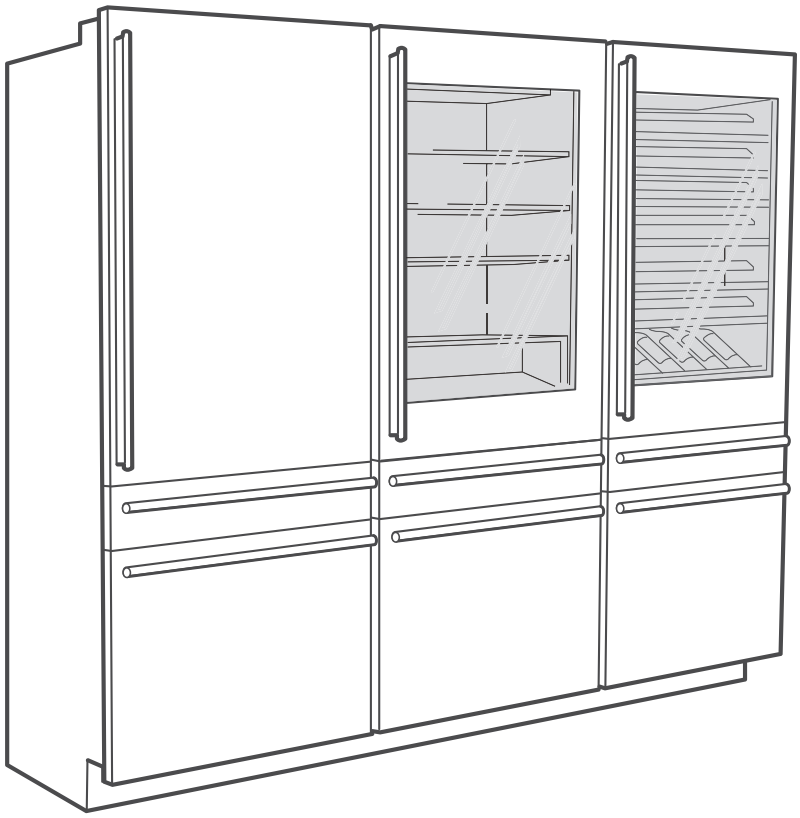
GE Appliances

Technical Service Guide

August 2011

30-in. Built-In Monogram Convertible Drawer Refrigerator or Wine Reserve

ZIC30GN
ZIK30GN
ZIW30GN



31-9210

GE Appliances
General Electric Company
Louisville, Kentucky 40225

SEALED SYSTEM

These units operate on two independent sealed systems. One system operates the upper section (Fresh Food or Wine Reserve) and the other system operates the drawers (Ice Drawer and Convertible Drawer). Both sealed systems utilize R600a Isobutane refrigerant. This refrigerant is flammable and requires special service procedures. Reference service manual 31-9214 for further service information.

IMPORTANT SAFETY NOTICE

The information in this service guide is intended for use by individuals possessing adequate backgrounds of electrical, electronic, refrigeration, and mechanical experience. Any attempt to repair a refrigerator or wine reserve system may result in personal injury and property damage. The manufacturer or seller cannot be responsible for the interpretation of this information, nor can it assume any liability in connection with its use.

WARNING

To avoid personal injury, disconnect power before servicing this product. If electrical power is required for diagnosis or test purposes, disconnect the power immediately after performing the necessary checks.

RECONNECT ALL GROUNDING DEVICES

If grounding wires, screws, straps, clips, nuts, or washers used to complete a path to ground are removed for service, they must be returned to their original position and properly fastened.

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BEFORE YOU BEGIN

Read these instructions completely and carefully.

- IMPORTANT — Save these instructions for local inspector's use. Observe all governing codes and ordinances.
- Note to Installer — Be sure to leave these instructions with the Consumer.
- Note to Consumer — Keep these instructions with your Owner's Manual for future reference.
- Skill Level — Installation of this refrigerator requires basic mechanical, carpentry and plumbing skills. Proper installation is the responsibility of the installer. Product failure due to improper installation is not covered under the GE Appliance Warranty. See the Owner's Manual for warranty information.

For Monogram local service in your area, call 1.800.444.1845.
For Monogram Parts and Accessories, call 1.800.626.2002.

www.monogram.com

⚠ WARNING:

This appliance must be properly grounded. See "Grounding the Refrigerator," page 5.

If you received a damaged refrigerator, you should immediately contact your dealer or builder.

⚠ CAUTION:

Due to the weight and size of this refrigerator, and to reduce the risk of personal injury or damage to the product—TWO PEOPLE ARE REQUIRED FOR PROPER INSTALLATION.

⚠ WARNING:

- These refrigerators are top-heavy and must be secured to prevent the possibility of tipping forward. Anti-tip protection is required. See page 14 for details.
- Use this appliance only for its intended purpose.
- Immediately repair or replace electric service cords that become frayed or damaged.
- Turn off the circuit breaker to disconnect power before cleaning or making repairs.
- Repairs should be made by a qualified service technician.

⚠ WARNING—R600a Refrigerant

Warning: This appliance contains isobutane refrigerant, R600a, a natural gas with high environmental compatibility. However it is also combustible. Please adhere to the warnings below:

1) When handling, installing and operating the appliance, care should be taken to avoid damage to the refrigerant tubing.
2) Servicing shall be performed by factory-authorized service personnel and component parts shall be replaced with manufacturer-authorized replacement components.
3) Refrigeration products contain refrigerants, which under federal law must be removed prior to product disposal.
4) Keep ventilation openings in the appliance enclosures or in the built-in structure clear of obstruction.
5) Do not use mechanical devices or other means to accelerate the defrosting process.
6) Do not damage refrigerant circuit.
7) Do not use electrical appliances inside the food storage compartment of the appliance.

Introduction

The new Monogram 30” Convertible Series Refrigerators have the following features:

- Available with a center freezer, bottom convertible drawer, and upper fresh food compartment or dual temperature wine reserve.
- True flush built-in design — custom door panel ready
- Custom or stainless panel fronts
- 80” and 84” height installations
- Articulating hinge for integrated flush doors
- Secure close door systems — securely pulls the doors and drawers shut, even after you release the handles.
- Soft-close pan slides and wine racks
- Full-width vegetable drawer (Fresh food models)
- Frameless glass shelves
- Capacitance touch controls
- Convertible drawer with custom temperature zones — chill, freeze, and wine modes
- LED Lighting — casts a clean, beautiful light throughout all compartments.
- Filtered Ice
- Center freezer drawer provides convenient ice location.
- ENERGY STAR® qualified (ZIC30GNZAII only)
- Dual sealed system design
- R600a refrigerant

Note: Features may vary by model.

Nomenclature

Z I C 3 0 G N Z A I I

Brand/Product
Z - Monogram

Installation
I - Built-In

Style
C - Solid Door Fresh Food
K - Glass Door Fresh Food
W - Glass Door Wine Reserve

Width
30 Inches

Configuration
G - True Flush/Fully Integrated

Non-Dispenser

Model Year
A - 2011

Engineering
A - Initial Design
B - First Revision
C - Second Revision
Etc.

Door Swing
II - Panel Ready

The mini-manual is located behind the toe kick plate.

The nomenclature tag is located on the floor of the fresh food compartment. It contains the following information:

- Model and Serial Number
- Minimum Installation Clearances
- Electrical Voltage, Frequency
- Maximum Amperage Rating
- Refrigerant Charge and Type

Serial Number

The first two characters of the serial number identify the month and year of manufacture.

Example: RV123456S = August, 2011

R - AUG	2011 - *V*
S - SEP	2010 - T
T - OCT	2009 - S
V - NOV	2008 - R
Z - DEC	2007 - M
A - JAN	2006 - L
B - FEB	2005 - H
F - MAR	2004 - G
G - APR	2003 - F
H - MAY	2002 - D
L - JUN	2001 - A
M - JUL	2000 - Z

The letter designating the year repeats every 12 years.

Example:
V - 2011
V - 1999
V - 1987

Technical Data

DISCONNECT POWER CORD BEFORE SERVICING
IMPORTANT - RECONNECT ALL GROUNDING DEVICES
All parts of this appliance capable of conducting electrical current are grounded. If grounding wires, screws, straps, clips, nuts or washers used to complete a path to ground are removed for service, they must be returned to their original position and properly fastened.

IMPORTANT SAFETY NOTICE
This information is intended for use by individuals possessing adequate backgrounds of electrical, electronic and mechanical experience. Any attempt to repair a major appliance may result in personal injury and property damage. The manufacturer or seller cannot be responsible for the interpretation of this information, nor can it assume any liability in connection with its use.

ELECTRICAL SPECIFICATIONS

Electrical Rating: ..... 120V AC 60 Hz
Maximum Current Leakage 0.75mAmps
Maximum Ground Path Resistance ..... 0.16 Ohms
Thermistor Electrical Resistance:

Temp:	32°F / 0°C	77°F / 25°C	0°F / -18°C
Resistance:	16.3 kΩ	5.0 kΩ	42.5 kΩ

NO LOAD PERFORMANCE

Mid Control Settings 37°F/0/0 WR Mid =48°**F**

	Ambient [°F]			
	70		90	
	Compressor Run time [%]	Average comp. Temp. Temp. [°F]	Compressor Run time [%]	Average comp. Temp. [°F]
Refrigerator	18 - 20	37.1 - 37.5	30-32	37.1 - 37.5
Freezer				
CD=FF	23 - 29	37.5 -38.5	34 - 40	35.8 - 36.8
IM		0.4 - 1.2		-0.8
CD=WR	26 - 32	49.3 - 49.9	34 - 40	47.9 - 48.5
IM		1.2 - 2		-0.4 - 0.4
CD=FZ	29-35	2.4- 3.2	51-57	0 - 0.8
IM		2 - 2.4		0.6 - 1

CD - Convertible Drawer
FF - Fresh Food
FZ - Freezer
IM - Ice Maker Drawer
WR - Wine Reserve

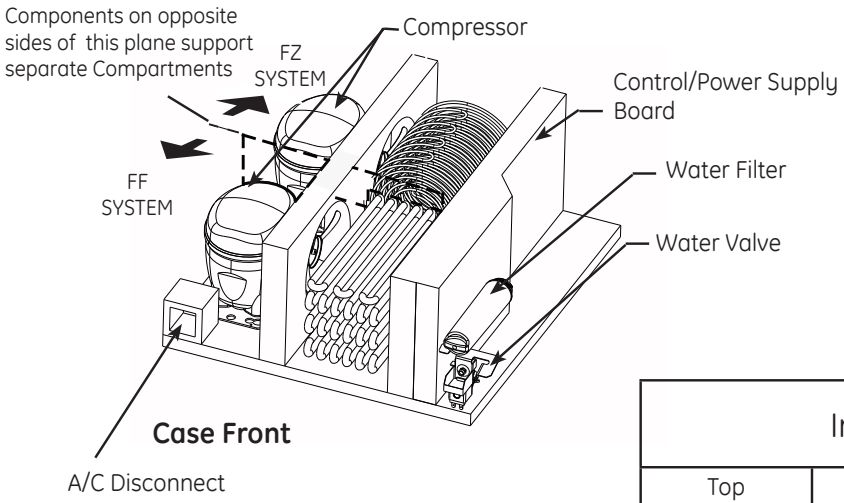
REFRIGERATION SYSTEM

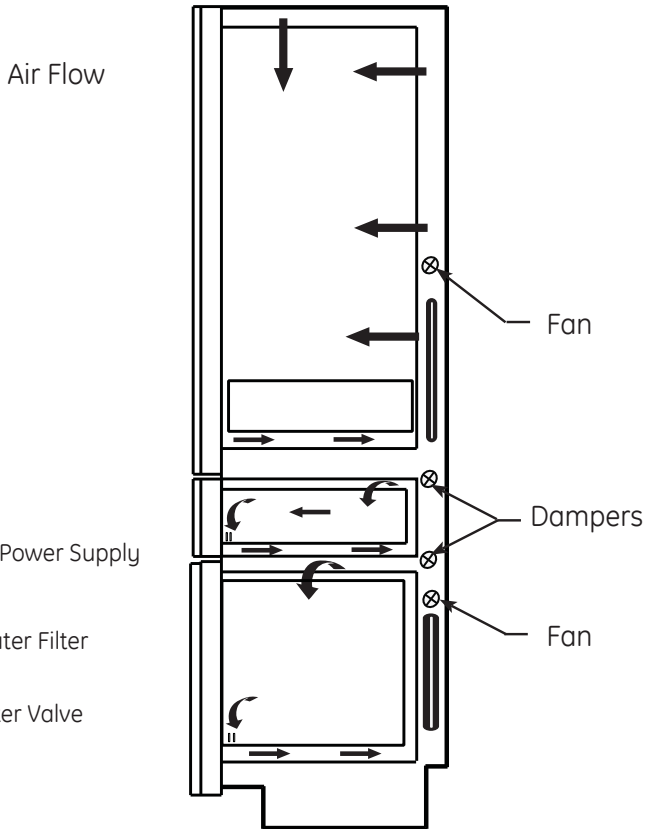
Fresh Food Compressor Performance: ..... 179 BTU/hr, 52W
Freezer/Convertible Compressor Performance: ..... 231 BTU/hr, 68W

Minimum Vacuum @ 22 mins: ..... 21 inches

Minimum Equalized Pressure
Fresh Food
@ 70°F ..... 193.2 kPa/28 PSI
@ 90°F ..... 219.2 kPa/31.8 PSI
Freezer / Convertible
@ 70°F ..... 211.6 kPa/30.7 PSI
@ 90°F ..... 252.6 kPa/36.6 PSI

REFRIGERANT CHARGE - R600a
(Fresh Food) :..... 1.76 ounces /50 Grams
(Freezer/Convertible) :..... 1.76 ounces /50 Grams





Install Clearances			
Top	Side	Back	Bottom
0.125" /3mm	0.25" /3mm	0.5" / 12mm	1" / 25mm

R600a – Isobutane Refrigerant

The Monogram convertible refrigerator utilizes 2 separate variable speed sealed systems, one system per compartment. This allows the compartments to be independently controlled. The front system controls the top compartment, the rear system controls the bottom compartment. These systems utilize R600a Isobutane refrigerant. R600a is a hydrocarbon refrigerant.

Q. What are hydrocarbons? (HC)

Hydrocarbon refrigerants are environmentally friendly, non-toxic, non-ozone-depleting replacement for chlorofluorocarbons (CFCs).

From a chemical point of view, a hydrocarbon is the simplest organic compound, consisting entirely of hydrogen and carbon. Hydrocarbons (HC) are naturally occurring substances. The majority can be found in crude oil, where decomposed organic matter provides an abundance of carbon and hydrogen.

Hydrocarbons are one of the most climate-friendly and cost-efficient refrigerants to heat, cool and freeze.

Non-ozone depleting: Ozone Depletion Potential = 0

Not climate damaging: Global Warming Potential = for most HCs below 3 *

Non-toxic

Safe: with proper handling

Energy-efficient: usually better energy efficiency than CFC or HFC systems

Cost-efficient: low refrigerant purchase price as well as lower system running costs

Q. Are hydrocarbons safe?

Yes, with proper handling. Since hydrocarbons are flammable, some basic safety rules need to be respected by manufacturers, installers and users, which may differ slightly depending on the application. As long as these rules are respected, it is perfectly safe to use hydrocarbons as refrigerants. Propane, for example, is used universally for heating and cooking. As a result, its safe handling is widely understood and practiced by the general global population. This makes it an appropriate alternative to climate damaging chemical refrigerants also in developing countries.

Q. Are hydrocarbons flammable?

Yes. However, keeping to the safety guidelines existing for any application using flammable refrigerants, the risks of using hydrocarbons can be kept to a minimum, hence avoiding any threat to human health and safety. Many components for commercial refrigerated appliances using hydrocarbons already meet safety standard requirements.

Q. Are HCs toxic?

No. Hydrocarbons are not toxic for human beings and other living organisms. Could cause asphyxiation at high concentrations.

Q. How does a HC system work?

A system using hydrocarbons works in exactly the same way as systems currently using synthetic refrigerants. The basic refrigeration cycle remains the same, and only the charge of the system (exact amount of refrigerant) varies.

Evacuate and charge the system. Use original factory charge quantity of R600a. (See Evacuation and Charging Procedure Pub # 31-9214.)

Installation

POWER CORD

Do not, under any circumstances, cut or remove the third (ground) prong from the power cord. For personal safety, this appliance must be properly grounded.

The power cord of this appliance is equipped with a 3-prong (grounding) plug which mates with a standard 3-prong (grounding) wall outlet to minimize the possibility of electric shock hazard from this appliance.

Have the wall outlet and circuit checked by a qualified electrician to make sure the outlet is properly grounded.

Where a standard 2-prong wall outlet is encountered, it is your personal responsibility and obligation to have it replaced with a properly grounded 3-prong wall outlet.

The refrigerator should always be plugged into its own individual electrical outlet which has a voltage rating that matches the rating plate.

DO NOT USE AN ADAPTER PLUG TO CONNECT THE REFRIGERATOR TO A 2-PRONG OUTLET.

DO NOT USE AN EXTENSION CORD WITH THIS APPLIANCE.

This provides the best performance and also prevents overloading house wiring circuits, which could cause a fire hazard from overheated wires.

Never unplug your refrigerator by pulling on the power cord. Always grip plug firmly and pull straight out from the outlet.

Repair or replace immediately all power cords that have become frayed or otherwise damaged. Do not use a cord that shows cracks or abrasion damage along its length or at either end.

When moving the refrigerator away from the wall, be careful not to roll over or damage the power cord.

REFRIGERATOR LOCATION

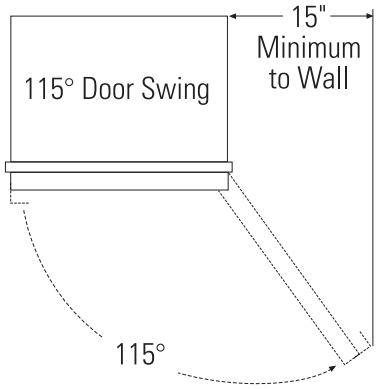
Do not install the refrigerator where temperatures will be below 60°F (16°C) because it will not maintain proper temperatures, and the refrigerator could develop high internal humidity.

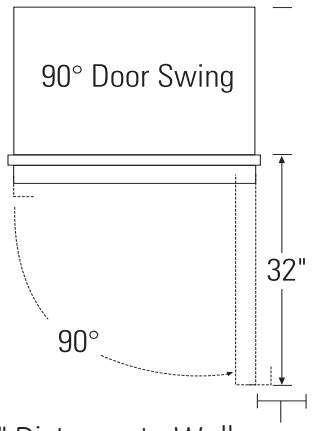
For proper installation, the refrigerator must be placed on a level surface of hard material the same height as the rest of the flooring.

This surface should be strong enough to support a fully loaded refrigerator, or approximately 1,200 lbs. each. See the Installation Instructions for complete directions.

CLEARANCES

Allow 15" minimum clearance between the door and wall for a full 115° door swing. Allow 5" min. clearance to a wall for a 90° door swing for Monogram Stainless Steel (European) models.



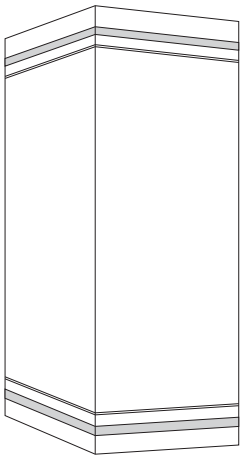


5" Distance to Wall

STEP 1 REMOVE PACKAGING

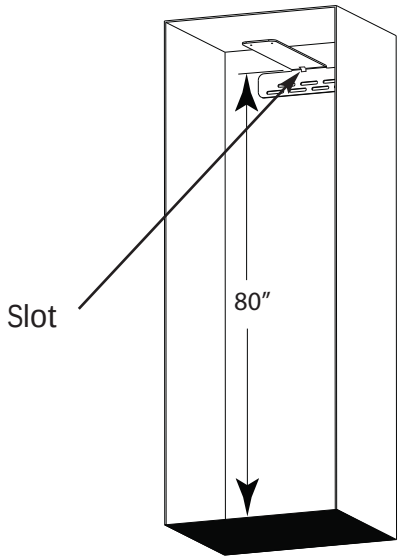
⚠ CAUTION: THE REFRIGERATOR IS TOP-HEAVY. BE CAREFUL WHEN MOVING.

- Cut bands and tape on the top and bottom of packaging with a utility knife.
- Unfold the cardboard seams and remove the top of the packaging.
- Slide the remainder of the box off of the appliance. You can use a box cutter to cut the remaining cardboard being VERY CAREFUL not to scratch the appliance.
- Remove the Styrofoam supports from around the unit.
- DO NOT remove door band or lower EPS banded part until unit is ready to go into enclosure.
- Cut EPS skid at the sides near the front from the back of the unit.
- Push unit forward & remove rear portion of the EPS skid.
- Carefully lower rear onto the floor.
- Lean unit back slightly & remove front portion of the EPS skid.
- Discard all unused packaging materials appropriately.
- The unit can now be moved using an appliance hand truck or rolled on a properly protected floor by 2 people.
- Leave any protective film on the refrigerator until installation is complete.

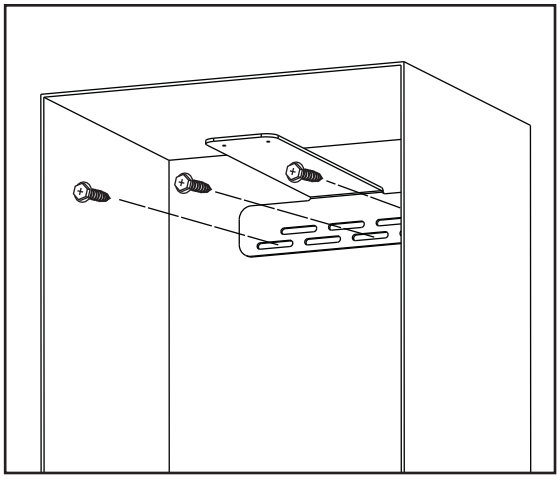


STEP 2 INSTALL ANTI-TIP BRACKET

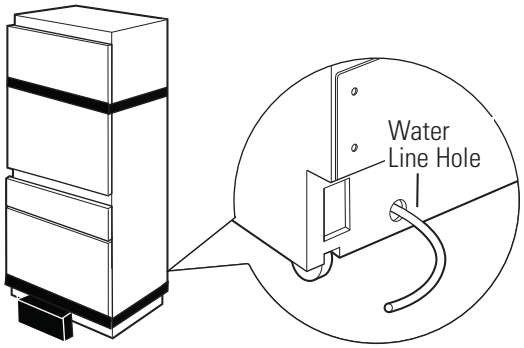
- Inside Top Face of bracket should be installed at 80". "Slot" in bracket should to be placed in center of install Space (Typically 15")
- Mark (within slots, placement) stud and anchor positions on brackets.



- Secure bracket using combination of studs & anchors.
- At least 1 stud must be engaged. However, please engage as many studs as possible within the enclosure. A mininum of three fasteners should be used for proper installation.



STEP 3 CONNECT WATER LINE



- Position appliance in front of enclosure.
- Locate and bring tubing to the front of the cabinet.
- Turn the water on to flush debris from line. Run about a quart of water through tubing into a bucket; then shut off water.

If needed cut the tubing to the proper length so it can be attached to the supplied water line connection.

Copper Tubing:

- Slip a 1/4" nut and ferrule over both ends of the copper tubing. Insert tube into the union fitting on the unit and tighten nut to union.
- Turn on the water to check for leaks.

GE SmartConnect™ Tubing:

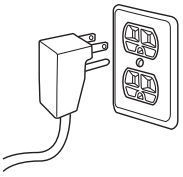
- Insert the end of the tubing into the refrigerator connection. Tighten the compression nut until it is just hand-tight.
- Tighten one additional turn with a wrench. Overtightening can cause leaks!
- Turn on the water to check for leaks.

STEP 4 CONNECT POWER

- Plug the power cord into the socket.
- Check to make sure power to refrigerator is on by opening the ice drawer (FF door will be banded shut) to see if interior lights are on.

- The temperature controls are preset at 37°F for the fresh food section and 0°F in both the freezer drawer and customizable drawer.

- Allow 24 hours to stabilize before making adjustments.



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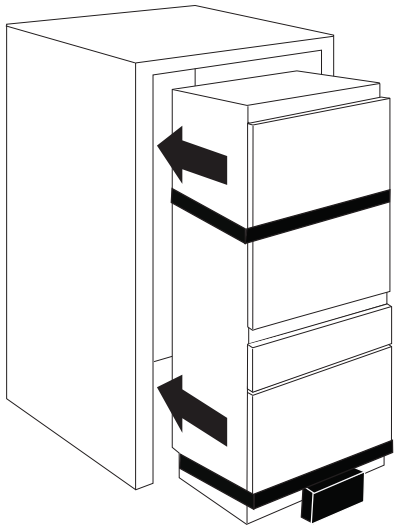
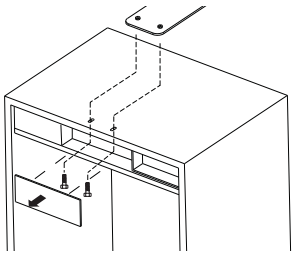
STEP 5 SLIDE UNIT INTO ENCLOSURE

Roll the unit into the enclosure, being careful not to pinch the water line or power cord.



- A long flat bar or yard stick may be needed to guide the front edge of the anti-tip bracket over the unit.
- If space allows, you may also bend the front edge of the bracket upward slightly, allowing it to clear the back of the unit.

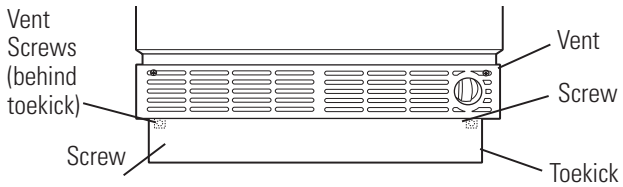


- Remove Top-Center trim cover from unit.
- Secure the unit to the Anti-tip bracket using both machine screws & washers to engage the threaded inserts in the anti-tip bracket.
- Hand start the screws until unit is in desired location within the install space.
- Finalize unit install by tighening the screws fully.
- Reinstall Trim cover.

STEP 6 REMOVE TOEKICK AND VENT

The toekick must be removed to access the leveling leg system.

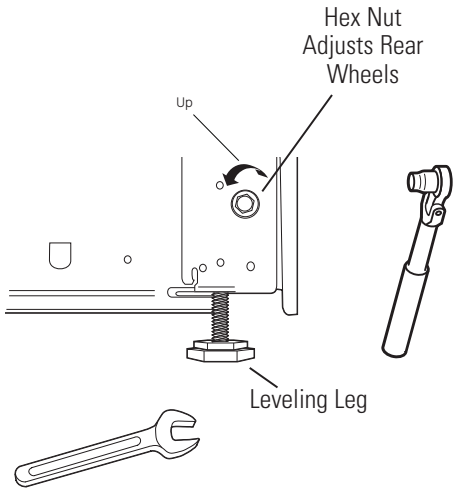
- Remove band around EPS block in front of toekick.
- Remove and dispose of EPS block.
- Remove the solid portion of the toekick by pulling forward.
- Place the toekick, vent and screws out of the way so you will have them for reinstallation.



STEP 7 LEVEL REFRIGERATOR

All models have 4-point leveling. The front is supported by leveling legs; the rear is supported by adjustable wheels. Both are accessible from the front of the refrigerator.

- To level the back of the refrigerator, turn the 5/16" hex nut located above the front wheels. Turn counter clockwise to raise or clockwise to lower the refrigerator.
- For front leveling, use a 1-5/16" open-end wrench.
- Adjust height of refrigerator to match installation cutout opening. The refrigerator should be level and plumb with cabinetry.



⚠ CAUTION:

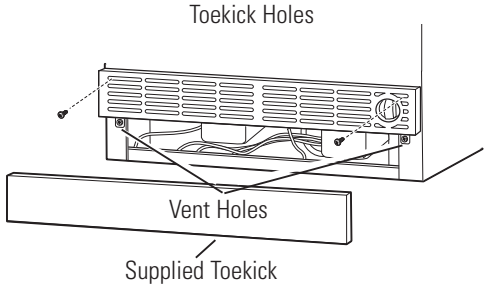
The rear leveling wheels and front leveling legs are limited to a maximum height adjustment of 1". If the installation requires more than 84-1/2" height, the installer should elevate the refrigerator on a sheet of plywood or runners. Cabinetry trim could also be added across the top of the opening to shorten the opening.

If you attempt to raise the refrigerator more than 1", you will damage the front leveling legs and the rear leveling wheels.

(*Continued next page*)

STEP 8 INSTALL TOEKICK AND VENT

- Locate the toekick, vent and screws (removed earlier).
- A custom toekick can be installed to match or complement the surrounding cabinetry. Use the supplied toekick as a template.
- Reinstall the vent using the screws removed earlier.
- Reinstall the toekick .



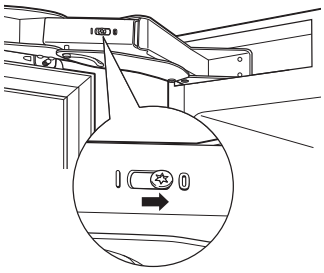
STEP 9 REVERSE DOOR SWING (If needed)

Skip this step if door swing is satisfactory.

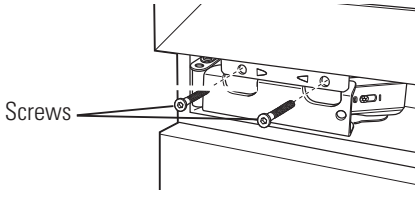
1. Open the fresh food door.

⚠ WARNING: THIS NEXT STEP IS IMPORTANT FOR SAFE HANDLING OF AN UNLOADED HINGE. DO NOT SKIP STEP 2.

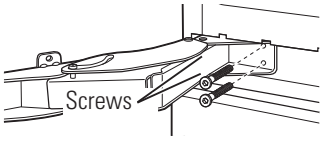
2. Release the hinge springs by using a Torx T-20 wrench to loosen the Torx screw from | to 0 on both hinges. Close the door.



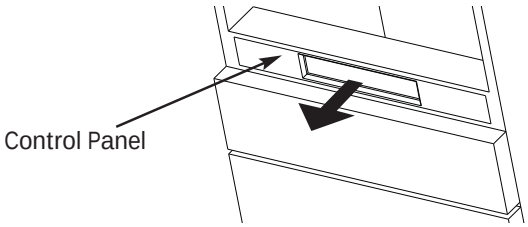
3. Using a 5/32" Allen wrench, remove the 2 screws per hinge that secure the door to the refrigerator. Have someone hold the door while removing these screws to keep the door from falling.



4. Open the hinges. Using a 5/32" Allen wrench, remove the 2 screws per hinge that secure the hinge to the refrigerator cabinet.

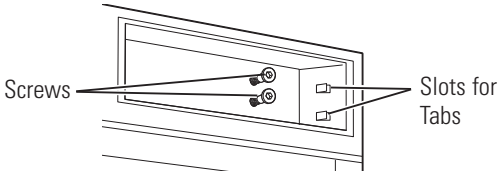


5. Remove the trim and hinge pocket from the top of the refrigerator and install on the opposite sides.
6. Remove the trim and hinge pocket from the bottom of the fresh food compartment. Remove the control panel and gently place in the FZ drawer.

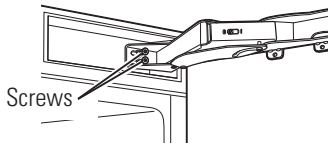


7. Reinstall the control panel.
8. The hinges will be reinstalled in opposite corners. The hinge from the top will be turned over and installed at the bottom of the fresh food compartment. The hinge from the bottom will be turned over and installed at the top of the fresh food compartment.

9. Install the screws on the fresh food compartment cabinet in all 4 places. Screw them in about halfway.

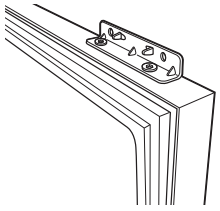


10. To install the top hinge, turn the hinge in the proper direction—the section of the bracket that will be attached to the door should be at the bottom of the hinge. Slide the hinge over the screws and seat the tabs into the hinge pocket. Tighten the screws.



11. To install the bottom hinge, turn the hinge in the proper direction—the section of the bracket that will attach to the door should be at the top of the hinge. Slide the hinge over the screws and seat the tabs into the hinge pocket. Tighten the screws. Close the hinge.

12. Remove the hinge brackets from the door and reinstall them on the opposite end, top and bottom.



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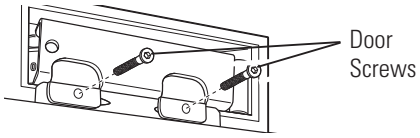
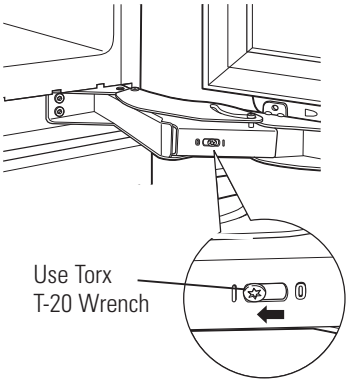
STEP 9 REVERSE DOOR SWING (cont).

