IMPORTANT SAFETY NOTICE

The information in this training manual is intended for use by persons possessing an adequate background in electrical equipment, electronic devices, and mechanical systems. In any attempt to repair a major appliance, personal injury and property damage can result. The manufacturer or seller maintains no liability for the interpretation of this information, nor can it assume any liability in conjunction with its use. When servicing this product, under no circumstances should the original design be modified or altered without permission from LG Electronics. Unauthorized modifications will not only void the warranty, but may lead to property damage or user injury. If wires, screws, clips, straps, nuts, or washers used to complete a ground path are removed for service, they must be returned to their original positions and properly fastened.

CAUTION

To avoid personal injury, disconnect the power before servicing this product. If electrical power is required for diagnosis or test purposes, disconnect the power immediately after performing the necessary checks. Also be aware that many household appliances present a weight hazard. At least two people should be involved in the installation or servicing of such devices. Failure to consider the weight of an appliance could result in physical injury.

ESD NOTICE

Some of the electronic components in appliances are electrostatic discharge (ESD) sensitive. ESD can weaken or damage the electronics in these appliances in a manner that renders them inoperative or reduces the time until their next failure. Connect an ESD wrist strap to a ground connection point or unpainted metal in the appliance. Alternatively, you can touch your finger repeatedly to a ground connection point or unpainted metal in the appliance. Before removing a replacement part from its package, touch the anti-static bag to a ground connection point or unpainted metal in the appliance. Handle the electronic control assembly by its edges only. When repackaging a failed electronic control assembly in an anti-static bag, observe these same precautions.

REGULATORY INFORMATION

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential installation. This equipment generates, uses, and can radiate radio frequency energy, and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: Reorient or relocate the receiving antenna; Increase the separation between the equipment and the receiver; Connect the equipment to an outlet on a different circuit than that to which the receiver is connected; or consult the dealer or an experienced radio/TV technician for help.

DISCLAIMER

The information in this training manual was accurate at the time of publication. Every effort has been made to ensure accuracy. Updates, changes, etc. are available via GCSC and LGCSacademy. The information in this manual is intended for persons with adequate backgrounds in electronics, mechanical, and electronic servicing. The manufacturer and seller are not to be held responsible for any liability incurred from its use.

COMPLIANCE

The responsible party for this device's compliance is LG Electronics Alabama, Inc.; P O BOX 240007, Huntsville, AL, 35813.

Contents

continued on next page →

Contents, continued

Ver. 1.2 090814

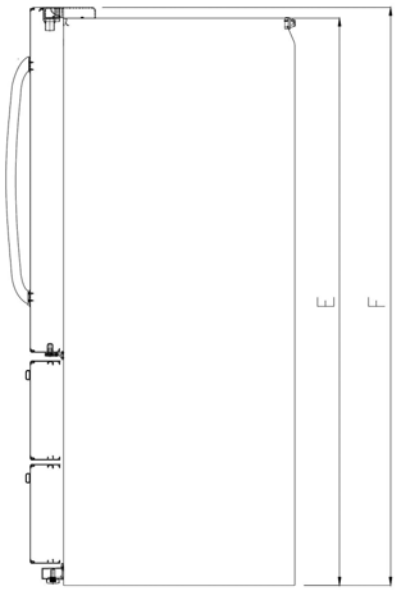
NOTES

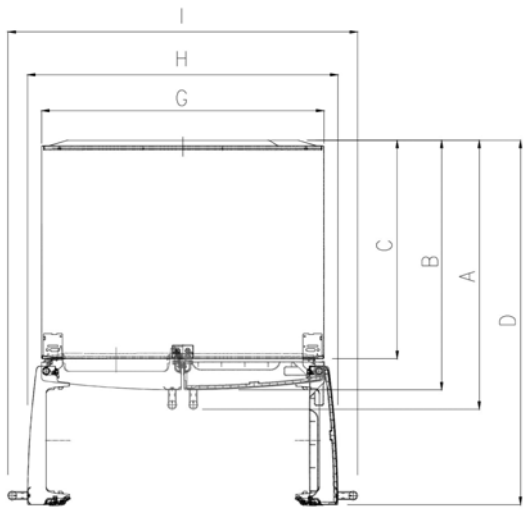
SPECIFICATIONS

ITEM	SPECIFICATION
Door Design	Rounded Sides
Dimensions (in.)	35¾ X 35⅜ X 69¾
Net Weight	359 lbs. (163 kg)
Cooling System	Fan Forced Air
Insulation	Polyurethane Foam
Door Finish	Embossed Stainless
Handle Type	Bar
Defrost System	Full Automatic Defrost Heater
Temperature Control	Microprocessor Controlled

ITEM	SPECIFICATION
Vegetable Tray	Clear Drawer
Compressor	Reciprocal
Evaporator	Fin Tube Type
Condenser	Wire Type
Refrigerant	R-134a (150 g) (5.29 oz.)
Compressor Oil	ISO10 (280 ml)
Inner Case	ABS Resin
Defrost System	Sheath Heater
Lamp (Ref.) (Fr.)	LED module (24) LED Module (12)

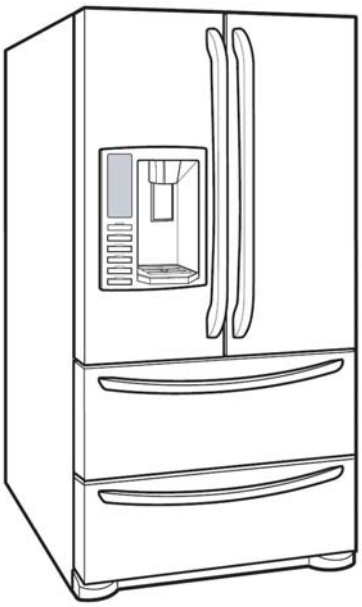
DIMENSIONS



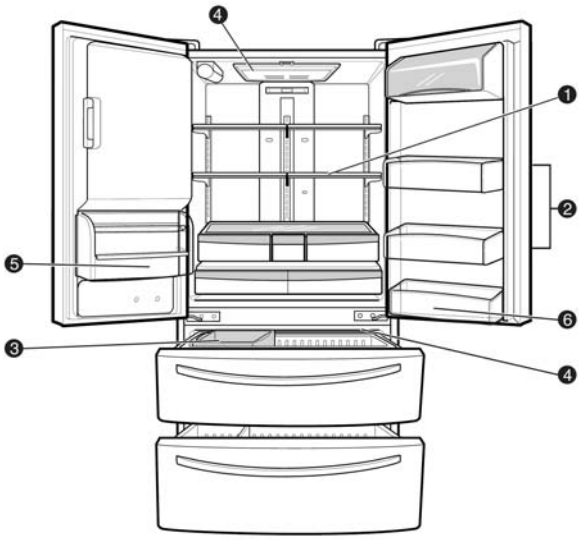


DESCRIPTION		LMX28983ST
Depth with handles	A	35⅝ “
Depth without handles	B	32⅞”
Depth without door	C	29”
Depth (total, with door open)	D	47⅝”
Height (to top of case)	E	68⅜”
Height (to top of door hinge)	F	69¾”
Width	G	35¾”
Width (door open to 90° without handle)	H	39¾”
Width (door open to 90° with handle)	I	44¼”

PARTS IDENTIFICATION



The 28 cubic foot LMX28983ST four-door refrigerator, with a two-drawer freezer compartment, a two-door (French door) refrigerator compartment, and an in-door ice and water dispenser.



❶ Adjustable Refrigerator Shelving
for flexible storage needs

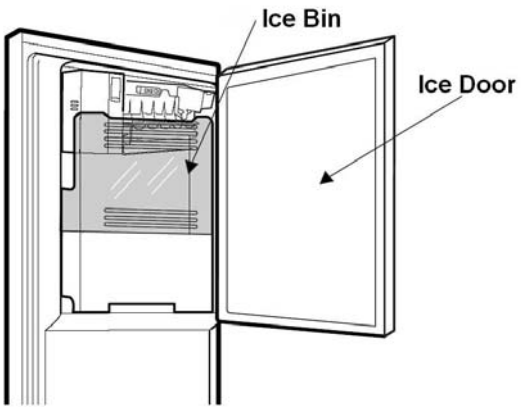
❷ Gallon Storage Bins
for milk and other refreshments

❸ Removable Ice Storage Bin
for storing extra ice and for serving

❹ LED Interior Lamps
for bright, even illumination

❺ SHORT'N'TALL Bin
Flexible storage for handy storage of often-used items

❻ Fixed Door Bin
Flexible storage for handy storage of often-used items



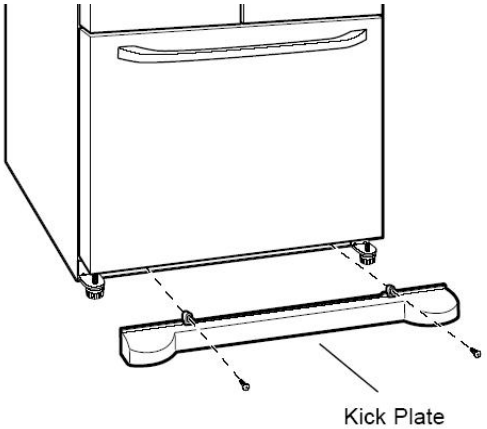
INSTALLATION

WEIGHT HAZARD!

The refrigerator weighs as much as 359 pounds (163 kg). We recommend a minimum of two people for moving and servicing this refrigerator.

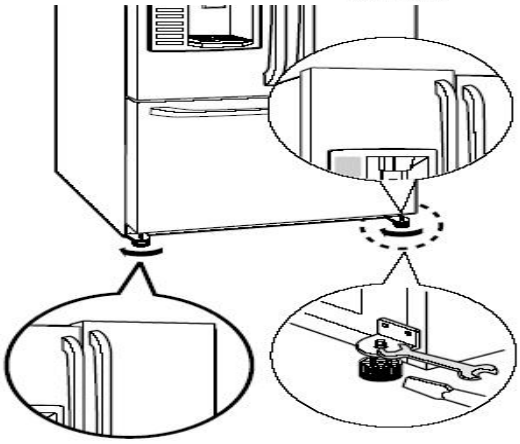
LEVELING

Be sure the floor is level and strong enough to support the refrigerator. Unstable installation or unleveled flooring may cause vibration, noise, and poor door operation. Be sure to level the refrigerator at installation using the height adjusting screws (leveling legs.)



If the base grille (kick plate) is installed, remove it by removing the two screws that hold it on.

When the refrigerator is in place, adjust the leveling legs by turning them counterclockwise to raise or clockwise to lower the refrigerator.



Use an $^{11}/_{32}$" (8 mm) wrench to turn the hex ends of the leveling bolts or stick a flat screwdriver in the slots to turn them. If you have a helper to push against the top of the refrigerator and take the weight off the leveling legs, you can turn them by hand. Be sure to lower them enough to contact the floor and support some of the weight of the refrigerator. It will keep it from moving when you pull the doors open and from tipping forward when the freezer drawer is pulled out.

Replace the base grille.

WATER LINE CONNECTION

Read ALL the directions thoroughly before you begin. Be certain you understand all the requirements for installing and connecting a water connection for this refrigerator.

WARNING! Connect the water supply tube from the refrigerator to a potable water supply only.

The water pressure requirement for this refrigerator is 43 ~ 121 psi (3 ~ 8.5 kgf/cm^2). If the existing pressure is insufficient, the customer can purchase a separate pressure pump to provide normal icemaking and water dispensing operation.

- The total length of the water supply line should not be greater than 26 feet (8 meters.)
- Use copper tubing or a braided, reinforced nylon supply line.
- Install the water line in an area where the temperature will not drop below freezing.
- It may take up to 24 hours for the icemaker to begin producing ice.

The icemaker water valve includes a flow washer that functions as a water pressure regulator.

TOOLS REQUIRED

Standard screwdriver	¼" nut driver
$^7/_{16}$" open-end wrench	½" open end wrench
¼" drill bit	drill (electric drills must be grounded)

WATER LINE INSTALLATION KIT

Some dealers sell an installation kit that includes all the parts necessary to connect the refrigerator to a water line. Often, these kits include a piercing saddle-type valve that allows connection to the water line without the need for plumbing skills. **LG** does not recommend the use of this type valve because it often fails to provide sufficient water flow for the icemaker and dispenser to function properly.

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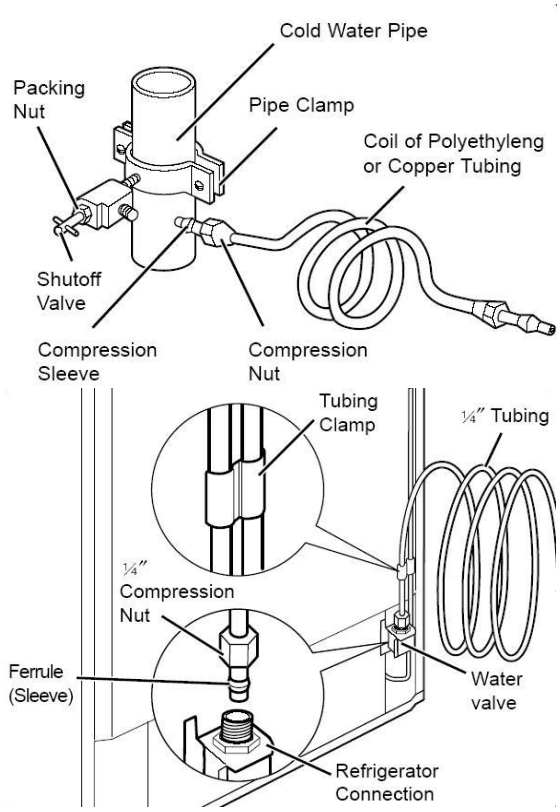


Various connector types are available. These illustrations show a saddle valve with the water line connected using a compression fitting at each end.

LG does not recommend the use of this type valve because it often fails to provide sufficient water flow for the icemaker and dispenser to function properly.

The additional coil of tubing (approx-imately 7 feet or 2.1 m) is to allow pulling the refrigerator out for servicing or cleaning.

We recommend the use of a pre-assembled braided plastic or nylon line with threaded couplings on both ends to prevent leakage and pop offs.

CONNECTING THE WATER LINE

The best solution is to use a braided reinforced nylon supply line with screw-on fittings on both ends. These allow the simplest and easiest connection with fewer leaks and problems. If you don't use this type connection, we recommend using a flare nut wrench to connect the water line fittings. After the valve has been installed on the water line, it must be flushed before connecting it to the refrigerator. Remove the plastic cap from the water valve on the back of the refrigerator. Attach the water supply line to the valve. Open the valve and flush out the supply line before attaching it to the refrigerator. Attach the supply line to the water valve on the back of the refrigerator. Tighten all connections. Turn on the water and check for leaks. Press the water dispenser button and bleed all the air through the system. When water begins coming out, run another quart to be sure all the air is out of the line. Turn the icemaker on and cycle it manually until water fills the tray to ensure all the air is out of the line.

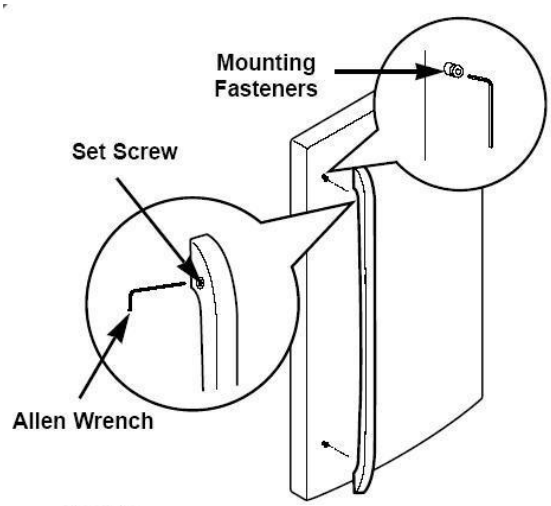
FLOORING REQUIREMENTS

The refrigerator must be installed on a solidly constructed floor to minimize noise and vibration. The refrigerator must be level. If necessary, adjust the leveling legs under the front of the refrigerator to compensate for variations in the flooring. This is easier if the refrigerator is tipped slightly backward to take the weight off the legs. Turn them clockwise to raise the refrigerator or counterclockwise to lower it.

Never install the refrigerator on a platform or a weakly supported structure.

When moving the refrigerator for cleaning or service, be sure to protect the floor. Pull the refrigerator straight out. Do not walk or wiggle it; floor damage or side panel damage may occur.

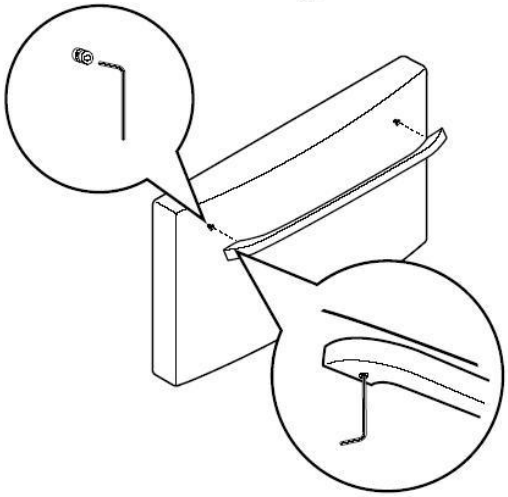
HANDLE REMOVAL



It may be necessary to remove the handles to get the refrigerator through a door.

Loosen the set screws with a $^{3}/_{32}$" (2.5 mm) Allen wrench.

Remove the handle.
If the mounting bolts require removal or adjustment, use a ¼" Allen wrench.

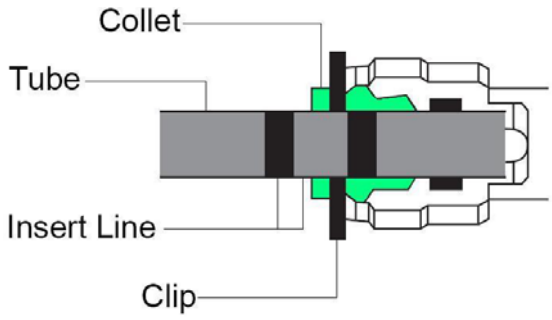


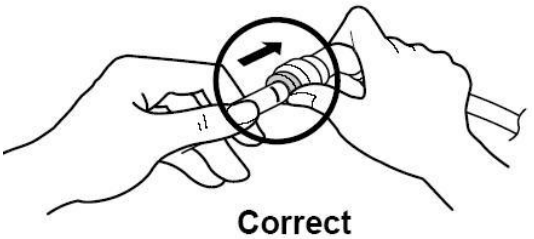
Use extreme caution when removing the handles to avoid scratching the doors. When you remove or replace a handle, push (or pull) firmly but do not damage the handle or the door by using excessive force.

Replace the handles by placing the handles on the mounting bolts and tightening the set screws.

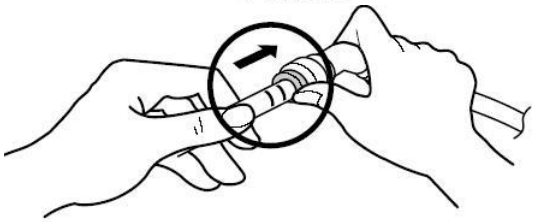
WATER TUBE CONNECTION

The water tube connections must be properly assembled to avoid leaking.





Correct



Incorrect

Insert the tube into the connector until only one of the printed lines is visible. Pull on the tube slightly to ensure proper insertion and retention. Insert the retainer clip under the release ring.

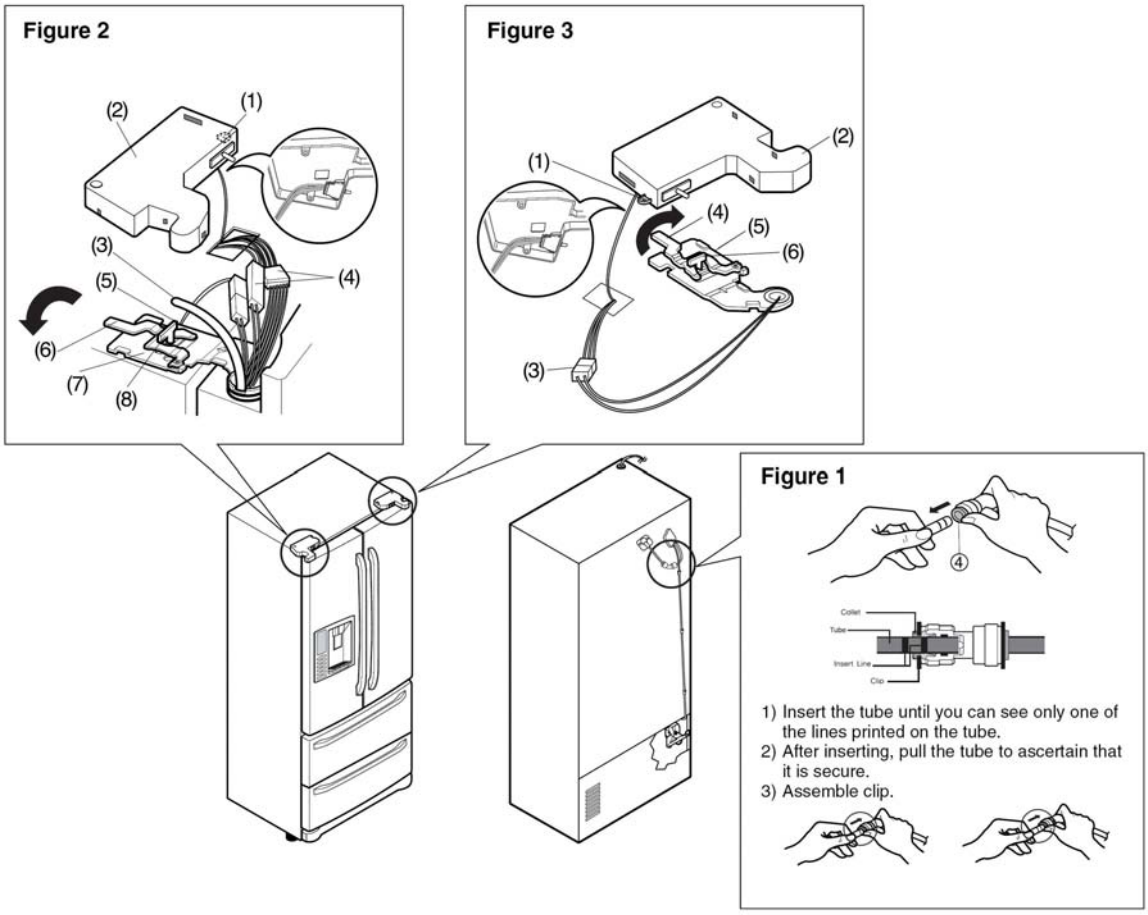
If you can see both rings, the tube is not inserted properly. The tube end must be cut squarely.

DOOR REMOVAL

If the refrigerator is in use, be sure to remove all food and door bins. Unplug the refrigerator and turn off the water. When the doors are removed, place them on blankets or padded surfaces to prevent damage.

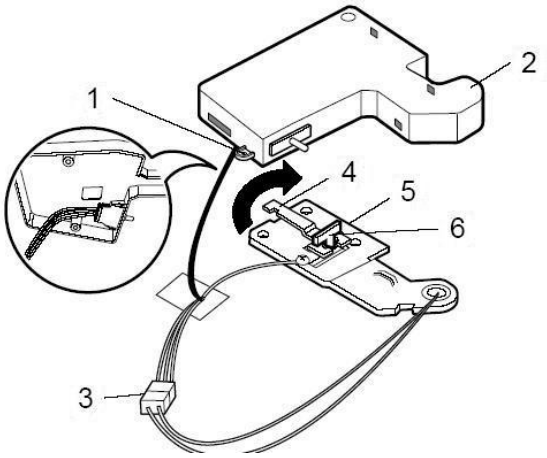
Do not put your hands, feet, fingers, or metal (conductive) items into the air vents, the base grille (kick plate), or bottom of the refrigerator. You could be injured or shocked.

If the entrance door is too small to accommodate the refrigerator, you can remove the doors and pull the refrigerator into the room sideways.



Follow these steps to remove and replace the refrigerator doors. Refer to the drawings above.

RIGHT DOOR



Open the door to 90°.
Remove the top hinge cover (1) screw.

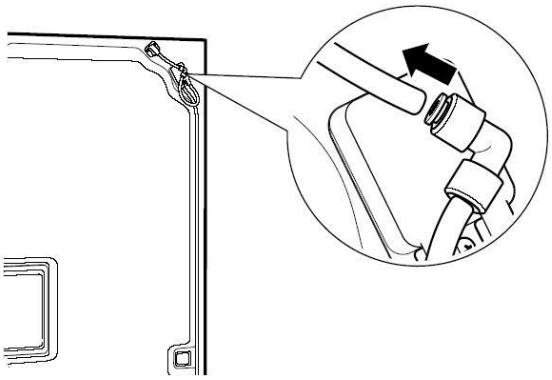
Lift the cover (2).

Disconnect the wire (3) harness.

Rotate the hinge lever (4) clockwise and remove it.

Lift the top hinge (5) clear of the hinge lever latch (6).

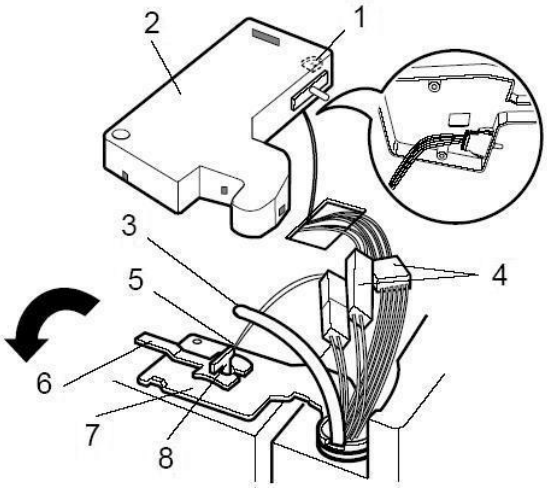
LEFT DOOR



Disconnect the hose at the top right corner (facing the back) by removing the release clip and pressing the release ring. The tube will be pulled out with the door when it is removed.

Open the door to 90°.

The door must be opened to 90° to be removed or reattached.



Remove the screw (1) securing the top hinge cover.

Use a flat screwdriver to pry off (2) the hinge cover. (Hooks not shown.)

Remove the cover and pull the (3) water tube through.

Disconnect all the wiring (4) harnesses.

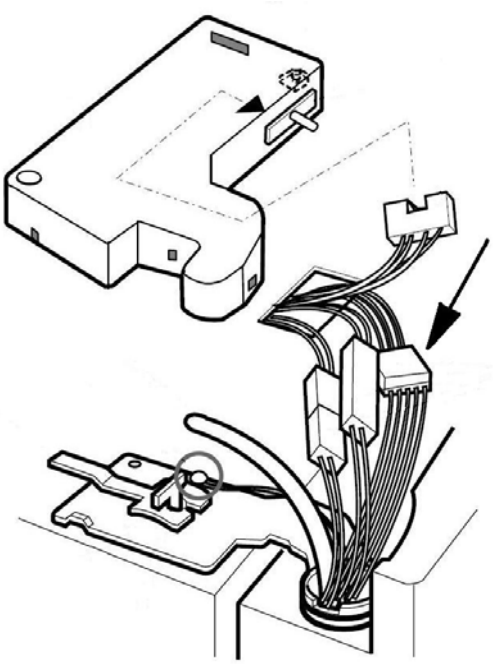
Remove the ground (5) screws.

Turn the hinge lever (6) counter-clockwise and remove it.

Lift the top hinge (7) free of the latch lever (8).

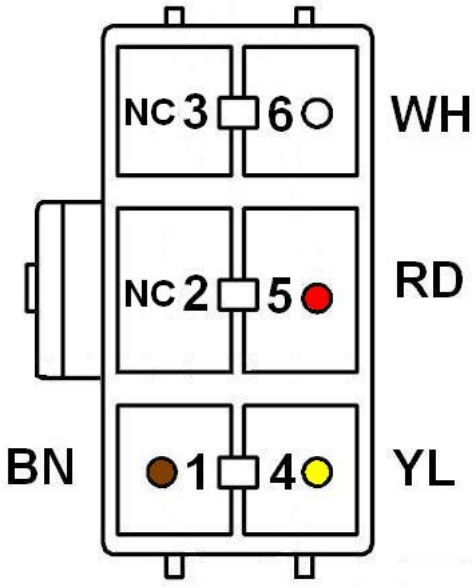
Be careful the door does not fall forward. With the door open to 90°, lift it off the middle hinge pin.

