

GE Consumer & Industrial

# Technical Service Guide

March 2008

## Profile Bottom Mount Double Drawer Refrigerators

PGCS1NFXSS

PGCS1PJXSS

PGSS5NFXSS

PGSS5PJXSS



31-9166



GE Appliances  
General Electric Company  
Louisville, Kentucky 40225



### **IMPORTANT SAFETY NOTICE**

The information in this service guide 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.

### **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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# Introduction

\*This new Profile Bottom Mount Double Drawer Refrigerator has the following features:

- New integrated dispenser with child lock and door alarm, combined with LCD screen, provides customer control of temperatures and features presented in computer-style menus.
- Precise Fill technology dispenses fresh, filtered water in accurate measurements.
- Two coil water tanks provide added storage volume with increased surface area for quick temperature recovery.
- Factory installed Icemaker with Water Filtration System automatically creates fresh, filtered ice cubes.
- ClimateKeeper™ Temperature Management System, digital controls, and electronic sensors give you a greater degree of control over food preservation. An external "air" thermistor changes the control setting based on ambient condition to keep the fresh food and freezer at the correct temperature.
- TurboCool™ — Rapidly cools the refrigerator compartment in order to more quickly cool foods.
- Two freezer drawers add convenience by allowing easy access and organization of frozen foods.
- An articulating door mullion, attached to the right side door, provides a movable center mullion that maximizes access to the fresh food compartment.
- Damper/air inlet assembly, located in the bottom of the fresh food section, creates more usable space on the top shelf.
- Secure-Close Door Systems - Securely pulls the doors and drawers shut, even after you release the handles.
- Anti-tip kit will be required for 21 cubic foot models.
- LED Lighting - Casts a clean, beautiful light throughout the fresh food area of the refrigerator. (GE Reveal™ Lighting in freezer.)
- The 3-speed compressor is controlled by an inverter that receives input from the low voltage DC side of the main control board. The inverter always has 120 VAC applied when the refrigerator is connected to power. The main control board still makes compressor decisions based on the input of thermistors, door-open time, and input from the LCD display. The main control also operates all other electrical components in the refrigerator such as the water valve, fan motors, lights, etc.



\* Features may vary by model.



# Nomenclature

**P G C S 1 P J X S S**

**Brand/Product**

P - Profile

**Configuration**

G - French Door w/Double FZ Drawer

**Style**

C - Counter Depth

S - Standard Depth

**Exterior**

S - Stainless Steel

**Capacity**

1 - 21 Cubic Foot

5 - 25 Cubic Foot

**Exterior Color**

SS - Stainless/Stainless

**Model Year**

X - 2008

**Ice/Water**

F - 1 Year Filter/Icemaker

J - External Water Dispenser, 1 Year Filter/Icemaker

**Feature Pack**

N - Non-Dispenser

P - LED Lighting

The nomenclature plate is located on the upper left wall 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 numbers of the serial number identify the month and year of manufacture.

*Example:* **AR123456S** = January, 2008

A - JAN	2008 - R
D - FEB	2007 - M
F - MAR	2006 - L
G - APR	2005 - H
H - MAY	2004 - G
L - JUN	2003 - F
M - JUL	2002 - D
R - AUG	2001 - A
S - SEP	2000 - Z
T - OCT	1999 - V
V - NOV	1998 - T
Z - DEC	1997 - S

The letter designating the year repeats every 12 years.

