (Figure 5)

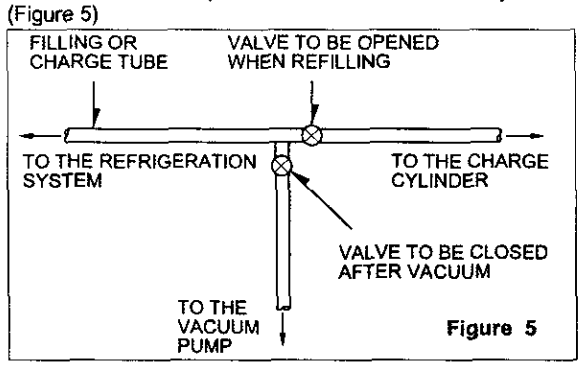


Figure 5

In addition, check the graduated scale on the cylinder for the quantity of R-134a to be added, for example, if we have 750 grams of Freon in the cylinder and must add 140 grams to the group, this amount will be reached when R-134a has dropped to 610 grams, remembering that the indicator shows a lower limit of meniscus. Do this after choosing the scale corresponding to the gas pressure different scales reported as the same gas pressure indicated by the pressure gauge on the top of the column.

To make R-134a flow into the system, open the valve placed at the base of the cylinder and connected to the filling tube. The amount of Freon cannot be added to the system all at once because it may cause a blocking of motor-compressor. Therefore, proceed by adding the original quantity of about 20-30 grams and close the valve immediately.

The pressure rises and the motor compressor must start sucking the gas and lowering the pressure again. Regulate the valve again, maintaining the same manner until reaching to the quantity of R-134a established for the system being charged. When the system is running, the suction pressure must be stabilized between 0.30 to 0.6(0.10 to 0.4) atmosphere.

1. SPECIFICATIONS

1-1. Ref. No.: GR-T622DE

ITEMS	SPECIFICATIONS
DOOR DESIGN	Side Rounded
DIMENSIONS (mm)	750x723x1732(WxDxH)
NET WEIGHT (kg)	90
COOLING SYSTEM	Fan Cooling
TEMPERATURE CONTROL	Knob Dial
DEFROSTING SYSTEM	Full Automatic Heater Defrost With a Timer
DOOR FINISH	Embossed Metal
HANDLE TYPE	Bar
INNER CASE	ABS Resin
INSULATION	Polyurethane Foam

ITEMS		SPECIFICATIONS
VEGETABLE TRAY		Transparent Drawer Type
COMPRESSOR		PTC Starting Type
EVAPORATOR		Fin Tube Type
CONDENSER		Wire Condenser
REFRIGERANT		R-134a (140 g)
LUBRICATING OIL		Freol @ 15G (320 cc)
DEFROSTING DEVICE		SHEATH HEATER
LAMP	FREEZER	15 W*
	REFRIGERATOR	40 W

* Freezer lamp is optional part.

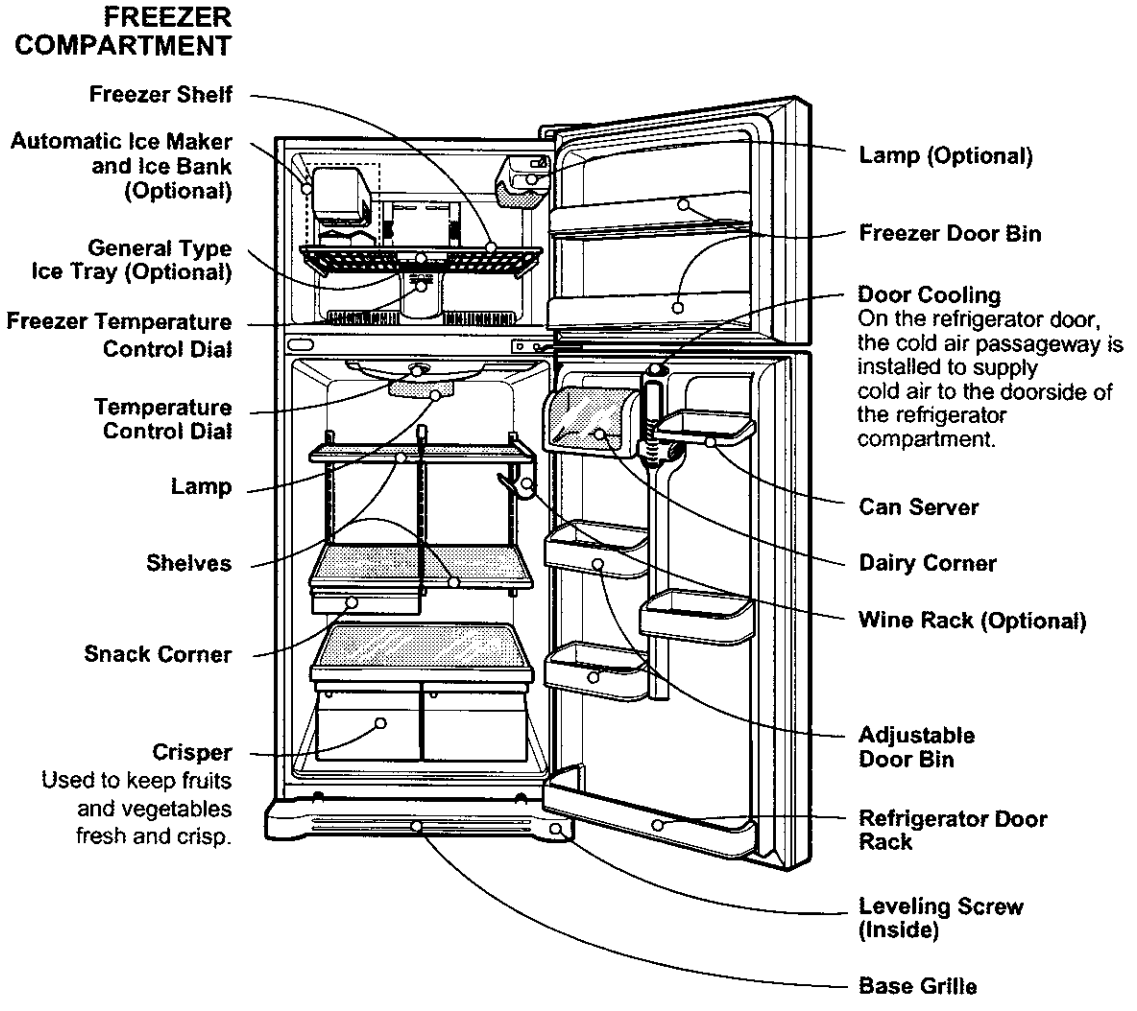
1-2. Ref. No.: GR-T722DE

ITEMS	SPECIFICATIONS
DOOR DESIGN	Side Round
DIMENSIONS (mm)	750x776x1732(WxDxH)
NET WEIGHT (kg)	93
COOLING SYSTEM	Fan Cooling
TEMPERATURE CONTROL	Knob Dial
DEFROSTING SYSTEM	Full Automatic Heater Defrost With a Timer
DOOR FINISH	Pre Coated Metal
INNER CASE	ABS Resin
INSULATION	Polyurethane Foam

ITEMS		SPECIFICATIONS
VEGETABLE TRAY		Transparent Drawer Type
COMPRESSOR		PTC Starting Type
EVAPORATOR		Fin Tube Type
CONDENSER		Wire Condenser
REFRIGERANT		R-134a (140 g)
LUBRICATING OIL		Freol @ 15G (320 cc)
DEFROSTING DEVICE		SHEATH HEATER
LAMP	FREEZER	15 W*
	REFRIGERATOR	40 W

* Freezer lamp is optional part.

2. PARTS IDENTIFICATION



3. DISASSEMBLY

3-1 DOOR

● Freezer Door

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

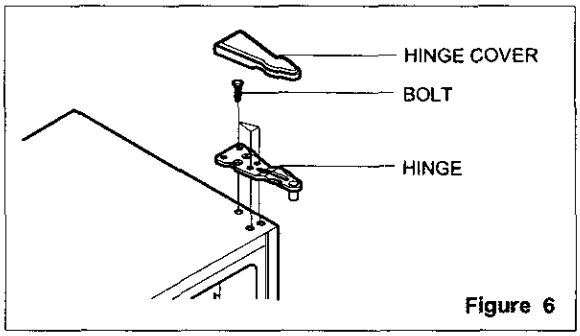


Figure 6

3. Pull out the door gasket to remove from the door foam Ass'y.

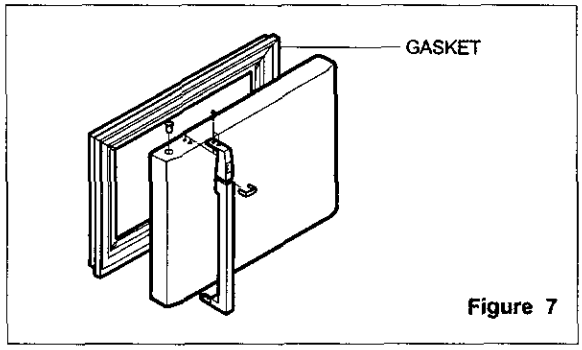


Figure 7

● Refrigerator Door

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

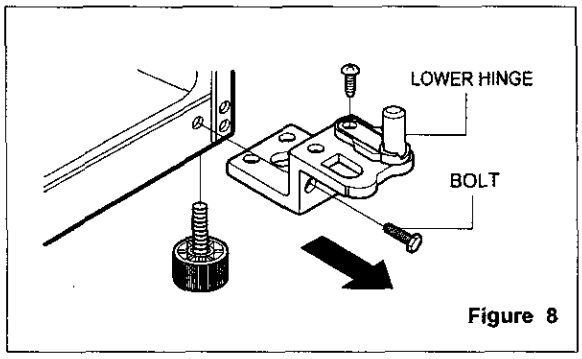


Figure 8

2. Pull out the door gasket to remove from the door foam Ass'y.

3-2 DOOR SWITCH

1. To remove the door switch, pull out it with a '–' type driver as shown in (figure 9).
2. Disconnect the lead wire from the switch.

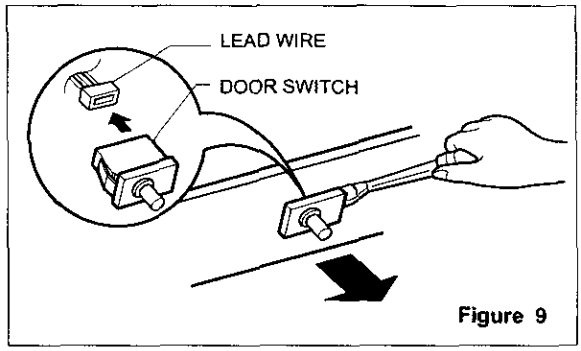


Figure 9

3-3 THERMOSTAT

1. Remove Control Box-R by loosening 2 screw fixed to ceiling of Refrigerator compartment (Figure 10)
2. Separate the thermostat and dial knob F.
3. Remove the thermostat by disconnecting the lead wire.