DOOR HEATER ASSEMBLY



The doors have heaters on the opening edge; that is, the edges that face each other in the center of the refrigerator. These small, 2-watt heating elements keep condensation from forming along the opening where cold air escapes when the doors are open.

The heater is foamed into the door assembly, so the only way to replace the heater is to replace the entire door.



To check the continuity of the door heater circuit, unplug the 6-pin connector at the top of the door hinge.

Pins 2 and 3 have no connection.

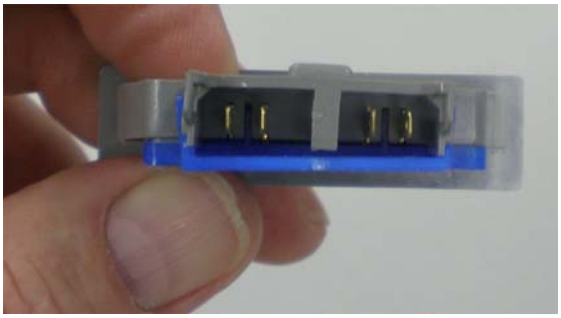
Pins 1 and 4 – Infinity
(Brown and yellow)

Pins 1 and 5 – Infinity
(Brown and red)

Pins 1 and 6 – 1.8 kΩ
(Brown and white)

NC – No Connection

REFRIGERATOR DOOR SWITCH



Remove the switch from its housing by pressing the tabs on either end of the switch and pulling it out. Disconnect it from the wiring harness.

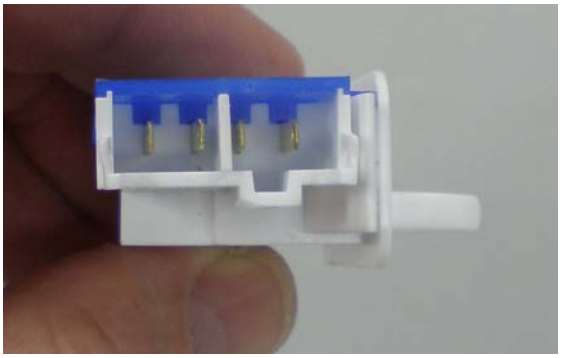
The door switches determine whether the doors are opened or closed. When a door is opened, the appropriate interior lighting is switched on by the microprocessor, which also operates various fans and dampers.

Check the resistance between terminals 1 and 2, and between terminals 3 and 4. With the switch plunger pushed in, there should be infinite resistance. With the plunger released, there should be 0 Ω resistance.

FREEZER DOOR SWITCH

Remove the switch from its housing by pressing the tabs on either end of the switch and pulling it out. Disconnect it from the wiring harness.

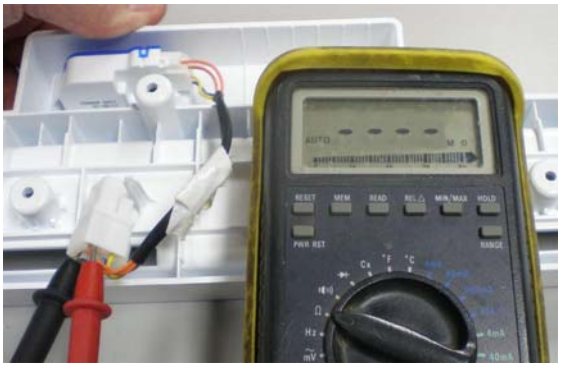
The door switches determine whether the doors are opened or closed. When a door is opened, the appropriate interior lighting is switched on by the microprocessor, which also operates various fans and dampers.



Check the resistance between terminals 1 and 2, and between terminals 3 and 4. With the switch plunger pushed in, there should be infinite resistance. With the plunger released, there should be 0 Ω resistance. It is simply two single pole single throw switches.

The normally closed (NC) Upper Freezer Door Monitor 5v Orange to Orange Connects to black and sky blue (BK and SB) at CON 6 Pins 5 and 6 on the main board.

With the switch pressed, orange to orange should show infinite resistance. (Door closed, switch open, light off.)



With the switch pressed, white/blue tracer to yellow should show infinite resistance. (Door closed, switch open, light off.)

The normally closed upper freezer door switch should read infinite resistance across blue/white tracer (12 V_{DC}) and the yellow wire connects to the red (Freezer LED module.)

DOOR GASKET REMOVAL

Remove the door frame cover. Starting at the top of the cover and working down, snap the cover out and away from the door.

Remove the gasket bracket clips. There are two clips per door. Start the bracket removal near one of the clips.

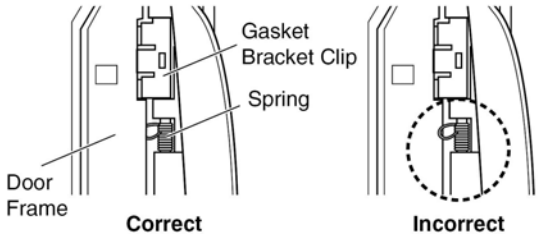
Pull the gasket back to expose the clip and the door frame.

Insert a flat-tipped screwdriver into the seam between the gasket and the door frame and pry back until the clip snaps back.

Continue prying back along the seam until all the clips snap out.

Pull the gasket free from the channel along the edge of the door. Don't pull at the corners to avoid tearing the seams.

DOOR GASKET REPLACEMENT

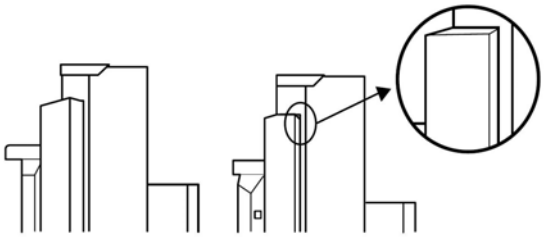


Insert the gasket bracket clips beneath the door frame edge.

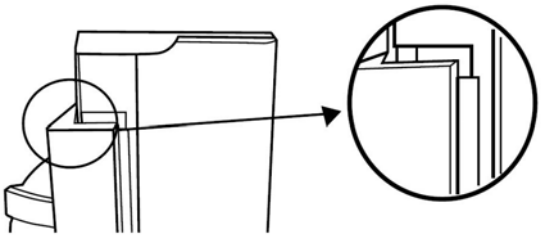
Turn the upper gasket bracket spring so the spring ends are in the door channel.

Push the clip until you hear it snap securely into place.

Push the remaining clip until you hear it snap securely into place.

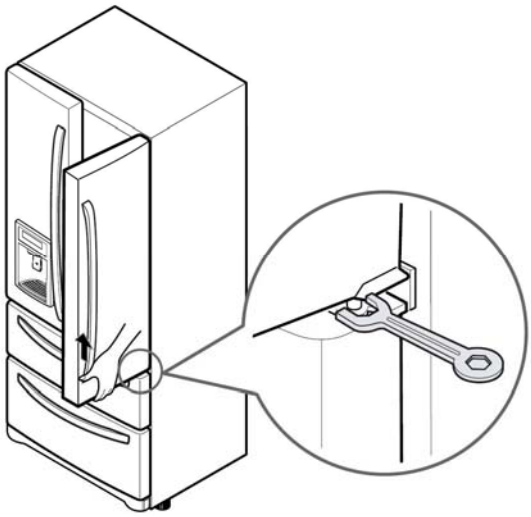


Snap the gasket into the door bracket.



Be sure it is aligned properly. The alignment is incorrect in this drawing.

DOOR ALIGNMENT



If the space between the doors in uneven, remove the kick plate and adjust the leveling legs. Turn the legs with a screwdriver or an $^{11}/_{32}$" wrench.

Use the small wrench (included with the instruction manual) to adjust the bolt in the door hinge.

DOOR CLOSER

The refrigerator doors have automatic closing mechanisms built into the hinge. To remove it, remove the two screws on the base plate of the hinge.

(The right hinge is shown; the left is similar.)

Remove the end screw that holds the hinge in the door.

Pull the closing mechanism out of the door. Replacement is the opposite of these steps.

PULLOUT FREEZER DRAWER

Open the drawers (one at a time) and remove the bins or baskets.

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

Lift the freezer door up to unhook it from the rail support and remove.

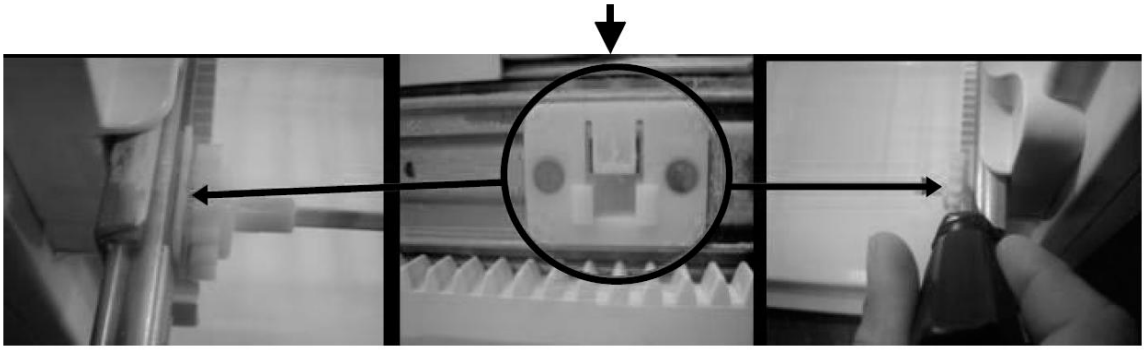
Pull both rails to full extension.

Remove the gear from the left side first by releasing the tab behind the gear, place a screwdriver between the gear and the tab and pull up on the gear.

Remove the center rail.

Remove the gear from the right side by following the same steps for the left side.

NOTE: THIS TAB MUST BE PUSHED IN TO RELEASE THE GEAR.



FOLLOW THESE STEPS TO REINSTALL

Reinstall the right side gear into the clip.



Insert the rail into the right side gear. The gears do **not** need to be perpendicular to each other.

Insert the rail into the left side gear, and insert the gear into the clip.

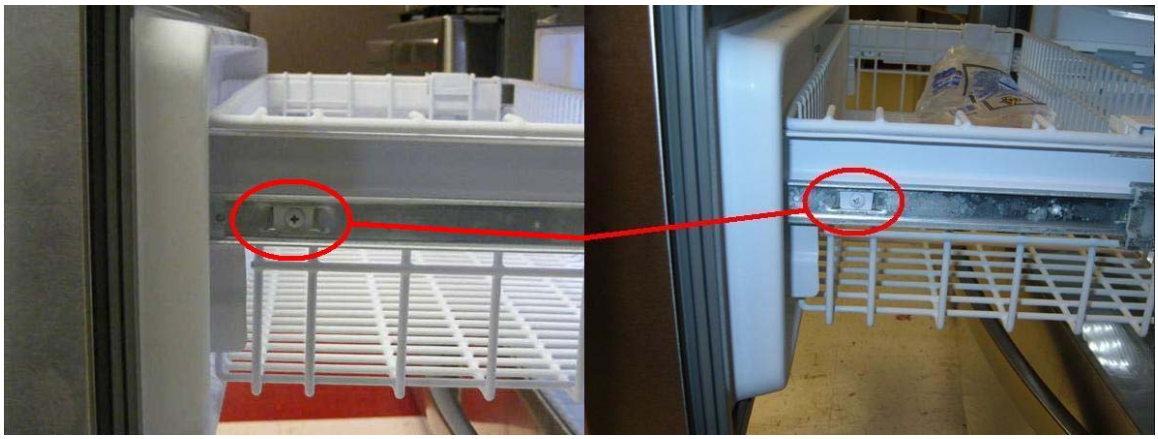
continued on next page

REINSTALLATION, continued

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.

Reinstall the freezer door by inserting the rail tabs into the guide rail.

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



Reinstall the lower basket, and close the freezer door.

DEFROST CONTROL, EVAPORATOR, and FAN MOTOR (FREEZER)

Remove the freezer drawers.

Do NOT remove the center support bar. It contains refrigerant lines and should not be removed. The lines are easily damaged and removal of the bar serves no purpose. All service operations can be completed with the bar in place.

Remove three screws to remove the top drawer's guide rail on the left side of the freezer. This will allow clearance for the back panel to be removed.

Unplug the electrical connector on the rail so it doesn't hang by the wires.

Pry the temperature sensor and cover off using a flat-tipped screwdriver.

Then, using the opening for the sensor, pry the back cover away from the back of the freezer. Be careful to avoid wires and refrigerant lines behind the back cover.

Pull the top right corner outward, and the cover should separate from the freezer back as it is pulled.

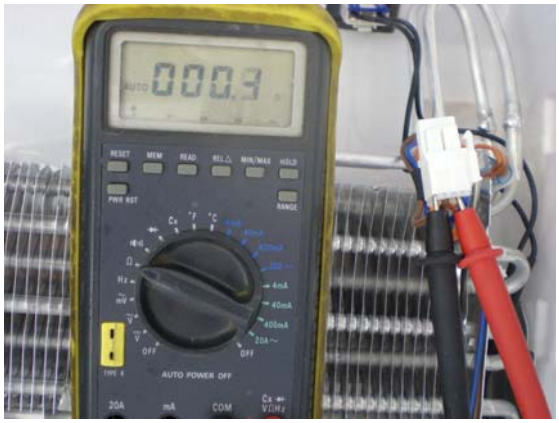
Disconnect the icemaker fan connector and the freezer fan connector.

Unplug the thermistor (connector on the left, blue wires.) The remaining connectors (on the right) are for the defrost heater and need not be disconnected unless you are servicing the heater.

The freezer back can be lifted out of the freezer now. The evaporator is exposed and can be serviced here.

Remove the connector and measure the resistance of the defrost sensor. It should be approximately 12 Ω.

Remove the connector and measure the resistance of the defrost heater element. It should be approximately 38 Ω ± 4 Ω (10%.)

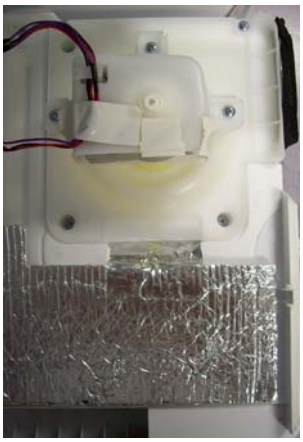


Remove the connector and measure the resistance of the thermal fuse. It should show continuity unless it is blown, in which case it should be replaced.

With the freezer back panel removed, the opening for the icemaker fan is visible.

The duct allows the icemaker fan to circulate cold air (0°F / -18° C) through the icemaker compartment in the refrigerator door. If the temperature is higher than this, the icemaker may not work. Check the sensor. (See page 97.)

Notice that he black foam gasket is very delicate and was damaged even on the first removal. (See the residue on the photo above.) If you are going to remove the freezer back panel, order a replacement gasket. Be certain to remove all the gasket residue before installing the new gasket. If this gasket is damaged and the air flow is interrupted, the icemaker compartment may not receive sufficient cold air to make ice and / or keep it frozen.

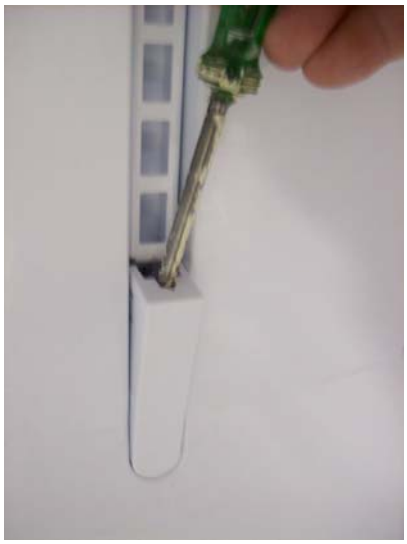


The icemaker fan and the freezer fan can be removed and replaced independently of each other by removing the freezer back panel, as described above.

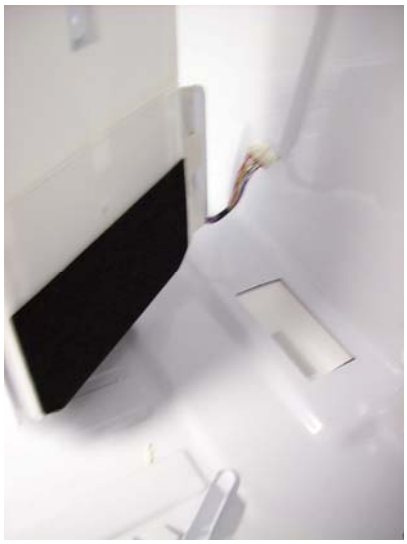
Notice the icemaker fan has a drain vent at the bottom. This allows any condensation to drip into the evaporator drip tray along with any water generated during the defrost cycle.

MULTI-DUCT (REFRIGERATOR)

The multi-duct in the back of the refrigerator includes air ducts, vents, LEDs for the crisper drawers, and a thermistor.



To remove the multi-duct, pry the covers off both ends of the bracket channel. Then remove the two Phillips screws (but not the silver one attaching the rack to the duct.)



Pull the multi-duct away from the refrigerator back at the top and lift it out of the opening at the bottom.

This opening allows the cold air from the freezer to come into the refrigerator.

Unplug the connector which powers the LEDs, the damper, and the thermistor to remove the multi-duct.

The bottom of the duct is inserted into the opening at the base of the refrigerator to ensure proper air flow and cold air distribution.

LAMP (LED ARRAY, REFRIGERATOR)

The light in the refrigerator is provided by an LED array which is switched on when either refrigerator door is opened.

Remove the four screws along the front edge of the cover and release the two snap fittings on the back to take the array out of the ceiling of the refrigerator compartment.

The individual parts for the array are available, allowing repairs, including replacement of the LEDs themselves, rather than replacing the array as an assembly.

The freezer LED array is smaller but works in a similar manner.

DAMPER

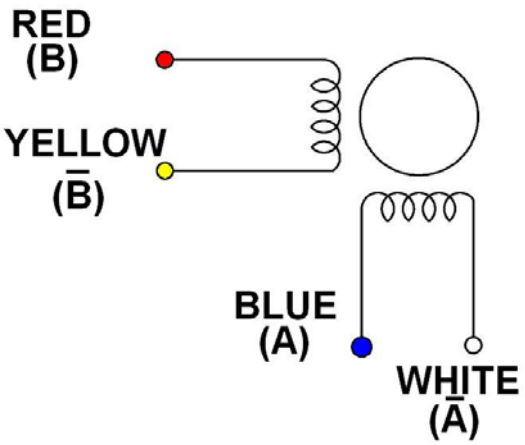
The stepping motors for the dampers are wired with four connections; the blue and red control the A coil, and white and yellow control the B coil.

Wire Color	Step 1	2	3	4
BLUE (A)	+	–	–	+
RED (B)	+	+	–	–
WHITE (Ā)	–	+	+	–
YELLOW (B)	–	–	+	+

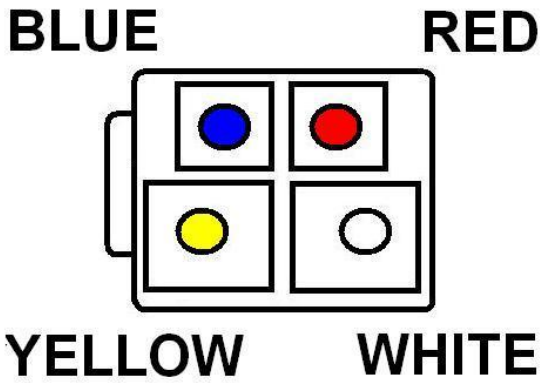
continued on next page

DAMPER, continued

There are two damper motors; one to control the flow of cold air into the refrigerator compartment and one to control the flow of cold air into the pantry, excluding the crisper and vegetable drawers. Air flow throughout the crisper drawers is controlled by opening or closing the vents on the drawers.



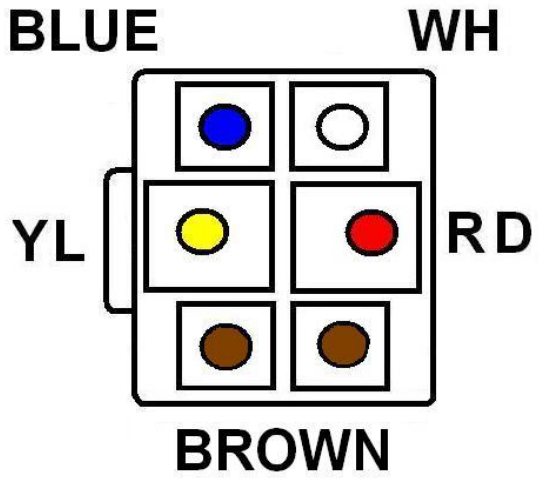
The dampers are controlled by a stepping motor. Every time the refrigerator is powered up, the motors seek home so they can adjust to the proper positions.



The refrigerator damper has a 4-pin connector.

Check the resistance across the red and yellow terminals.
It should be 415 Ω ± 10%.

Check the resistance across the blue and white terminals.
It should be 415 Ω ± 10%.



The pantry damper has a 6-pin connector. The wire colors are arranged differently but work the same way. The two additional brown wires are for the temperature sensor in the pantry.

The resistances are the same as above, even though the wire colors are in different positions.

To check the sensor, read across the brown terminals and refer to the chart on page 97.

DAMPER (Pantry,) continued

The pantry damper has a control panel of its own to allow adjusting the temperature in it independently. This drawer can be kept colder or warmer than the remainder of the refrigerator.

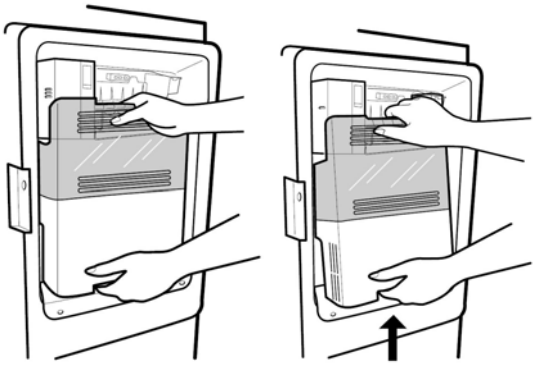
The pantry drawer runs across the entire width of the refrigerator compartment and can be used for meats, deli items, party trays, et al. Do not use the pantry drawer to store fruits and vegetables.

MEAT When the refrigerator is set to the default settings (Freezer 0° F or -18° C; Refrigerator 37° F or 2.7° C), the temperature of the pantry drawer is kept around 34° F (1° C) and is suitable for the storage of meats or fish.

DELI When the refrigerator is set to the default settings (Freezer 0° F or -18° C; Refrigerator 37° F or 2.7° C), the temperature of the pantry drawer is kept around 38° F (3.3° C) and is suitable for the storage of fresh foods.

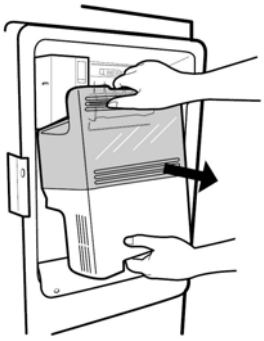
PRODUCE When the refrigerator is set to the default settings (Freezer 0° F or -18° C; Refrigerator 37° F or 2.7° C), the temperature of the pantry drawer is kept around 41° F (5° C) and is suitable for the storage of fresh foods for a longer time without allowing frost or ice to form on fresh vegetables and other items.

ICEMAKER

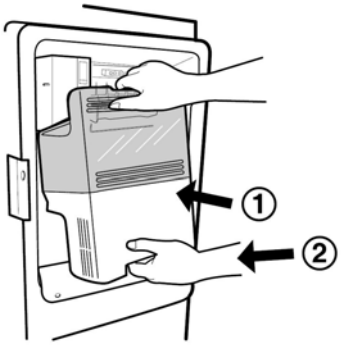


To remove the icemaker, first lift the ice bin slightly.

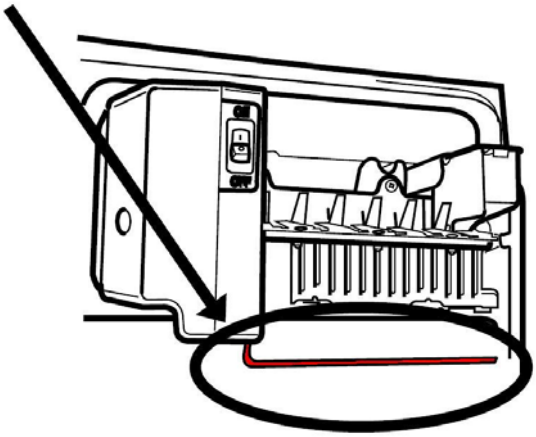
Pull the bottom outward as you continue to lift.



When the bin is clear of any obstruction, pull it away from the icemaker.



Replacement is the opposite of this. Put the ice bin back into the icemaker and lower it into its place.



Pay attention to the feeler arm on the icemaker. (This is the lever that sweeps across the ice bin to determine how full it is.) Do not bend or force the feeler arm.

ICEMAKER and DOOR

If it is necessary to remove the icemaker door, loosen the front screw (nearest the hinge) of the bracket.

Lift the hinge with one hand. It might be necessary to loosen the rear screw slightly.

Lift the icemaker door out of the lower hinge with the other hand.

The icemaker can be removed and replaced without removing the door.

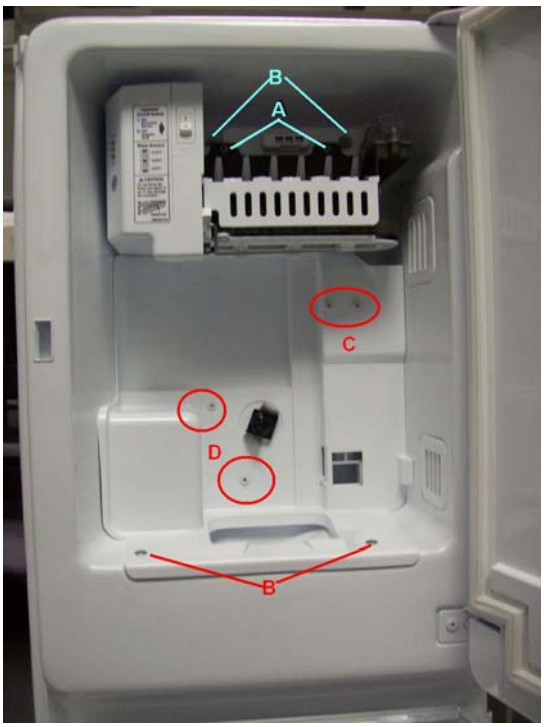
Remove the two screws at the top of the icemaker, lift it off its brackets and unplug the wiring harness. Remove the icemaker from the compartment.

Removal will not affect the operation of the refrigerator other than there will be no ice.

The icemaker includes an ON / OFF switch, LED indicators for cube size and error codes, a button to select a cube size, and a feeler arm to determine when the ice bin is full.

If the icemaker is turned off, the cold air flow to the icemaker compartment is not stopped. Ice in the bin will not melt.

ICEMAKER, continued



Remove two screws (**A**) to remove the icemaker.

Remove the four screws (**B**) that secure the back wall of the icemaker. Take it out of the icemaker room. It is slightly heavy because it includes the cubed / crushed solenoid and the auger motor.

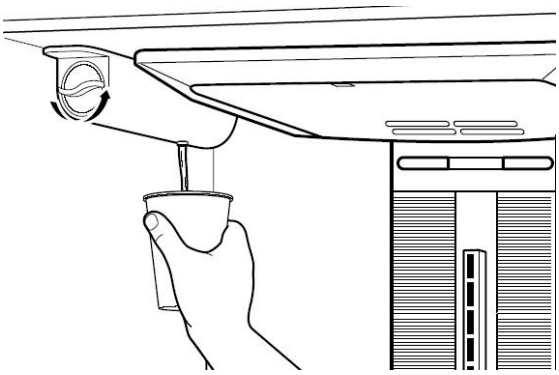
With it out of the icemaker room, remove two screws (**C**) and the ground screw on the back to remove the cubed / crushed solenoid. This solenoid moves the flap that diverts ice through the crusher or lets it fall out as cubes.

