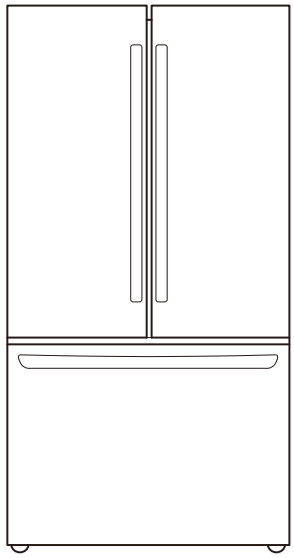
CONFIDENTIAL

REFRIGERATOR

SERVICE MANUAL

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



MODEL : LFCC22426S*

CONTENTS

SAFETY PRECAUTIONS

Please read the following instructions before servicing your refrigerator.

1. Unplug the power before handling any elctrical componets.
2. Check the rated current, voltage, and capacity.
3. Take caution not to get water near any electrical components.
4. Use exact replacement parts.
5. Remove any objects from the top prior to tilting the product.

1. SPECIFICATIONS

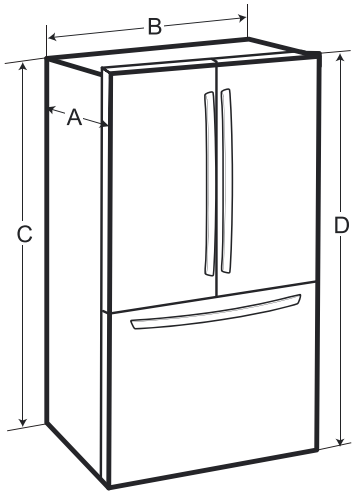
1-1 LFCC22426S

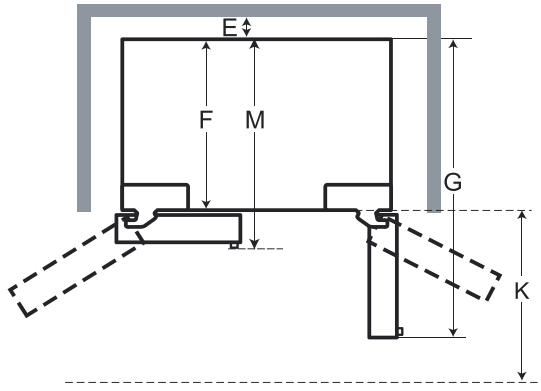
- **22.8 cu.ft.**

ITEMS	SPECIFICATIONS
DOOR DESIGN	Side Rounded
DIMENSIONS (inches)	35 ¾ X 31 ¼ X 69 ¾ (WXDXH)
NET WEIGHT (pounds)	22.8cu.ft. 114kg (251lb)
COOLING SYSTEM	Fan Cooling
TEMPERATURE CONTROL	Micom Control
DEFROSTING SYSTEM	Full Automatic
	Heater Defrost
DOOR FINISH	PCM, Stainless
HANDLE TYPE	Bar
INNER CASE	ABS Resin
INSULATION	Polyurethane Foam

ITEMS		SPECIFICATIONS
VEGETABLE TRAY		Clear Drawer Type
COMPRESSOR		Linear
EVAPORATOR		Fin Tube Type
CONDENSER		Wire Condenser
REFRIGERANT		R600a (56g)
LUBRICATING OIL		ISO10 (280 ml)
DEFROSTING DEVICE		SHEATH HEATER
LAMP	REFRIGERATOR	LED Module
	FREEZER	LED

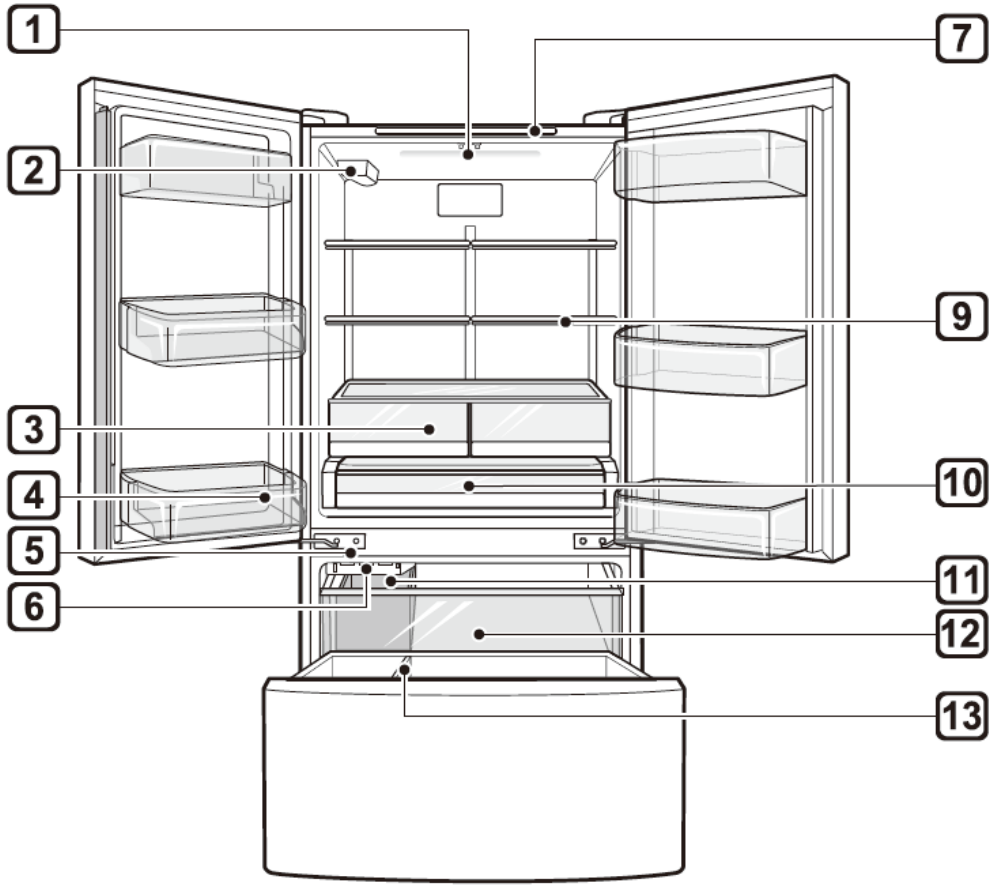
- **DIMENSIONS**





-	List	LFXC22526*
A	Depth without handle	28 3/4" (728 mm)
B	Width	35 3/4" (908 mm)
C	Height to Top of Case	68 3/8" (1737 mm)
D	Height to Top of Hinge	69 3/4" (1772 mm)
E	Back Clearance	2" (50 mm)
F	Depth without Door	24 3/4" (630 mm)
G	Depth (Total with Door Open 90°)	43 1/2" (1103 mm)
K	Front Clearance	24" (610 mm)
M	Depth With handle	31 1/4" (792 mm)

2. PARTS IDENTIFICATION



1 **LED Interior Lighting**

Lights up the inside of the refrigerator.

2 **Water filter**

Purifies water.

3 **Crisper**

Helps vegetables and fruit to stay crisp.

Humidity Controlled Crisper

Helps vegetables and fruit to stay crisp and controls humidity.

4 **Fixed Door Bin**

Stores chilled food or drinks.

5 **Auto-Closing Hinge**

Closes the refrigerator doors and freezer drawers automatically.

6 **Automatic Icemaker (Freezer)**

Produces and stores ice automatically in freezer compartment.

7 **Control Panel**

Sets the refrigerator and freezer temperatures.

9 **Adjustable Refrigerator Shelf**

Adjustable shelves to meet individual storage needs.

10 **Glide'N'Serve**

Stores food items at a different temperature than the regular refrigerator area.

11 **Removable Ice Storage Bin**

Stores ice produced by the icemaker.

12 **Pullout Drawer**

Provides extra storage within the freezer compartment.

13 **Durabase® and Durabase® Divider**

Provides storage for large food items.

3. DISASSEMBLY

● **3-1 Removing Refrigerator Door**

⚠ **CAUTION :** Before you begin, unplug the refrigerator. Remove food and bins from doors.

●Left Door -FIG. 1&2

1. Open door. Loosen top hinge cover screw (1).
   Use flat tip screwdriver to pry back hooks on front underside of cover (2). Lift up cover.
2. Disconnect door switch wire harness and remove the cover.
3. Disconnect all wire harnesses (3). Remove the grounding screw (4).
4. Rotate hinge lever (5) counterclockwise. Lift top hinge (6) free of hinge lever latch (7).

⚠ **CAUTION:** When lifting hinge free from the latch, be careful that door does not fall forward.

5. Lift the left refrigerator door until it is free of the middle hinge assembly and remove door.
6. Place the door with the insides facing up, on a not scratch surface.

●Right Door -FIG. 3&4

1. Open the door, Loosen top hinge cover screw (1). Lift up cover (2).
2. Disconnect all wire harnesses (3).
3. Remove the grounding screw (4)
4. Rotate hinge lever (5) clockwise. Lift top hinge (6) free of hinge lever latch (7).

⚠ **CAUTION:** When lifting hinge free from the latch, be careful that the door does not fall forward.

5. Lift the right refrigerator door until it is free of the middle hinge assembly and remove door.
6. Place the door with the insides facing up, on a not scratch surface.

Figure 1

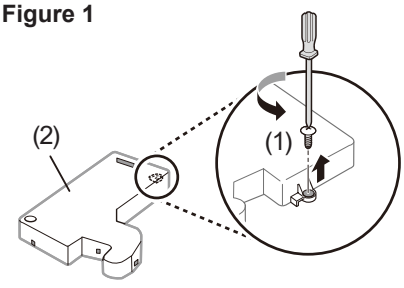
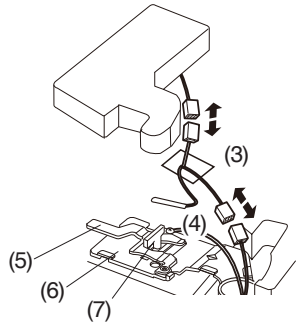


Figure 2



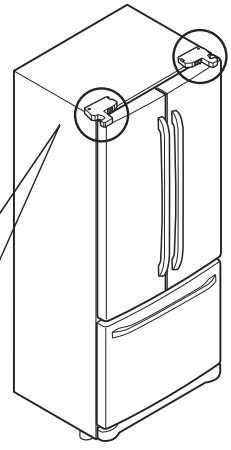


Figure 3

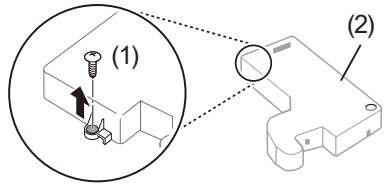
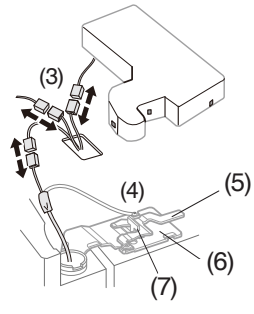


Figure 4



3-2 DOOR

● **Mullion Removal**

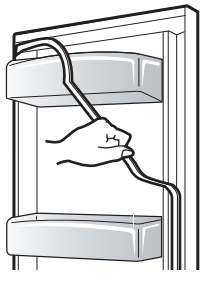
1. **Remove 2 screws.**

2. **Lift Mullion up carefully.**

3. **Disconnect wire harness.**

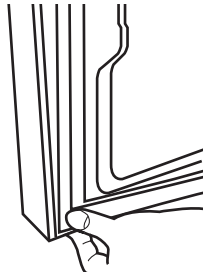
● **Door Gasket Removal**

1. **Remove gasket**
   Pull gasket free from gasket channel on the four remaining sides of door.



● **Door Gasket Replacement**

1. **Insert gasket into channel**
   Press gasket into channels on the four remaining sides of door.



● **Mullion Replacement**

1. **Connect wire harness.**

2. **Insert mullion into the channel.**
   Insert the cover assembly into bracket, door.

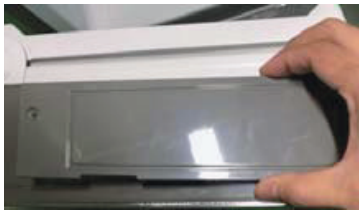
3. **Assemble 2 screws.**

3-3 Sub PCB For Working Dispenser

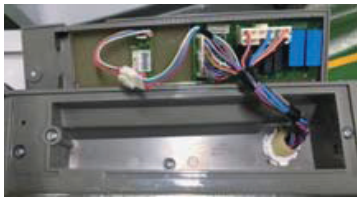
● Sub,PCB Removal

1. Remove 1 Screw.

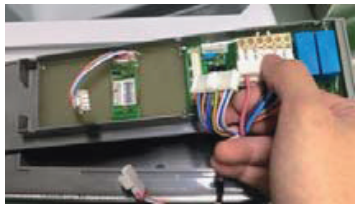
2. Lift Sub PCB up carefully.



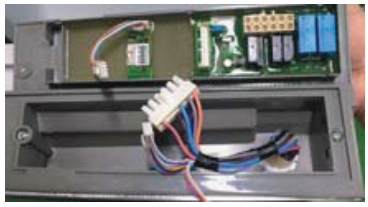
3. Reverse the Suc PCB cover.



4. Disconnect capacitor housing.



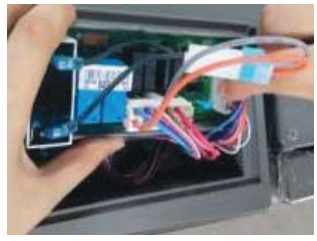
5. Disconnect wire harness.



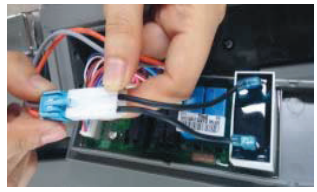
● Sub,PCB Replacement

1. Reverse the Sub PCB cover.

2. Connect wire harness.

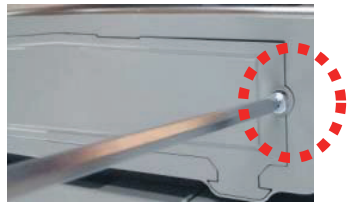


3. Connect the capacitor housing.



4. Insert the Sub PCB sideling.

5. Assemble 1 screw.

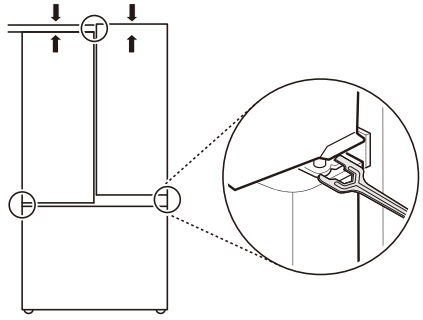


3-4 Door Alignment

Both the left and right refrigerator doors have an adjustable nut, located on the bottom hinge, to raise and lower them to align properly.

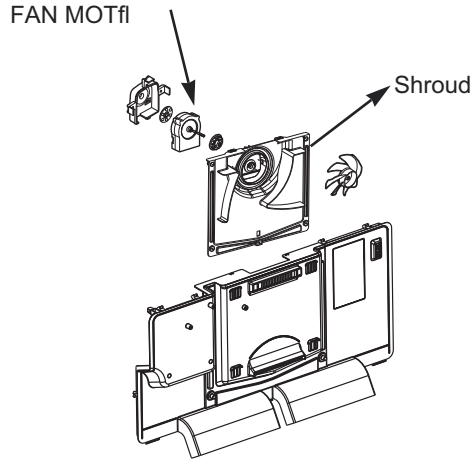
If the space between the doors is uneven, follow the instructions below to align the doors evenly:

Use the wrench (included with the owner's manual) to turn the nut in the door hinge to adjust the height. Turn the nut to the right to raise the door or to the left to lower it.



3-5 FAN AND FAN MOTOR(EVAPORATOR)

1. Remove the freezer drawer. (If your refrigerator has an icemaker, remove the icemaker first)
2. Remove the plastic guide for slides on left side by unscrewing phillips head screws.
3. Remove the grille by removing 4 screws and pulling the grille forward.
4. Remove the Fan Motor assembly by loosening 3 screws



* Ice Fan Assembly Replacement

1) Remove the plastic guide on the left side, using a
2) Pull off the sensor cover.
3) Remove the grill cover.
4) Gently pull on the grill assembly to remove.
5) Disconnect the wiring harness.
6) Remove all screws on the scroll assembly.

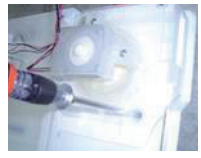

(1)


(2)


(3)


(4)


(5)

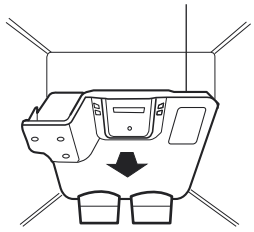

(6)

3-6 DEFROST CONTROL ASSEMBLY

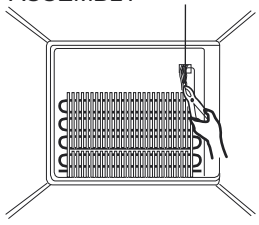
Defrost Control assembly consists of Defrost Sensor and FUSE-M.
The Defrost Sensor works to defrost automatically. It is attachd to the metal side of the Evaporator and senses its temperature. At 46°F(8℃), it turns the Defrost Heater off.
FUSE-M is a safety device for preventing over-heating of the Heater when defrosting.

1. Pull out the grille assembly.
2. Separate the connector with the Defrost Control assembly and replace the Defrost Control assembly after cutting the Tie Wrap.

GRILLE ASSEMBLY



DEFROST-CONTROL ASSEMBLY



3-7 Lamp

Unplug, or disconnect power at the circuit breaker.
If necessary, remove top shelf or shelves.

3-7-1 Refrigerator Compartment Lamp

1) Pull out cover lamp as using sharp-edged tool.

2) To remove the LED assembly.

LED Assembly

3) Decor Duct(Grille) SVC.

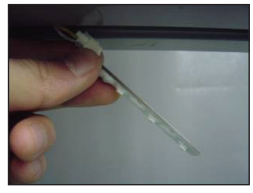
Remove the Decor Duct with tools like flat-head screwdriver.

3-7-2 Cap Decor LED LAMP(Bottom)

1. Unplug refrigerator power cord from electric outlet.
2. Open the refrigerator door to need diassembly.
3. Put flat screwdriver into service hole, remove the cover of cap decor LED LAMP.

4. Remove the LED assembly from connector.

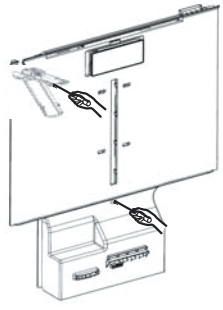
5. Replace LED assembly.



6. Assembly the cover in reverse order.

3-8 Multi Duct

1. Remove the screw at the Center of Duct Multi
2. Remove the screw and cover filter
3. Disconnect the lead wire on the bottom position



3-9 MAIN PWB

1) Loosen 3 screws on the PWB cover.

2) Remove the PWB cover.

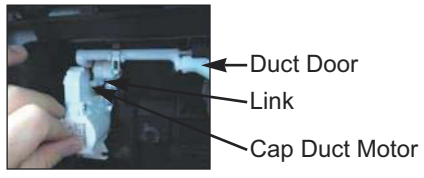
3) Disconnect wire harness and replace the main PWB in the reverse order of removal.

3-10 CAP DUCT MOTOR REPLACEMENT

1) Separate the Housing of the Cap Duct Motor.

2) Unscrew 3 screws to disassemble the motor.

3) When replacing the motor, check the position of the door duct and the link for proper fit.



4) Insert 2 screws.

5) Push housing aside.

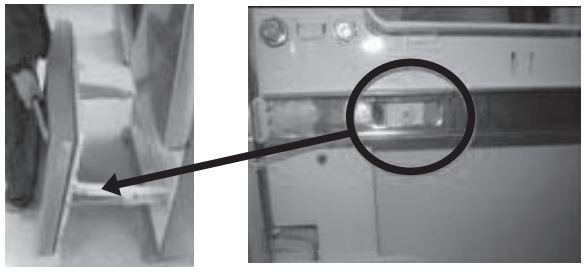
3-11 HOW TO REMOVE AND REINSTALL THE PULLOUT DRAWER

3-11-1 Follow Steps to Remove

Step1) Open the freezer door.

Step 2) Remove the lower basket.

Step 3) Remove the two screws from the guide rails.
(one from each side)



Step 4) Removal of the freezer door is done by lifting clear of the rail support.
Fully extend both rails.

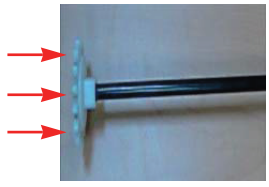
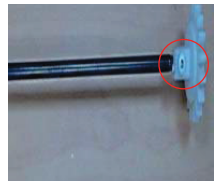
Step 5) Remove only 1 screw of gear ice, and disassemble the bar and gear ice.

Step 6) Remove 2 screws of both side of supporter cover TV and disassembly the supporter cover TV.

3-11-2 Follow Steps to Reinstall

Step 1) Insert both side of supporter cover TV into connector rails, and then screw them.


Step 2) ① Assemble a bar and gear ice with screw.
② Push the otherside of the gear to inside of the bar.

Step 3) Put gear ice assembled with the bar by screw into connector rail's hole.

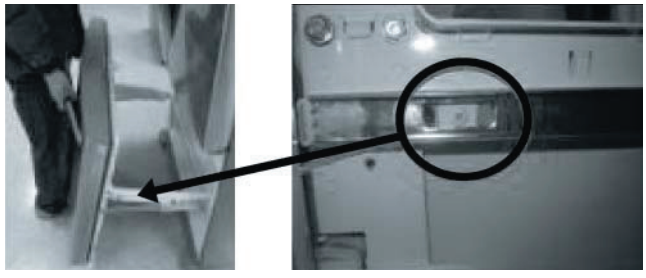
Step 4) Insert opposite gear ice into connector rail and screw them


Step 5) The rail system will align itself by pushing the rails all the way into the freezer section.
Pull the rails back out to full extension.


Step 6) Reinstall the freezer door by inserting the rails tabs into the guide rail.

* Assemble them like as pictures


Step 7) Reinstall the two screws into the guide rails.
(one from each side).

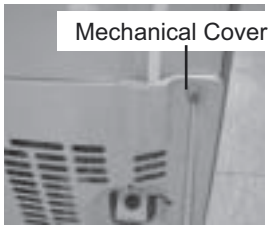


Step 8) Reinstall the lower basket, and close the freezer door.

3-12 WATER VALVE DISASSEMBLY METHOD

1) Turn off the water to unit. Remose the waterline from the valve.

2) Remove cover and 1 screw from the valve.



3) Separate the housing and remove the valve.

Figure 62

4) Remove the clip, and press the collet to separate the tube from the connector. Note: there maybe some water in the line.

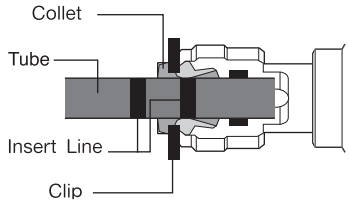


Figure 63

3-13 FAN MOTOR ASSEMBLY AND DISASSMEMBLY METHOD

1) Remove screws for the Drain Pipe Assembly and the 1 connected to the Motor Cover.

2) Remove the screw from shroud and Separate the Fan motor assembly and Shroud.

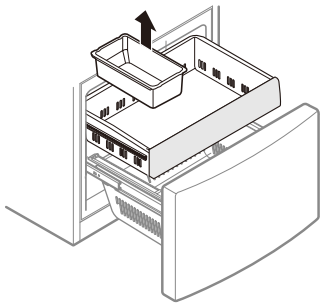
Assemble in reverse order. Taking care to avoid.

1. Do not to bend the tube during assembly.
2. Press the Water Dispenser button letting water pour out, this checks for any leaks in the tube connection, this may vary depending on the water pressure (about 2 minutes.).

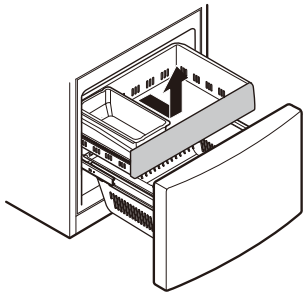
3-14 DRAWER REMOVAL

1) Pull the drawer open to full extension.

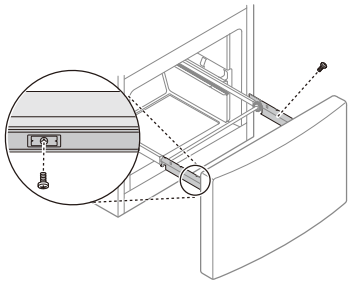
2) Gently lift and pull out the ice bin.



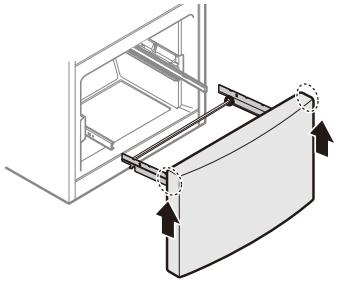
3) Lift the front of the drawer up,
then pull it straight out.



4) Remove the Durebase basket from the rails.
Remove the screws from the rails at both ends.



5) Grip both sides of the drawer and pull it up to
remove it from the rails.

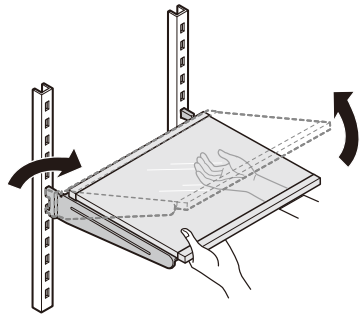


3-15 HOW TO REMOVE AND REFIT THE FRIDGE SHELF

3-15-1 Removing the Fridge Shelf

1) Tilt the front of the shelf up and then lift the shelf straight up.

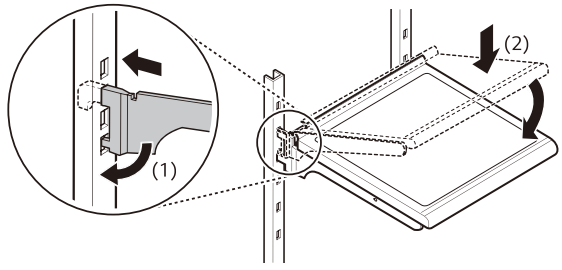
2) Lower the front of the shelf so that the hooks into the holes.



3-15-2 Refitting the Fridge Shelf

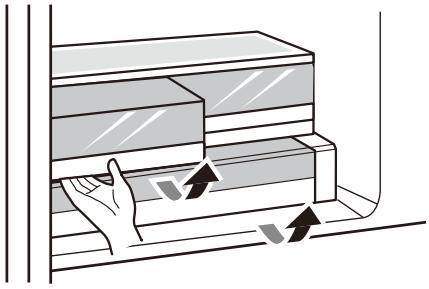
1) Tilt the front of the shelf up and guide the shel
hooks into the holes at the desired height.