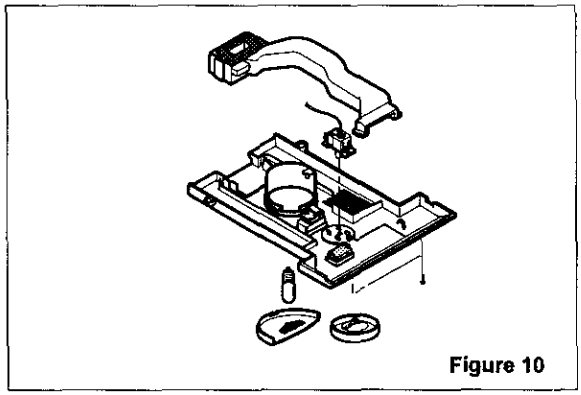


Figure 10

3.4 FAN AND FAN MOTOR

1. Remove the freezer shelf. (If your refrigerator have an Ice Maker, disassemble the Ice maker first)
2. Remove the Grille by pulling it out and by loosening a screw.
3. Remove the Fan Motor Assy by loosening 4 screws and disassemble the shroud.
4. Pull out the fan and, separate the Fan Motor, Bracket.

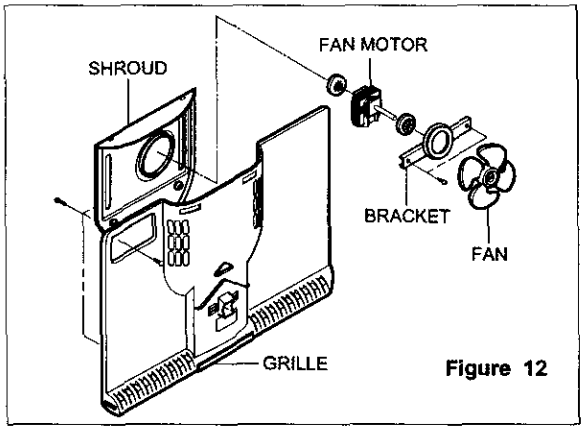


Figure 12

3-5 DEF' CONTROL ASSY

Def control Assy consists of Defrost Thermostat and FUSE–M.

Defrost Thermostat functions to defrost automatically and it is attached to metal side of the Evaporator and senses Temp.

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

At the temperature of 77°C, it stops the emission of heat from the Heater.

1. Pull out the Grille Ass'y.
2. Separate the connector connected with the Def Control Assy and replace the Def Control Assy after cutting the Tie Wrap. (Figure 14)

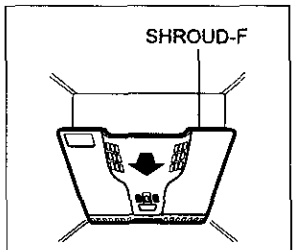


Figure 13

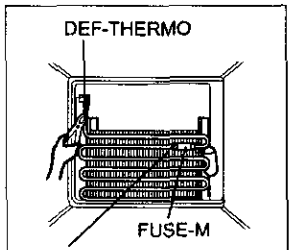


Figure 14

3-6 LAMP

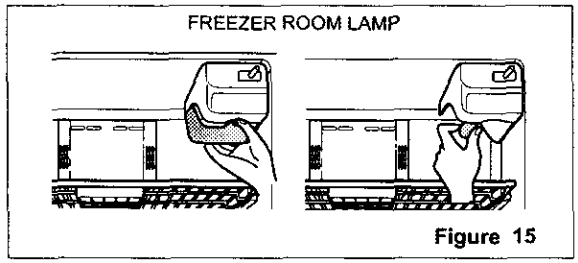


Figure 15

3-6-1 Freezer room lamp

1. Unplug the power cord from the outlet.
2. Remove the room lamp lid by taking down while pulling it forward with your hand after inserting finger into the inside hole as shown in (figure 15).
3. Remove the lamp by turning it counterclockwise.
4. Assemble in reverse order of disassembly. Replacement bulb must be the same specication as original.

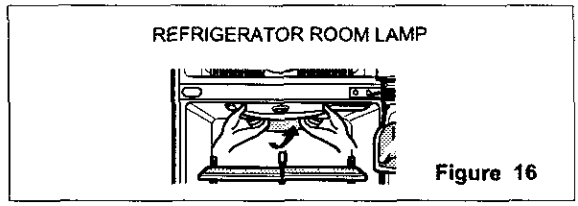


Figure 16

3-6-2 Refrigerator room lamp

1. Unplug the power cord from the outlet.
2. Remove refrigerator shelves.
3. Upper Refrigerator Lamp.
   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 original.
   (Max 40 W)

3-7 CONTROL BOX-R

1. First, remove all shelves in the refrigerator and Control Box-R by loosening 2 screw.

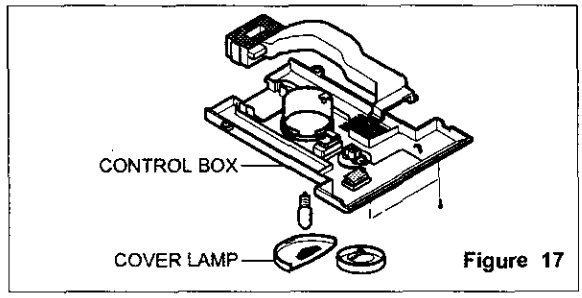


Figure 17

2. Remove the Control Box-R by pulling it downward.
3. Disconnect the L/wire on the right position and seperate timer, themostat, Lamp socket, etc.

4. ADJUSTMENT

4-1 COMPRESSOR

4-1-1 Role

The compressor intakes low temperature and low pressure gas evaporated from Evaporator of the Refrigerator, and condenses this gas to high temperature and high pressure gas, and then plays delivering role to Condenser.

4-1-2 Composition

The Compressor is Composed of Compressor Apparatus compressing gas, Compressor Motor moving Compressor Apparatus and Case protecting Compressor Apparatus and Motor. There are PTC-Starter, and Over Load Protector (OLP) in the Compressor outside. On the other hand, because the Compressor consists of 1/1000mm processing precision components and is sealed after production in absence of dust or humidity, deal and repair with care.

4-1-3 Note for Usage

(1) Be careful not to allow over-voltage and over-current.

(2) No Strike

If applying forcible power or strike (dropping or careless dealing), poor operation and noise may occur.

(3) Use proper electric components appropriate to the Compressor.

(4) Note to Keep Compressor.

If Compressor gets wet in the rain and rust in the pin of Hermetic Terminal, the result may be poor operation and poor contact may cause.

(5) Be careful that dust, humidity, and flux welding don't inflow in the Compressor inside in replacing the Compressor. Dust, humidity, and flux due to welding which inflows to Cylinder may cause lockage and noise.

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 and this material consists of $BaTiO_3$.

(2) The higher the temperature is, the higher becomes the resistance value. These features are used as starting device for the Motor.

4-2-2 Role of PTC-Starter

(1) PTC is attached to Hermetic Compressor used for Refrigerator, Show Case and starts Motor.

(2) Compressor for household refrigerator applies to single-phase induction Motor.

For normal operation of the single-phase induction motor, in the starting operation flows in both main coil and sub-coil. After the starting is over, the current in subcoil is cut off. The proper features of PTC play all the above roles. So, PTC is used as a motor starting device.

4-2-3 PTC-Applied Circuit Diagram

• According to Starting Method for the Motor

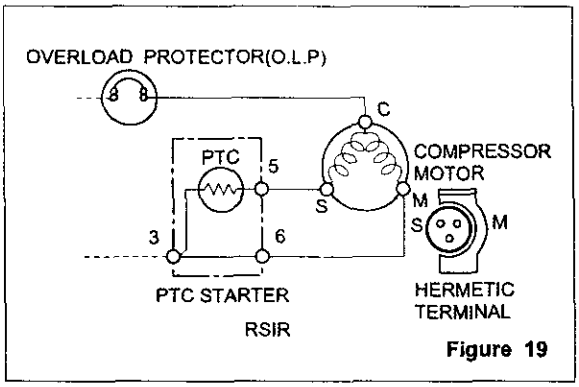


Figure 19

4-2-4 Motor Restarting and PTC Cooling

(1) For restarting after power off during normal Compressor Motor operation, plug the power cord after 5 min. for pressure balance of Refrigerating Cycle and PTC cooling.

(2) During normal operation of the Compressor Motor, PTC elements generate heat continuously. Therefore, if PTC isn't cooled for a while after the power has been shut off, Motor can't operate again.

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

(1) If the power is off during operation of Compressor and the power is on before the PTC is cooled, (instant shut-off within 2 min. or reconnect a power plug due to misconnecting), the PTC isn't cooled and a resistance value grows. As a result, current can't flow to the sub-coil and the Motor can't operate and the OLP operates by flowing over current in only in the main-coil.

(2) While the OLP repeats on and off operation about 3-5 times, PTC is cooled and Compressor Motor performs normal operation.

If OLP doesn't operate when PTC is not cooled, Compressor Motor is worn away and causes circuit-short and fire. Therefore, use a properly fixed OLP without fail.

4-2-6 Note to Use PTC-Starter

(1) Be careful not to allow over-voltage and over-current.

(2) No Strike

Don't apply a forcible power or strike.

(3) Keep apart from any liquid.

If liquid such as oil or water away enter the PTC, PTC materials it may break due to insulation breakdown of the material itself.

(4) Don't change PTC at your convenience.

Don't disassemble PTC and mold. If the exterior to the PTC-starter is damaged, resistance value is altered and it may cause poor starting of the compressor motor may cause.

(5) Use a properly fixed PTC.

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 cutting the current to the Motor if the temperature rises and activates the bimetal spring in the OLP.

(2) When over-voltage flows to Compressor motor, the Bimetal works by heating the heater inside the OLP, and the OLP protects Motor by cutting off current which flows to the Compressor Motor.

4-3-2 Role of the OLP

(1) The OLP is attached to the Hermetic Compressor used for the Refrigerator and Show Case and prevents the Motor Coil from being started in the Compressor.

(2) Do not turn the Adjust Screw of the OLP in any way for normal operation of the OLP.
(Composition and connection Diagram of OLP)

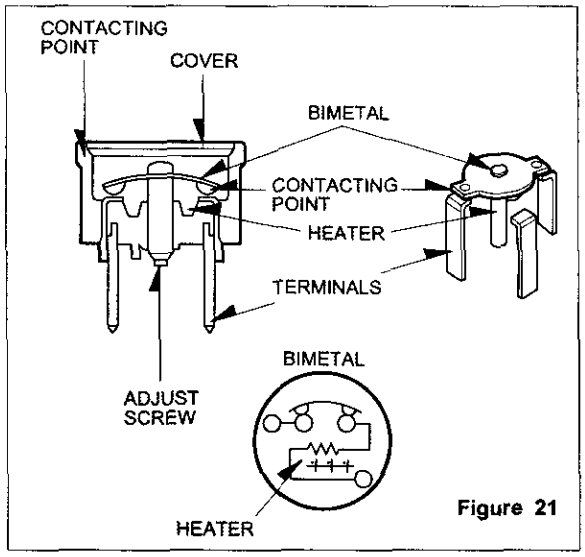
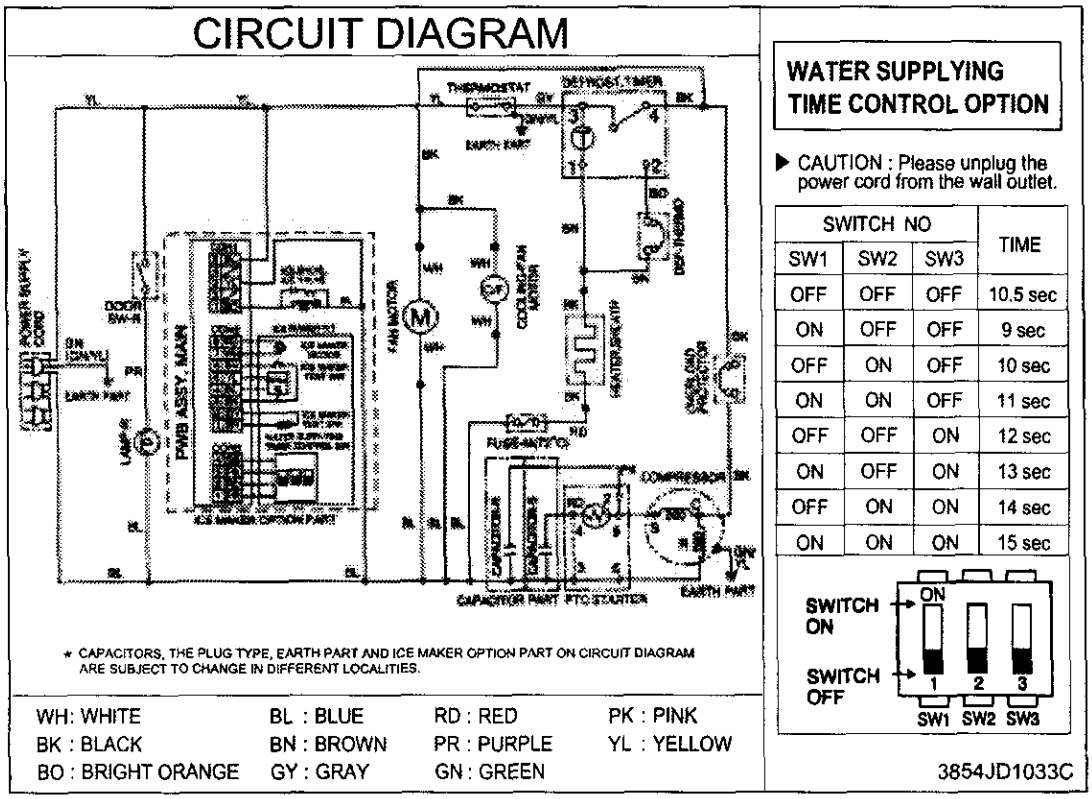