Untape the wires and disconnect the wires to the auger motor. Remove the ground screw to release the wire.

Remove two screws (**D**) to release the auger motor.

Pull the auger motor assembly out.

WATER FILTER



Replace the filter every 6 months or whenever taste and clarity deteriorate.

Hold a cup under the hole at the back of the filter holder to catch any spillage.

To remove the filter,. twist it counterclockwise until it.

Pull the filter out. Insert a new filter and twist it clockwise until it clicks into place.

Dispense eight glasses of water to purge the line of air and particles.

Filter receptacle with filter removed.

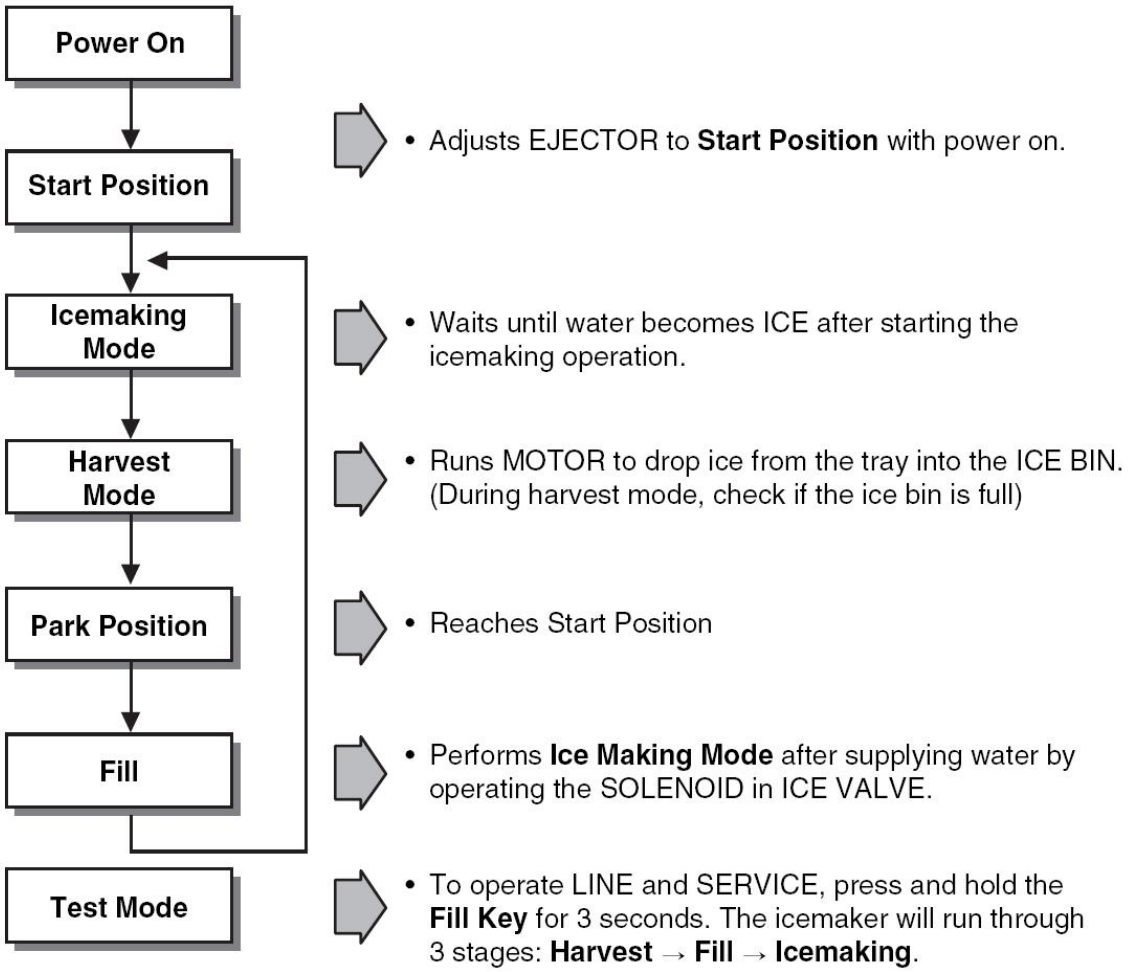
Because of the valve built into the filter base, the water can still flow (unfiltered) to the icemaker and dispenser when the filter is removed.

LG recommends using the refrigerator with the filter in place.

Filter Part Nº. **5231JA2006A**.

ICEMAKER (Test)

The icemaker can be reset by turning the switch OFF and then ON. Powering it ON causes a forced harvest operation. If the water in the mold hasn't frozen, the cubes cannot be ejected. Then, opening the solenoid will overfill the mold and cause spillage.



ICEMAKER, continued

CUBE SIZE SETTING

STAGE	TIME TO SUPPLY	INDICATIONS	REMARKS
1	4.5 sec.		The water amount will vary depending on the water control Switch setting, as well as the water pressure of the connected water line.
2	4.7 sec.		
3	5.0 sec.		

TEST MODE

STAGE	ITEMS	INDICATOR	REMARKS
1	HEATER		Five seconds after heater starts, a heater will go off if the temperature by sensor is higher than 10°C
2	MOTOR		Five seconds after heater starts, you can confirm that a motor is moving.
3	HALL IC I		Check if Ice Bin is full or not. If Ice bin is full, the motor and heater are off and on stand by until Ice bin is empty.
4	HALL IC II		You can confirm HALL IC detection of start position.
5	VALVE		Two seconds after detection of start position, you can confirm that valve is on.
6	Reset	Return to Status prior to TEST MODE	Five seconds after fifth stage is completed, The icemaker resets to initial status.

MALFUNCTION INDICATOR

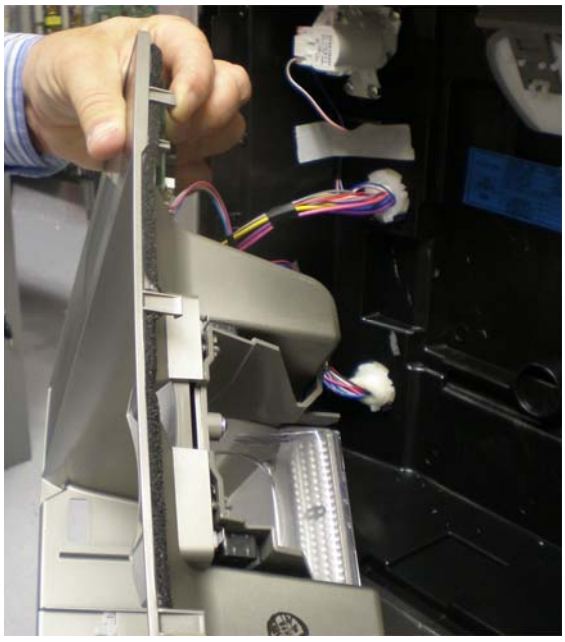
NO	DIVISION	INDICATOR	CONTENTS	REMARKS
1	Normal	Mark time to supply	None	Display switch operates properly
2	Icemaking Sensor malfunction		Open or short-circuited wire	Make sure that the wire on each sensor is connected.

DISPENSER

To remove the dispenser, start by removing the drain tray. Pull it forward and lift at the back. Slide it forward out of the plastic guide.

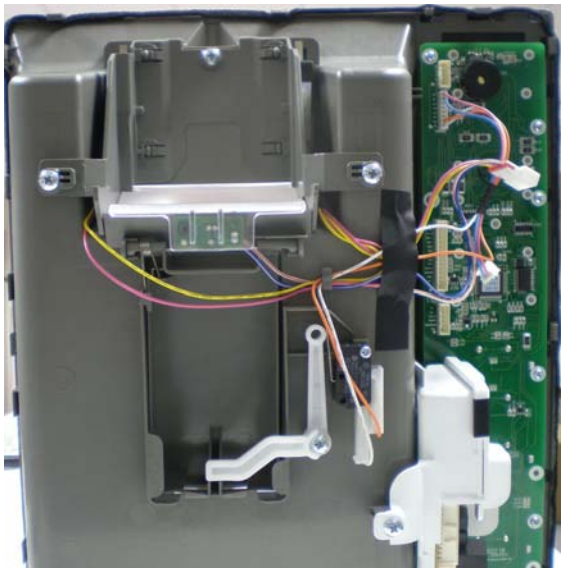
Use your thumbs to press down the black base and pop the bottom of the dispenser loose.

Grasp the right side of the dispenser and pull it toward yourself, free of the door.

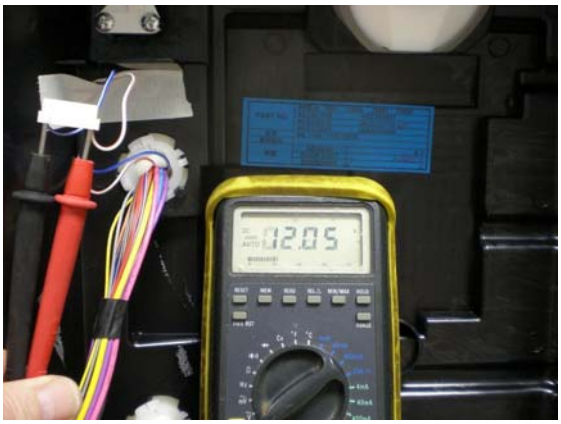


When removing the dispenser, be careful to avoid breaking the plastic tabs around the perimeter that hold it in place. Pull slowly and gently.

DISPENSER, continued



Removing the dispenser reveals the actuating lever and switch, display board, and associated wiring.



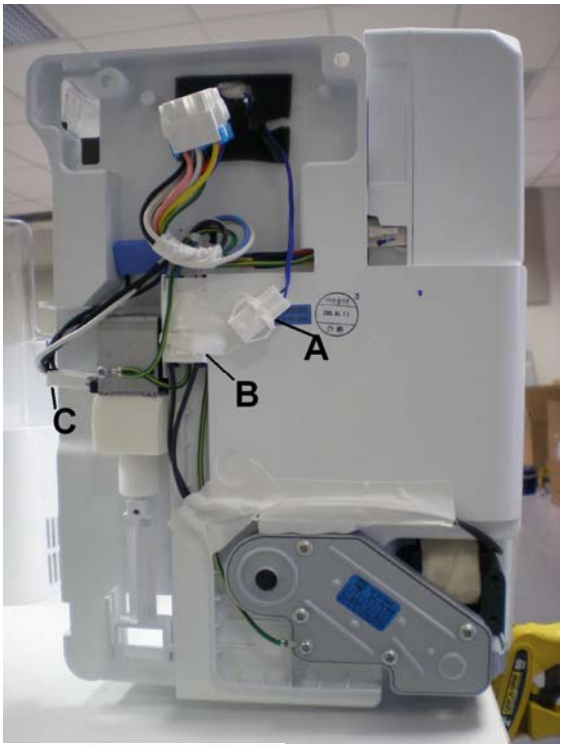
Remove the connector from the dispenser solenoid (that controls the flap over the ice chute) and check for voltage. The solenoid is a 12 V_{DC} solenoid, changed from 120 V_{AC} in previous models.

The voltage should be 12 V_{DC} ± 2 V_{DC}.

Notice the meter probes are inserted from the wire side of the connector to avoid damaging the female connectors.

With the solenoid motor disconnected, read the resistance of the coil. The resistance should be 11 Ω ± 2 Ω.

AUGER MOTOR and SOLENOID



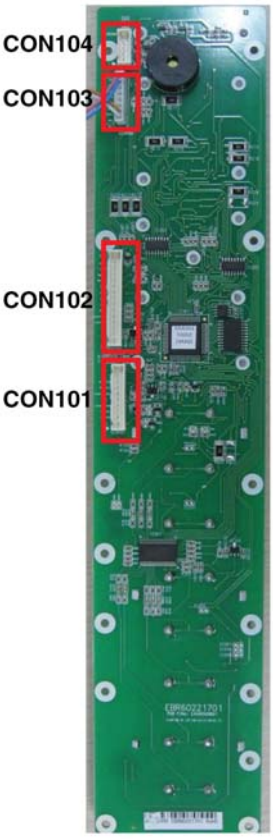
The temperature sensor is marked (**A**).

The auger motor rotates the ice dispenser and crusher assembly. Separate the electrical connector marked **B** on the photo and measure the resistance across the terminals of the geared motor.

It should be 3.2 Ω ± 0.82 Ω (25%.)

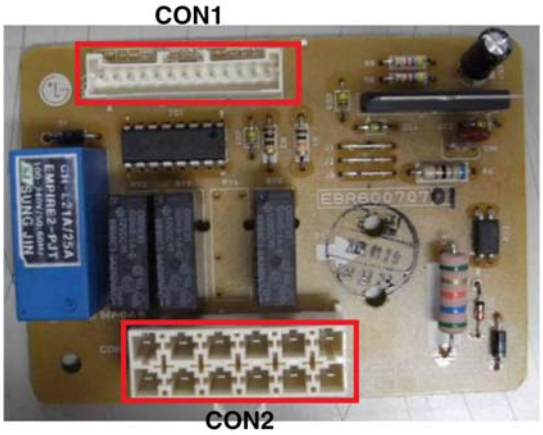
The solenoid moves an element in the crusher to switch between cubed and crushed ice. Separate the electrical connector marked (**C**) on the photo and measure the resistance across the terminals of the cube solenoid.

It should be 36 Ω ± 4 Ω (10%.)

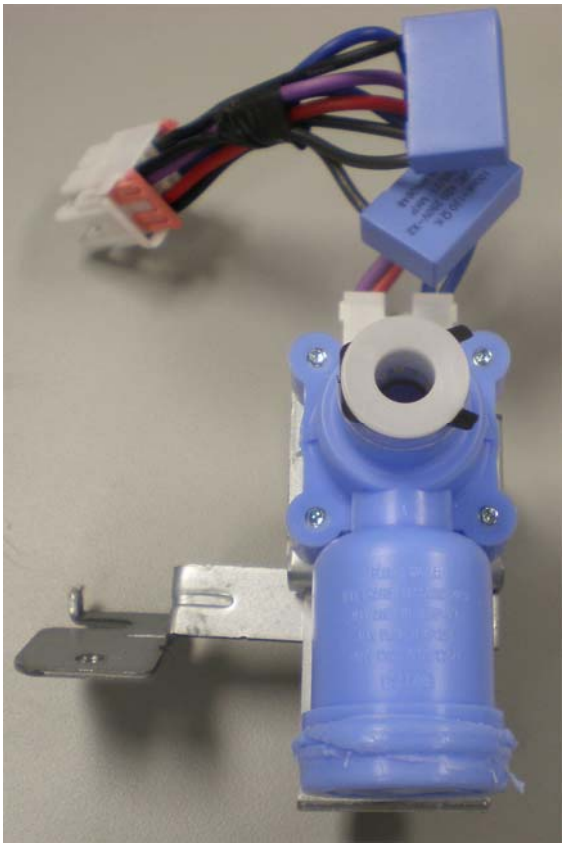


Low-Voltage Board

120 V_{AC} Board, Display and Icemaker



WATER VALVES



There are two electrically operated water valves (solenoids) in the refrigerator.

The single valve is the main valve for incoming water. It is located in the mechanical area of the refrigerator, on the right when facing the back. It has a single input from the house water supply and a single output to water filter.

Disconnect the electrical connector and read the resistance across the terminals. It should be 390 Ω ± 30 Ω (8%.)

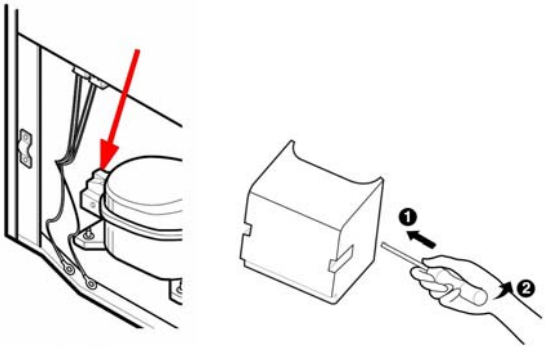
From the water filter, inside the refrigerator, filtered water goes to the double valve in the left door in the icemaker area. This valve sends water to the icemaker and the water dispenser.

Disconnect the electrical connector and read the resistance across the terminals of either valve. It should be 390 Ω ± 30 Ω (8%.)

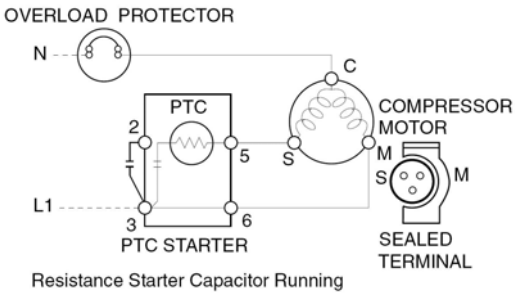
COMPRESSOR

The compressor inputs the low-pressure, low-temperature gas from the evaporator and compresses it to high-temperature, high-pressure gas to feed the condenser. The refrigerant completes its circuit through the sealed system to repeat the cycle.

Follow the usual rules for handling and replacing a compressor. Keep it dry. Do not expose it to over- or under-current or -voltage. When soldering the lines to the compressor, remember it is machined to tolerances of 1 micron and hermetically sealed in a dust- and moisture-free environment. Use extreme caution when making repairs.



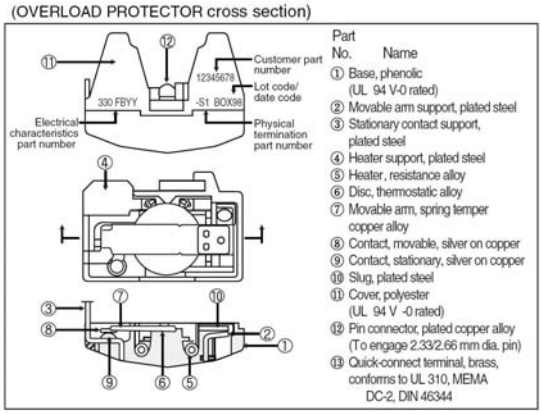
Use a flat blade screwdriver to pry the cover off the **PTC** (Positive Temperature Coefficient) and overload protector (**OLP**) on the side of the compressor.



Resistance Starter Capacitor Running

The **PTC** (positive temperature coefficient) allows current to flow through both the starting coil and the running coil of the motor. Heat is generated in this process, and if the **PTC** does not have sufficient time to cool, it will not allow the starting coil to be energized and the motor will not start.

(OVERLOAD PROTECTOR cross section)



The **OLP** (overload protector) is attached to the compressor. It prevents the compressor motor from being started.

Do not adjust the screw on the **OLP** for any reason.

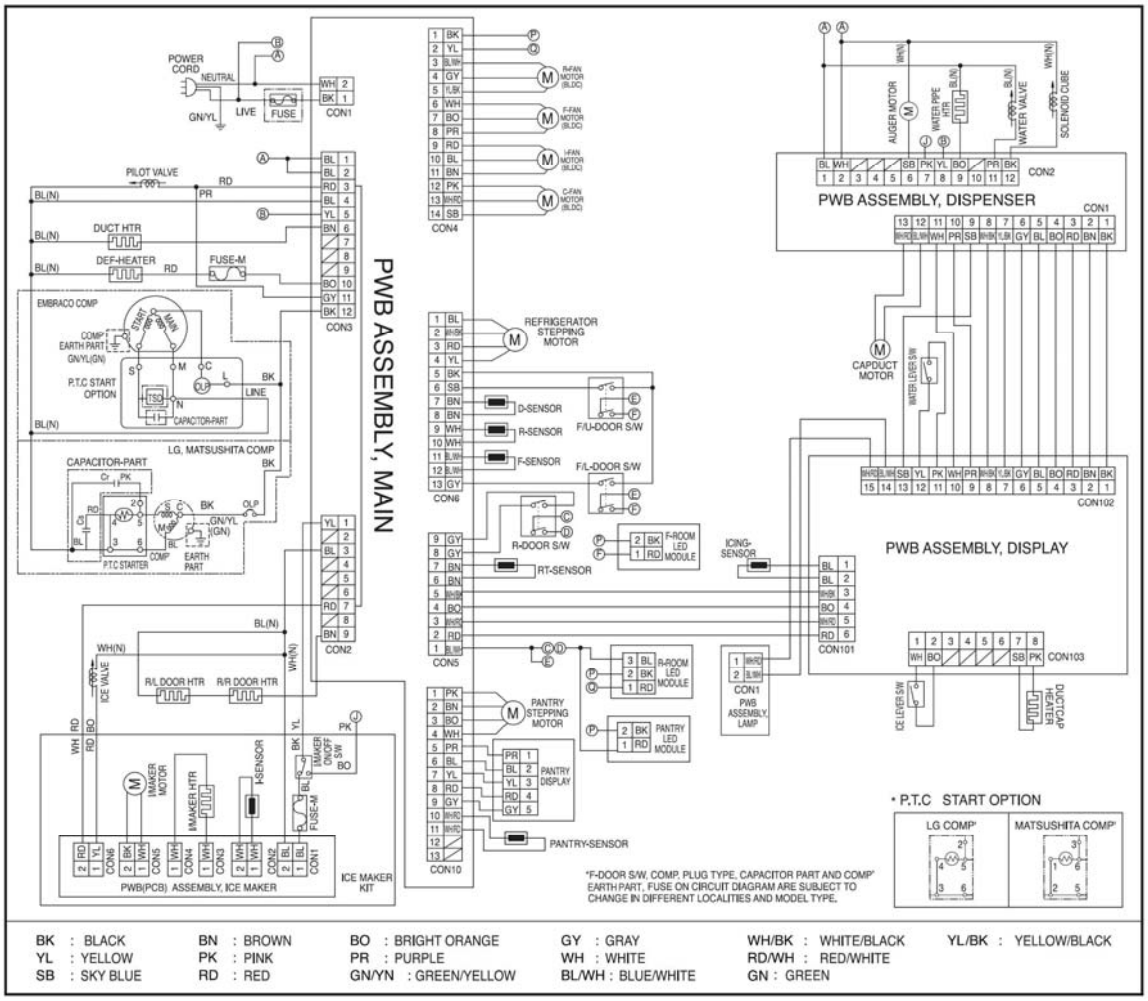
PTC and **OLP** devices may appear identical, but should always be checked for the correct electrical ratings. Use only authorized parts for replacement.

TROUBLESHOOTING

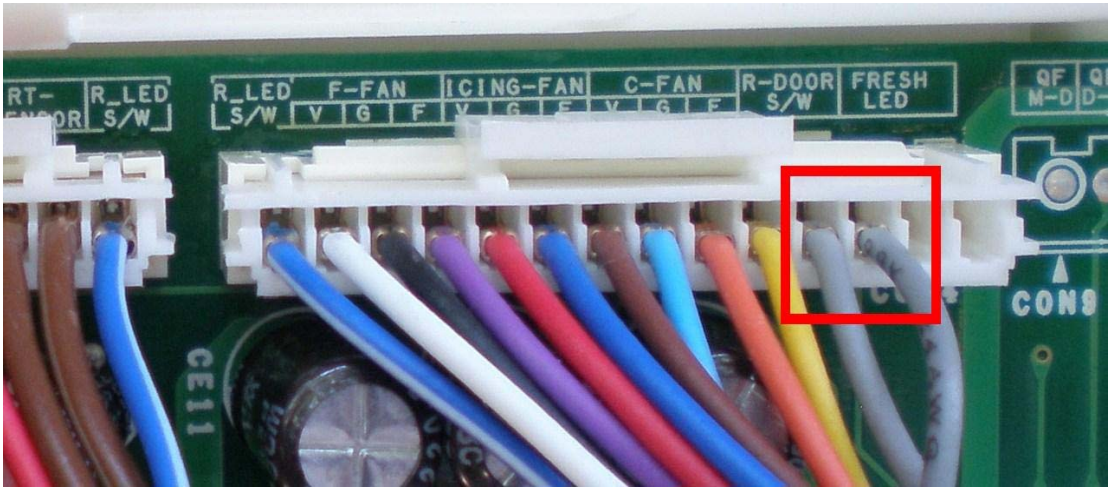
When checking resistance values, unplug the refrigerator and allow time for the voltage to discharge.

NO	Error Detection Category	Error Display		Error Generation Factors	Remark
		Freezer Temperature	Refrigerator Temperature		
1	Normality			None	Normal operation of Display
2	Freezer Sensor Error	Er	FS	Short or Disconnection of Freezer Sensor	Check each sensor and its connector.
3	Refrigerator Sensor Error	Er	rS	Short or Disconnection of Refrigerator Sensor	
4	Defrosting Sensor Error	Er	dS	Short or Disconnection of Defrosting Sensor	
5	Icing Sensor Error	Er	IS	Short or Disconnection of Icing Sensor	
6	Pantry sensor error	Er	SS	Short or Disconnection of Pantry Sensor	
7	Room Temp Sensor Error	Er	rt	Short or Disconnection of room temp.sensor	
8	Poor Defrosting	Er	dH	Even though it is past 1 hour since then defrosting, if defrosting sensor is not over 46°F(8°C), it occurs.	Temperature Fuse Disconnection, Heater disconnection, DRAIN Jam, Poor Relay for Heater
9	Abnormality of BLDC FAN Motor for Ice Making	Er	IF	It is caused when feedback signal isn't over 65 seconds during BLDC FAN motor operating	Poor BLDC Motor connection, DRIVE IC, and TR
10	Abnormality of BLDC FAN Motor for Freezer	Er	FF	It is caused when feedback signal isn't over 65 seconds during BLDC FAN motor operating	Poor BLDC Motor connection, DRIVE IC, and TR
11	Abnormality of BLDC FAN MOTOR For Refrigerator	Er	rF	It is caused when feedback signal isn't over 65 seconds during BLDC FAN motor operating	Poor BLDC Motor connection, DRIVE IC, and TR
12	Abnormality of BLDC FAN Motor for Mechanic Room	Er	CF	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	Communication Error	Er	CO	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.

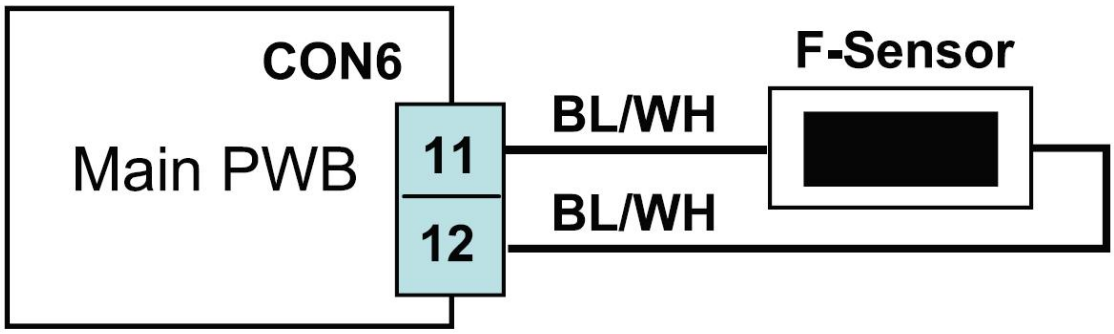
SCHEMATIC



Wires are identifiable by color, by connector, and are marked on the board in most cases.



FREEZER SENSOR ERROR



Is Er-FS displayed?

Yes

Is the connection loose?

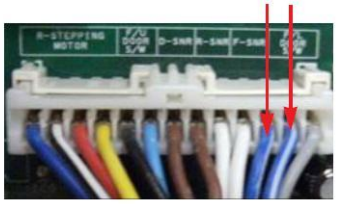
Yes → Reconnect

No

POWER OFF to protect the microprocessor.