*Example:*

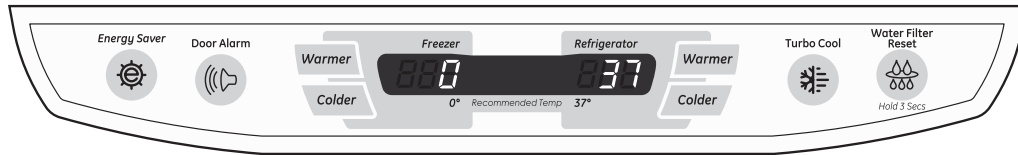
T - 1974

T - 1986

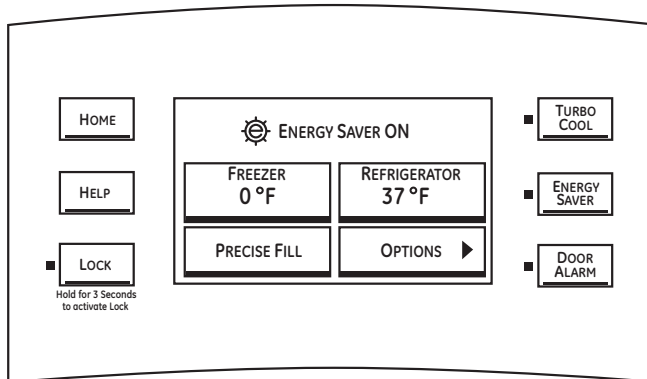
T - 1998

# Control Features

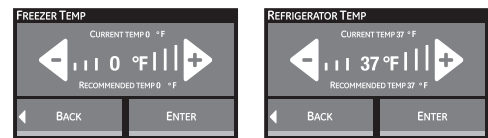
## About the controls with temperature settings.



(Models with controls inside the refrigerator)



(Models with controls on the door)



**NOTE:** The refrigerator is shipped with protective film covering the temperature controls. If this film was not removed during installation, remove it now.

The temperature controls are preset in the factory at **37°F** for the refrigerator compartment and **0°F** for the freezer compartment. Allow 24 hours for the temperature to stabilize to the preset recommended settings.

The temperature controls can display both the **SET** temperature as well as the actual temperature in the refrigerator and freezer. The actual temperature may vary slightly from the **SET** temperature based on usage and operating environment.

Setting either or both controls to **OFF** stops cooling in both the freezer and refrigerator compartments, but does not shut off electrical power to the refrigerator.

### Changing the Temperature

**For Controls-on-the-Door Models:**

**Models with External Dispensers:**

**To change the Refrigerator temperature:**

**Access By:** Home > Refrigerator

**Activate By:** Using the arrows to select the desired temperature. You must press **ENTER** to set the new temperature.

**To change the Freezer temperature:**

**Access By:** Home > Freezer

**Activate By:** Using the arrows to select the desired temperature. You must press **ENTER** to set the new temperature.

Once the desired temperature has been set, the display will return to the **HOME** screen and show the set temperatures underneath the actual temperature display for several seconds. Several adjustments may be required. Each time you adjust the controls, allow 24 hours for the refrigerator to reach the temperature you have set.

**For Controls Inside the Refrigerator:**

Opening the door displays the actual temperature. To change the temperature, press either the **WARMER** or **COLDER** touch pads until the desired temperature is displayed.

Once the desired temperature has been set, the temperature display will return to the actual refrigerator and freezer temperatures after 5 seconds. Several adjustments may be required.

Each time you adjust controls, allow 24 hours for the refrigerator to reach the temperature you have set.

**To turn the cooling system off,** tap the **WARMER** pad for either the refrigerator or the freezer until the display shows **OFF**. **To turn the unit back on,** press the **COLDER** pad for either the refrigerator or freezer. Then press the **COLDER** pad again and it will go to the preset points of **0°F** for the freezer and **37°F** for the refrigerator. Setting either or both controls to **OFF** stops cooling in both the freezer and refrigerator compartments, but does not shut off electrical power to the refrigerator.

**Models with External Dispensers:**

**Note:** The following procedure is the only method to turn the cooling system off.

**Access By:** Home > Options > Information and Settings > Cooling System Off

To turn the cooling system back on, press the touch screen and press the **ON** button.

**Activate By:** Pressing **ENTER**.



## About the home screen

The home screen is the initial screen presented after power-up. The status bar at the top displays the status of many of the refrigerator features. Freezer and Refrigerator sections display present compartment temperatures.

- Press displayed set temperatures. Set temperatures then can be changed.
- Press **Precise Fill** for fill options.
- Press **Options** to provide access to Screen Appearance, Metric/English units, Button Beep on/off, and Water Filter Instructions.



## About the temperature controls

The temperature controls are preset in the factory at 37°F (3°C) for the refrigerator compartment and 0°F (-18°C) for the freezer compartment. Allow 24 hours for the temperature to stabilize to the preset recommended settings.

Refrigerator temperatures can be adjusted between 34°F and 43°F (1°C to 6°C), and the freezer temperatures can be adjusted between -6°F and +7°F (-21°C to -14°C).

The temperature controls can display both the **SET** temperature as well as the actual temperature in the refrigerator and freezer. The actual temperature may vary slightly from the **SET** temperature based on usage and operating environment.