Figure 21

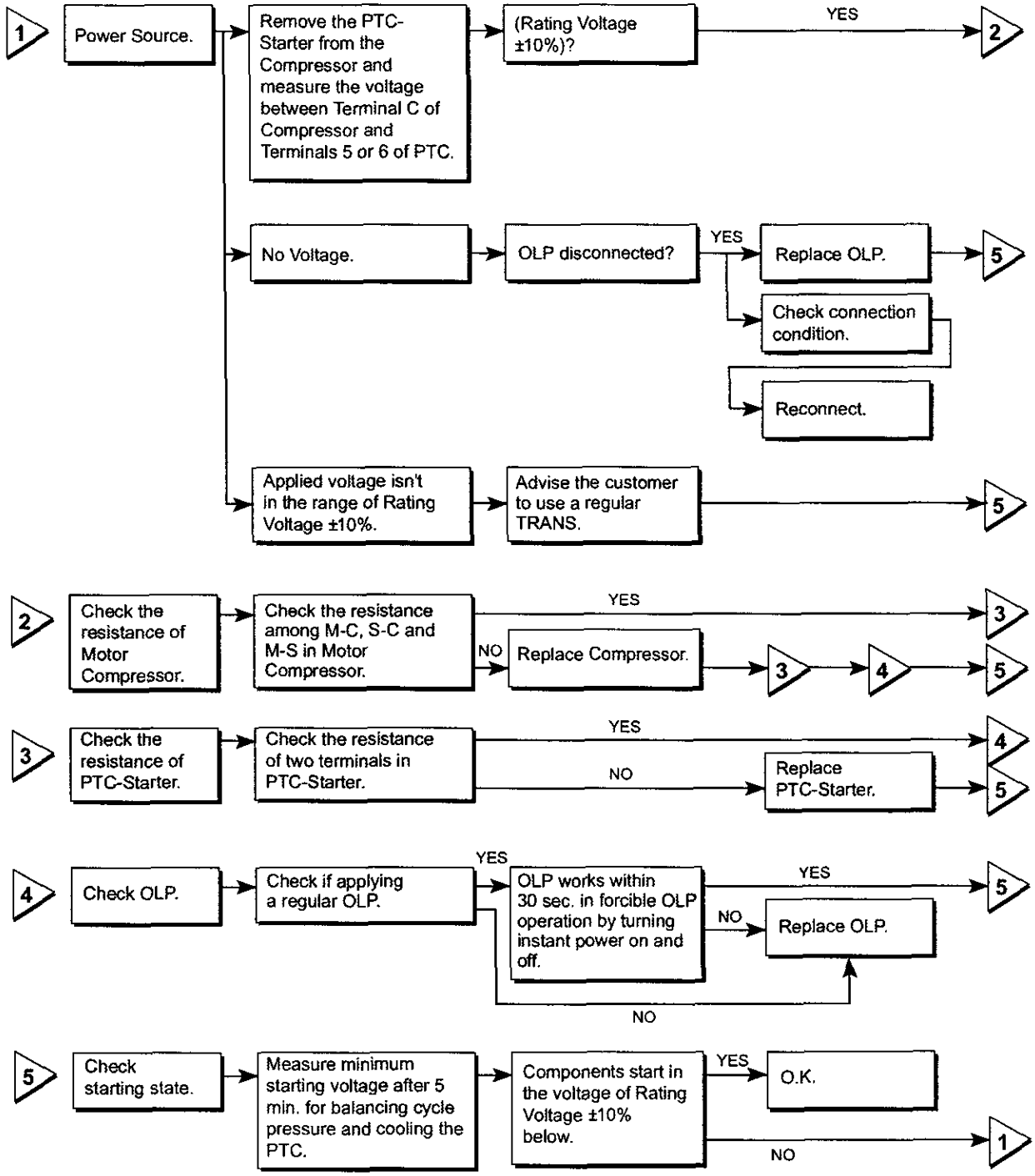
5. CIRCUIT DIAGRAM



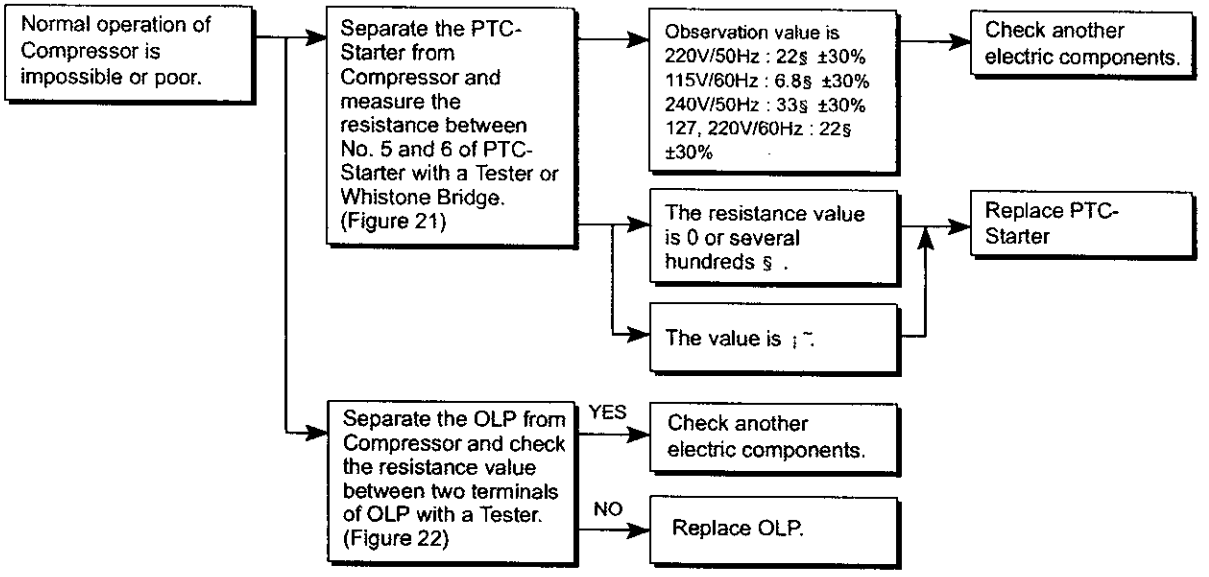
NOTE : 1. This is a basic diagram and specifications vary in different localities.

6. TROUBLESHOOTING

6-1 COMPRESSOR AND ELECTRIC COMPONENTS



6-2 PTC AND OLP



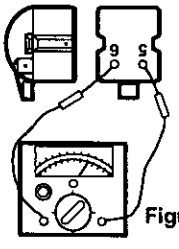


Figure 21

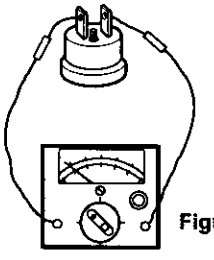
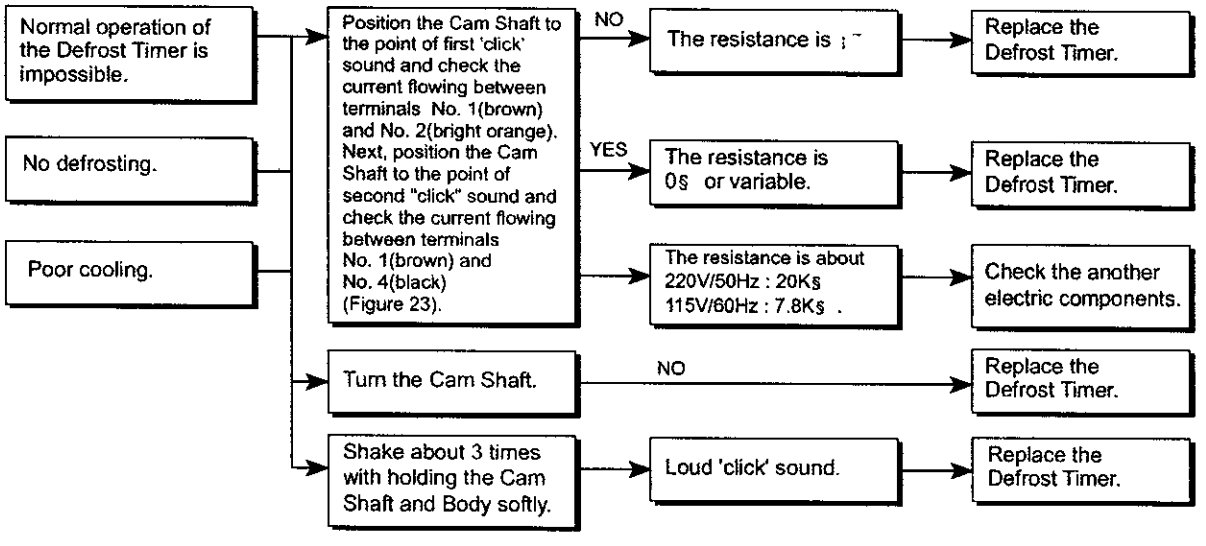