Disconnect CON6 and measure the value. Is resistance value between pins 11 & 12 of CON6 as below? (BL/WH to BL/WH)

No → Replace F-sensor (Position 610C)



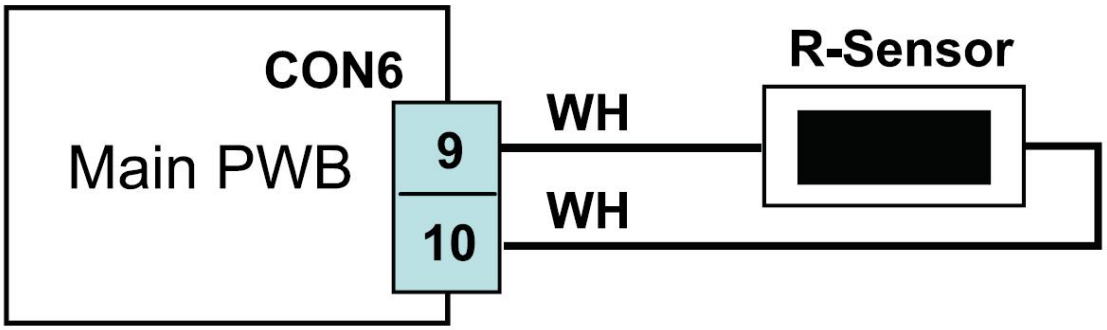
Test Point	Result
Pin 11 to pin 12	1.4 ~ 120 kΩ

Yes

Reconnect CON6 and Power ON

If the ER-FS appears when you press FREEZER key and ICE PLUS Key at the same time, replace the main PWB. (Position 500A)

REFRIGERATOR SENSOR ERROR



Is Er-rS displayed?

Yes

Is the connection loose?

Yes → Reconnect

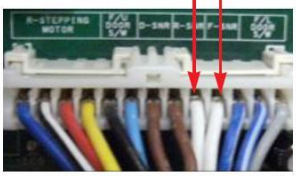
No

POWER OFF to protect microprocessor.

Disconnect CON6 and measure the value. Is resistance value between pins 9 & 10 of CON6 as below? (WH to WH)

No → Replace R-sensor (Position 610B)

pin 9 pin10



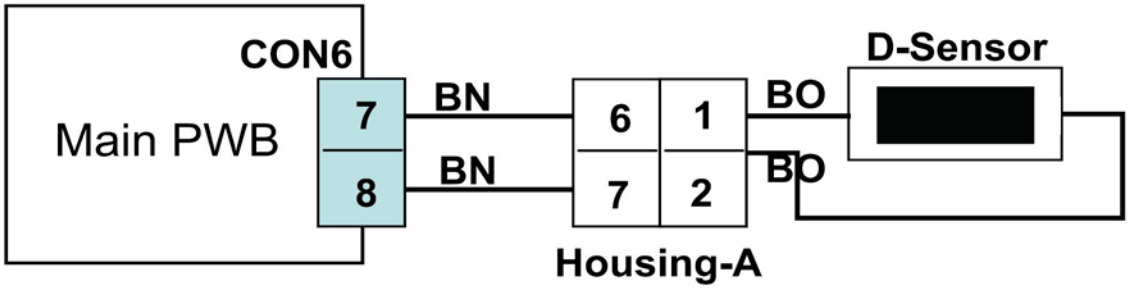
Test Point	Result
Pin 9 to pin 10	6 ~ 300 kΩ

Yes

Reconnect CON6 and Power ON

If the ER-rS appears when you press FREEZER key and ICE PLUS Key at the same time, Replace the main PWB. (Position 500A)

DEFROST SENSOR ERROR



Is Er-dS displayed?

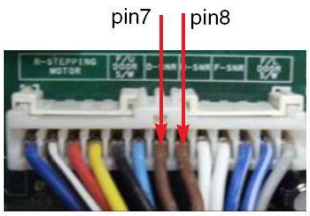
Yes

Is the connection loose? Yes → Reconnect

No

POWER OFF to protect microprocessor

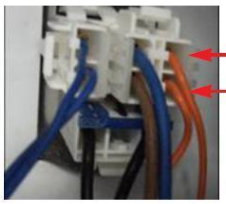
Disconnect CON6 and measure the value. Is resistance value between pins 7 & 8 of CON6 as below? (BN to BN) No → Replace D-sensor (Position 400A)



Test Point	Result
Pin 7 to pin 8	6 ~ 300 kΩ

Yes

Is resistance value between pins 1 & 2 of Housing A as below? (BO to BO) No → Replace D-sensor (Position 400A)



Checking Open or Short

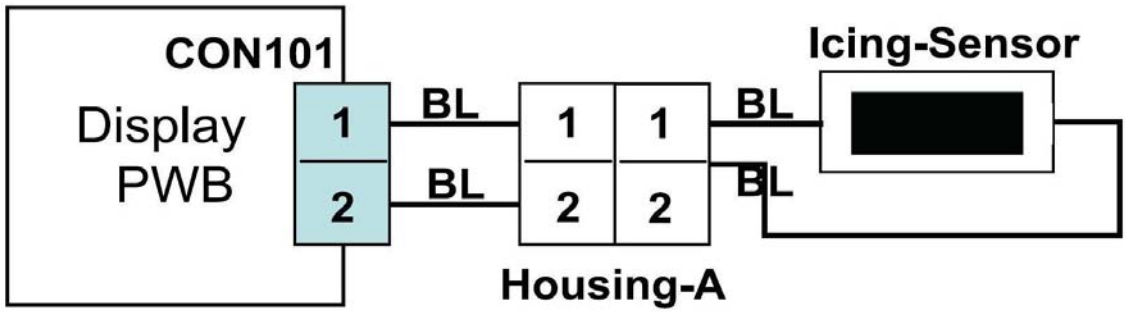
Test Point	Result
Pin1 To pin 2	6 ~ 300 kΩ

Yes

Reconnect and Power ON

If the ER-dS appears when you press FREEZER key and ICE PLUS Key at the same time, replace the main PWB. (Position 500A)

ICEMAKER COMPARTMENT SENSOR ERROR



Is Er-IS displayed?

Yes

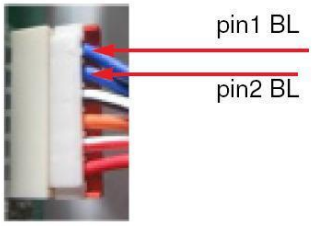
Is the connection loose? Yes → Reconnect

Display PWB

Inner of Icing door

No

Disconnect CON101 and measure the value. Is resistance value between pins 5 & 6 of CON101 as below? (BL to BL) No → Replace the Icing-Sensor (Position 600B)

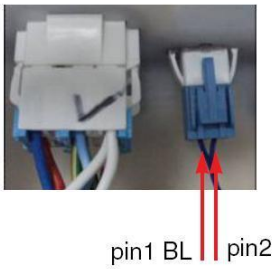


Icing room sensor Resistance

Test Point	Result
pin 5 to pin 6	1.4 ~ 120 kΩ

Yes

Is resistance value between pins 1 & 2 of Housing A as below? (BL to BL) No → Replace the Icing-Sensor (Position 600B)



Checking Open or Short of wire

Test Point	Result
(1) To (2)	1.4 ~ 120 kΩ

Yes

Reconnect and Power ON

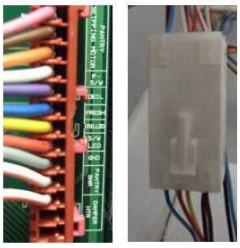
If the ER-IS appears when you press FREEZER key and ICE PLUS Key at the same time, Replace Display PWB. (Position 501A)

PANTRY SENSOR ERROR

Is Er-SS displayed?

Yes

Is the connection loose?

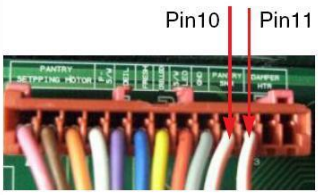


Yes → Reconnect

No

POWER OFF to protect microprocessor.

Disconnect CON10 and measure the value. Is resistance value between pins 10 & 11 of CON10 as below? (WH/RD to WH/RD)



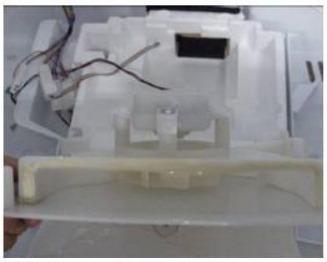
Test Point	Result
Pin 10 to pin 11	6 ~ 300 kΩ

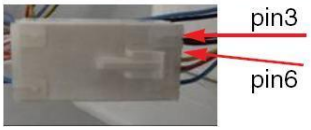
No → Replace pantry sensor

Yes

Is resistance value between pins 3 & 6 of Housing A as below? (BN to BN)

No → Replace Pantry-sensor





Checking Open or Short of wire

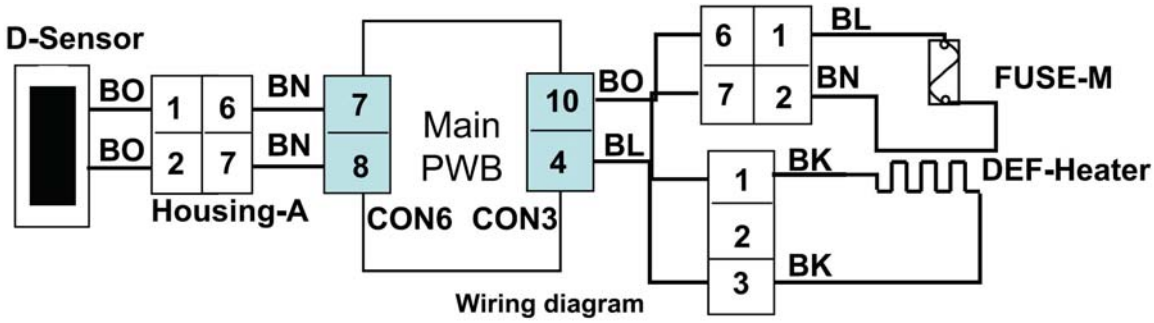
Test Point	Result
Pin 3 To pin 6	6 ~ 300 kΩ

Yes

Reconnect and Power ON

If the ER-SS appears when you press FREEZER key and ICE PLUS Key at the same time, Replace the main PWB. (Position 500A)

DEFROST HEATER ERROR



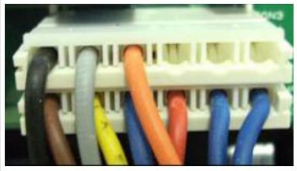
Is Er-dH displayed?

Yes

Is the connection loose?

Yes → Reconnect

CON6



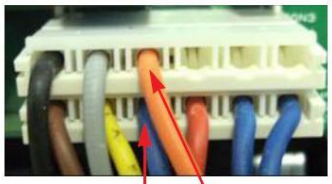
CON3

No

Enter the TEST 3 MODE

Is the voltage value between pins 10 (BO) and 4 (BL) of CON3 115 V AC?

No → Replace MAIN PWB (Position 500A)



Pin 4 BL Pin 10 BO

Relay operation

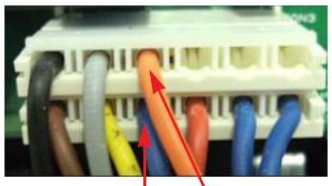
Test Point	Result
pin 4 To pin 10	115V

Yes

Reset TEST3 MODE(Normal)

Is the voltage value between pins 10 (BO) and 4 (BL) of CON3 0 V AC?

No → Replace MAIN PWB (Position 500A)



pin 4 BL pin 10 BO

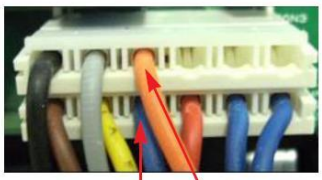
Relay Open

Test Point	Result
Reset/Norm OP	0 ~ 2 V

Yes

DEFROST HEATER ERROR, continued

Is the resistance value between pins 10 (BO) and 4 (BL) of CON3 as below? **Yes** → Normal



Pin 4 BL Pin 10 BO

Resistance

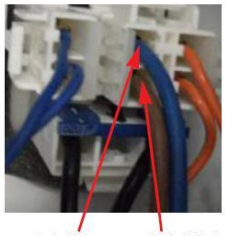
Test Point	Result
(1) To (2)	34 ~ 42 Ω

No

Is the connection loose? **Yes** → Reconnect

No

Is the resistance value of Fuse M as below? **No** → Replace Fuse-M (Position 400A)



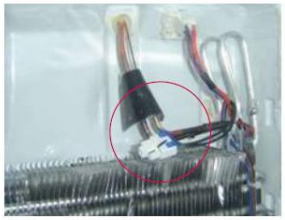
(1) BL (2) BN

Open or Short of Fuse M

Test Point	Result
(1) To (2)	0 Ω

Yes

Is the resistance value of heater as below? **No** → Replace Heater (Position 408A)



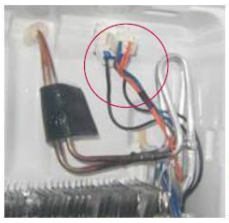
(1) (2)

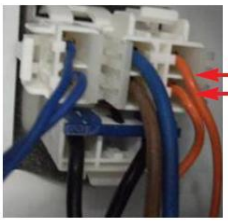
Heater Resistance

Test Point	Result
1 To 2	34 ~ 42 Ω

Yes

Is the resistance value of DEF-sensor as below? It depends on the temperature. **No** → Replace D sensor (Position 400A)





(1) BO

(2) BO

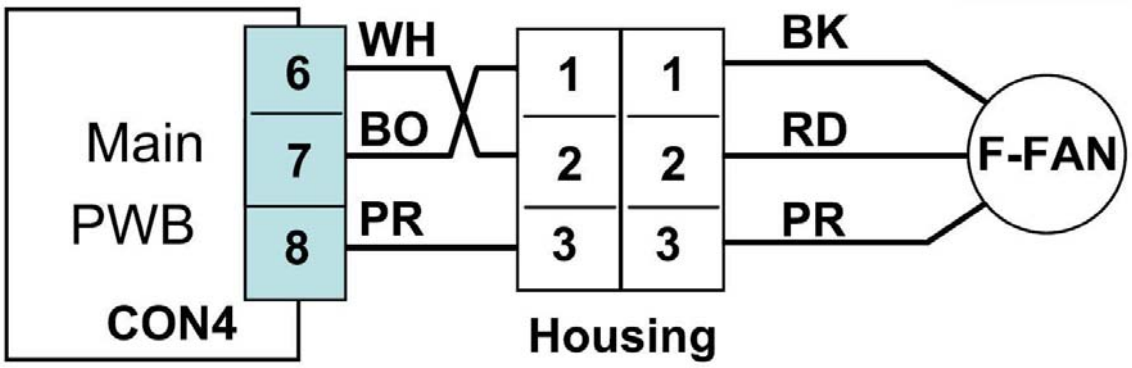
Defrost Sensor Resistance

Test Point	Result	Test Point	Result
-30° C (-22° F)	129.3 kΩ	10° C (50° F)	19.53 kΩ
-20° C (-4° F)	76.96 kΩ	20° C (68° F)	13.03 kΩ
-10° C (+14° F)	47.34 kΩ	30° C (86° F)	8.896 kΩ
0° C (32° C)	30 kΩ	40° C (104° F)	6.201 kΩ

Yes

Explain to the customer!
It can occur when the gasket is not stuck to product or when you put high temperature loads (hot foods) in the product.

FREEZER FAN ERROR



Is Er-FF displayed?

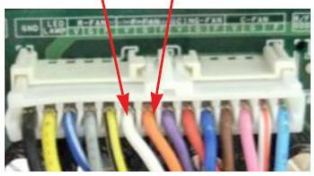
Yes

Is the connection loose? Yes → Reconnect

No

Reset and Enter the TEST 1 MODE
Is the output voltage between pin 6 and pin 7 of CON4 as below? No → Replace MAIN PWB (Position 500A)

Pin6 WH Pin7 BO



Freezer Fan Voltages

Test Point	Result
pin 6 to pin 7	12 ~ 16 V

Yes

Does the cold-air come out of the top of the Grill Fan under Test 1 mode ? No → Check fan motor (Connector, Frozen, Locked) and replace.

Yes

Is the feedback voltage between pin 7 and pin 8 of CON4 like as below? (from motor to main board) No → Replace MAIN PWB (Position 500A)

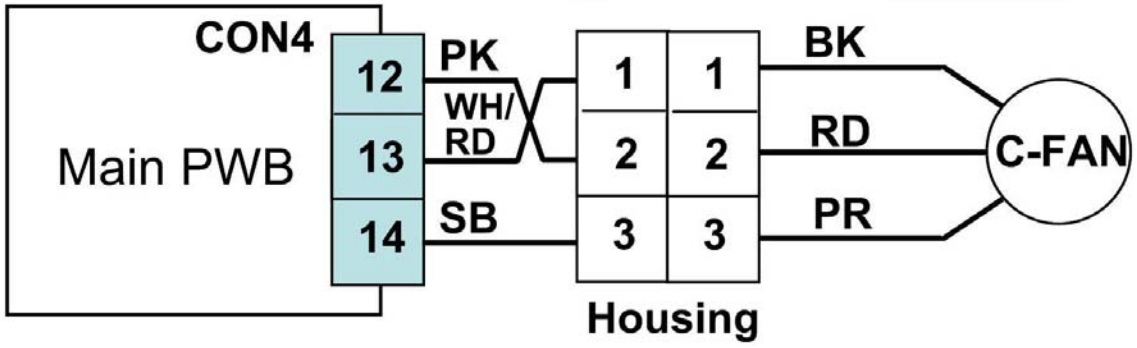
Feedback Voltages

Test Point	Result
Pin 7 to pin 8	1 ~ 4 V

Yes

Explain to customer that system is working normally.

CONDENSER FAN ERROR



Is Er-CF displayed?

Yes

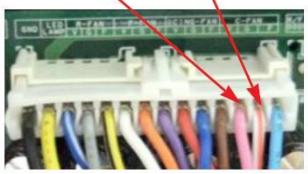
Is the connection loose?

Yes → Reconnect

No

Reset and Enter the TEST 1 MODE
Is the output voltage between pin 12 and pin 13 of CON4 as below?

Pin12 PK Pin13 WH/RD



Condenser Fan Voltages

Test Point	Result
pin 12 to pin 13	10 ~ 16 V

No → Replace MAIN PWB (Position 500A)

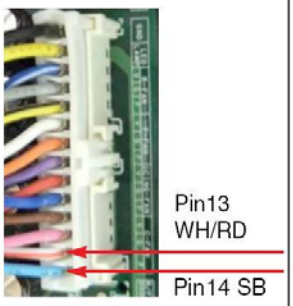
Yes

Does the condenser fan turn in Test 1 mode?

No → Check fan motor connector; if locked, replace. (Position 420A)

Yes

Is the feedback voltage between pin 13 and pin 14 of CON4 as below? (from motor to main board)



Feedback Voltages

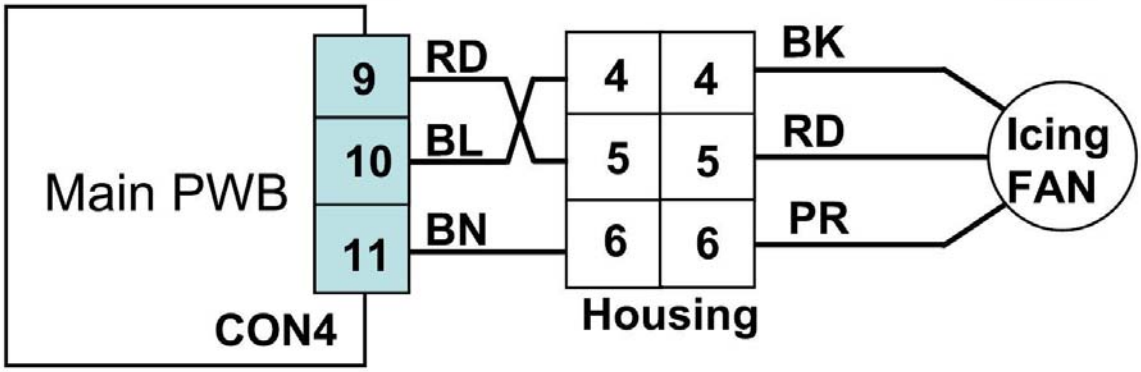
Test Point	Result
Pin 13 to pin 14	1 ~ 4 V

No → Replace MAIN PWB (Position 500A)

Yes

System is operating within spec.

ICEMAKER COMPARTMENT FAN ERROR



Is Er-IF displayed?

Yes

Is the connection loose?

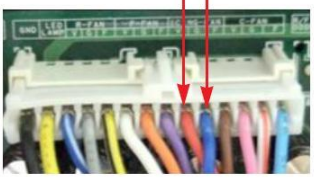
Yes → Reconnect

No

Reset and Enter the TEST 1 MODE
Is the output voltage between pin 9 and pin 10 of CON4 like as below?

No → Replace MAIN PWB (Position 500A)

Pin9 RD Pin10 BL



Icing Fan Voltages

Test Point	Result
pin 9 to pin10	10 ~ 16 V

Yes

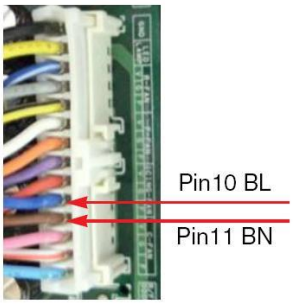
Does the cold-air come out of the side duct under the Test1 Mode?

No → Check fan motor (Connector, Frozen,Locked) and replace.

Yes

Is the feedback voltage between pin10 and pin11 of CON4 as below? (from motor to main board)

No → Replace MAIN PWB (Position 500A)



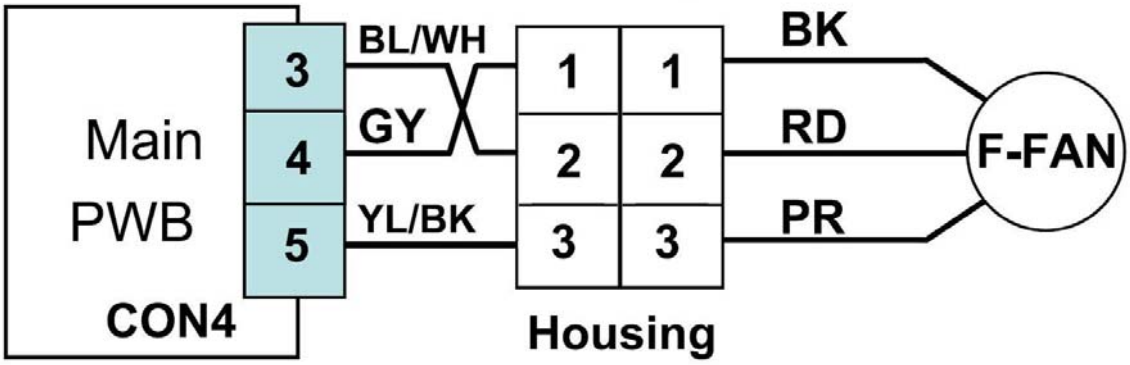
Feedback Voltages

Test Point	Result
Pin 10 to pin 11	1 ~ 4 V

Yes

System is operating to spec.

REFRIGERATOR FAN ERROR



Is Er-rF displayed?

Yes

Is the connection loose?

Yes → Reconnect

No

Reset and Enter the TEST 1 MODE

Is the output voltage between pin 3 and pin 4 of CON4 as below?

Pin 3 BL/WH Pin4 GY

No → Replace MAIN PWB (Position 500A)

Freezer Fan Voltages

Test Point	Result
pin 3 to pin 4	12 ~ 16 V

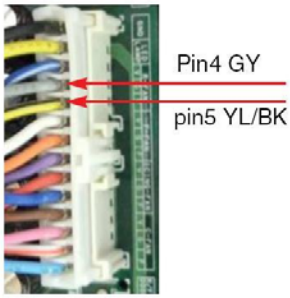
Yes

Does the cold-air come out of the top of the main duct under Test1 mode ?

No → Check fan motor (Connector, Frozen, Locked) and replace.

Yes

Is the feedback voltage between pin4 and pin5 of CON4 like as below? (from motor to main board)



Feedback Voltages

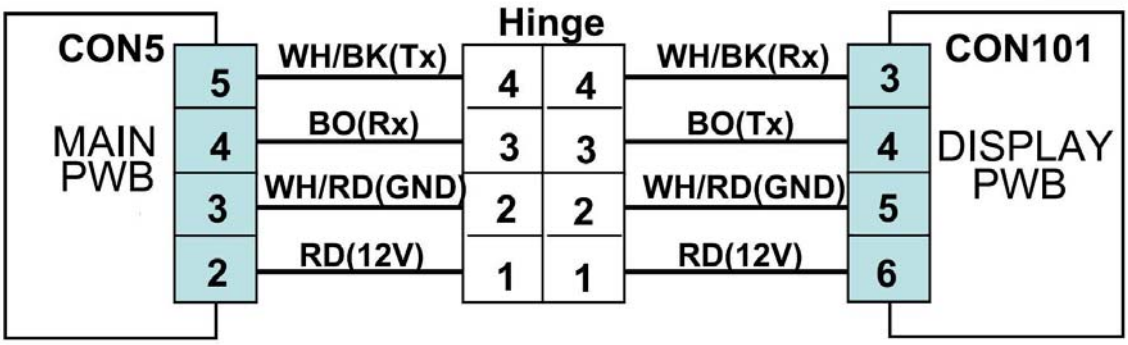
Test Point	Result
Pin 4 to pin 5	1 ~ 4 V

No → Replace MAIN PWB (Position 500A)

Yes

System is operating to spec.

COMMUNICATION ERROR



Is Er-CO displayed?

Yes

Display PWB
Is the connection loose? — Yes → Reconnect

No

Display PWB
Is the voltage between pins 7 and pin 9 of CON101? — Yes → Replace the Display PWB (Position 501A)

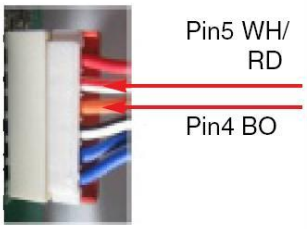
Pin 5 WH/RD Pin 3 WH/BK

Receiver fail Voltages

Test Point	Result
pin7 to pin9	0 V or 5 V

No

Display PWB
Is the voltage between pin 8 and pin 9 of CON101 0 V or 5 V? — Yes → Replace the Display PWB (Position 501A)

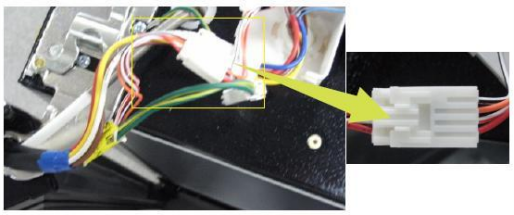


Transmitter Voltages

Test Point	Result
pin 8 to pin 9	0 V or 5 V

No

Is the joint connection loose in the Hinge? — No → Reconnect



Yes

COMMUNICATION ERROR, continued

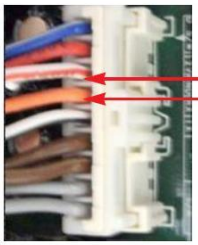
MAIN PWB
Is the connection loose?

Yes → Reconnect

No

Main PWB
Is the voltage between pin 3 and pin 4 of CON5 0V or 5V?

Yes → Replace MAIN PWB (Position 500A)



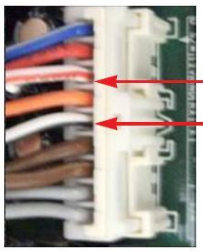
Receiver Voltages

Test Point	Result
pin 3 to pin 4	0 V or 5 V

No

Main PWB
Is the voltage between pin 3 and pin 5 of CON5 0 V or 5 V?