2) Lower the front of the shelf so that the hooks into the holes.

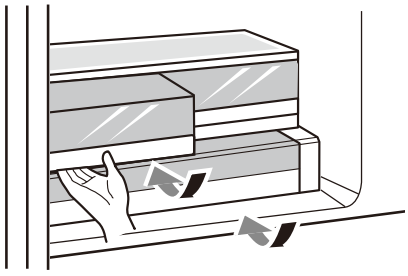


3-16 HOW TO REMOVE THE VEGETABLE DRAWER

1) Remove the contents of the drawer.
   Holde the handle of the drawer and gently pull it out completely until it stops.

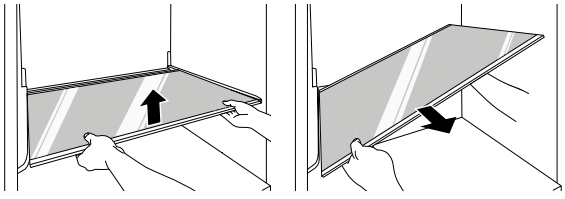


2) Lift the vegetable drawer up and remove it by pulling it out.



3) Repeat to remove the second drawer.

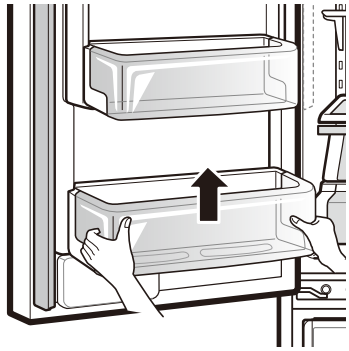
4) Tilt the cover slightly and support it with both hands while pulling it out.h



3-17 HOW TO REMOVE THE DOOR BASKET

1) To remove the basket, simply lift the bin up and pull straight out.

2) To replace the basket, slide it in above the desired support and push down until it snaps into place.



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 Note for Usage

(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 Cover PTC Compressor may fail due to breakdown of their insulating capabilities.
(4) Always use the Parts 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. Use only approved substitute parts.

4-1-3 Remove the cover PTC

(1) Remove the Cover Back M/C

(2) Loosen two screws on comp base

(3) Use a L-shaped flap tooll to pry off the cover
(4) Assembly in reverse order of disassembly

4-2-3 Compressor protection logic

- Since linear Comp conducts linear reciprocating motion, we have protection logic for compressor, motor and PCB as the below.

- Stroke Trip
  During the operation, if stroke is above the target value, decrease the target volt by 3V.

- Current Trip
  Current trip is set in order to protect compressor mechanical part and drive from the overcurrent that might arise during the operation.
  Check the current for every 416.7us and if the Trip exceeds 1.86Arms more than three times at Comp ON, forcibly stop and restart six minutes later.

- Lock Piston Trip
  If stroke is under 5mm even if the current is more than 14Arms, Take it as 'piston lock' and restart after 2'30" of Comp OFF. Check the current and stroke for every 416.7us and if the condition fits more than three times at Comp ON, the Trip occurs.

- IPM fault Trip
  It occurs if FO signal received from IPM is LOW. For every 416.7us, check whether FO signal is LOW. The trip occurs if it is found three times during the five periods(83ms).

5. CIRCUIT DIAGRAM

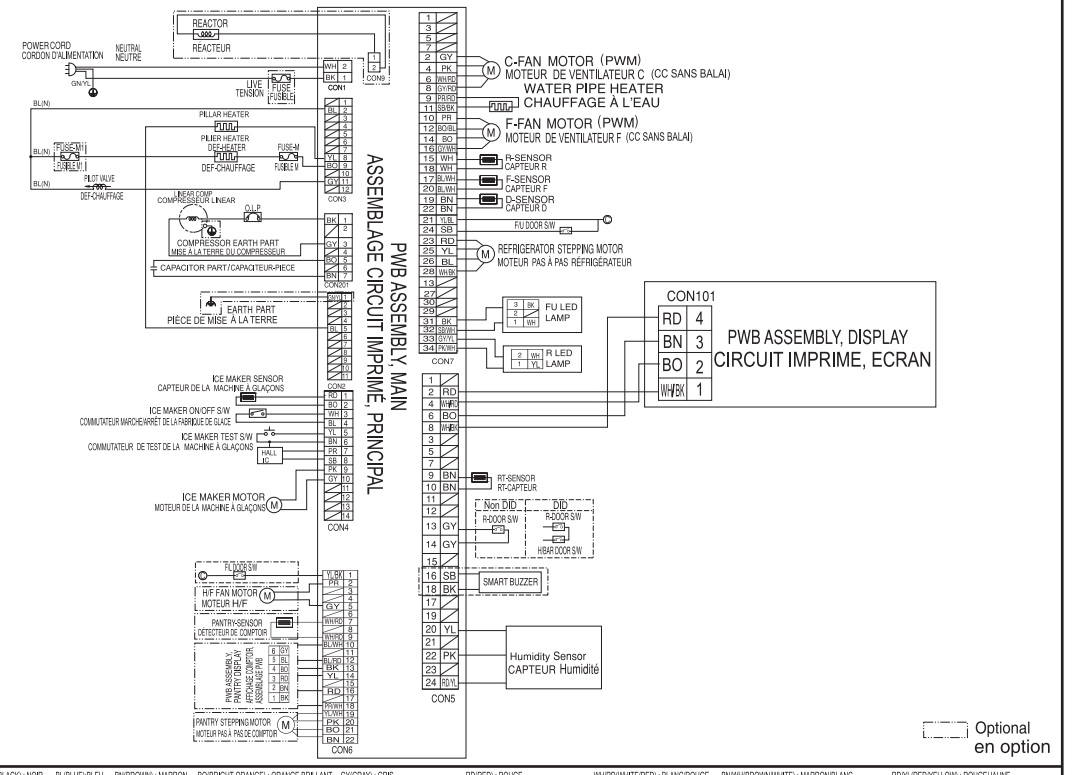
MEZ66414026 (Label,Circuit)

LG Electronics

MEZ66414026_Rev.02

CIRCUIT DIAGRAM

*EARTH PART, REACATOR PART, F-LAMP, F-ROOM LED MODULE, PLUG TYPE AND COMP EARTH PART,FUSE ON CIRCUIT DIAGRAM ARE SUBJECT TO CHANGE IN DIFFERENT LOCALITIES AND MODEL TYPE.
*PIÈCE DE MISE À LA TERRE, RÉACTEUR PARTIE, LAMPE-AVANT, MODULE LED PIÈCE F, LE TYPE DE PRISE,ET DE MISE À LA TERRE DU COMPRESSEUR,ET LES FUSIBLES FIGURANT SUR LE SCHÉMA DU CIRCUIT SONT SUJETS À MODIFICATION SELON LES RÉGIONS ET LE TYPE DE MODÈLE.



BK(BLACK) : NOIR BL(BLUE)/BLEU BN(BROWN) : MARRON BO(BRIGHT ORANGE) : ORANGE BRILLANT GY(GRAY) : GRIS RD(RED) : ROUGE WH(RD/WHITE/RED) : BLANC/ROUGE BN/WH(BROWN/WHITE) : MARRON/BLANC RD/YL(RED/YELLOW) : ROUGE/JAUNE
YL(YELLOW) : JAUNE GN(GREEN) : VERT PR(PURPLE) : PURPLE WH(WHITE) : BLANC WH/BK(WHITE/BLACK) : LANC/NOIR YL/BK(YELLOW/BLACK) : JAUNE/NOIR PR/WH(PURPLE/WHITE) : VIOLET/BLANC BL/RD(BLUE/RED) : BLEU/ROUGE
SB(SKY BLUE) : BLEU/BLANC PK(PINK) : ROSE GN/YL(GREEN/YELLOW) : VERT/JAUNE BL/WH(BLUE/WHITE) : BLEU/BLANC RD/WH(RED/WHITE) : ROUGE/BLANC GY/WH(GRAY/WHITE) : GRIS /BLANC BO(BRIGHT ORANGE/BLUE) : ORANGE BRILLANT/BLEU BO/WH(BRIGHT ORANGE/WHITE) : ORANGE BRILLANT/BLANC

Automatic Icemaker Water ine Hookup/Conexión de la Fábrica de Hielo a la tubería de agua /Raccordement d'une conduite d'eau à la machine à glaçons automatique.

Important

1. In order to prevent possible leakage resulting in property damage.be sure to:
   - •Use Designated Tubing
   - •After installation check for leaks.
   - •It may take up to 24 hours for your icemaker to begin producing ice.
   - •If operating the refrigerator before installing the water connection, turn icemaker to the **OFF** (**O**) position to prevent operating it without water.
   - •All installations must be in accordance with local plumbing code requirements.
   - •Consult **Use and Care Guide** for further information
2. The icemaker needs to be connected to a cold water line with water pressure beetween 20-120psi. If a problem occurs, call your utility company.
3. Do not install the icemaker tubing in areas where temperatures fall below freezing.

Importante

1. Para prevenir fugas, que pudieran causar daños de su propiedad, asegúrese de:
   - •Usar tubería designada.
   - •Después de la instalación verifique si hay fugas.
   - •Puede tomar más de 24 hrs para que su fábrica de hielo comience a producir hielo.
   - •Si comienza a usar el refrigerador antes de instalar la conexión de agua, apague la fábrica de hielo **OFF** (**O**), para prevenir usarla sin agua.
   - •Toda instalación debe estar acorde con los requerimentos de su plomería local.
   - •Consulte su guía de Uso y Cuidado para más información.
2. La fábrica de hielo necesita estar conectada a una fuente de agua fría con presión entre 20-120psi. Si ocurre algún problema llame a su compañía de servicio público.
3. No instale la tubería de la máquina de hielo en zonas donde las temperaturas descienden por debajo del punto de congelación.

Important

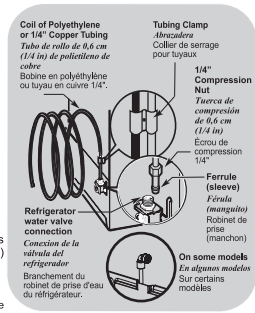
1. Afin de d'éviter des fuites pouvant entraîner des dommages matériels, veillez à :
   - • utiliser une tuyauterie adaptée ;
   - • rechercher des traces de fuite après avoir terminé l'installation ;
   - • noter que votre appareil peut avoir besoin de 24 heures avant de pouvoir fabriquer des glaçons ;
   - • pousser le bouton de la machine sur OFF (*) [ARRÊT] lorsque vous mettez déjà le réfrigérateur en marche sans avoir branché l'eau (pour éviter que l'appareil ne tourne à vide) ;
   - • ce que toutes les installations soient conformes aux règles du code de plomberie.
   - • consulter le Guide d'utilisation et d'entretien pour de plus amples informations ;
2. La machine à glaçons a besoin d'être raccordée à une conduite d'eau froide avec une pression d'eau entre 1,3 et 8,2 bar, En cas de problèmes, prenez contact avec la société de service en charge.
3. Ne pas installer les tuyaux de la machine à glaçons dans les zones où la température descend en dessous de zéro.

Connecting to refrigerator

1. Unplug the refrigerator or disconnect power.
2. Attach the copper tube to the valve inlet using a compression nut and sleeve as shown. Finger tighten the compression nut onto valve and then tighten another half turn with a wrench.
3. Use the tube clamp on the back of the refrigerator to secure the tubing to the refrigerator as shown. This will help to prevent damage to the tubing when the refrigerator is pushed back against the wall.
4. Turn water supply valve ON.Check for leaks. Tighten all the connections (including connections at the valve) or nuts that leak.
5. Plug in the refrigerator or reconnect power. Set the icemaker power switch to the **ON** (**I**) position. The icemaker will not begin to operate until it reaches its operating temperature of 15°F(-9°C) or bellow.

NOTE 1:
If local water conditions require periodic cleaning a strainer should be installed in the 1/4-inch water line. Obtain a water strainer from your nearest appliance dealer.

NOTE 2:
The hookup line can not be white, plastic tubing. License plumbers must use only copper tubing NDA tubing #49595 or 49599 or Cross Link Poly-ethylene (PEX) tubing.



Conexión al refrigerador

1. Desconecte el refrigerador o desconecte la electhcidad.
2. Fije la tubería de cobre a la entrada de la válvula usando una tuerca de compresión como se muestra. Apriete la tuerca de compresión sobre la válvula y después de otra media vuelta con una llave.
3. Use la abrazadera para tubo (atrás del refrigerador) para asegurar la tubería del refrigerador, como se muestra. Esto ayudará a prevenir daños a la tubería cuando el refrigerador sea empujado contra la pared.
4. Encienda la Fuente de agua. Verifique si hay fugas. Apriete todas las conexiones (Incluyendo las conexiones de la válvula) o las tuercas que fuguen.
5. Conecte el refrigerador o reconécte la electricidad. Cambie el interruptor de la fábrica de hielos a la posición de encendido **ON** (**I**). La fábrica de hielos comenzará a funcionar hasta que alcance la temperatura de 15°F (-9°C) o menos.

NOTA 1:
Si las condiciones de agua locales requieren limpieza periódica o si su fuente de agua es insegura, se deberá instalar un filtro de agua en la línea de agua de 1/4 de pulgada. Puede obtener un filtro de agua con su distribuidor más cercano.

NOTA 2:
La línea de conexión no puede ser blanca de plástico.Plomeros con licencia deberán usar sólo tubería de cobre Tubería NDA #49595 ó 49599 ó tubería reticulada de Polietileno (PEX).

Branchement au réfrigérateur

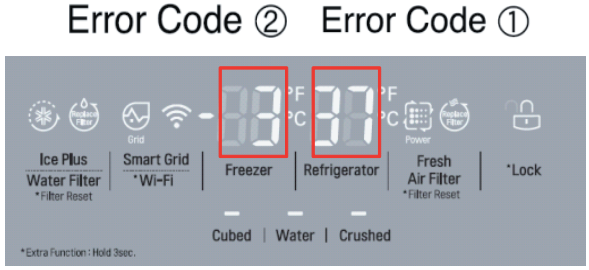
1. Débrancher le réfrigérateur ou mettre l'appareil hors tension.
2. Fixer le tuyau en cuivre à la vanne d'arrivée d'eau à l'aide d'un écrou de compression et d'un manchon (voir schéma). Serrer avec le bout des doigts l'écrou de compression sur la vanne puis resserrer avec une clé encore d'un demi-tour.
3. Utiliser un collier de serrage pour tuyaux pour l'arrière du réfrigérateur afin de fixer le tuyau au réfrigérateur (voir schéma).
   Cela va permettre d'éviter que le tuyau ne soit abîmé lorsque le réfrigérateur est poussé vers le mur.
4. Tourner la vanne d'alimentation en eau sur ON (MARCHE). Vérifier qu'il n'y a pas de fuites.
   Resserrer tous les raccords (y compris ceux à la vanne) ou écrous qui présentent des traces de fuites.
5. Rebrancher le réfrigérateur ou remettre sous tension. Régler la machine à glaçons sur la position ON (I) (MARCHE). La machine à glaçons ne va pas fonctionner tant que la température de l'appareil en service n'aura pas atteint 9°C ou moins.

NOTE 1 :
Si la qualité de l'eau a pour effet qu'il faut procéder régulièrement à un nettoyage, vous devriez placer un filtre dans la conduite d'eau à environ 1/2 cm du bord. Procurez-vous un filtre à eau auprès de votre vendeur le plus proche.

NOTE 2 :
La conduite d'eau ne doit pas être en plastique (blanc). Les plombiers qualifiés doivent uniquement utiliser des tuyaux en cuivre #49595 ou 49599 ou un tuyau en polyéthylène réticulé (XLPE).

6. TROUBLESHOOTING

6-1 Error Code Summary



⚠ **WARNING:** When checking Resistance values, make sure to turn off the power, and wait for the voltage to discharge.

NOTE) Within 3 hours after the error : Press the Ice Plus button and Freezer button simultaneously

3 hours after the error : All errors, except for “rt E”, “HS E”, “IS E” (except for Icing sensor)”, “gF E”, “It E” error, are displayed.

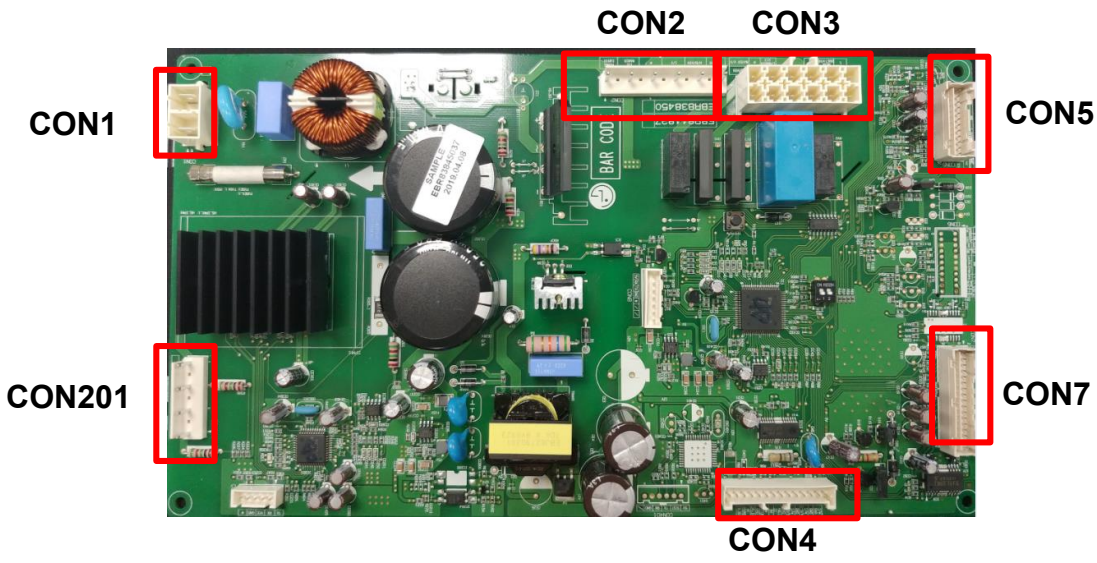
“IS E” which is displayed without input of user is the error of Icing Sensor.

NO	Error Detection Category	Error Display		Error Generation Factors	Remark
		Freezer Temperature (Error code ②)	Refrigerator Temperature (Error code ①)		
—	lamroN			enoN	yalpsiD fo noitar
⁄	Freezer Sensor Error	FS	š	Short or Disconnection of Freezer Sensor	Check each sensor at it’s connector.
3	Refrigerator Sensor Error	•	š	Short or Disconnection of Refrigerator Sensor	
–	Defrosting Sensor Error	dS	F	Short or Disconnection of Defrosting Sensor	
‰	Icing Sensor Error	IS	š	Short or disconnection of the sensor about Ice maker (Icing sensor, Ice maker sensor)	
”	Humidity Sensor Error	HS	š	Short or Disconnection of Humidity	
ł	Room Temp Sensor Error	rt	š	Short or Disconnectoin of Room temp.sensor	
,	Ice maker kit defect	It	š	Other Electric system error such as moter, gear, Hall IC, operation circuit within I/M kit	When the ice does not drop even when the I/M Test S/W is pressed
Š	Flow Meter(Sensor) Defect	gF	š	Error of flow meter or water input or low water pressure	Error of flow meter or water input or low water pressure or flow meter connection
—”	Poor Defrosting	dH	F	During 2 consecutive cycles the defrosting sensor did reach over 46F (8C)	Temperature Fuse Disconnection, Heater disconnection, DRAIN Jam, Poor Relay for Heater
——	Abnormality of BLDC FAN Motor for Ice Making	IF	š	It is caused when feedback signal isn’t over 65 seconds during BLDC FAN motor operating	Poor BLDC Motor connection, DRIVE IC, and TR
—⁄	Abnormality of BLDC FAN Motor for Freezer	FF	š	It is caused when feedback signal isn’t over 65 seconds during BLDC FAN motor operating	Poor BLDC Motor connection, DRIVE IC, and TR
13	Abnormality of BLDC FAN Motor for Mechanic Room	CF	š	It is caused when feedback signal isn’t over 65 seconds during BLDC FAN motor operating	Poor BLDC Motor connection, DRIVE IC, and TR
—–	Communication Error	‹f	š	Communication Error between Micom of Main PCB and Display Micom	Poor Communication connection,Poor TR of Transmitter and Receiver Tx/Rx between display and main board.

7. PCB Picture

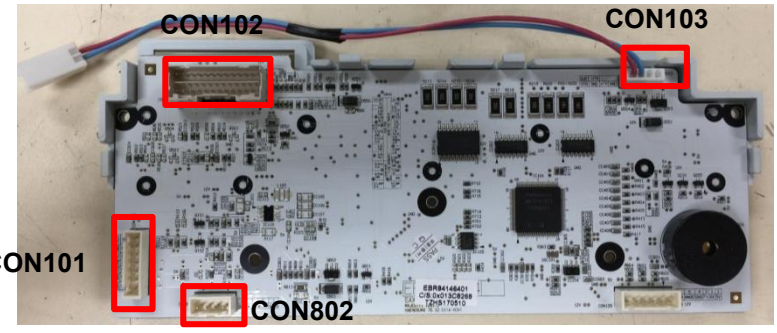
7-1. Main PCB

*(P/N : EBR838450**)*



7-2. Display PCB

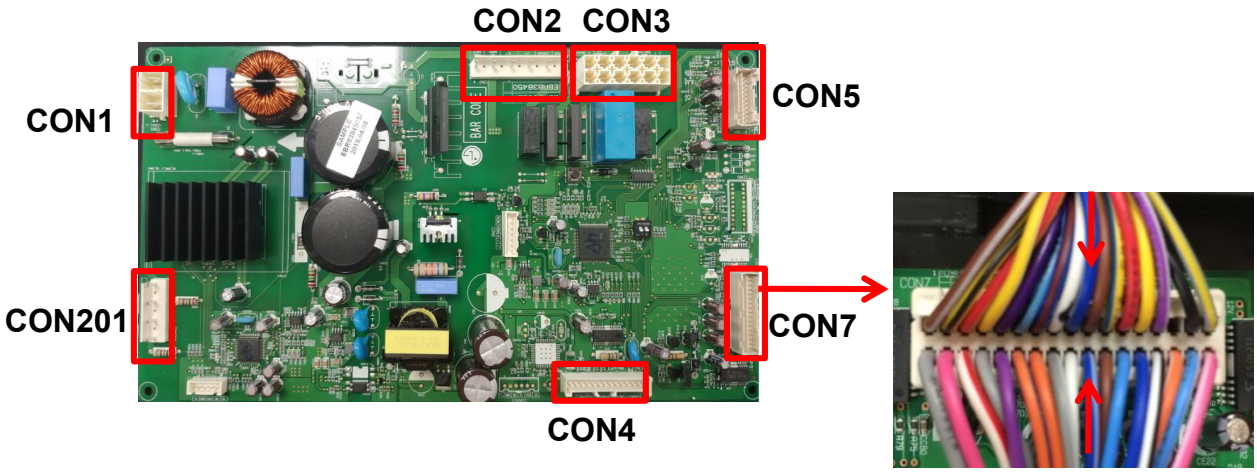
*(P/N : EBR841464**)*

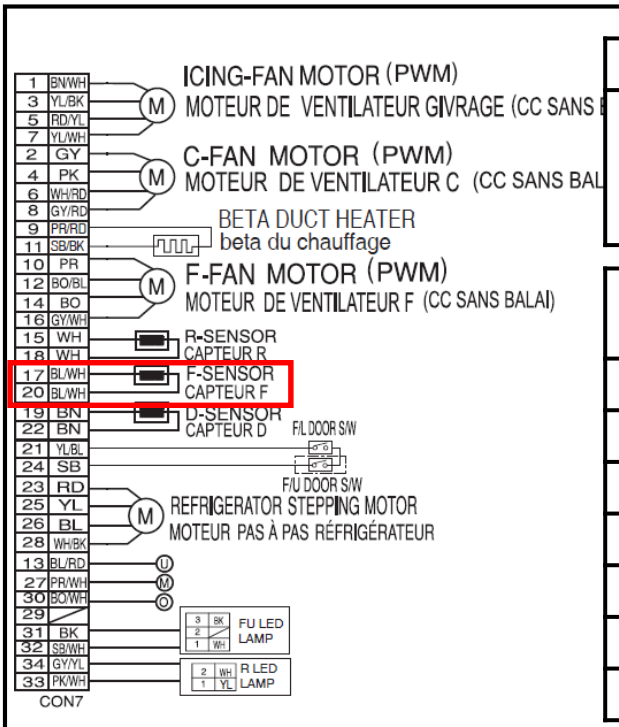


8. Trouble Shooting

8-1. Freezer Sensor Error (FS E)

Symptom	Check Point
1. FS E	1. Check for a loose connection 2. Check Sensor Resistance





	Resistance [Ω]	
CON7 17th pin ~ 20th pin	Short	0
	Open	OFF
	Other	Normal

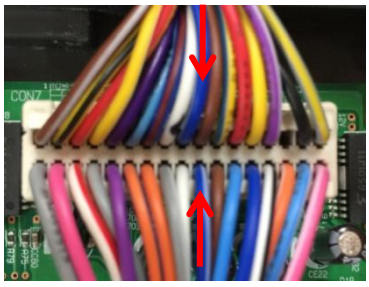
CON7 17th pin ~ 20th pin	Resistance [Ω]
-22°F / -30°C	40k
-13°F / -25°C	30k
-4°F / -20°C	23k
5°F / -15°C	17k
14°F / -10°C	13k
23°F / -5°C	10k
32°F / 0°C	8k

Freezer Sensor Error (FS E)

1

Is the Connector disconnected or loose between Main PCB and sensor?

Yes → Reconnect or repair the connector



CON7

No

2

Check the Sensor resistance.
Is resistance 0Ω (Sensor short)?

Yes → Change the Sensor

No

3

Check the Sensor resistance.
Is resistance OFF (Sensor open)?

Yes → Replace the refrigerator

No

4

Check the Sensor resistance.
Is resistance normal?

Yes

5

Check the Temperature and resistance refer to the table.
No problem?