13. With another person holding the door in place, align the holes in the door hinge bracket with the holes in the hinge. Install the screws to the top hinge first.



14. install screws on the bottom hinge next.

15. Using a Torx T-20 wrench, tighten the tension on the hinge springs by turning the screws from 0 to I.

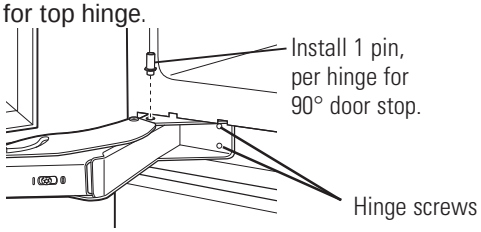


STEP 10 ADJUST DOOR SWING (if needed)

NOTE: This refrigerator has a 2-position door stop. When space does not allow the door to swing to 115°, you may limit the door swing to a 90°

Skip this step if door opening is satisfactory for your installation situation.

- Open the fresh food door to access the top and bottom hinges.
- Loosen the bottom hinge screws that attached to the unit
- Pull hinge forward slightly & insert hinge pin into the hole nearest the unit.
- You may need to use a small hammer to fully seat them in place.
- Retighten hinge screws.
- Repeat for top hinge.

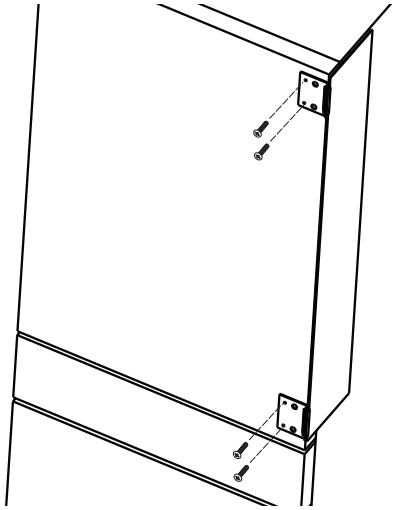


STEP 11 ATTACH HINGE GUARD

⚠ WARNING:

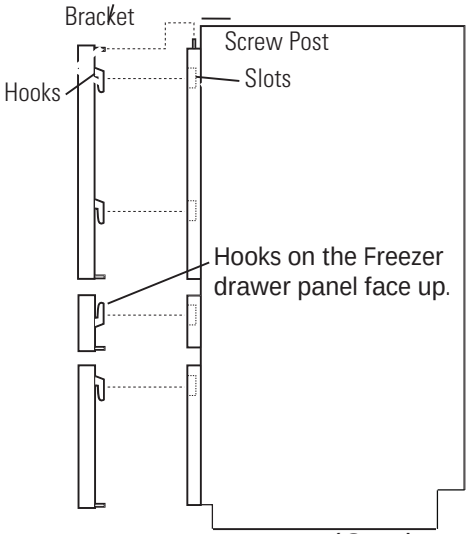
This appliance must be installed & operated with the hinge guard in place !

1. Attach hinge guard by sliding flat part between case and adjacent cabinetry.
2. Fasten guard to door front using 4 screws.



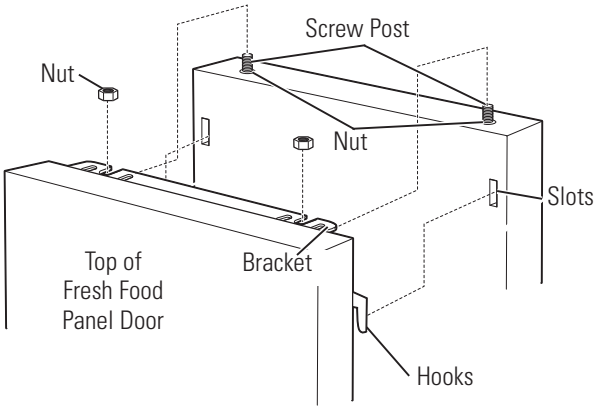
STEP 12 INSTALL DOOR AND DRAWER PANELS

1. Remove all door and drawer hooks from the unit and screw them to the custom panels, aligning them with the lowest set of predrilled holes for Monogram Panel Kits on the FF door panel.
2. Attach top L-Bracket to FF panel.
3. If you had custom handles made and they are not currently attached to your panels, do so now.
4. Open the fresh food door to attach the fresh food panel.
5. Slide the hooks on the fresh food panel into the slots of the door, and lower the hooks into place. Make sure the bracket on the top of the panel slides over the screw posts on top of the door. The brackets will rest on top of the nuts.

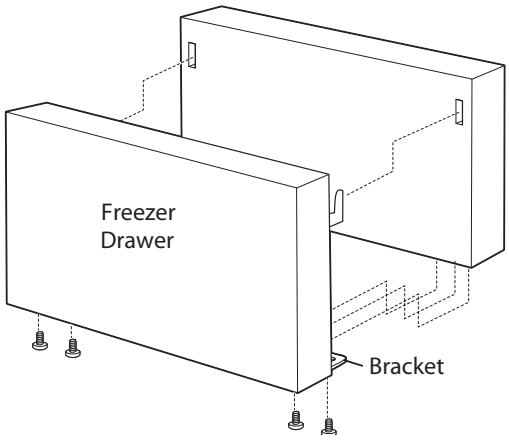


(*Continued next page*)

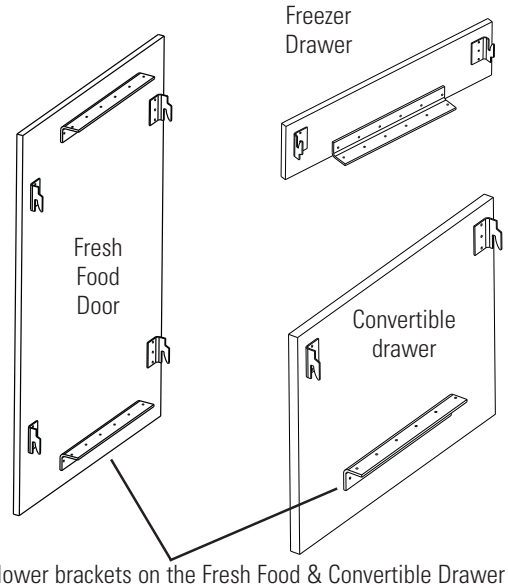
6. Adjust the screw posts up or down under the bracket on top of the door to level the panel.
7. Lock the panel to the door by installing the nuts provided onto the screw posts on top of the door. Next, screw the L-bracket provided into the bottom of the door and the panel.



8. Once the drawer panel is placed fasten the panel to the drawer by screwing the bottom bracket into the panel with the screws provided.
9. Repeat for the second drawer by sliding the hooks **down** instead of up.
10. If using custom toekick attach the toekick panel by placing Velcro on the back of the panel, and on the front of the toekick. If using SS toekick it is magnetic.
11. Adjust drawer alignment using lower brackets as needed to create uniform gaps.



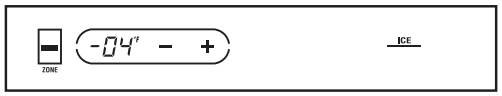
Back View of Panel Hooks and Bracket



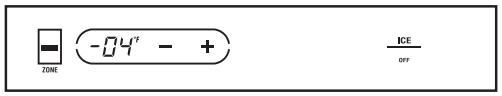
The lower brackets on the Fresh Food & Convertible Drawer should not be installed until after the panel is in place.

STEP 13 START ICEMAKER

- Press the ZONE indicator on the control pad twice to select the freezer drawer. Press the ICE icon on the right side of the control. A line will appear under ICE to show that the icemaker is ON.
- Be sure nothing interferes with the sweep of the feeler arm.
- Discard the first full bucket of ice cubes.

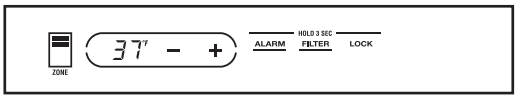


- To turn the icemaker off, press the ICE icon. The word OFF appears below ICE to show that the icemaker is OFF.

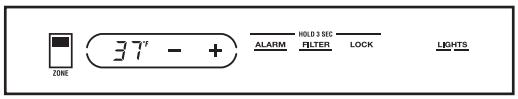


Control Features

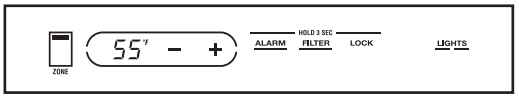
Temperature Controls



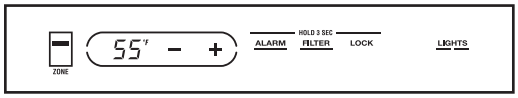
Fresh Food – Solid Door Unit



Fresh Food – Glass Door Unit



Wine – Upper Compartment



Wine – Lower Compartment

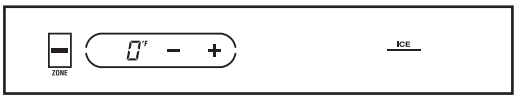
The temperature display shows the actual temperature of the fresh-food compartment (wine reserve for wine reserve models), freezer drawer or customizable drawer when each one is selected by toggling the Zone indicator. The actual temperature will vary from the set temperature based on factors such as frequency of door openings, amount of food, defrost cycling and room temperature.

NOTE: Frequent door openings or doors left open for periods of time may increase the internal temperature of the compartments temporarily.

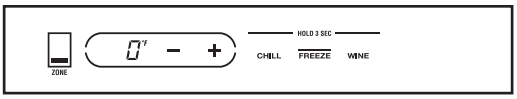
To turn off the cooling system, toggle the ZONE indicator to the fresh-food mode (wine mode for wine reserve models). Press the plus (+) pad until the display shows OFF. The (+) key will not be illuminated on the display and the LED lighting will operate when the unit is in the OFF mode. All other loads will be turned off.

To turn the cooling system on, toggle the ZONE indicator to the fresh-food mode (wine mode for wine reserve models), and press the minus (–) pad until the desired temperature is displayed. The preset temperature of 0°F for the freezer or 37°F for the fresh-food unit will appear in the display on refrigerator models.

To check the current temperature setting for a compartment, press the plus (+) or minus (–) pad once. After 5 seconds, the display will return to the actual temperature.



Upper Drawer – Freezer



Lower Drawer – Customizable

To change the temperature settings, press the plus (+) or minus (–) pad for each increment to the desired temperature set point. Allow 24 hours for the unit to reach the temperature you have set.

Temperature Ranges

	Low	High
Fresh Food	34°F 1°C	46°F 8°C
Wine	40°F 4°C	65°F 18°C
Freezer Drawer	–6°F –21°C	+6°F –14°C

Customizable Drawer Temperature Ranges

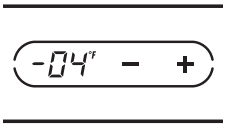
	Low	High
Freezer	-6°F –21°C	+6°F –14°C
Chill	34°F 1°C	46°F 8°C
Wine	40°F 4°C	55°F 13°C

NOTE: Setting the controls to **OFF** stops cooling, but **does not** shut off electrical power to the unit. All readings in °C will be rounded.

(*Continued next page*)

Changing Display Temperatures from °F to °C

To change the temperature display between Fahrenheit and Celsius, press both the plus **(+)** and minus **(–)** pads for 5 seconds.



Alarm

To turn the Alarm feature on, press and hold the **ALARM** button for 3 seconds. **ALARM** will be underlined when active. To turn off, press and hold the **ALARM** button for 3 seconds. The underline will disappear.

When the **ALARM** is active, the alarm will flash and beep if you keep the door open for more than 2 minutes.

Automatic Icemaker

A newly installed refrigerator may take 12–24 hours to begin making ice. The refrigerator is shipped with the icemaker set to **ON**.

The icemaker will produce 7 cubes per cycle—approximately 15 cycles in a 24-hour period, depending on freezer compartment temperature, room temperature, number of door openings and other use conditions.

If the refrigerator is operated before the water connection is made to the icemaker, set the icemaker to **OFF**. To set the icemaker to OFF, press the ZONE indicator on the control pad twice (3 times for wine reserve models), to select the freezer drawer.Press the **ICE** icon to the right. The line under **ICE** will disappear and the word **OFF** will show under **ICE**.

Throw away the first full bucket of ice.

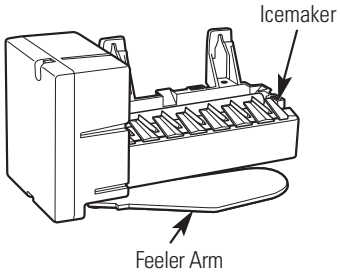
Be sure nothing interferes with the sweep of the feeler arm.

When the bin fills to the level of the feeler arm, the icemaker will stop producing ice.

It is normal for several cubes to be joined together.

If ice is not used frequently, old ice cubes will become cloudy, taste stale and shrink.

The icemaker is located on the ceiling of the freezer drawer and to the left rear. There is an LED strip in the freezer drawer ceiling. The freezer drawer contains 1 ice bin.



After the icemaker has been turned on again, there will be a delay of about 45 minutes before the icemaker resumes operations.

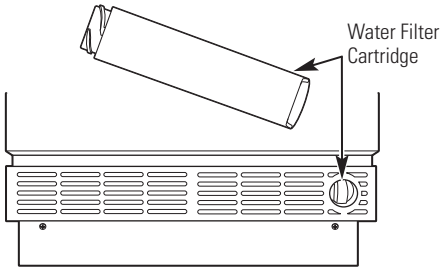
NOTE: In homes with lower-than-average water pressure, you may hear the icemaker water valve cycle on several times when making one batch of ice.

NOTE: Icemaker works best between 40 and 120 PSI home water pressure.

(*Continued next page*)

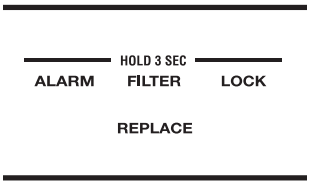
Water Filter Cartridge

The water filter cartridge is located below the customizable drawer on the lower-right side of the appliance.



To Replace the Filter:

While the filter cartridge may last up to 1 year, replacement frequency will depend on ice usage. There is a replacement indicator light for the water filter cartridge on the control panel. The filter cartridge should be replaced when the word **REPLACE** appears beneath **FILTER** on the control panel.



Installing the Filter Cartridge:

1. Open the customizable drawer to gain access to the water filter cartridge.
2. Remove the old cartridge by twisting counterclockwise. Pull forward on the filter to remove.
3. Insert the new filter into the compartment and twist clockwise until the cartridge stops.

To Reset the Filter Status Light:

Press and hold the **FILTER** button for 3 seconds.

Filter Bypass Plug:

You **must** use the filter bypass plug if:

a) you have a household reverse osmosis water system and/or another form of home water filtration system.

b) a replacement filter is not available.

The icemaker will not operate without the filter or filter bypass plug installed.

The bypass plug and mini manual are located in the bottom machine compartment.

Replacement filters:

To order additional filter cartridges, visit our Website at monogram.com, or call GE Parts and Accessories, 800.626.2002.

Filter Model Number GSWF

IMPORTANT NOTE: Remove the water filter to immediately stop any water leak from the icemaker.

Child Control Lockout

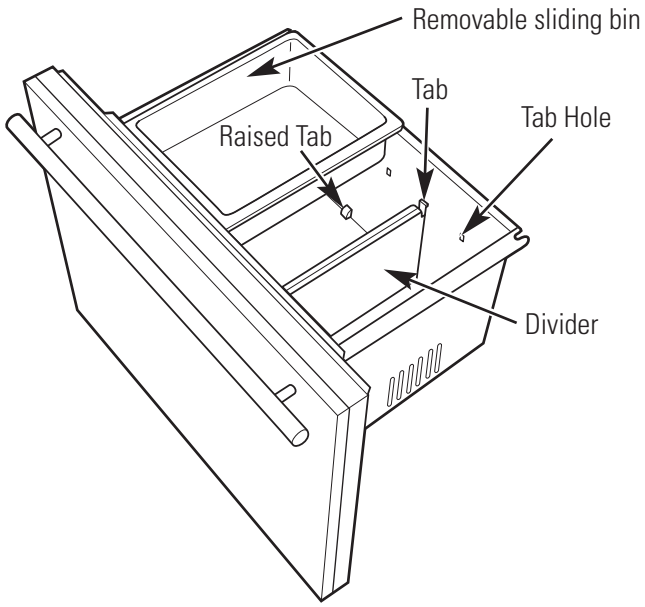
This child control lockout feature prevents unwanted changes to your temperature settings.

After the desired temperature is set, the temperature can be locked. To lock, press and hold the **LOCK** button for 3 seconds. To unlock, press and hold the **LOCK** button for 3 seconds.

(*Continued next page*)

Customizable Drawer

The customizable drawer can be used as a freezer, as a fresh-food refrigerator or as a wine/beverage drawer.



To customize your drawer:

Press the **ZONE** indicator on the control pad to select the customizable drawer.

Recommended Temperatures for Customizable Drawer:

Button	Function	Temperature
Chill	Fresh Food	37°F/3°C
Freeze	Freezer	0°F/–18°C
Wine	Wine Storage	55°F/13°C

This drawer has LED strip lighting above it. There is also one adjustable divider that can be placed in different positions and a bin that can slide left or right in the drawer.

To change the divider position:

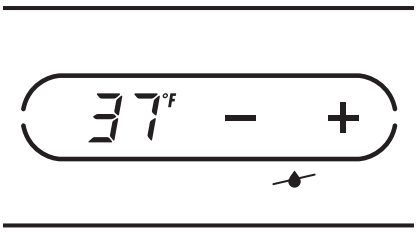
1. Pull in the tabs at the top of the divider to release it from the tab holes at the front and back of the drawer.
2. Lift the divider off of the raised tabs at the bottom of the drawer.
3. Move the divider to its new location and slide it onto the raised tabs.
4. Pull in the tabs at the top of the divider and position the divider so the tabs will fit into the tab holes. Release the tabs so they lock into place.

(*Continued next page*)

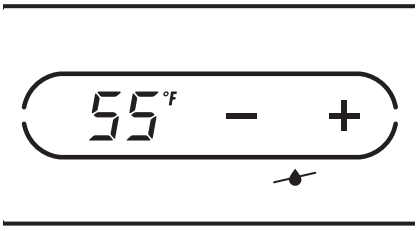
External Moisture Control

This product is equipped with an external moisture control feature. The refrigerator and wine reserve models are shipped with the external moisture control feature off.

In some humid environments, moisture can form on the front surface of the refrigerator or wine reserve cabinet. If moisture does appear on the front surface of the refrigerator or wine reserve cabinet, turn on the external moisture control feature by pressing and holding the **ALARM** and **LOCK** buttons on the control panel for 5 seconds. When activated, a small picture of a water droplet with a line thru it will appear below the **(+)** and **(–)** signs on the control panel.



Refrigerator



Wine Reserve

LED Display Lighting

This refrigerator and wine reserve models have LED lighting on both sides of the interior as well as above the freezer drawer and above the customizable drawer.

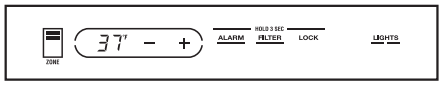
Glass Door Models Only

The glass door and wine reserve models have a display light option for the interior side lights: full power and 1/2 power.

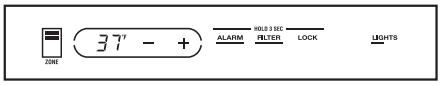
In display mode at either full or 1/2 power, the lights will stay on after the door is closed and automatically go off after 1 hour.

To access the lighting options, press the **ZONE** indicator on the control pad. In fresh-food mode (wine mode for wine reserve models), the **LIGHTS** button is to the right on the control pad. When lights are at full power, there are 2 bars under **LIGHTS**; at 1/2 power, there is 1 one bar; when the lights are off, there are no bars.

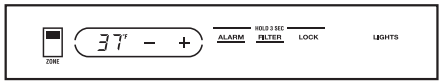
Refrigerator Models



Glass Door Model – Lights at Full Power

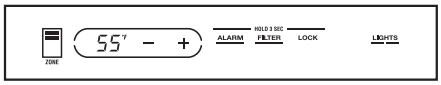


Glass Door Model – Lights at 1/2 Power

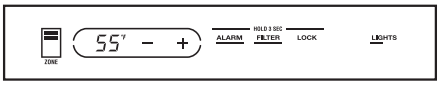


Glass Door Model – Lights Off

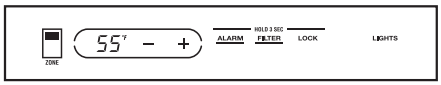
Wine Reserve Models



Lights at Full Power



Lights at 1/2 Power



Lights Off

(*Continued next page*)

Sabbath Mode

The Sabbath Mode was designed for use on the Jewish Sabbath and Holidays. The Sabbath Mode feature makes it possible for observant Jews to refrigerate and freeze food during the duration of the holiday.

The Sabbath Mode feature can be set to override typical reactions caused by your interaction with the refrigerator or wine reserve. While in the Sabbath Mode, your refrigerator or wine reserve will still operate. However, the refrigerator or wine reserve will not respond to your actions.

While in the Sabbath Mode, you may notice the fan running when the door is opened, however, this is not a result of your actions. The fan will operate at predetermined times. The defrost heater will continue to defrost the refrigerator (or wine reserve) and freezer and will be activated on a timer. The defrost heater will not defrost as a result of door openings or any consumer actions. In case of power loss, Sabbath mode is retained in memory to ensure the unit restarts to the same settings as before the power loss.

Note: Sabbath mode cannot be activated when the unit is in the System Cooling OFF state.

To activate the Sabbath Mode, hold down the **ALARM** button and **(+)** pad on the control panel for 5 seconds. **SAB** will be displayed on the control. **SAB** will remain in the display and the **(+)** pad and alarm button will remain lit.

DISPLAYS, ALARMS and LIGHTS—The main temperature control displays will be deactivated, therefore they will not be lit, sound a tone or operate when touched. Door alarms and lights will be disabled.

ICEMAKER—The icemaker will continue to operate. The icemaker can be disabled by turning the icemaker **OFF** prior to the Sabbath. (See *Automatic Icemaker*.)

To deactivate the Sabbath Mode, hold down the ALARM button and (+) pad on the control panal for 5 seconds. Upon exit from the Sabbath Mode the unit will resume the last operating mode.

Showroom Mode

The Showroom Mode enables normal light and control functions while disabling the cooling system.

While in the Showroom Mode, the compressors, fans, and dampers stay off at all times.

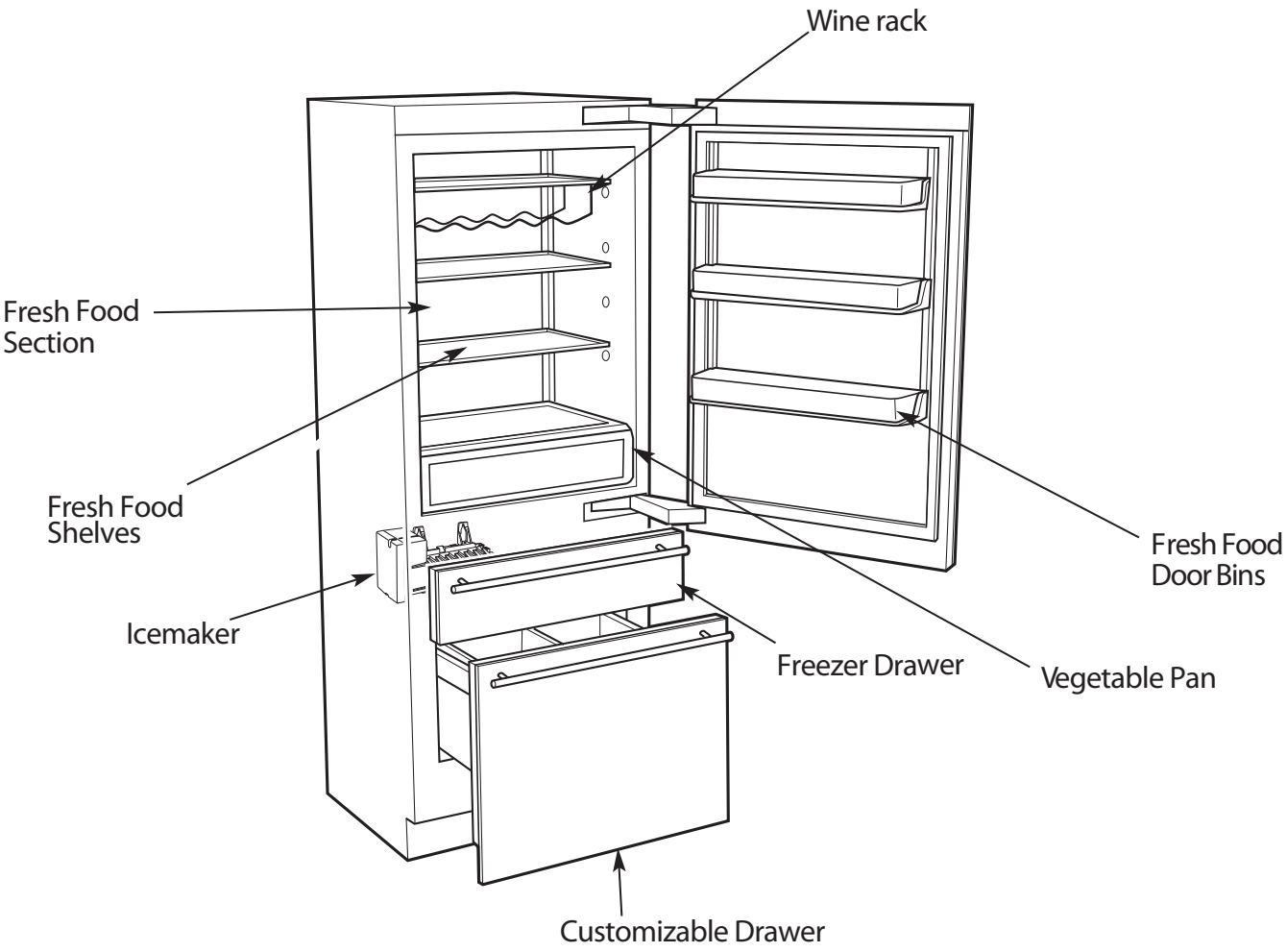
Changes to temperature settings for each zone are allowed. The Door alarm and control Lock features will be in normal operating mode.

To activate the Showroom Mode, hold down the **ALARM** button and **(-)** pad on the control panel for 5 seconds. **SHO** will be displayed on the control panel. After 5 seconds “SHO” will disappear and the ambient temperature will be displayed. Setting the temperature to maximum will cause the display to show “SHO” instead of the normal “OFF”. In the event of a power failure the unit will restore to showroom mode upon the return of power.

To deactivate the Showroom Mode, hold down the ALARM button and (-) pad on the control panal for 5 seconds. Upon exit from the Showroom Mode the unit will resume the last operating mode.

Components Locator Views

30-in. Built-In Bottom Freezer with 2-Drawer Refrigerator



Note:

- Throughout this service manual, the upper interior section is commonly referred to as the fresh food section even though it may be set for wine. The bottom convertible drawer interior section is referred to as the freezer section even though it can be configured for fresh food or wine modes of operation. The center ice drawer will always be operating in freezer mode.
- The descriptions convertible drawer and customizable drawer are used interchangeably throughout this service guide.
- The descriptions ice drawer and freezer drawer are used interchangeably throughout this service guide.

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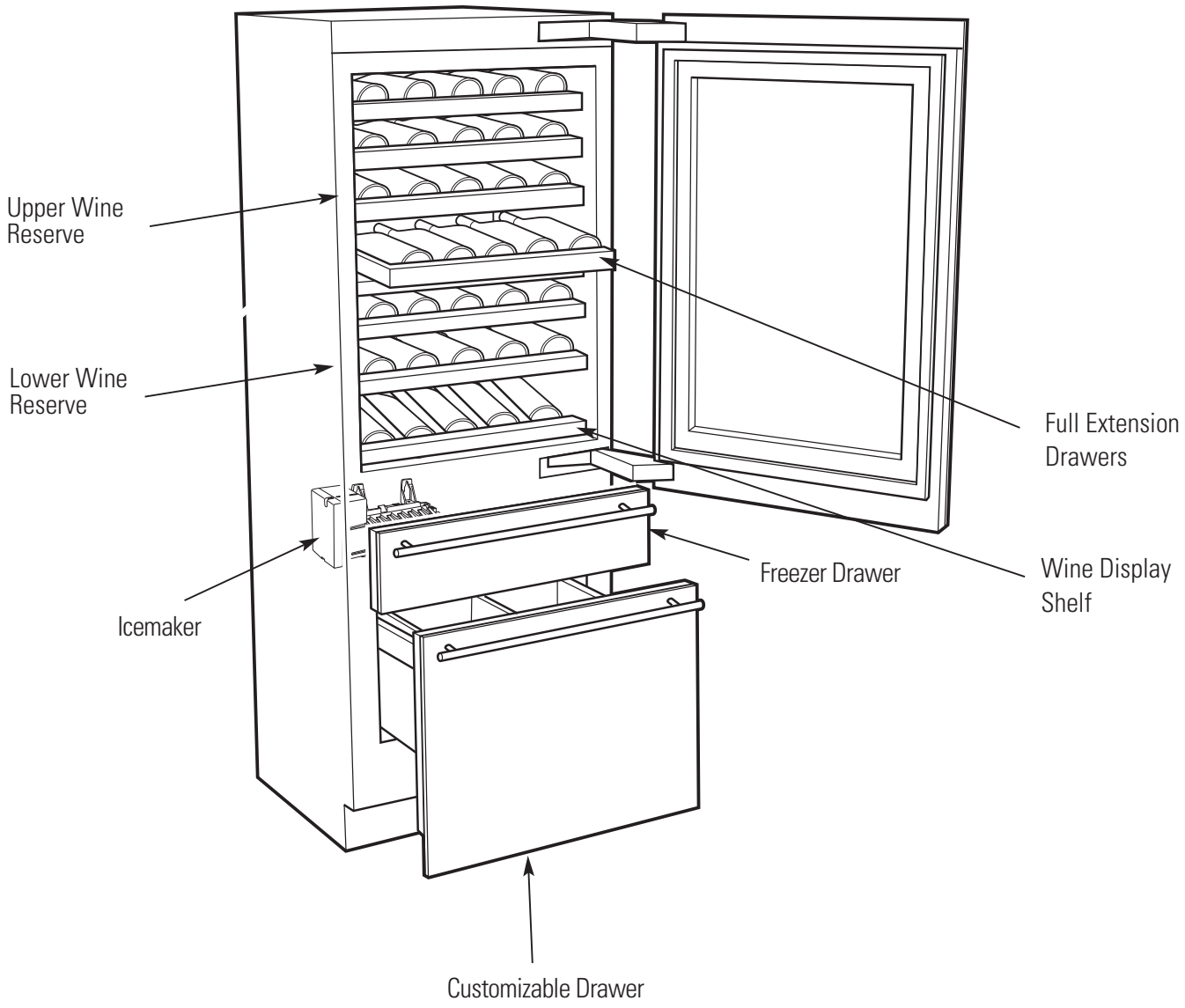

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- Throughout this service manual, the upper interior section is commonly referred to as the fresh food section even though it may be set for wine. The bottom convertible drawer interior section is referred to as the freezer section even though it can be configured for fresh food or wine modes of operation. The center ice drawer will always be operating in freezer mode.
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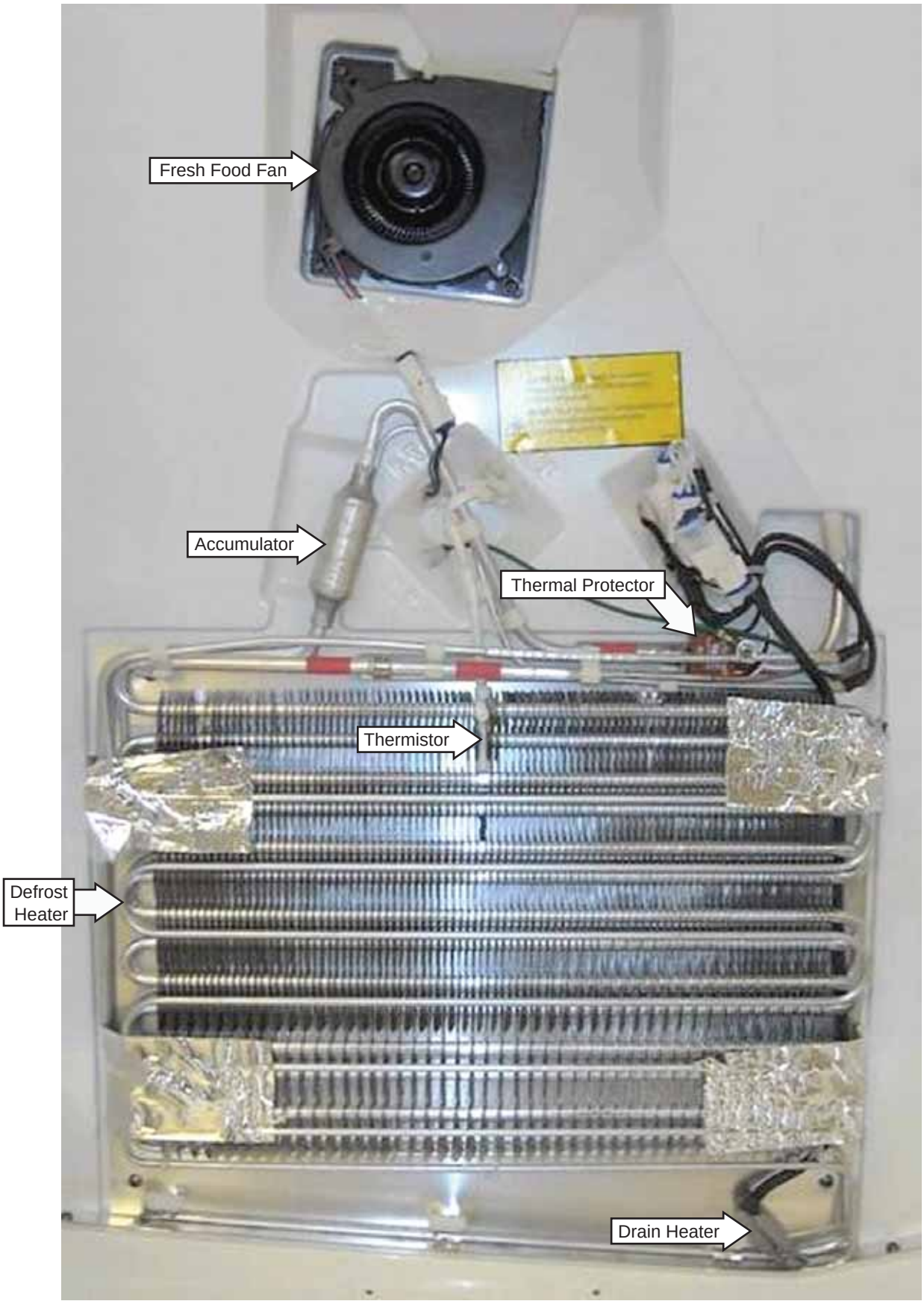
- The descriptions ice drawer and freezer drawer are used interchangeably throughout this service guide.