Yes → Replace MAIN PWB (Position 500A)



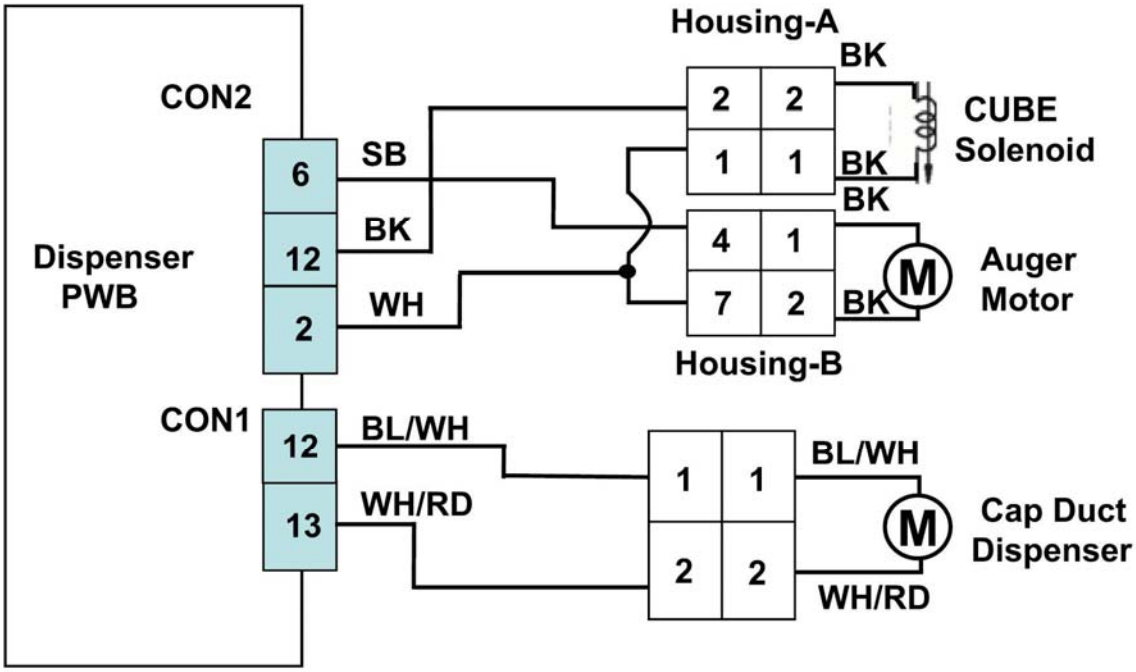
Transmitter Voltages

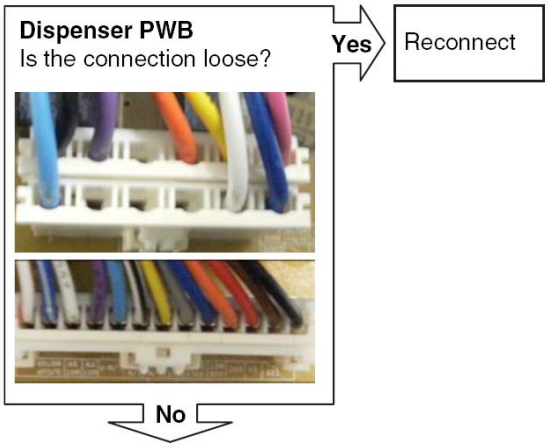
Test Point	Result
pin 3 to pin 5	0 V or 5 V

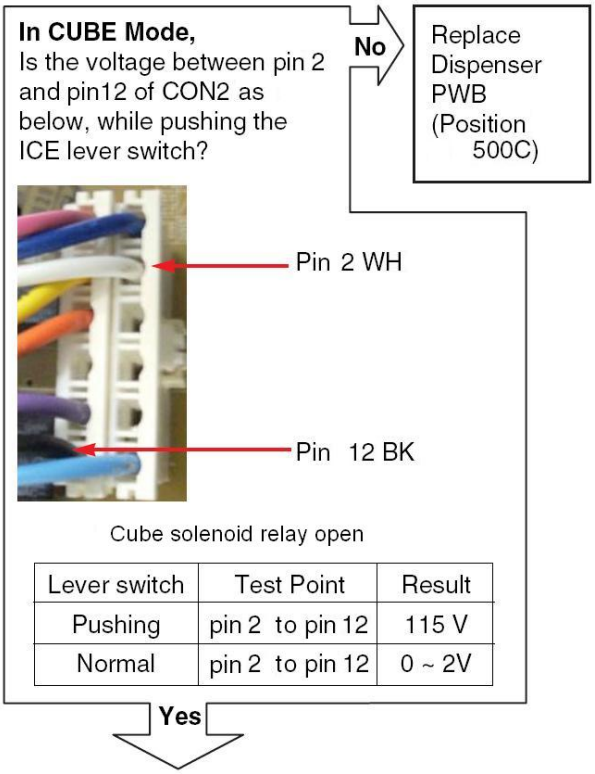
No

Upon power up, is Er-CO disappears, the system is performing to spec.

CUBE MODE FAILS



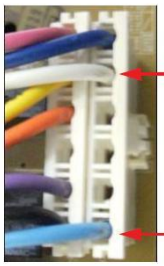




CUBE MODE FAILS, continued

In CUBE Mode,
Is the voltage between pin 2 and pin6 of CON2 as below, while pushing the ICE lever switch?

No → Replace Dispenser PWB (Position 500C)



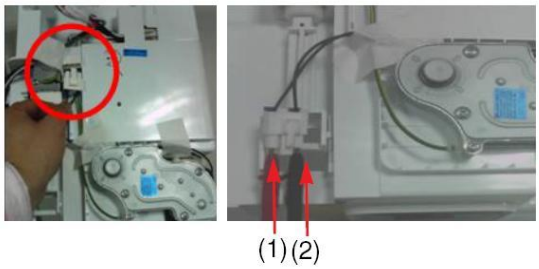
Output voltage of auger motor

Lever switch	Test Point	Result
Pushing	pin 2 to pin 6	115 V
Normal	pin 2 to pin 6	0 ~ 2 V

Yes

Is the resistance value between 1 and 2 of the auger motor as below?

No → Replace Auger Motor (Position 606A)



Resistance of Auger Motor

Test Point	Result
(1) To (2)	2.38 ~ 4.02 Ω

Yes

In CUBE Mode,
Is the voltage between pin12 and pin13 of CON1 like as below, while pushing the ICE lever switch?

No → Replace Dispenser PWB (Position 500C)

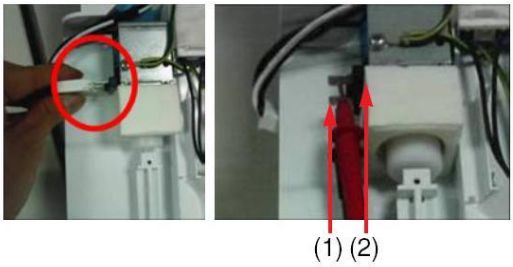
Output voltage of dispenser cap duct

Lever switch	Test Point	Result
Pushing	pin 12 to pin 13	12 V
Normal	pin 12 to pin 13	0 V

Yes

Is the resistance value between 1 and 2 of the cube solenoid as below?

No → Replace Cube Solenoid (Position 614A)



Resistance of Cube solenoid

Test Point	Result
(1) To (2)	32 ~ 40 Ω

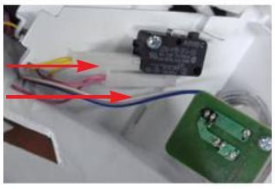
Yes

CUBE MODE FAILS, continued

Is the condition of the microswitch as below?

No → Replace Microswitch (Position 402C)

(1)
(2)

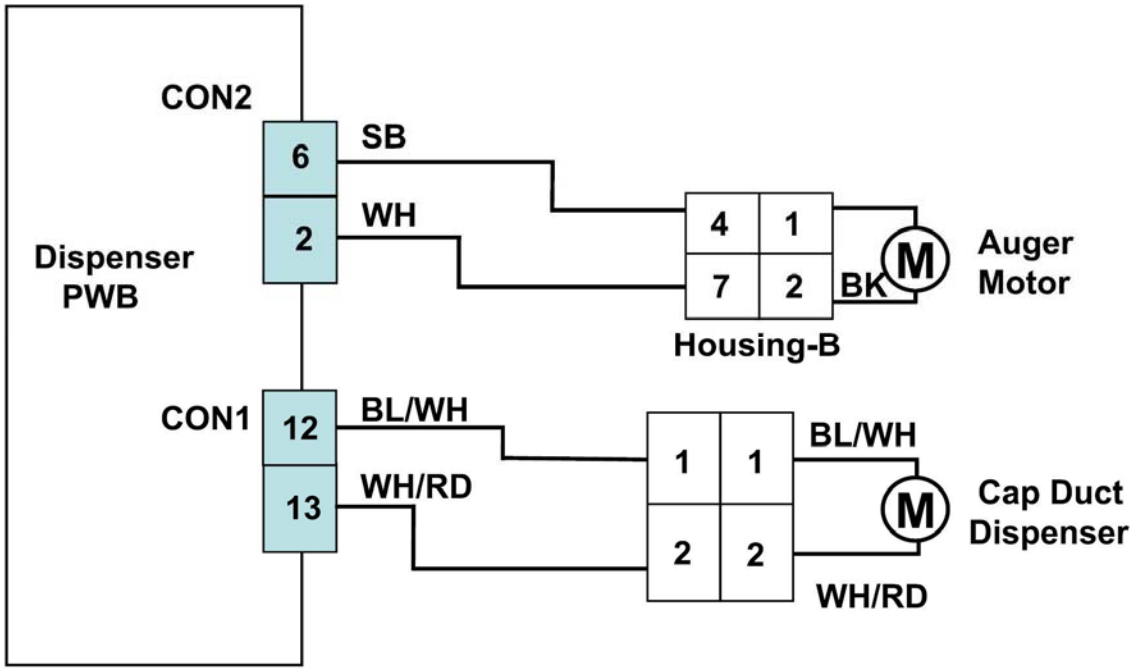


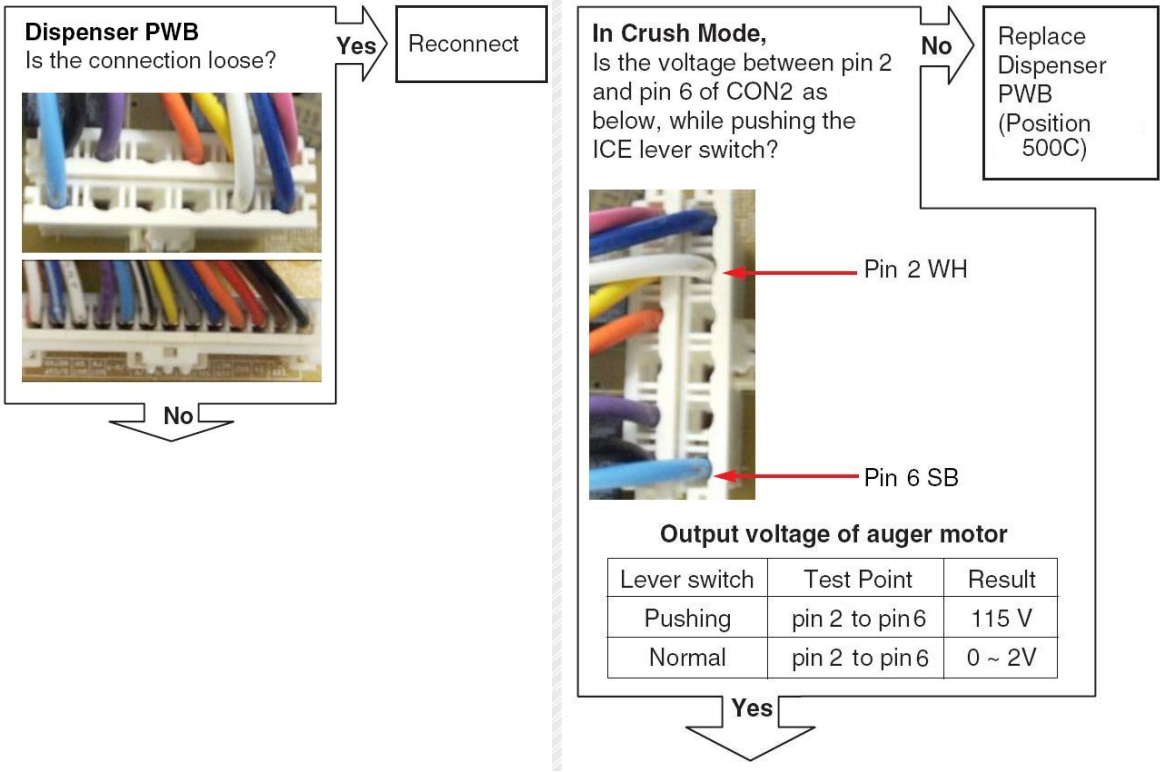
Status	Tester
Normal	Infinity
Push the Lever	0 Ω

Yes

System is operating to spec.

CRUSH MODE FAILS





CRUSH MODE FAILS, continued

In Crush Mode,
Is the voltage between pin 12 and pin 13 of CON1 as below while pushing the ICE lever switch?

No → Replace Dispenser PWB (Position 500C)

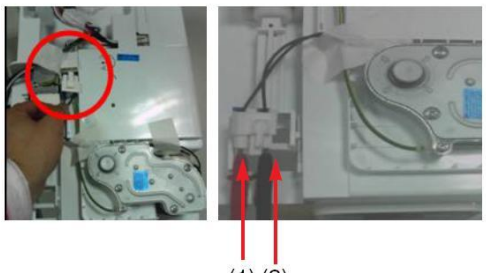
Output voltage of dispenser cap duct

Lever switch	Test Point	Result
Pushing	pin 12 to pin 13	12 V
Normal	pin 12 to pin 13	0 V

Yes

Is the resistance value between 1 and 2 of the Auger motor as below?

No → Replace Auger Motor (Position 606A)



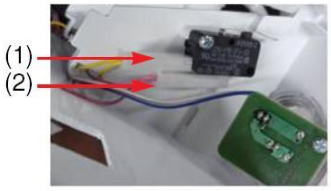
Resistance of Auger Motor

Test Point	Result
(1) To (2)	2.38 ~ 4.02 Ω

Yes

Is the condition of the microswitch as below?

No → Replace Micro Switch (Position 402C)

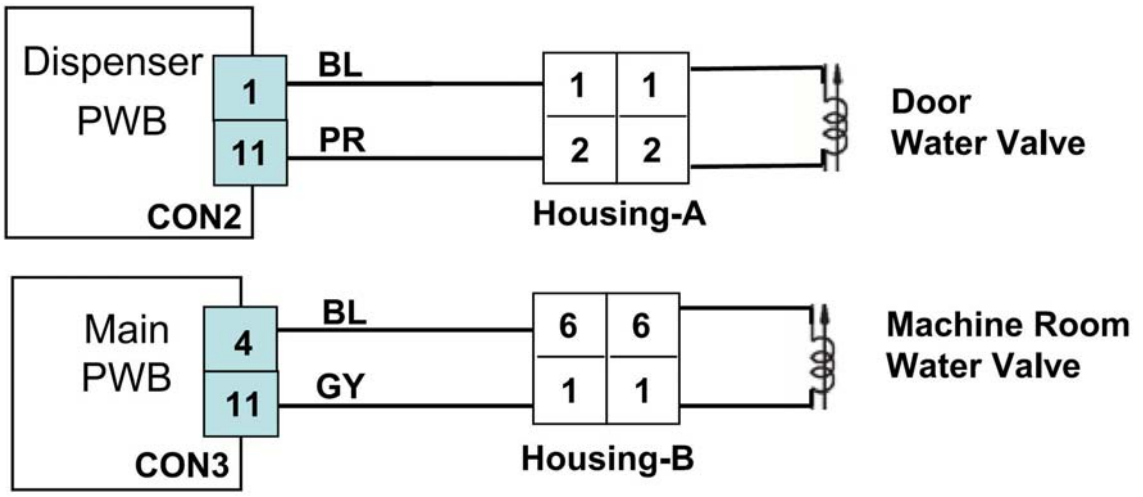


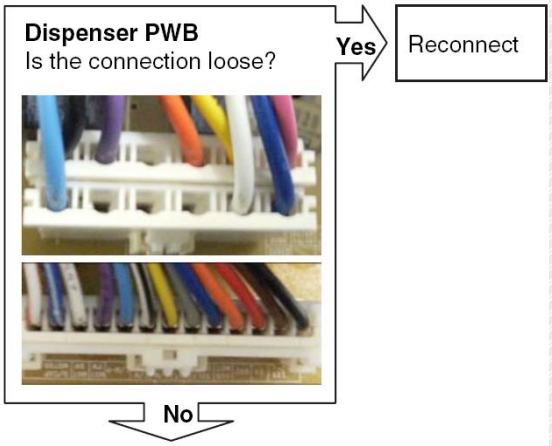
Status	Tester
Normal	Infinity
Push the Lever	0 Ω

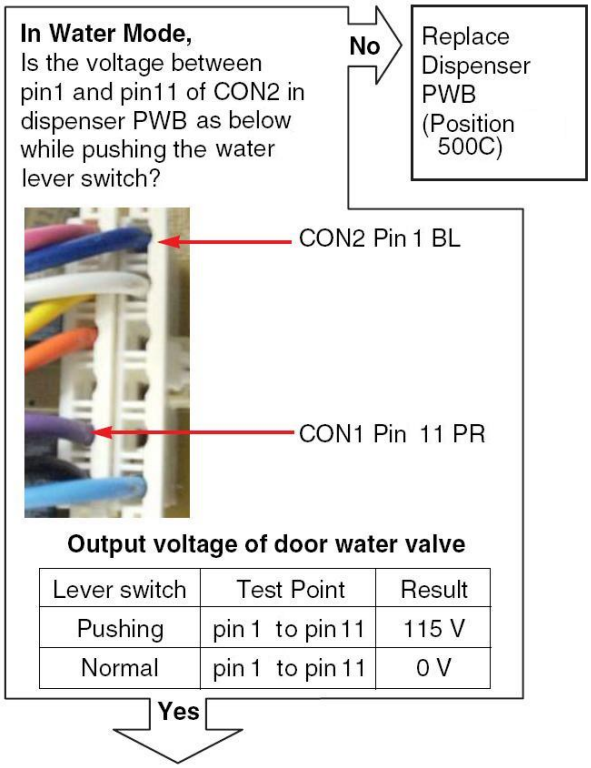
Yes

The system is working to spec.

WATER MODE FAILS



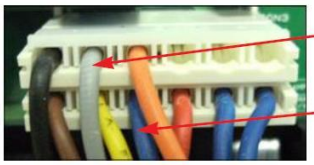




WATER MODE FAILS, continued

In Water Mode,
Is the voltage between pin 4 and pin 11 of CON3 in main PWB as below while pushing the level switch?

No → Replace MAIN PWB (Position 500A)



Main PWB CON3
Pin 11 GY
Pin 4 BL

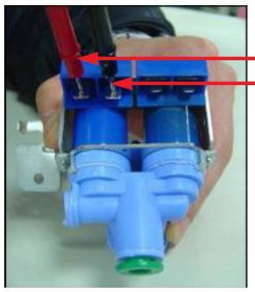
Output voltage of machine room water valve

Test Poin	Result
Pin 4 to pin 11	115 V

Yes

First water valve
Is the resistance value between 1 and 2 of the First water valve as below?

No → Replace First Water valve (Position 619A)



(1)
(2)

Machine room

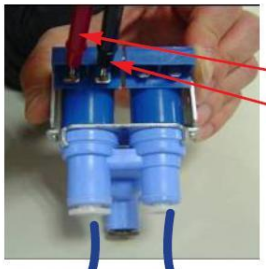
Checking resistance of First valve

Test Point	Result
(1) To (2)	360 ~ 420 Ω

Yes

Second Water valve
Is the resistance value of second water valve like as below?

No → Replace Second water valve (Position 619B)



(1)
(2)

In door

Door Dispenser Icemaker

Checking resistance of second valve

Test Point	Result
(1) To (2)	360 ~ 420 Ω

Yes

Is the condition of the micro switch as below?

No → Replace Micro Switch (Position 279G)

(1) YL
(2) PK

Status	Tester
Normal	Infinity
Push the Lever	0 Ω

Yes

Upon power up, the system should perform to spec.

NOT ENOUGH ICE or NO ICE

If the complaint is NO ICE or NOT ENOUGH ICE or ICE MELTING, check the temperature settings first. The default settings are 37° F (0° C) in the refrigerator section and 0° F (-18° C) in the freezer.

Check the temperature in the icemaker compartment. It should be 0° F (-18° C.)

(Notice the technician is using an infrared thermometer in the pictures.)

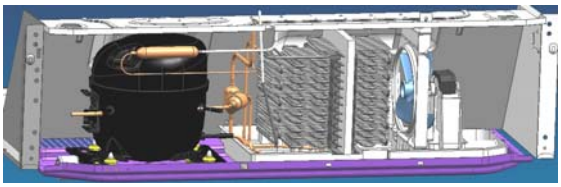
Check the temperature in the freezer compartment. It should be 0° F (-18° C.)

Check the resistance of the sensors to ensure one of them is not malfunctioning. If a sensor has failed, replace it before proceeding.

Check the temperature of the condenser unit. If it is cooler than 86° F (30° C) at an ambient temperature of 70° F (21° C) there is likely a low level of refrigerant caused by a leak in the sealed system.

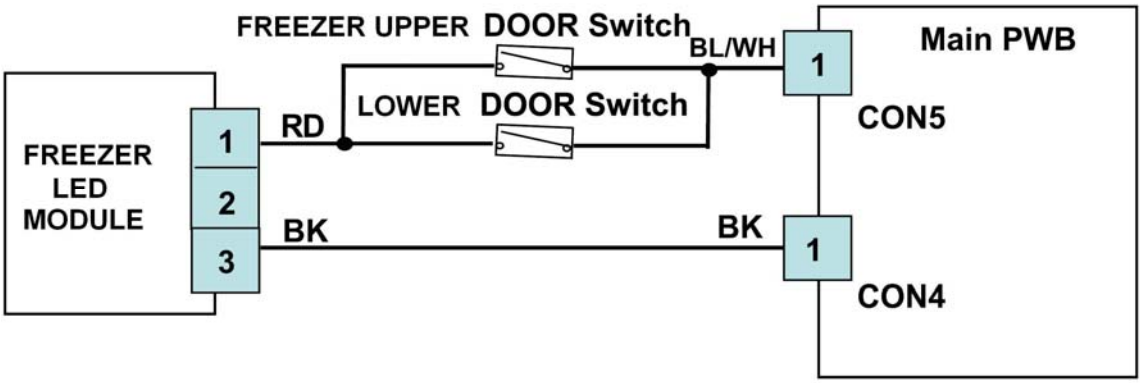
Check the dryer's auxiliary fill pipe for signs of oil or refrigerant leakage.

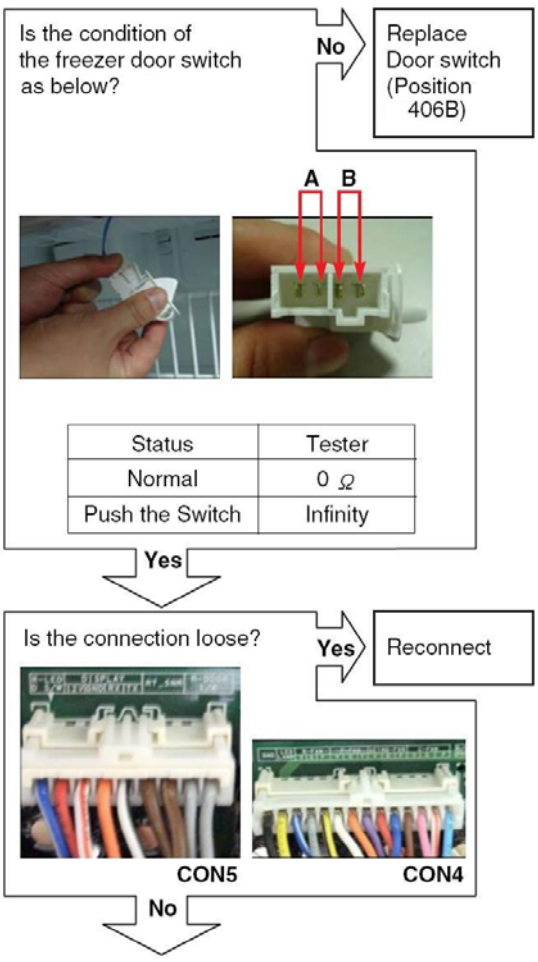
If there is evidence of a leak, replace the dryer. Then evacuate and recharge the system. The system should run to specification now.

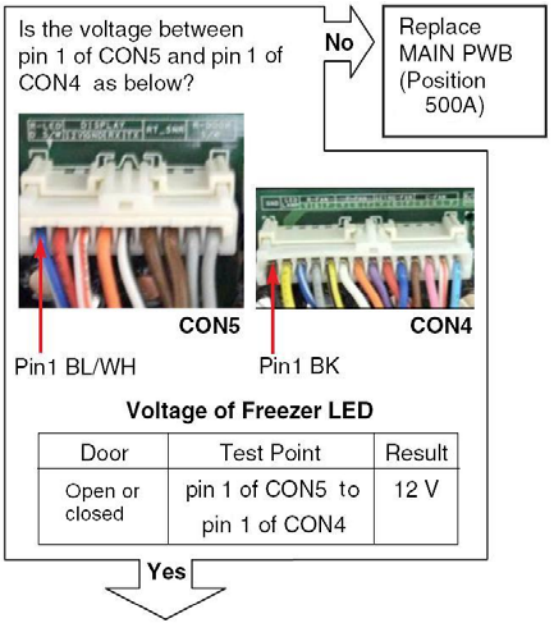


While replacing the dryer and repairing the system, check all the solder joints and usual places for leaks.

FREEZER LED MODULE FAILS



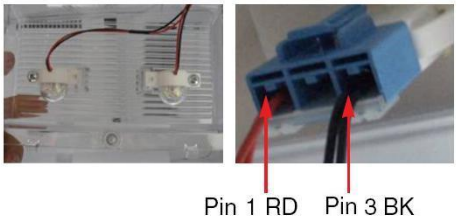




FREEZER LED MODULE FAILS, continued

Is the voltage between pin 1 and pin 3 of Freezer LED Module Housing?

No → Check the harness for open or short, repair as necessary. If good, replace the freezer LED module.



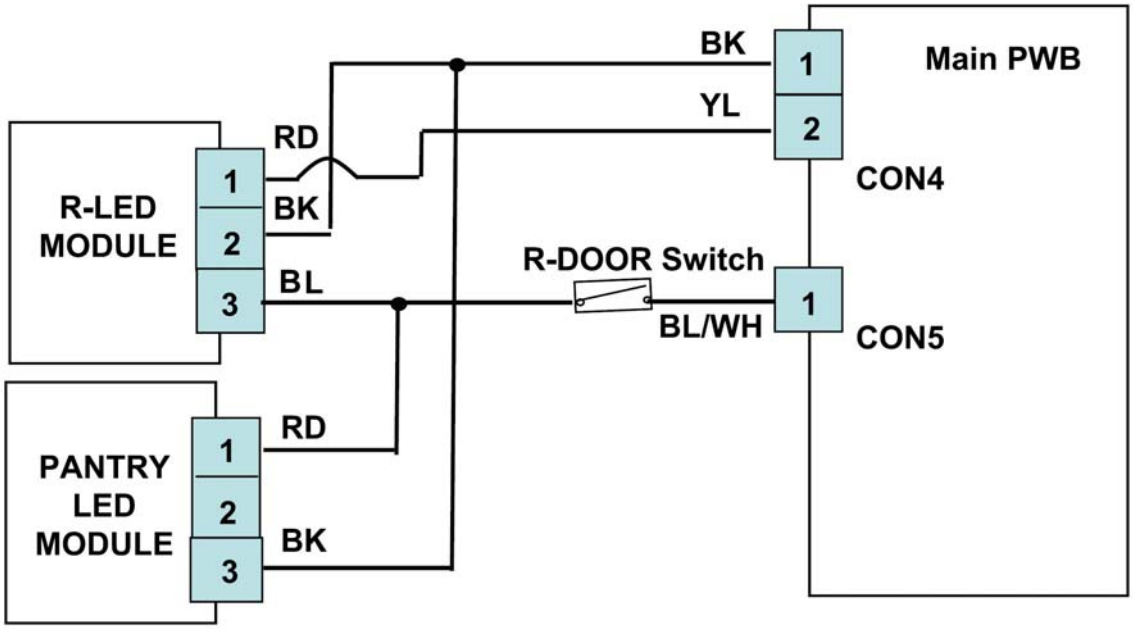
Voltage of Freezer LED

Door	Test Point	Result
Close	pin 1 to pin 3	0 V
Open	pin 1 to pin 3	12 V

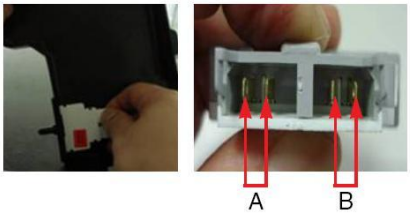
Yes →

Replace Freezer LED Module (Position 409E)

REFRIGERATOR LED MODULE FAILS



Is the condition of the freezer door switch as below? — No → Replace Door switch (Position 402A)



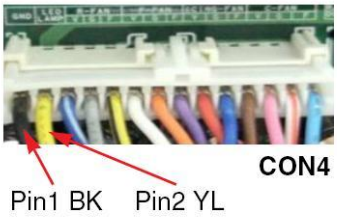
Status	Tester
Normal	0 Ω
Push the Switch	Infinity

Yes

Is the connection loose? — Yes → Reconnect

No

Is the voltage between pin 1 and pin 2 of CON4 as below? — No → Replace MAIN PWB (Position 500A)



Voltage of Refrigerator LED

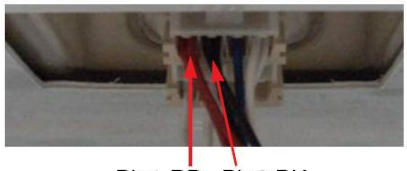
Door	Test Point	Result
Open or closed	pin1 to pin 2	12 V

Yes

REFRIGERATOR LED FAILS, continued

Is the voltage between pin 1 and pin 2 of Refrigerator LED Module Housing?