Figure 22

6-3 DEFROST TIMER



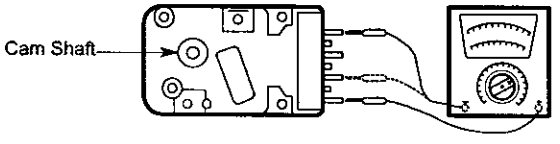
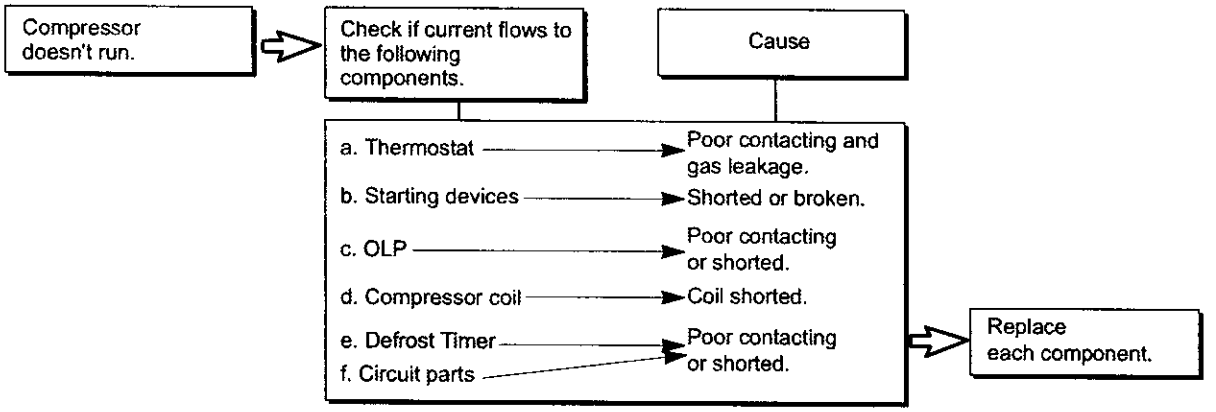
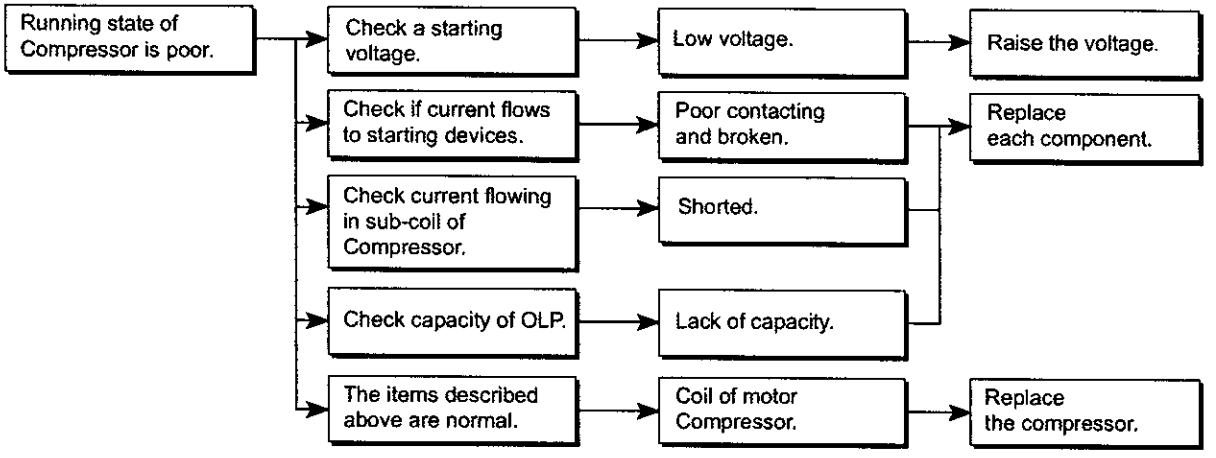


Figure 23

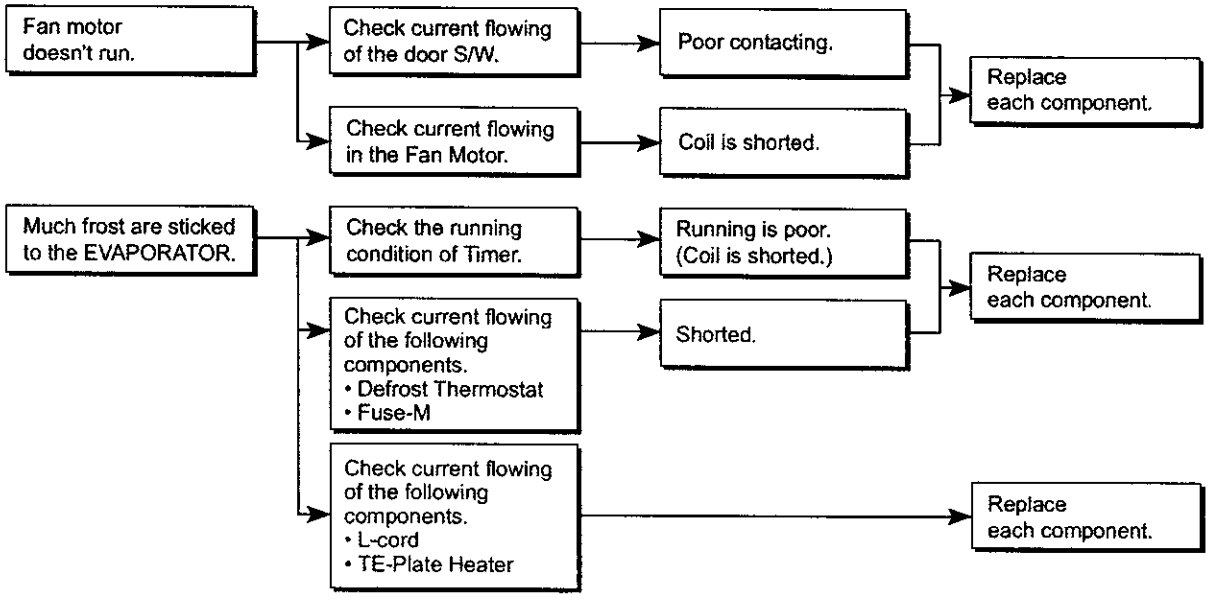
6-4 ANOTHER ELECTRIC COMPONENTS

▼ Cooling is impossible





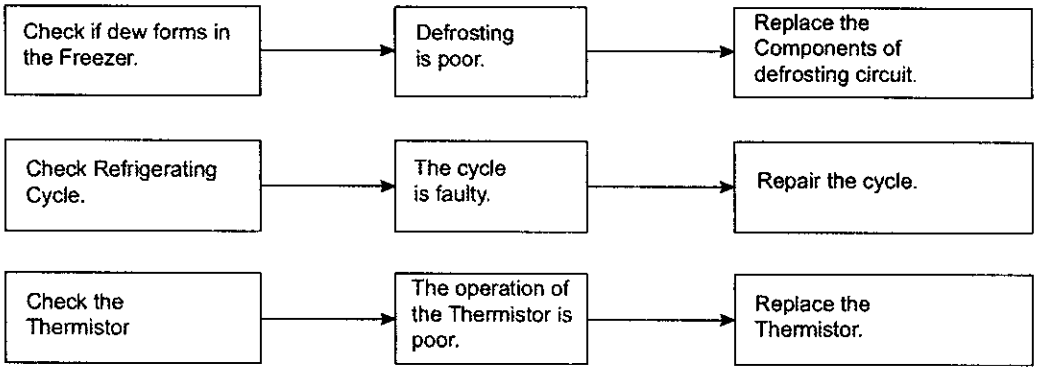
▼ Cooling ability is poor



6-4 SERVICE DIAGNOSIS CHART

COMPLAINT	POINTS TO BE CHECKED	REMEDY
Cooling is impossible.	• Is the power cord unplugged from the outlet? • Check if the power S/W is set to OFF. • Check if the fuse of power S/W is shorted. • Measure the voltage of power outlet.	• Plug to the outlet. • Set the switch to ON. • Replace a regular fuse. • If voltage is low, wire newly.
Cooling ability is poor.	• Check if the set is placed close to wall. • Check if the set is placed close to stove, gas cooker and direct rays. • Is the ambient temperature high or the room door closed? • Check if put in is hot. • Did you open the door of the set too often or check if the door is closed up? • Check if the Control is set to WARM.	• Place the set with the space of about 10cm. • Place the set apart from these heat appliances. • Make the ambient temperature below. • Put in foods after cooled down. • Don't open the door too often and close it firmly. • Set the control to mid-position.
Foods in the Refrigerator are frozen.	• Is foods placed in cooling air outlet? • Check if the Dial is set to COLD. • Is the ambient temperature below 5°C?	• Place foods in high temperature section. (Front Part) • Set the dial to MID. • Set the dial to WARM.
Dew or ice forms in the chamber of the set.	• Is liquid food stored? • Check if put in is hot. • Did you open the door of the set too often or check if the door is closed up.	• Seal up liquid foods with wrap. • Put in foods after cooled down. • Don't open the door too often and close it firmly.
Dew forms in the Exterior Case.	• Check if ambient temperature and humidity of surroumcling air are high. • Is there gap in the door packed?	• Wipe dew with a dry cloth. This occurrence is solved naturally in low temperature and humidity. • Fill up the gap.
Abnormal noise generates.	• Are the set positioned in a firm and even place? • Are any unnecessary objects set in the back side of the set? • Check if the Drip Tray is not firmly fixed. • Check if the cover of mechanical room in below and front side is taken out.	• Adjust the Adjust Screw, and position in the firm place. • Remove the objects. • Fix it firmly on the original position. • Place the cover at the original position.
To close the door is not handy.	• Check if the door packing is dirty with filth such as juice. • Is the set positioned in a firm and even place? • Is too much food putted in the set?	• Clean the door packing. • Position in the firm place and adjust the Adjust Screw. • Keep foods not to reach the door.
Ice and foods smell unpleasant.	• Check if the inside of the set is dirty. • Did you keep smelly foods without wrapping? • It smells of plastic.	• Clean the inside of the set. • Wrap smelly foods. • The new products smells of plastic, but it is eliminated after 1-2 weeks.

• In addition to the items described left, refer to the followings to solve the complaint.



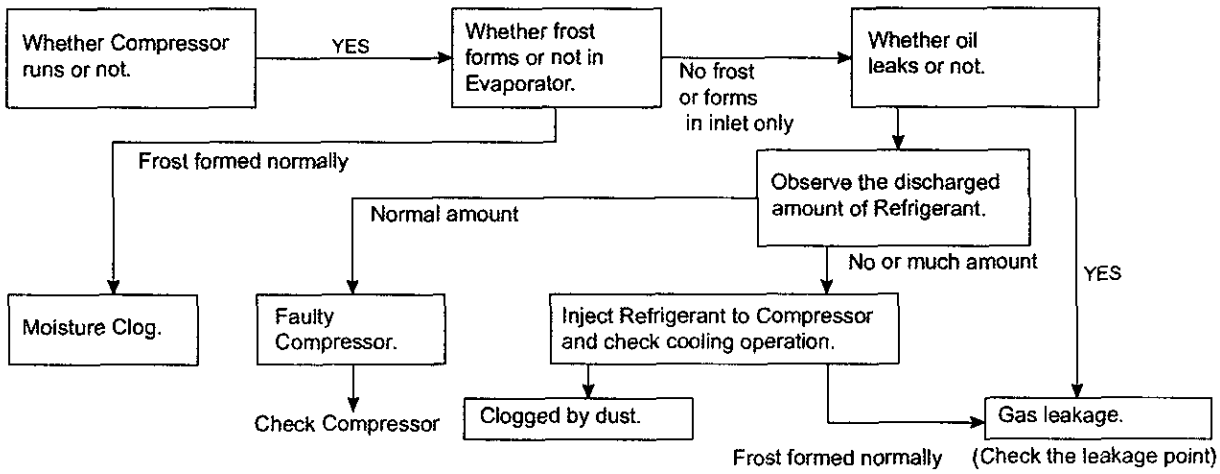
6-5 REFRIGERATING CYCLE

▼ **Troubleshooting Chart**

CAUSE		STATE OF THE SET	STATE OF THE EVAPORATOR	TEMPERATURE OF THE COMPRESSOR	REMARKS
LEAKAGE	PARTIAL LEAKAGE	Freezer room and Refrigerator don't cool normally.	Low flowing sound of Refrigerant is heard and frost forms in inlet only	A little high more than ambient temperature.	• Refrigerant level is low due to a leak. • Normal cooling is possible when injecting of Refrigerant the regular amount.
	WHOLE LEAKAGE	Freezer room and Refrigerator don't cool normally.	Flowing sound of Refrigerant is not heard and frost isn't formed.	Equal to ambient temperature.	• No discharging of Refrigerant. • Normal cooling is possible when injecting of Refrigerant the regular amount.
CLOGGED BY DUST	PARTIAL CLOG	Freeze room and Refrigerator don't cool normally.	Flowing sound of Refrigerant is heard and frost forms in inlet only.	A little high more than ambient temperature.	• Normal discharging of refrigerant. • The capillary tube is faulty.
	WHOLE CLOG	Freezer room and Refrigerator don't cool.	Flowing sound of Refrigerant is not heard and frost isn't formed.	Equal to ambient temperature.	• Normal discharging of Refrigerant.
MOISTURE CLOG		Cooling operation stops periodically.	Flowing sound of Refrigerant is not heard and frost melts.	Low than ambient temperature	• Cooling operation restarts when heating the inlet of capillary tube.
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 high than ambient temperature.	• Low pressure at high side of compressor due to low refrigerant level.
	NO COMP-RESSION	No compressing operation.	Flowing sound of Refrigerant is not heard and no frost.	Equal to ambient temperature.	• No pressure of high pressure part in the compressor.