(*Continued next page*)

Fresh Food Compartment



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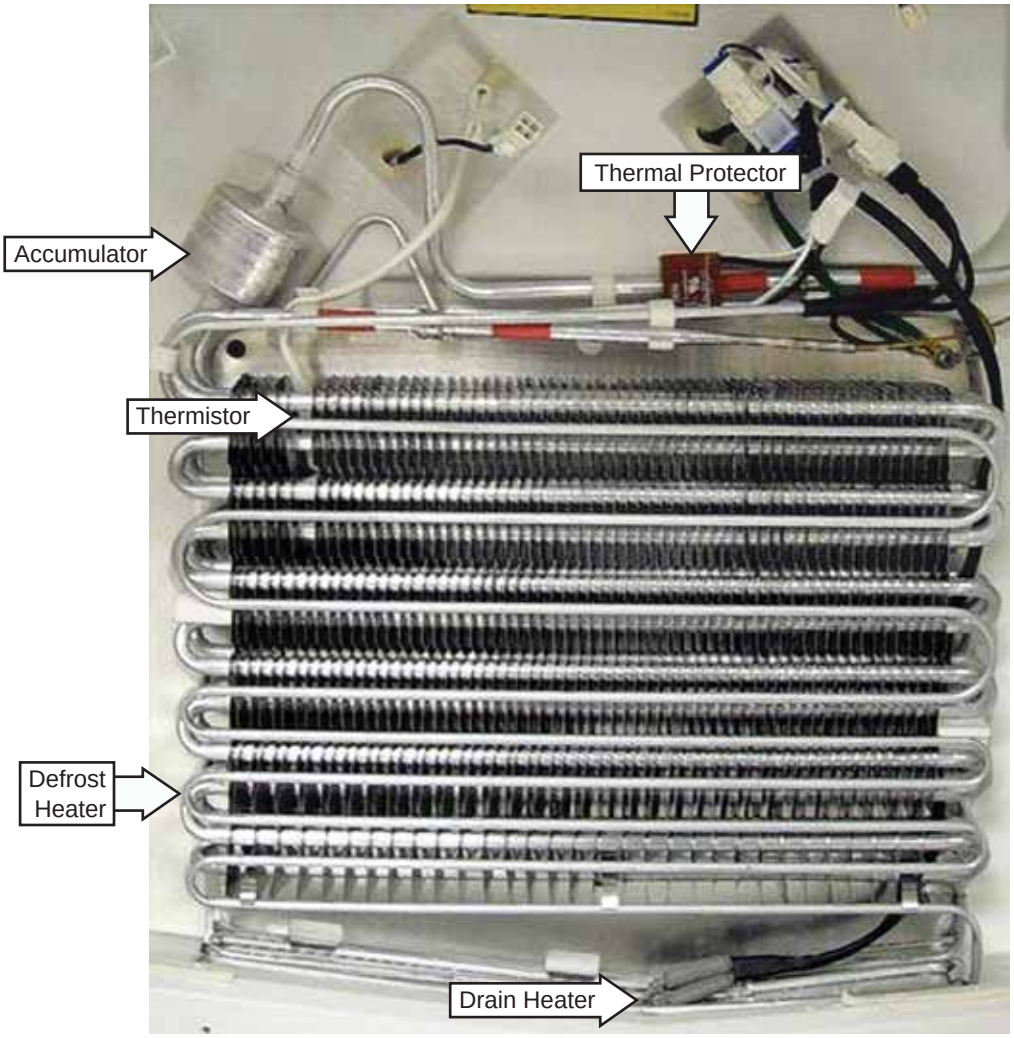
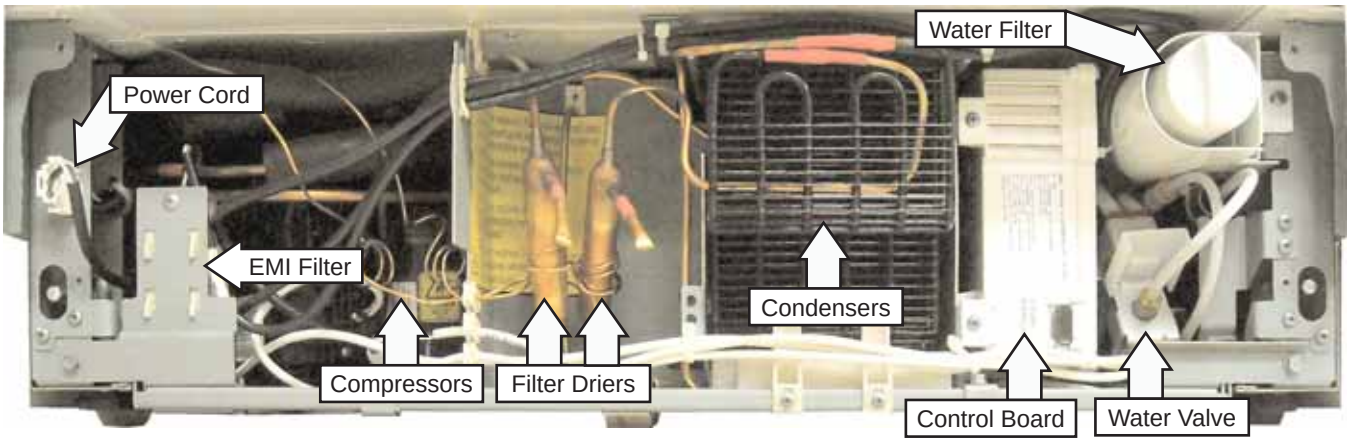
Freezer Compartment

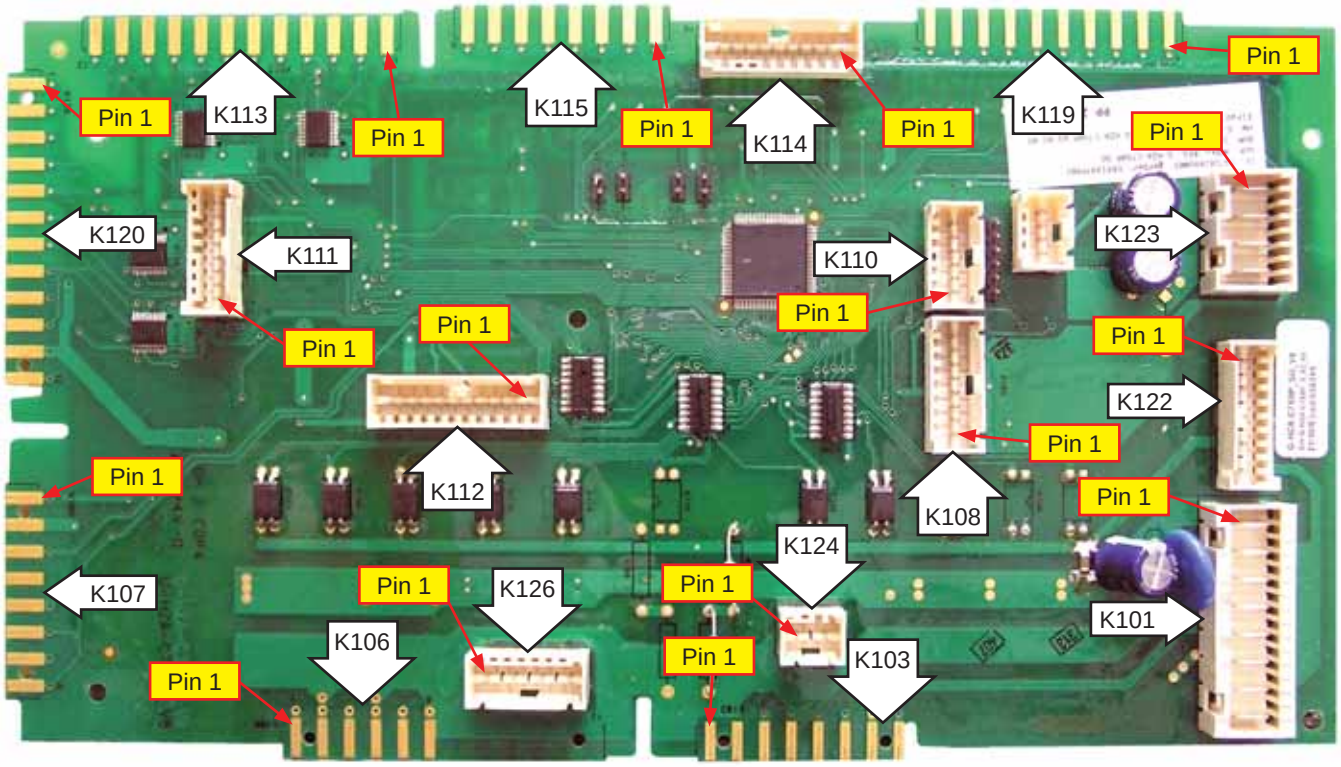


System Tray Compartment



Control Board Connector Locator

Main Control Board



K101 - AC Input, Fresh Food and Freezer Compressors

K103 - Icemaker, Fill Valve

K106 - Freezer Defrost, Drain, and Wall Heaters

K107 - Fresh Food LEDs and Fan

K108 - Condenser Fans and Compressor Inverters

K110 - Factory Test Connection

K111 - Customer Control

K112 - Freezer Mullion and Icemaker Fill Tube Heaters, Freezer LED, Freezer Fan

K113 - Freezer Top and Bottom Dampers

K114 - Fresh Food Sensors

K115 - Freezer Reed Switches

K119 - Freezer Sensors

K120 - Wine Reserve Top and Bottom Dampers

K122 - AC Input to Power Supply Board

K123 - DC from Power Supply Board

K124 - Wine Reserve Wall Heater

K126 - Fresh Food Defrost and Drain Heaters

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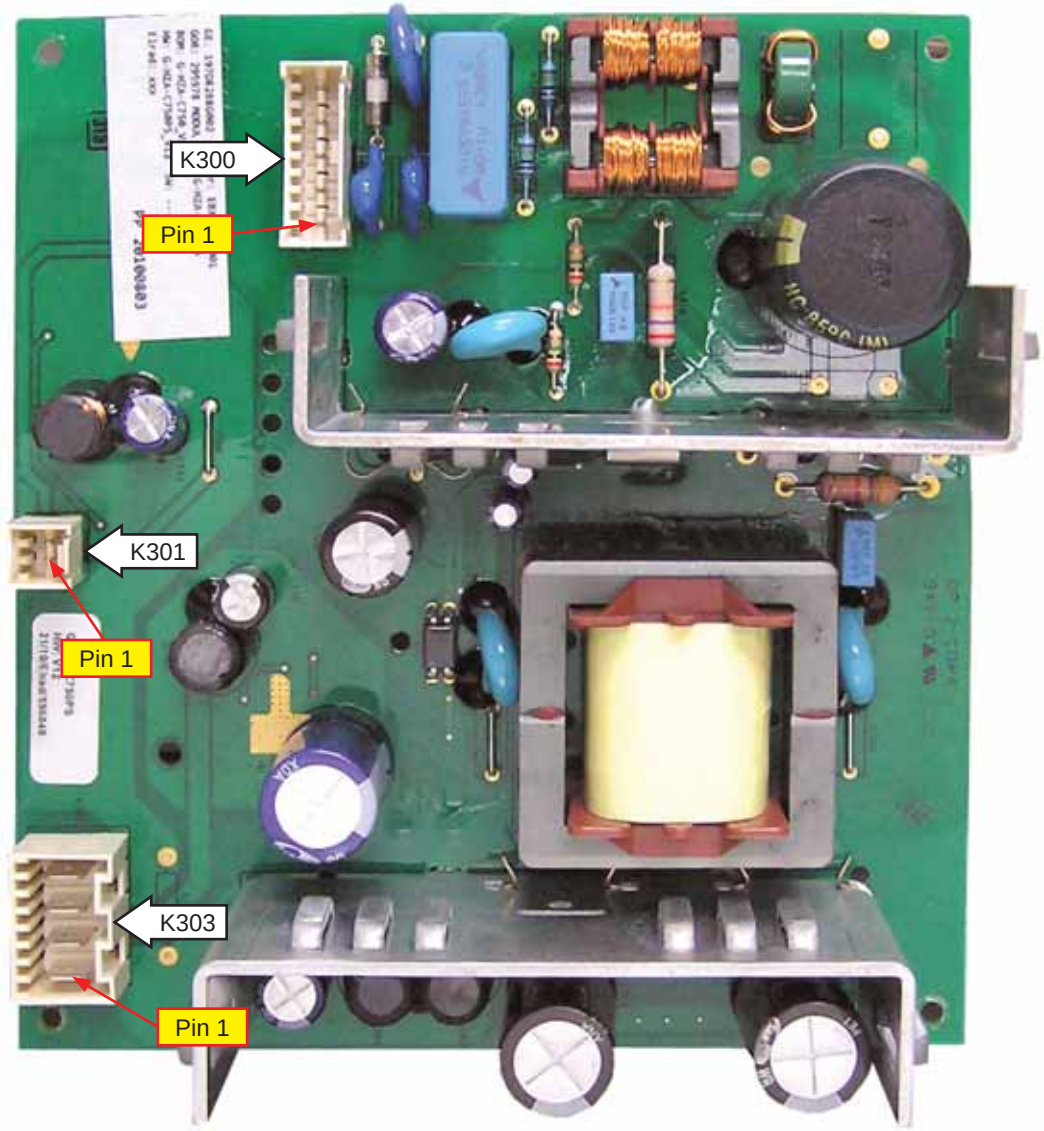
Power Supply Board



K300 - Input AC Power

K301 - Fresh Food Wall LEDs

K303 - Output DC Power

Interior Shelves, Drawers, and Bins

Lighted Vegetable Drawer Shelf (refrigerator models)

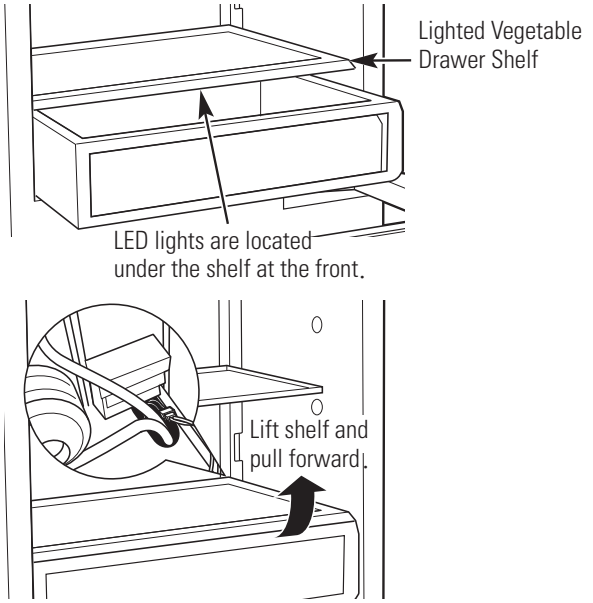
The lighted vegetable drawer shelf provides lighting for the lower compartments. The lights are recessed into the shelf to illuminate the drawers below.

To remove the shelf:

1. Lift the shelf and carefully pull forward to expose the wires.
2. Unplug the shelf and carefully remove it from the refrigerator.

To replace the shelf:

1. Carefully set the shelf onto the side rails, leaving the plug exposed.
2. Plug the shelf into the refrigerator.
3. Carefully slide the shelf into place.



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Adjustable Shelves (refrigerator models)

Tempered glass shelves in the fresh food section enable you to make efficient shelf arrangements to fit your family's food storage needs.

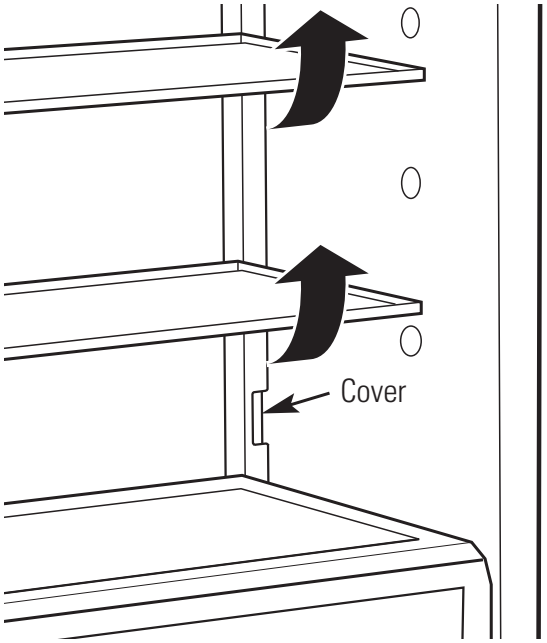
To adjust shelves: Tilt the shelf up at the front and slide it up or down along the back wall to the placement you want.

Handle glass shelves carefully. Rough handling of tempered glass can cause it to shatter.

To remove shelves:

NOTE: To remove a shelf, all shelves under it must first be removed.

1. Remove any food from the shelf.
2. Remove cover at the bottom of each track.
3. Tilt the first shelf up at the front.
4. Slide the shelf down along the back wall until you reach the bottom where the notch is located. Slide the shelf thru the notch.



5. Repeat steps 1 thru 4 to remove the other shelves.

To replace shelves:

Replace shelves by performing steps 1 thru 4 in reverse.

Door Bins (refrigerator models)

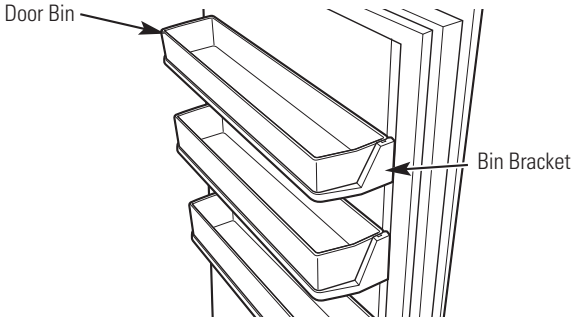
The door bins are removable. Lift bin out of the bin bracket to remove.

The bin brackets are adjustable and can move up and down to meet your storage needs.

Do this by tilting the bin up at the front and sliding it up or down along the door to the placement you desire.

To remove bin brackets:

1. Remove cover at the bottom of each track.
2. Tilt the first bracket up at the front.
3. Slide the bracket down along the back door until you reach the bottom where the notch is located. Slide the bracket thru the notch.



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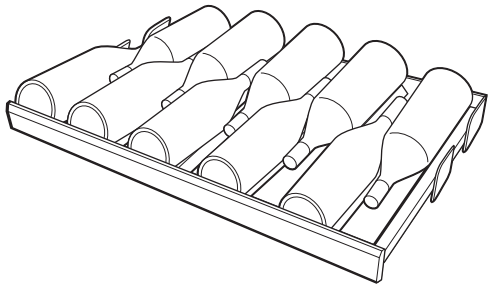
Wine Bottle Arrangements (wine reserve models)

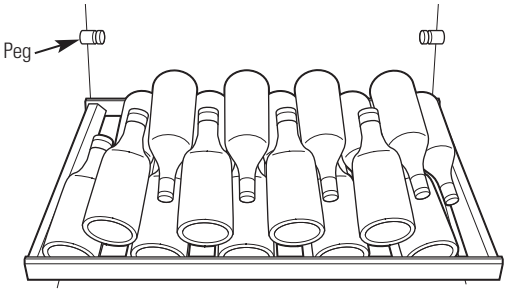
Full Extension Drawers

The top 6 drawers are full-extension drawers, with each drawer holding up to 10 bottles. The bottles are stored with necks alternating from front to back.

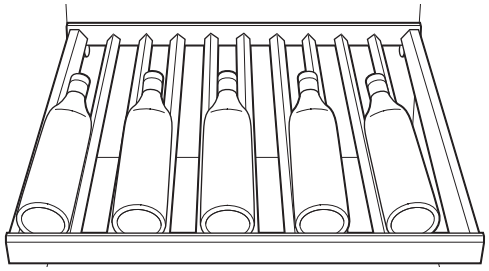


Wine Display Shelf

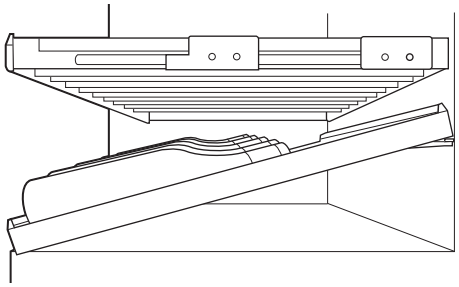
The wine display shelf can either be in a horizontal position or an angled position. The horizontal position can hold 18 bottles. The angled position can hold 5 bottles. The shelf can be angled by lifting the shelf onto pegs on the back wall.



Horizontal Position



Angled Position



Angled Position

Wine Bottle Loading Tips and Suggestions (wine reserve models)

- Keep wines that you plan to use for everyday drinking and entertaining on the front half of the full-extension drawers where labels are completely visible. Place wines for aging or longer-term storage in the rear.
- Do not allow children to climb, stand, or hang on the wine reserve full-extension drawers. They could seriously injure themselves and possibly cause damage to the wine reserve.
- Group your wine inventory according to type (e.g., white wines in the cooler zone and red wines in the warmer zone).
- Store red and white wines in separate zones so you can keep them at different temperatures.

Interior Lights

The 30-in. built-in bottom freezer with 2-drawer refrigerator and the wine reserve units utilize LED lighting throughout all compartments.

LED strip lights are used to illuminate the fresh food, wine reserve, vegetable pan, freezer drawer, and customizable drawer compartments.

Eight individual circular wall LED lights (4 on each side) are also used to illuminate the interior of the fresh food and wine reserve compartments.

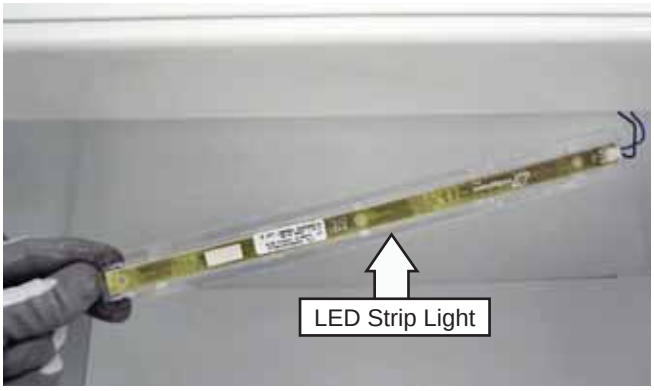
Strip Lights

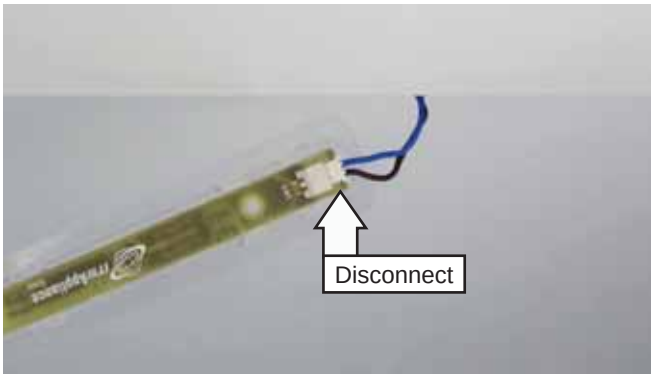
The LED strip lights are inserted into a recess in the ceiling of the fresh food, wine reserve, freezer drawer, and customizable drawer compartments.

A wire harness is connected to the right side of each strip light.

The LED strip lights operate on 12 VDC supplied from the power supply board.

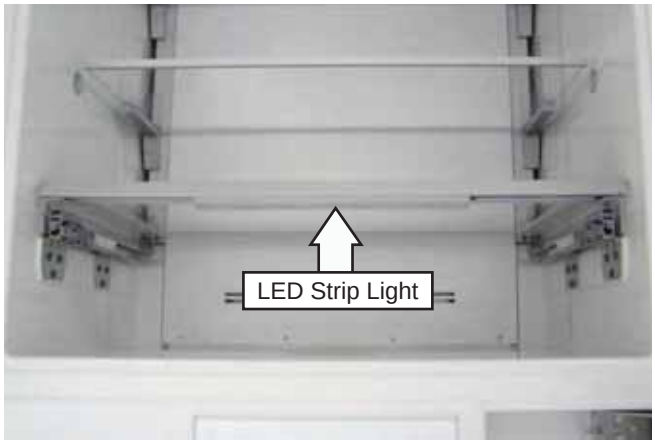
To access the wire harness connection, it is necessary to grasp the left side of the strip and pull the strip light down.





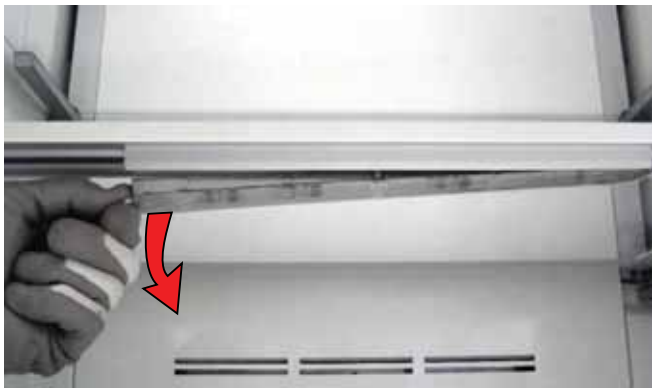
Vegetable Drawer Strip Lights

The vegetable drawer utilizes an LED strip light that is recessed into the shelf to illuminate the drawer below.



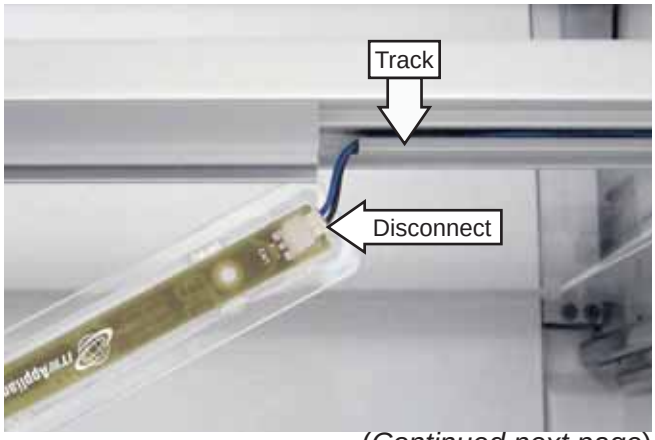
To remove the vegetable drawer strip light:

1. Lift and remove the vegetable pan.
2. Grasp the left side of the strip light and pull the strip light down.



3. Disconnect the electrical connector from the LED strip light.

Note: When installing the strip light, ensure wiring is concealed inside the track in the shelf.



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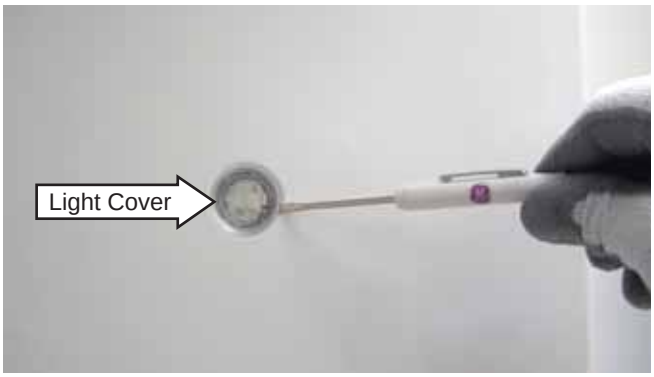
Circular Wall LED Lights

The circular wall LED lights operate on 3 VDC supplied from the power supply board. Each LED light is permanently attached to a circuit board. These LED boards are wired in a series circuit, and if one goes out, ALL go out.

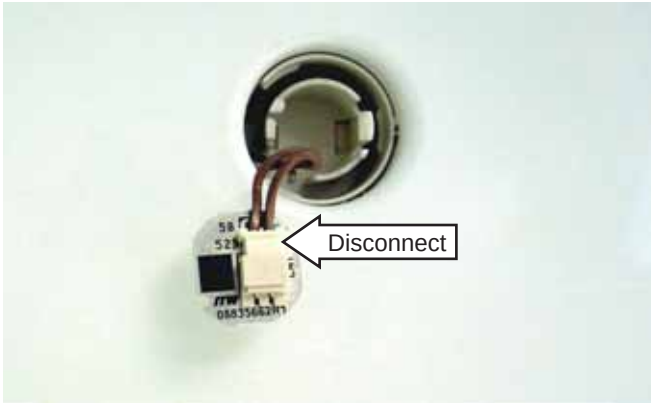
To replace an LED board:

1. Using a small, flat blade screwdriver, pry out and remove the light cover from the side wall.



2. Push the large tab away from the LED board, and then remove the LED board.

3. Disconnect the wire harness from the LED board.



Door Gaskets

The doors and drawers have magnetic gaskets that create a positive seal to the front of the steel cabinet. The magnetic door gaskets are secured to the doors by rounded edges that lock into a retainer channel.

To remove and replace the door gasket:

1. Starting at any corner, pull the old gasket out of the retaining channel.
2. Soak the new gasket in warm water to make it pliable.
3. Push the rounded edge of the gasket into the retainer channel.

Fresh Food/Wine Reserve Door

Door removal is considered a 2-person job due to the weight of the door and the alignment needed when installing the door.

Caution: The articulating door hinges incorporate a substantial tension spring. It is important when removing or replacing the door to release the tension from the top and bottom hinge springs.

To remove the fresh food or wine reserve door:

1. Open the door.

WARNING: The following step is important for safe handling of an unloaded hinge.

2. On both the top and bottom hinges, turn the T-20 Torx screw counterclockwise until the screw aligns with the right side of the notch. (Spring tension released, position 0)

Spring tension released position

3. Close the door.

Note: In the following steps, have someone hold the door in the closed position.

4. Remove the two T-30 Torx screws that attach the door to the bottom hinge.

5. Remove the two T-30 Torx screws that attach the door to the top hinge.

To install the fresh food or wine reserve door:

Note: In the following steps, have someone place and hold the door in the closed position.

1. Install the two T-30 Torx screws that attach the door to the top hinge.
2. Install the two T-30 Torx screws that attach the door to the bottom hinge.
3. On both the top and bottom hinges, turn the T-20 Torx screw clockwise until the screw aligns with the left side of the notch. (Spring tension applied, position I)

Spring tension applied position

Customer Control

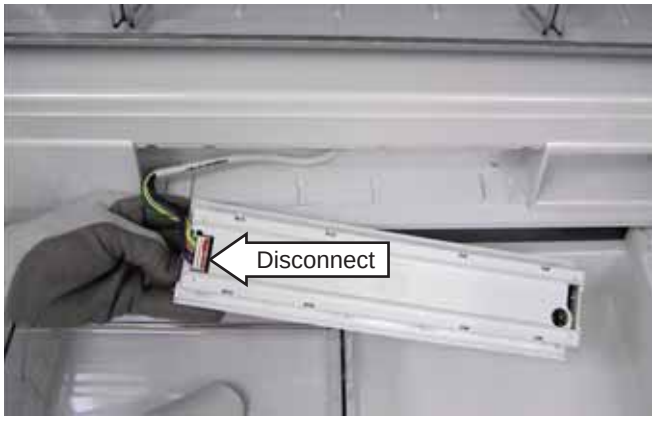
The customer control contains a magnetic reed switch that operates the upper section lighting. The reed switch is operated by a magnet that is attached to the bottom of the door with a Phillips-head screw. The door magnet can be replaced independently. The reed switch is integrated into the control and can only be replaced by replacing the customer control.