CON7 17th pin ~ 20th pin	**Resistance [Ω]**
-22ºF / -30ºC	**40k**
-13ºF / -25ºC	**30k**
-4ºF / -20ºC	**23k**
5ºF / -15ºC	**17k**
14ºF / -10ºC	**13k**
23ºF / -5ºC	**10k**
32ºF / 0ºC	**8k**

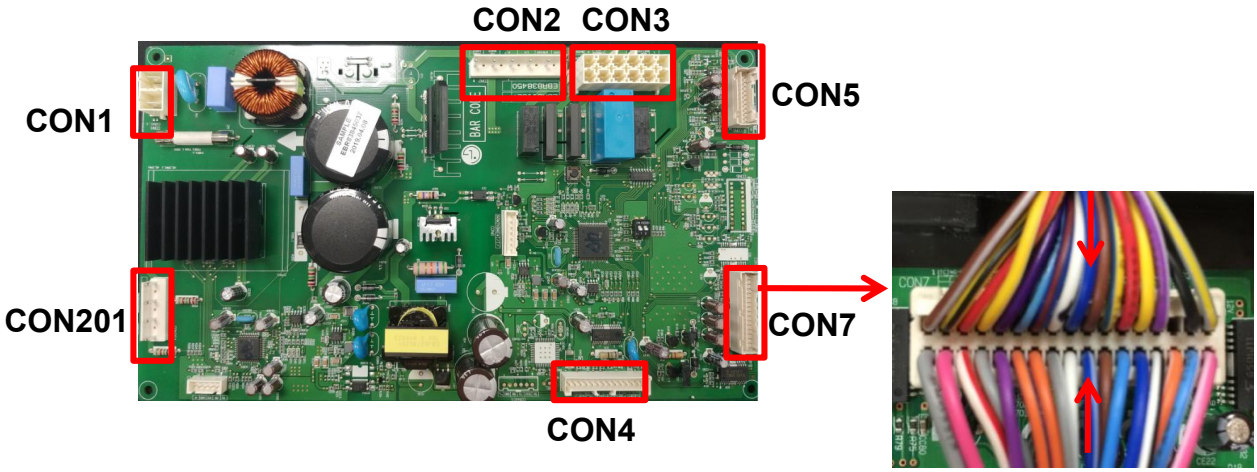
Yes

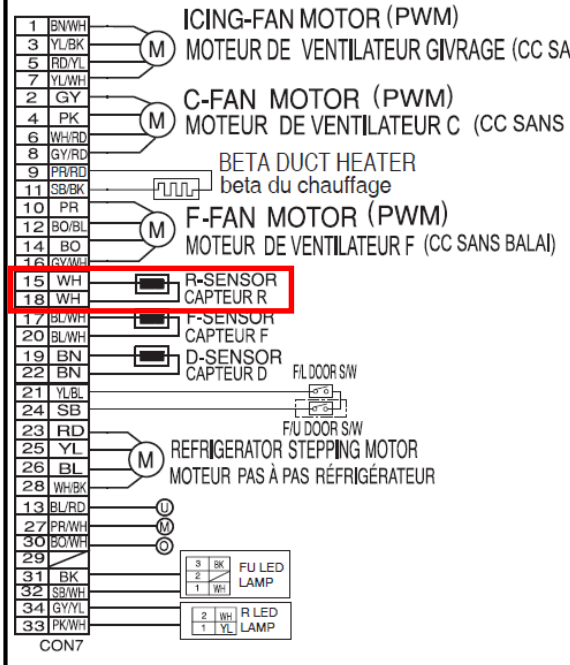
6

Explain to customer

8-2. Refrigerator Sensor Error (rS E)

Symptom	Check Point
1. rS E	1. Check for a loose connection 2. Check Sensor Resistance





	Resistance [Ω]	
CON7 15th pin ~ 18th pin	Short	0
	Open	OFF
	Other	Normal

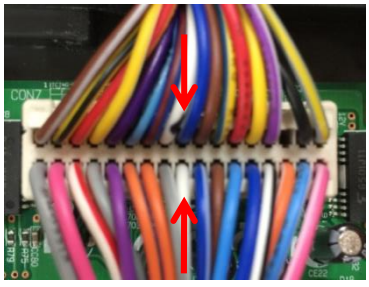
CON7 15th pin ~ 18th pin	Resistance [Ω]
23ºF / -5ºC	38k
32ºF / 0ºC	30k
41ºF / 5ºC	24k
50ºF / 10ºC	19.5k
59ºF / 15ºC	16k

Refrigerator Sensor Error (rS E)

1

Is the Connector disconnected or loose between Main PCB and sensor?

Yes → Reconnect or repair the connector



CON7

No

2

Check the Sensor resistance.
Is resistance 0Ω (Sensor short)?

Yes → Change the Sensor

No

3

Check the Sensor resistance.
Is resistance OFF (Sensor open)?

Yes → Replace the refrigerator

No

4

Check the Sensor resistance.
Is resistance normal?

Yes

5

Check the Temperature and resistance refer to the table.
No problem?

CON7 15th pin ~ 18th pin	**Resistance [Ω]**
23ºF / -5ºC	**38k**
32ºF / 0ºC	**30k**
41ºF / 5ºC	**24k**
50ºF / 10ºC	**19.5k**
59ºF / 15ºC	**16k**

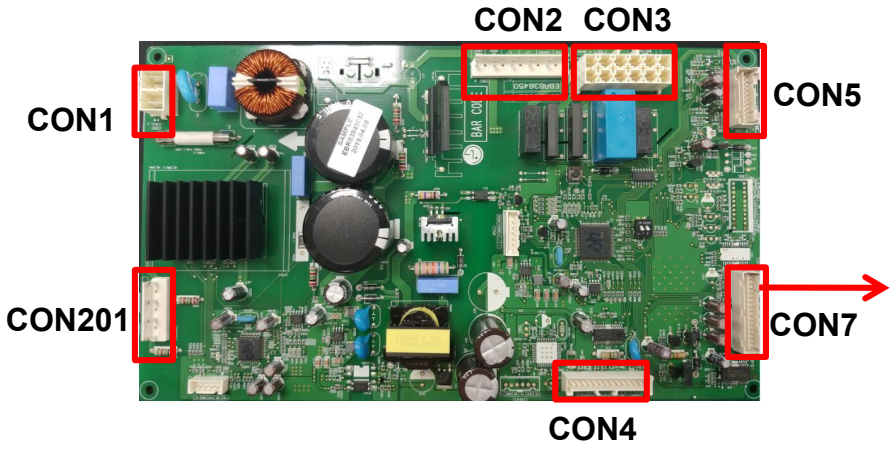
Yes

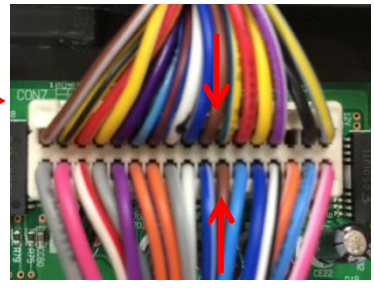
6

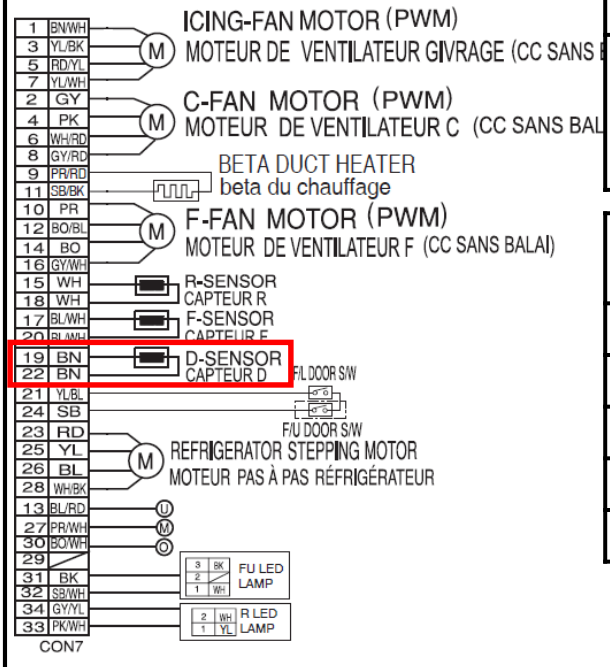
Explain to customer

8-3. Defrost Sensor Error (dS F)

Symptom	Check Point
1. dS F	1. Check for a loose connection 2. Check Sensor Resistance







	Resistance [Ω]	
CON7 19th pin ~ 22th pin	Short	0
	Open	OFF
	Other	Normal

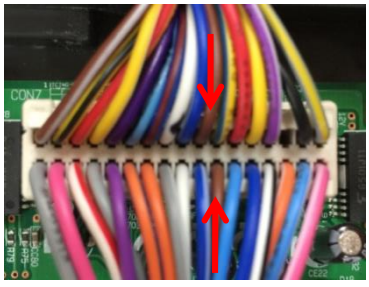
CON7 19th pin ~ 22th pin	Resistance [Ω]
23ºF / -5ºC	38k
32ºF / 0ºC	30k
41ºF / 5ºC	24k
50ºF / 10ºC	19.5k
59ºF / 15ºC	16k

Defrost Sensor Error (dS F)

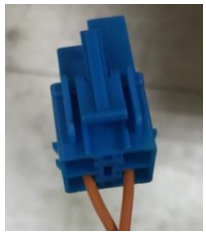
1

Is the Connector disconnected or loose between Main PCB, Defrost controller and Sensor?

Yes → Reconnect or repair the connector



CON7

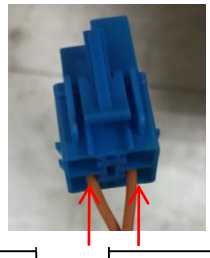


No

2

Check the Sensor resistance.
Is resistance 0Ω (Sensor short) or resistance Infinity Ω (Sensor open) ?

Yes → Change the Sensor



No

3

Check the Sensor resistance.
Is resistance normal?

Yes

4

Check the Temperature and resistance refer to the table.
No problem?

No → Change Main PCB

CON7 19th pin ~ 22th pin	**Resistance [Ω]**
23ºF / -5ºC	**38k**
32ºF / 0ºC	**30k**
41ºF / 5ºC	**24k**
50ºF / 10ºC	**19.5k**
59ºF / 15ºC	**16k**

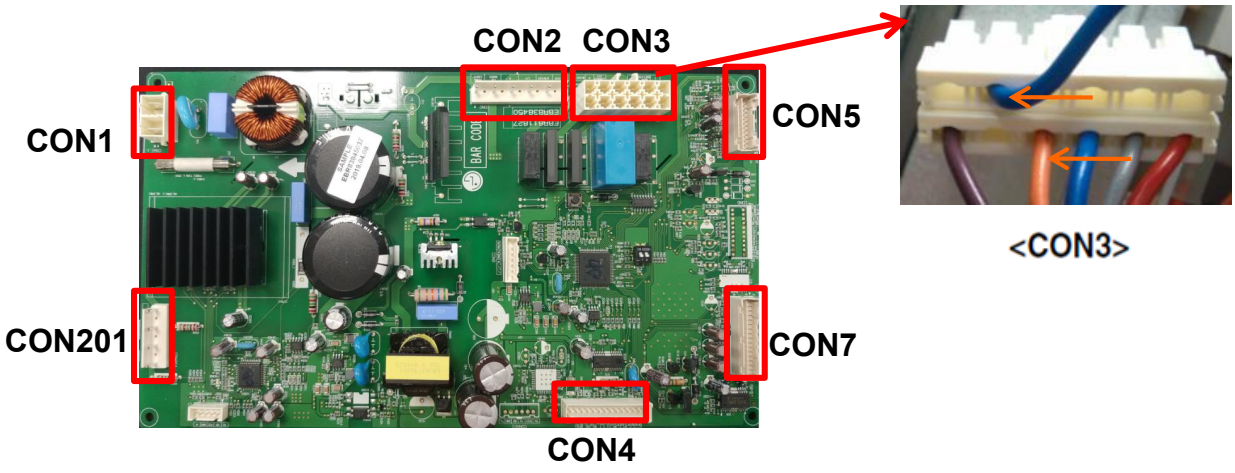
Yes

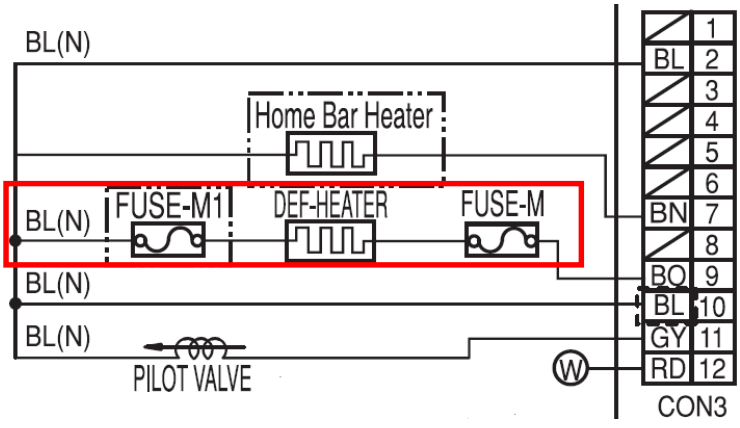
5

Explain to customer

8-4. Defrost Heater Error (dH F)

Symptom	Check Point
1. dH F	1. Check the door gasket 2. Check the Defrost control part 3. Check the PCB output voltage





Part	Resistance [Ω]
FUSE-M	**0**
Defrost Heater	**34~42**
Defrost Sensor	**22k↑**

TEST MODE 3	Voltage [V]
CON3 2nd pin ~ 9th pin	**112V ~ 116V**

TEST MODE 1	Voltage [V]
CON3 2nd pin ~ 9th pin	**0V**

Defrost Heater Error (dH F)

1

Check the Door gasket .
Is door gasket damaged?

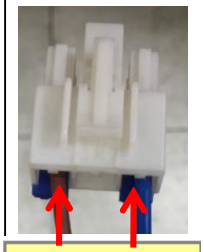
Yes → Replace the Door gasket

No

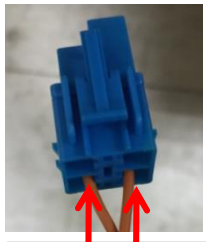
2

Check the Defrost control part.
(1) Is Fuse-M resistance 34~42Ω?

No → Change Defrost Heater



Fuse –M Deforest Heater



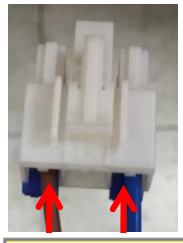
Deforest SNR

Yes

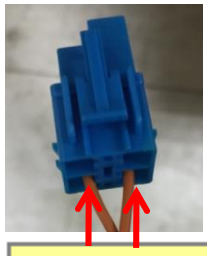
3

Check the Defrost control part.
Is Defrost Sensor resistance 22kΩ↑ or OFF?

OFF → Replace product



Fuse –M Deforest Heater



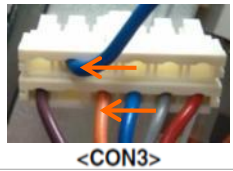
Deforest SNR

22kΩ↑

4 **Input Test 3 Mode**
(Push the button 3 times)

Check the Heater Voltage.
Is voltage 112V ~ 116V?

NO → Replace Main PCB



<CON3>

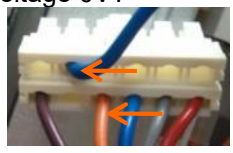
TEST MODE 3	**Voltage [V]**
CON3 2nd pin ~ 9th pin	**112V ~ 116V**

Yes

5 **Input Test 1 Mode**
(Push the button 1 times)

Check the Heater Voltage.
Is voltage 0V?

No → Replace Main PCB



<CON3>

TEST MODE 1	**Voltage [V]**
CON3 2nd pin ~ 9th pin	**0V**

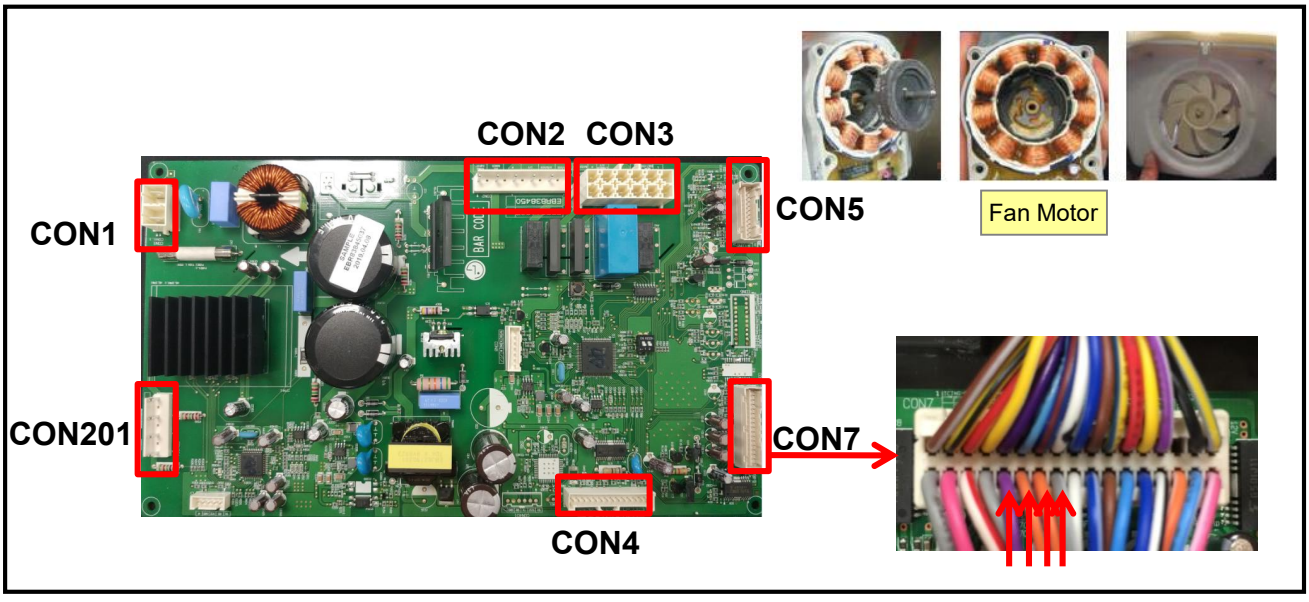
Yes

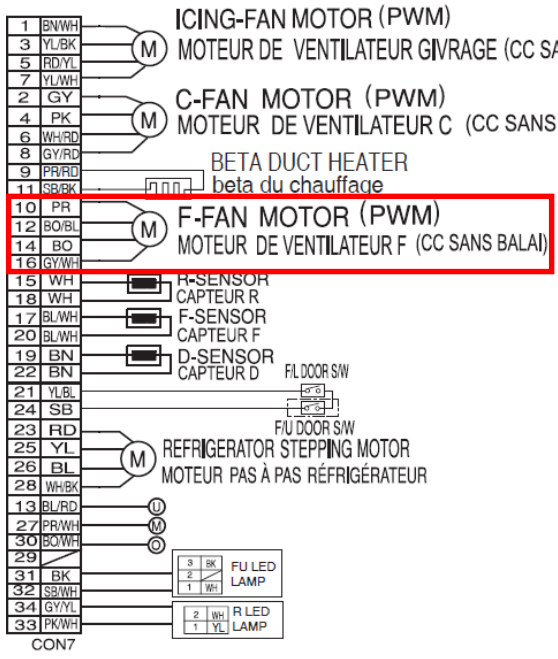
6

Explain to customer

8-5. Freezer Fan Error (FF E)

Symptom	Check Point
1. FF E	1. Check the air flow 2. Check the Fan Motor 3. Check the PCB Fan motor voltage





TEST MODE 1	Voltage [V]
CON7 12th pin ~ 14th pin	12V
CON7 16th pin ~ 14th pin	0V<Voltage<5V
CON7 10th pin ~ 14th pin	0V<Voltage<5V

Freezer Fan Error (FF E)

1 **Reset the unit and**
Input Test1 Mode.
(Push the button 1 time)

2 Open the freezer door and Check the air flow. Windy?

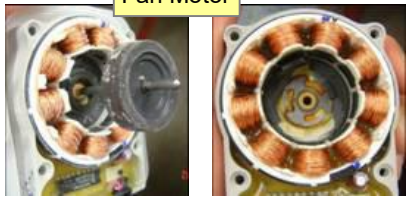
No → Go to 3

Yes → Go to 4

3 Check the Fan motor.
Rotate fan using hand.
It feel sticky?

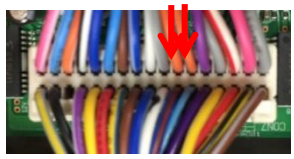
Yes → Change the Fan motor

Fan Motor



4 Check the Fan Motor voltage
Is Fan Motor voltage 12V?

No → Replace Main PCB



CON7

TEST MODE 1	**Voltage [V]**
CON7 12th pin ~ 14th pin	**12V**

Yes

5 Check the Fan Motor voltage
Is Fan control signal voltage between 0V and 5V?

No → Replace Main PCB

CON7

TEST MODE 1	**Voltage [V]**
CON7 16th pin ~ 14th pin	**0V<Voltage<5V**

No

6 Check the Fan Motor voltage
Is Fan feed back voltage between 0V and 5V?

No → Replace Motor

CON7

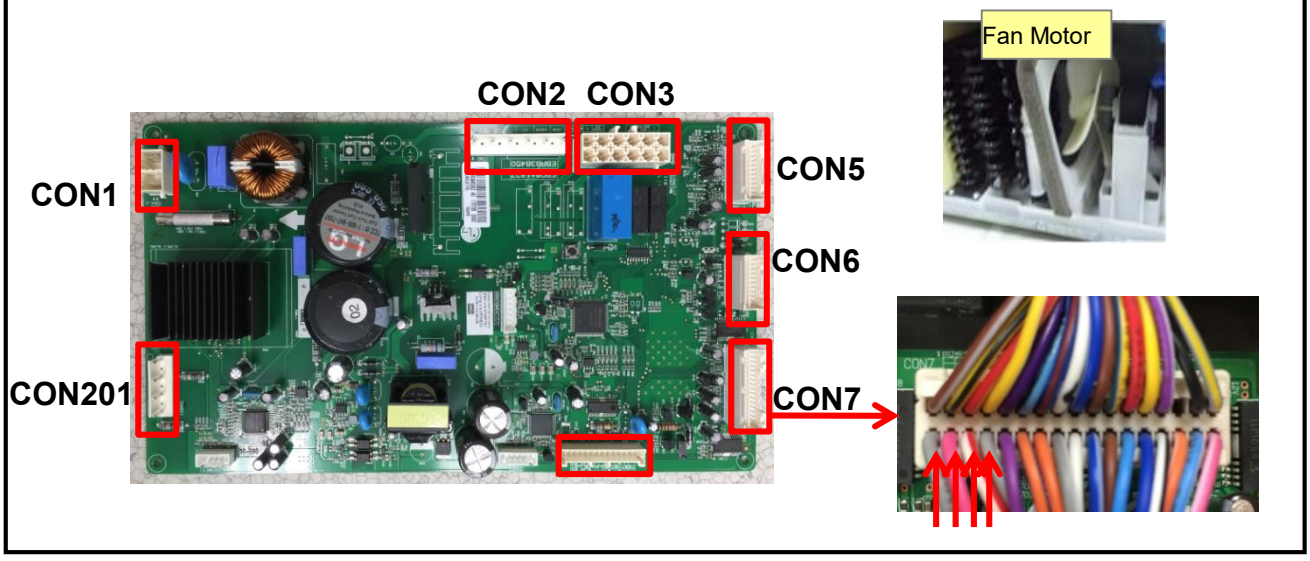
TEST MODE 1	**Voltage [V]**
CON7 10th pin ~ 14th pin	**0V<Voltage<5V**

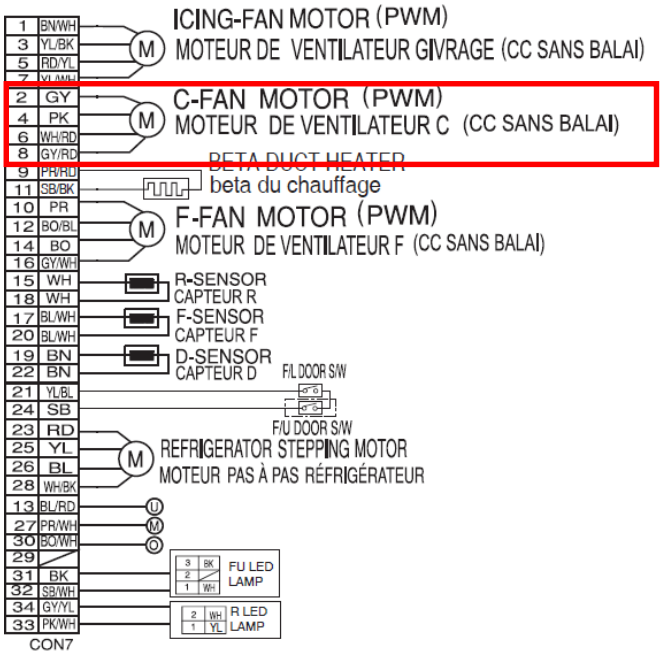
No

7 Explain to customer

8-6. Condenser Fan Error (CF E)

Symptom	Check Point
1. CF E	1. Check the air flow 2. Check the Connector 3. Check the PCB Fan motor voltage





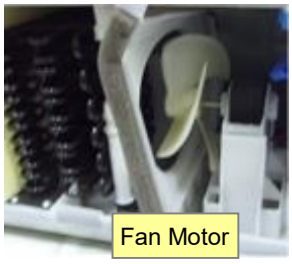
TEST MODE 1	**Voltage [V]**
CON7 4th pin ~ 6th pin	**12V**
CON7 8th pin ~ 6th pin	**0V<Voltage<5V**
CON7 2nd pin ~ 6th pin	**0V<Voltage<5V**

Condenser Fan Error (CF E)

1 **Reset the unit and**
Input Test1 Mode.
(Push the button 1 time)

2

Check the fan rotating.
Does fan rotate?

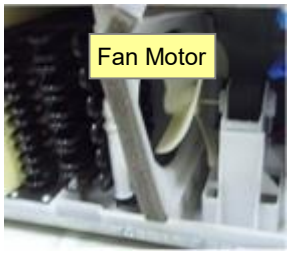


No → Go to 3

Yes → Go to 4

3

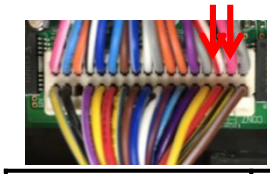
Check the Fan motor.
Rotate fan using hand.
It feel sticky?



Yes → Change the Fan motor

4

Check the Fan Motor voltage
Is Fan Motor voltage 12V?