Once the desired temperature has been set, the display will return to the **HOME** screen and show the set temperatures underneath the actual temperature display for several seconds. Several adjustments may be required. Each time you adjust the controls, allow 24 hours for the refrigerator to reach the temperature you have set.

To change the Refrigerator temperature:

**Access By:** Home > Refrigerator

**Activate By:** Using the arrows to select the desired temperature. You must press **ENTER** to set the new temperature.

**Note:** If an attempt is made to adjust the refrigerator set temperature above 43°F (6°C) or below 34°F (1°C), the + or - arrow will disappear. If **ENTER** is not pressed, the last refrigerator temperature entered will remain the set temperature shown underneath the actual temperature display. If **ENTER** is pressed, the set temperature displayed will be the maximum of 43°F (6°C) or the minimum of 34°F (1°C).



Reset Attempt Above 43°F (6°C)



Reset Attempt Below 34°F (1°C)



(Continued next page)



To change the Freezer temperature:

Access By: Home > Freezer

**Activate By:** Using the arrows to select the desired temperature. You must press **ENTER** to set the new temperature.



Reset Attempt Above +7°F (-14°C)



**Note:** If an attempt is made to adjust the freezer set temperature above +7°F (-14°C) or below -6°F (-21°C), the + or - arrow will disappear. If **ENTER** is not pressed, the last freezer temperature entered will remain the set temperature shown underneath the actual temperature display. If **ENTER** is pressed, the set temperature displayed will be the maximum of +7°F (-14°C) or the minimum of -6°F (-21°C).

Reset Attempt Below -6°F (-21°C)



## Options

Use Options to access Settings, Water Filter Reset, and Cooling System Off. Access by: Home> Options.

- Press **Settings** to access Screen Appearance, Metric/English units, and Button Beep on/off.
- Press **Cooling System Off** to turn off refrigerator.
- Press **Reset Water Filter** to display percent of filter life expectancy used, replacement and order instructions.



# About TurboCool™

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## How it Works

TurboCool™ rapidly cools the refrigerator compartment in order to more quickly cool foods. Use TurboCool when adding a large amount of food to the refrigerator compartment, putting away foods after they have been sitting out at room temperature or when putting away warm leftovers. It can also be used if the refrigerator has been without power for an extended period.

Once activated, the compressor will turn on immediately and the fans will cycle on and off at high speed as needed for eight hours. The compressor will continue to run until the refrigerator compartment cools to approximately 34°F (1°C), then it will cycle on and off to maintain this setting. After 8 hours, or if TurboCool is pressed again, the refrigerator compartment will return to the original setting.

## How to Use

Press the TurboCool pad. TurboCool activated will be indicated by an illuminated LED next to the pad. The status bar section of the LCD will indicate TurboCool ON. The displayed refrigerator temperature will be replaced with TurboCool.



### Note:

- On dispenser models, the refrigerator temperature can be changed during TurboCool, but when attempting to change refrigerator temperature with TurboCool on, the LED will go out and TurboCool will be cancelled.
- The freezer temperature is not affected and can be changed during TurboCool.
- When opening the refrigerator door during TurboCool, the fans will continue to run if they have cycled on.

## Precise Fill (on some models)

This water dispenser is equipped with a feature called "precise fill." This feature allows you to choose a precise amount of water (cups, ounces, pints, or liters) that you would like dispensed. Access by pressing: Home > Precise Fill > Set Amount. Activate by using the arrow buttons to select the desired amount. Press **MORE UNITS** to select between CUPS, OUNCES, LITERS or PINTS.

Select the precise amount of water you would like dispensed. **If you selected OUNCES**, press the arrowpads on either side of the display to select the number of ounces you would like to have dispensed between 2-128 ounces. **If you selected LITERS** you can dispense between 0-4 liters. **If you selected PINTS** you can dispense between 0-8 pints.

**If you selected CUPS**, you can dispense between whole cups (1-16 cups) or fractions of a cup (1/4-3/4 cups).

Press **GO TO FAVORITES** for a commonly used or saved amount. Use the arrows to select the desired amount.

Press the cup against the cradle and water will begin dispensing. It will automatically stop when the amount set has been dispensed. The display will show there is no water left to dispense, then reset.