To remove the customer control:

1. Open the fresh food/wine reserve door and the freezer drawer.
2. Using a plastic putty knife, pry out either side of the customer control from the cabinet.

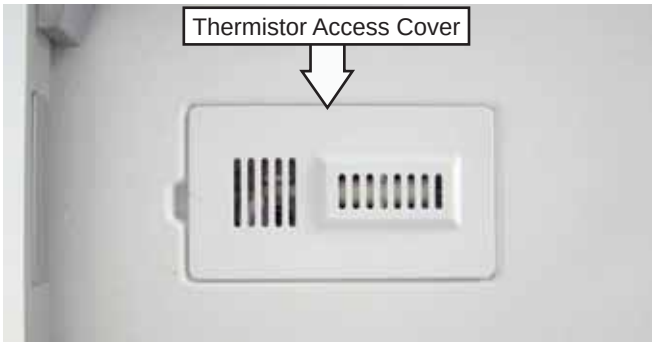
3. Grasp and pull out the customer control from the cabinet.

4. Disconnect the wire harness.

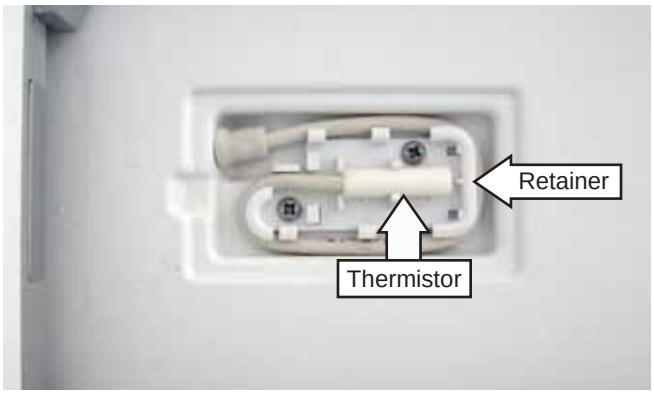


Air Temperature Thermistors

The fresh food, freezer, and customizable drawer compartments each utilize an air temperature thermistor. The wine reserve unit has 2 air temperature thermistors. Each thermistor is located inside its respective compartment on the right wall behind the thermistor access cover.



To access an air temperature thermistor, insert a flat blade screwdriver under the rear of the cover and gently pry the cover off. The thermistor will remain inserted in the thermistor retainer.



Note: Standard crimp bell connectors will not fit inside the thermistor recess. The replacement thermistor comes with in-line splices and heat shrink tubing in the thermistor kit.

To replace a thermistor:

1. Remove the original thermistor and wiring from the retainer.
2. Place the replacement thermistor next to the original thermistor.
3. Cut the wiring at a location that will match the original length when the replacement thermistor is spliced to it.
4. Splice the connections with the supplied splice connectors and heat shrink tubing.

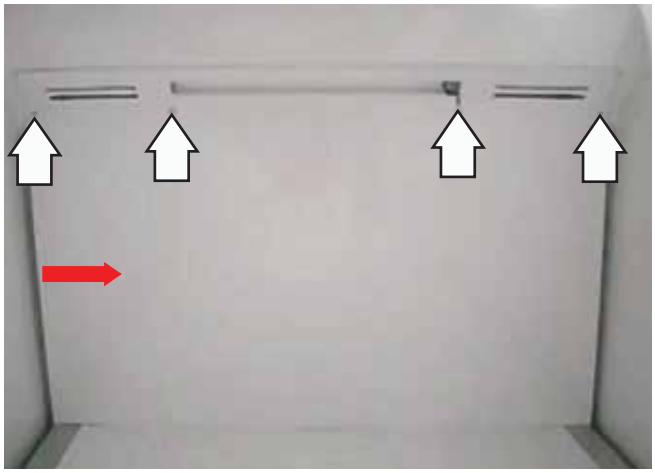
Fresh Food Evaporator Cover

Note: The upper interior section is commonly referred to as the fresh food section even though it may be set for wine. The bottom convertible drawer interior section is referred to as the freezer section even though it can be configured for fresh food or wine modes of operation. The center ice drawer will always be operating in freezer mode.

The fresh food evaporator cover is held to the back wall of the refrigerator with 7 Phillips-head screws.

To remove the fresh food evaporator cover:

1. Remove the drawers or shelves that are in front of the evaporator cover. (See ***Interior Shelves, Drawers, and Bins***.)
2. Remove the LED strip light from the ceiling. (See ***Interior Lights***.)
3. Remove the 4 Phillips-head screws from the ceiling front, and then pull the ceiling towards the right. Lower and remove the ceiling from the cabinet.



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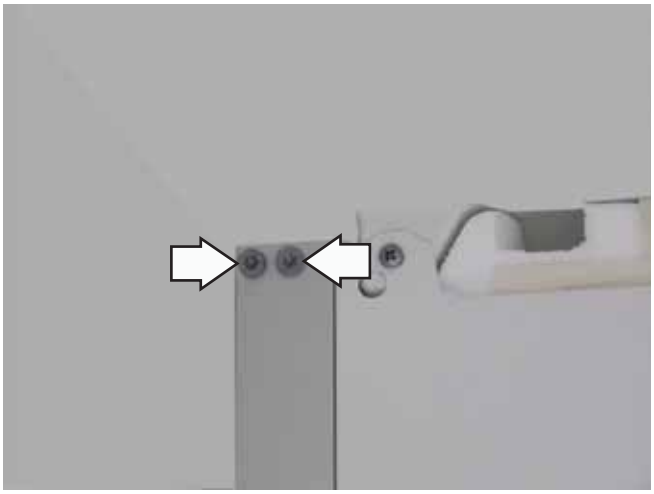
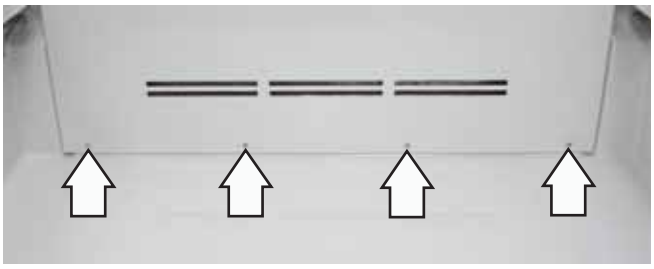
4. Remove the two T-25 Torx screws at the bottom of each shelf track.

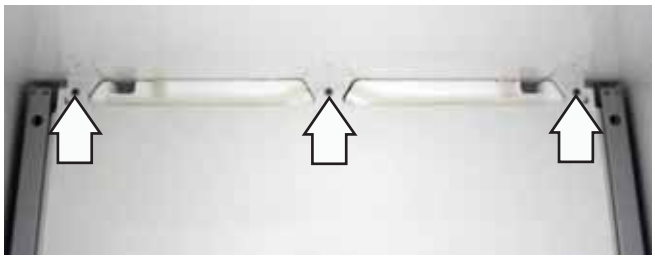
5. Remove the two T-25 Torx screws at the top of each shelf track and remove the tracks.



6. Remove the 4 Phillips-head screws from the bottom of the evaporator panel.



7. Remove the 3 Phillips-head screws from the top of the evaporator panel, and then pull the panel out of the cabinet.

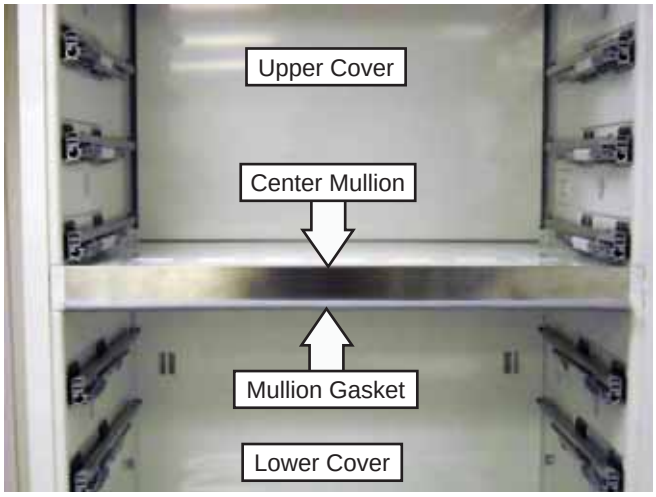


Note: In the following step, a gasket attached to the bottom of the Styrofoam™ evaporator cover seals the bottom of the cover to the front lip of the evaporator drain channel. To prevent breakage, care should be taken when removing the evaporator cover.

8. Carefully pull the Styrofoam evaporator cover out of the cabinet.

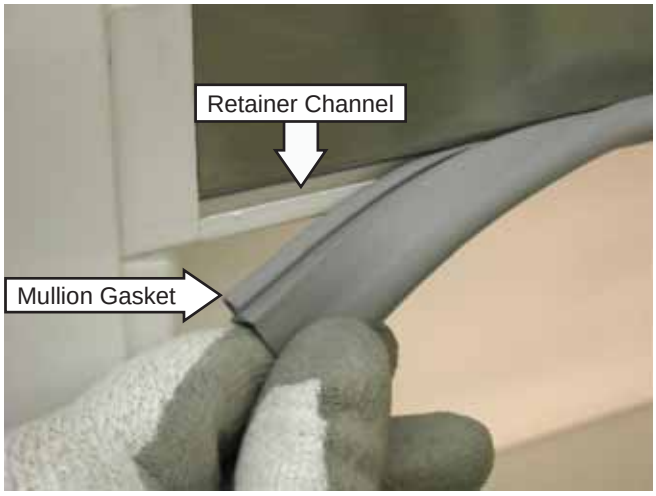
Wine Reserve Evaporator Cover

Note: The wine unit has upper and lower cooling zones that are separated by a center mullion strip. Accessing the evaporator requires removal of the center mullion strip and the upper and lower evaporator covers.



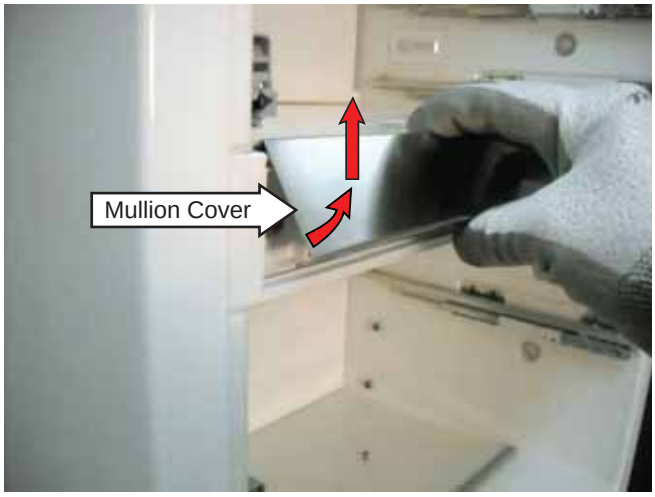
To remove the wine reserve evaporator cover:

1. Pull the mullion gasket (from either side) carefully out from the retainer channel.



2. Remove four T-20 Torx screws from the bottom of the center mullion front.

3. Pivot the center mullion cover out at the bottom, and then lift the cover off the mullion.

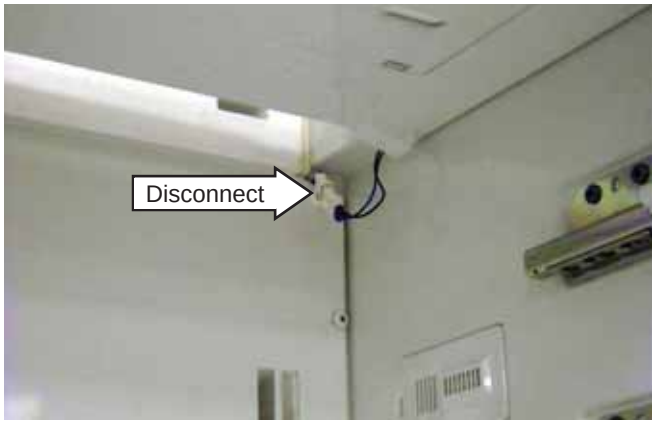


4. Remove a T-25 Torx (5/16-in. hex-head) screw from each side of the mullion.

5. Grasp and pull the center mullion out approximately 2 inches.

6. Underneath the mullion at the right-rear corner, locate and disconnect the mullion LED light harness.

7. Pull the center mullion out from the cabinet.



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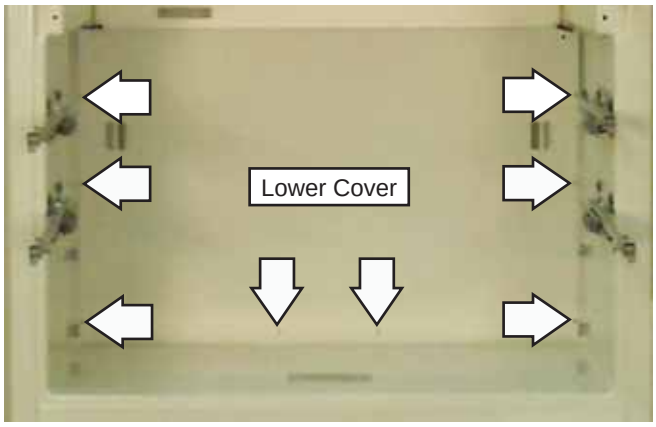
8. Remove the 8 Phillips-head screws on the lower cover.



9. Pull the right side of the lower cover out to expose connections on the left side.

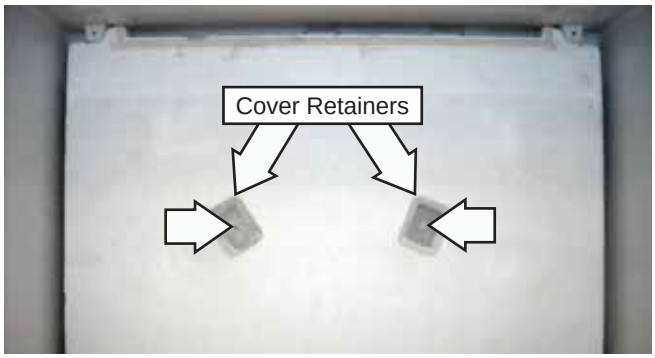
10. Disconnect the wall heater wire harness and remove the 7-mm hex nut, 2 lock washers, and ground wire from the left side of the lower cover.

11. Remove the lower cover from the cabinet.

12. Remove the four Phillips-head screws from the upper cover.

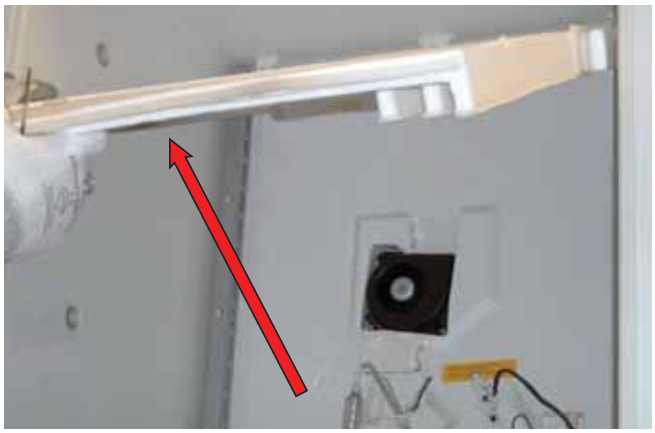
13. Remove the upper cover from the cabinet.

14. Remove the 2 Phillips-head screws and the 2 metal cover retainers from the Styrofoam cover.

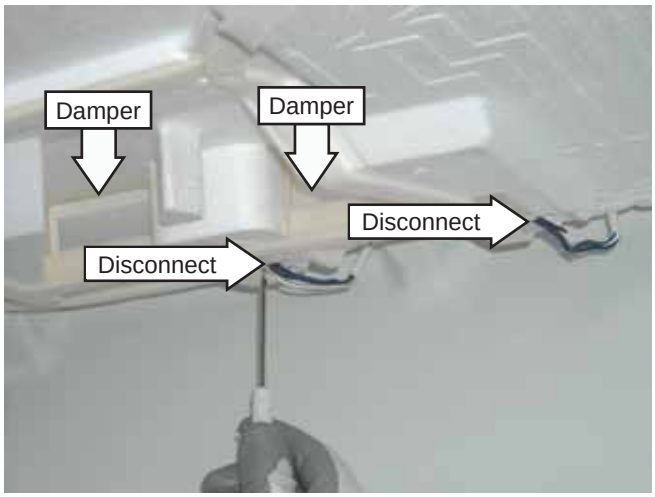


Caution: The Styrofoam evaporator cover contains 2 dampers that control the upper and lower cooling zone temperatures. In the following step, to prevent damage to attached damper wiring connectors, care must be taken when removing this cover.

15. Pull the bottom of the cover out from the evaporator drain channel and tilt it up at an angle to access the damper wiring at the top.



16. Using a small, flat blade screwdriver, press in the release tab and disconnect each freezer damper wire harness.



17. Remove the Styrofoam evaporator cover.

Fresh Food Evaporator Components

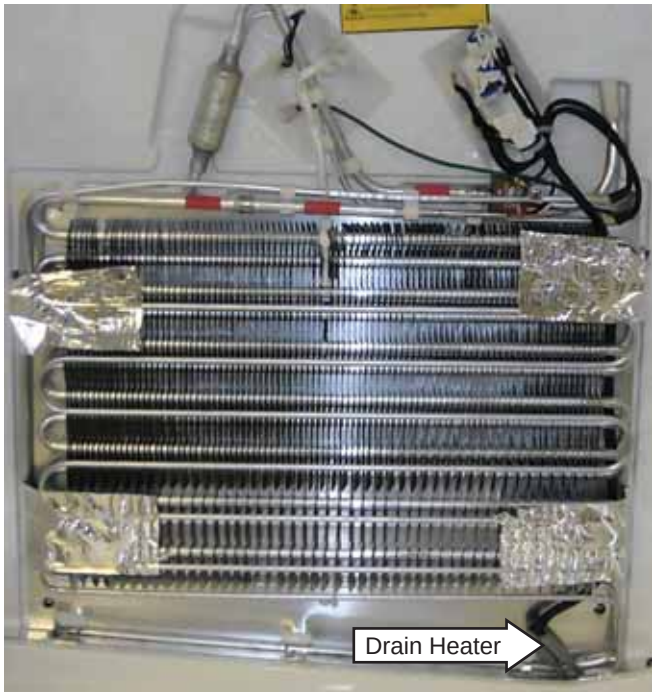
WARNING: Sharp edges may be exposed when servicing. Use caution to avoid injury. Wear Kevlar gloves or equivalent protection.

Thermal Protector

The fresh food defrost heater circuit is protected by two 160°F thermal fuses assembled as a single thermal protector that is pre-wired with 2 connectors. Each side of the heater circuit is fused to protect from thermal runaway. The thermal protector clips onto the suction line. It is necessary to remove the evaporator cover to access the thermal protector. (See *Fresh Food Evaporator Cover*.)

Defrost Drain Heater

The defrost drain heater is a 4-inch long resistive heater that is inserted into the drain opening. The heater is not attached and easily pulls out of the drain. The wiring is routed on the right side of the evaporator and connects above the evaporator into a single connector. It is necessary to remove the evaporator cover to access the defrost drain heater. (See *Fresh Food Evaporator Cover*.)



Drain heater removed from drain

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Defrost Heater

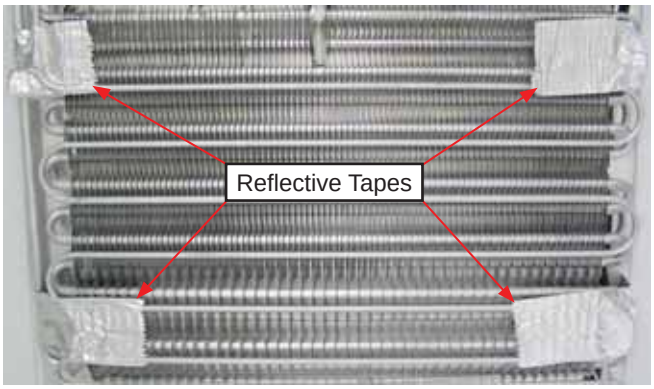
The evaporator uses a wraparound serpentine defrost heater. The evaporator is attached to 4 brackets on the reflective heat shield. To access the defrost heater, it is necessary to remove the evaporator cover.

To remove the fresh food defrost heater:

1. Remove the evaporator cover. (See *Fresh Food Evaporator Cover*.)
2. Pull the defrost drain heater out of the drain. (See **Defrost Drain Heater**, this section.)

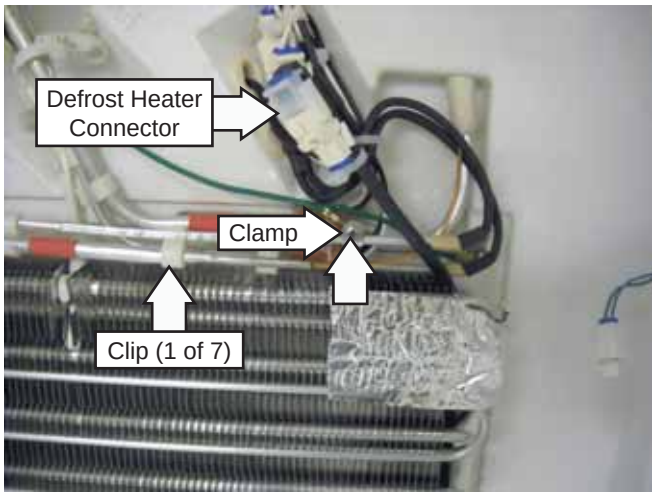
Note: In the following step, a Styrofoam air block is located behind each reflective tape.

3. Peel back the 4 reflective tapes and remove the 4 air blocks from the sides of the evaporator.



4. Open the 7 crimped tabs located along the bottom of the defrost heater.

5. Disconnect the defrost heater connector.
6. Remove the Phillips-head screw, 7-mm nut, 3 lock washers, ground wires, and clamp from the defrost heater.
7. Remove the 7 clips that attach the heater to the evaporator.



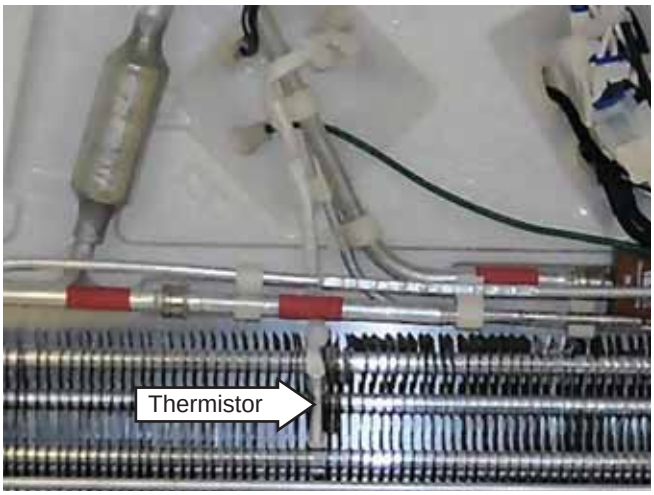
8. Remove the 2 plastic ties from the bottom of the heater.

9. Lift the evaporator from the 4 brackets on the reflective heat shield.
10. Carefully pull the defrost heater off the front and back of the evaporator.

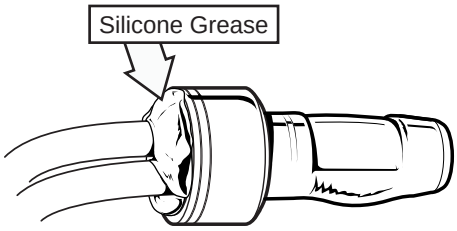
(*Continued next page*)

Evaporator Thermistor

The evaporator thermistor is inserted into a holder in the top of the evaporator. The evaporator cover must be removed to access the evaporator thermistor. (See *Fresh Food Evaporator Cover*.)



Note: When replacing the evaporator thermistor, splice a new thermistor into the harness using connectors and procedures approved for damp/wet conditions.

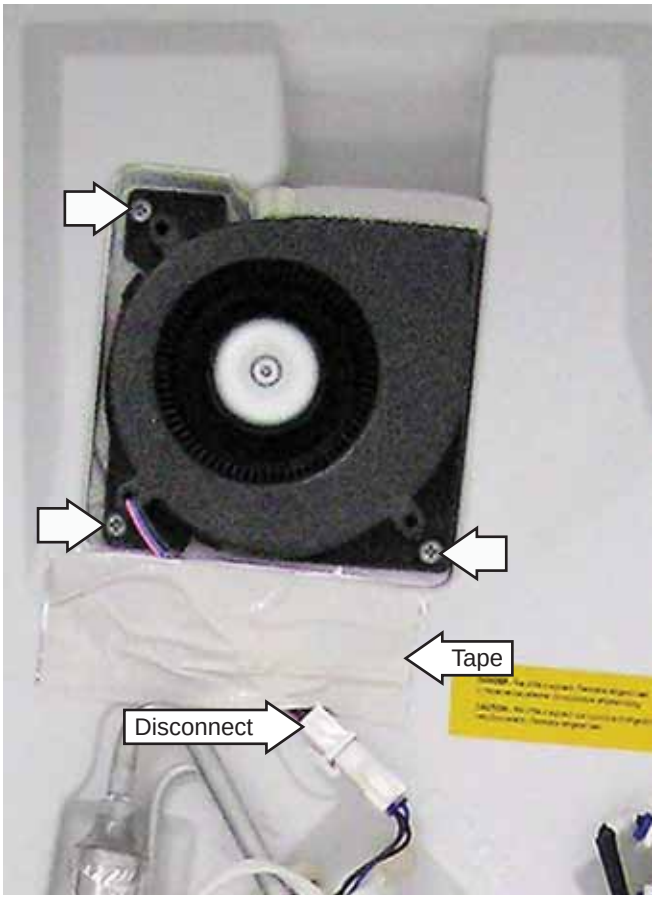


Fresh Food Fan Motor

The fresh food fan motor is a variable speed, PWM (pulse-width modulated), 12-VDC motor with rpm feedback to the main board. The fan motor is located above the evaporator in a recess in the back wall of the fresh food compartment. To access the fan motor, it is necessary to remove the evaporator cover.

To remove the fresh food fan motor:

1. Remove the evaporator cover. (See *Fresh Food Evaporator Cover*.)
2. Peel back the tape and disconnect the fan motor wire harness.
3. Remove the 3 Phillips-head screws that attach the fan motor to the recess in back wall.



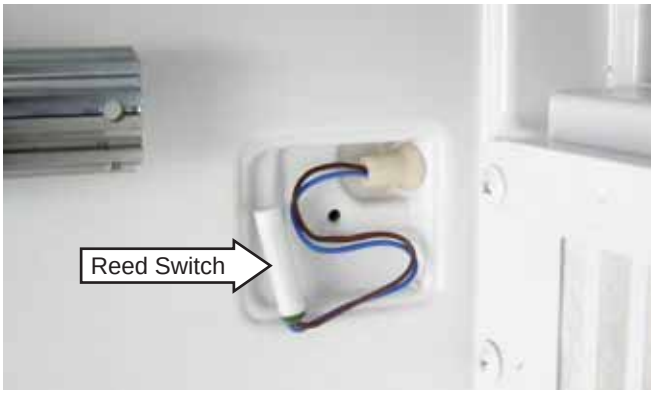
Note: The fresh food fan motor will run on a 9-volt battery for testing purposes. Use jumper wires to connect the red fan wire to the positive battery terminal and the blue fan wire to the negative battery terminal.

Drawers

The freezer drawer and the convertible drawer each utilize a magnetic reed switch to signal the main board the drawer is open. This reed switch is used to operate the LED lighting for the drawer and adaptive defrost input. The magnet is snapped into the back of the left slide.

The reed switch is located behind a cover in the left-rear corner of the liner. The cover is attached with a Phillips-head screw.

When installing the reed switch, use standard, moist environment splicing procedures.

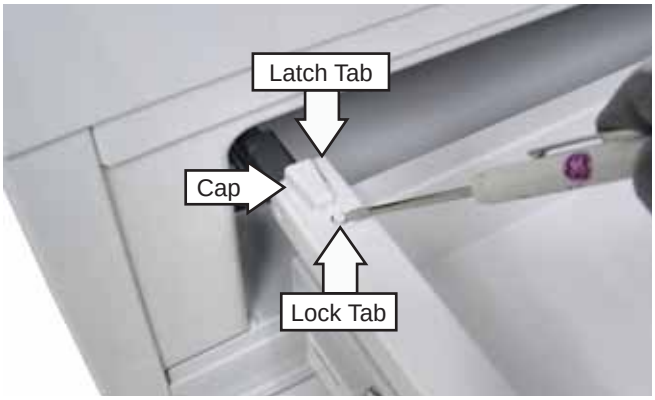


Note: To remove the convertible drawer, the freezer drawer must be removed first.

To remove either drawer:

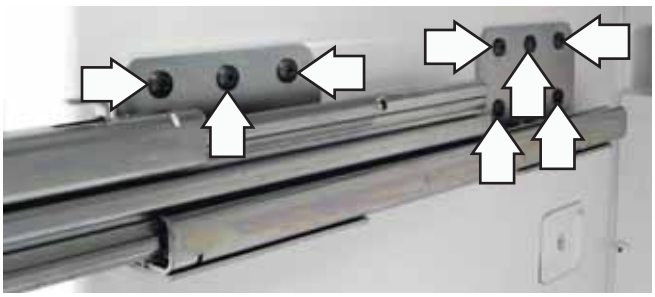
1. Pull the drawer out and remove the front-corner thumb screws.

2. Using a small, flat blade screwdriver, pry up each lock tab, lift up the latch tab, and then pull the cap forward.



3. Lift the drawer bin off the slides.
4. Lift the drawer front and drawer rails off the slides and remove the assembly from the cabinet.

Note: Each freezer drawer slide is attached to the cabinet with 6 Phillips-head screws. Each convertible drawer slide is attached with 8 Phillips-head screws.



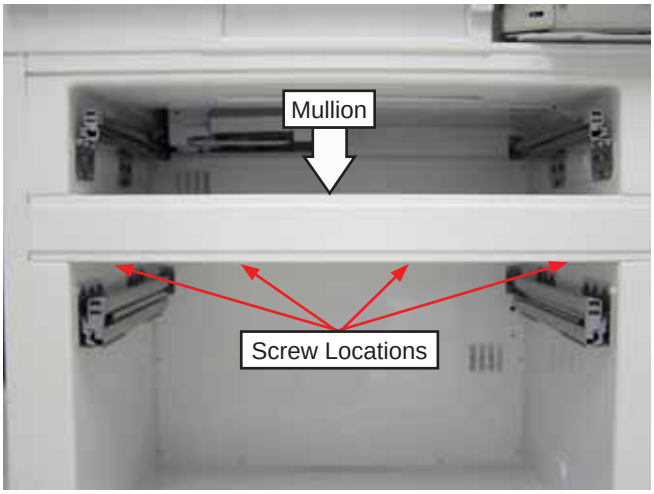
Center Mullion and Heater

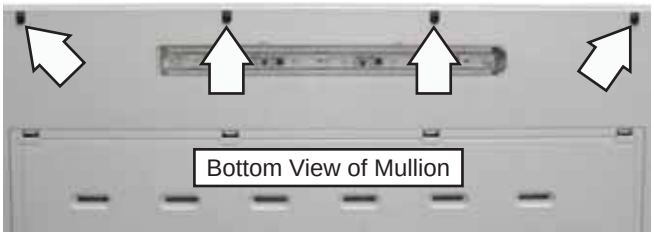
The center mullion houses the convertible drawer LED strip lights and the mullion heater.

The center mullion heater operates on 120 VAC and has an approximate resistance value of 48 Ω.

To remove the center mullion and heater:

1. Remove both drawers. (See ***Drawers***.)
2. Remove the four T-20 Torx screws from under the front of the mullion.





3. Grasp and pull off the center mullion front cover from the cabinet, and then carefully place it aside.

4. Peel back the foam strip from each side of the mullion.

5. Remove a T-25 Torx (5/16-in. hex-head) screw from each side of the mullion.

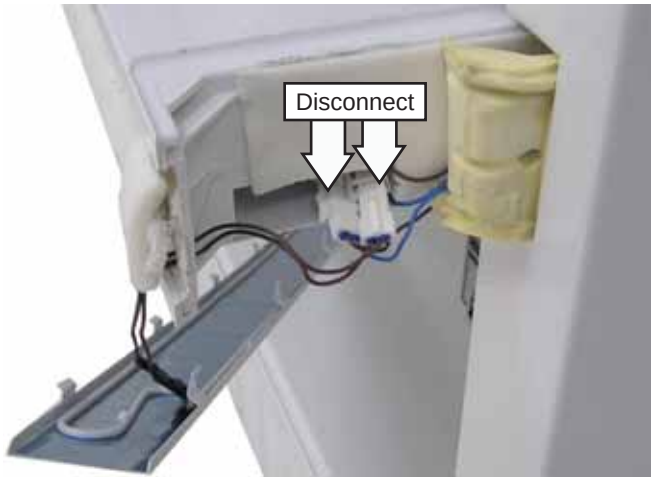
(*Continued next page*)

Note: In the following step, a foam insulation block is located behind each side of the mullion.