CON7

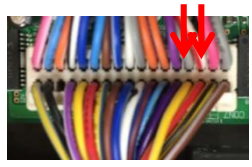
No → Replace Main PCB

TEST MODE 1	**Voltage [V]**
CON7 4th pin ~ 6th pin	**12V**

Yes

5

Check the Fan Motor voltage
Is Fan control signal voltage
between 0V and 5V?



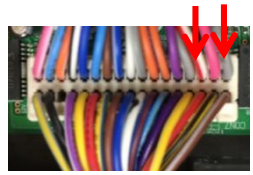
CON7

No → Replace Main PCB

TEST MODE 1	**Voltage [V]**
CON7 8th pin ~ 6th pin	**0V<Voltage<5V**

No

Check the Fan Motor voltage
Is Fan feed back voltage
between 0V and 5V?



CON7

No → Replace Motor

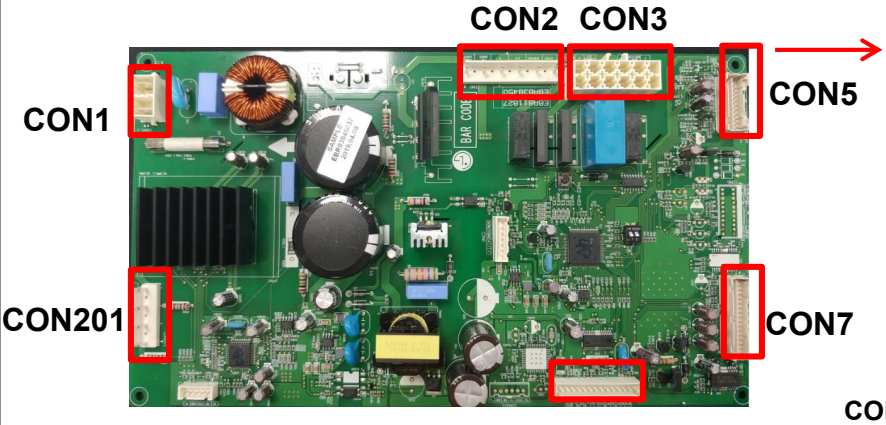
TEST MODE 1	**Voltage [V]**
CON7 2nd pin ~ 6th pin	**0V<Voltage<5V**

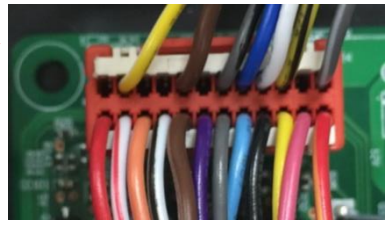
No

7 Explain to customer

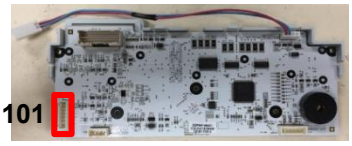
8-7. Communication Error (CO E)

Symptom	Check Point
1. CO E	1. Check the loose connection 2. Check the Hinge connection



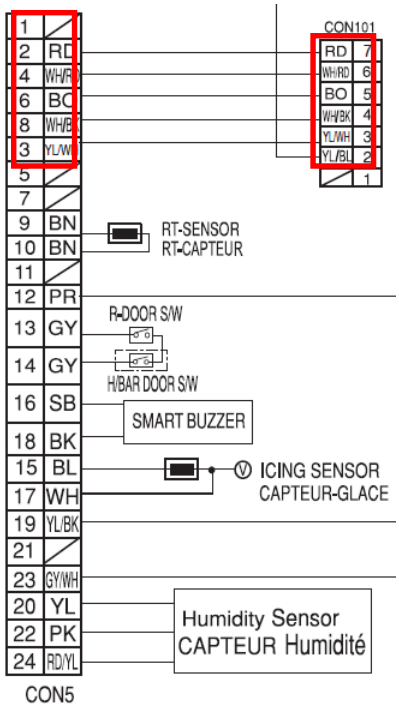


<CON5>



Display

CON101



	Voltage [V]
CON101 7th pin ~ 6th pin	12V
CON101 5th pin ~ 6th pin	Not 0V, 5V
CON101 4th pin ~ 6rd pin	Not 0V, 5V
CON5 3th pin ~ 6th pin	5V

Communication Error (CO E)

1

Check the loose connection

No

2

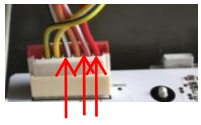
Check the voltage.

Are CON101 7th pin ~ 6th pin voltage 12V?

And CON101 3rd pin ~ 6th pin ?

No → Check the Hinge (loose connection) Change the Main PCB

Housing	**Voltage [V]**
CON101 7th pin ~ 6th pin	**12V**
CON101 3rd pin ~ 6th pin	**5V**



Yes

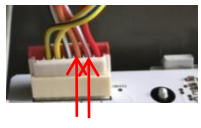
3

Check the voltage.

Is CON101 5th pin ~ 6th pin voltage 0V or 5V?

Yes → Change the Display PCB

Housing	**Voltage [V]**
CON101 5th pin ~ 6th pin	**Not 0V, 5V**



No

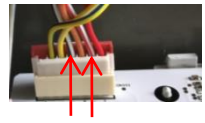
4

Check the voltage.

Is CON101 4th pin ~ 6th pin voltage 0V or 5V?

Yes → Change the Main PCB

Housing	**Voltage [V]**
CON101 4th pin ~ 6th pin	**Not 0V, 5V**



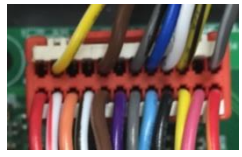
No

5

Check the voltage.

Is CON5 4th pin ~ 6th pin voltage 0V or 5V?

Yes → Change the Display PCB



Housing	**Voltage [V]**
CON5 4th pin ~ 6th pin	**Not 0V, 5V**

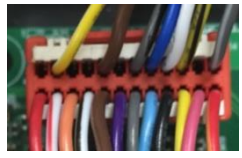
No

6

Check the voltage.

Is CON5 4th pin ~ 8th pin voltage 0V or 5V?

Yes → Change the Main PCB



Housing	**Voltage [V]**
CON5 4th pin ~ 8th pin	**Not 0V, 5V**

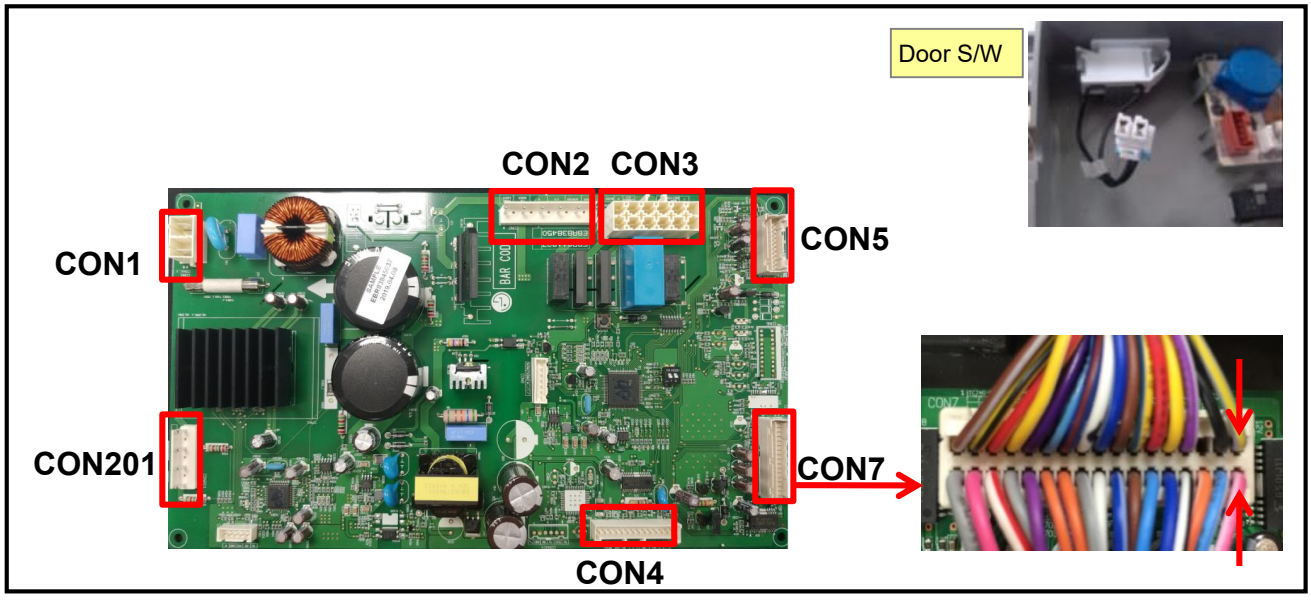
No

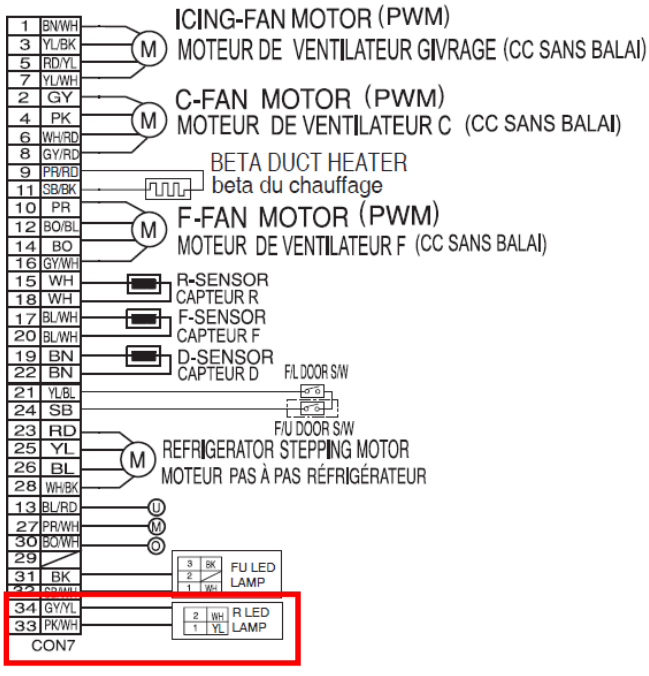
7

Explain to customer

8-8. Refrigerator room lamp doesn't work

Symptom	Check Point
1. Refrigerator room lamp doesn't work	1. Check the Refrigerator door switch sticky 2. Check the door S/W resistance 3. Check the LED Lamp





	S/W Resistance [Ω]	
Door	Open	Infinity
	Close	0

	Voltage [V]
CON7 33th pin ~ 34th pin	12V

LED Lamp	Voltage [V]	
White~ Yellow	Closed	0~2V
	Open	12V

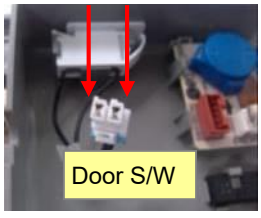
Refrigerator room lamp doesn't work

1 Check the Refrigerator door switch. Does it feel sticky?

Yes → Change the Door S/W

No

2 Check the door S/W resistance. Is it correct compared with table?

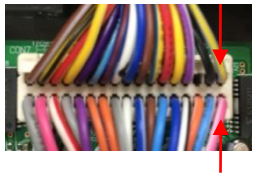


	S/W Resistance [Ω]	
Door	**Open**	**Infinity**
	Close	**0**

No → Change the Door S/W

Yes

3 Check the PCB Voltage. Is CON7 33th pin ~ 34th pin voltage 12V?

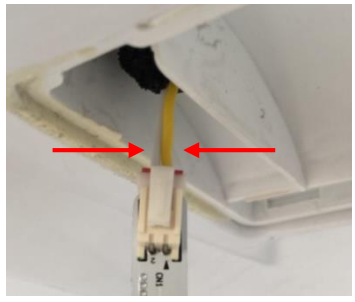


	Voltage [V]
CON7 33th pin ~34th pin	**12V**

No → Change the PCB

Yes

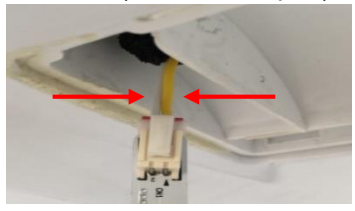
4 Check the LED Lamp voltage. Is it 0~2V? (While door closed)



No → Change the Door S/W

Yes

5 Check the LED Lamp voltage. Is it 12V? (While door open)



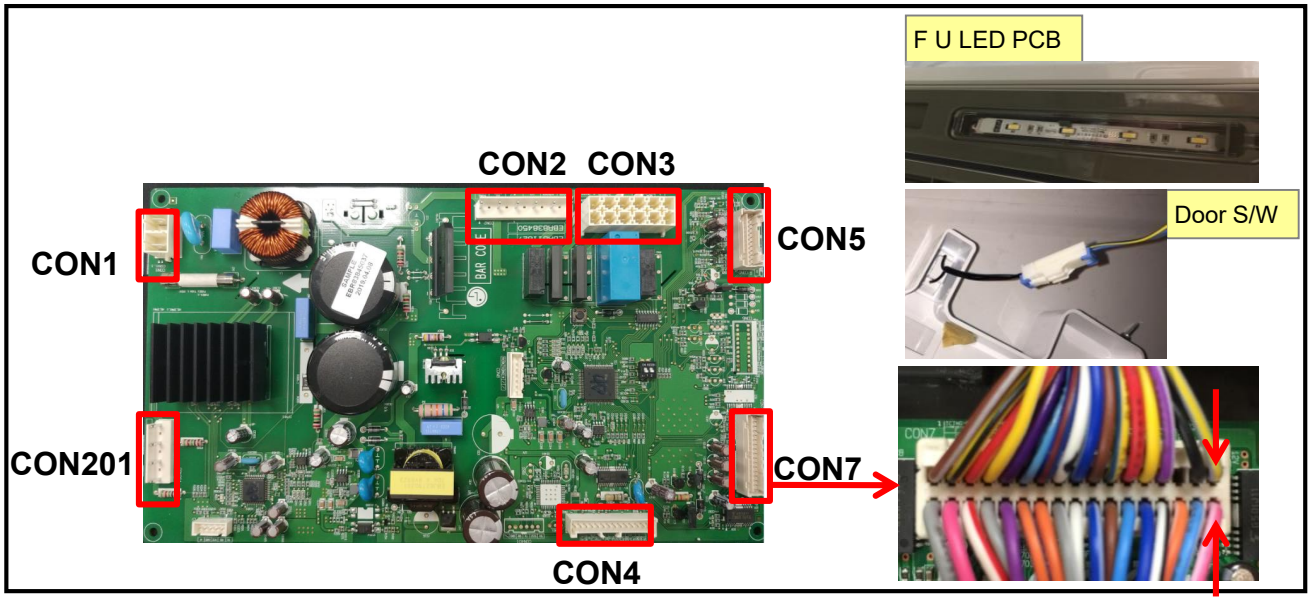
No → Change the LED Lamp

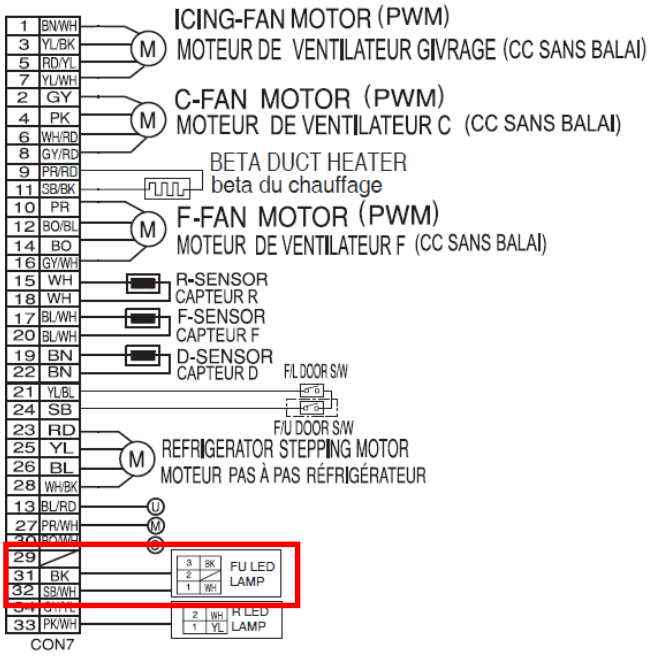
Yes

6 Explain to customer

8-9. Freezer room upper lamp doesn't work

Symptom	Check Point
1. Freezer room upper lamp doesn't work	1. Check the Freezer door switch sticky 2. Check the door S/W resistance 3. Check the LED Lamp





	S/W Resistance [Ω]	
Door	Open	Infinity
	Close	0

	Voltage [V]
CON7 31th pin ~ 32th pin	12V

F-Door	LED Lamp	Voltage [V]
Open	White ~ Black	12V
Close	White ~ Black	0~2V

Freezer room upper lamp doesn't work

1

Check the Freezer door switch.
Does it feel sticky?

Yes → Change the Door S/W

No

2

Check the door S/W resistance.
Is it correct compared with table?

Door S/W

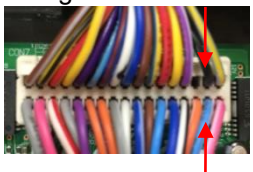
No → Change the Door S/W

	S/W Resistance [Ω]	
Door	**Open**	**Infinity**
	Close	**1**

Yes

3

Check the PCB Voltage.
Is CON7 31th pin ~ 32th pin voltage 12V?



CON6

No → Change the PCB

	Voltage [V]
CON7 31th pin ~ 32th pin	**12V**

Yes

4

Check the LED Lamp voltage
Is voltage 12V? (While door open)

No → Change the LED Lamp

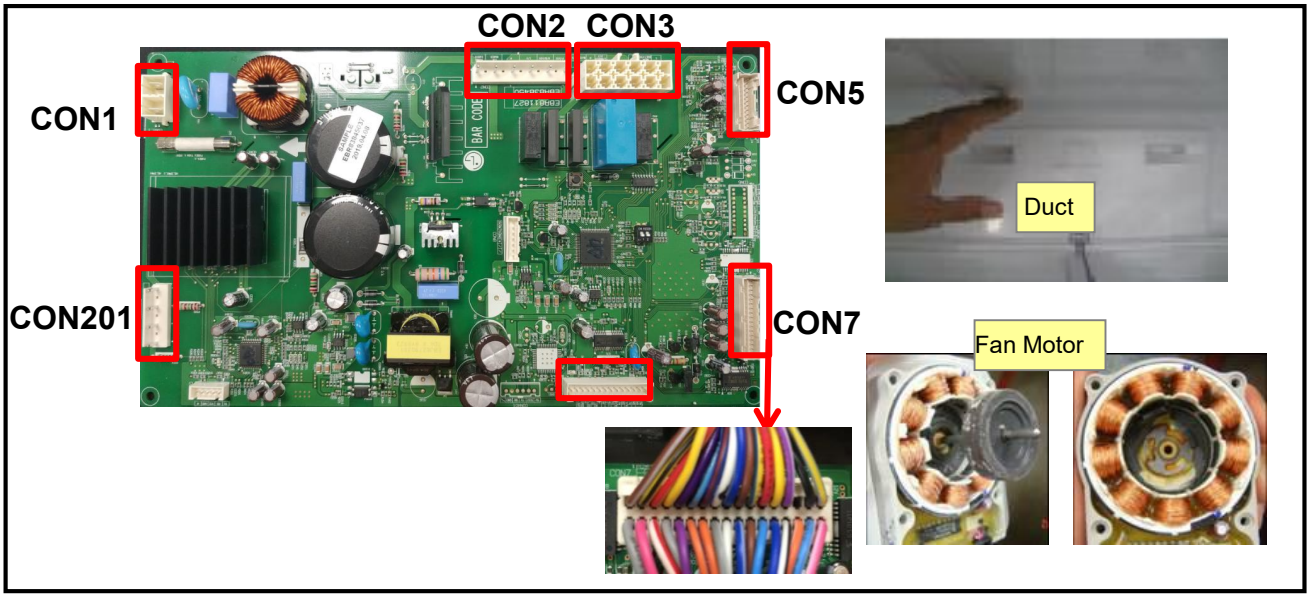
Yes

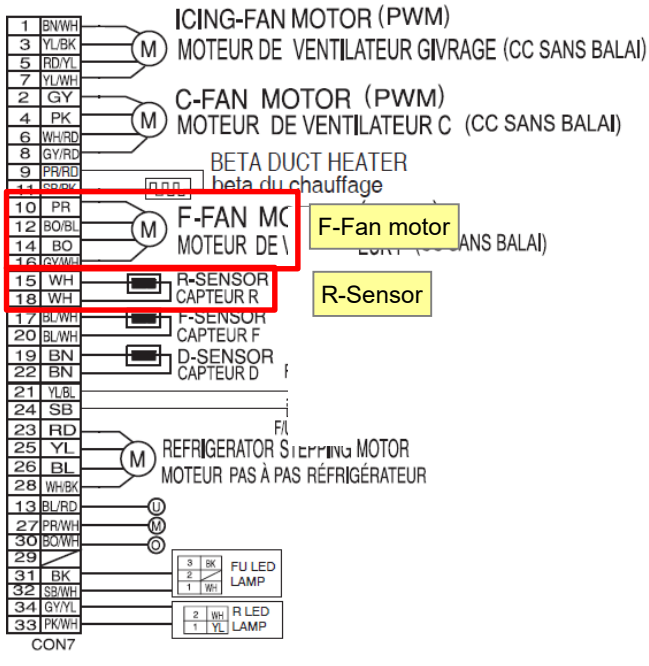
7

Explain to customer

8-10. Poor cooling in Fresh food section

Symptom	Check Point
1. Poor cooling in Fresh food section	1. Check the sensor resistance 2. Check the air flow 3. Check the air Temperature 4. Check the R-Damper motor voltage





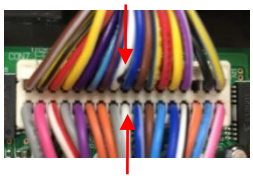
CON7 15th pin ~ 18th pin	Resistance [Ω]
23ºF / -5ºC	38k
32ºF / 0ºC	30k
41ºF / 5ºC	24k
50ºF / 10ºC	19.5k
59ºF / 15ºC	16k

TEST MODE 1	Voltage [V]
CON7 12th pin ~ 14th pin	12V
CON7 16th pin ~ 14th pin	0V<Voltage<5V
CON7 10th pin ~ 14th pin	0V<Voltage<5V

Duct	Status
Air Flow	Windy
Air Temperature	Cold

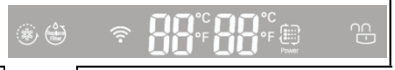
Poor cooling in Fresh food section

1 Check the sensor resistance.



CON7 15th pin ~ 18th pin	**Resistance [Ω]**
23ºF / -5ºC	**38k**
32ºF / 0ºC	**30k**
41ºF / 5ºC	**24k**
50ºF / 10ºC	**19.5k**
59ºF / 15ºC	**16k**

2 **Reset the unit and Input Test1 Mode (Push the button 1 time)**



3 Open the fresh food door and Check the air flow Damper?

No → Check the damper Go to 5

Test Mode	Damper state	SVC Action
1 Mode	Closed	Damper is normal. (Go to the 7)
2 Mode	Open	
1, 2 mode	Not working	Change the damper

Test Point	Result	SVC Action
(1) To (2)	270 ~ 330Ω	It's normal
	Other	Change damper
(3) To (4)	270 ~ 330Ω	It's normal
	Other	Change damper

Yes

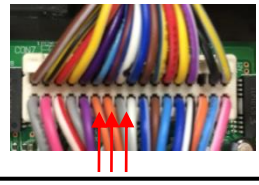
4 Check the air temperature. Is it cold?