**Note:** Do not leave the dispenser unattended when water is being dispensed.

If you would like to stop dispensing water before the specified amount has been dispensed, just remove the cup from the cradle. The display will show the amount left to dispense.



## About the water filter.

### Water Filter Cartridge

The water filter cartridge is located in the back upper right corner of the refrigerator compartment.

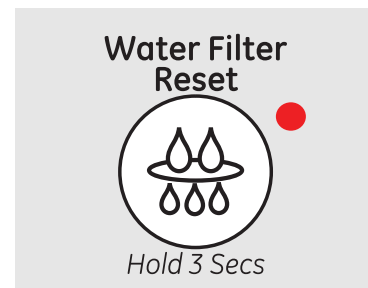
### When to Replace the Filter

On models with controls inside refrigerator, there is a replacement indicator light for the water filter cartridge on the temperature display. This light will turn orange to tell you that you need to replace the filter soon. The filter cartridge should be replaced when the replacement indicator light turns red or if the flow of water to the dispenser or icemaker decreases.

On models with external dispensers, the top of the LCD screen will display, "Replace Water Filter". You can check the status of the water filter manually and obtain replacement instructions. Access by pressing: Home > Options > Reset Water Filter.

### Filter Bypass Plug

You must use the filter bypass plug when a replacement filter cartridge is not available. The dispenser and the icemaker will not operate without the filter or filter bypass plug.



MODELS WITH CONTROLS INSIDE REFRIGERATOR



MODELS WITH EXTERNAL DISPENSERS

**Note:** To activate filter alerts, the main control board monitors the accumulated time the dispenser is used. On models with precise fill, both accumulated time and the volume of water dispensed are used.

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## Settings

Use Settings to access Screen Appearances, Button Beep, and Units Metric/English. Access by: Home> Options> Settings.

- Press **Screen Appearance** to access Color Options, Brightness, and Screen Saver.
- Press **Button Beep** to turn beep on or off.
- Press **Units Metric/English** to change temperature presentation.



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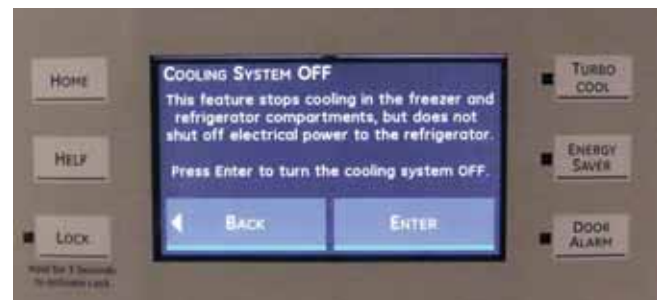
## Cooling System Off

Access by: Home> Options> Cooling System Off. Press Enter to turn the cooling system off. To turn the cooling system back on, press the touch screen and press the ON button.

Activate By: Pressing ENTER.

### Note

- Turning the **cooling system OFF** stops cooling in both the freezer and refrigerator compartments, but does not shut off electrical power to the refrigerator.
- When the unit is turned back on, it will be set to the standard settings and will take up to 24 hours to stabilize.



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## Screen Appearance

Access by: Home> Options> Settings > Screen Appearance.

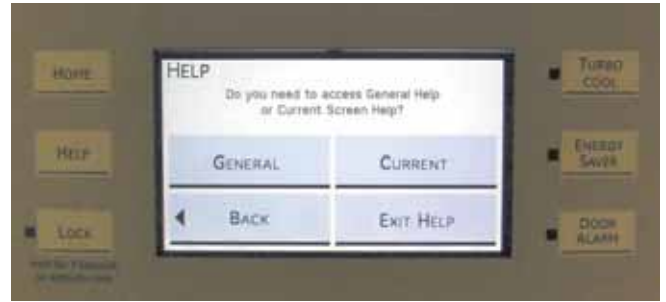
- Press **Color Options** to select the color theme of the touch screen.
- Press **Brightness** to adjust the brightness of the touch screen.
- Press **Screen Saver** to turn on or off the screen saver display.



## About the help screen

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The Help screen provides general information and guidance to certain features of the refrigerator. The help screen can also provide help regarding the Current screen displayed. To access Help, press the **Help** pad.



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### General

Access by: Help> General.