6. Note the orientation of the side foam insulation blocks, and then grasp and pull the mullion out approximately 4 inches.

7. Disconnect the convertible drawer LED light and the center mullion heater wire harnesses.

Note: When reconnecting these harnesses, if the convertible drawer LED light connector will not latch onto the connector, reverse the connections.



8. Pull the center mullion from the cabinet.

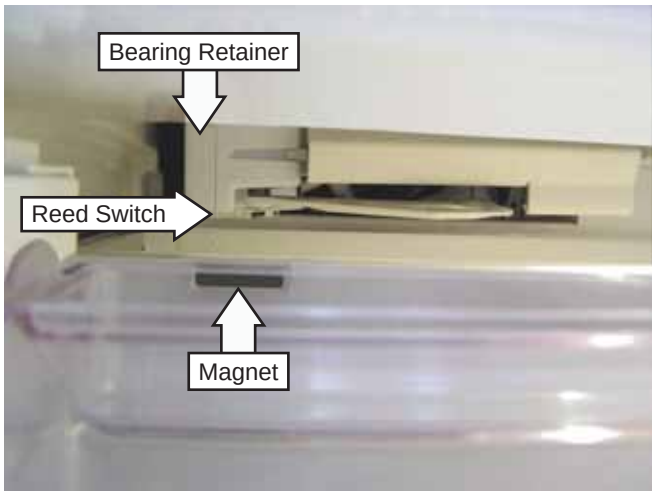
Note: The center mullion front cover and mullion heater are available as separate parts.

Icemaker

The temperature set range on this drawer is from -6° to +6° F.

The freezer drawer contains an ice bin on the left and a storage area on the right.

The ice bin contains a magnet that activates a reed switch on the bottom of the icemaker when the drawer is closed. Due to the location of the icemaker, to harvest ice, the ice bin must be locked into the left-most position in the drawer.

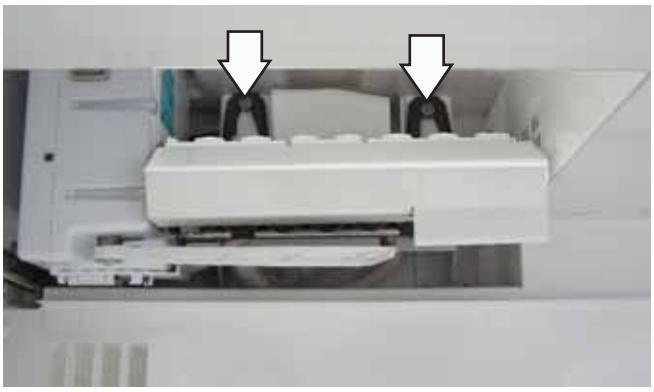


(*Continued next page*)

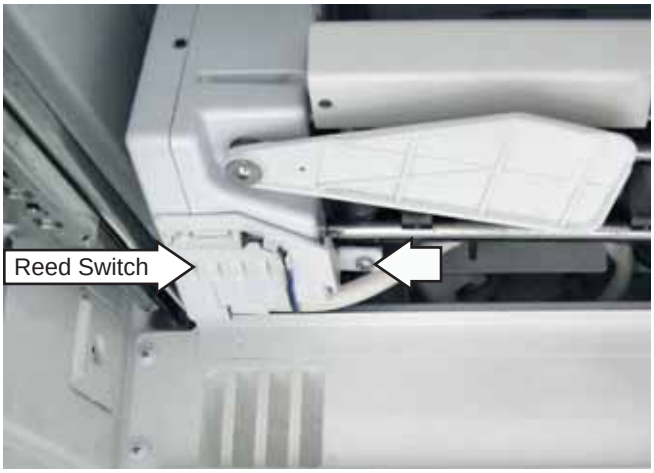
To remove the icemaker:

1. Remove the center mullion. (See ***Center Mullion and Heater***.)

2. Remove the two T-20 Torx screws that attach the icemaker to the icemaker bracket.

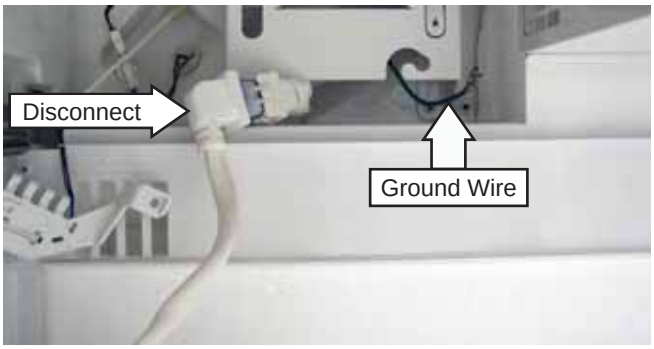


3. Pull the icemaker out slightly, and then remove the T-20 Torx screw and the reed switch from the bottom of the icemaker.



4. Lower the icemaker and disconnect the wire harness.

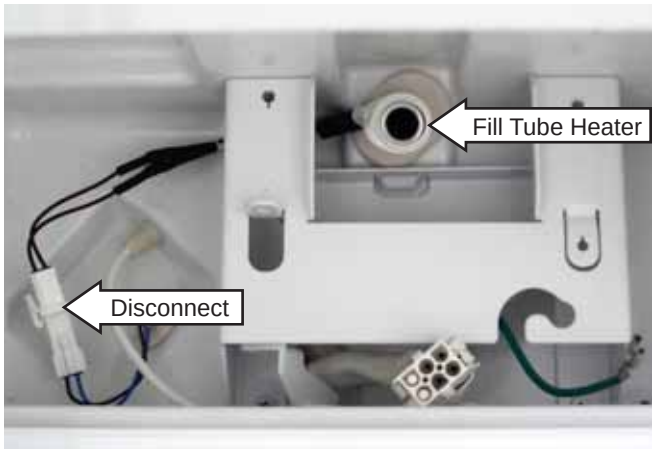
Note: The icemaker has a ground wire that will disconnect from the icemaker when it is lowered. When installing the icemaker, reconnect the ground wire.



Icemaker Fill Tube Heater

The icemaker utilizes a heater that is positioned around the fill tube. To access the heater, it is necessary to remove the icemaker. (See ***Icemaker***.) The heater can then be disconnected and pulled off the fill tube.

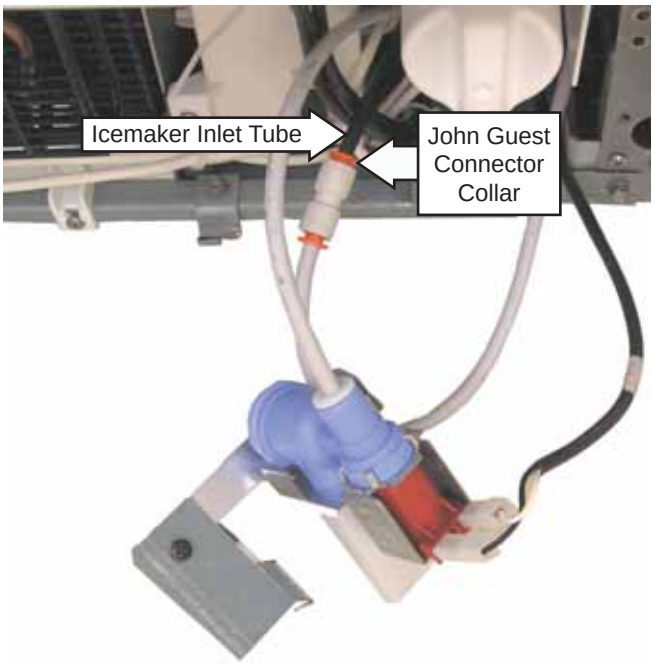
The fill tube heater is energized during the defrost cycle. The heater operates on 12 VDC and has an approximate resistance value of 41 Ω.



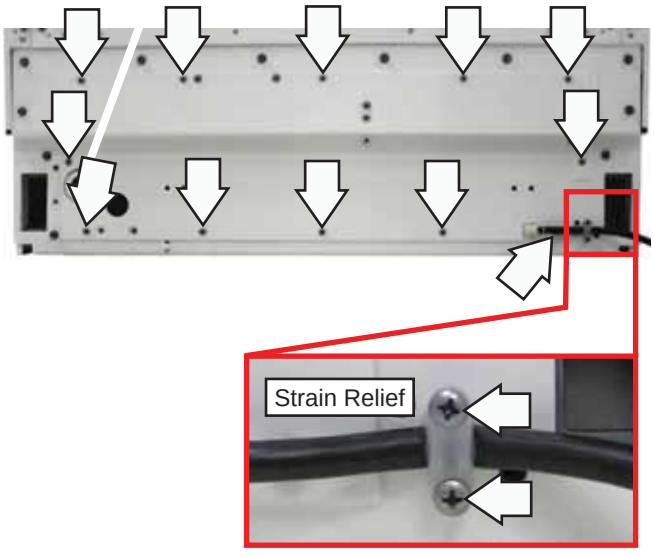
Icemaker Inlet Tube

To replace the icemaker inlet tube:

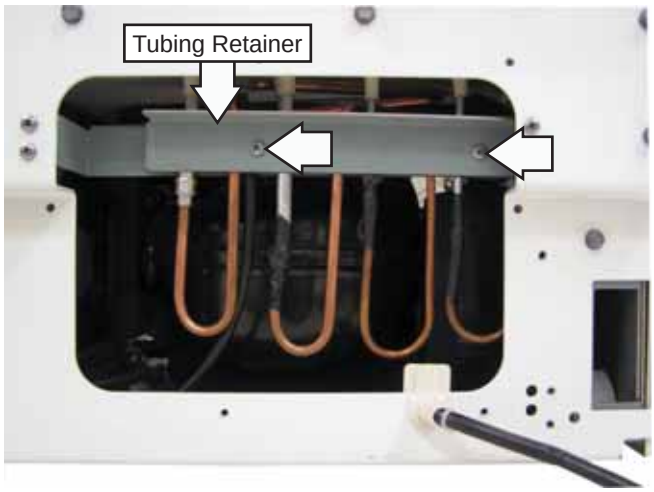
1. Remove the refrigerator or wine reserve from its installation. (See *Installation Instructions*.)
2. Remove the water valve. (See *Water Valve*, follow steps 1 thru 3.)
3. Press the John Guest connector collar and remove the icemaker inlet tube from the union connector.



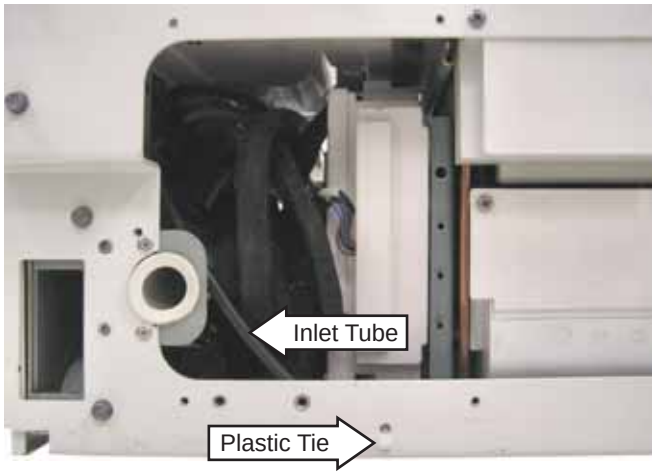
4. Remove the 2 Phillips-head screws that attach the power cord strain relief from the back of the cabinet.
5. Remove the 12 Phillips-head screws and the access cover.



6. Remove the 2 Phillips-head screws and the tubing retainer.



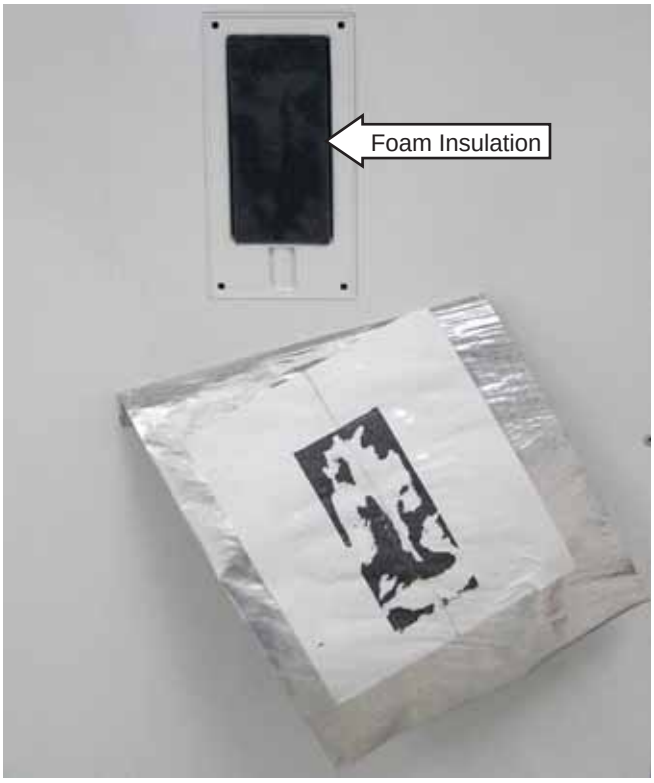
7. Remove the plastic tie that attaches the inlet tube to the back of the cabinet.



8. Peel back the reflective tape from the back of the cabinet.

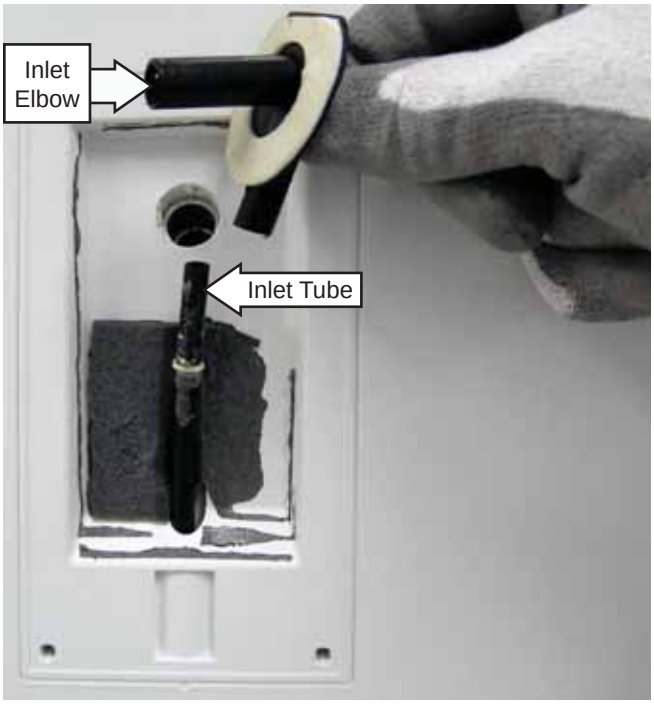
(*Continued next page*)

9. Remove the foam insulation covering the icemaker inlet tube.



10. Pull out and remove the inlet elbow.

11. Pull the icemaker inlet tube out from the back of the cabinet.



Freezer Evaporator Cover

The freezer evaporator cover is located behind the freezer back wall and top air duct.

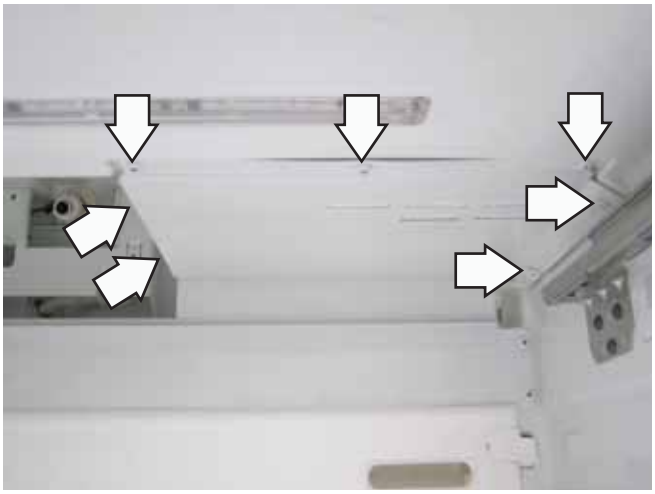
To remove the freezer evaporator cover:

1. Remove the icemaker from the freezer compartment. (See ***Icemaker***.)

2. Remove the Phillips-head screws that attach the left- and right-side convertible drawer tracks. (See ***Drawers***.)

3. Pull the right-side freezer drawer slide forward.

4. Remove the 7 Phillips-head screws and the freezer damper cover from the ceiling.



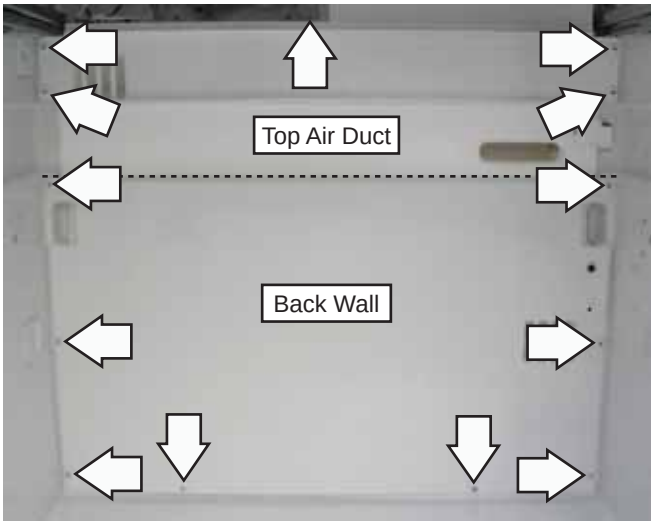
Note: In the following step, the freezer damper wire harness connection is recessed in the back of the damper assembly,

5. Lower the damper. Using a small, flat blade screwdriver, press in the release tab and disconnect the freezer damper wire harness.

(*Continued next page*)

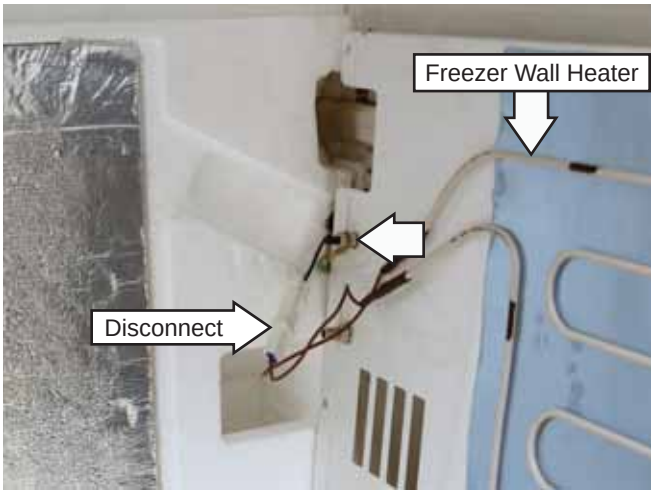
6. Remove the 5 Phillips-head screws and the top air duct.

7. Remove the 8 Phillips-head screws from the back wall.

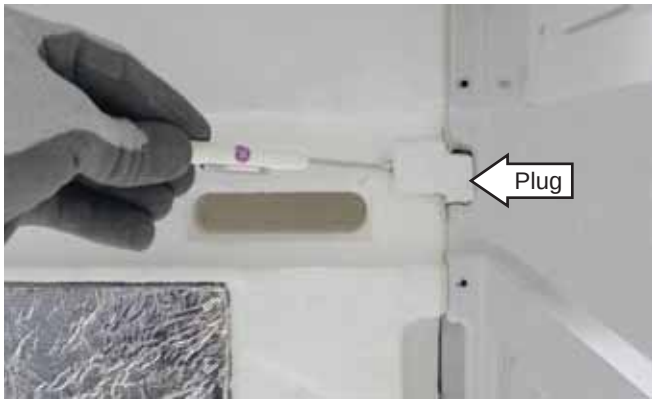


8. Pull the left side of the back wall out to expose connections on the right side.

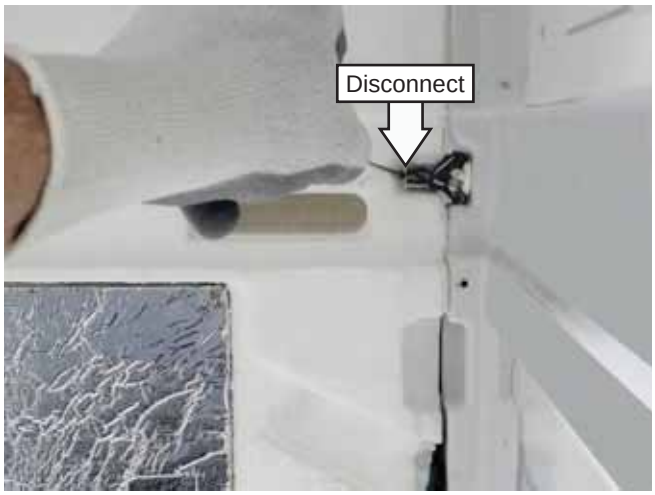
9. Disconnect the freezer wall heater wire harness and remove the 7-mm hex nut, 2 lock washers, and ground wire from the right side of the back wall.



10. Insert a small, flat blade screwdriver and pry out the Styrofoam plug that covers the convertible drawer damper connector.



11. Using a small, flat blade screwdriver, press in the release tab and disconnect the damper wire harness.



12. Pull the bottom of the Styrofoam cover out from the evaporator drain channel and tilt it up at an angle to access the fan wiring behind the cover.

(*Continued next page*)

13. Reach in behind the cover, and then locate and disconnect the freezer fan wire harness. (Harness type shown below.)

Caution: To prevent damage to fan motor wiring in the following step, make sure the freezer fan wire harness is disconnected.

Rear view of evaporator cover

14. Pull the evaporator cover out from the cabinet.

Freezer Evaporator Components

WARNING: Sharp edges may be exposed when servicing. Use caution to avoid injury. Wear Kevlar gloves or equivalent protection.

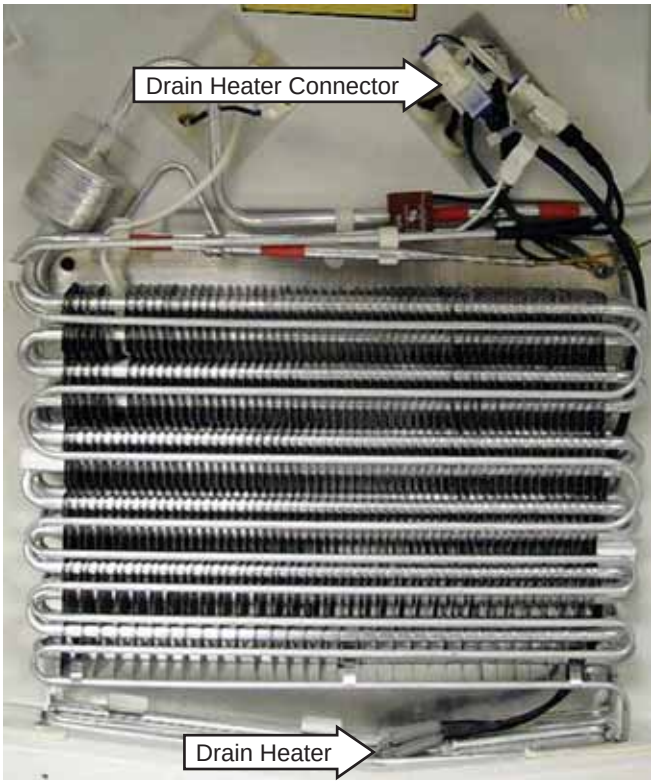
Thermal Protector

The freezer defrost heater circuit is protected by two 160°F thermal fuses assembled as a single thermal protector that is pre-wired with 2 connectors. Each side of the heater circuit is fused to protect from thermal runaway. The thermal protector clips onto the suction line. It is necessary to remove the evaporator cover to access the thermal protector. (See *Freezer Evaporator Cover*.)

(*Continued next page*)

Defrost Drain Heater

The defrost drain heater is a 4-inch long resistive heater that is inserted into the drain opening. The heater is not attached and easily pulls out of the drain. The wiring is routed on the right side of the evaporator and connects above the evaporator into a single connector. It is necessary to remove the evaporator cover to access the defrost drain heater. (See *Freezer Evaporator Cover*.)



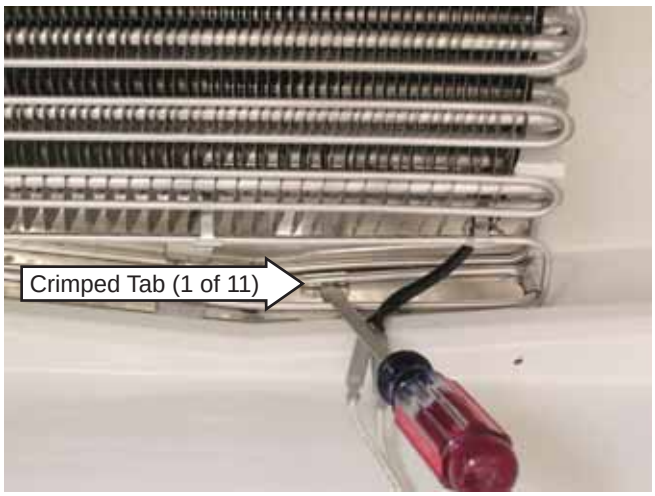
Drain heater removed from drain

Defrost Heater

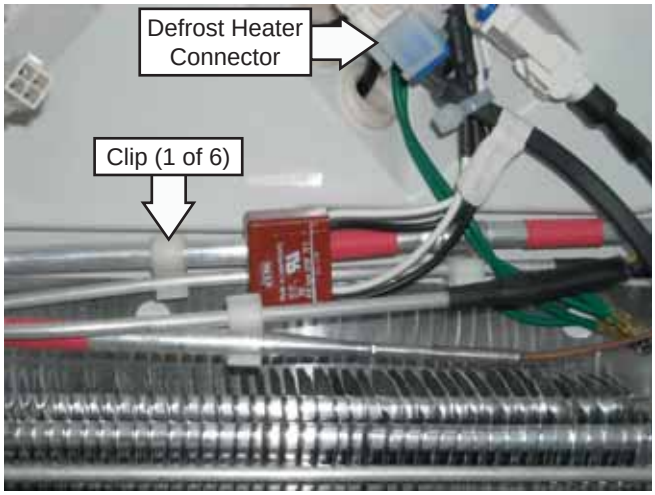
The evaporator uses a wraparound serpentine defrost heater. The evaporator is attached to 4 brackets on the reflective heat shield. To access the defrost heater, it is necessary to remove the evaporator cover. (See *Freezer Evaporator Cover*.)

To remove the freezer defrost heater:

1. Remove the evaporator cover. (See *Freezer Evaporator Cover*.)
2. Pull the defrost drain heater out of the drain. (See **Defrost Drain Heater**, this section.)
3. Open the 11 crimped tabs located along the bottom of the defrost heater.



4. Disconnect the defrost heater connector.
5. Remove the Phillips-head screw, 7-mm nut, 3 lock washers, ground wires, and clamp from the defrost heater.
6. Remove the 6 clips that attach the heater to the evaporator.



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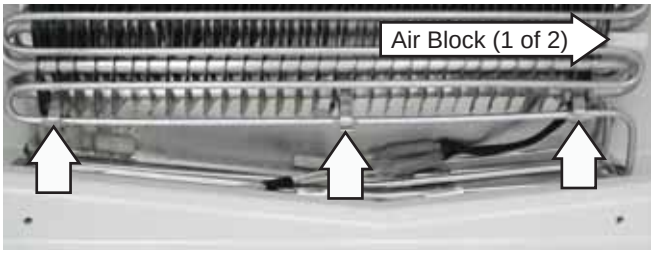
7. Remove the Styrofoam air blocks (1 each side) from the evaporator.

8. Remove the 3 aluminum ties from the bottom of the heater.

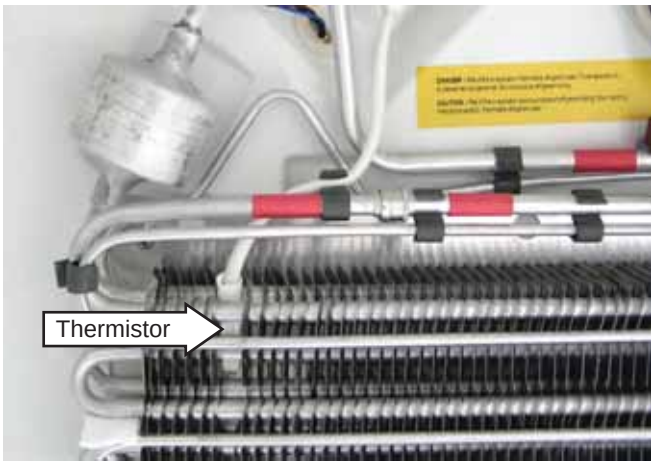


9. Lift the evaporator from the 4 brackets on the reflective heat shield.

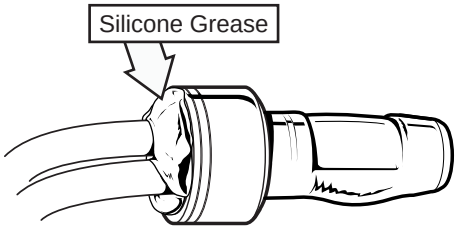
10. Carefully pull the defrost heater off the front and back of the evaporator.

Evaporator Thermistor

The evaporator thermistor is inserted into a holder in the top of the evaporator. The evaporator cover must be removed to access the evaporator thermistor. (See *Freezer Evaporator Cover*.)



Note: When replacing the evaporator thermistor, splice a new thermistor into the harness using connectors and procedures approved for damp/wet conditions.

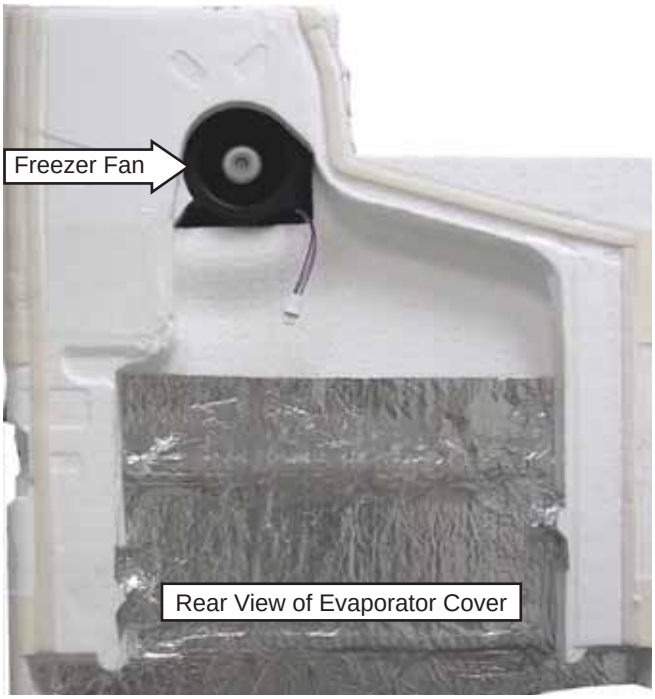


Freezer Fan Motor

WARNING: Sharp edges may be exposed when servicing. Use caution to avoid injury. Wear Kevlar gloves or equivalent protection.

The freezer fan motor is a variable speed, PWM, 12-VDC motor with rpm feedback to the main board. The fan motor is attached to the back of the evaporator cover and comes as part of the cover assembly.

To access the fan motor, it is necessary to remove the evaporator cover. (See *Freezer Evaporator Cover*.)



Note: The freezer fan motor will run on a 9-volt battery for testing purposes. Use jumper wires to connect the red fan wire to the positive battery terminal and the blue fan wire to the negative battery terminal.

Evaporator

WARNING: Sharp edges may be exposed when servicing. Use caution to avoid injury. Wear Kevlar gloves or equivalent protection.

The 30-in. Built-in Monogram Convertible Unit evaporator requires the use of LOKRING for replacement due to aluminum tubing.

There are 2 methods for replacement or repair of the evaporator depending on the leak location.

Method #1: Leak in the evaporator or the factory LOKRING connection. (No leak at capillary tube joint.)

1. Remove or relocate the red tape located to the right of both factory ring connectors.

2. Clean the tubing with emery cloth or Scotch-Brite™ pad.

3. Cut the tubing close to the right side of the factory ring connectors

4. Install the new evaporator and mark the replacement tubing to the length of the cabinet tubing.

Note: In the following step, tubing should be cut to provide an overlap of the 2 tubes. (This allows for the tubing to bottom out in the connector and holds the connector in place while applying the tool.)