▼ **Leakage Detection**

• Observe discharging point of refrigerant which may be in the oil discharging part in the compressor and hole of 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_2 pressure: 0.1~0.2 kg/cm²)	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_2 sealed parts		Confirm N_2 leak	Confirm air leaking sounds when removing 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_2 gas for more than 1 min and use the parts.
4	Refrige-ration Cycle	Evacuation time	Min.	More than 40 minutes	To remove moisture.	
		Vacuum degree	Torr	Below 0.03 (ref)		Note: Onlu 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 exclusive manifold.	To protect mixing of mineral and ester oils.	The rubber pipes for R-12 refrigerant shall be melted when they are used for R-134a refrigerant (causes of leak).
		Pipe coupler	EA	Use R-134a exclusive.	To protect R-12 refrigerant mixing.	
		Outlet (Socket)		R-134a exclusive.	"	
		Plug		R-134a exclusive.	"	
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 bombe Socket: 2SV Plug: 2PV R-134a Note: Do not burn O-ring (rubber) during welding.
6	Drier replacement			- Use R-134a exclusively for R-134a refrigerator. - Use R-12 exclusively for R-12 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 vacuum.	Defect refrigerant leak area.	- Check oil leak at refrigerant leak area. Use electronic leak detector if 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. Please practice, therefore, many times before use.

7. ICE MAKER

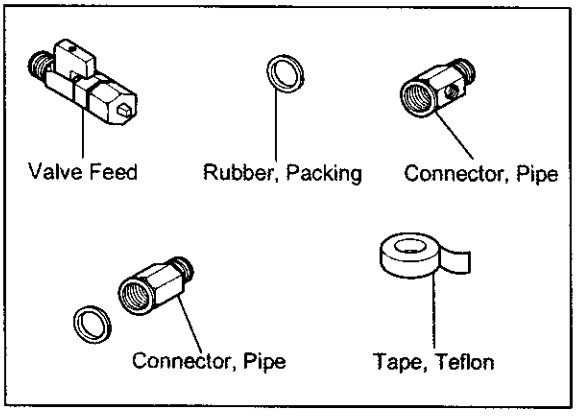
7-1. HOW TO INSTALL WATER PIPE

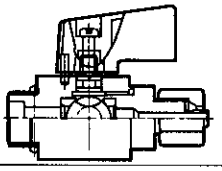
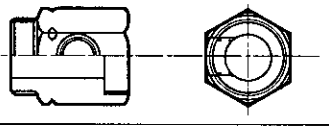
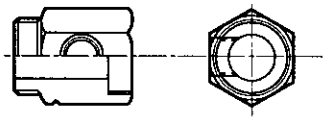
■ Before Installation

1. The icemaker requires the water pressure of 1.5 - 8.5kgf/cm². (It is acceptable if city water fills a cup of 180cc with water for 3 seconds)
2. Install booster pump where the city water pressure is below 1.5kgf/cm² for normal operation of Ice Maker.
3. The total length of water pipe shall be less than 10m. Do not bend the pipe at right angle. If the length is more than 10m, there will be troubles on water supply due to water pressure drop.
4. Please install water pipe where there is no heat around.

7-1-1. When connecting directly to the water tap.

■ Please confirm the following installation parts.

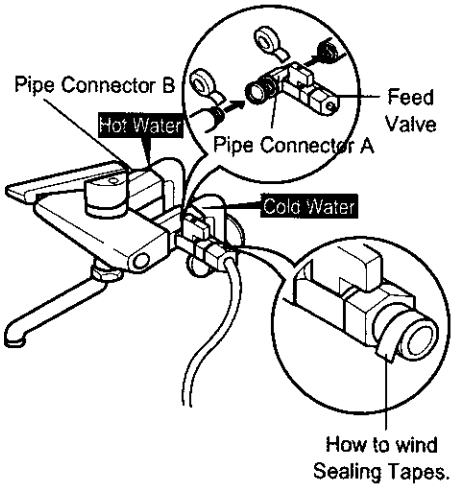


Class.	Shape and Spec.	Nomenclature	P/No	Remarks
Conve-rtible Water Valve		Valve Feed	5221JA3001A	Common Use
Water Conn-ector		Connector, (MECH) Pipe Conversion Connector(3/4") Balance Conector(3/4") Packing(ø24x3t)	4932JA3003A 6631JA3004A 6631JA3004B 3920JA3001B	No Holes
	Connector, (MECH) Pipe 	4932JA3003B Conversion Connector(W25) Balance Conectoor(W25) Packing(ø23x3t)	6631JA3004C 6631JA3004D 3920JA3001A	No Holes
		Connector, (MECH) Pipe Conversion Connector(W28) Balance Conector(W28) Packing(ø26x3t)	4932JA3003C 6631JA3004E 6631JA3004F 3920JA3001C	No Holes
		Connector, (MECH) Pipe Conversion Connector(1/2") Balance Conector(1/2") Packing(ø19x3t)	4932JA3003D 6631JA3004G 6631JA3004H 3920JA3001D	No Holes

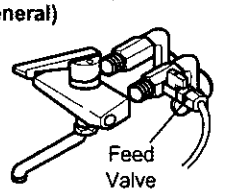
7-1-2. Connection of Pipe Connector A and B.

1) Turn off main valve of water pipe.
2) Disconnect water tap from piping by loosening nuts.
3) Connect pipe connector A and B to piping after sealing the pipe connector with sealing tapes.
4) Connect feed valve to pipe connector A.
5) If there is only one tap water pipe, connect pipe connector A only and install feed pipe.

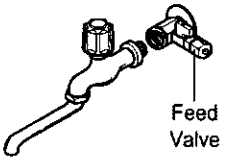
Caution : • Feed pipe should be connected to cold water line. If it is connected to hot water line, trouble may occur.
• Please check rubber packing when connecting feed pipe.



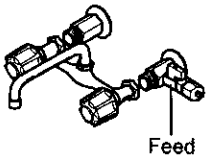
Single Lever Type Faucet (general)



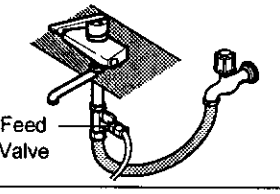
General Type



Two Hands Type Faucet

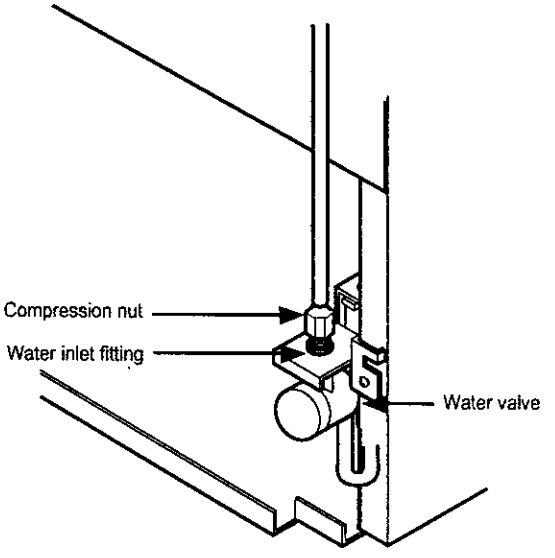


Single Lever Type Faucet (one hole, tech type and hand spray)



7-1-3. Water Supply

1) Check leakage at connecting part, then arrange water tube and locate the refrigerator at its regular place if there is no leaking.

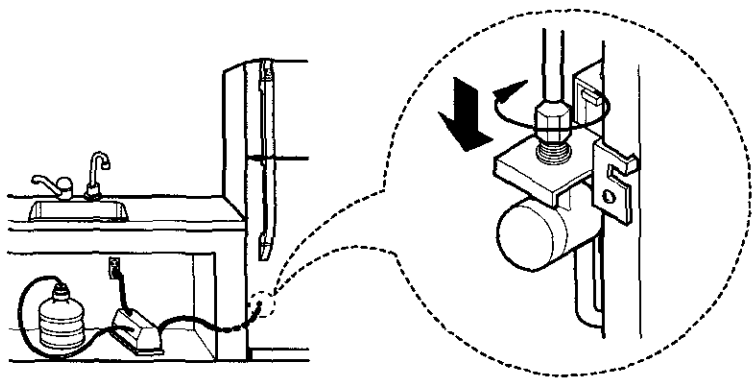


7-1-4. When customer uses bottled water.

*If customer wants to use bottled water, extra pump should be installed as shown below.

1. The pump system should not be on the floor (it may cause noise and vibration). Securely fasten the inlet and outlet nuts of pump.
2. If there is any leakage after installation, cut the water tube at right angle and reassemble.
3. When put the water tube end into the bottle, leave a clearance between bottle bottom and water tube end.
4 Check water coming out and any leakage.

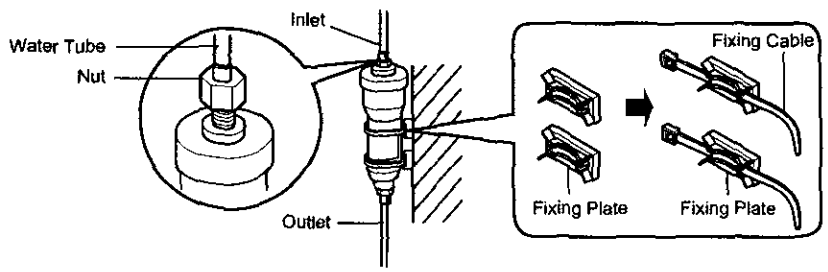
Caution : • If feed tube is more than 4m, less water will come out due to pressure drops.
• Use standard feed tube to prevent leaking.