No → Check the Compressor and sealed system

Yes → Go to 7

5 Check the Fan Motor voltage Is Fan Motor voltage right?

No → Replace Main PCB

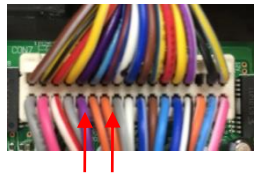


TEST MODE 1	**Voltage [V]**
CON7 12th pin ~ 14th pin	**12V**
CON7 16th pin ~ 14th pin	**0V<Voltage<5V**

Yes

6 Check the Fan Motor voltage Is Fan Feed Back voltage 0V, 5V?

Yes → Change the motor



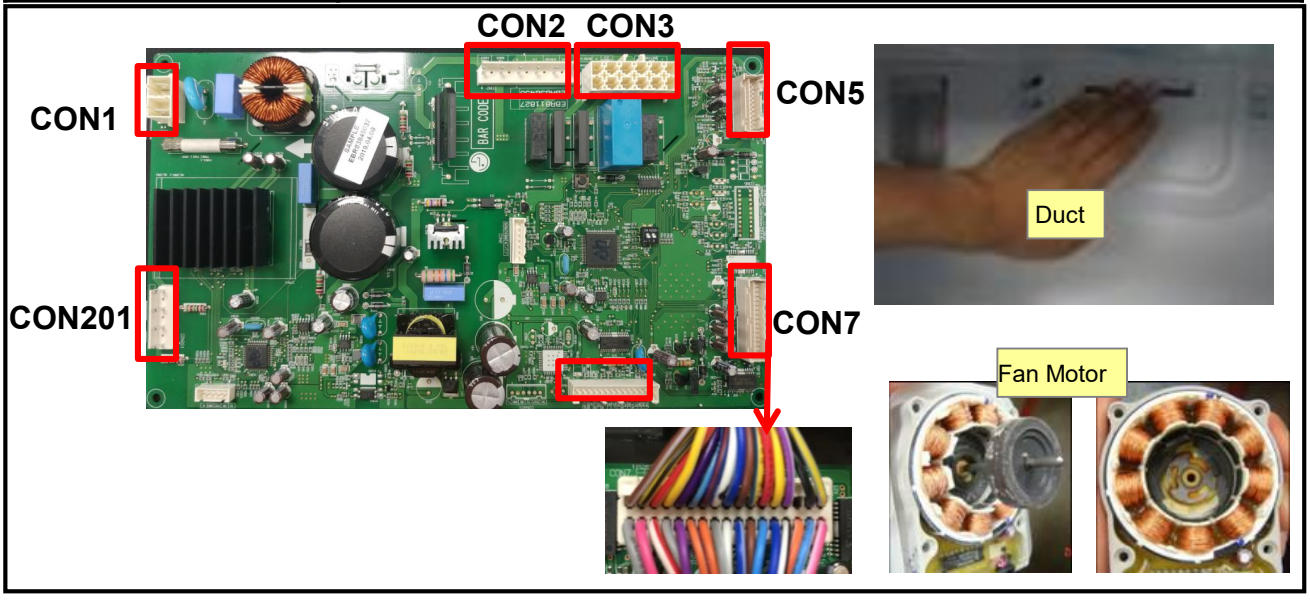
TEST MODE 1	**Voltage [V]**
CON7 10th pin ~ 14th pin	**0V<Voltage<5V**

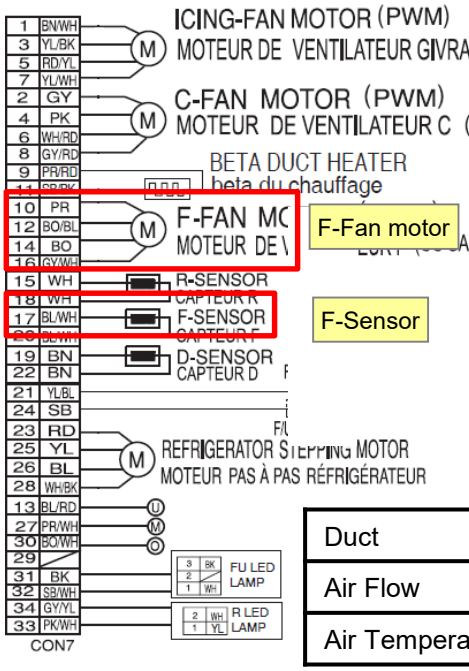
No

7 Explain to customer

8-11. Poor cooling in Freezer compartment

Symptom	Check Point
1. Poor cooling in Freezer compartment	1. Check the sensor resistance 2. Check the air flow 3. Check the air Temperature 4.Check the Fan motor sticky 5. Check the Fan motor voltage





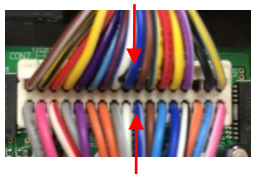
Duct	Status
Air Flow	Windy
Air Temperature	Cold

CON7 17th pin ~ 20th pin	Resistance [Ω]
-22ºF / -30ºC	40k
-13ºF / -25ºC	30k
-4ºF / -20ºC	23k
-13ºF / -25ºC	17k
14ºF / -10ºC	13k
23ºF / -5ºC	10k
32ºF / 0ºC	8k

TEST MODE 1	Voltage [V]
CON7 12th pin ~ 14th pin	12V
CON7 16th pin ~ 14th pin	0V<Voltage<5V
CON7 10th pin ~ 14th pin	0V<Voltage<5V

Poor cooling in Freezer compartment

1 Check the sensor resistance.



CON7 17th pin ~ 20th pin	**Resistance [Ω]**
-22ºF / -30ºC	**40k**
-13ºF / -25ºC	**30k**
-4ºF / -20ºC	**23k**
-13ºF / -25ºC	**17k**
14ºF / -10ºC	**13k**
23ºF / -5ºC	**10k**
32ºF / 0ºC	**8k**

2 **Reset the unit and Input Test1 Mode (Push the button 1 time)**

3 Open the fresh food door and Check the air flow. Windy?

No → Check the F Fan Motor Go to 5

Yes

4 Check the air temperature. Is it cold?

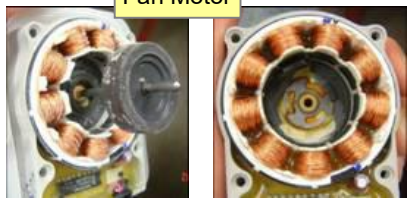
No → Check the Compressor and sealed system

Yes

5 Check the Fan motor. Rotate fan using hand. It feel sticky?

Yes → Change the Fan motor

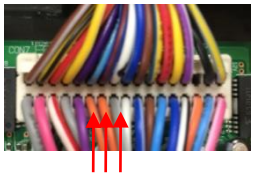
Fan Motor



No

6 Check the Fan Motor voltage
Is Fan Motor voltage right ?

No → Replace Main PCB

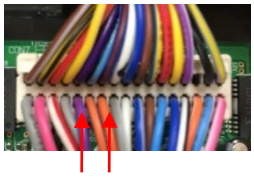


TEST MODE 1	**Voltage [V]**
CON7 12th pin ~ 14th pin	**12V**
CON7 16th pin ~ 14th pin	**0V<Voltage<5V**

Yes

7 Check the Fan Motor voltage
Is Fan Feed Back voltage right?

No → Change the motor



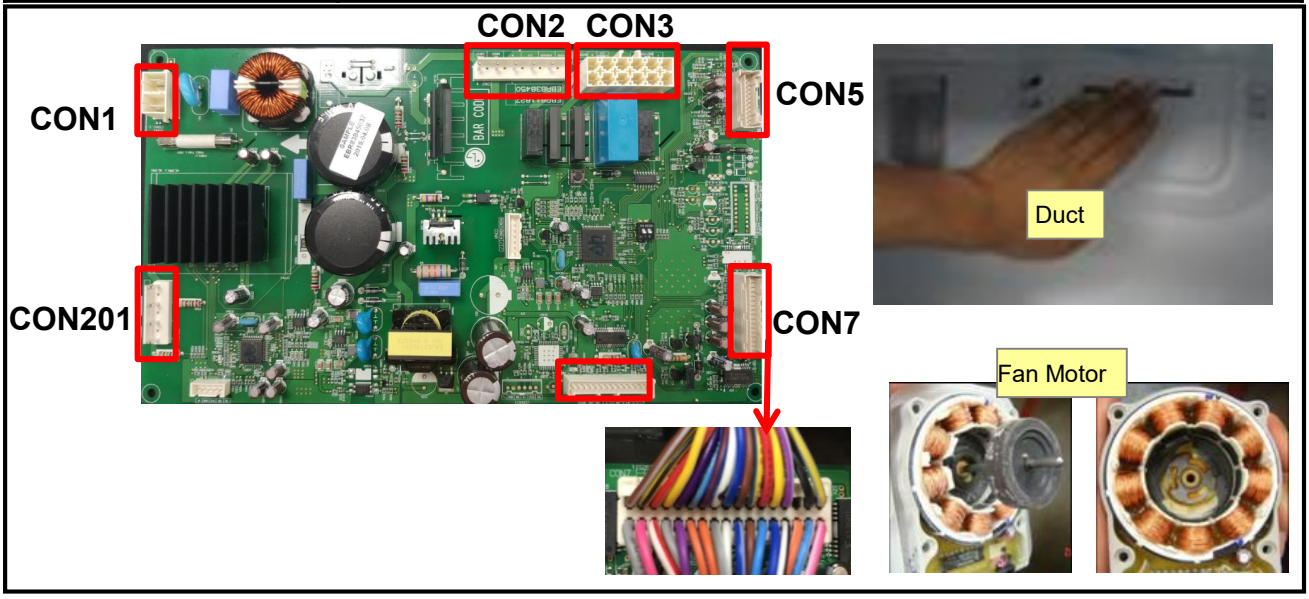
TEST MODE 1	**Voltage [V]**
CON7 10th pin ~ 14th pin	**0V<Voltage<5V**

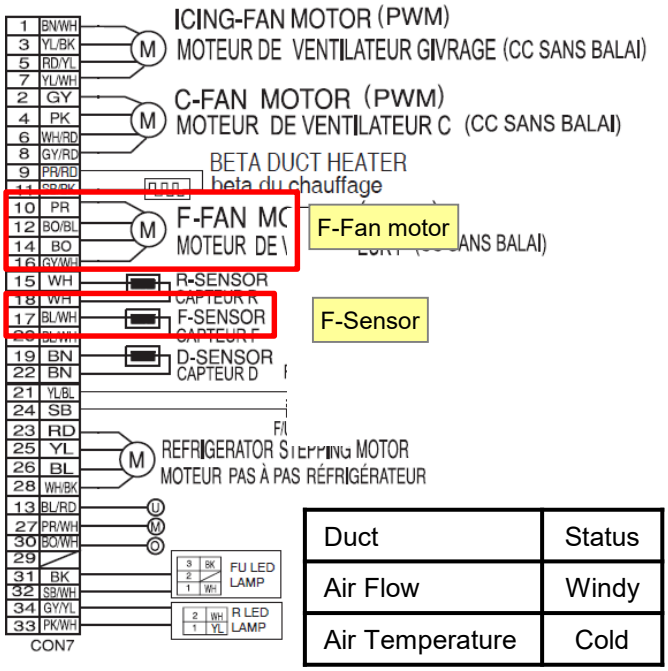
Yes

8 Explain to customer

8-12. Over cooling in Freezer compartment

Symptom	Check Point
1. Over cooling in Freezer compartment	1. Check the sensor resistance 2. Check the air flow 3. Check the air Temperature 4.Check the Fan motor sticky 5. Check the Fan motor voltage





Duct	Status
Air Flow	Windy
Air Temperature	Cold

CON7 17th pin ~ 20th pin	Resistance [Ω]
-22ºF / -30ºC	40k
-13ºF / -25ºC	30k
-4ºF / -20ºC	23k
-13ºF / -25ºC	17k
14ºF / -10ºC	13k
23ºF / -5ºC	10k
32ºF / 0ºC	8k

TEST MODE 1	Voltage [V]
CON7 12th pin ~ 14th pin	12V
CON7 16th pin ~ 14th pin	0V<Voltage<5V
CON7 10th pin ~ 14th pin	0V<Voltage<5V

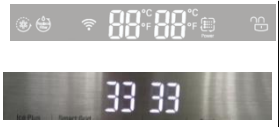
Over cooling in Freezer compartment

1 Check the sensor resistance.

CON7 17th pin ~ 20th pin	**Resistance [Ω]**
-22ºF / -30ºC	**40k**
-13ºF / -25ºC	**30k**
-4ºF / -20ºC	**23k**
-13ºF / -25ºC	**17k**
14ºF / -10ºC	**13k**
23ºF / -5ºC	**10k**
32ºF / 0ºC	**8k**

2 **Check the air flow in test mode 1 & 3 (Push the button 1 or 3 time)**

OK → Explain to customer



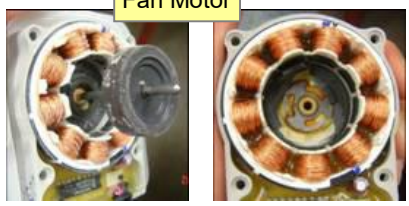
Test1	Air Flow
Test3	No Air Flow

NG

3 Check the Fan motor.
Rotate fan using hand.
It feel sticky?

Yes → Change the Fan motor

Fan Motor



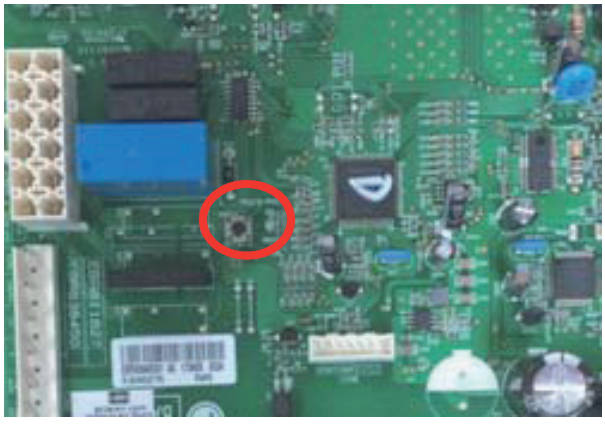
No

4 Change the Main PCB

10. REFERENCE

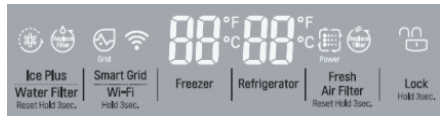
10-1 TEST MODE and Removing TPA

1. How to enter the TEST MODE
   Push the test button on the Main PCB to enter the TEST MODE.



Main PWB

* 1 time : Comp / Damper / All FAN on
  (Everything is displayed)

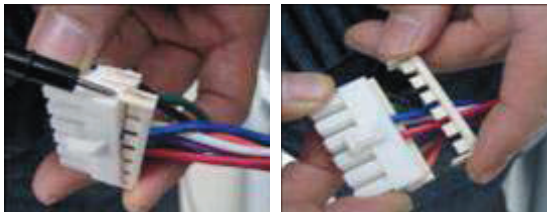


* 2 times : Damper closed
  (22 22 displayed)

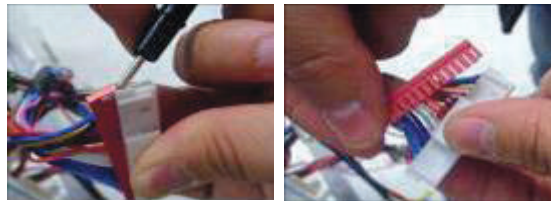
* 3 times : Forced defrost mode
  (33 33 displayed)

2. How to remove Terminal Position Assurance (TPA)

<AC TPA>



<DC TPA>



※ After measure the values, you should put in the TPA again.

10-2 TEMPERATRUE CHART - FRZ AND ICING SENSOR

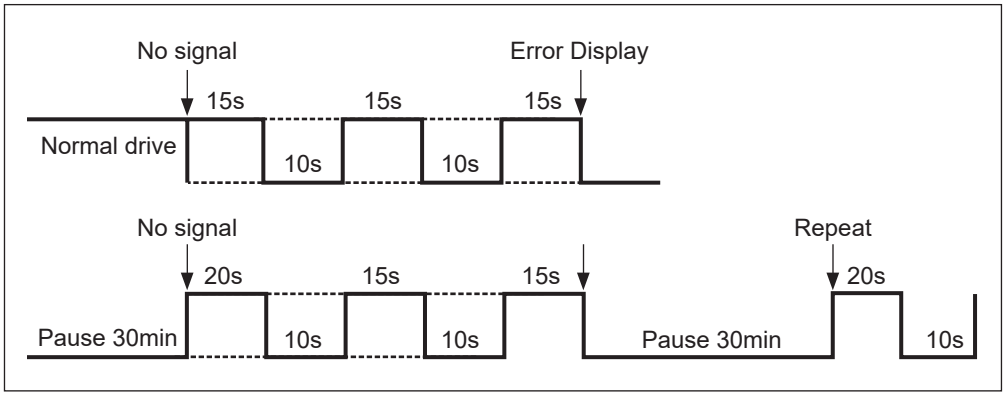
TEMP	RESISTANCE	VOLTAGE
-39°F (-40°C)	73.29 kΩ	4.09 V
-30°F (-35°C)	53.63 kΩ	3.84 V
-21°F (-30°C)	39.66 kΩ	3.55 V
-13°F (-25°C)	29.62 kΩ	3.23 V
-4°F (-20°C)	22.33 kΩ	2.89 V
5°F (-15°C)	16.99 kΩ	2.56 V
14°F (-10°C)	13.05 kΩ	2.23 V
23°F (-5°C)	10.10 kΩ	1.92 V
32°F (0°C)	7.88 kΩ	1.63 V
41°F (5°C)	6.19 kΩ	1.38 V
50°F (10°C)	4.91 kΩ	1.16 V
59°F (15°C)	3.91 kΩ	0.97 V
68°F (20°C)	3.14 kΩ	0.81 V
77°F (25°C)	2.54 kΩ	0.67 V
86°F (30°C)	2.07 kΩ	0.56 V
95°F (35°C)	1.69 kΩ	0.47 V
104°F (40°C)	1.39 kΩ	0.39 V

10-3 TEMPERATRUE CHART - REF AND DEF SENSOR

TEMP	RESISTANCE	VOLTAGE
-39°F (-40°C)	225.1 kΩ	4.48 V
-30°F (-35°C)	169.8 kΩ	4.33 V
-21°F (-30°C)	129.3 kΩ	4.16 V
-13°F (-25°C)	99.30 kΩ	3.95 V
-4°F (-20°C)	76.96 kΩ	3.734 V
5°F (-15°C)	60.13 kΩ	3.487 V
14°F (-10°C)	47.34 kΩ	3.22 V
23°F (-5°C)	37.55 kΩ	2.95 V
32°F (0°C)	30 kΩ	2.67 V
41°F (5°C)	24.13 kΩ	2.40 V
50°F (10°C)	19.53 kΩ	2.14 V
59°F (15°C)	15.91 kΩ	1.89 V
68°F (20°C)	13.03 kΩ	1.64 V
77°F (25°C)	10.74 kΩ	1.45 V
86°F (30°C)	8.89 kΩ	1.27 V
95°F (35°C)	7.40 kΩ	1.10 V
104°F (40°C)	6.20 kΩ	0.96 V

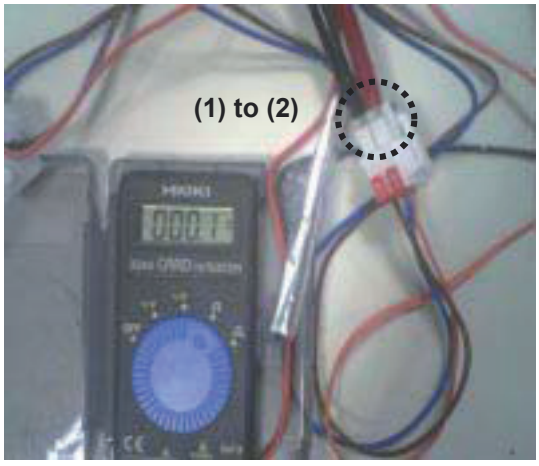
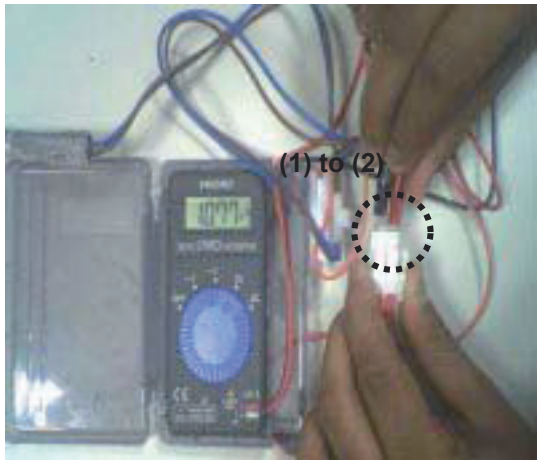
10-4 How to check the Fan-Error

After sending a signal to the fan, the MICOM checks the BLDC fan motor s lock status. If there is no feedback signal from the BLDC fan, the fan motor stops for 10 seconds and then is powered again for 15 seconds. To determine that there is a fan motor malfunction, this process is repeated 3 times. If the fan motor is determined to be defective, the error code will be shown in the display for 30 minutes. At this point, the process will be repeated until the fan motor operates normally. If normal operation is achieved, the error display is erased and the MICOM is reset automatically.

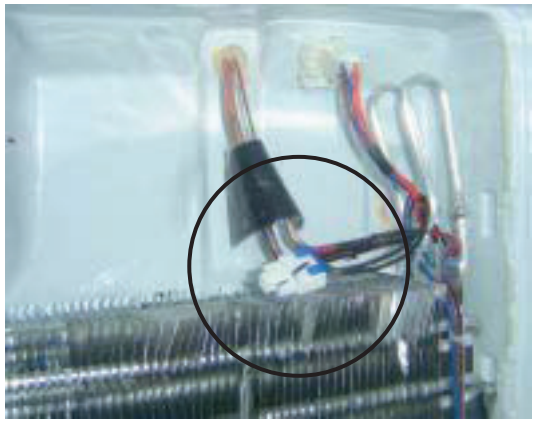
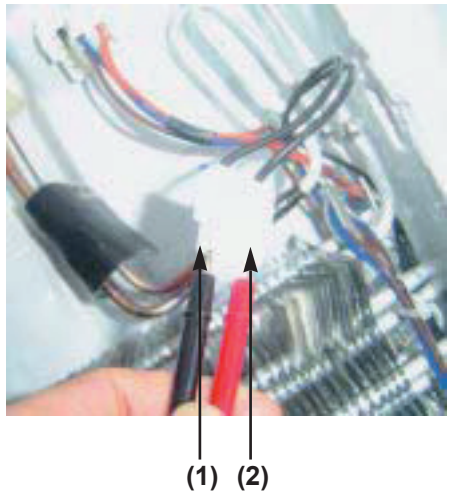


11. COMPONENT TESTING INFORMATION

11-1 Defrost Controller Assembly

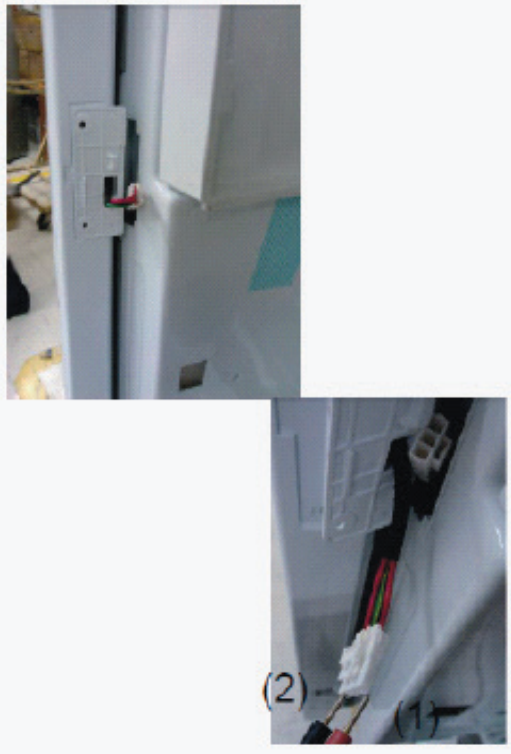
Function	The controller assembly is made up of two different kinds of parts. The fuse and the sensor. To determine if these parts are defective, check for resistance. The fuse will cut power to the defrost heater at very high temperatures.
How to Measure (Fuse-M)	 Set a ohmmeter to the 2 housing pin. Measure the 2 pin connected to Fuse-M. If the ohmmeter indicate below 0.1ohm fuse-m is a good condition, But if infinite the part is bad.
How to Measure (Sensor)	 Set a ohmmeter to The 2housing pin. Measure the 2 pin connected to Sensor. If the ohmmeter indicate 11☒ (at room temperature) Sensor is good. When check the ohm at other temperatures Check the sensor manual.
Standard	**Sensor (at room temperature)** Test Point: (1) to (2) Ressult: 11kΩ

11-2 Sheath Heater

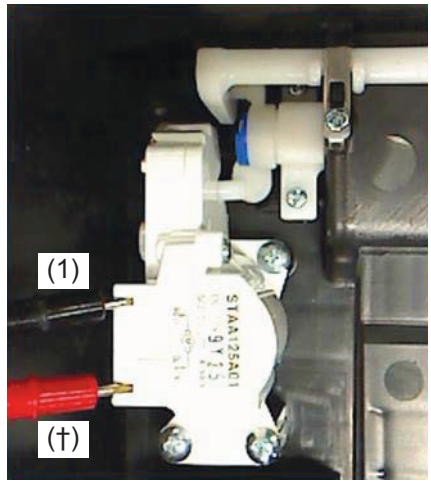
<table>
<tr><td>Function</td><td>Sheath heater is a part for defrost. All heating wire is connected to only one line. To check if the part is defective, check the resistance.</td></tr>
<tr><td>How to Measure</td><td>



Set a ohmmeter connect to The 2 housing pin.
Measure the 2 pin connected to Sheath Heater.
If the ohmmeter indicate (V°øV)/Watt=R is good condition,
ex) when watt=350w, voltage=115v R=(115°ø115)/350=38Ω
But if the ohm meter indicate infinity the Sheath heater is bad.
</td></tr>
<tr><td>Standard</td><td>
Sheath heater (at all temperature)
<table>
<tr><th>Test Point</th><th>Ressult</th></tr>
<tr><td>(1) to (2)</td><td>34 ~ 42Ω</td></tr>
</table>
</td></tr>
</table>

11-3 Door Heater Assembly

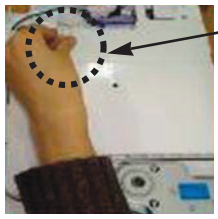
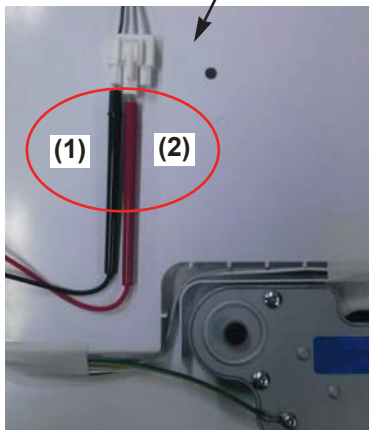
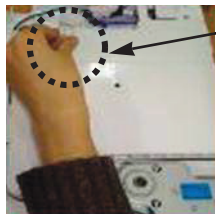
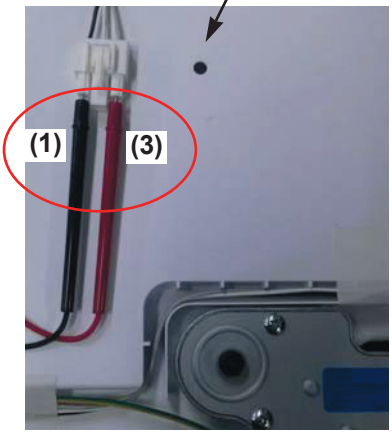
Function	The heater is designed to prevent the raising dew from door.
How to Measure	
Standard	<table><tr><th>Test Point</th><th>Ressult</th></tr><tr><td>(1) to (2)</td><td>1.9-2.2KΩ</td></tr></table>

11-5 Dispenser DC Motor

<table>
<tr><td>Function</td><td>˜ Dispenser DC Motor : When customer push the dispenser button, Pull duct door and abstract from ice bank.</td></tr>
<tr><td>How to Measure</td><td> 

Dispensor DC Motor</td></tr>
<tr><td>Standard</td><td>Dispenser DC Motor
<table>
<tr><th>Test Points</th><th>Result</th></tr>
<tr><td>(1) to (2)</td><td>9.9 ~ 12.1Ω</td></tr>
</table></td></tr>
</table>

11-6 AC Motor ASSEMBLY

Function	The motor in the door pushed the ice into the dispenser.
How to Measure	**< In-door Motor >**  ① Separate the housing. ② Measure the resistance between (1) and (2)  **< In-door Motor >**  ① Separate the housing. ② Measure the resistance between (1) and (3)  Check the resistance between connectors (In-door motor 1, 2) and (In-door motor 1, 3). It means check whether or not applying an Electric current. If there is resistance, it means the geared motor or solenoid is not inferiority
Standard	**Geared Motor** Test Points / Result (1) to (2) / 31.1 ~ 42.09Ω (1) to (3) / 31.1 ~ 42.09Ω

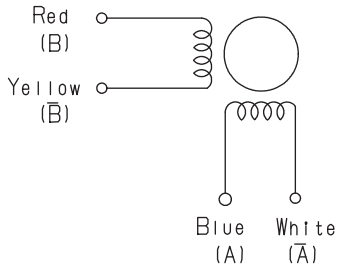
11-7 Damper

Function

The damper supplies cold air from the freezer to the chill room using the damper plate. The chill room is colder when the damper plate is open. When the damper is closed the chill rooms temperature will rise.