5. Clean the replacement evaporator tubing with emery cloth or Scotch-Brite pad and cut to length.

(*Continued next page*)

6. Apply 3 drops of Lokprep approximately 1/8 inch from each end of the tubing to be connected, and then insert the Lokring connector and rotate it one full revolution to evenly disperse the Lokprep.

Caution: Avoid applying Lokprep into the end of the tubing to be connected.

7. Using two WR97X10044 (5/16-in. to 5/16-in. aluminum) LOKRING connectors, make the 2 tubing connections.

Note: Refer to Service Guide #31-9067 for additional information using the LOKRING method.

8. Allow 3 minutes for the LokPrep to cure before pressurizing the sealed system with nitrogen. Leak-check the connections using bubble solution WX05X10507.

Method #2: Leak at the evaporator capillary tube joint.

This repair is similar to the standard replacement procedure using two WR97X10044 (5/16-in. to 5/16-in. aluminum) LOKRING connectors.

Connector WR97X10035 (5/16-in. to .079) and 5 inches of straight 5/16-in. tubing is required for this capillary connection.

1. Clean the capillary tube with emery cloth or Scotch-Brite pad, and then score and snap it off from the evaporator.

2. Measure 5 inches back from the end of the evaporator inlet tubing and mark. Clean and cut the tubing at this location.

3. Connect the 5/16-in. copper extension tube to the evaporator using a WR97X10044 connector.

Note: The copper extension tube is required. If the capillary tube connector (brass) is used for an aluminum to copper connection, corrosion of the connection will result.

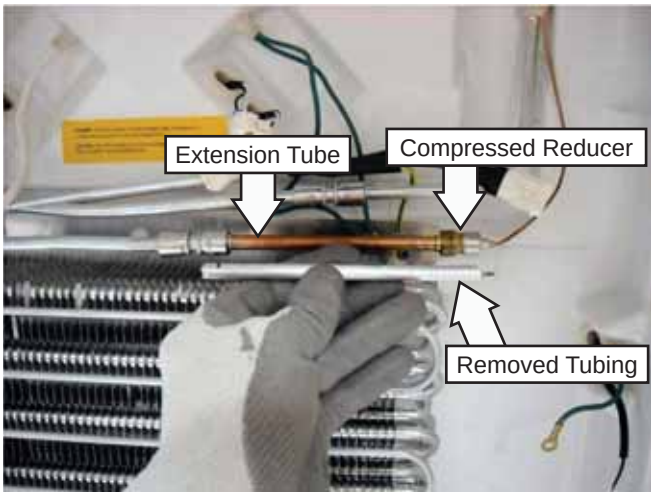
(*Continued next page*)

4. Attach the capillary tubing to the copper extension tube using the WR97X10035 (5/16-in. to .079) capillary-reducing connector.

Note: When using a capillary-reducing connector, make sure the capillary tube protrudes thru the opposite end of the connector.

5. Since this connector does not have an internal stop, bend the capillary tube slightly at the opening to create a stop.

6. Pull the capillary tube out 1/8 inch, apply a single drop of LokPrep, and reinsert before compression.



Toekick and Vent Panel

The toekick and vent panel must be removed to access the system tray.

To remove the toekick and vent panel:

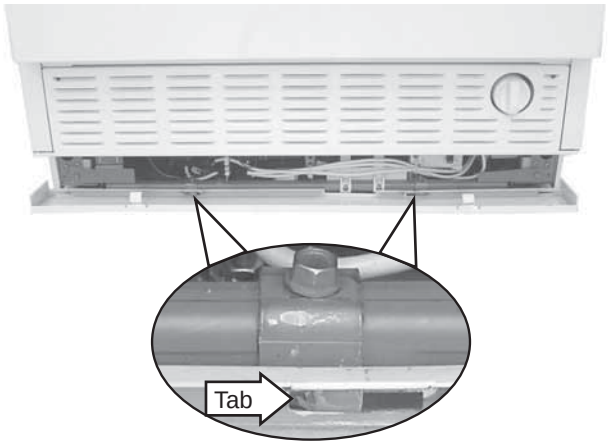
Note: Installation instructions permit a removable wood toekick panel to be installed on the unit provided it is secured with Velcro® or magnets.

1. Remove the wood or stainless steel convertible drawer panel. (See ***Installation Instructions***.)

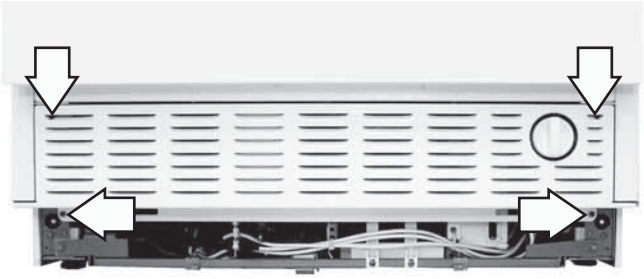
2. Insert a large, flat blade screwdriver between the top of the toekick and the bottom of the vent panel, as shown in the photo below.

3. Push the screwdriver down while pulling out the top of the vent panel. Repeat on opposite side.

4. Lift the toekick off the bottom 2 tabs.



5. Remove the 2 Phillips-head screws from the bottom and 2 recessed Phillips-head screws from the top of the vent panel.



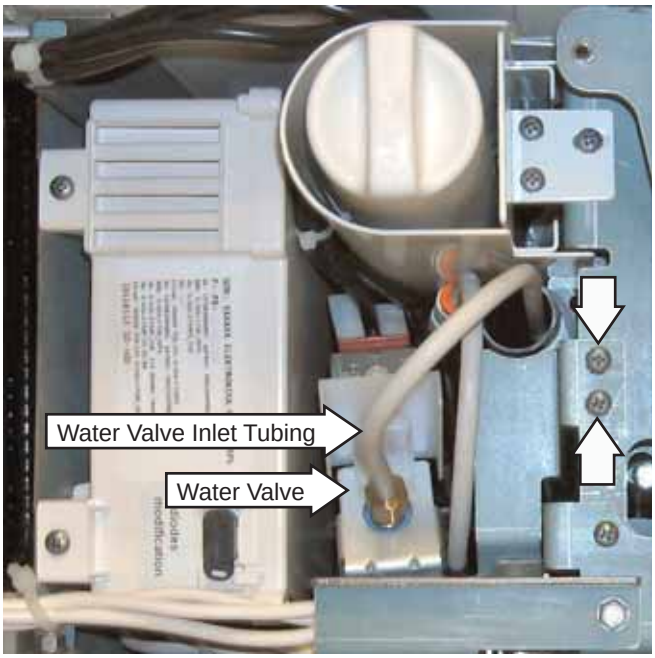
Water Valve

The water valve is serviceable from the front of the unit. To access or replace the icemaker water valve, it is necessary to remove the toekick and vent panel.

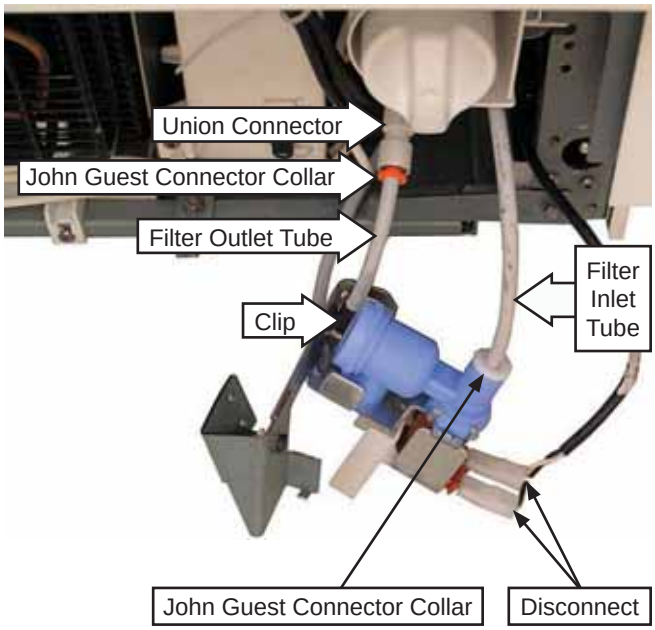
The water valve coil has an approximate resistance value of 180 Ω.

To replace the water valve:

1. Remove the toekick and vent panel. (See ***Toekick and Vent Panel***.)
2. Remove the water valve inlet tubing from the water valve.
3. Remove the 2 Phillips-head screws and lock washers that attach the water valve to the cabinet.
4. Rotate the water valve counterclockwise and pull the valve out of the cabinet.



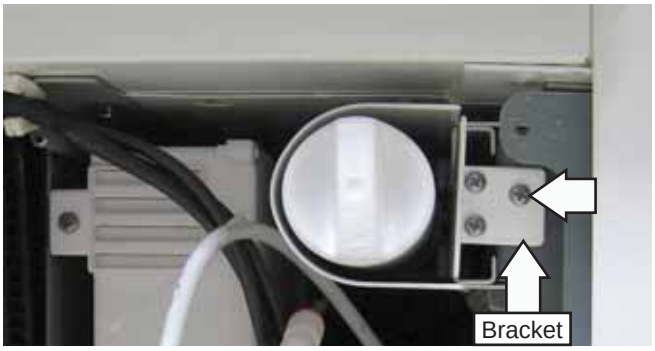
5. Press the John Guest connector collar and remove the filter inlet tube from the water valve.
6. Press the John Guest connector collar and remove the filter outlet tube from the union connector.
7. Remove the filter outlet tube and clip from the water valve bracket.
8. Disconnect the 2 wires from the water valve.



Filter Head

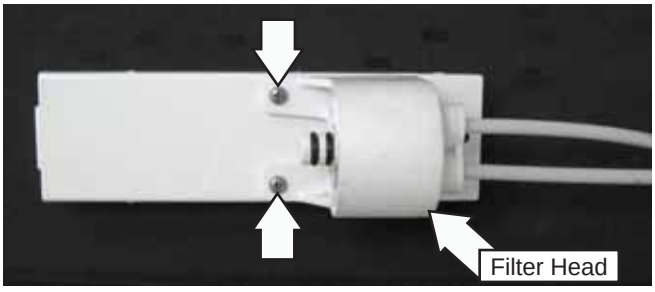
To remove the filter head:

1. Remove the water valve. (See ***Water Valve***, follow steps 1 thru 6.)
2. Remove the Phillips-head screw that attaches the filter head bracket to the right-side frame.



3. Pull the filter head forward.
4. Remove the 4 Phillips-head screws (2 on each side) that attach the filter head cover.

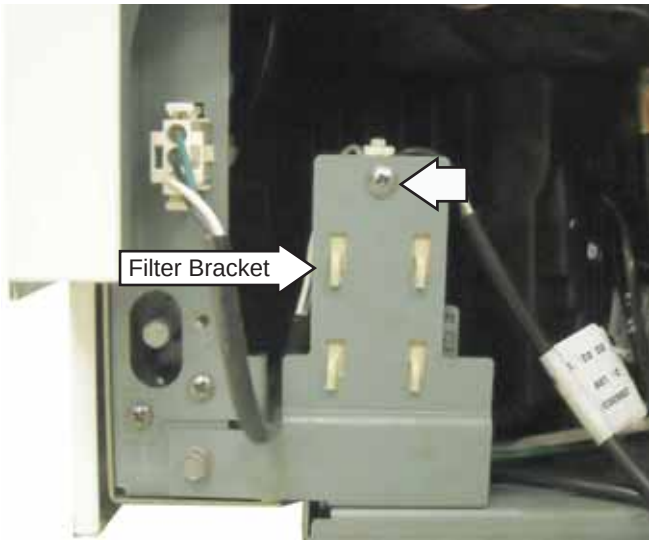
5. Remove the 2 Phillips-head screws from the filter head.



EMI Filter

The EMI filter is located on the left side of the machine compartment. The EMI filter is attached to the filter bracket with a Phillips-head screw. The toeplate and vent panel must be removed to access the inverters. (See ***Toekick and Vent Panel***.)

Note: When installing the EMI filter, ensure all filter wiring is connected to the correct terminals.



Check the EMI filter for approximate resistance value at the following locations:

White (neutral input) to white (neutral output) - 0 Ω

Black (line input) to black (line output) - 0 Ω

White (neutral input) to black (line input) - 470K Ω

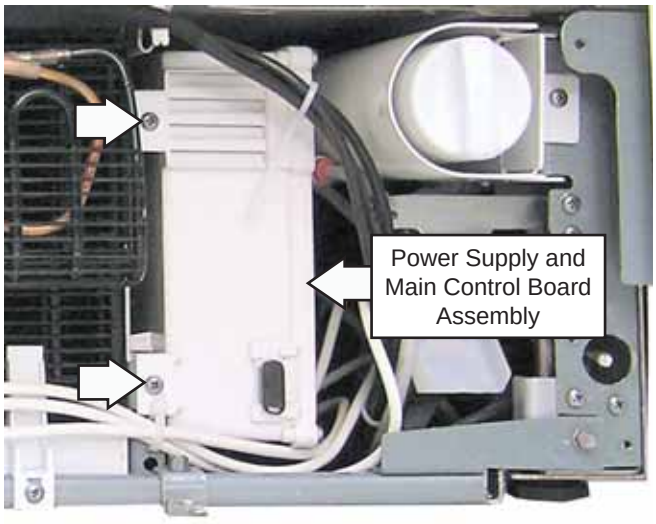
Power Supply and Main Control Board Assembly

The power supply and main control boards are installed in a housing located on the right side of the system tray. The toeplate and vent panel must be removed to access the power supply and main control board assembly. (See *Toekick and Vent Panel*.)

The power supply and main control board assembly is ordered as a single part number.

To remove the power supply and main control board assembly:

1. Remove the toeplate and vent panel. (See *Toekick and Vent Panel*.)
2. Remove the 2 Phillips-head screws that attach the power supply and main control board assembly to the right side of the center compartment.

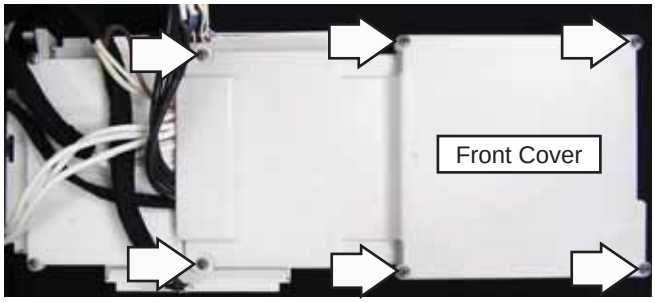


Caution: In the following step, to avoid damage to wiring, monitor the power supply and main control board assembly wiring as the assembly is pulled completely out of the system tray.

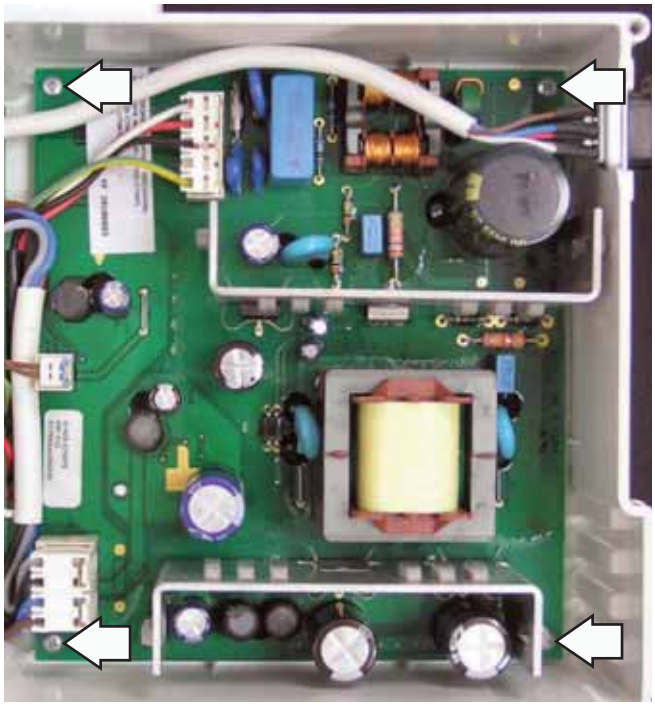
3. Pull the power supply and main control board assembly forward out of the cabinet.

Power Supply Board

To access the power supply board, it is necessary to remove 6 Phillips-head screws and the front cover from the housing.



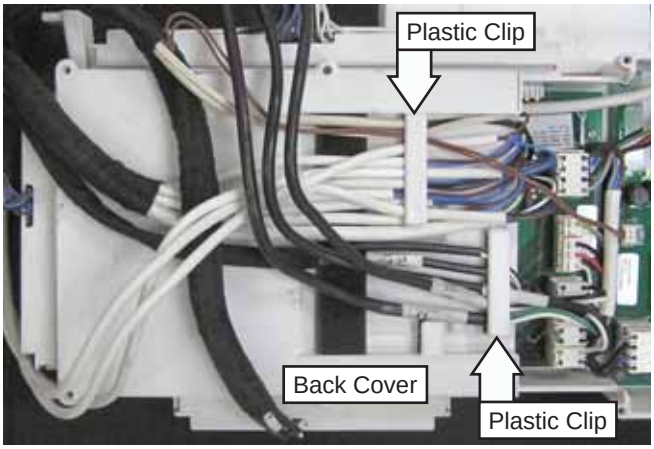
The power supply board is attached to the inside of the control housing with 4 Phillips-head screws and connected with 3 wire harnesses.



(*Continued next page*)

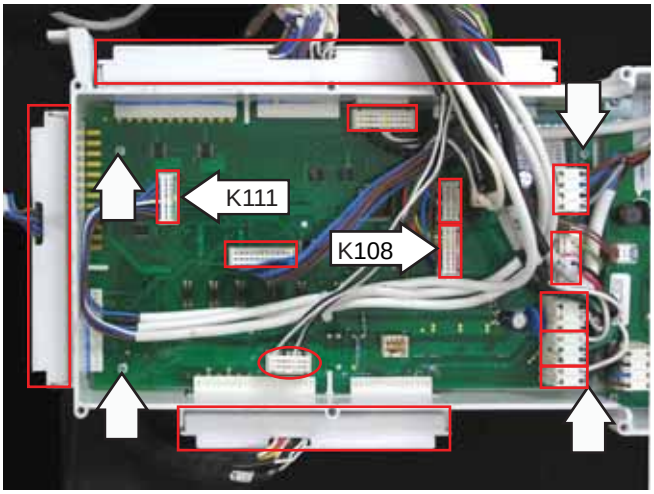
Main Control Board

To access the main control board, it is necessary to first remove the front cover (See **Power Supply Board**, this section.), and then remove the back cover from the housing. Before removing the back cover, note the positioning of the wiring retained by the plastic clips. As shown in the photo below, the white wiring is retained under the top plastic clip and the black wiring under the bottom plastic clip.



The main control board is attached to the inside of the control housing with 4 Phillips-head screws. The board is connected with 11 harnesses on the top and 3 large harnesses on the side.

Note: The K111 wire harness can plug into the K108 receptacle on the main control board. Before disconnecting wire harnesses, it may be helpful to mark the K111 wire harness and note its connection to the main control board.

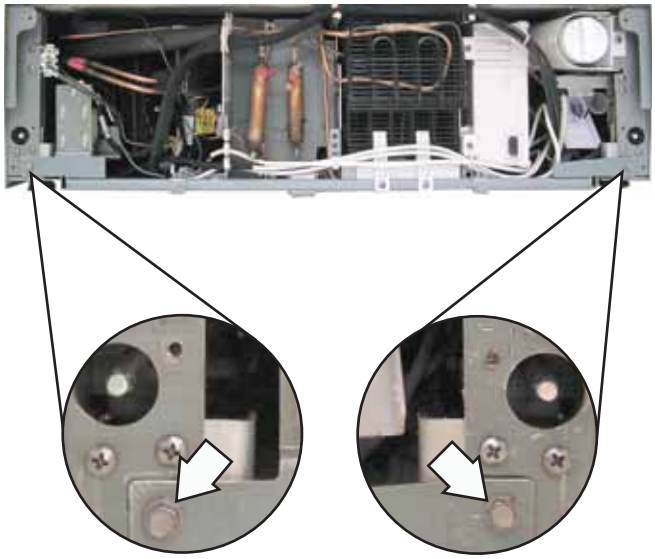


System Tray

The system tray contains the freezer and the fresh food compressors, compressor inverters, driers, condensers, condenser fans, control board, and EMI filter. The system tray can be pulled out from the front of the unit in increments (9 inches, 16 inches, and completely out) to service these components.

To pull the system tray out to the 9-inch position:

1. Remove the toekick and vent panel. (See ***Toekick and Vent Panel***.)
2. Remove the 5/16-in. (8-mm) hex-head screw from the right and left sides of the system tray.



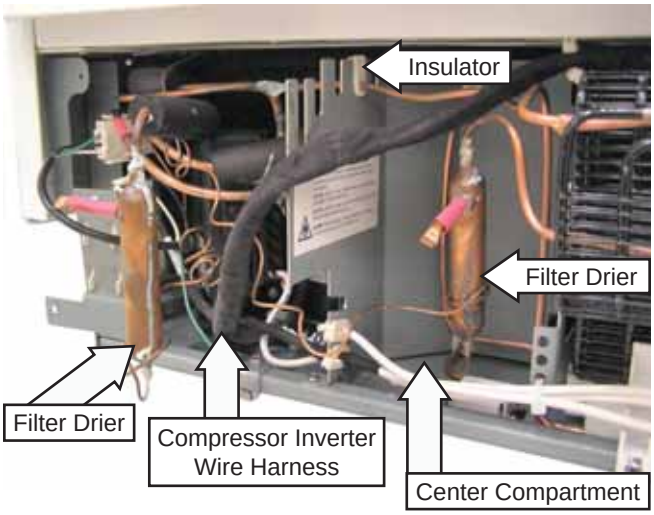
Caution: To prevent damage, protect the flooring in front of the refrigerator.

Note: In the following steps, rubber insulators are used to cushion tubing and wiring connected to the system tray. Note the location of the insulators, tubing, and wiring. Return them to their original locations when repairs are completed.

3. Pull the tray forward 2-3 inches.
4. Remove the compressor inverter wiring harness from the center compartment.

(*Continued next page*)

5. Pull out the left-side filter drier and capillary tubing from the center compartment.
6. Carefully unwind the capillary tubing and place the right-side filter drier to the left side of the system tray.
7. Pull out the right-side filter drier and capillary tubing from the center compartment.
8. Carefully unwind the right-side filter drier capillary tubing.



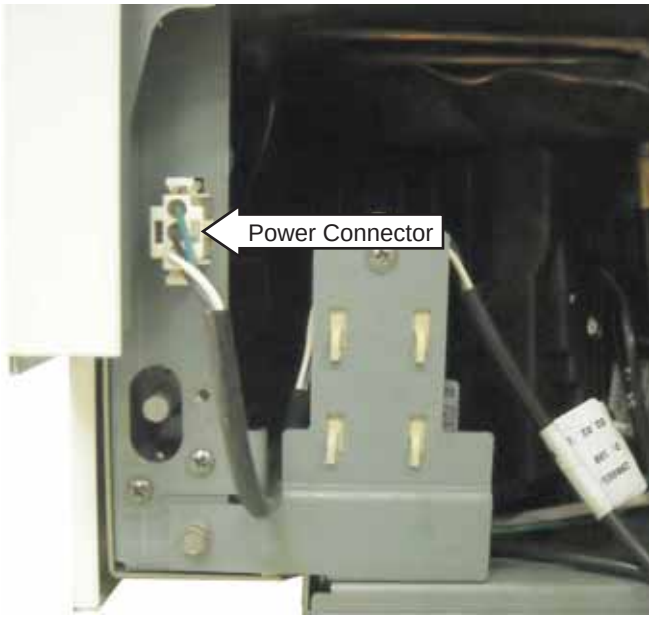
Caution: In the following step, to avoid damage or binding with the cabinet, monitor the heat exchanger tubing and capillary tubes as the tray is pulled out to the 9-inch position.

9. Pull the system tray out to the 9-inch position.

System tray shown at 9-inch position

To pull the system tray out to the 16-inch position:

1. Pull the tray out to the 9-inch position.
2. Disconnect the power connector on the left side of the frame.
3. Remove the water valve from the right side of the frame. (See ***Water Valve***, follow steps 1-3.)



Caution: In the following step, to avoid damage or binding with the cabinet, monitor the heat exchanger tubing and capillary tubes as the tray is pulled out to the 16-inch position.

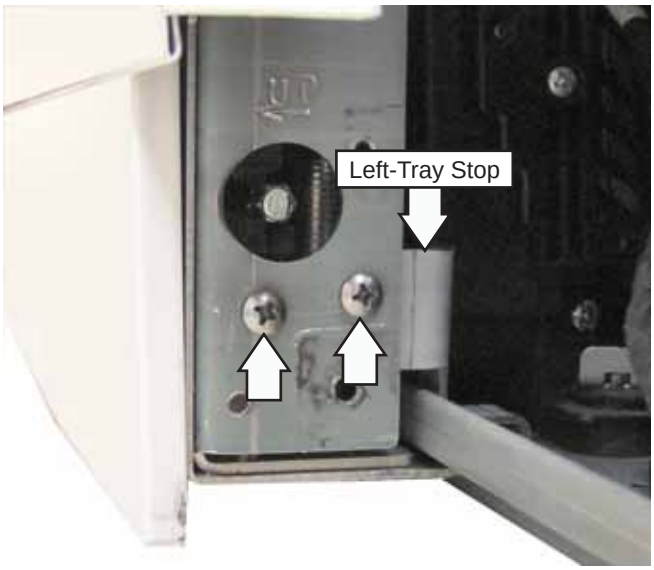
4. Pull the system tray out to the 16-inch position.

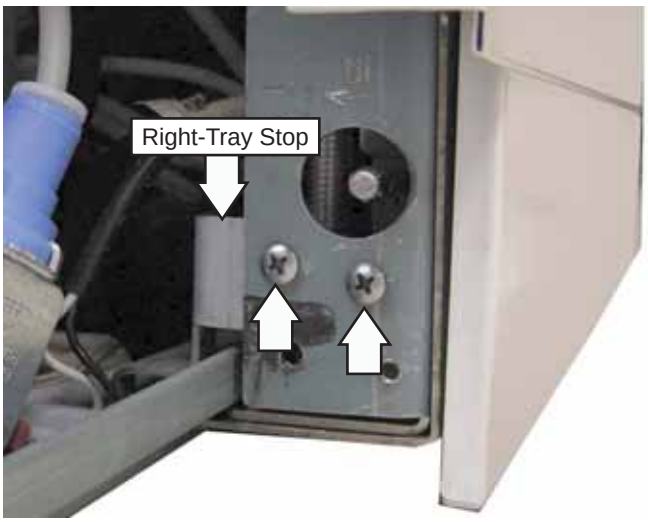
System tray shown at 16-inch position

(*Continued next page*)

To pull the system tray completely out:

1. Pull the tray out to the 16-inch position.
2. Remove the 2 Phillips-head screws from the left- and right-tray stops. Remove the stops from the compartment.

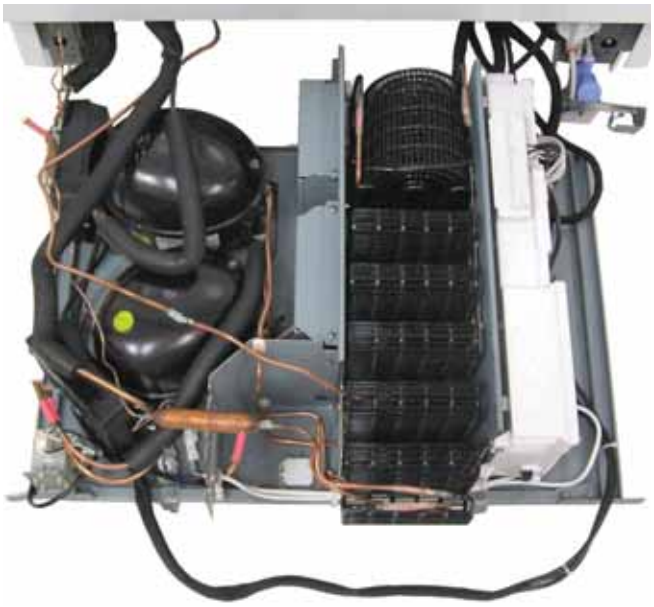




Caution: In the following step, to avoid damage or binding with the cabinet, monitor the heat exchanger tubing and capillary tubes as the tray is pulled completely out from the cabinet.

Note: The system tray is supported with 2 top tracks and 2 bottom tracks. Pulling the tray out past the 16-inch position will result in the tray disengaging from the tracks.

3. Pull the system tray completely out.



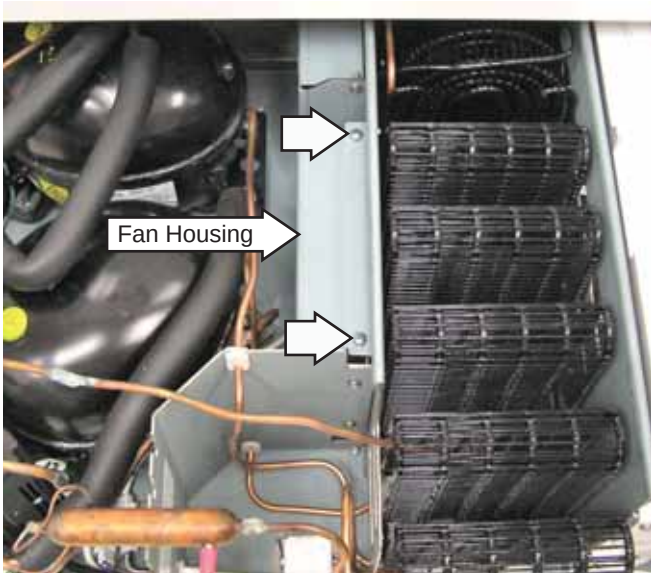
System tray shown completely out

Condenser Fans

The fresh food and freezer condenser fans are located in the machine compartment between the compressors and the condensers.

To remove the fresh food condenser fan:

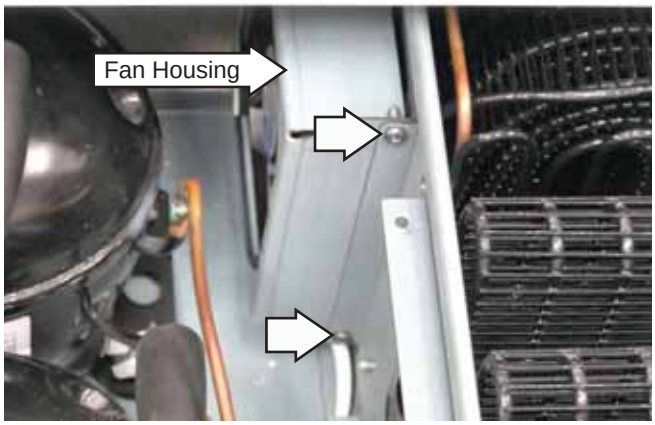
1. Remove the toeplate and vent panel. (See *Toekick and Vent Panel*.)
2. Place the system tray in the 16-inch position. (See *System Tray*.)
3. Remove the 2 Phillips-head screws that attach the fresh food condenser fan housing to the top of the center divider.



4. Lift the housing from the 2 slots in the bottom of the system tray.
5. Lift the fan motor from the fan housing.
6. Disconnect the fresh food condenser fan motor wire harness located near the front of the system tray.

To remove the freezer condenser fan:

1. Remove the fresh food condenser fan. (See **To remove the fresh food condenser fan**, follow steps 1 thru 4.)
2. Remove the 2 Phillips-head screws that attach the freezer condenser fan housing to the left side of the center divider.



3. Pull the housing from the 2 slots in the back of the center divider.
4. Lift the fan motor from the fan housing.
5. Disconnect the freezer condenser fan motor wire harness located near the front of the system tray.

Note: Each condenser fan will run on a 9-volt battery for testing purposes. Use jumper wires to connect the red fan wire to the positive battery terminal and the blue fan wire to the negative battery terminal.

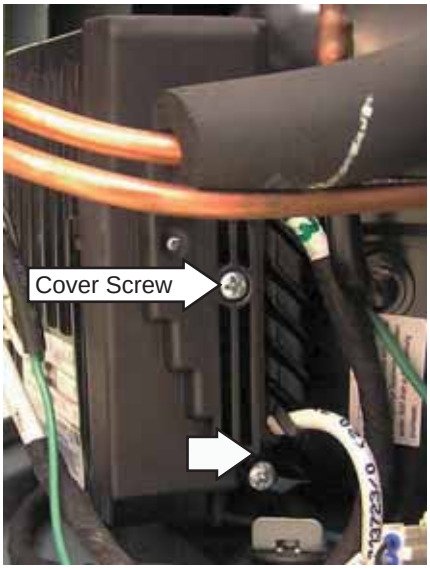
Compressors and Inverters

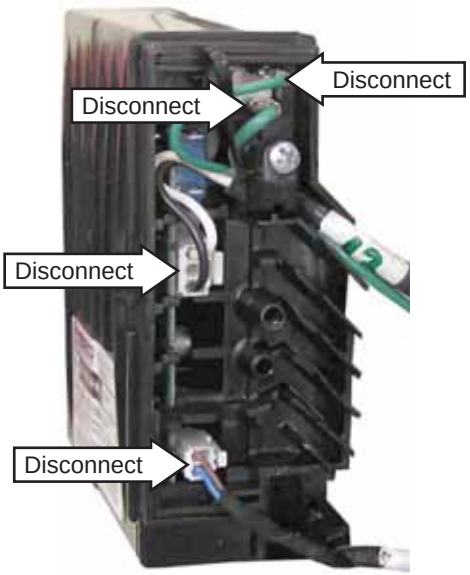
Each compressor is a reciprocating type. Refer to the mini-manual for the BTU/hour rating, refrigerant type, and correct charge for this model.