No → 1.Check the harness open or short 2.replace R LED Module



Pin1 RD Pin2 BK

Voltage of Refrigerator LED

Door	Test Point	Result
Open or closed	pin1 to pin 2	12 V

Yes

Is the connection loose?

Yes → Reconnect

CON5

No

Is the voltage between pin 1 and pin 3 of CON5 as below?

No → Replace MAIN PWB (Loc. 500A)

CON5

Pin 1 BL/WH Pin 3 WH/RD

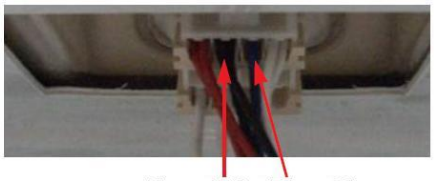
DOOR SWITCH SIGNAL VOLTAGE

Door	Test Point	Result
Open or closed	pin 1 to pin 3	12 V

Yes

Is the voltage between pin 2 and pin 3 of Refrigerator LED Module Housing?

No → Check harness for open or short; repair. If good, replace refrigerator LED module.



Pin 2 BK Pin 3 BL

DOOR SWITCH SIGNAL VOLTAGE

Door	Test Point	Result
Close	pin 2 to pin 3	0 V
Open	pin 2 to pin 3	12 V

Yes

Replace refrigerator LED module. (Location 409D.)

POOR COOLING IN REFRIGERATOR SECTION

MAIN PWB
Is the connection loose?

CON3

Yes → Reconnect

No

Enter the TEST 1 MODE
Is the voltage between pin 4 and pin 12 of CON3 as below?

Pin 12 BK Pin 4 BL CON3

Compressor Voltage

Test Point	Result
pin 4 to pin 12	115 V

No → Replace MAIN PWB (Location 500A)

Yes

Is the voltage between pin 3 and pin 4 of CON4 as below?

Pin 3 BL/WH
Pin 4 GY
CON4

Refrigerator Fan Voltage

Test Point	Result
pin 3 to pin 4	12 ~ 16 V

No → Replace MAIN PWB (Position 500A)

Yes

Feedback check.
Is the voltage between pin 4 and pin 5 of CON4 as below?

Pin 4 GY
Pin 5 YL/BK
CON4

Feedback voltage of R-fan

Test Point	Result
pin 4 to pin 5	1 ~ 4 V

No → Replace MAIN PWB (Position 500A)

Yes

POOR COOLING IN REFRIGERATOR SECTION, continued

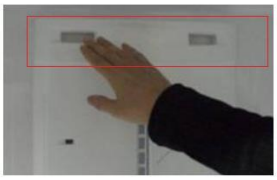
Does the cold-air come out of the top of the main duct?

No → Check the damper

Yes

Enter the TEST 2 MODE

Does cold-air not come out of the top of the main duct?



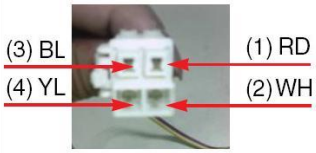
Yes → Check the damper

No

Checking Damper

Is the resistance between pins 1 and 4 and pins 2 and 3 as shown below?

No → Replace Damper (Position 120A)



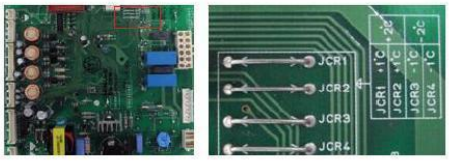
Resistance of Damper

Test Point	Result
(1) To (4)	373 ~ 456 Ω
(2) To (3)	373 ~ 456 Ω

Yes

After resetting the refrigerator, adjust the MAIN PWB for temperature compensation as described here.

For EBR600283, cut the jumper wires as shown below.



JUMP WIRE	Temp. Compensation
JCR3	-1° C (-1.8° F)
JCR4	-1° C (-1.8° F)
Cutting both jumpers affords a -2° (-3.6° F) temperature compensation	

POOR COOLING IN REFRIGERATOR SECTION

MAIN PWB
Is the connection loose?

CON3

Yes → Reconnect

No

Enter the TEST 1 MODE
Is the voltage between pin 4 and pin 12 of CON3 as below?

Pin12 BK Pin 4 BL

CON3

Voltage of Compressor

Test Point	Result
pin 4 to pin 12	115 V

No → Replace MAIN PWB (Position 500A)

Yes

Check the **Fan operation** by placing your hand in front of the vents to feel for any cold air flow.

Door	Fan Motor
Open	OFF
Closed	ON

Yes → Replace Fan

No

Is the voltage between pin 3 and pin 4 of CON4 as below?

Pin 3 BL/WH
Pin 4 GY

CON4

Refrigerator Fan Voltage

Test Point	Result
pin 3 to pin 4	12 ~ 16 V

No → Replace MAIN PWB (Position 500A)

Yes

Feedback check.
Is the voltage between pin 4 and pin 5 of CON4 as below?

Pin 4 GY
Pin 5 YL/BK

CON4

Feedback voltage of R-fan

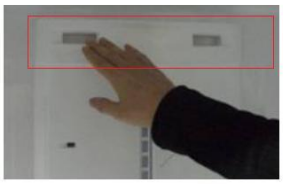
Test Point	Result
pin 4 to pin 5	1 ~ 4 V

No → Replace MAIN PWB (Position 500A)

Yes

POOR COOLING IN REFRIGERATOR SECTION, continued

Does the cold-air come out of the top of the main duct?



No → Check the damper

Yes

Enter the TEST 2 MODE

Does cold-air not come out of the top of the main duct?

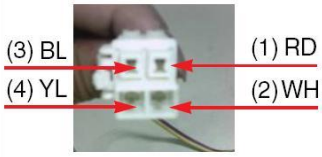
Yes → Check the damper

No

Checking Damper

Is the resistance between pins 1 and 4 and pins 2 and 3 as shown below?

No → Replace Damper (Position 120A)



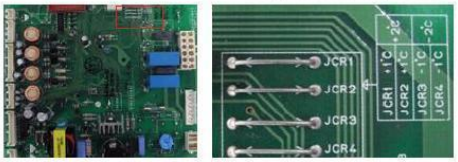
Resistance of Damper

Test Point	Result
(1) To (4)	373 ~ 456 Ω
(2) To (3)	373 ~ 456 Ω

Yes

After resetting the refrigerator, adjust the MAIN PWB for temperature compensation as described here.

To adjust the temperature downward by 1° or 2° C (1.8 or 3.6 °F,) cut jumpers 3 and 4 as indicated here. (EBR600283)



JUMP WIRE	Temp. Compensation
JCR3	**-1° C (-1.8° F)**
JCR4	**-1° C (-1.8° F)**
Cutting both jumpers affords a -2° (3.6° F) temperature compensation	

OVERCOOLING IN REFRIGERATOR SECTION

MAIN PWB
Is the connection loose?

CON3

Yes → Reconnect

No

Enter the TEST 1 MODE
Is the voltage between pin 4 and pin 12 of CON3 as below?

No → Replace MAIN PWB (Position 500A)

Pin12 BK Pin 4 BL CON3

Voltage of Compressor

Test Point	Result
pin 4 to pin 12	115 V

Yes

Check the **Fan operation** by placing your hand in front of the vents to feel for any cold air flow.

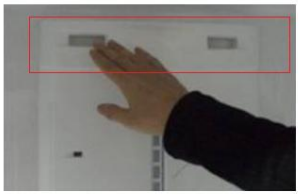
Yes → Replace Fan

Door	Fan Motor
Open	OFF
Closed	ON

No

Enter the TEST 2 MODE
Does the cold-air coming out of the top of the main duct?

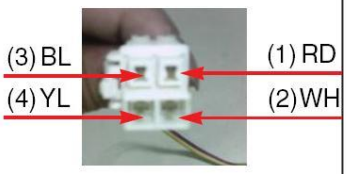
No → Check the damper.



Yes

Checking Damper
Is the resistance value between pins 1 and 4 and pins 2 and 3 as shown in the chart below?

No → Replace the damper. (Loc. 120A)



Resistance of Damper

Test Point	Result
(1) To (4)	373 ~ 456 Ω
(2) To (3)	373 ~ 456 Ω

Yes

OVERCOOLING IN REFRIGERATOR SECTION, continued

Enter the TEST 3 MODE
Is the voltage between pin 4 and pin 12 of CON3 like as below?

pin12 BK Pin 4 BL **CON3**

Voltage of Compressor

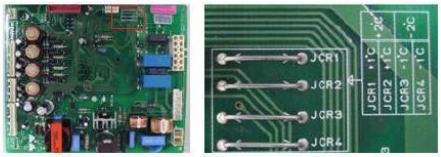
Test Point	Result
pin 4 to pin 12	0~2 V

No → Replace MAIN PWB (Position 500A)

Yes

After resetting the refrigerator, adjust the MAIN PWB for temperature compensation as described here.

To adjust the temperature upward by 1° or 2° C (1.8 or 3.6 °F,) cut jumpers 3 and 4 as indicated here. (EBR600283)

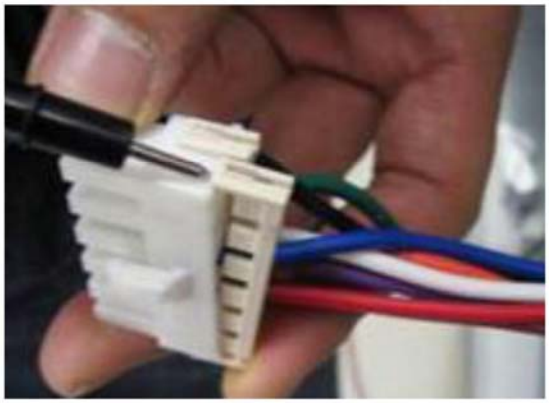


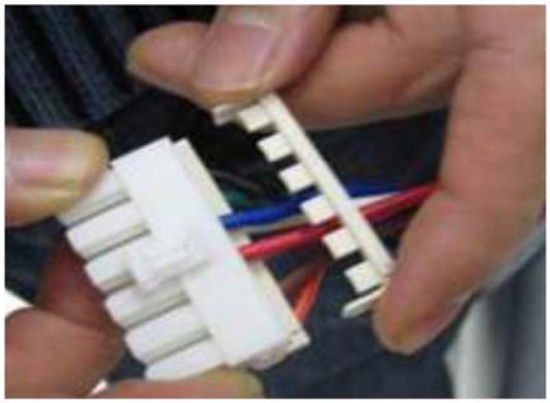
JUMP WIRE	Temp. Compensation
JCR1	**+1° C (+1.8° F)**
JCR2	**+1° C (+1.8° F)**
Cutting both jumpers affords a 2° (3.6° F) temperature compensation	

TERMINAL PROTECTOR

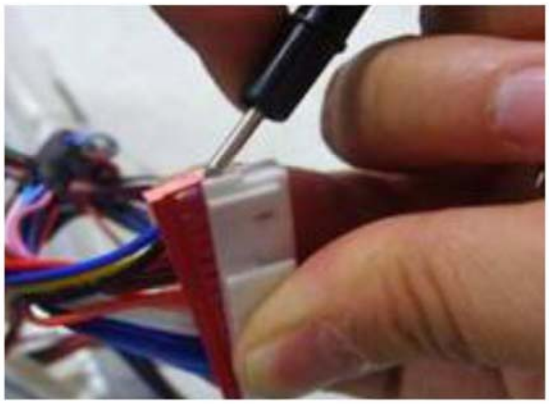
You can get the meter probes in to the correct wires more easily if you remove the protective strip along the wired end of the connector by prying up one end and then the other. Be sure to replace the strip when testing is complete.

AC Connector





DC Connector



TEST MODE

Press the TEST button on the MAIN PWB to start the test mode.

Pressing the TEST button one time will turn on the compressor, all fan motors, all dampers, and all items on the display.

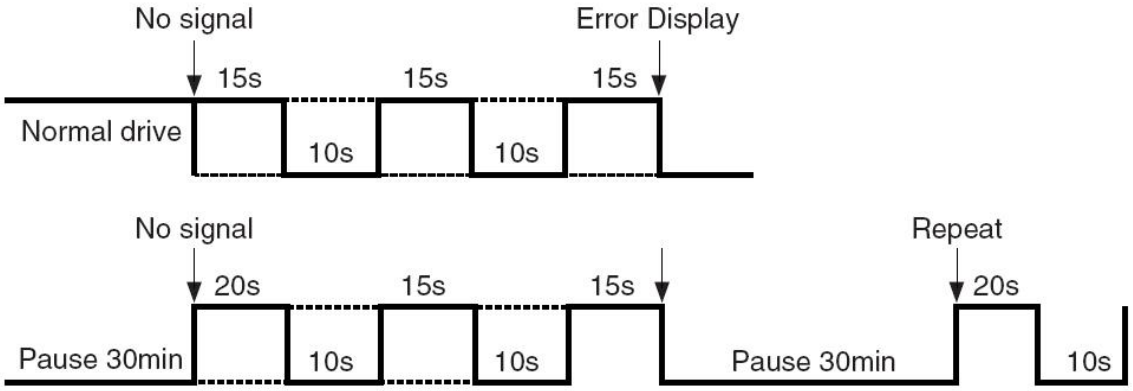
TEST MODE, continued

Pressing the TEST button a second time will force the damper closed. The display will show **22 22**.

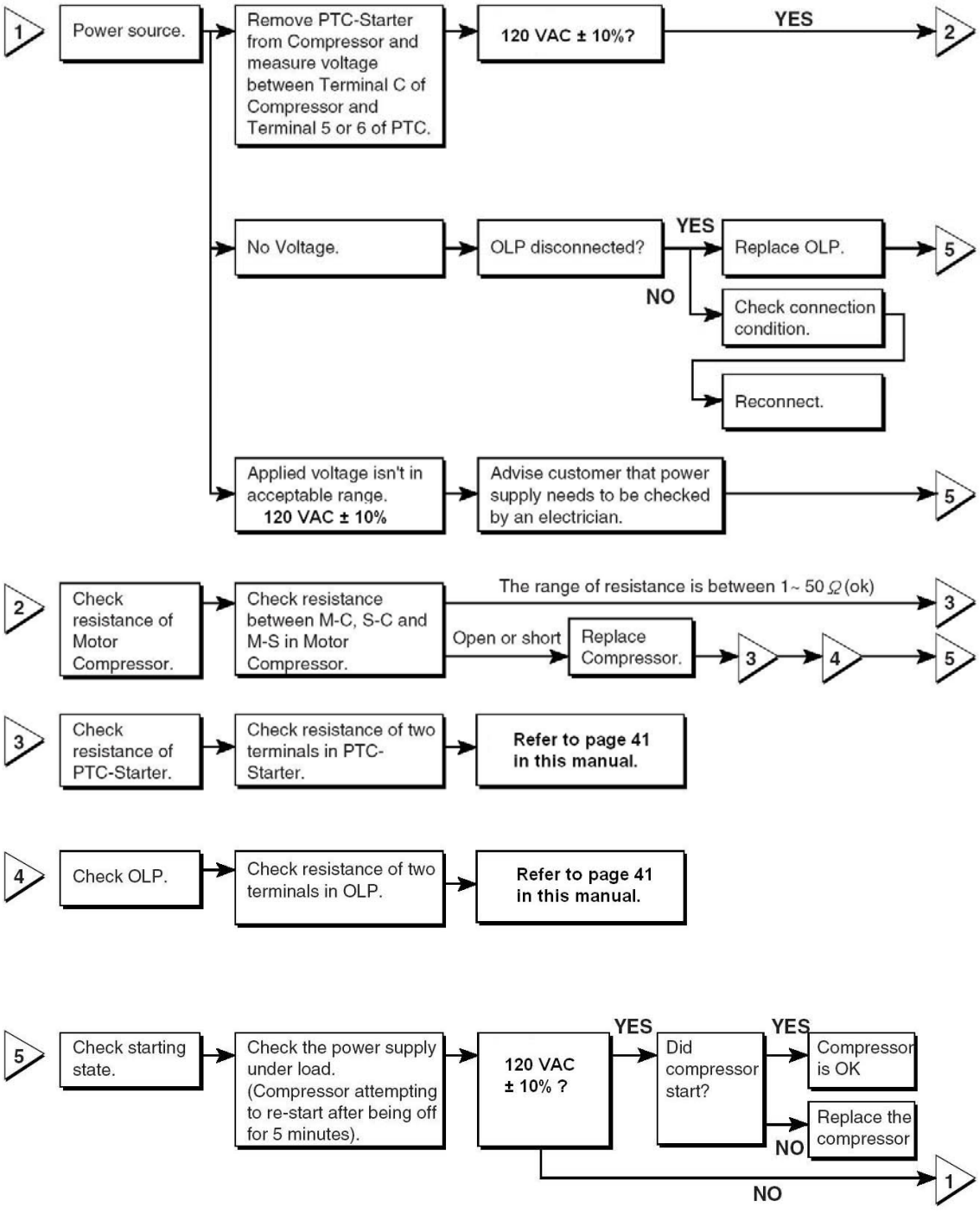
Pressing the TEST button a third time will force the defrost mode. The display will show **33 33**.

FAN ERROR TEST

The microprocessor sends a signal to the fan motor and checks its status. If there is no feedback, the motor is stopped for 10 seconds and then powered again for 15 seconds. To determine if there is a fan malfunction, this process is repeated three times before an error code is displayed. The error code will be displayed for 30 minutes, after which the process will repeat. If normal operation is restored, the error message is cleared and the microprocessor is reset automatically.

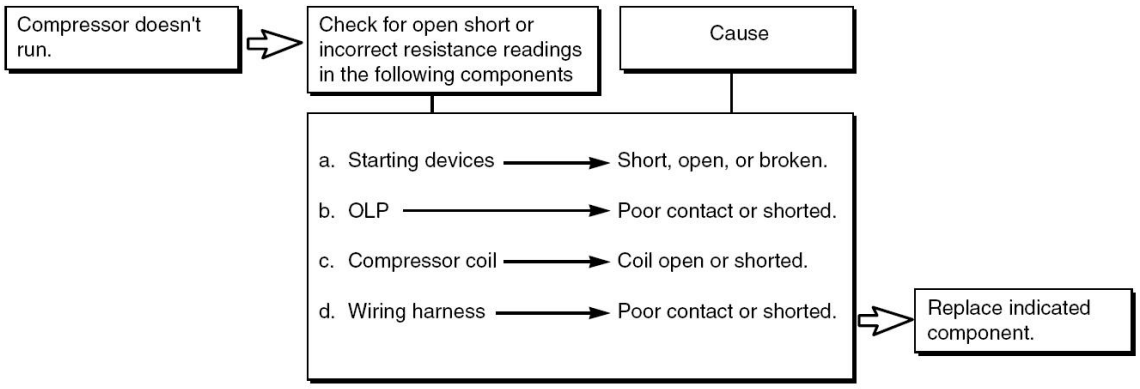


TROUBLESHOOTING CHARTS

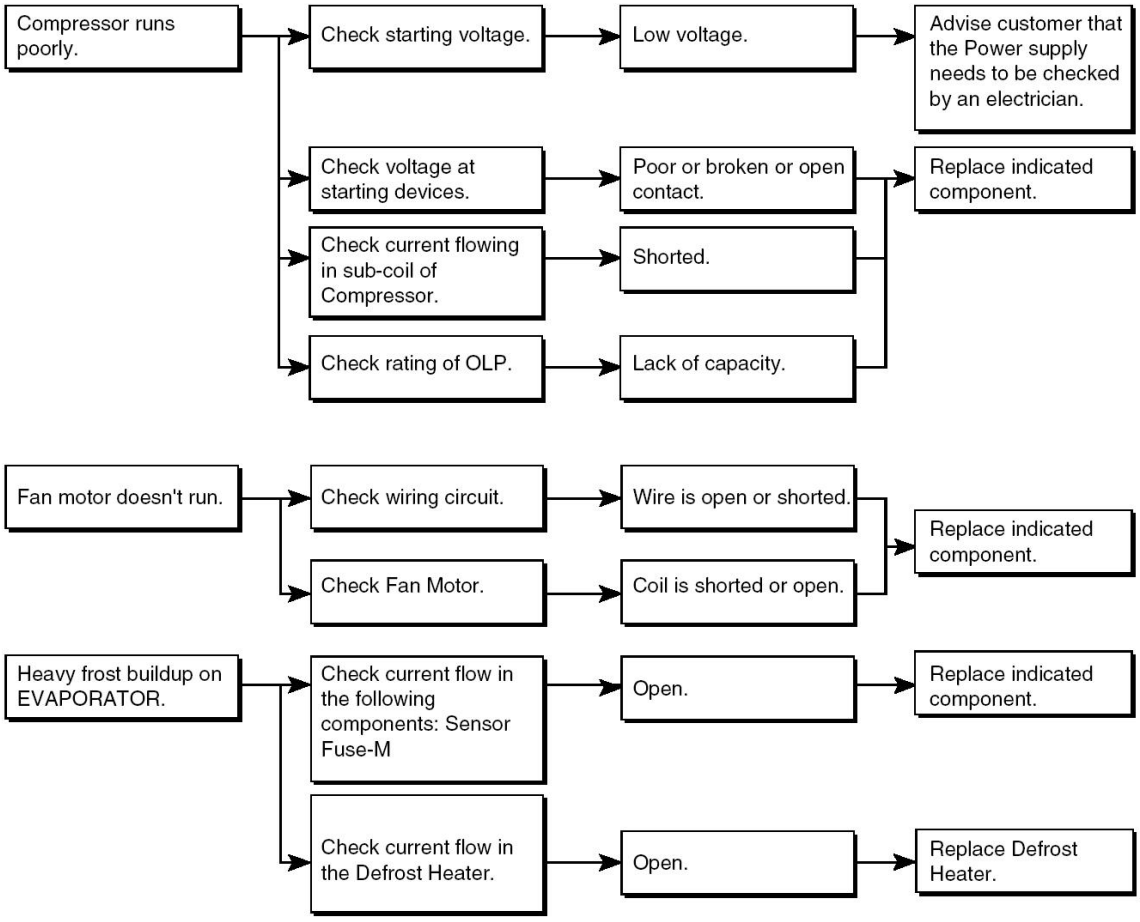


TROUBLESHOOTING CHARTS, continued

▼ **Not cooling at all**

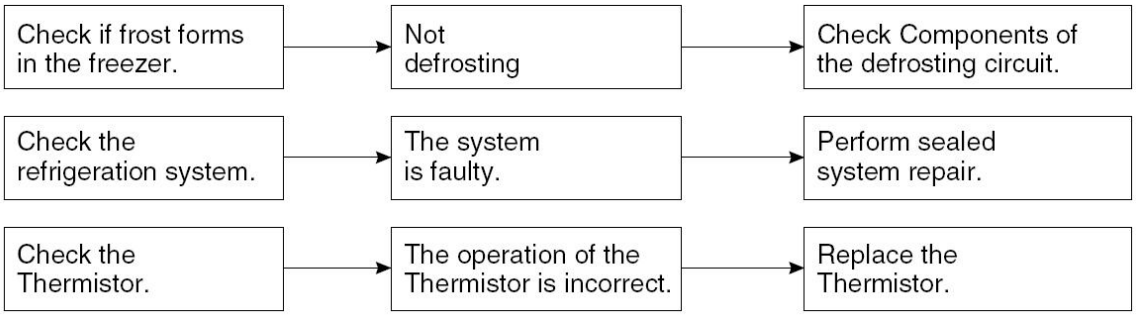


▼ **Poor cooling performance**



TROUBLESHOOTING CHARTS, continued

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.



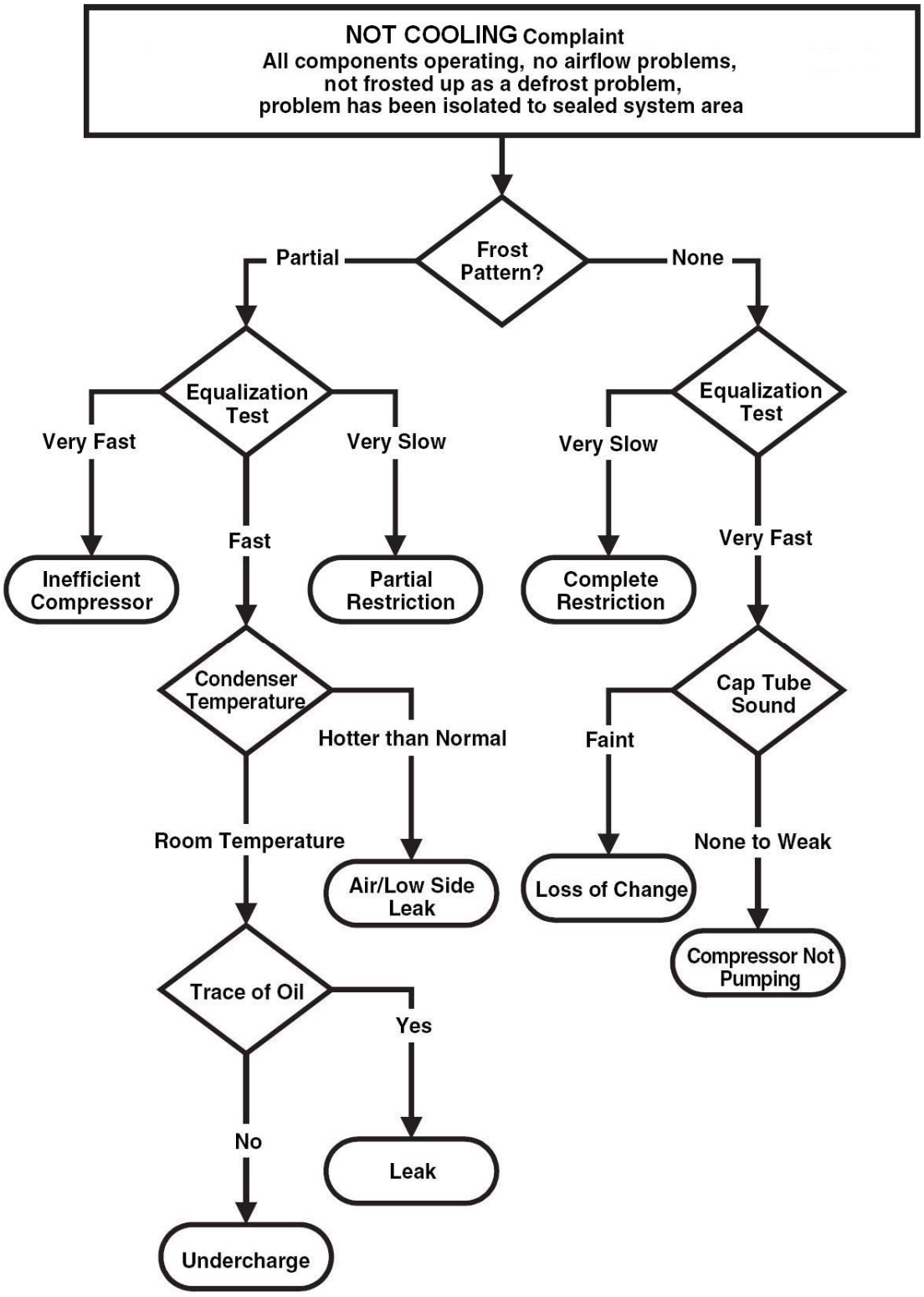
TROUBLESHOOTING CHARTS, continued

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.