How to Measure

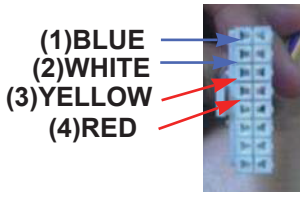
Table(1): 결선도(Wirering)

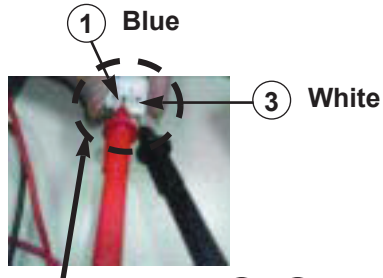


Table(2): 2-2상 여자순서(CW Rotation)

Housing No. & L/Wire Color	Step			
	1	2	3	4
1- Blue (A)	+	-	-	+
2- Red (B)	+	+	-	-
3- White(Ā)	-	+	+	-
4- Yellow(B̄)	-	-	+	+

< Damper Circuit >

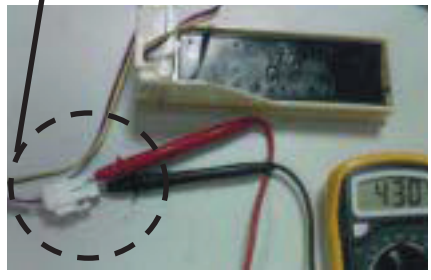




Check the (1), (3)

< extension >

Check the (1), (2)



Check the (3), (4)

Check to see if there is electrical current, if there is resistance the damper is good.

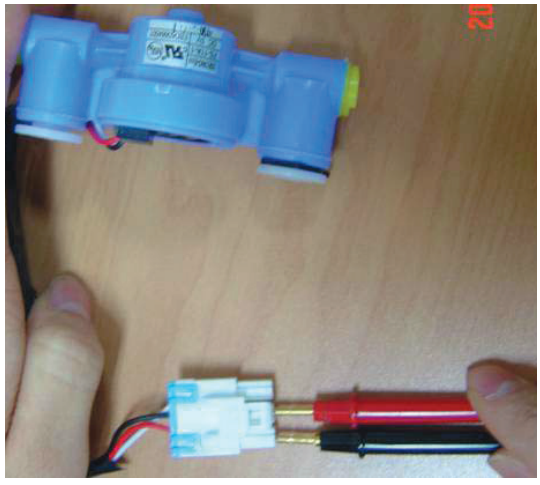
Standard

Damper

Test Points	Result
Red and Yellow	373 ~ 456Ω

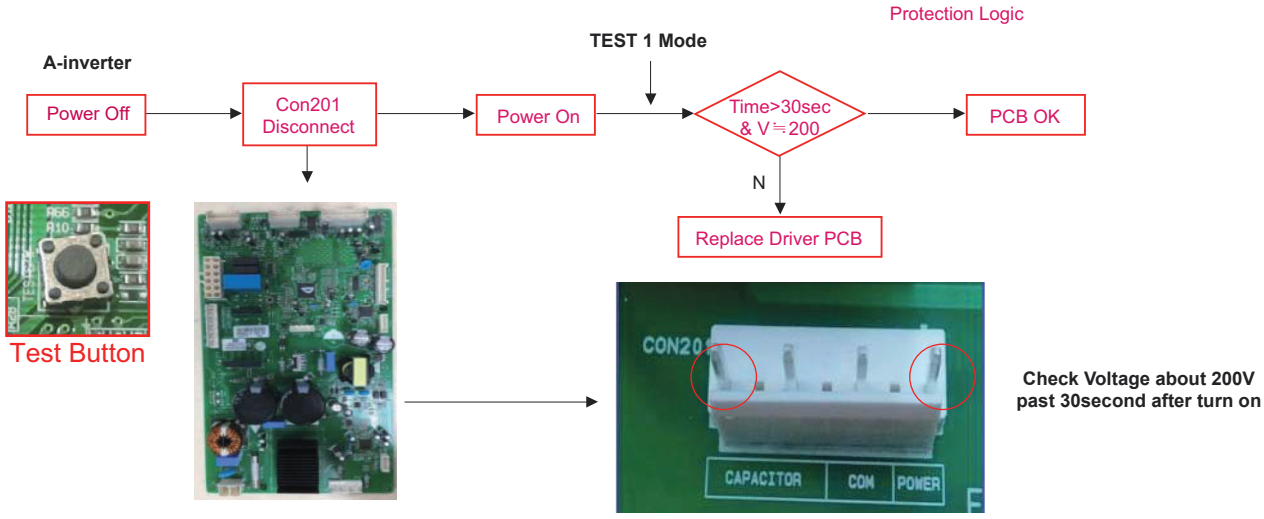
Test Points	Result
Blue and White	373 ~ 456Ω

11-9 Flow Sensor

Function	Flow Sensor (in machine room) Count the water quantity from city water to water filter in refrigerator
How to Measure	 Flow Sensor (in machine room) 
Standard	Test Points: Red wire to Black wire Result: 4 ~ 30 kΩ

12. COMPRESSOR TROUBLESHOOTING

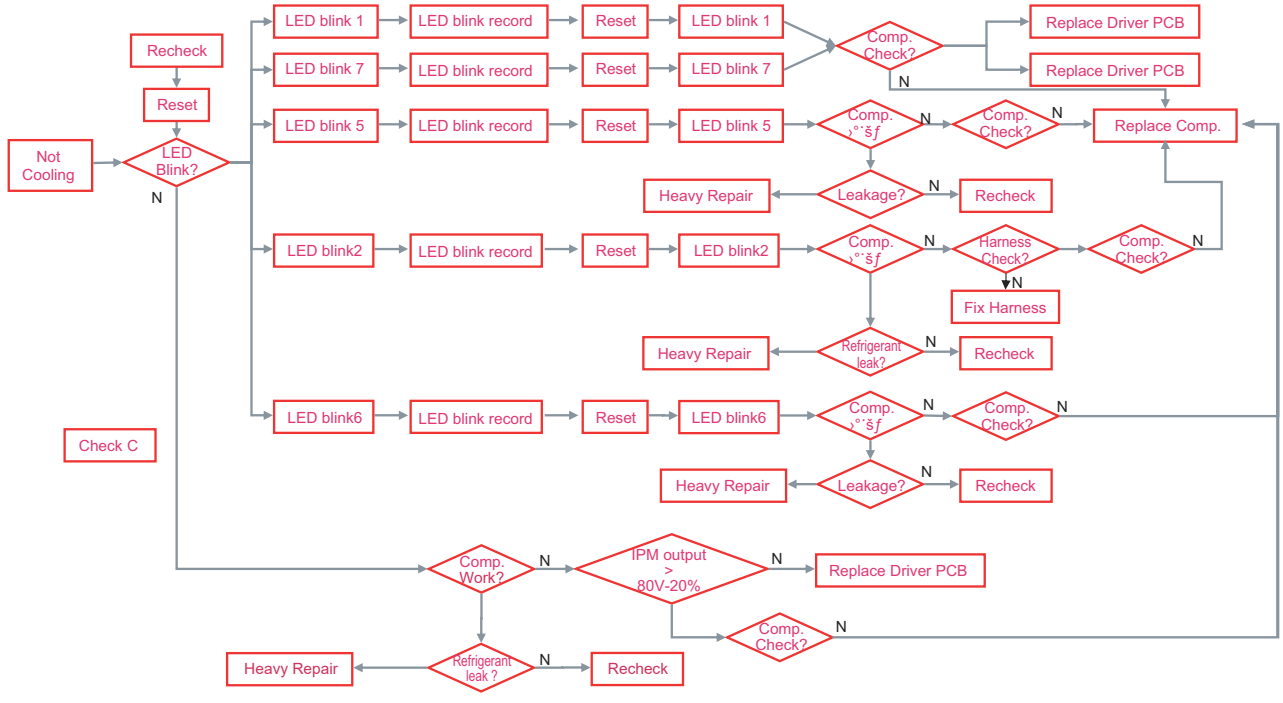
PCB Check (Simplify)



Test Mode

	Ref.	Comp	Display & sound	Refer
		FLA075(A-Inverter)		
TEST1	Forced Starting	TDC (Full Stroke)	Display ON, Buzz 1 time	

Troubleshooting

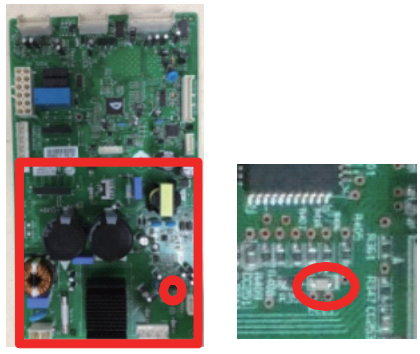


12-1 Check A

- There is PC Board located in the PCB case.
  The control driver is PC board for the compressor.
- This step shows the source voltage of the driver PC board.

Step1. Open PCB Cover

Step2. Check Driver PCB



- Measure the voltage between the POWER and COMM pins of the connector as shown below.

Check to make sure compressor is receiving voltage from IPM

- In order to determine whether the compressor is operating normally, check the output voltage during the refrigeration cycle.
- After initial power-up, when the compressor begins to operate, wait 10 minutes before checking.
- The compressor is operating normally if the voltage is greater than 80V.

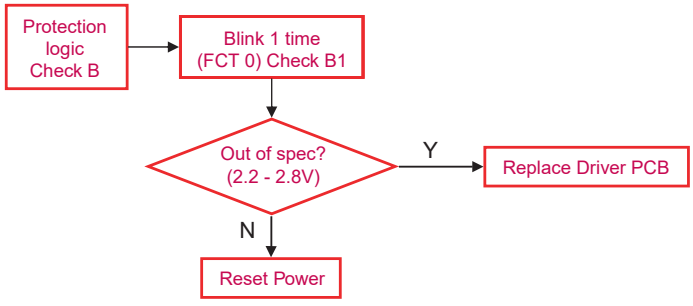
12-2 Check B

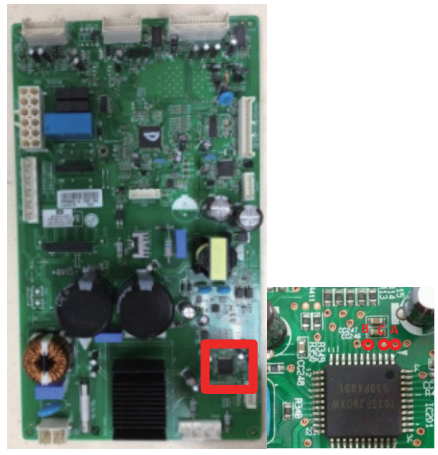
B1. LED blinks once, then repeats (FCT0 Fault)

Protection Logic

- Purpose: Detecting motor current and voltage error
- Check voltage at **point A** (Motor Voltage), **point B** (Motor Current) and **Point C** (Capacitor Voltage) when **compressor is off**.
- Spec: **Points A, B, & C 2.5V ± 0.3V**

GND
Voltage

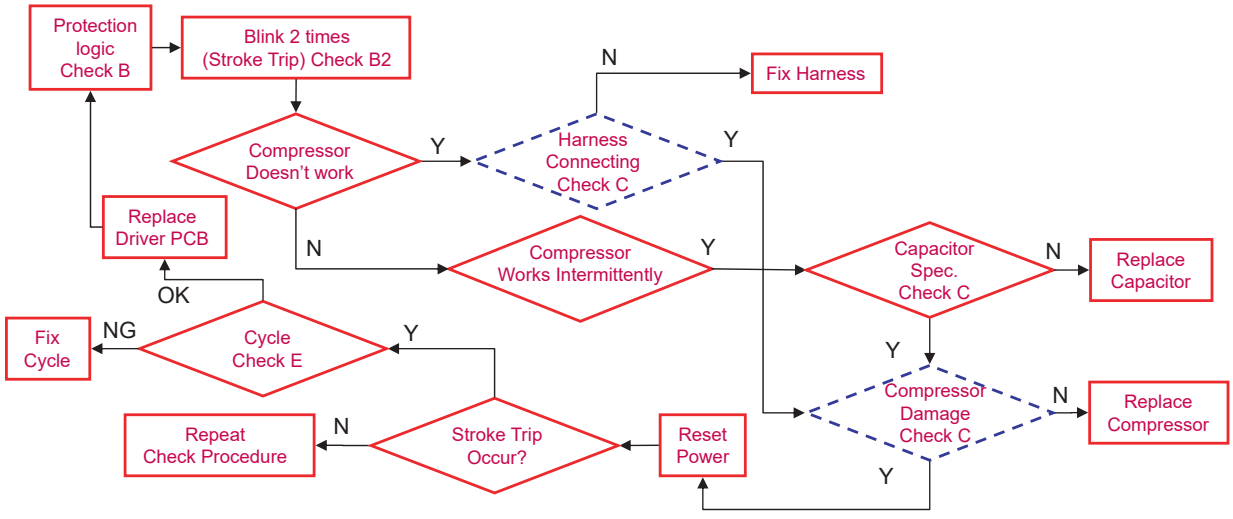




B2. LED blinks two times, then repeats (Stroke Trip)

Protection Logic

- Purpose: Prevent abnormally long piston strokes.
- Case 1. If compressor doesn't work and LED blinks - Cause: Possibly harness from compressor to PCB might be defective.
- Case 2. If compressor works intermittently and LED blinks - Cause: Condenser Fan or Freezer Fan is not running. Sealed system problem such as moisture restriction, restriction at capillary tube or refrigerant leak.
- Logic: Compressor is forced to off and then tries to restart after 1 minute.

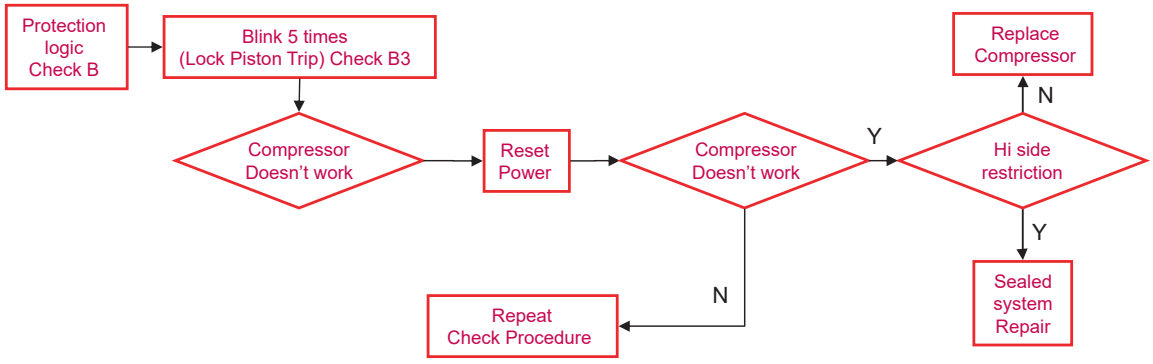


B3. LED blinks five times, then repeats (Locked Piston)

Protection Logic

Blink Blink Blink Blink Blink OFF

- Purpose: To detect locked piston
- Cause: Lack of oil to the cylinder, cylinder or piston damaged and or restricted discharge. A Locked Piston can also be caused by foreign materials inside the compressor.
- Logic: Compressor is forced off and tries to restart within 2.5 minutes.

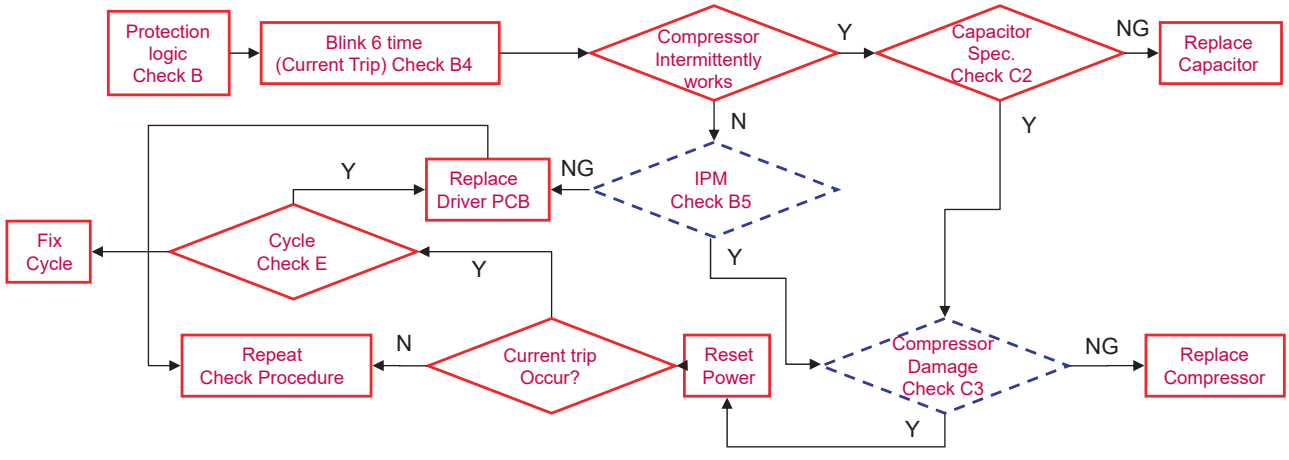


B4. LED blinks six times, then repeats (Current Trip)

Protection Logic

Blink Blink Blink Blink Blink Blink OFF

- Purpose: Prevent over-current (overload protect)
- Cause: Ambient temperature is high (over 43°C) and/or refrigerator's condenser air movement is restricted.
- Condenser Fan is stopped, restricted discharge line, compressor is damaged, or IPM device is defective.
- Logic: Compressor is forced off and tries to restart after 6 minutes.

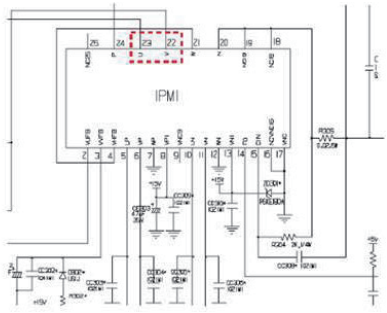


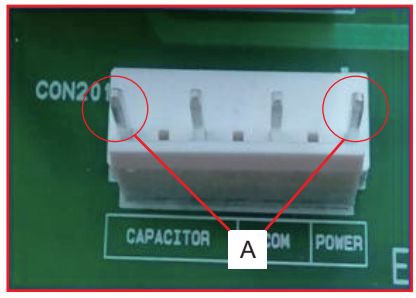
B5. LED blinks seven times, then repeats (IPM Fault)

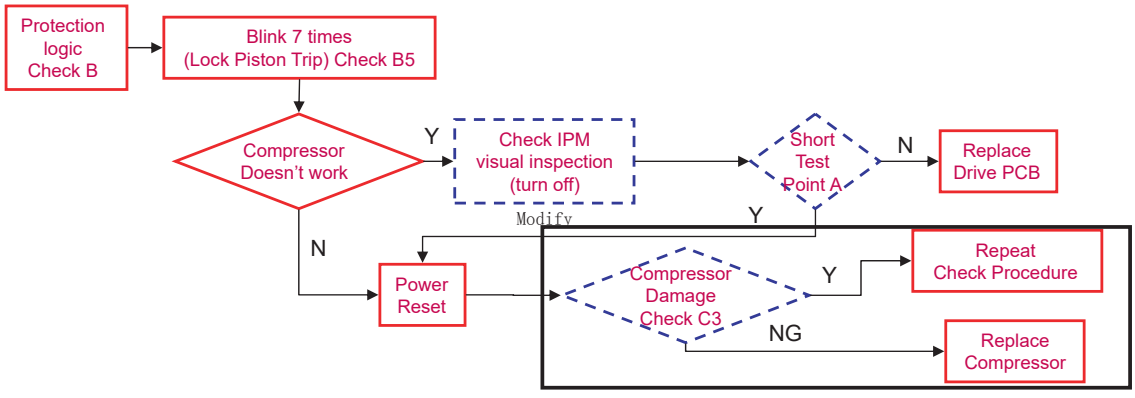
Blink Blink Blink Blink Blink Blink Blink OFF

- Purpose: Prevent high current due to IPM Short
- Cause: Damaged IPM (Dead Short)
- Test for a dead short at **Point A** with a VOM.
- Logic: Compressor is forced off and tries to restart in 20 seconds.

Protection Logic





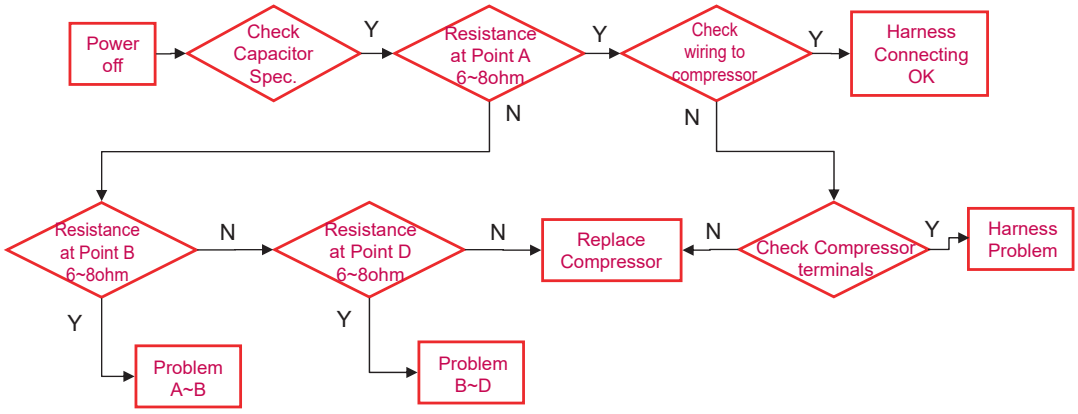


12-3 Check C

C1. Harness Connection Check
C2. Capacitor Specifications
C3. Compressor Check

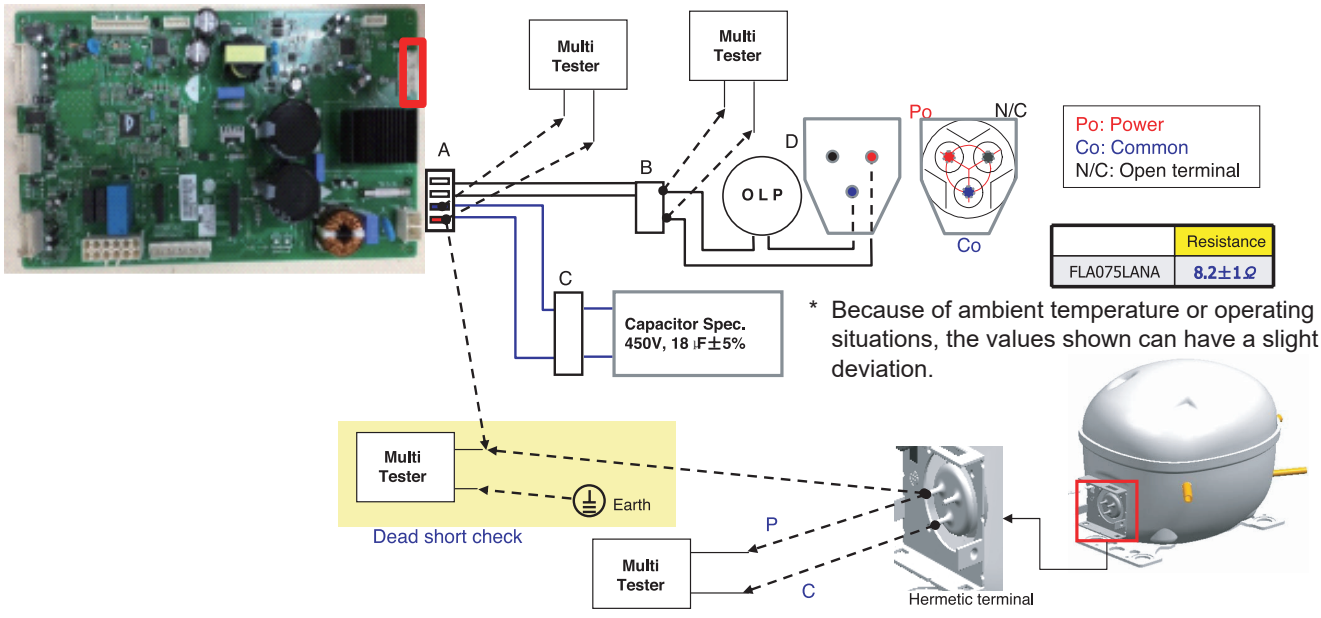
Check Process

- Step 1. Power off. Step 2. Check capacitor spec. (table1). Step3. Check resistance of point A
  Step 4. Check wire harness (INF ohm). Step 5. Check resistance at point B. Step 6. Point D.



Caution : Turn off power during check C

- Measure the resistance at each point except point C
- Dead short check: measure the resistance between power line in compressor and earth ground in refrigerator (Inf. Ohm)

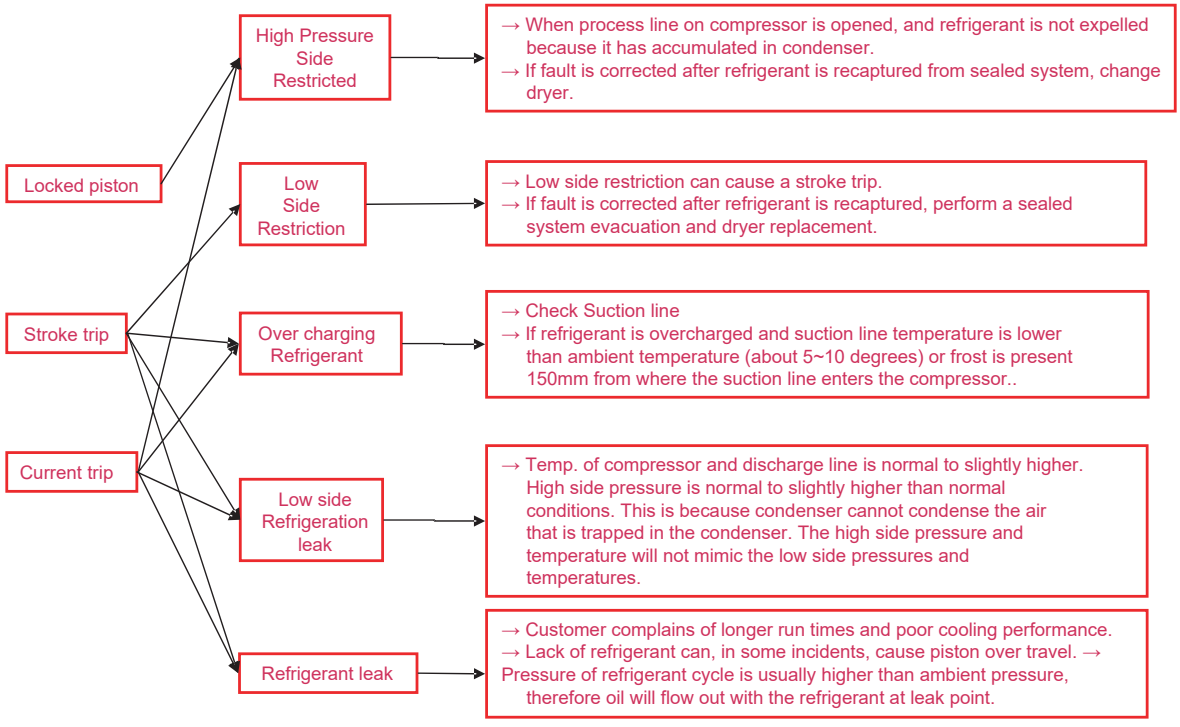


12-4 Check D

D1. Activate Protection logic

Cycle check with protection logic

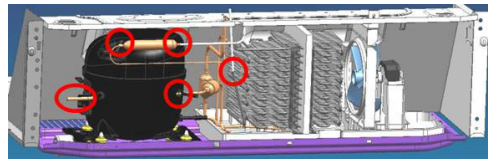
- We have to check Condenser fan and Freezer fan before performing Check D
- Locked Piston, Current trip and stroke trip can be activated by other problems then the driver or compressor.