Each compressor utilizes an inverter. The inverter is connected to the terminals on each compressor. The toeplate and vent panel must be removed to access the inverters. (See *Toekick and Vent Panel*.)

Each inverter is attached to the compressor with a Phillips-head screw. The fresh food compressor inverter can be replaced without pulling the system tray. The freezer compressor inverter requires pulling the system tray out to the 16-inch position. (See *System Tray*.)

To disconnect inverter harness wiring, it is necessary to remove the Phillips-head cover screw and the cover.



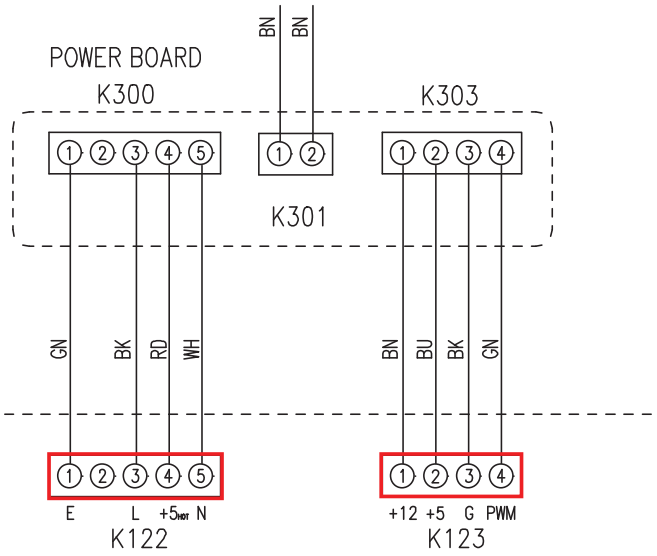


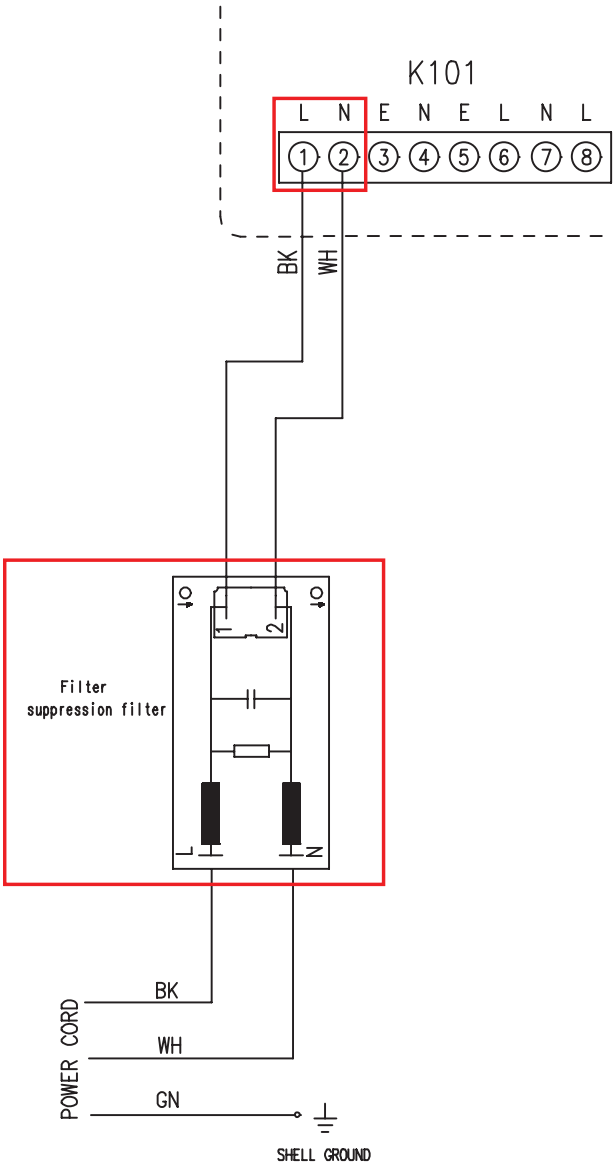
Dead Unit Diagnostics

For dead unit diagnostics, remove the access panels and locate the power cord connection behind the EMI filter on the left side of the unit. Verify power from the house supply (power cord) by checking for line voltage on the black to white wires at the EMI filter. If the house voltage checks O.K. – check for power coming out of the EMI filter.

If the house voltage checks good at the EMI filter, pull the control board and check for power input to the main control board at the K101 connector pins 1-2 (black to white). If there is no power check the wiring connections.

If there is line input to the main board, check for power output to the power supply. The main board supplies line power to the power supply board thru K122 pins 3-5 (black to white). The power supply then returns DC power to the main board on K123, 12vdc pins 1-3 (brown to black) and 5vdc on pins 2-3 (blue to black). Pin 4 is used for communication between the boards to activate the FF wall LEDs.





Diagnostic Mode

Before performing diagnostic checks determine which section you will be testing. Convertible drawer units consist of 2 separate sealed systems with 3 compartments so it is important to identify the correct diagnostic codes for the compartment you are testing. The upper section is commonly referred to as the fresh food section even though it may be set for wine. The bottom convertible drawer section is referred to as the freezer section even though it can be configured for fresh food or wine modes of operation. The center ice drawer will always be operating in freezer mode.

To Enter Diagnostic Mode:

Diagnostic mode can be entered only when in normal mode. Press the zone pad making sure the upper zone is displayed. Simultaneously press the **lock** and **+** key for 5 seconds. When diagnostic mode is entered, both digits of the diagnostic code number will be displayed on the customer control, and the option keys will turn into horizontal lines. Use the **+** keys to increment and the **-** keys to decrement the diagnostic code numbers. When the code number is displayed, press any other horizontal key to begin that diagnostic system test. The test mode must be selected within 30 seconds of entering the diagnostic mode or it will time out, normal refrigerator operation will resume, and the displays will return to the primary control interface state. Once a test mode is selected, the display will flash to confirm the mode selected. When in diagnostic mode, the interior LEDs will be off unless activated in diagnostics. Initial diagnostic codes (1-14) and extended diagnostic codes (50-62, 64-71, and 78-86) are accessible in the diagnostic mode. See table below.

To Exit Diagnostic Mode:

At the end of a test session, enter **11** on the display and then press any key other than the **+** or **-** keys to execute a system restart and exit the test mode. Another option is to unplug the unit and plug it back into the outlet.

Diagnostic Code Number	Test	Page
01	Showroom Mode	65
02	Customer Control to Main Control Communications	65
03	N/A	65
04	Customer Control Self Test	66
05	Sensor Self Test	66
06	Dampers	66
07	Fan Speed	67
08	Sealed System 100% Run Time	67
09	Toggle Defrost Off	67
10	System Reset	67
11	Test Mode Exit	67
12	Main Board Version Check	67
13	Customer Control Version Check	67
14	Degree C/F	67
50	Fresh Food Compressor	68
51	Freezer Compressor	68
52	Fresh Food Top Damper - Wine Unit	69
53	Fresh Food Bottom Damper - Wine Unit	69
54	Freezer Top Damper	69
55	Freezer Bottom Damper	69
56	Fresh Food Fan	70
57	Freezer Fan	70

(*Continued next page*)

Initial Diagnostic Codes

Diagnostic Code Number	Mode	Comments
01	Showroom Mode	Diagnostic code 01 is an optional means of entering or exiting showroom mode. Default factory settings are loaded upon entry and normal light and control functions will be enabled. However, the cooling system will remain OFF, so the compressors, fans, and dampers will not function in this mode. Door alarm feature and control Lock will be same as in normal operating mode. If the cooling system off set point is selected while in this mode, **SHO** should be displayed instead of **OFF**. In the event of a power failure the unit will restore to showroom mode upon the return of power. Press and hold the **ALARM** and **-** for 5 seconds to exit showroom mode.
02	Customer Control to Main Control Communications	A communications check between the customer control and the main control board will be performed. If the control passes the check, **-P-** will be displayed on the customer control. If there is a communication error, **-F-** will be displayed.
03	N/A	No function available

(*Continued next page*)

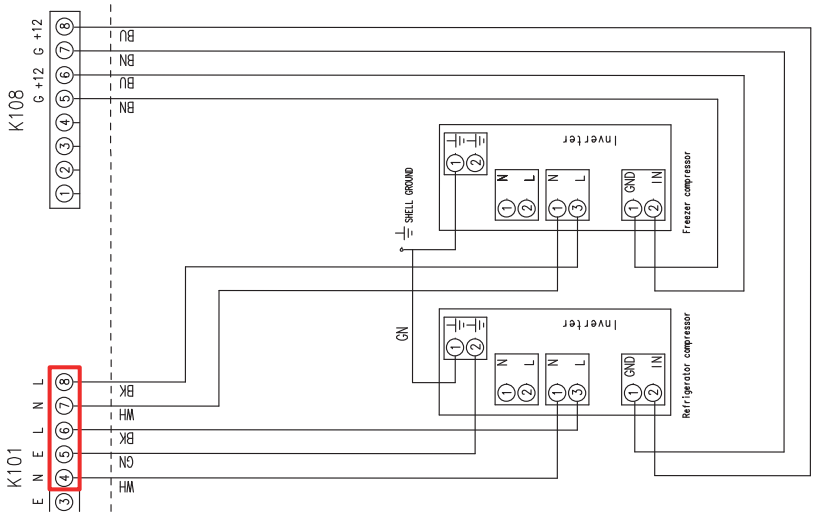
Diagnostic Code Number	Mode	Comments
04	Customer Control Self Test	All LEDs and numerical segments on the customer control will illuminate. Slew keys can be used to return to diagnostic mode selection. All other buttons can be used to toggle the status of the associated LED. Each 7-segment display will be incremented with any key press.
05	Sensor Self Test	Temperature sensors are checked in the following order: (0) Fresh Food Top - ZIW30 (wine reserve) model only (reports **O** on non-wine units (1) Fresh Food Bottom - Fresh Food temperature all units (2nd bottom zone cooling on wine units (2) Freezer Top - Ice Drawer Temperature (3) Freezer Bottom - Convertible Drawer Temperature (4) Fresh Food Evaporator Temperature (5) Freezer Evaporator Temperature Each sensor number will briefly be displayed on the customer control followed by a **P** for pass, (only indicates some resistance is seen at the main board) **O** for open, or **S** for short. Extended diagnostic thermistor testing will display the reported temperature reading of a thermistor. When checking the temperature, an open thermistor will read 124 degrees, shorted will read 125 degrees in the display.
06	Damper Test	Diagnostic code 6 will cycle all of the air dampers. The fans will operate in this test so you can check for air flow at the vents to verify damper operation. The dampers cycle in the following sequence: (1) Fresh Food Top - ZIW30 (wine reserve) models only (2) Fresh Food Bottom - ZIW30 (wine reserve) models only (3) Freezer Top - Ice Drawer (4) Freezer Bottom - Convertible model To repeat this test press any of the option lines on the customer control. If the control has reset to the temperature display mode, re-enter diagnostic mode by pressing and holding **Lock** and **+** for 5 seconds.

(*Continued next page*)

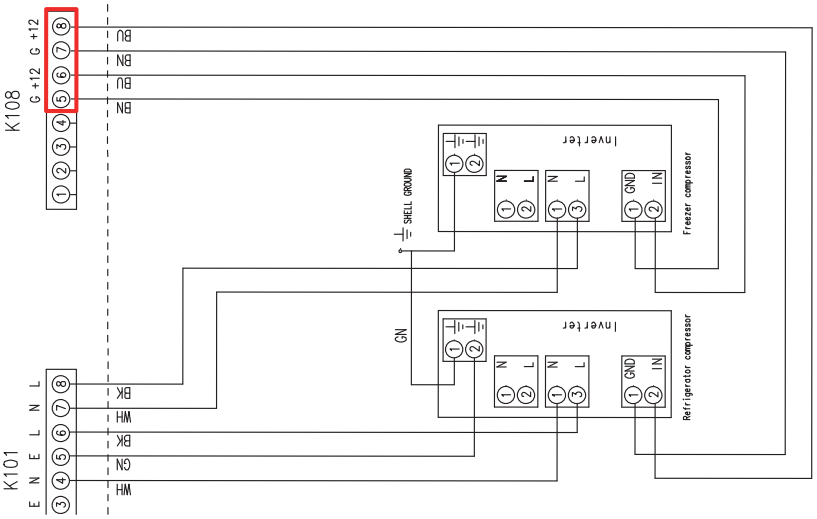
Diagnostic Code Number	Mode	Comments
07	Fan Speed Test	System fans are cycled ON in the following order: Fresh Food fan on for 5 seconds (F1) Freezer fan on for 5 seconds (F2) Condenser fan (rear) on for 5 seconds (F3) Condenser fan (front) on for 5 seconds (F4) (F#) shown in the display for each fan motor
08	Sealed System 100% Run Time	The compressors will run on HIGH 100% of the time. This mode will time out after one hour of time, or it can be manually terminated with a system reset. This mode cannot be entered if the cooling system is set to **OFF** or **Demo**.
09	Toggle Defrost Off	Diagnostic code 9 will turn off the defrost cycle if the unit is in or enters into defrost. This mode cannot be entered if the cooling system is set to **OFF**. Extended diagnostic modes 66 and 67 will test the evaporator defrost heaters. Diagnostic code 66 operates the Fresh Food defrost heater and 67 operates the Freezer defrost heater. Run diagnostic #9 to terminate the heater operation.
10	System Reset	Performs a system reset on the main board except for a defrost cycle or compressor 100% run diagnostic.
11	Test Mode Exit	Exits the diagnostic test mode and returns the unit to normal operation. Perform a board reset or diagnostic mode exit to ensure all loads are reset after diagnostic testing and/or repairs.
12	Main Board Version Check	Used to display the software version running the main board. Software version number will be displayed 2 digits at a time (6 digits total).
13	Customer Control Version Check	Used to display the software version running the customer control. Customer control software version number will be displayed 2 digits at a time (6 digits total).
14	Degree C/F	The **ZONE** key can be used to toggle between Celsius (**CEL**) or Fahrenheit (**FAH**) temperature display.

Extended Diagnostic Codes

Service Code Number	Mode	Comments
50 and 51	Compressors	Diagnostic codes 50 and 51 are used to turn on the compressors. Code 50 turns on the front compressor (Fresh Food section) and 51 turns on the rear compressor (Freezer section). Line voltage is sent to the compressor inverters on K101 pins 4-6 (white to black) for the front compressor and 7-8 (white to black) for the rear compressor. The board will run the individual compressor for thirty seconds. Condenser fans do not run in this test.

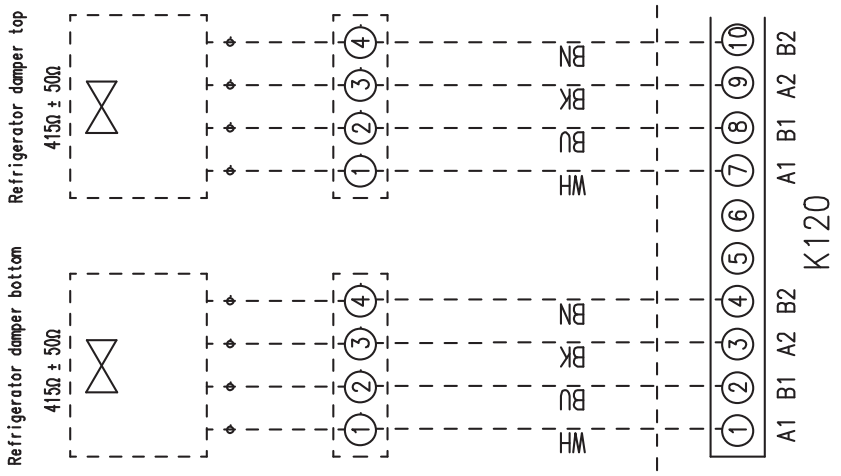


When the main board activates a compressor it sends the inverter a turn on signal from the K108 connector. K108 pins 7-8 (brown to blue) should read 5 VDC (125 Hz) for the front compressor and pins 5-6 (brown to blue) 5 VDC (125 Hz) for the rear compressor. In normal (non-diagnostic mode) the control board will delay the compressor on signal for 5 minutes for system equalization.

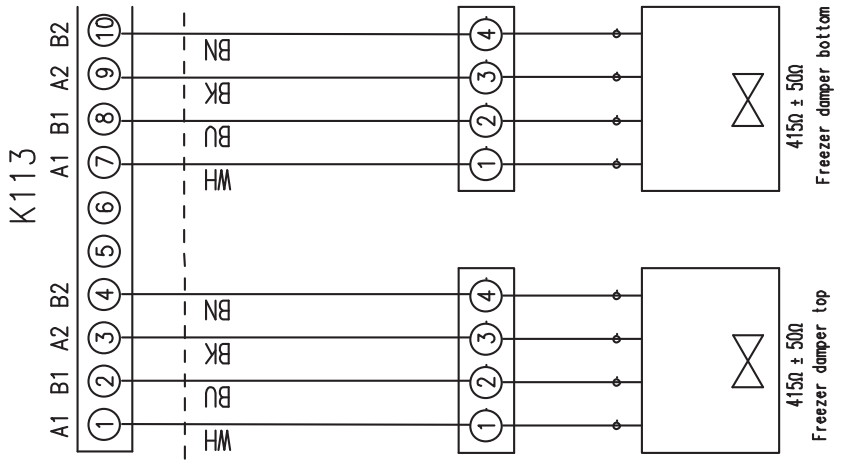


(*Continued next page*)

Service Code Number	Mode	Comments
52 and 53	Fresh Food Dampers - Top and Bottom – Wine Unit	Diagnostic codes 52 and 53 operate the dampers in the ZIW30 wine models. Code 52 will operate the top damper and code 53 operates the bottom damper. The resistance or voltage can be read at the K120 connector, pins 1-4 for the bottom damper and pins 7-10 for the top damper. When the damper is cycled there should be 6.5 VDC on (white to blue and black to brown). The evaporator fan will run in this test so you can check for air flow at the vents.



Service Code Number	Mode	Comments
54 and 55	Freezer Dampers - Top and Bottom	Diagnostic codes 54 and 55 operate the Freezer dampers. Code 54 will operate the top damper and code 55 operates the bottom damper. The resistance or voltage can be read at the K113 connector, pins 1-4 for the top damper and pins 7-10 for the bottom damper. When the damper is cycled there should be 6.5 VDC on (white to blue and black to brown). The freezer fan operates for an air flow check.



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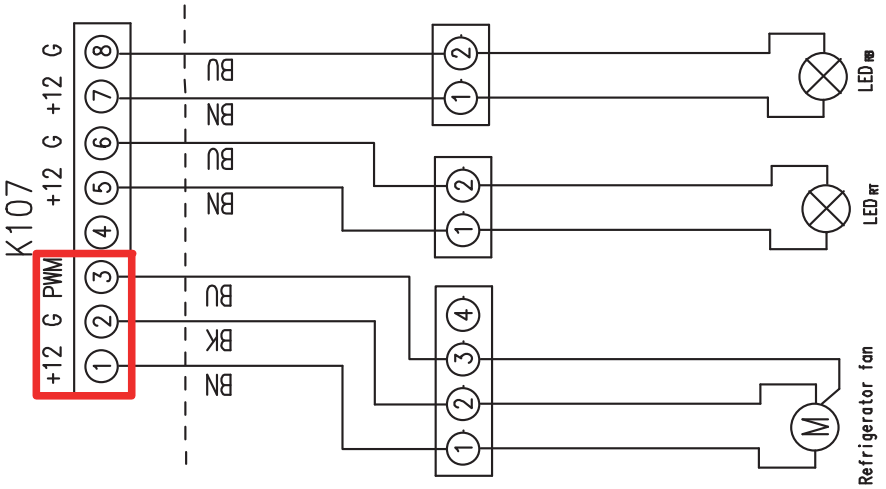
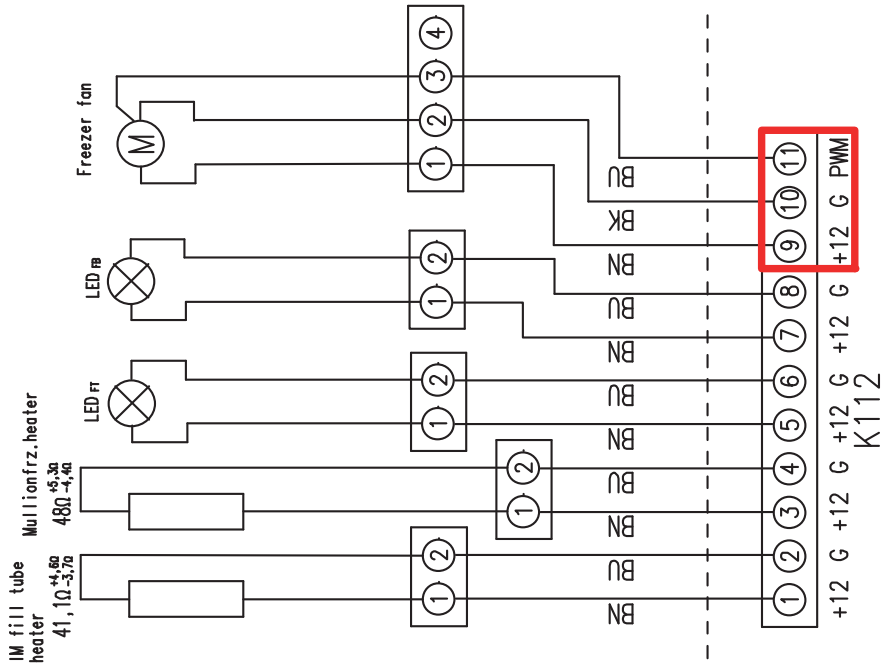
Service Code Number	Mode	Comments
56	Fresh Food Fan	Diagnostic code 56 turns on the Fresh Food fan motor. When activated the main board sends 12 VDC to the fan motor on K107 pins 1-2 (brown to black). Pin 3 (PWM) should read 5 VDC to pin 2 (black to blue) if the fan motor is operating. For edge connector testing on the main board, you may need to pull the connector partially off of the edge of the board to access the circuit.



Service Code Number	Mode	Comments
57	Freezer Fan	Diagnostic code 57 turns on the Freezer fan motor. When activated the main board sends 12 VDC to the fan motor on K112 pins 9-10 (brown to black). Pin 11 (PWM) should read 5 VDC to pin 2 if the fan motor is operating (black to blue). As with the Fresh Food fan motor, you should hear the fan running when activated in diagnostic mode.



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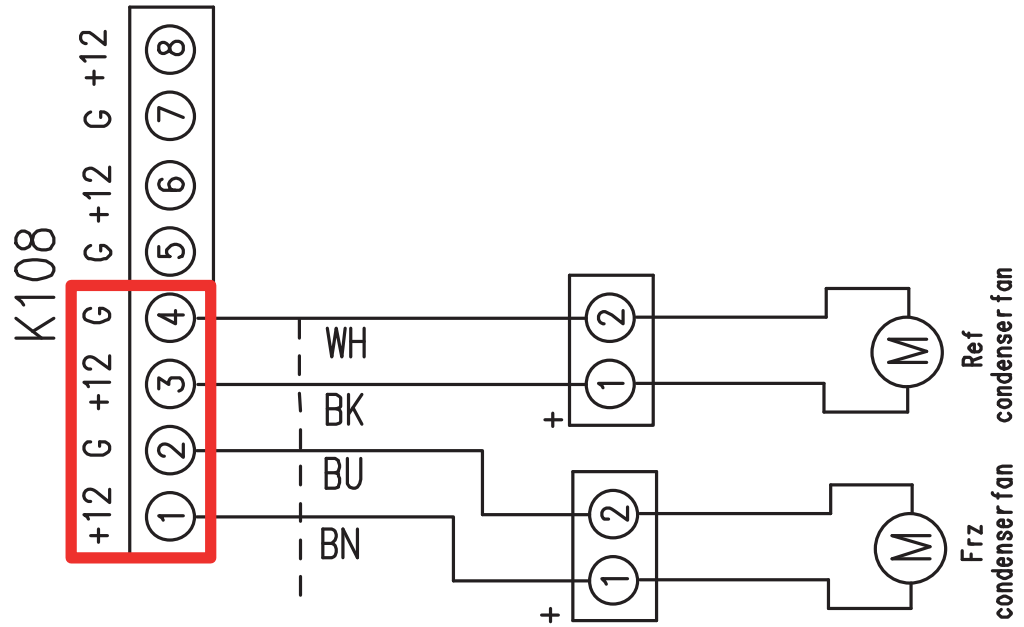
Service Code Number	Mode	Comments
58 and 59	Fan Condenser Refrigerator	Diagnostic code 58 and 59 turns on the condenser fan motors. Code 58 operates the Fresh Food condenser fan motor (front) and 59 operates the Freezer condenser fan motor (rear). When activated the main board sends 12 VDC to the Freezer condenser fan motor on K108 pins 1-2 (brown to blue), and to the Fresh Food condenser fan motor pins 3-4 (black to white).



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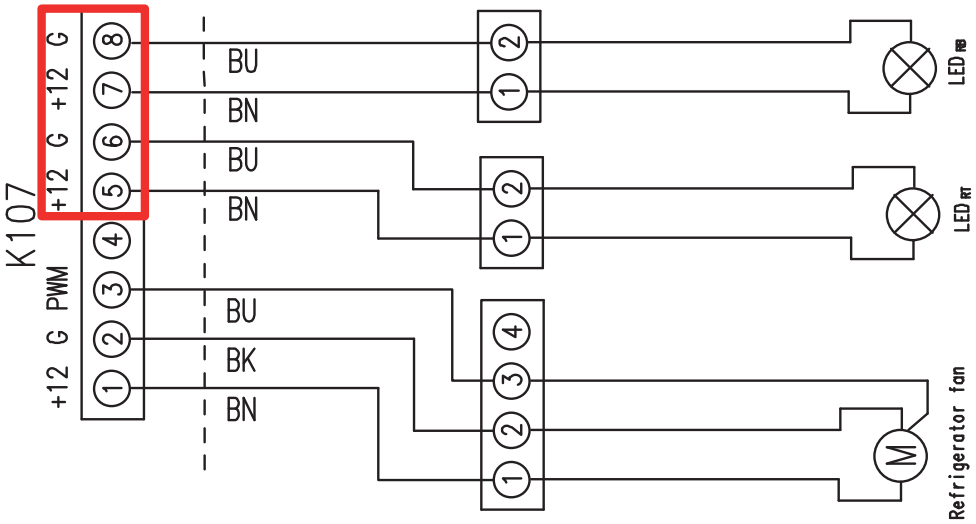
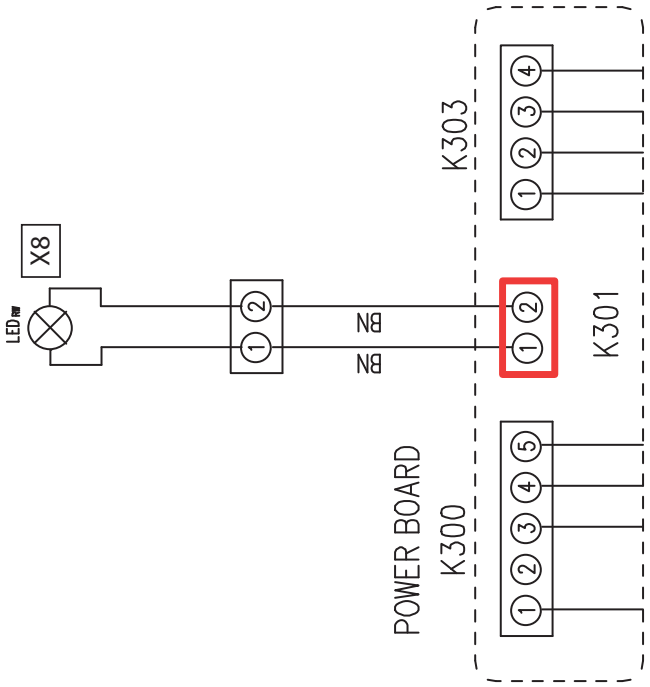
Service Code Number	Mode	Comments
60	Fresh Food Strip and Wall LEDs	Diagnostic code 60 will turn on the strip LED lights in the Fresh Food ceiling and the Fresh Food vegetable drawer, and the circular LED wall lights. This test will turn on these LEDs from dim to 100% within 3 seconds of activation. The main board outputs 12 VDC on pins 5-6 (brown to blue) for the ceiling strip and 7-8 (brown to blue) for the vegetable drawer strip on the K107 connector.



The power supply board controls the wall LEDs, not the main board. The power supply sends out 24 VDC on a series circuit for all LED boards from K301. Each LED board will drop 3 VDC and if one fails they all fail. The individual LED boards can be tested using the Diode function on a multi-meter. Checking across the 2 pin connector on each board should result with a .7 VDC reading on the meter, an open (OL) reading would indicate a failed LED.



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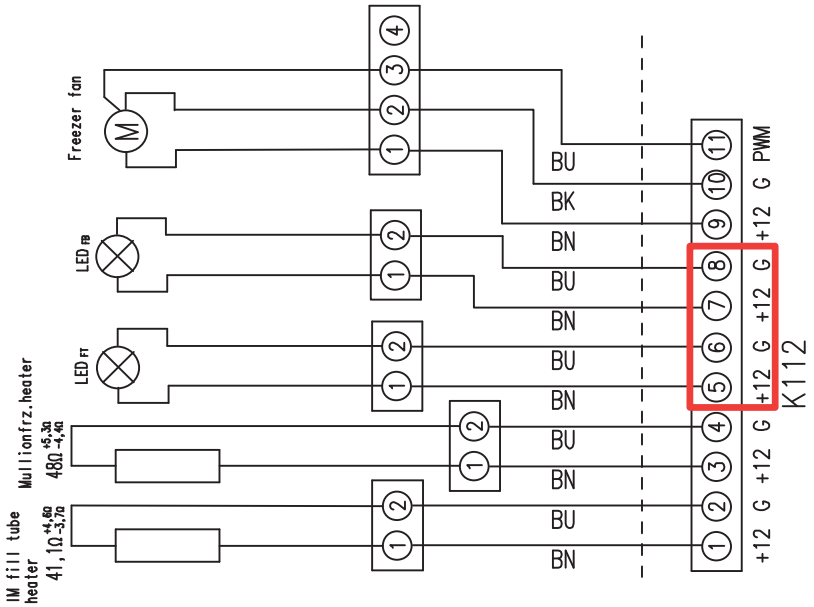
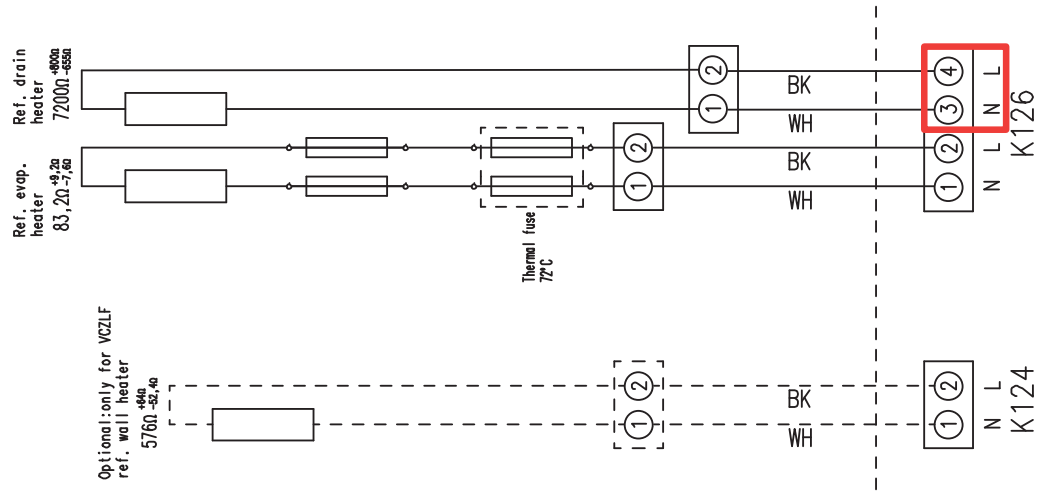
Service Code Number	Mode	Comments
61 and 62	Freezer Strip LEDs	Diagnostic code 61 & 62 will turn on the LED strips in the bottom 2 drawers. This test will turn on these strips from dim to 100% within 3 seconds of activation. Test 61 turns on the ice drawer LED strip and 62 turns on the convertible drawer LED strip. The main board outputs 12 VDC on pins 5-6 (brown to blue) for the ice drawer and 7-8 (brown to blue) for the bottom drawer at the K112 connector.