■ Outternal Filter (optional)

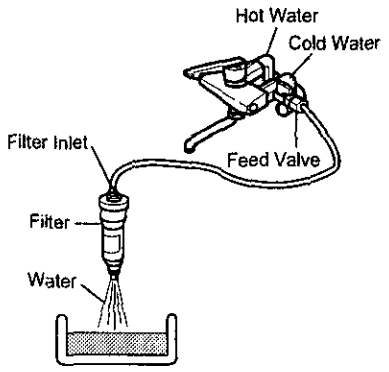
1. Filter Fixation

1) Connect feed tube to the filter outlet and water valve connecting tube.
2) Fix the filter at proper place around the sink where it is easy to replace the filter and to receive the cleaning water. Please consider the length of tube shall be less than 12m when locating filter.
3) When fixing the filter, use fixing plate and cable depending on the surrounding conditions.

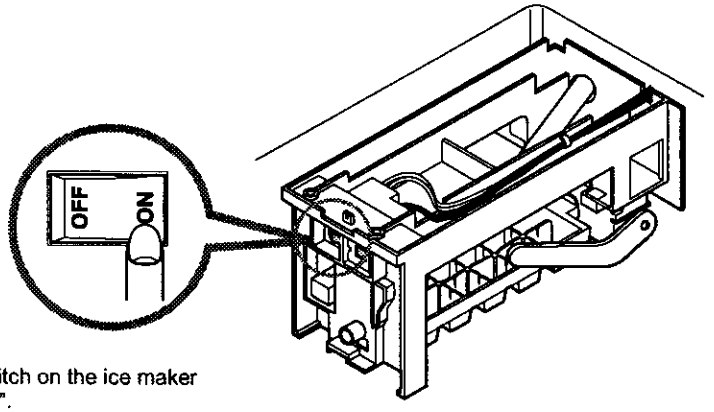


2. Filter Cleaning

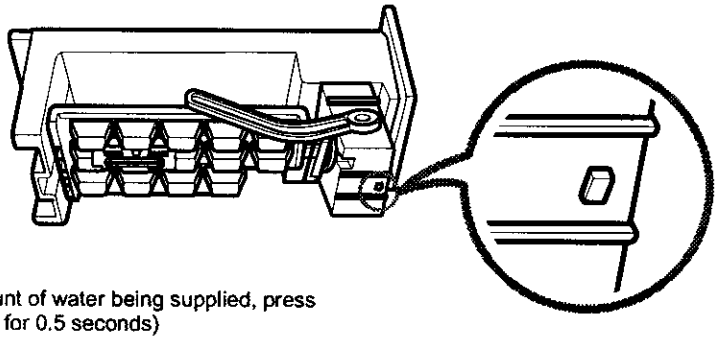
1) Connect feed tube to the inlet of feed valve and filter.
2) Clean the main valve and feed valve with water for at least one minute until clean water comes out.



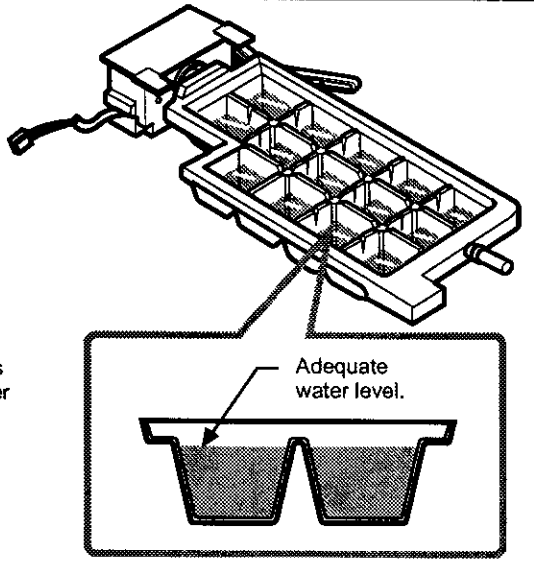
7-2. STARTING THE ICE MAKER



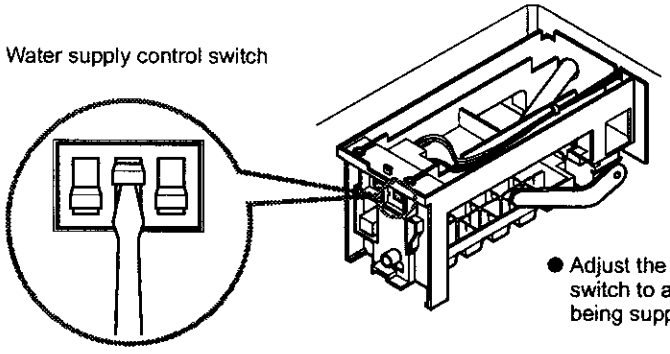
● Make sure the switch on the ice maker assy is turned "on".



● To check on the amount of water being supplied, press the Test button. (Hold for 0.5 seconds)



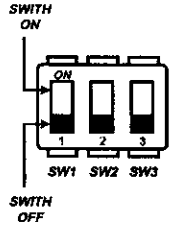
● If only a small amount of water is put in the ice tray as the diagram above, the water supply must be adjusted.



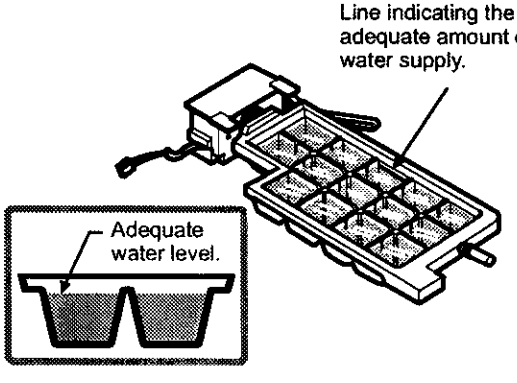
● Adjust the water supply control switch to adjust the amount of water being supplied.

● Refer to the water supply time control option table on the right to extend the supply time.

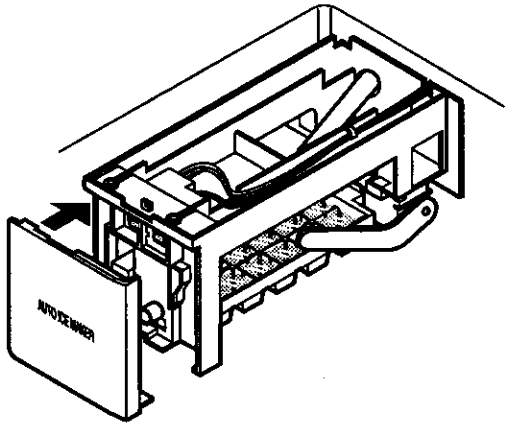
WATER SUPPLY TIME CONTROL OPTION



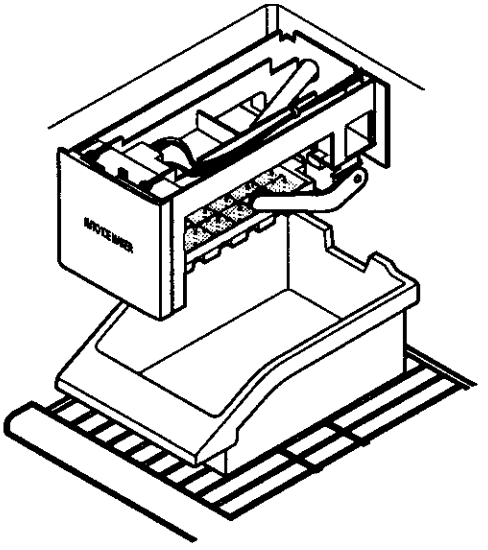
SWITCH NO			TIME
SW1	SW2	SW3	
OFF	OFF	OFF	10.5 sec
ON	OFF	OFF	9 sec
OFF	ON	OFF	10 sec
ON	ON	OFF	11 sec
OFF	OFF	ON	12 sec
ON	OFF	ON	13 sec
OFF	ON	ON	14 sec
ON	ON	ON	15 sec



● Make sure it is adjusted to meet the line indicating the adequate amount of water supply.



● Place the cover on the ice maker.



● Clean the ice storage box and place it under the ice maker. (see the figure above)
The ice storage will eventually be located on the freezer shelf.

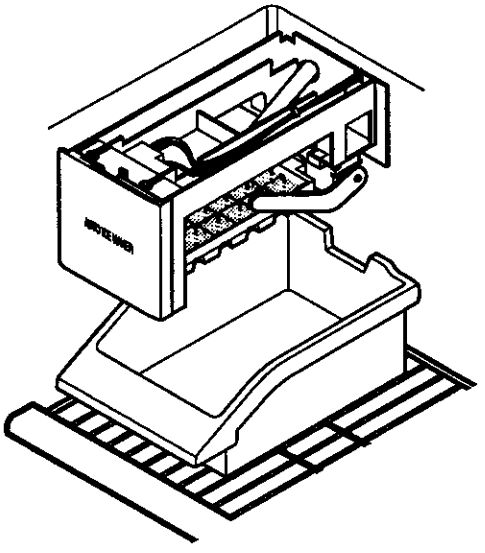
CAUTION.

It takes the ice maker 24 hours to start making ice. If ice is made, the ice will be 'off taste'. If this happens, throw away the ice 2~3 times before using.

This will get rid of the "off taste". If any problems appear, refer to 'Troubleshooting'(see page 25).

This will complete the ice maker installation process.

Also, check on the location of the ice maker. If it is bent or needs to be adjusted, unscrew the screws to adjust the location. Then, install the screws again. (as shown in the diagram below)



7-3. TROUBLESHOOTING

Operational Notes

1. The ice maker water valve contains a flow washer that acts like a pressure regulator to control the water flow. For the ice maker to work properly, the water pressure in your home must be between 20 and 120 pounds-per-square-inch(psi). If you encounter problems with your ice maker's ability to produce ice, call your water utility company and have the water pressure checked.
2. The ice maker's water valve is equipped with two strainers; a plastic basket type and a wire-mesh screen. Both of these can be cleaned by turning off the water and disassembling the water valve (your service center should be able to provide this service). If local water conditions require periodic cleaning, or if you use a well as a water source, you should consider installing a second water strainer in the water line. You can obtain a water strainer from your local appliance dealer.

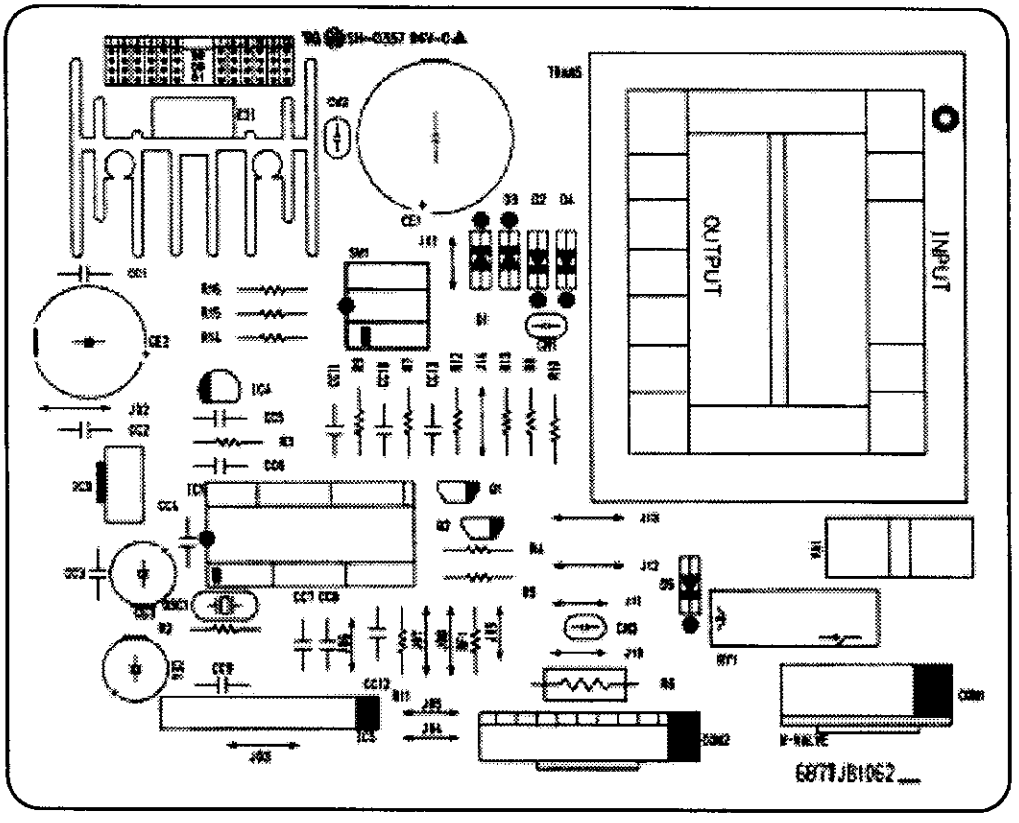
TROUBLESHOOTING CHART

The following chart lists several common problems that could occur with your ice maker.