Scroll to select help on:

Refrigerator

Freezer

Precise Fill

Reset Water Filter

Settings

Cooling System Off

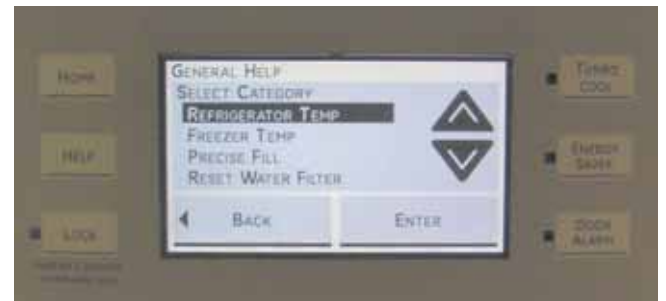
Energy Saver

TurboCool™

Door Alarm

Status Bar

Lock



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### Current

Access by: Help> Current. Press Status Bar, Freezer, Refrigerator, Precise Fill, or Options to receive help on selected item.



## Dispensing Functions

The water function is controlled by the main control board. To select this function, press the cradle on the dispenser.

### Dispenser Lock

When the dispenser system is locked, no dispenser command will be accepted. This includes the dispenser cradle and will prevent accidental dispensing that may be caused by children or pets. If the touch screen, pad, or the cradle is depressed with the system locked, it will be acknowledged with three pulses of the LOCK LED accompanied by an audible tone.

To lock or unlock communication between the dispenser and main control board, press the LOCK pad and hold it for 3 seconds. The LOCK LED will flash while the LOCK pad is pressed. When the communication is locked, the LOCK LED will be illuminated.



On some models, the status of other functions selected prior to the initiation of the lock feature will be displayed. If the lock is engaged while a mode is active, the LED will remain on until that mode times out.

If the lock is engaged when the filter timer expires, the LED will come on but cannot be reset until the lock is turned off.

The lock feature will be restored in the event of a power disruption.

## Defrost Cycle

The refrigerator utilizes an adaptive defrost cycle that operates a glass enclosed heater to remove frost from the evaporator. The defrost cycle has changed from 60 hours adaptive defrost to 96 hours adaptive defrost.

The control board determines the length of time the heater is energized. It does this by monitoring the freezer evaporator thermistor. Once the temperature of the thermistor reaches 50°F, the control cycles the defrost heater off. A bi-metal safety thermostat provides a backup in the event the evaporator thermistor fails. The safety thermostat prevents the temperature from exceeding 140°F.

**Note:** Refer to Pub# 31-9062 for information about basic adaptive defrost.

### Liner Protection Mode

The refrigerator incorporates a liner protection mode for the freezer section. The freezer evaporator fan will start and run on high speed if any door or drawer has been open for 3 minutes. Air will circulate into the fresh food section if the damper is in the open position.

This mode is controlled by 2 timers. Timer #1 monitors door/drawer-open time. A 3-minute door/drawer-open count begins when a door/drawer is opened. If 3 minutes elapse before the door/drawer is closed, the liner protection mode will become active. Once the door/drawer is closed, timer #1 resets and liner protection mode goes into standby. In standby, normal fan operation resumes and timer #2 begins a 3-minute door/drawer-closed count. If 3 minutes elapse without a door/drawer opening, liner protection mode will completely deactivate. If a door/drawer is opened within the timer #2 door/drawer-closed count, the remaining time in the door/drawer-closed count will be deducted from the timer #1 door/drawer-open count.

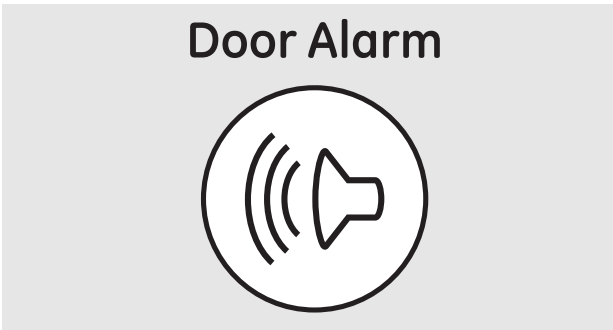
### Automatic Quick Ice Feature

When the main board senses icemaker water valve operation, a timer in the main board will run the evaporator fan (when the sealed system is off) for 120 minutes and then return to normal operation. At every water valve cycle the timer is reset to zero and counts to 120 minutes. Increased evaporator fan operation provides approximately even ice production in 90° (longer compressor on-time) to 70° (longer compressor off-time) ambients.