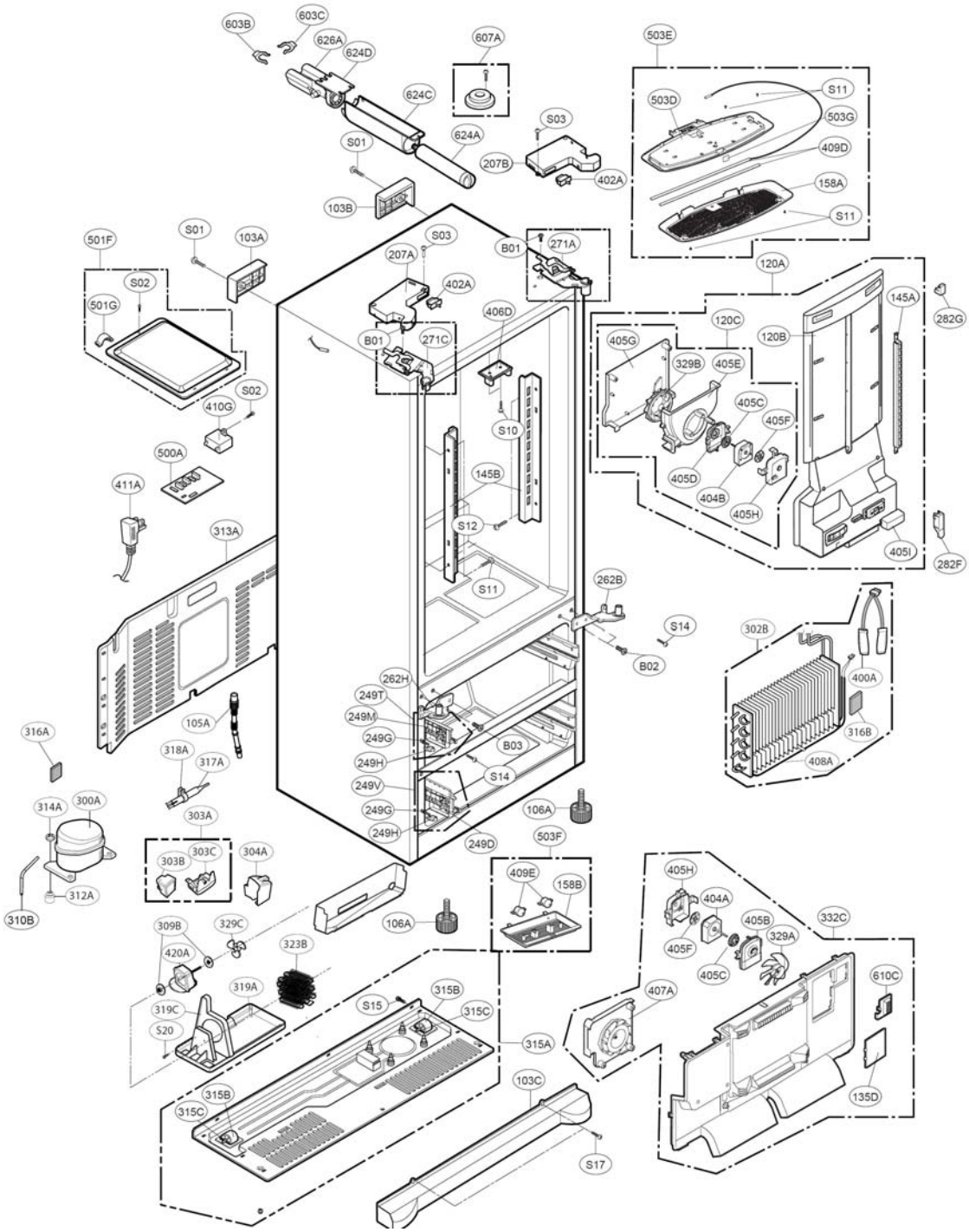
If the icemaker fails to produce ice, produced it very slowly, or if the ice tends to melt when it has been produced, check the temperature in the freezer and in the icemaker compartment. It should be close to 0° F (-18° C.) Check the fans in the freezer; one for the freezer and one for the icemaker compartment. If the icemaker compartment does not receive a sufficient flow of cold air, the water will not freeze or it may melt. If the fans are running but the freezer compartment is not cold enough, check the sealed system for a refrigerant leak (see troubleshooting chart, next page.) In this case, the refrigerator may not be as cold as it should be, also. Finally, check the sensors, starting with the one in the freezer and in the icemaker compartment for the correct resistances (see the chart, page 97.)

See pages 64 ~ 65 for more information on this topic.

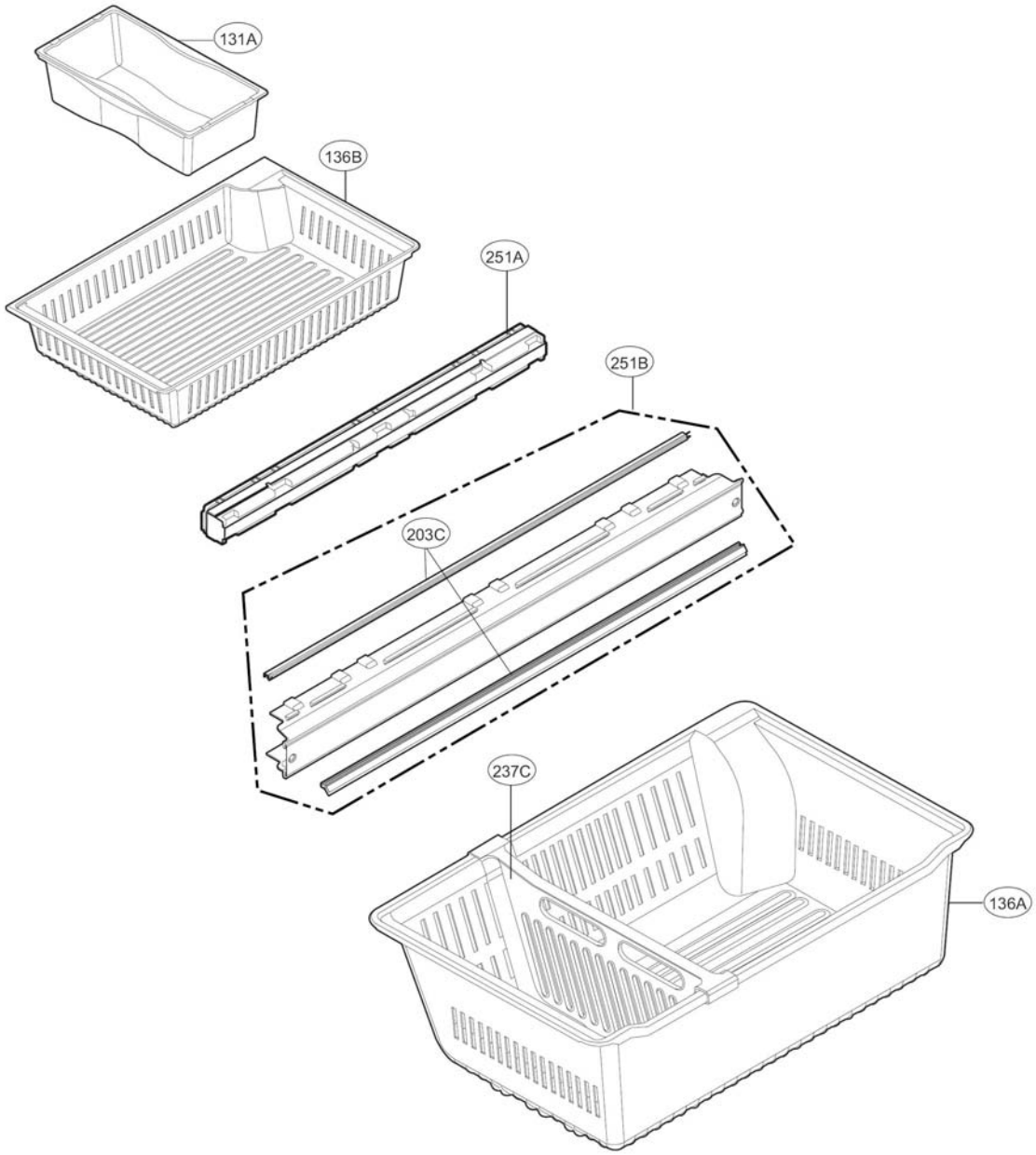
TROUBLESHOOTING CHARTS, continued



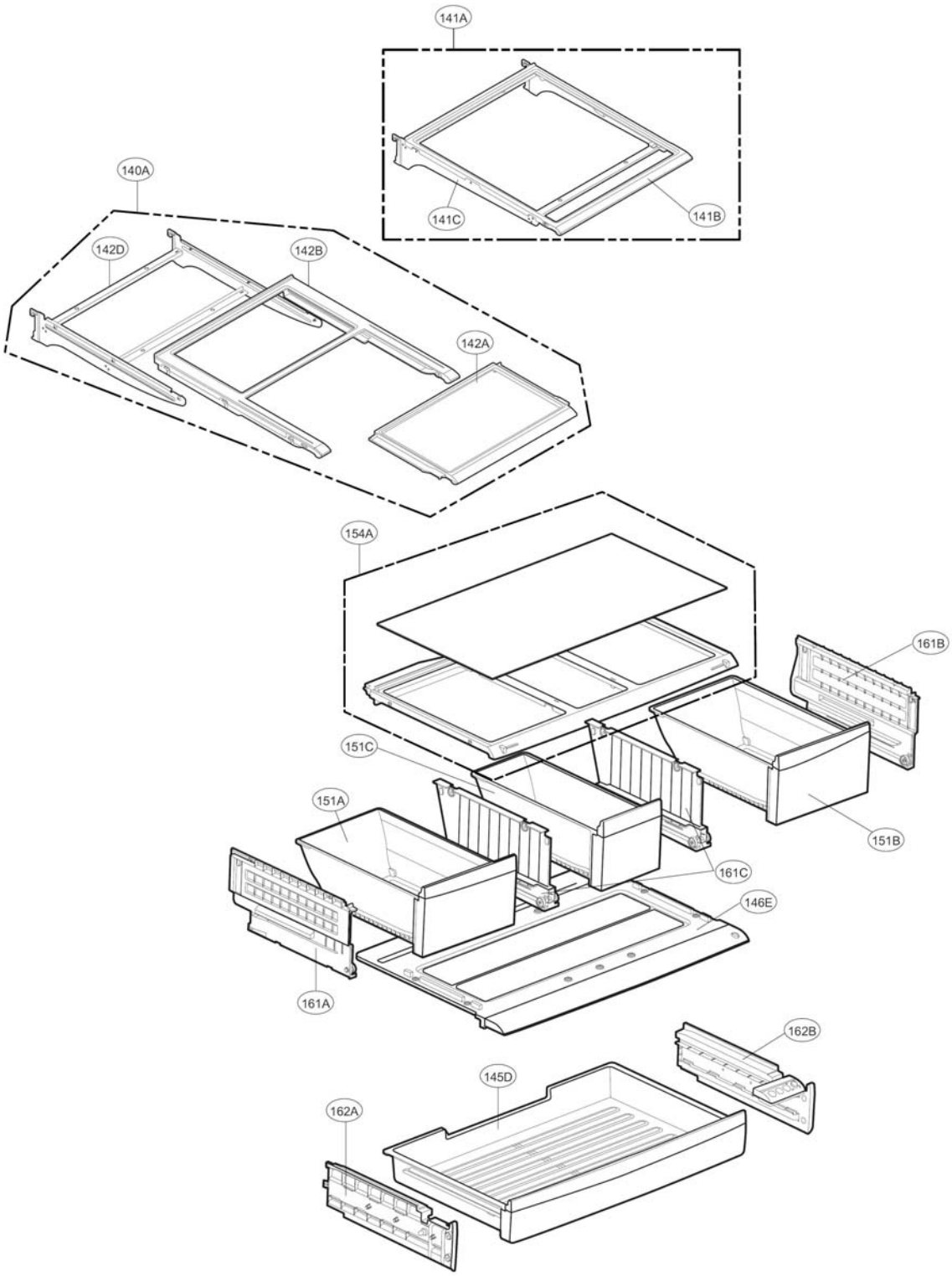
EXPLODED VIEW



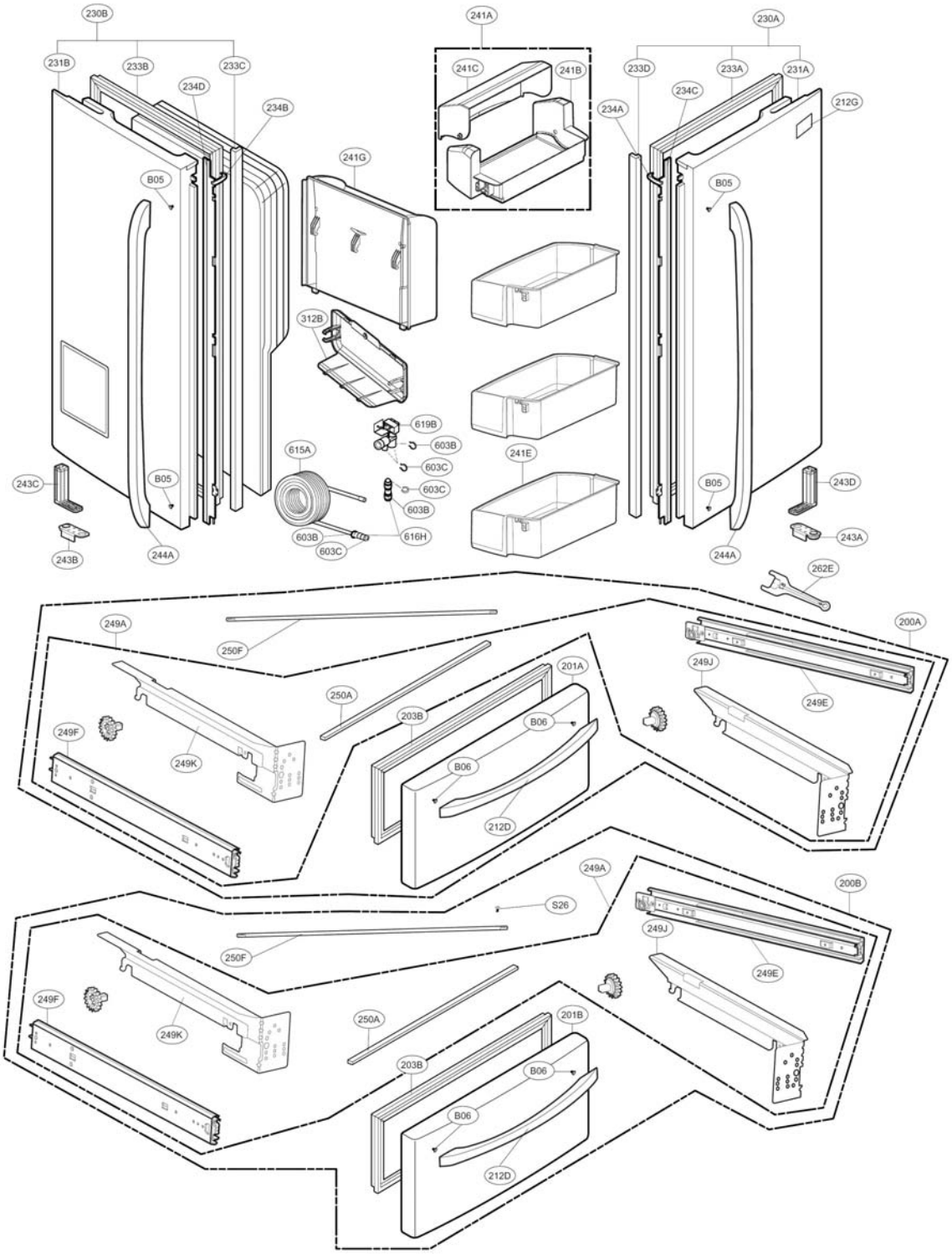
EXPLODED VIEW



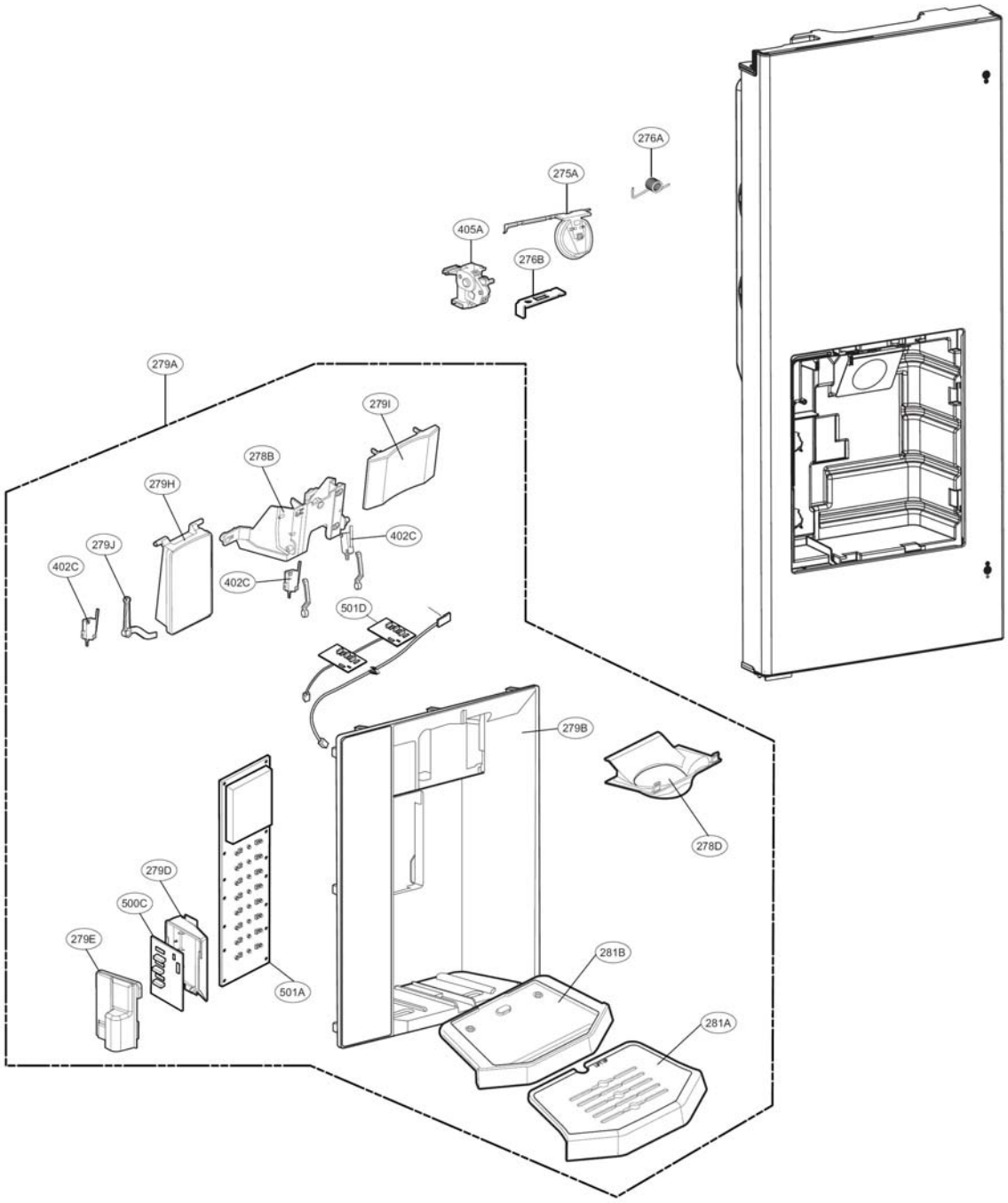
EXPLODED VIEW



EXPLODED VIEW



EXPLODED VIEW



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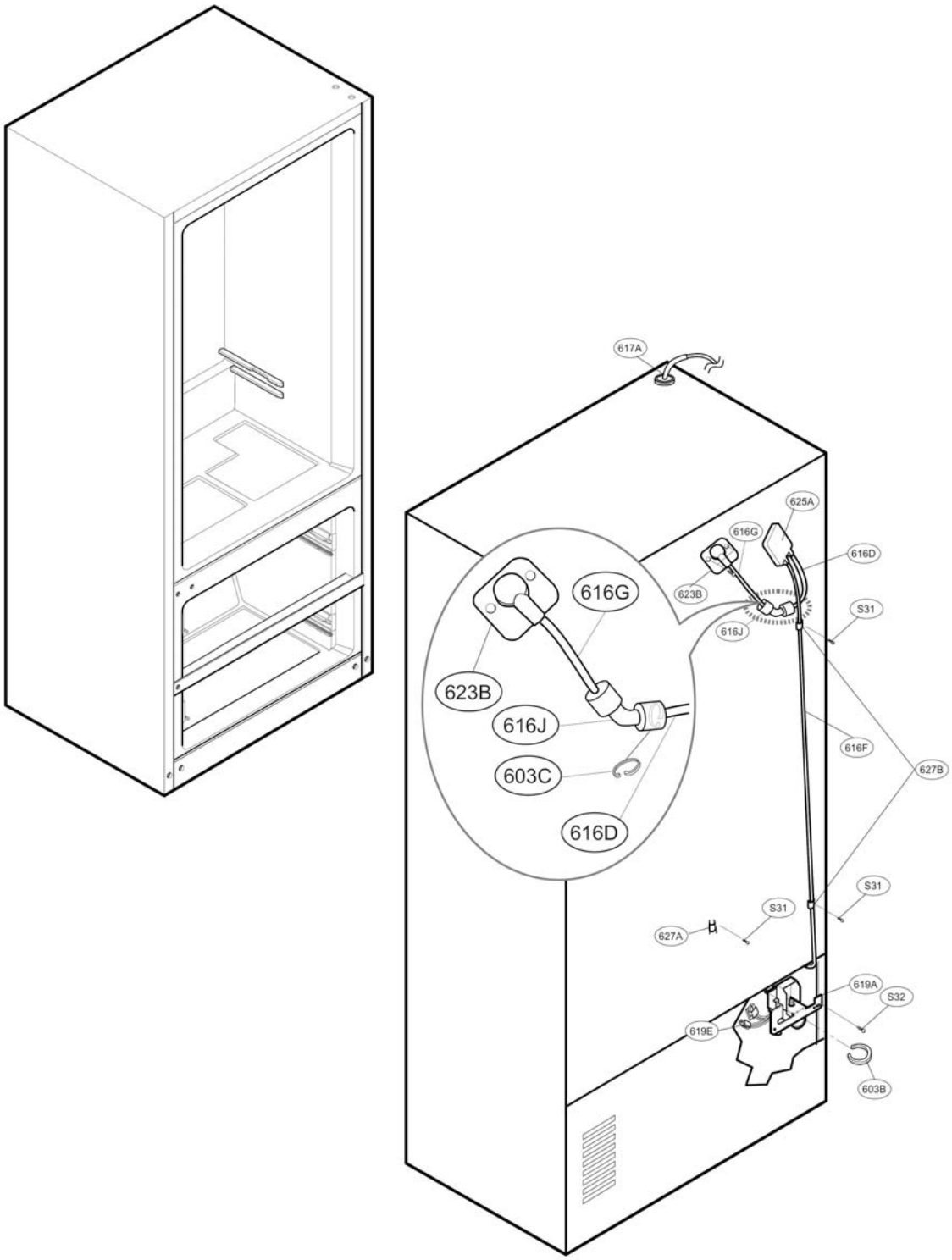
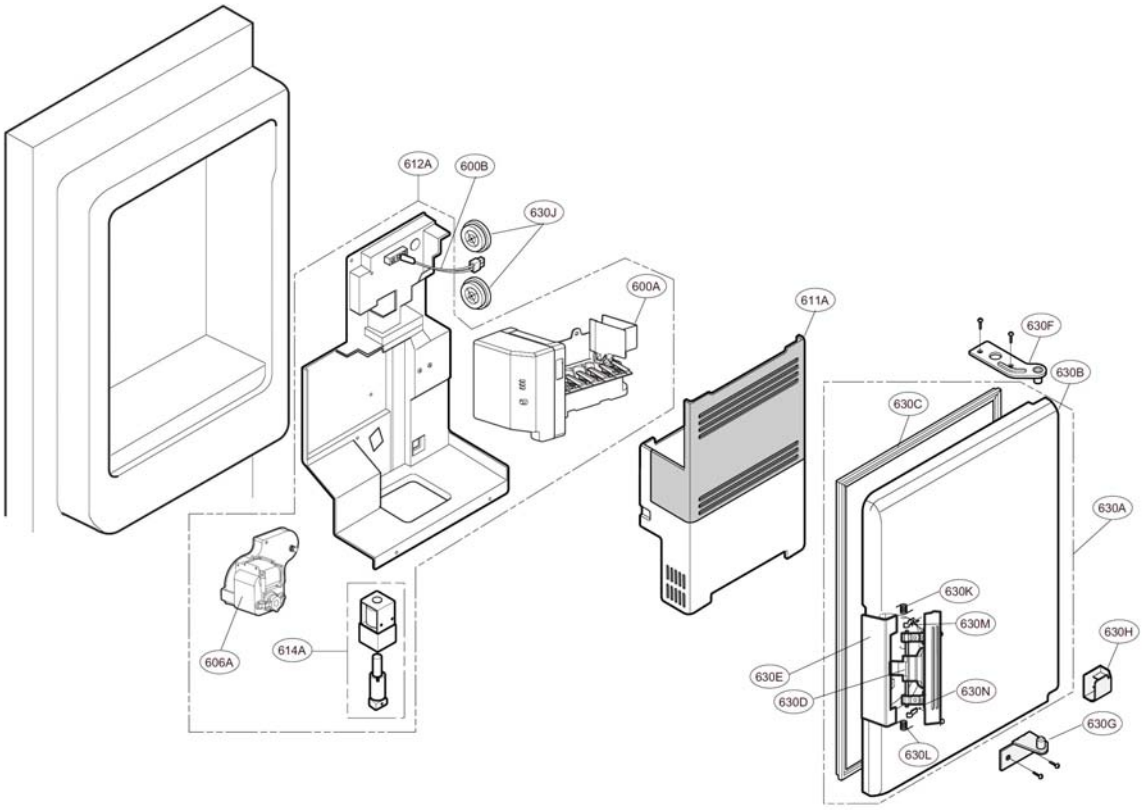


EXPLODED VIEW



PARTS LIST

Loc #	Part No	Description
103A	3650JA2061X	Handle, Rear
103B	3650JA2061W	Handle, Rear
103C	ACQ55957504	Cover Assembly, Lower
105A	5251JA3003E	Tube Assembly, Drain
106A	AFC72909201	Leg Assembly, Adjust
120A	ADJ72909801	Duct Assembly, Multi
120B	MCZ61845001	Duct, Multi
120C	ABA72913501	Bracket Assembly, Motor
131A	MJS61842901	Tray, Freezer
135D	3551JJ2028A	Cover Assembly, Grille Fan
136A	AJP36764804	Tray Assembly, Drawer
136B	AJP72912001	Tray Assembly, Drawer
140A	AHT72910601	Shelf Assembly, Refrigerator
141A	AHT72910301	Shelf Assembly, Refrigerator
141B	AHT72910201	Shelf Assembly, Refrigerator
141C	5027JJ2012M	Shelf Assembly, Net
141D	MHL42613212	Shelf, Glass
142A	AHT72910401	Shelf Assembly, Refrigerator
142B	AHT72910501	Shelf Assembly, Refrigerator
142D	5027JJ2012N	Shelf Assembly, Net
145A	4930JA2080C	Holder, Shelf
145B	4930JA2081C	Holder, Shelf
145D	AJP72909601	Tray Assembly, Fresh Room (Pantry Drawer)
146E	ACQ73152601	Cover Assembly, Tray
151A	AJP72910201	Vegetable Tray Assembly
151B	AJP72910203	Vegetable Tray Assembly
151C	AJP72910202	Vegetable Tray Assembly
154A	ACQ73152501	Cover Assembly, Vegetable Tray
158A	MCK61881301	Cover, Lamp
158B	MCK61881701	Cover, Lamp
161A	AEC72910001	Guide Assembly, Vegetable Tray
161B	AEC72910002	Guide Assembly, Vegetable Tray
161C	AEC72910301	Guide Assembly, Rail
162A	AEC72910101	Guide Assembly, Rail
162B	AEC72910102	Guide Assembly, Rail
200A	ADC71691104	Door Assembly, Freezer (Upper)