Service Code Number	Mode	Comments
64	Fresh Food Drain Heater	Diagnostic code 64 turns on the Fresh Food drain heater. When activated the main board sends 120 VAC to the drain heater from K126 pins 3-4 (white to black). The drain heater resistance (7200Ω) can also be checked from the same connection. Will activate test in a warm cabinet.



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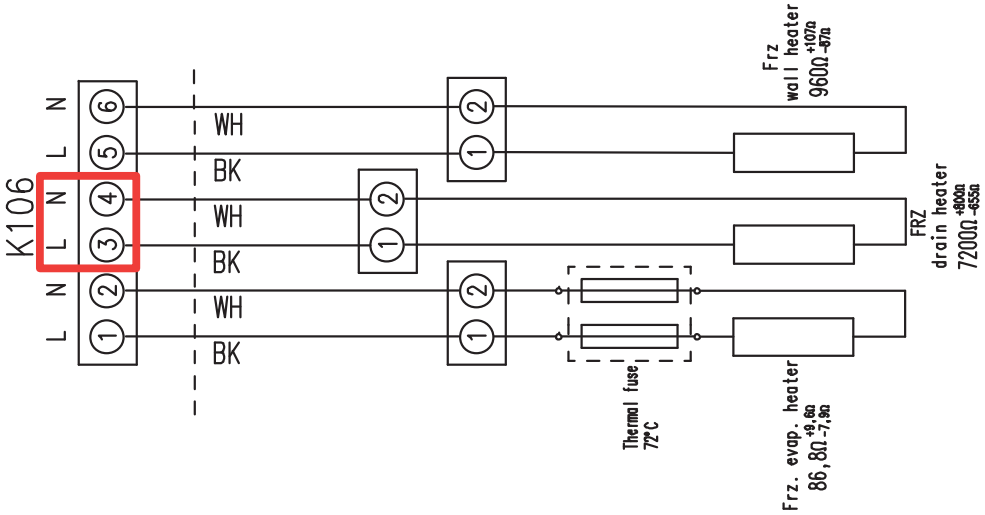
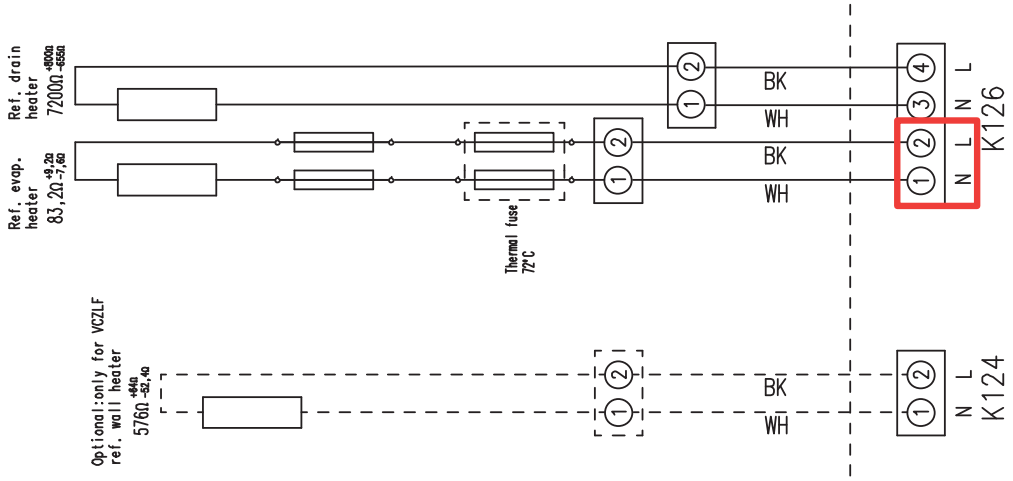
Service Code Number	Mode	Comments
65	Freezer Drain Heater	Diagnostic code 65 turns on the Freezer defrost drain heater. When activated the main board sends 120 VAC to the drain heater from K106 pins 3-4 (white to black). The drain heater resistance (7200Ω) can also be checked from the same connection. Will activate test in a warm cabinet.



Service Code Number	Mode	Comments
66	Fresh Food Evaporator Defrost Heater	Diagnostic code 66 turns on the Fresh Food evaporator defrost heater. When activated the main board sends 120 VAC to the defrost heater from K126 pins 1-2 (white to black). The defrost heater resistance (83Ω) can also be checked from the same connection. Use diagnostic test #9 to turn off the defrost heater. Will activate test in a warm cabinet.



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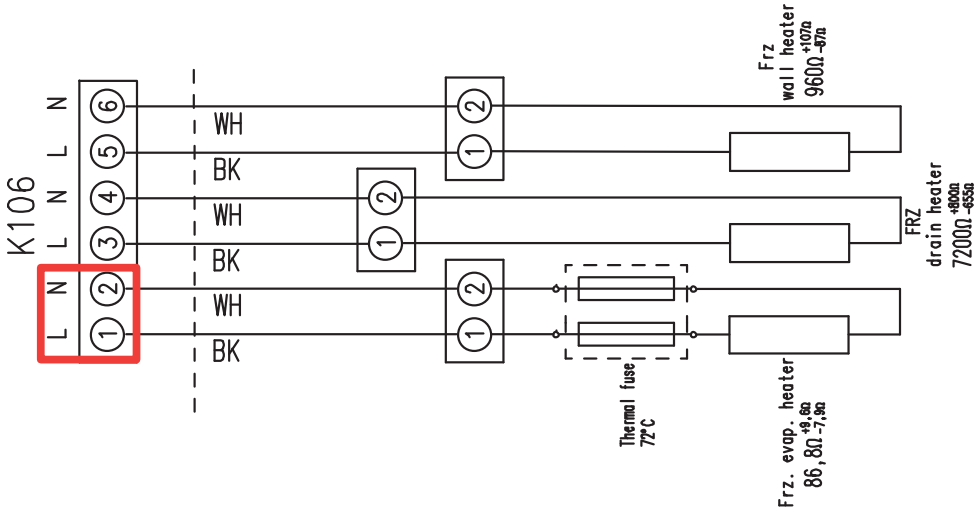
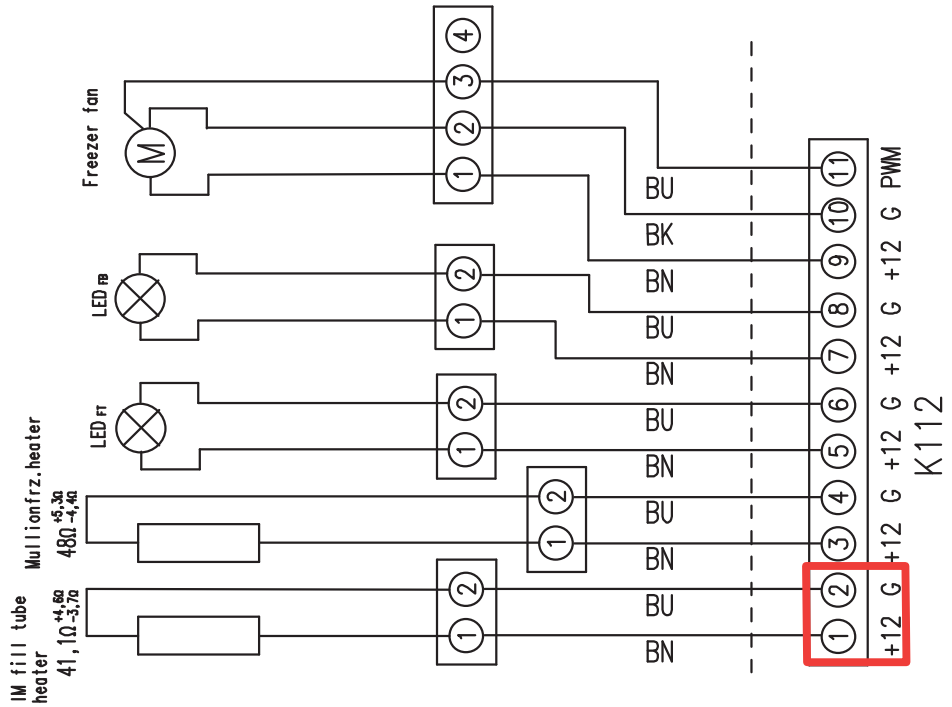
Service Code Number	Mode	Comments
67	Freezer Evaporator Defrost Heater	Diagnostic code 67 turns on the Freezer evaporator defrost heater. When activated the main board sends 120 VAC to the defrost heater from K106 pins 1-2 (white to black). The defrost heater resistance (85Ω) can also be checked from the same connection. Use diagnostic test #9 to turn off the defrost heater. Will activate test in a warm cabinet.



Service Code Number	Mode	Comments
68	Ice Maker Fill Tube Heater	Diagnostic code 68 turns on the icemaker fill tube heater. When activated the main board sends 12 VDC to the fill tube heater from K112 pins 1-2 (brown to blue). The fill tube heater resistance (41Ω) can also be checked from the same connection. Will activate test in a warm cabinet.



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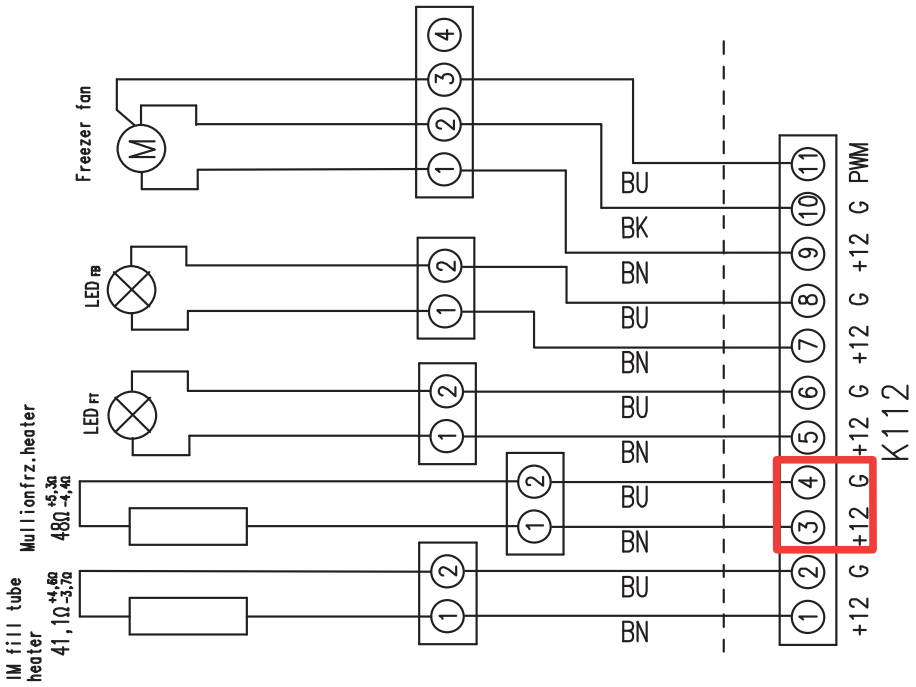
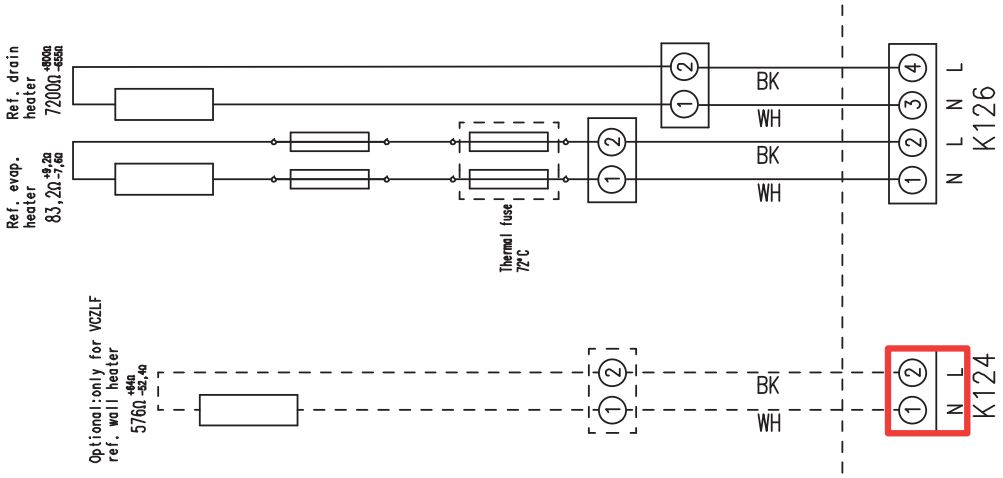
Service Code Number	Mode	Comments
69	Freezer Mullion Heater	Diagnostic code 69 turns on the Freezer mullion heater. When activated the main board sends 12 VDC to the mullion heater from K112 pins 3-4 (brown to blue). The mullion heater resistance (48Ω) can also be checked from the same connection. This heater is activated when the customer has moisture selected on the control. When selected there will be a moisture droplet illuminated on the control with a diagonal line thru it.



Service Code Number	Mode	Comments
70	Fresh Food Back Wall Heater – Wine Unit	Diagnostic code 70 turns on the Fresh Food back wall heater for the ZIW30 wine mode. This heater is only used on the ZIW30 (Wine) unit. When activated the main board sends 120 VAC to the wall heater from K124 pins 1-2 (white to black). The wall heater resistance (576Ω) can also be checked from the same connection.



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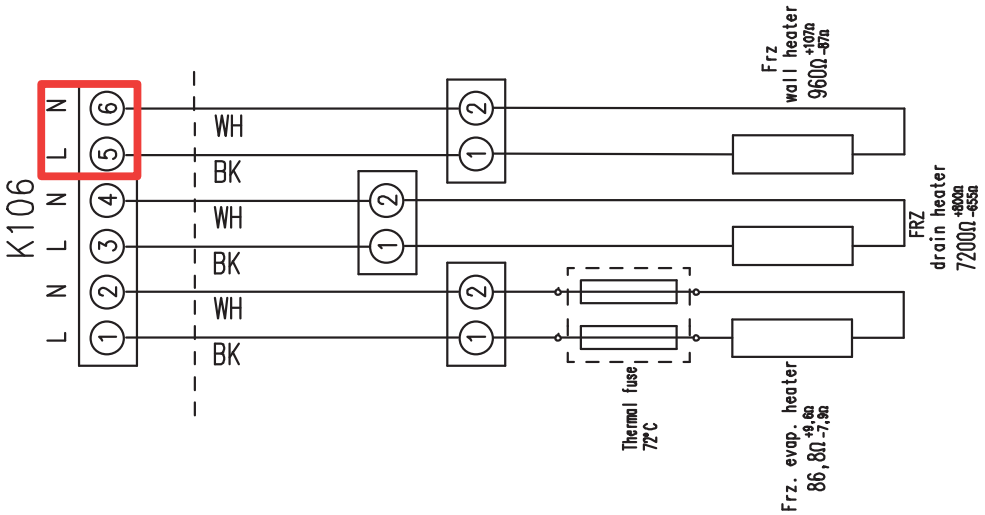
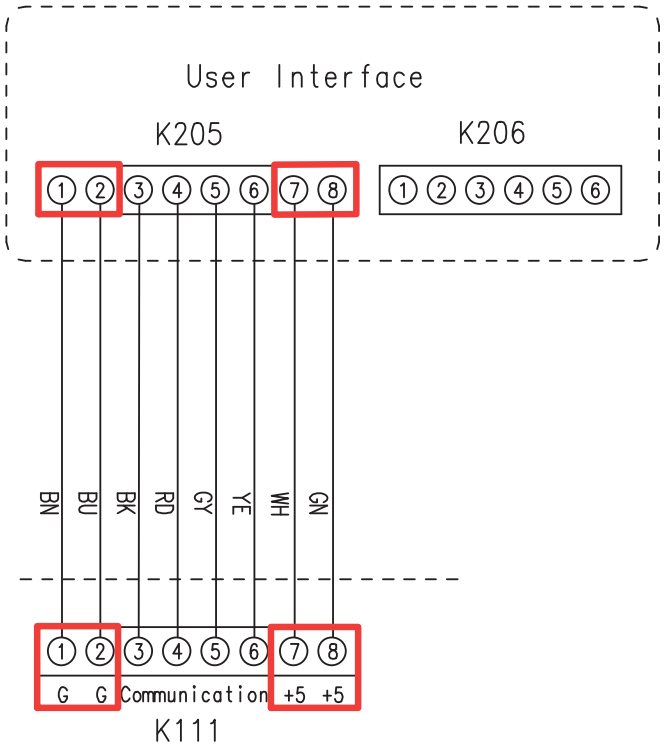
Service Code Number	Mode	Comments
71	Freezer Back Wall Heater	Diagnostic code 71 turns on the Freezer back wall heater for wine mode. This heater is used on All convertible units. When activated the main board sends 120 VAC to the wall heater from K106 pins 5-6 (black to white). The wall heater resistance (960Ω) can also be checked from the same connection.



Service Code Number	Mode	Comments
78 and 79	Buzzer and Display Control Test	Diagnostic code 78 activates/tests the display control beeper. Code 79 will light all segments of the display. If the display does not light in any mode check for supply voltage at K205 pins 7-8 to common on pins 1-2 for 5 VDC. If the voltage is not present check the main board K111 for the same control voltages.



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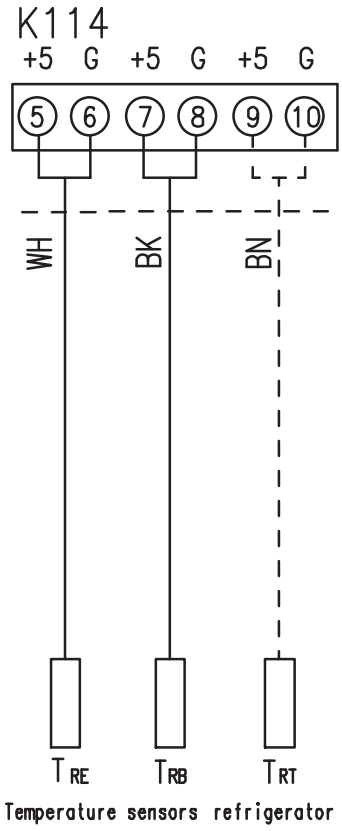
Service Code Number	Mode	Comments
80, 81, and 84	Fresh Food Thermistors	Diagnostic code 80, 81 and 84 displays the Fresh Food thermistor temperatures. 80 – Fresh Food Top Air Thermistor (ZIW30 wine reserve only). K114 9-10 brown 81 – Fresh Food Bottom Air Thermistor - all units. K114 7-8 black 84 – Fresh Food Evaporator - K114 5-6 white To verify resistance, remove the connector from the main board.

Thermistor Values Table			
Temperature	77°F / 25°C	32°F / 0°C	0°F / -18°C
Resistance	5.0 KΩ	16.3 KΩ	42.5 KΩ

Note: The thermistors have a negative coefficient. As the temperature increases, the thermistor's resistance value decreases.



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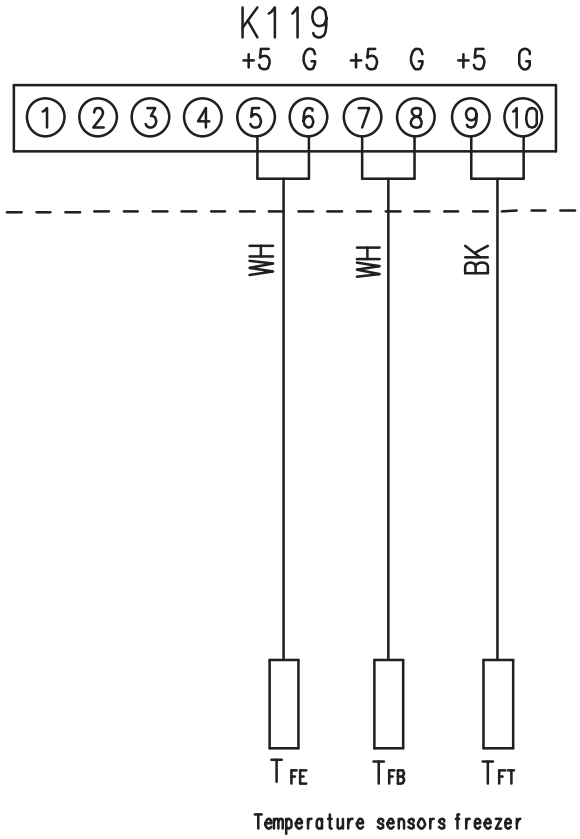
Service Code Number	Mode	Comments
82, 83, and 85	Freezer Thermistors	Diagnostic code 82, 83 and 85 displays the Freezer thermistor temperatures. 82 – Freezer Top Air (ice drawer) Thermistor - K119 9-10 black 83 – Freezer Bottom Air (convertible drawer) Thermistor - K119 7-8 white 85 – Freezer Evaporator Thermistor - K119 5-6 white To verify resistance, remove the connector from the main board.

Thermistor Values Table			
Temperature	77°F / 25°C	32°F / 0°C	0°F / -18°C
Resistance	5.0 KΩ	16.3 KΩ	42.5 KΩ

Note: The thermistors have a negative coefficient. As the temperature increases, the thermistor's resistance value decreases.



Temperature sensors freezer

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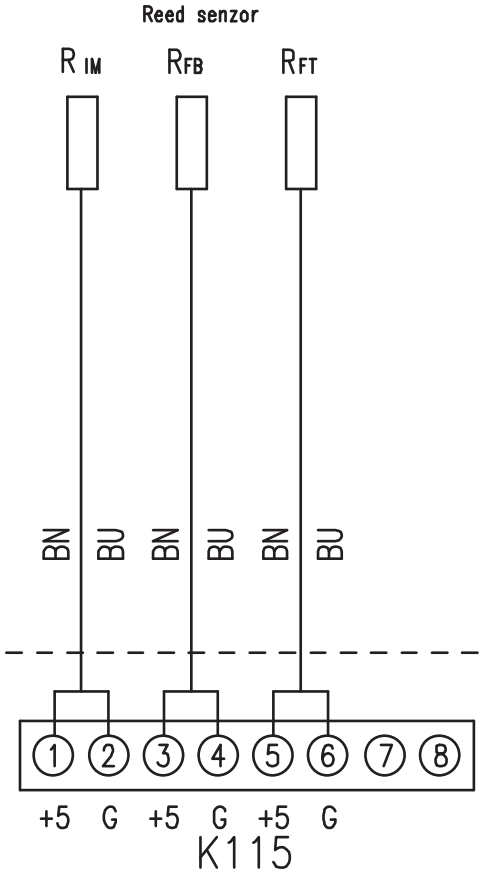
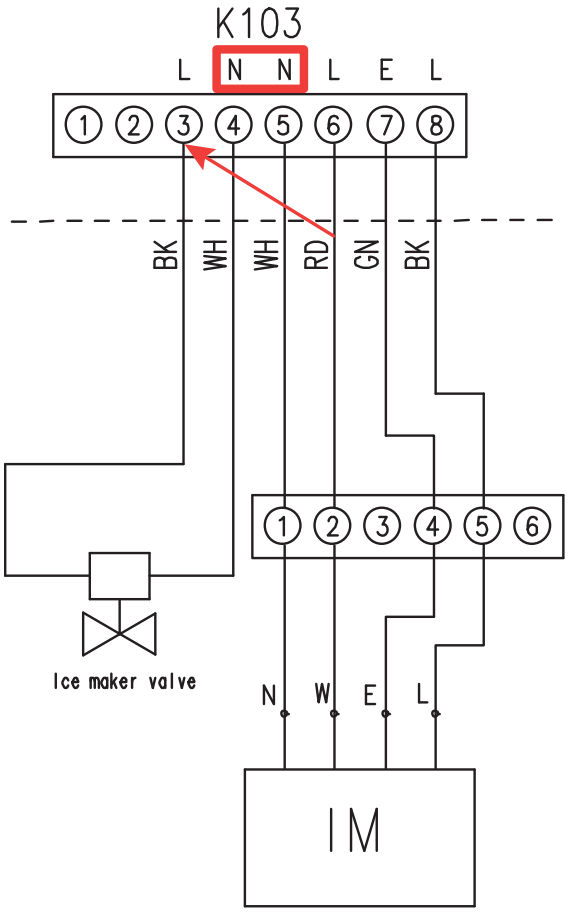
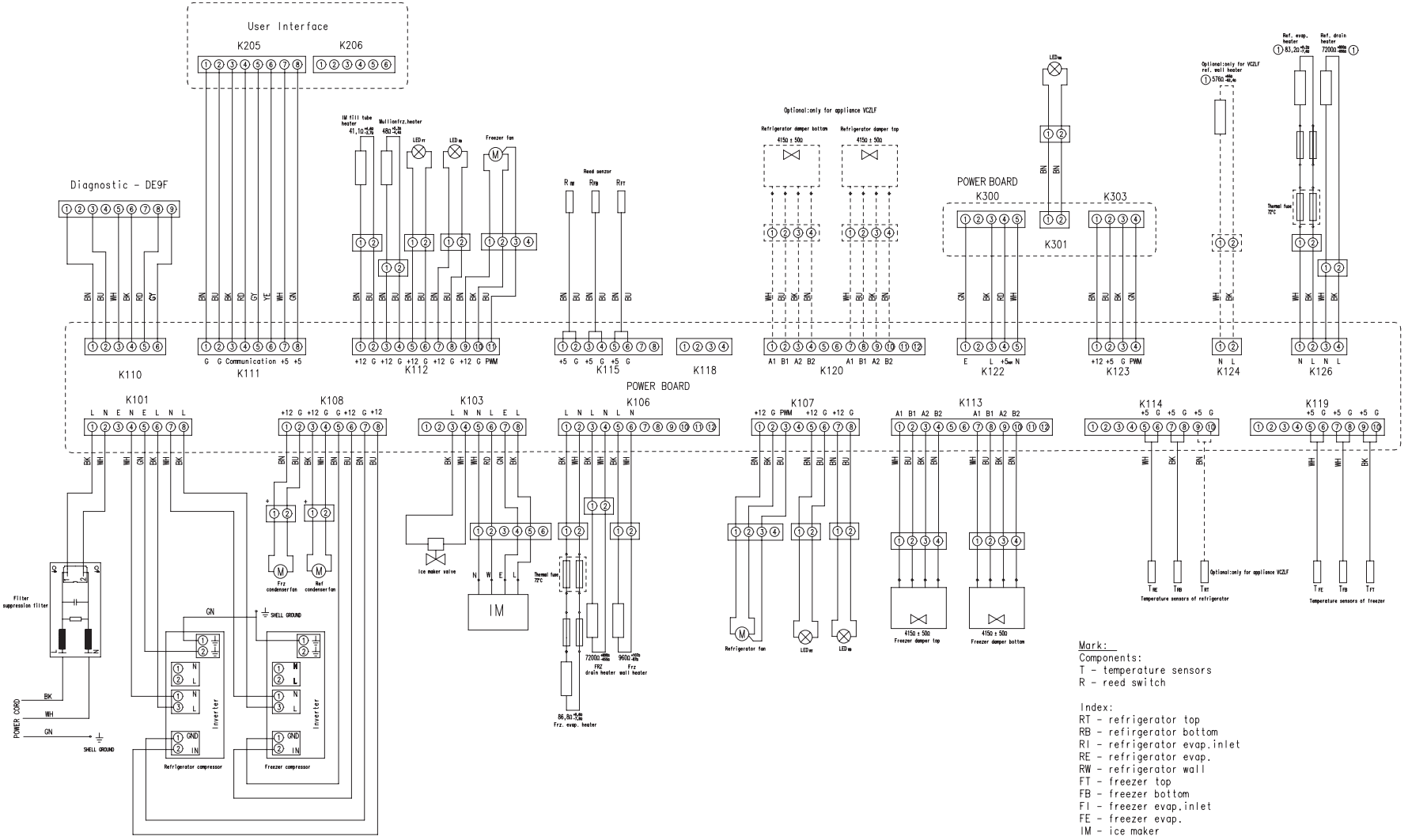
Service Code Number	Mode	Comments
86	Refrigerator Door, Freezer and Convertible Drawers, and Icemaker, Status Sensors	Diagnostic code 86 checks the door/drawers reed sensors. This test will display door and drawer status in the temperature display. The control will display the door status as either open **O** or closed **C**. The Fresh Food door status is controlled by a magnet attached to the bottom of the door that operates a reed switch in the customer control.The door open signal is handled thru the customer control board communication with the main board. The drawer status is controlled by magnets on the drawer slides that operate the reed switches located in the back left side of the liner wall. Voltage can be checked at the main board K115 connector, (convertible drawer 3-4 and freezer drawer 5-6), for 5 VDC with drawer open, and 0 VDC with drawer closed. Icemaker status can be checked at the main board K115 connector. The icemaker status is controlled by a magnet located on the left rear corner of the ice container that operates the reed switch attached to the bottom of the icemaker. With the ice container in place, icemaker status can be checked at the main board K115, 1-2 for 5 VDC when drawer open, and 0 VDC when drawer closed.



Icemaker and Water Valve Control Diagnostics

The icemaker and water valve connects to the main board but the main board does not control ice production or water valve operation. The consumer does have the ability to turn the icemaker off thru the customer control. When the icemaker is turned off, the main board quits sending line power to pin 8 (black) line wire. Pins 4-5 connect to board neutral and pins 6-3 connect thru the board from the icemaker to the water valve to activate the water valve directly.





Note: The schematic includes an index to identify individual components, locations and use. Temperature sensors are identified by **T** and reed switches by **R** in the first letter designation. The second letter will identify the compartment location of the component and the third letter identifies the function or location. I.E; **TFE** = Temperature, Freezer, Evaporator. Other components like the LED lighting units will indicate location. I.E; **RW** = Refrigerator Wall.

Components with dashed lines (**Optional VCZLF**) are found only in ZIW30 (Wine) units.

Warranty

YOUR MONOGRAM REFRIGERATOR AND FREEZER WARRANTY

Staple sales slip or cancelled check here. Proof of original purchase date is needed to obtain service under warranty.

WHAT IS COVERED

From the Date of the Original Purchase

LIMITED TWO-YEAR WARRANTY
For two years from date of original purchase, we will provide, free of charge, parts and service labor in your home to repair or replace *any part of the refrigerator or freezer* that fails because of a manufacturing defect.

LIMITED FIVE-YEAR WARRANTY
For five years from date of original purchase, we will provide, free of charge, parts and service labor in your home to repair or replace *any part of the sealed refrigerating system* (the compressor, condenser, evaporator and all connecting tubing) that fails because of a manufacturing defect.

LIMITED ADDITIONAL SIXTH- THROUGH TWELFTH-YEAR WARRANTY ON THE SEALED SYSTEM
For the sixth through twelfth year from the date of the original purchase, we will provide, free of charge, replacement parts for *any part of the sealed refrigerating system* (the compressor, condenser, evaporator and all connecting tubing) that fails because of a manufacturing defect. You pay for the service trip to your home and for service labor charges.

LIMITED THIRTY-DAY WARRANTY ON WATER FILTER CARTRIDGE (Water filter, if included)
From the date of the original purchase we will provide, free of charge, replacement parts for *any part of the water filter cartridge* that fails because of a manufacturing defect. During this limited thirty-day warranty, we will also provide, free of charge, a replacement water filter cartridge.

This warranty is extended to the original purchaser and any succeeding owner for products purchased for ordinary home use in the 48 mainland states, Hawaii, Washington, D.C. or Canada. If the product is located in an area where service by a GE Authorized Servicer is not available, you may be responsible for a trip charge or you may be required to bring the product to an Authorized GE Service location for service. In Alaska the warranty is the same except that it is LIMITED because you must pay to ship the product to the service shop or for the service technician's travel costs to your home.

All warranty service will be provided by our Factory Service Centers or by our authorized Customer Care® servicers during normal working hours.

Should your appliance need service, during warranty period or beyond, call 800.444.1845. Please have your serial number and model number available when calling for service.

WHAT IS NOT COVERED

- Service trips to your home to teach you how to use the product.
- Replacement of house fuses or resetting of circuit breakers.
- Damage to the product caused by accident, fire, floods or acts of God.
- Failure of the product if it is used for other than its intended purpose or used commercially.
- Damage caused after delivery.
- Improper installation, delivery or maintenance.
  If you have an installation problem, contact your dealer or installer. You are responsible for providing adequate electrical, plumbing and other connecting facilities.
- Replacement of the light bulbs, if included, or water filter cartridge, if included, other than as noted above.
- Replacement of the water filter cartridge, if included, due to water pressure that is outside the specified operating range or due to excessive sediment in the water supply.
- Loss of food due to spoilage.
- Incidental or consequential damage caused by possible defects with this appliance.
- Product not accessible to provide required service.

EXCLUSION OF IMPLIED WARRANTIES—Your sole and exclusive remedy is product repair as provided in this Limited Warranty. Any implied warranties, including the implied warranties of merchantability or fitness for a particular purpose, are limited to one year or the shortest period allowed by law.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. To know what your legal rights are in your state, consult your local or state consumer affairs office or your state's Attorney General.

Warrantor: General Electric Company,
Louisville, KY 40225

GE Appliances
General Electric Company
Louisville, KY 40225
GEAppliances.com