PROBLEM	CAUSE
One or more of the following sounds is heard: 1. Buzzing 2. Trickling water 3. Thud (clatter of ice)	The water valve is operating. Water is entering the ice maker fill cup. Ice is being dumped into the ice bin.
Ice tastes stale.	The ice is old. Make a new batch. Water in ice maker overflows.
Refrigerator or ice maker is not level.	If the ice maker still overflows after leveling, turn off the ice maker's water supply at the shut-off valve. Raise the ice maker's bail arm to the "off" position. Contact your local service center.
Not enough ice.	Freezer door is being opened too often. Adjust the Air Control or Freezer Control for a colder setting.
Ice making has stopped.	Be sure that the bail arm is lowered into the ice bucket. Make sure that the water shut-off valve is on. The water shut-off valve or the water valve screen is clogged (contact your local service center).

7-5 Main PWB Assembly and Parts List

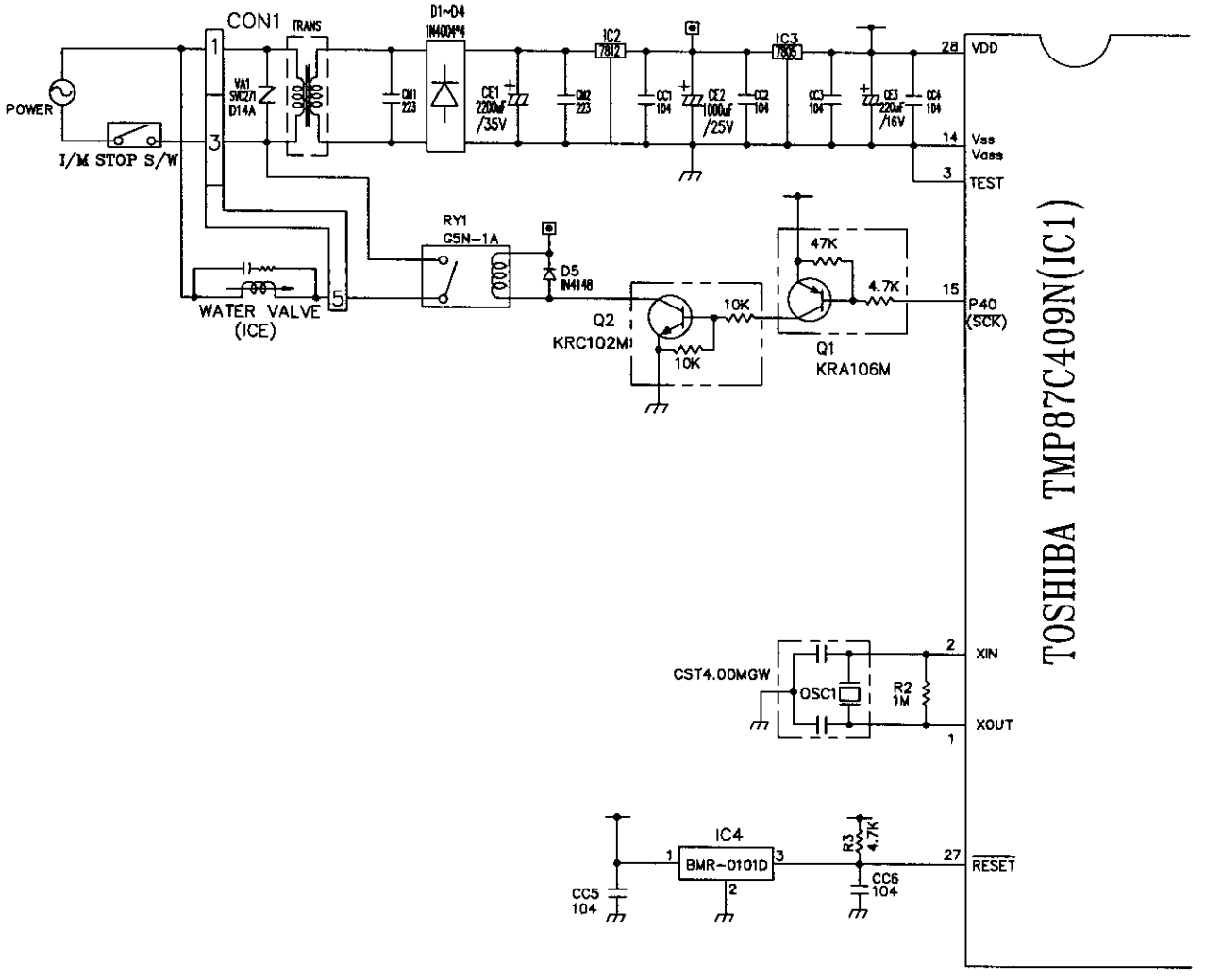
7-5-1 MAIN PWB

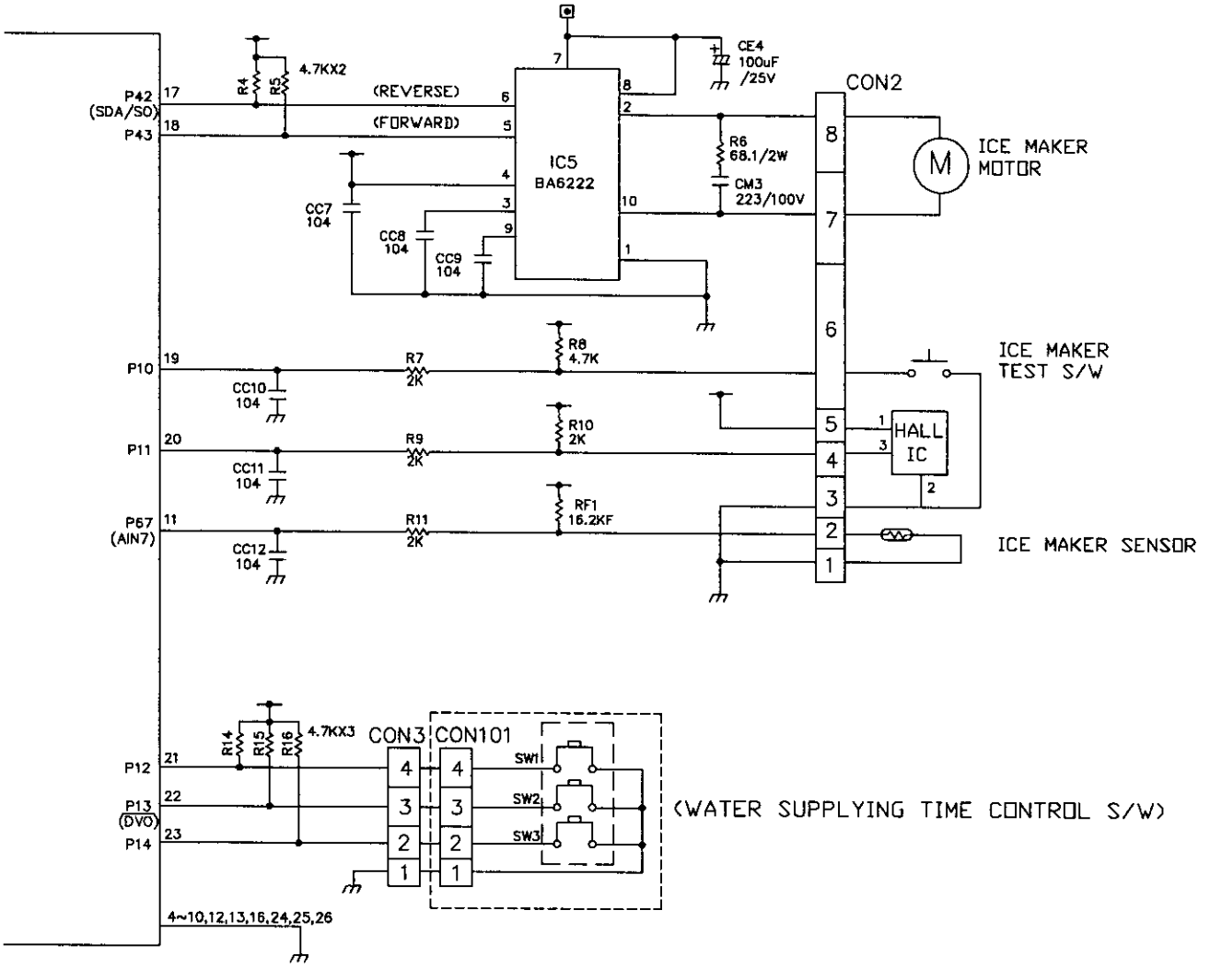


7-5-2 Replacement Part List

NO.	DWG. NO.	DESCRIPTION	SPEC	MAKER	REMARK
1	6870JB2039	PWB,MAIN	FR-1(DS-1107A)	DOO SAN	t=1.6
2	6170JB2002	TRANS PCB	I:117V,O:15V	TAE SUNG	TRANS
3	6630JB8001B	WAFER	4202-11-03(SP-2.5)	JAE EUN	CON1
4					
5	6630JB8004C		SMW250-08	YEON HO	CON2
6	6630JB8004D		SMW250-04		CON3
7	0ZZJB2004A	MICOM CHIP	TMP87C409N	TOSHIBA	IC1(=0ZZJB2004B)
8	0IRH178050B 0IKE780500A	REGULATOR	(1)BA17805T (2)KIA78S05P	ROHM KEC	IC3
9	0IRH178120A 0IKE781200B	REGULATOR	(1)BA17812T uPC7812AHF	ROHM NEC	IC2
10	0IKE704200A 0IKD010100A	RESET IC	KIA7042P BMR-0101D	K.E.C KODENSHI	IC4
11	6920JB2003A	RELAY	G5N-1	OMRON	RY1
12	J570-00012A	RESONATOR	CST4.00MGW	MURATA	OSC1
	J570-00012B		CST4.00MGW-TF01		(=6212AQ8002B)
13	J572-00001C (=6102AQ8075A)	VARISTOR	(1)INR14D471 (2)SVC471D-14A	L JIN SAMHWA	VA1
14	6102JB8001B		(1)INR14D621	L JIN	
15	6102JB8001A		(2)SVC621D-14A	SAMHWA	
16	J572-00001D 6102JB8003A		(1)SVC271D-14A (2)INR14D271	SAMHWA L JIN	
17	0DD414809BB	SWITCHING DIODE	1N4148	(1)P C (2)ROHM	D5
18	0DD400409CC	DIODE,RECTIFIER	1N4004	(1)P C (2)ROHM	D1~D4
19	6600JB8003A	DIP S/W	3P,DIP	OTAX	SW1
20	0IRH622200A	DRIVE IC	BA6222	ROHM	IC5