Loc #	Part No	Description
200B	ADC71691204	Door Assembly, Freezer (Lower)
201A	ADD71077404	Door Foam Assembly, Freezer
201B	ADD71077504	Door Foam Assembly, Freezer
203A	4987JA1022X	Gasket Assembly, Door
203B	4987JA1022Y	Gasket Assembly, Door
203C	MDS42267903	Gasket, Door
207A	3550JJ1097Q	Cover, Hinge
207B	3550JJ1097R	Cover, Hinge
212G	3846JD1007H	Name Plate
230A	ADC71691302	Door Assembly, Refrigerator (Right)
230B	ADC71692202	Door Assembly, Refrigerator (Left)
231A	ADD71077602	Door Foam Assembly, Refrigerator
231B	ADD72912502	Door Foam Assembly, Refrigerator
233A	4987JJ2002S	Gasket Assembly, Door
233C	MCK59045801	Cover, Frame
233D	MCK59045802	Cover, Frame
234A	4430JJ2004A	Cam, Shaft
234B	4430JJ2004B	Cam, Shaft
234C	4931JJ2002E	Holder Assembly, Gasket
234D	4931JJ2002F	Holder Assembly, Gasket
237C	MEA61842701	Guide, Drawer
241A	AAP33686302	Basket Assembly, Door
241B	MAN38142901	Basket, Door
241C	MAN38143001	Basket, Window
241E	AAP72909205	Basket Assembly, Door
241F	AAP72909203	Basket Assembly, Door
241G	AAP72909301	Basket Assembly, Door
243A	AJC68689616	Stopper Assembly, Door
243B	AJC68689615	Stopper Assembly, Door
243C	AEH36821901	Hinge Assembly, Center
243D	AEH36821902	Hinge Assembly, Center
244A	AED37082912	Handle Assembly, Refrigerator
249A	ACJ72909302	Connector Assembly
249A	ACJ72909302	Connector Assembly
249C	MEG61845601	Holder, Rail
249D	MEG61845602	Holder, Rail
249E	MGT61844103	Rail, Slide
249F	MGT61844104	Rail, Slide
249G	EAD60704101	Harness Assembly

Loc #	Part No	Description
249H	6600JB1010K	Switch, Push Button
249J	MCD61841001	Connector, Rail
249K	MCD61841002	Connector, Rail
249L	MEG61845501	Holder, Rail
249M	MEG61845502	Holder, Rail
249T	AEC72910402	Guide Assembly, Rail
249V	AEC72910502	Guide Assembly, Rail
250A	MAK39123904	Bar
250B	4470JA2007A	Gear, Ice
250F	4932JJ2009A	Connector, Tilt
251A	ACQ36979202	Cover Assembly, Front
251B	AGU36765302	Plate Assembly, Center
262B	AEH71135338	Hinge Assembly, Center
262C	MGZ42997101	Ring
262C	MGZ42997101	Ring
262E	MHU38218901	Spanner
262H	AEH71135340	Hinge Assembly, Center
271B	AEH60614102	Hinge Assembly, Upper
271D	AEH60614101	Hinge Assembly, Upper
275A	ABN72909901	Cap Assembly, Duct
276A	4970JA3011C	Spring, Lever
276B	4930JA3043A	Holder, Lever
278B	MDQ61843701	Frame, Funnel
278C	MFC38030001	Lever, Dispenser
278D	MDR61841101	Funnel
279A	ACQ73177902	Cover Assembly, Dispenser
279B	MCK61878901	Cover, Dispenser
279D	MBN38026801	Case, PCB
279E	MCK38209801	Cover, PCB
279H	MBG61848801	Button, Lever
279I	MBG61852201	Button, Lever
279J	MBG38252601	Button, Lever
281A	MCR61851301	Decor, Drain
281B	MJS61841201	Tray, Drain
282F	MBL61865401	Cap, Duct
282G	MBL61865301	Cap, Duct
300A	TCA34633701	LQ
302B	5421JJ1003L	Evaporator Assembly
303A	EBG31940242	Thermistor Assembly, PTC
279I	MBG61852201	Button, Lever

Loc #	Part No	Description
303B	EBG60658602	Thermistor Assembly, PTC
303C	6750C-0005D	Overload Protect
304A	3550C-0042C	Cover, Relay
309B	5040JJ2001A	Damper, Motor Support
310B	4J00977P	Pipe, Compressor Sealing
312A	5040JA3071A	Damper, Compressor
312B	MCK42342101	Cover, Front
312C	3391JJ2013C	Tray Assembly, Drain
313A	3551JJ2018A	Cover Assembly, Machinery (Rear)
314A	4620JA3015A	Stopper, Compressor
315A	3103JJ1001H	Base Assembly, Compressor
315B	4580JJ3001A	Roller
315C	1PZZJA3013B	Pin, Common
316A	5072JA3003F	Damper, Noise
316B	5072JA3003G	Damper, Noise
317A	5851JA2007E	Drier Assembly
318A	4930JA3034A	Holder, Drier
319A	MJS37355401	Tray, Drip
319C	MEA42257901	Guide, Fan
323B	ACG36653801	Condenser Assembly, Wire
329A	5901JA1016B	Fan Assembly
329B	5901JA1020A	Fan Assembly
329C	ADP36665701	Fan Assembly
332C	AEB72913901	Grille Assembly, Fan
400A	6615JB2005H	Controller Assembly
402A	6600JB3007K	Switch, Push Button
402A	6600JB3007K	Switch, Push Button
402C	6600JB3001E	Switch, Micro
404A	4681JB1027C	Motor, DC
404B	4681JB1027J	Motor, DC
405A	EAU59551201	Motor, DC
405B	4810JA2055A	Bracket, Motor
405C	5040JA2009B	Damper, Motor Support
405D	4810JA2055A	Bracket, Motor
405E	MHN61841101	Shroud, Refrigerator
405F	5040JA2004B	Damper, Motor Support
405G	MAZ61845501	Bracket, Motor
405H	3550JA2273A	Cover, Motor
405I	MCK61881401	Cover, Lamp
406D	4931JA3006B	Holder Assembly, Gasket

Loc #	Part No	Description
407A	ABA72913401	Bracket Assembly, Motor
408A	5300JK1005D	Heater, Sheath
409D	EAV48995104	LED Assembly
409E	EAV60663404	LED Assembly
410G	0CZZJB2014H	Capacitor, Electric Appliance Film, Box
411A	6411JB1042X	Power Cord Assembly
420A	4681JB1029D	Motor, DC
500A	EBR60028301	PCB Assembly, Main
500C	EBR60070701	PCB Assembly, Sub
407A	ABA72913401	Bracket Assembly, Motor
501A	EBR60221801	PCB Assembly, Display
501D	EBR60388501	PCB Assembly, Sub
501F	3551JA2144E	Cover Assembly, PCB
501G	MCQ62106201	Damper, Rubber
503D	MBN61844901	Case, Lamp
503E	ACQ33676506	Cover Assembly, Lamp
503F	ACQ33751003	Cover Assembly, Lamp
503G	MCR61954801	Decor, Control
600A	AEQ36756901	Ice Maker Assembly, Kit
600B	6500JB1008A	Sensor, Temperature
603B	4930JA3091A	Holder, Bracket
603C	4004JA3002A	Clip
603D	4930JA3091A	Holder, Bracket
606A	EAU33895304	Motor, AC Auger
607A	4931JA3005B	Holder Assembly, Bracket
610C	ACQ73244001	Cover Assembly, Sensor
610D	6500JB2001B	Sensor
611A	5075JA1044K	Bucket Assembly, Ice
612A	4681JA1006K	Motor, AC
614A	6421JA3001N	Solenoid Assembly
615A	4838JA2003C	Tank, Water
616D	5210JA3005L	Tube, Plastic
616F	5210JA3004U	Tube, Plastic
616G	5210JA3030U	Tube, Plastic
616H	MCD38280802	Connector, Tube
616J	4932JA3009A	Connector, Tube
617A	4970JA3004N	Spring
619A	5221JA2011J	Valve Assembly, Water
619B	5221JB2010G	Valve Assembly, Water
619E	6877JB3036V	Drawing, Assembly

Loc #	Part No	Description
623B	5006JJ2009A	Cap, Cover
624A	5231JA2006A	Filter Assembly, Water
624C	3550JD1128C	Cover, Filter
624D	5230JA2003A	Filter, Head
625A	3550JA2184B	Cover, Tube
626A	3550JA2279A	Cover, Filter
627A	4930JA3054A	Holder, Pipe
627B	MEG42758601	Holder, Pipe
630A	ADC33751111	Door Assembly, Freeze Room
630B	ADD33178705	Door Foam Assembly
630C	4987JA2012B	Gasket Assembly, Door
630D	MEB49049001	Handle, Home Bar
630E	MCR42600501	Decor, Handle
630F	4775JA2101A	Hinge Assembly, Upper
630G	4775JA2102A	Hinge Assembly, Lower
630H	MCK38202501	Cover, Home Bar
630J	ADX72909601	Gasket Assembly, Door
630K	4970JA3044A	Spring
630L	4970JA3045A	Spring
630N	4860JA3010B	Clamp
B01	4000W4A003A	Screw, Customized
B02	1STZJA3004F	Screw, Customized
B04	1BZZJA2002A	Bolt, Common
B04	1BZZJA2002A	Bolt, Common
B06	4620JJ2010C	Stopper, Handle
B06	4620JJ2010C	Stopper, Handle
S01	4J00415D	Screw, Customized
S02	4J00415D	Screw, Customized
S03	4J01424B	Screw, Customized
S08	1SBZJA3004L	Screw, Customized
S08	3J05696W	Screw, Customized
S10	1SBZJA3004L	Screw, Customized
S14	1SZZJJ3010A	Screw, Customized
S15	4J00415D	Screw, Customized
S17	4J00415D	Screw, Customized
S17	4J00415D	Screw, Customized
S19	4J00415D	Screw, Customized
S20	1SZZJA3016A	Screw, Customized

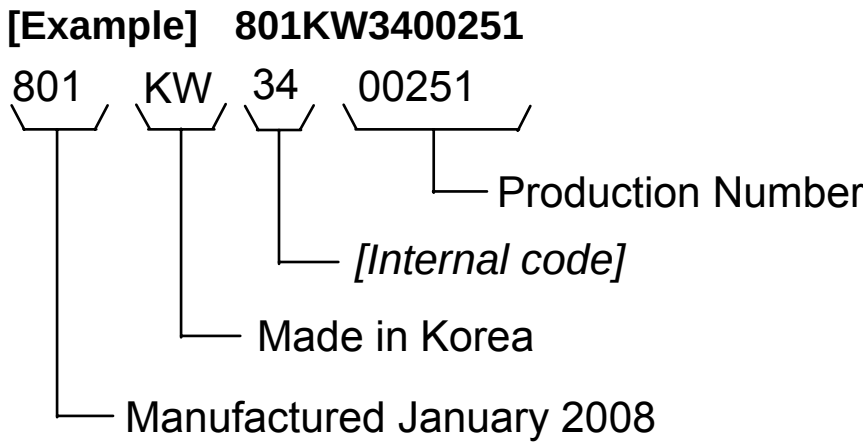
Loc #	Part No	Description
		TOUCH-UP PAINT (Brush-in-lid)
	TUP-3796BK	Black
	TUP-3796WH	White
	TUP-3796BB	Bahama Blue
	TUP-3796BQ	Bisque
	TUP-3796DG	Dark Green
	TUP-3796NN	Navy Blue
	TUP-3796PG	Pearl Gray
	TUP-3796RR	Candy Red
	TUP-3796TG	Titanium Gray (Refrigerators Only)
	TUP-3796TT	Titanium (Laundry Only)
	TUP-3796PS	Pure Silver
	TUP-3796RB	Riviera Blue
	TUP-3796VS	Stainless

TEMPERATURE SENSOR RESISTANCE CHART

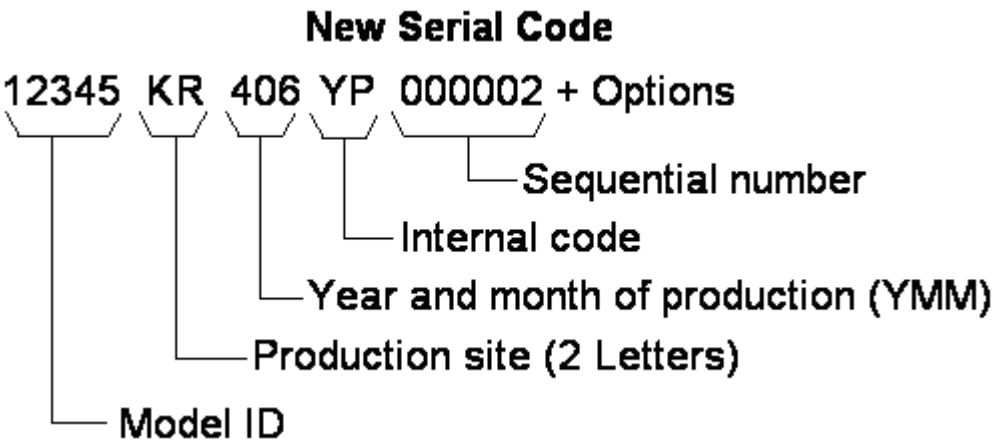
TEMPERATURE	RESISTANCE OF FREEZER/ICING SENSOR	RESISTANCE CHART FOR SENSORS IN REFRIGERATOR, PANTRY, DEFROST, AND ROOM TEMPERATURE
- 20 °C	22.3 KΩ	77 KΩ
- 15 °C	16.9 KΩ	60 KΩ
- 10 °C	13.0 KΩ	47.3 KΩ
- 5 °C	10.1 KΩ	38.4 KΩ
0 °C	7.8 KΩ	30 KΩ
+ 5 °C	6.2 KΩ	24.1 KΩ
+ 10 °C	4.9 KΩ	19.5 KΩ
+ 15 °C	3.9 KΩ	15.9 KΩ
+ 20 °C	3.1 KΩ	13 KΩ
+ 25 °C	2.5 KΩ	11 KΩ
+ 30 °C	2.0 KΩ	8.9 KΩ
+ 40 °C	1.4 KΩ	6.2 KΩ
+ 50 °C	0.8 KΩ	4.3 KΩ

SERIAL NUMBER IDENTIFICATION

The serial number is unique to each product. It gives information concerning the time and place of manufacture. The serial number is required to be paid for warranty service and to get the correct part in the event a running production change was made. Some models may have four (4) letters instead of two (2) for the product code number. The third and fourth letters are significant only to the manufacturing facility. This chart will help you decode the serial number.



Newer Style With Barcode



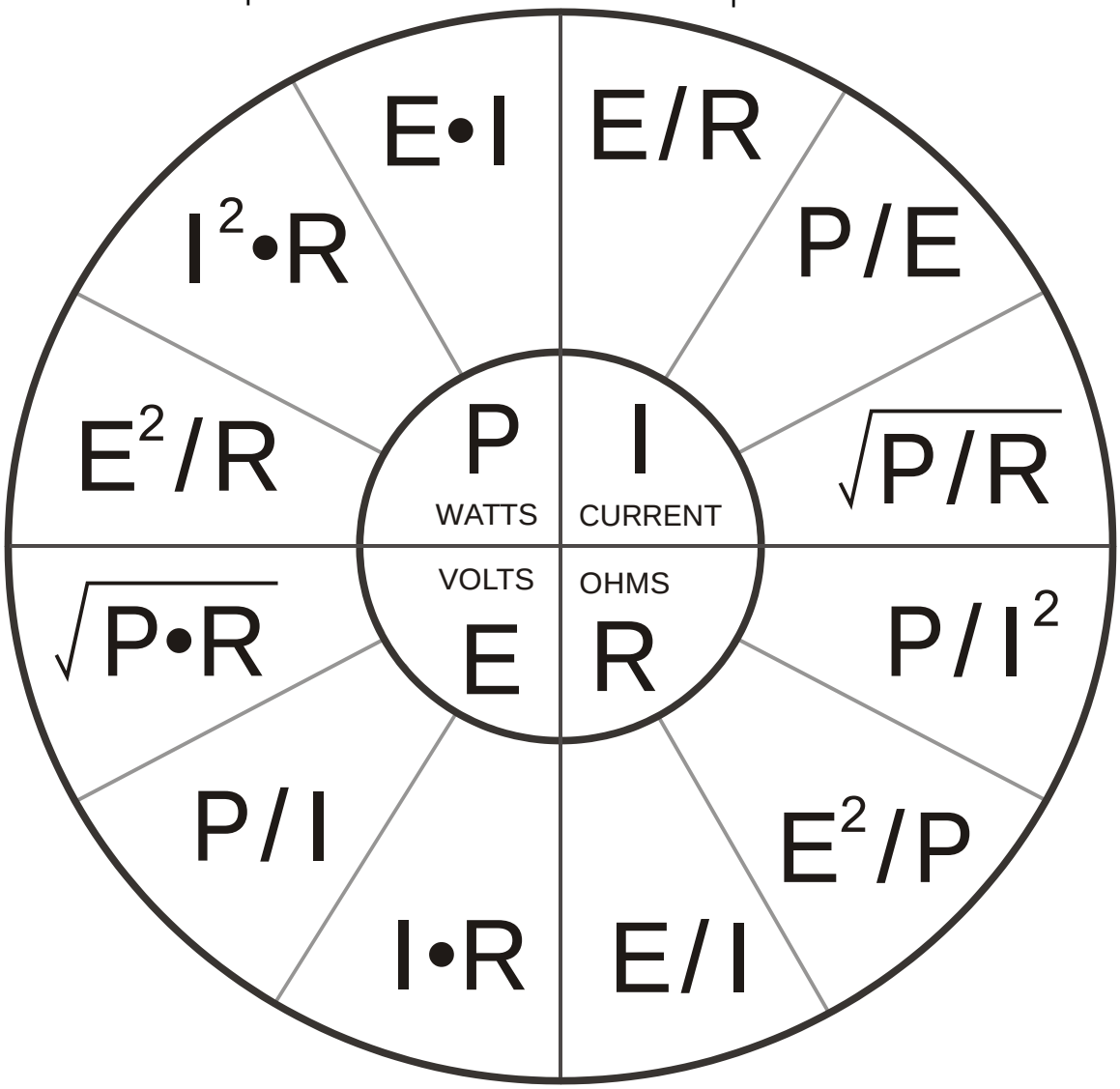
OHM'S LAW and WATT'S LAW

P = WATTS

Watts = Volts^2 / Ohms
Watts = Amperes^2 x Ohms
Watts = Volts x Amperes

I = AMPERES

Amperes = Volts / Ohms
Amperes = Watts / Volts
Amperes = $\sqrt{\text{Watts / Ohms}}$



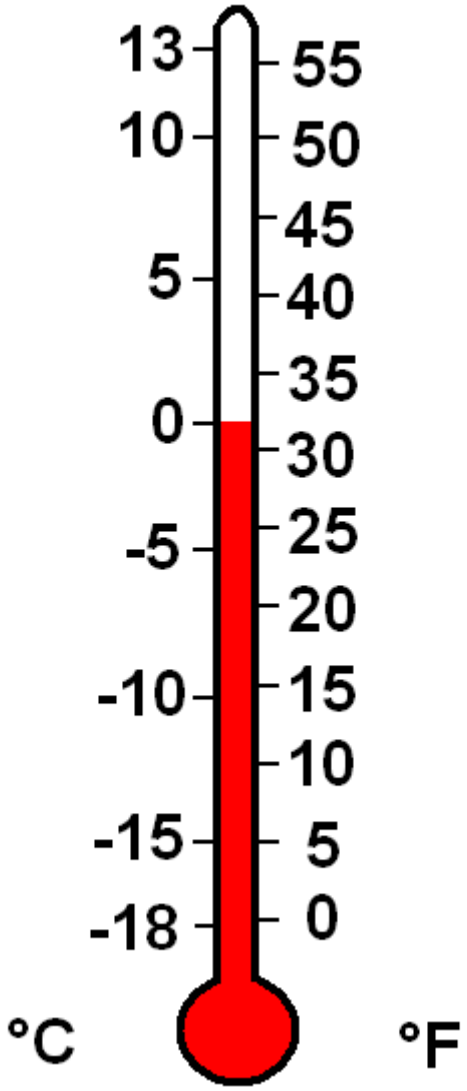
E = VOLTS

Volts = $\sqrt{\text{Watts x Ohms}}$
Volts = Watts / Amperes
Volts = Amperes x Ohms

R = OHMS

Ohms = Volts / Amperes
Ohms = Volts^2 / Watts
Ohms = Watts / Amperes^2

CONVERSION INFORMATION



FORMULAE

°F = (9/5) °C + 32

°C = (5/9) x (°F – 32)

WIRE COLOR CODES

BK	BLACK
BN	BROWN
RD	RED
OR	ORANGE
YL	YELLOW
GN	GREEN
BL	BLUE
PR	PURPLE
GY	GRAY
SB	SKY BLUE
BO	BRIGHT ORANGE
CQ	CUMQUAT

BL/WH	BLUE and WHITE
WH/RD	WHITE and RED
YL/BK	YELLOW and BLACK
GN/YL	GREEN and YELLOW

SERVICE BULLETINS

REF. SVC Technical Guide

2007.03.16

1. Title: SVC Technical Info. for DRIER ASSEMBLY Individual Evacuated Packaging

2. Model: GR-00	**3. S/NO: 2007.03.28**

4. Info: Modification, Quality Improvement, Temporary Countermeasure, etc.

5. Modification Summary: DRIER 25 ea. in use (SVC 2 types), Separate Evacuated Packaging.

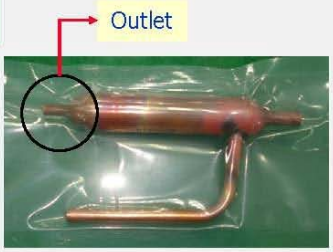
6. Modification Reason: Improve SVC DRIER by Evacuated Packaging, Classify into 2 types to avoid varied types

7. Modification (Improvement) Detail:

Before

1. Model; GR-197~277**
GR-332~712
GR-122, 142, 182
2. P/NO:
5851JA2002M, P, R, U
5851JA2006G, L
5851JA2007E,F,J,K,L,W,X
5851JA2008A
➔ Interior diameter in outlet (Φ2.2)

After



P/NO:
5851JA2008R (for 1-EVA)
➔ Interior diameter in outlet (Φ2.2)

8. SVC Solution (in agreement with existing one):

XH-9, Inlet 4.9, desiccant amount: 12 grams, Outlet 2.2 ➔ 1-EVA (1 type in use)

9. Action Before Modification (☐ Discard all ☐ Use without Modification ☐ Use with Modification ● Others: No action)
☞ No modification

10.Action for Products Sold Out (☐ Recycling ☐ 1:1 Exchange with the Modified ☐ Recall and Repair ● Others)
☞ No Change

11.Issuer: H. Yang

12. Info. Provider: GSC

LG (61) 024 A4 (950225) 1/1 **LG**

Service Bulletin

LG Electronics

No.	CREF20070556
Date	2007-12-12

Model

Factory	Factory Model	Suffix	Model No.	Factory	Factory Model	Suffix	Model No.
EKHQ	GR-L218DSVA	*******	LFX21980ST	EKHQ	GR-L218SSKA	*******	LFX21960ST
EKHQ	GR-L258DSVA	*******	LFX25980ST	EKHQ	GR-L258SQJ	ASWCLGA	LFX25960SW
EKHQ	GR-L258SQKA	*******	LFX25960SW	EKHQ	GR-L258SQLA	ABICSER	77564
EKHQ	GR-L258SQLA	ASWCSEF	77572	EKHQ	GR-L258SQLA	ASWCSER	77562
EKHQ	GR-L258SQLA	AWBCSEF	77579	EKHQ	GR-L258SQLA	AWBCSER	77569
EKHQ	GR-L258SQWA	*******	LFX25950SW	EKHQ	GR-L258SQWA	*******	LFX25950SB
EKHQ	GR-L258SSJ	ASTCLGA	LFX25960ST	EKHQ	GR-L258SSKA	*******	LFX25960ST
EKHQ	GR-L258SSLA	ASTCSEF	77573	EKHQ	GR-L258SSLA	ASTCSER	77563
EKHQ	GR-L258STKA	*******	LFX25960TT	EKHQ	GR-L258STWA	*******	LFX25950TT
EKHQ	GR-L258SVKA	*******	LFX25960SB				

Buyer

Buyer Name	Buyer Code	Buyer Name	Buyer Code	Buyer Name	Buyer Code
LGEUS	US000001	LGEAI	US000002		

EFFECTIVE DATE	2007-12-10	EFFECTIVE FROM (SERIAL NO.)	712KR**

Subject: In Door Icemaker has changed

No.	Loc No.	Before Change		After Change		Note	K-Code	Remark
		Part No	DESC./SPEC.	Part No	DESC./SPEC.			
1	600A	5989JB0001A	Ice Maker Assembly, Kit / BC HEATING ROW YES R35.0 INDOOR	AEQ36756901	Ice Maker Assembly, Kit / BC HEATING INDOOR YES R35.0 -	C	1	

Service Bulletin

Reason Of Change
- Condition: In Door Icemaker has been changed - Correction: 5989JB0001A (Previous icemaker P/No.) is now AEQ36756901 (New icemaker P/No). -Changed Feature: 1. The stainless lever rolls from bottom of the new icemaker. 2. Three bridges, which cross the legs of heater cover, are added - Caution: 1. Use the new part number when ordering a replacement icemaker. 2. Check for proper operation of the new icemaker by running the Test (forced harvest) Mode after installation.
CREF20070556 In Door Icemaker.pdf (See page 3 of this bulletin)
** FILE THIS SERVICE BULLETIN WITH YOUR SERVICE MANUAL

NOTE(**) : INTERCHANGEABILITY CODE				KEY-WORD CODE
	Parts	Set		
A	Original → Early New → Late		Original or new parts may be used in early or late production sets. Use original parts until exhausted, then stock new parts.	1. To improve performance 2. To improve productivity
B	Original → Early New → Late		Original parts may be used in early production sets only. New parts may be used in early or late production sets. Use original parts where possible, then stock new parts.	3. To improve reliability 4. Change of material or dimension
C	Original → Early New → Late		New parts only may be used in early or late production sets. Stock new parts.	5. Addition 6. Deletion
D	Original → Early New → Late		Original parts only may be used in early production sets. New parts may be used in late production sets only. Stock original and new parts.	7. Correction

CHIEF ENGINEER , approved
Factory.

New Part No. of Icemaker

Enhance Your Everyday

Condition

P/No. of icemaker has changed

Correction

Old part No.	New Part No.
5989JB0001A	AEQ36756901
5989JB0001B	AEQ36756902
5989JB0001C	AEQ36756903
5989JB0001D	AEQ36756904
5989JB0001E	AEQ36756905
5989JB0001F	AEQ36756906

Caution

- Use the new part number when ordering a replacement icemaker.
- Check for proper operation of the new icemaker by running the Test (forced harvest) Mode after installation.

Change Feature

BEFORE	AFTER
ITEM	ITEM
- Part: Icemaker Assembly Kit - Part No: 5989JB0001A ~ F - Loc. No: 600A	- Part: Icemaker Assembly Kit - Part No: AEQ36756901 ~ 06 - Loc. No: 600A
FEATURE	FEATURE
 1. The stainless lever rolls from the middle of the icemaker.	 1. The stainless lever rolls from the bottom of the icemaker.
 2. The current icemaker does not have cross braces.	 2. Three braces, which cross the legs of the heater cover, have been added.

Profitable Growth 2010 1/1 *Enhance Your Everyday*