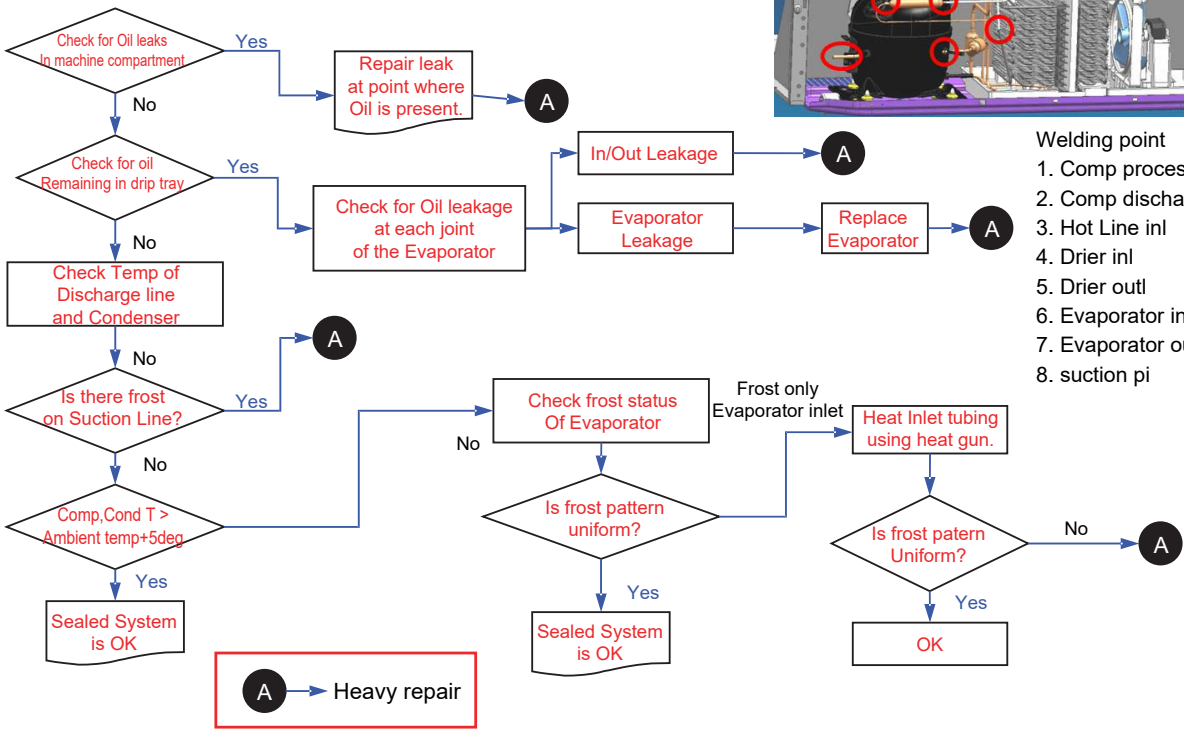


D2. sealed system diagnosis

Sealed system

- Check as follows;





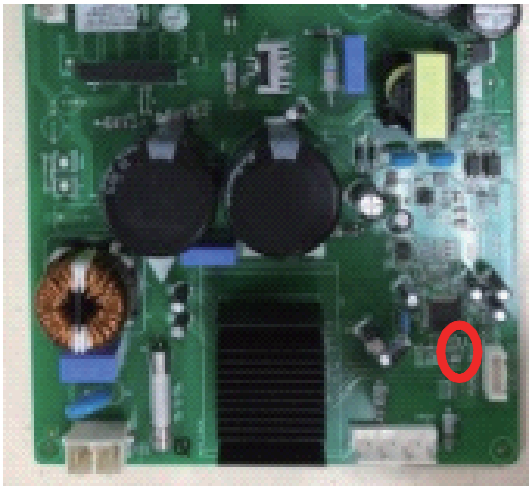
Welding point
1. Comp process stu
2. Comp dischar
3. Hot Line inl
4. Drier inl
5. Drier outl
6. Evaporator inl
7. Evaporator outl
8. suction pi

Compressor Troubleshooting

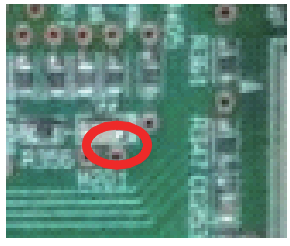
⚠ WARNING HIGH VOLTAGE

Step 1) Open PWB cover

Step 2) Check for blinking frequency of LED, PWB



LED Lamp



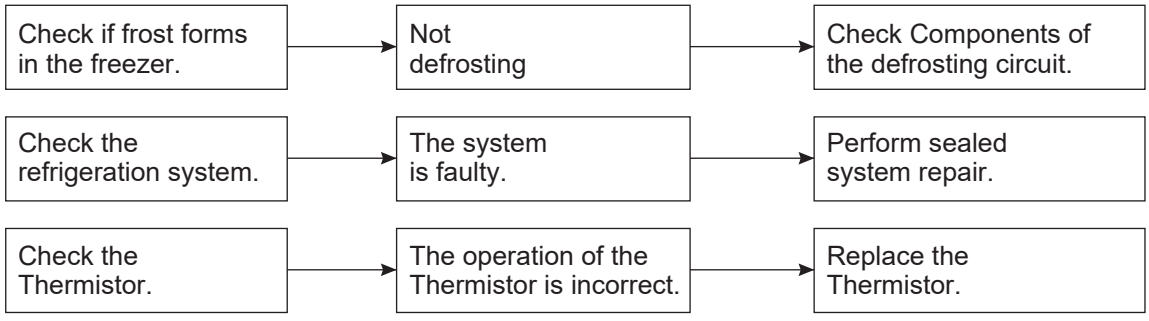
If compressor is normal, it does not blink
: Refer to the next page to find out what actions to take according to how many times LED blink

No	LED operating condition	Cause	Service guideline
1	**LED two - time repetiton (Stroke Trip)**  •• on - on - off - on - on - off - on - on - off •• repeating	PCB Parts defect or Compress or Connector miss connecting (Piston over run)	1. Please check, Wheth connector of compressor is attached rightly or not. after power off 2. After the first actio You check on normal operation of compressor. 3. If the same sympt arises after the second action, replace PCB
2	**LED five - time repetiton (Piston Lock Trip)**  •• on - on - on - on - on - off - on - on - on - on - on - off •• repeating	Piston constraint	1. After resetting powe check if it is running normal 2. If the same sympt arises after the first action 3. If the same sympt arises after the second action, replace compressor
3	**LED six - time repetiton (Current Trip)**  •• on - on - on - on - on - on - off - on - on - on - on - on - on - off •• repeating	Circuit over current error Or cycle error	1. After resetting powe check if it is running normal 2. If the same sympt arises after the first action 3. If the same sympt arises after the second action, replace compressor
4	**LED seven- time repetiton (IPM Fault Trip)**  •• on - on - on - on - on - on - on - off - on - on -on - on - on - on- on - off •• repeating	PCB parts defect (IPM)	1. After resetting powe check if it is running normal 2. If the same sympt arises after the first action, replace PCB
5	**LED once repetiton (FCT0 Trip)**  ** on - off - on - off - on - off - on - off ** repeating	PCB parts defect (Motor current & Capacitor Voltage)	1. After resetting power,check if it is running normal. 2. If the same symptom arises after the first action 3. If the same symptom arises after the second action,replace PCB

12-5 SERVICE DIAGNOSIS CHART

COMPLAINT	POINTS TO BE CHECKED	REMEDY
No Cooling.	• Is the power cord unplugged from the outlet? • Check if the power switch is set to OFF. • Check if the fuse of the power switch is shorted. • Measure the voltage of the power outlet.	• Plug into the outlet. • Set the switch to ON. • Replace the fuse. • If the voltage is low, correct the wiring.
Cools poorly.	• Check if the unit is placed too close to the wall. • Check if the unit is placed too close to the stove, gas cooker, or in direct sunlight. • Is the ambient temperature too high or the room door closed? • Check if food put in the refrigerator is hot. • Did you open the door of the unit too often or check if the door is sealed properly? • Check if the Control is set to **Warm position**.	• Place the unit about 4 inches (10 cm) from the wall. • Place the unit away from these heat sources. • Lower the ambient temperature. • Put in foods after they have cooled down. • Don't open the door too often and close it firmly. • Set the control to **Recommended position**.
Food in the Refrigerator is frozen.	• Is food placed in the cooling air outlet? • Check if the control is set to **colder position**. • Is the ambient temperature below 41°F(5°C)?	• Place foods in the high-temperature section. (front part) • Set the control to **Recommended position**. • Set the control to **Warm position**.
Condensation or ice forms inside the unit.	• Is liquid food sealed? • Check if food put in the refrigerator is hot. • Did you open the door of the unit too often or check if the door is sealed properly?	• Seal liquid foods with wrap. • Put in foods after they have cooled down. • Don't open the door too often and close it firmly.
Condensation forms in the Exterior Case.	• Check if the ambient temperature and humidity of the surrounding air are high. • Is there a gap in the door gasket?	• Wipe moisture with a dry cloth. It will disappear in low temperature and humidity. • Fill up the gap.
There is abnormal noise.	• Is the unit positioned in a firm and even place? • Are any unnecessary objects placed in the back side of the unit? • Check if the Drip Tray is not firmly fixed. • Check if the cover of the compressor enclosure in the lower front side is taken out.	• Adjust the Leveling Screw, and position the refrigerator in a firm place. • Remove the objects. • Fix the Drip Tray firmly in the original position. • Place the cover in its original position.
Door does not close well.	• Check if the door gasket is dirty with an item like juice. • Is the refrigerator level? • Is there too much food in the refrigerator?	• Clean the door gasket. • Position in a firm place and level the Leveling Screw. • Make sure food stored in shelves does not prevent the door from closing.
Ice and foods smell unpleasant.	• Check if the inside of the unit is dirty. • Are foods with a strong odor unwrapped? • The unit smells of plastic.	• Clean the inside of the unit. • Wrap foods that have a strong odor. • New products smell of plastic, but this will go away after 1-2 weeks.

● Other possible problems:



12-6 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.	• Refrigerant level is low due to a leak. • Normal cooling is possible by restoring the normal amount of refrigerant and repairing the leak.
	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.	• No discharging of Refrigerant. • Normal cooling is possible by restoring the normal amount of refrigerant and repairing the leak.
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.	• Normal discharging of the refrigerant. • The capillary tube is faulty.
	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.	• Normal discharging of the Refrigerant.
MOISTURE CLOG		Cooling operation stops periodically.	Flowing sound of refrigerant is not heard and frost melts.	Lower than ambient temperature.	• Cooling operation restarts when heating the inlet of the 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 higher 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 there is no frost.	Equal to ambient temperature.	• No pressure in the high pressure part of the compressor.

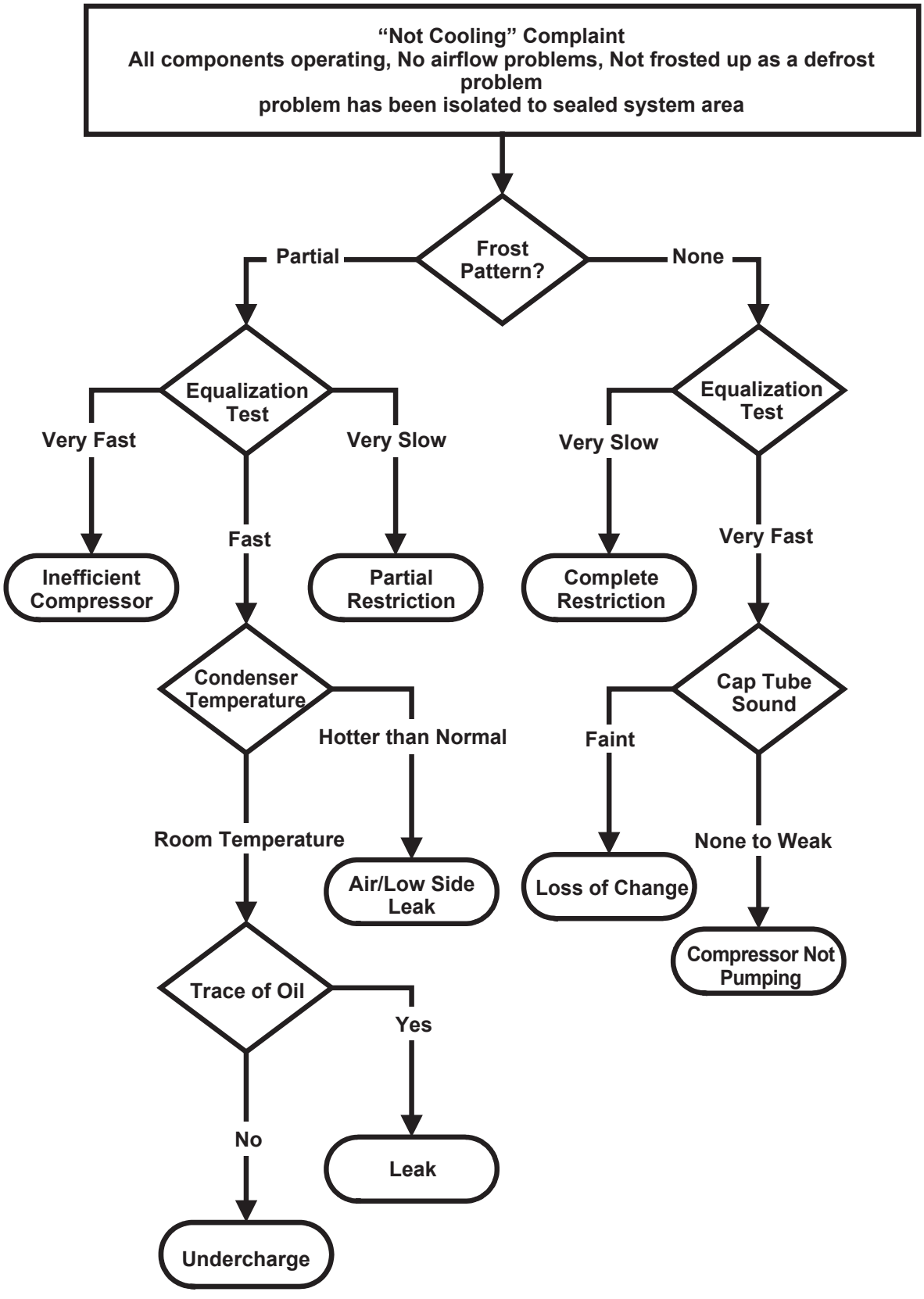
12-6-1 Cleaning

There is no need for routine condenser cleaning in normal Home operating environments. If the environment is particularly greasy or dusty, or there is significant pet traffic in the home, the condenser should be cleaned every 2 to 3 months to ensure maximum efficiency.

If you need to clean the condenser:

- Remove the mechanical cover.
- Use a vacuum cleaner with a soft brush to clean the grille, the open areas behind the grille and the front surface area of the condenser.
- Replace the mechanical cover.

12-6-2 SEALED SYSTEM DIAGNOSIS

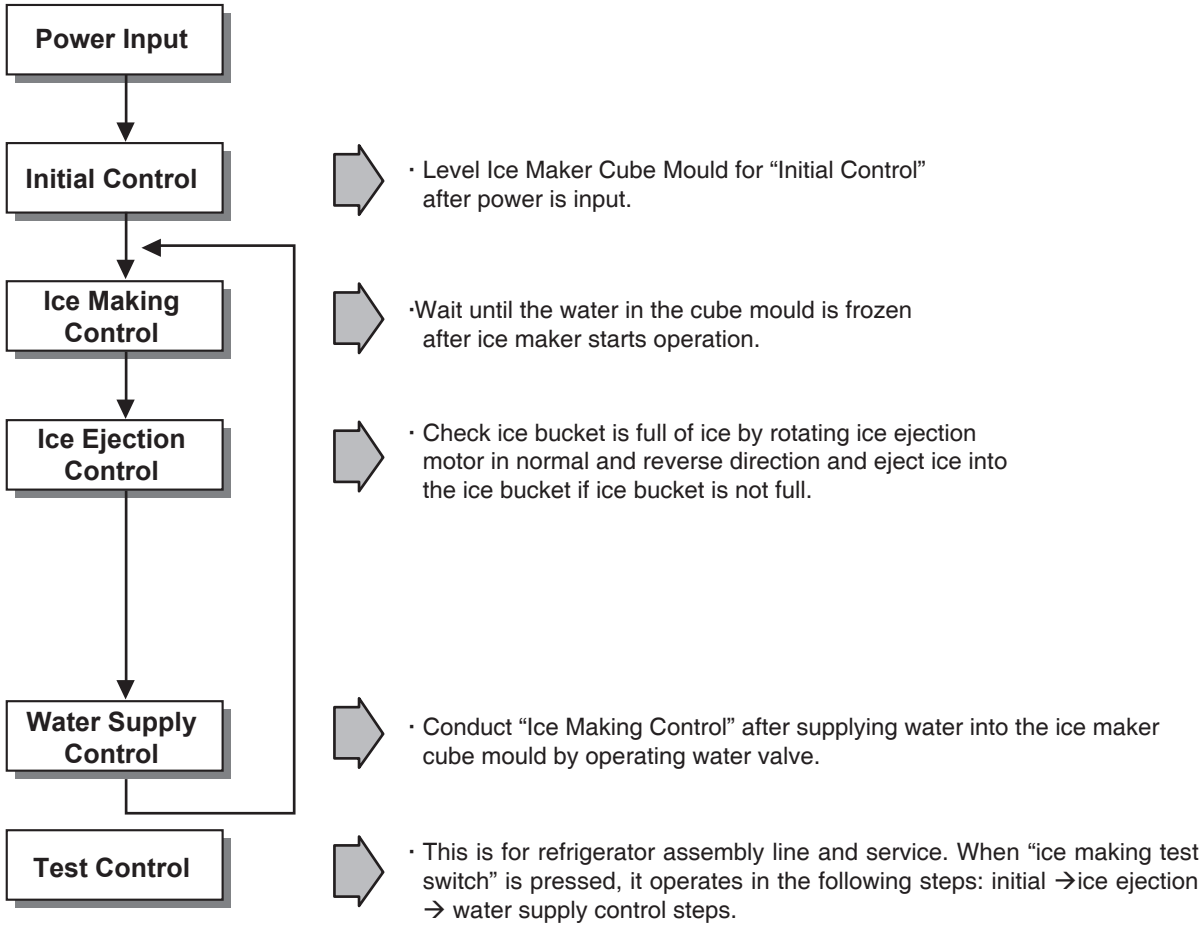


(The equalization test is trying to restart a compressor using a start kit after it has been operating.)

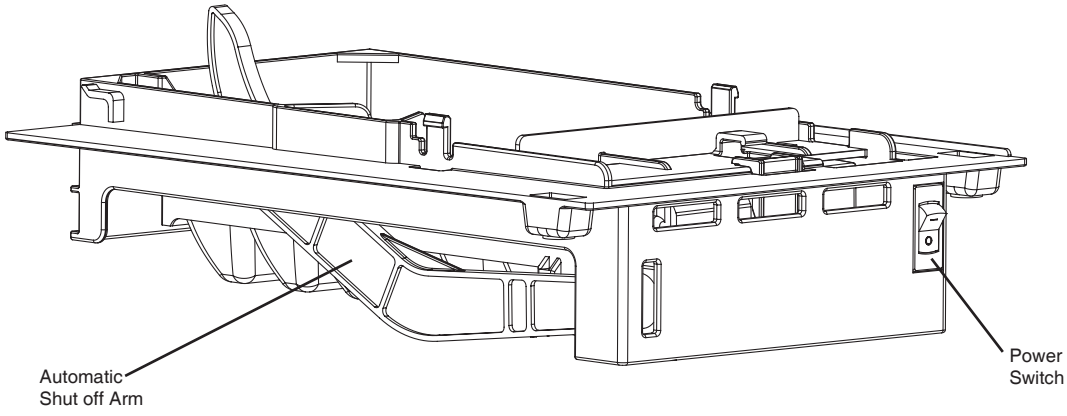
13. ICE MAKER (Freezer Room) OPERATING METHOD AND TROUBLE SHOOT

13-1 Working Principles

13-1-1 Ice Maker Working Principles



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



13-2 Function of Ice Maker

13-2-1 Initial Control Function

1. When power is initially applied or reapplied after power cut, it detects level of ice maker cube mould after completion of MICOM initialization. The detecting lever moves up and down.
2. The level of ice maker cube mould is judged by output signal, high and low signal, of Hall IC. Make the cube mould to be horizontal by rotating ice ejection motor in normal or reverse direction.
3. If there is no change in signals one minute after the geared motor starts to operate, it stops icemaker operation and check the signal every hour. It resets initialization of icemaker when it becomes normal.
4. It judges that the initial control is completed when it judges the ice maker cube mould is horizontal.
5. Ice ejection conducts for 1 cycle irrespect of ice in the ice bucket when power is initially applied.

13-2-2 Water Supply Control Function

1. This is to supply water into the ice maker cube mould by operating water valve in the machine room when ice ejection control is completed and ice maker mould is even.
2. The quantity of water supplied is determined by DIP switch and time.

<Water Supply Quantity Table>

No	DIP SWITCH SETTING		WATER SUPPLY TIME	REMARKS
	S1	S2		
1	OFF	OFF	9 SEC	* The quantity of water supplied depends on DIP switch setting conditions and water pressure as it is a direct tap water connection type. (the water supplied is generally 60 cc to 100 cc)
2	ON	OFF	8 SEC	
3	OFF	ON	10 SEC	
4	ON	ON	11 SEC	* DIP switch is on the main PCB.

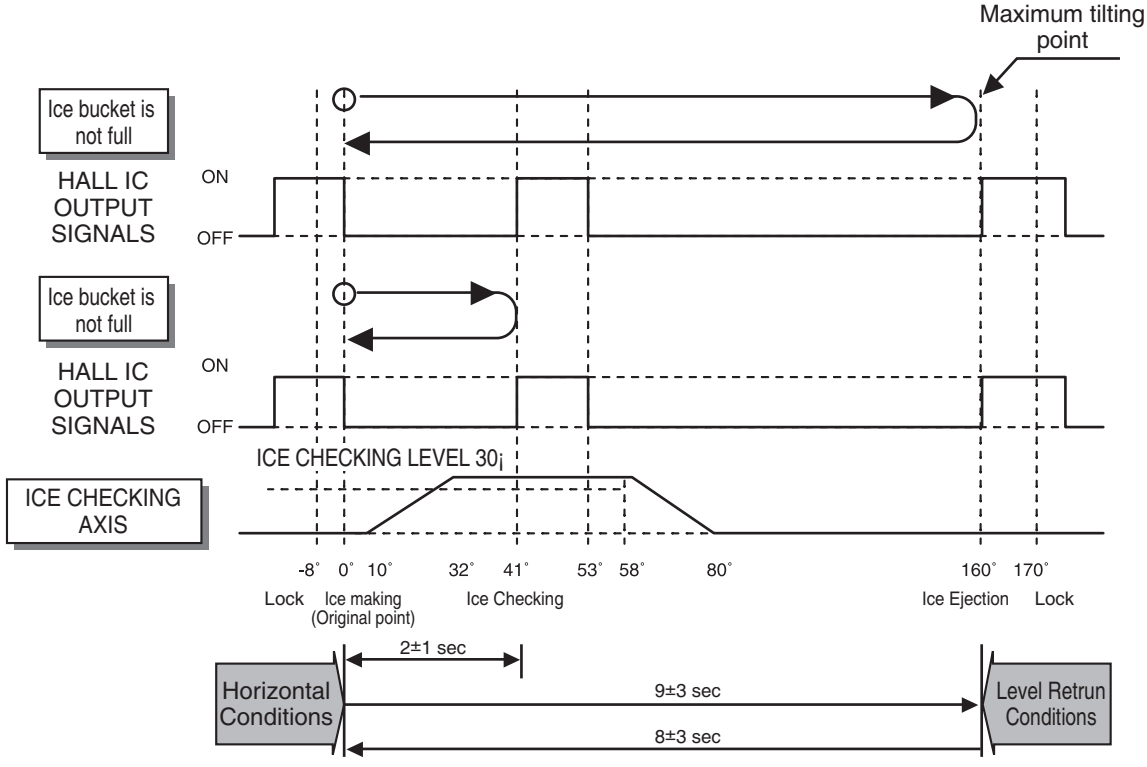
3. If water supply quantity setting is changed while power is on, water supplies for the amended time. If DIP switch is changed during water supply, water shall be supplied for the previous setting time. But it will supply for the amended time from the next supply.
4. When water supply signal is applied to water and ice valves at the same time during water supply, water shall be supplied to water valve. If water supply signal is applied to ice valve during water supply, water shall be supplied to both water and ice valves.