21	0CE2286J618	ELE CAPACITOR	2200uF/35V	(1)SAM HWA (2)SAM YOUNG	CE1
22	0CE1081H618		1000uF/25V		CE2
23	0CE107WH638		100uF/25V		CE4
24	0CE4771H618		470uF/25V		
25	0CE2271F638		220uF/16V		CE3
26	0CE4761H638		47uF/25V		
27	0CQ2231M409	MYL' CAPACITOR	223/100V	SEIL	CM1~CM3
28	0CK1020H908	CER' CAPACITOR	102/25V	TAE YANG	
29	0CK2230H908		223/25V		
30	0CK1040H908		104/50V		CC1~12
31					
32	0RD0682H609	R,CARBON FILM	68J 1/2W	(1)JO YANG (2)K-OHM (3)DONG HO (4)SUNG YO	R6
33	0RD2001G608		2KJ 1/4W		R7,R9~11
34	0RD4701G609		4.7K 1/4W		R3~5,8 R14~16
35	0RD1004G608		1MJ 1/4W		R2
36	0RN1612G408	R,METAL FILM	16.2KF 1/4W		RF1
37					
38					
39	0TR106009AC	TRANSISTOR	KRA106M(KRA226)	K.E.C	Q1
40	0TR102009AB	TRANSISTOR	KRC102M(KRC1202)	K.E.C	Q2
41	43607015	JUMP WIRE	0.6*5mm		J01,J04~J06 J09~J11,CC13 J02,J03,J07 J08,J12~J14
			0.6*8mm		
			0.6*10mm		
			0.6*12.5mm		
			0.6*15mm		
42	4920JB3003A	HEAT SINK(12V)	(=J572-00004A)		(IC2)
43	4920JB3001A	HEAT SINK(5V)	(=J572-00002A)		
44	1S8F0302418	SCREW	ASSEMBLE WITH H/SINK		
45	49111001	SOLDER	ALMIT KR-19RMA	HEE SUNG SOLD'	
46	49111004	SOLDER LEAD BAR	H63A		
47	59333105	FLUX AUTO	JS71	KOKI	
48					

7-6 PWB DIAGRAM



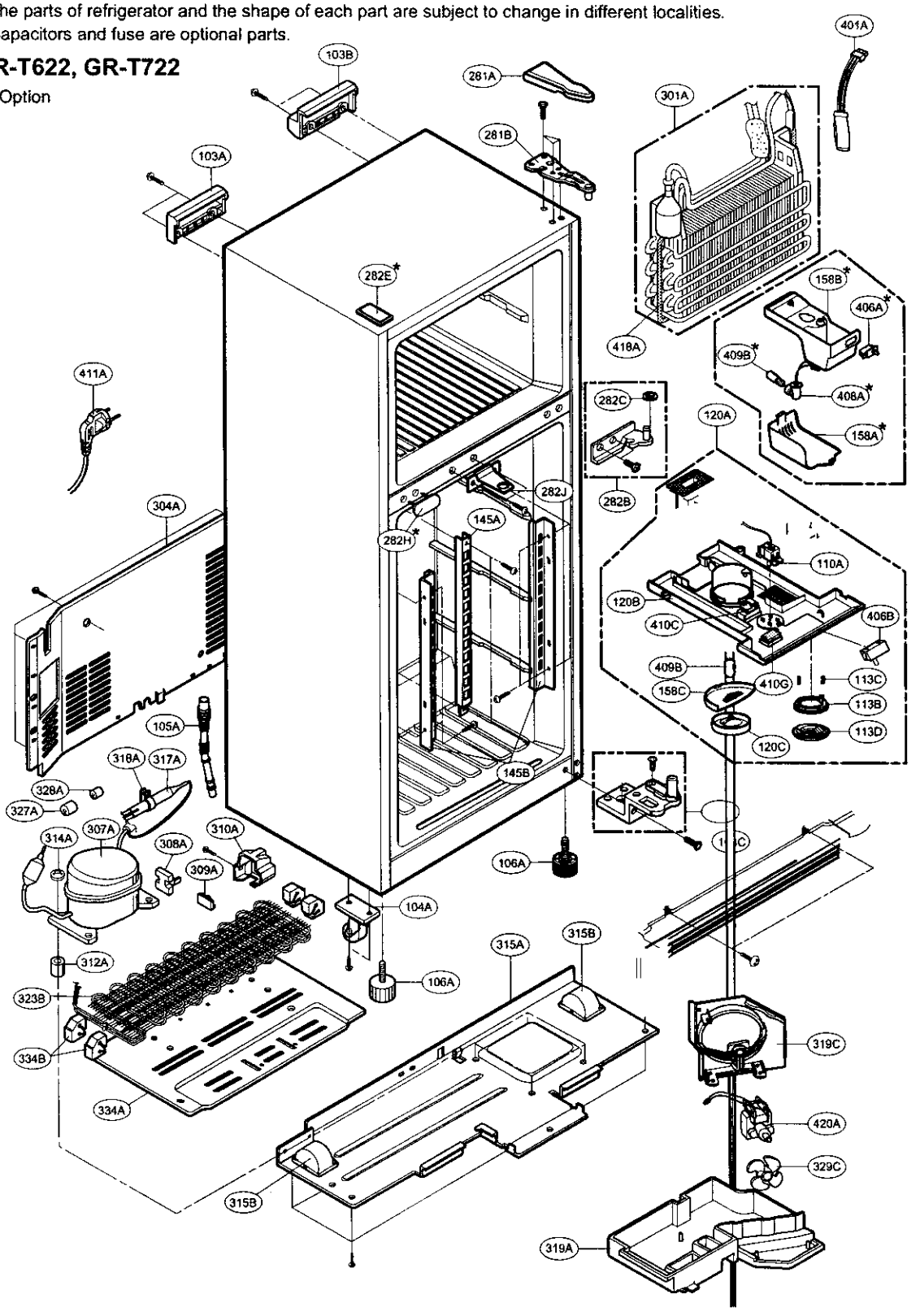

P42
(SDA/SO)
P43
P10
P11
P67
(AIN7)
P12
P13
(DVO)
P14
4~10,12,13,16,24,25,26
4.7KX2
4.7KX3
(REVERSE)
(FORWARD)
IC5
BA6222
CE4
100uF
/25V
R6
68.1/2W
CM3
223/100V
CC7
104
CC8
104
CC9
104
CC10
104
CC11
104
CC12
104
R7
2K
R8
4.7K
R9
2K
R10
2K
R11
2K
RF1
16.2KF
CON2
ICE MAKER
MOTOR
ICE MAKER
TEST S/W
HALL
IC
ICE MAKER SENSOR
CON3
CON101
SW1
SW2
SW3
(WATER SUPPLYING TIME CONTROL S/W)

8. EXPLODED VIEW & REPLACEMENT PARTS LIST

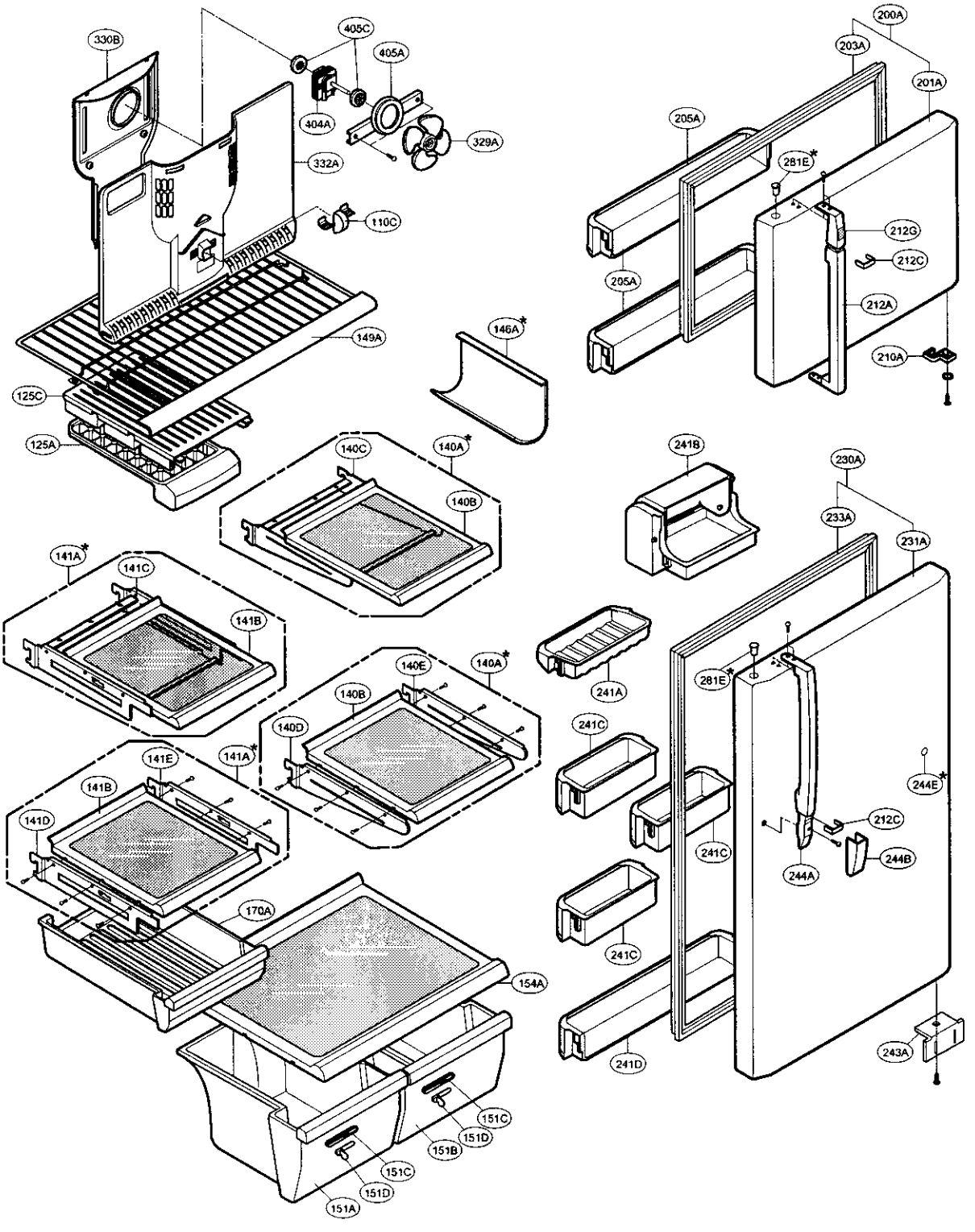
▼ The parts of refrigerator and the shape of each part are subject to change in different localities.
▼ Capacitors and fuse are optional parts.

GR-T622, GR-T722

* : Option



* : Option


330B
405C
405A
404A
329A
332A
110C
149A
146A*
125C
125A
140C
140A*
140B
141A*
141C
141B
140E
140A*
140B
140D
141A*
141E
141B
141D
170A
154A
151C
151D
151B
151C
151D
151A
200A
203A
201A
205A
281E*
212G
212C
205A
212A
210A
241B
230A
233A
231A
241A
281E*
241C
241C
241C
241D
244E*
212C
244B
244A
243A

ICE MAKER PART

* : Option