13-2-3 Ice Making Control Function

1. Ice making control is carried out from the completion of water supply to the completion of ice making in the cube mould. Ice making sensor detects the temperature of cube mould and completes ice making. (ice making sensor is fixed below ice maker cube mould)
2. Ice making control starts after completion of water supply control or initial control.
3. At first, It is judged that ice making is completed when ice making sensor temperature reaches at -8°C after 70 minutes when water is supplied to ice maker cube mould.
4. Finally, It is judged that ice making is completed when ice maker sensor temperature reaches below -8 °C after 10 minutes in condition 3.

13-2-4 Ice Ejection Control Function

1. This is to eject ice from ice maker cube mould after ice making is completed.
2. If Hall IC signal is on within 3.6 seconds after ice ejection motor rotates in normal direction, it does not proceed ice ejection but waits. If the ice bucket is full, ice ejection motor rotates in normal direction in every hour to check the condition of ice bucket. If the ice bucket is not full, the water supply control starts after completion of ice ejection control. If the ice bucket is full, ice ejection motor rotates in reverse direction and sops under ice making or waiting conditions.
3. If ice bucket is not full, ice ejection starts. The cube mould tilts to the maximum and ice is separated from the mould and ice checking lever raises.
4. Ice ejection motor stops for 1 second if Hall IC signal changes from OFF (low) to ON (high) after 3.6 seconds when ice ejection motor rotates in normal direction. If there is no change in Hall IC signals within 1 minute after ice ejection motor operates, ice ejection motor stops as ice ejection motor or hall IC is out of order.
5. If ice ejection motor or Hall IC is abnormal, ice ejection motor rotates in normal direction to exercise initial operation. It resets the ice maker if ice ejection motor or Hall IC is normal.
6. The mould stops for 1 second at maximum tilted conditions.
7. The mould returns to horizontal conditions as ice ejection motor rotates in reverse direction.
8. When the mould becomes horizontal, the cycle starts to repeat:
   Water Supply → Ice Making → Ice Ejection → Mould Returns to Horizontal
9. When freezer door is open, ice ejection don't operating, and after 1minute of Freezer door closing, ejection control function is operated.



<Timing Chart During Ice Ejection>

13-2-5 Test Function

1. It is to force the operation during operation test, service, and cleaning. The test switch is mounted under the automatic ice maker. The test function starts when the test switch is pressed for more than 0.5 second.
2. Test button does not work during ice ejection and water supply. It works when it is in the horizontal conditions. If mould is full of ice during test function operation, ice ejection control and water supply control do not work.
3. When test switch is pressed for more than 0.5 second in the horizontal conditions, ice ejection starts irrespect of the mould conditions. Water shall be splashed if test switch is pressed before the water in the mould freezes. Water shall be supplied while the mould returns to the horizontal conditions after ice ejection. Therefore the problems of ice ejection, returning to the horizontal conditions, and water supply can be checked by test switch. When test function performs normally, buzzer sounds and water supply shall carry out. Check it for repair if buzzer does not sound.
4. When water supply is completed, the cycle operates normally as follows: Ice maki → Ice ejection →Returning to horizontal conditions →Water supply
5. Remove ice from the ice maker cube mould and press test switch when ice maker cube mould is full of ice as ice ejecti and water supply control do not work when cube mould is full of ice.

14. DESCRIPTION OF FUNCTION & CIRCUIT OF MICOM

14-1 FUNCTION

14-1-1 Function

1. When the appliance is plugged in, it is set to 37°F for Refrigerator and 0°F for freezer.
   You can adjust the Refrigerator and the Freezer control temperature by pressing the ADJUST button.
2. When the power is initially applied or restored after a power failure, it is set to Control temperature Previously.
3. Top display is turned on when the door is left open.

14-1-2 How to Toggle the Display between °F & °C

1. The initial setting is °F and the display temperature mode can be changed from °F to °C or °C to °F by pressing and holding the FRZ TEMP and the REF TEMP keys at the same time for over 5 seconds.

14-1-3 Water Filter condition display fucntion

1. There is a replacement indicator light for the water filtter cartridge.
2. Water filter needs replacement every six months for using water filter.
3. When the Replace Icon blinks, you must exchange the filter.
4. After replacing the filter, press and hold the water filter reset button for 3 seconds.
   After then water Filter icon turn off with reset status.

14-1-4 Ice Plus selection

1. This function increases both ice making and freezing capabilities.
2. When you press and Ice Plus button, the Ice Plus ICON will be turned on again.
3. Ice Plus function automatically turns off after a fixed time passes.

14-1-5 Control of Freezer fan motor

1. Freezer fan motor has high and standard speed.
2. When refrigerator is overloaded, fan motor runs in high speed as powered-up Standard speeds is used for general purposes.
3. To improve cooling speed, the RPM of freezer fan motor changs from normal speed to high.

14-1-6 Cooling Fan Motor

1. The cooling fan is switched ON and OFF in conjunction with the compressor.
2. The Failure sensing method is the same as in the fan motor of the freezing fan motor(refer to failure diagnosis function table for failure display).

14-1-7 How to set the display mode and cancel it

1. With the refrigerator door open, keep pressing the Refrigerator Temp Button and Ice Plus Button more than 5 seconds, then it goes to the display mode with Special Beep Sound With Special Beep Sound.
2. Perform the same way again to cancel the display mode.
3. All Freezing unit will be turned off at display mode (Exceptions : Lamp, Display)

14-1-8 Defrosting (removing frost)

1. Defrosting starts each time the COMPRESSOR running time Betwee 7~50 hours.
2. Defrosting stops if the sensor temperature reaches 41°F (5°C) or more. If the sensor doesn't reach 41°F (5°C) in 1 hours, the defrost mode is malfunctioning. (Refer to the defect diagnosis function)
3. Defrosting won't function if its sensor is defective (wires are cut or short circuited)

14-1-9 Defect Diagnosis Function

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

* Display check function: If simultaneously pressing Ice Plus button and freezing temperature adjustment button for a second, display LCD graphics on. If releasing the button, the LCD graphic displays the previous status. You can check the error code Within 3-hour Period from initial error

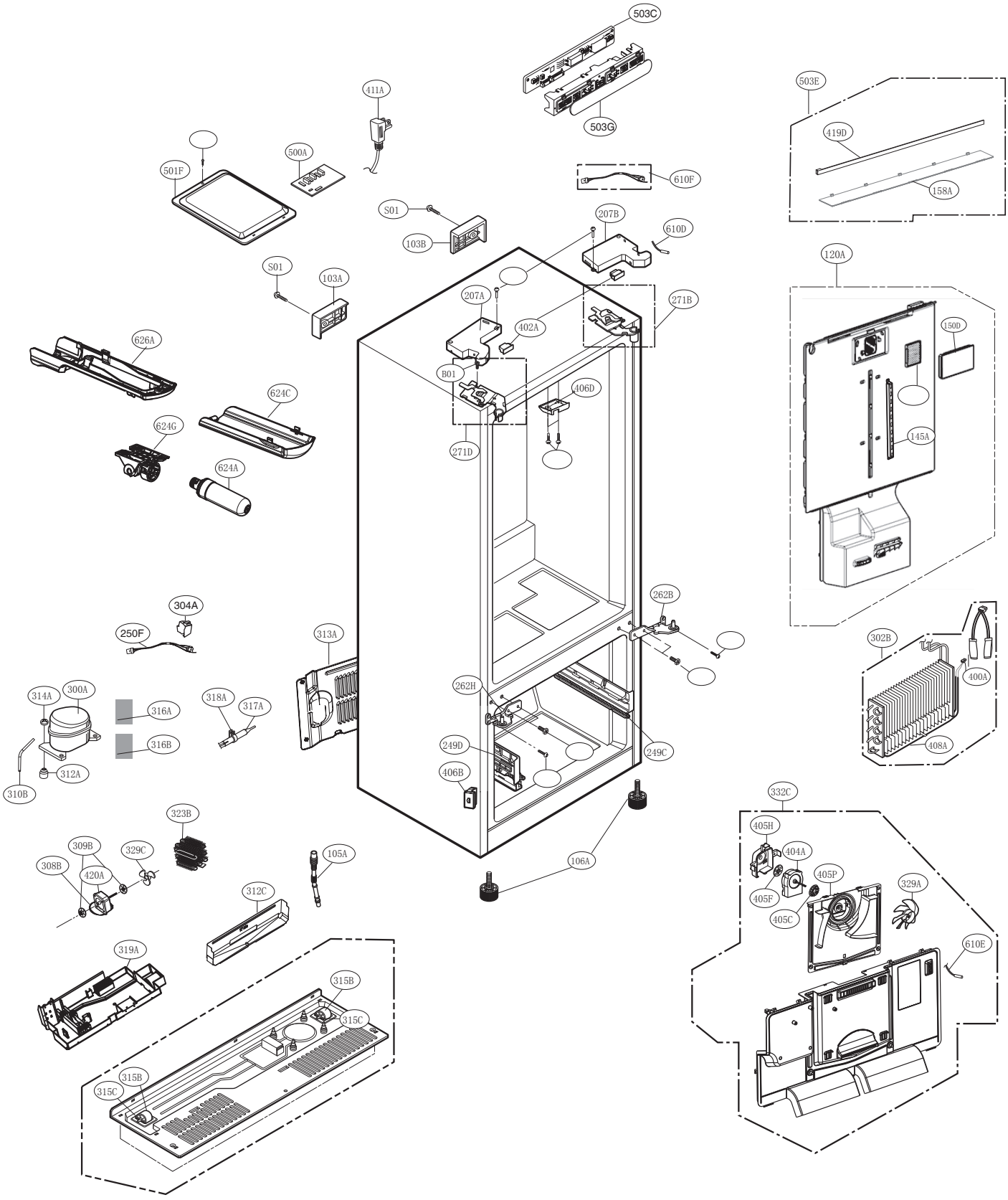
14-1-10 Auto pantry

1. The temperature control will automatically start upon the selected Auto Pantry temperature control.
2. You can adjust the Pantry control with three different temperature ranges by pressing the Temp.Selector button.

EXPLODED VIEW & REPLACEMENT PARTS LIST

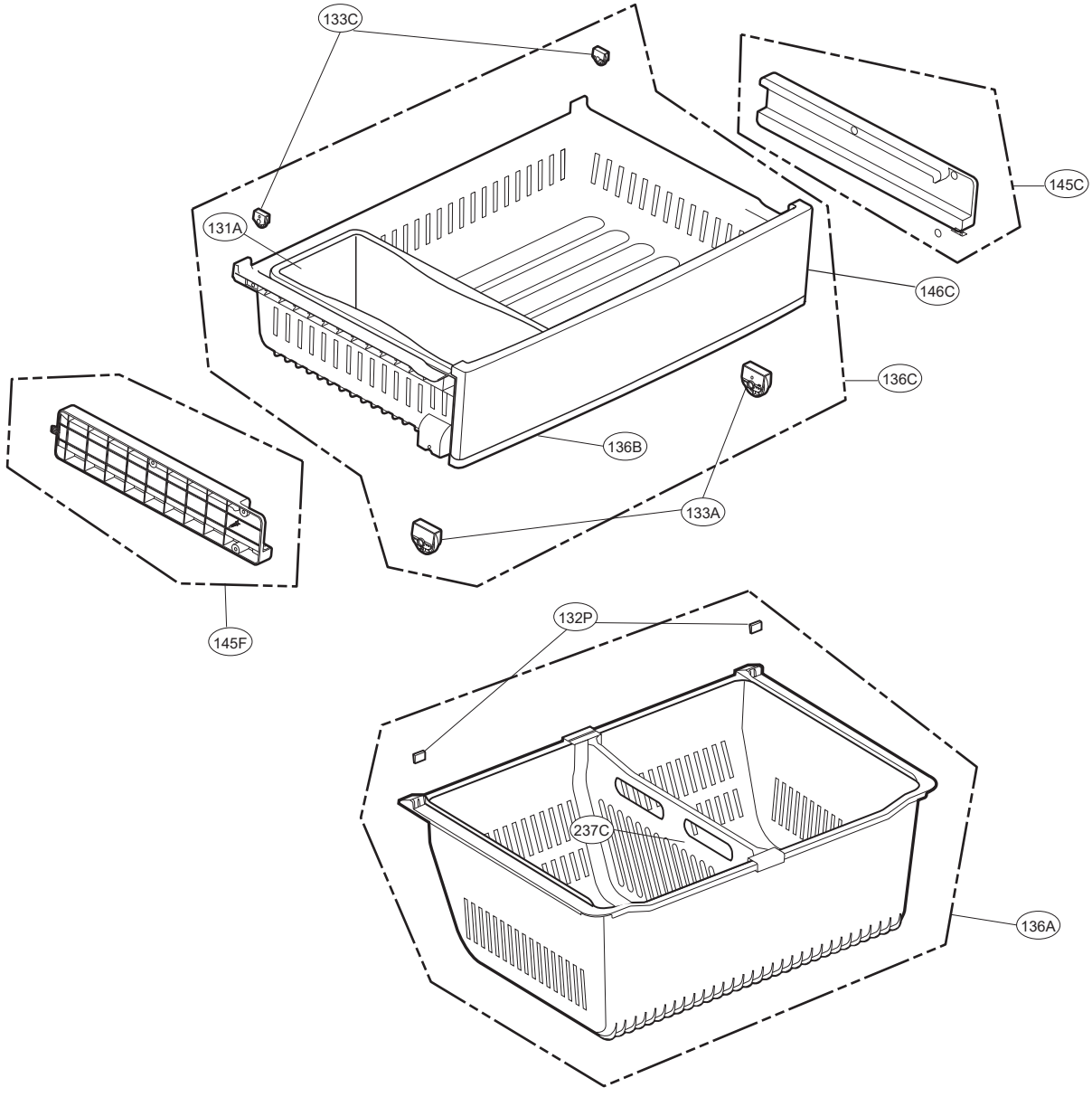
CASE PARTS

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



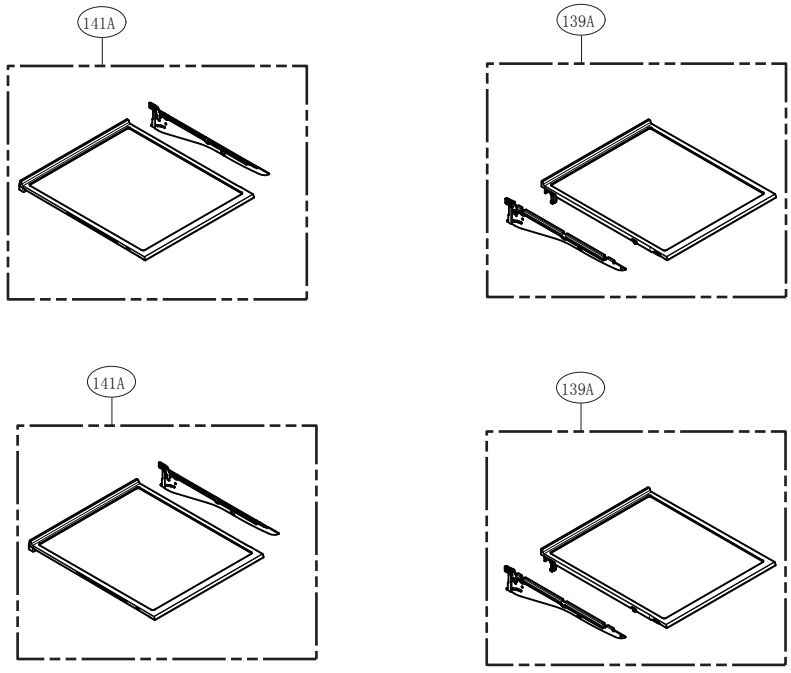
FREEZER PARTS

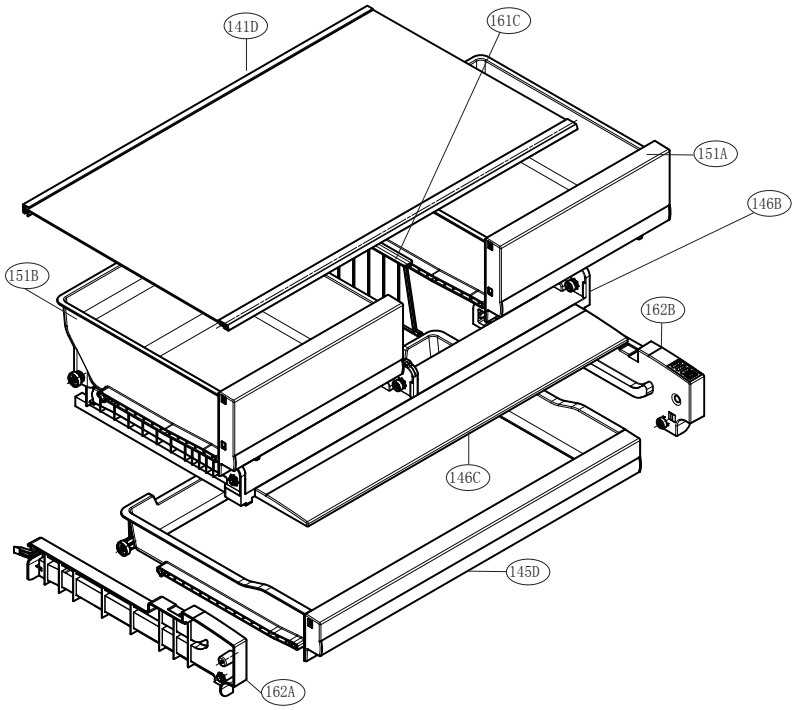
CAUTION: Use the part number to order part, not the position number.



REFRIGERATOR PARTS

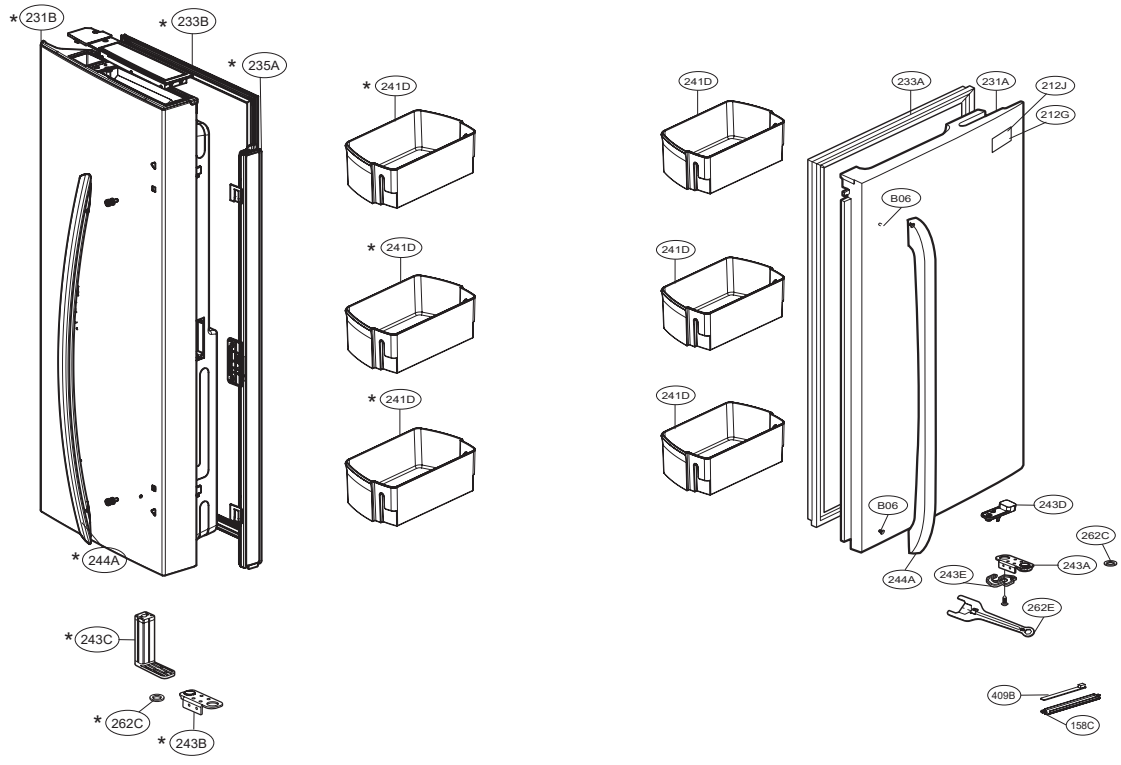
CAUTION: Use the part number to order part, not the position number.

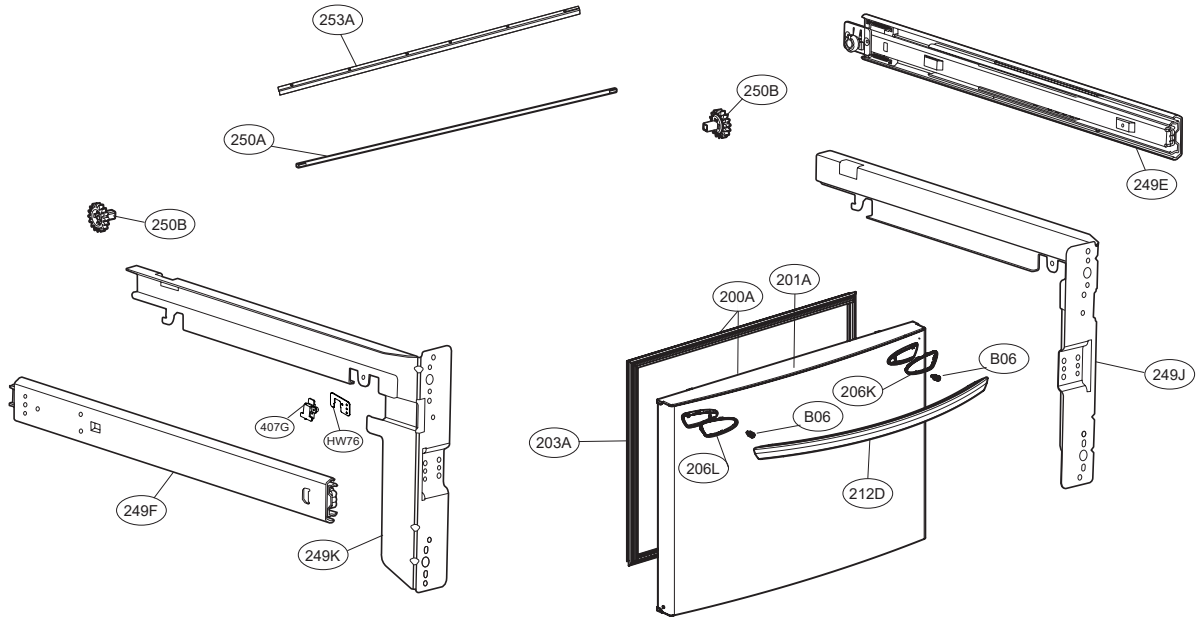




DOOR PARTS

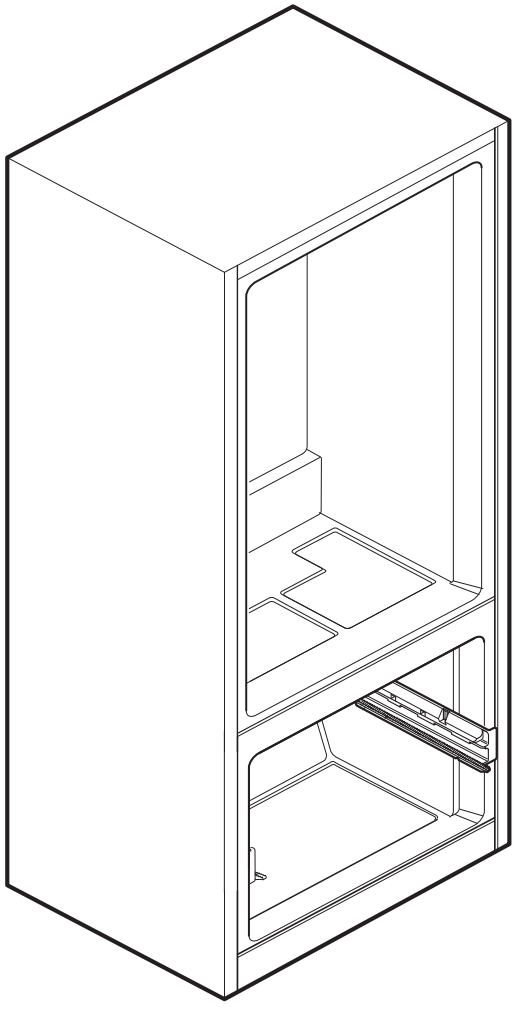
CAUTION: Use the part number to order part, not the position number.

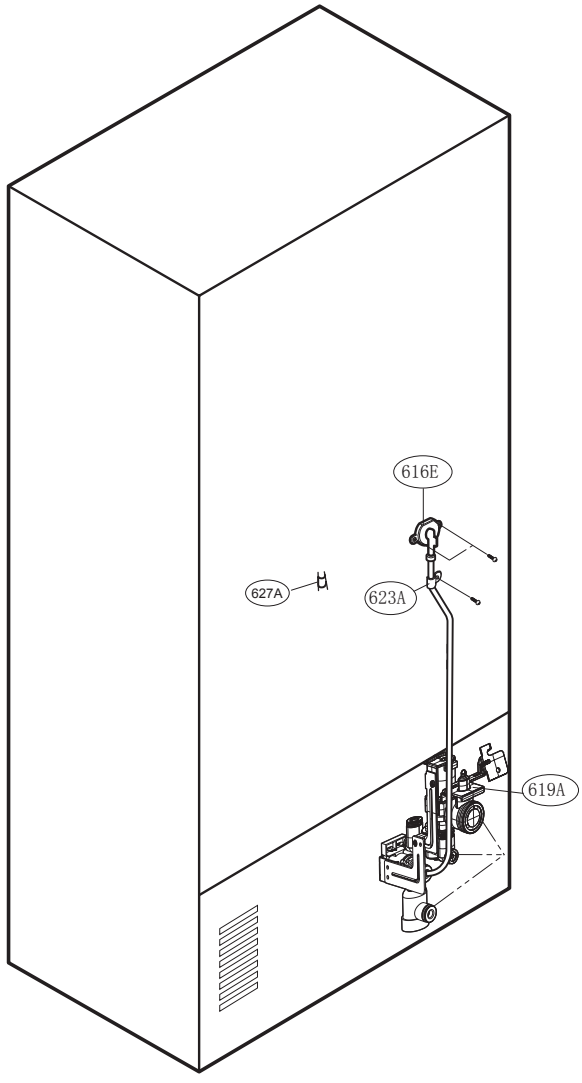




VALVE & WATER TUBE PARTS

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

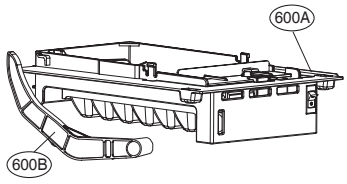




ICE MAKER & ICE BIN PARTS

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

Freezer Room



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