### Door Alarm (non-dispenser models)

The door alarm will sound if any door/drawer is open for more than 2 minutes. When you close the door/drawer, the beeping stops.



### Door Alarm (dispenser models)

The door alarm will sound and the door alarm LED will be flashing if any door/drawer is open for more than 2 minutes. When you close the door/drawer, the beeping stops and the LED will reset to full on.



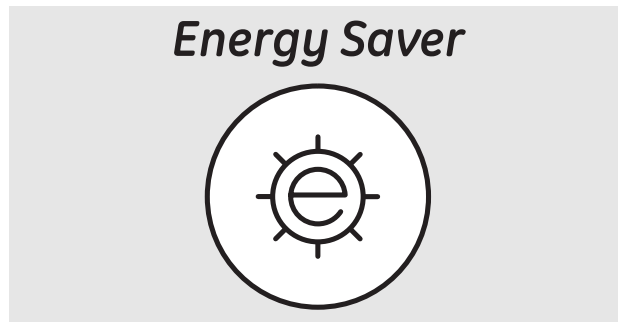
When any refrigerator door/freezer drawer is left open, the LCD screen presents information that allows the consumer to silence the alarm without closing the door/drawer. After pressing SILENCE ALARM, the beeping will stop and the door alarm LED will continue blinking until the door/drawer is closed. If the door/drawer is left open after silencing the alarm, periodic 5-minute reminders will occur. The door/drawer open information reappears on the LCD and the beeping alarm comes on again. When the door/drawer is closed, the reminders stop and the LED returns to full non-blinking on.



### Energy Saver (on some models)

This product is equipped with an energy saver feature. The refrigerator is shipped with the energy saver feature enabled.

Over time, moisture can form on the front surface of the refrigerator cabinet and cause rust. If moisture does appear on the front surface of the refrigerator cabinet, turn off the energy saver feature by pressing and releasing the ENERGY SAVER pad on the control panel.



MODELS WITH CONTROLS INSIDE REFRIGERATOR



MODELS WITH EXTERNAL DISPENSERS



## Demo Mode

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The LCD screen has a DEMO MODE that can be accessed. To enter the DEMO Mode, press the **HOME** and **HELP** pads simultaneously for 3 seconds. Upon entering, the cooling system will turn off.

The VIEW FEATURE selection provides a description and instructions on how to use 6 features of the refrigerator. The 6 features presented are Precise Fill, LCD Screen Colors, Temperature Set, TurboCool™, Energy Saver, and Door Alarm.

DEMO SCREEN allows consumer to select and change compartment temperatures and operate Precise Fill while in the DEMO MODE. An OPTIONS setting will display Settings, Water Filter Reset, and Cooling System Off.

To exit the DEMO MODE, press the **HOME** and **HELP** pads simultaneously for 3 seconds. Upon exiting, the cooling system will turn on and the DEMO MODE temperature settings will be used to operate the refrigerator. Unplugging the refrigerator does not escape the demo mode.



## Refrigerator Lights

### Incandescent Lights

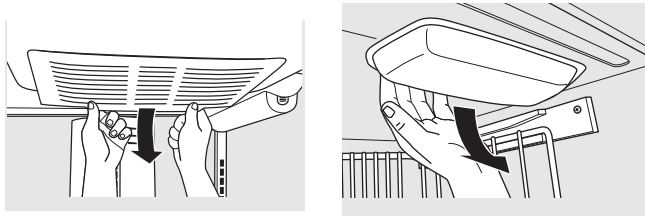
**CAUTION:** Light bulbs may be hot.

**Note:** Setting the controls to **OFF** does not remove power to the light circuit. Reveal® appliance bulbs are used on some models. They can be identified by their blue color when they are not illuminated.

The 2 refrigerator bulbs and the single freezer bulb are located inside light shields. Each light shield is located at the top of the freezer or refrigerator compartment.

#### To remove the bulb:

1. Unplug the refrigerator.
2. Grasp the shield at the back and pull out to release the tabs at the back.
3. Rotate the shield down and then forward to release the tabs at the front of the shield.



4. After replacing light bulb with an appliance bulb of the same or lower wattage, replace the shield.
5. Plug the refrigerator back in.

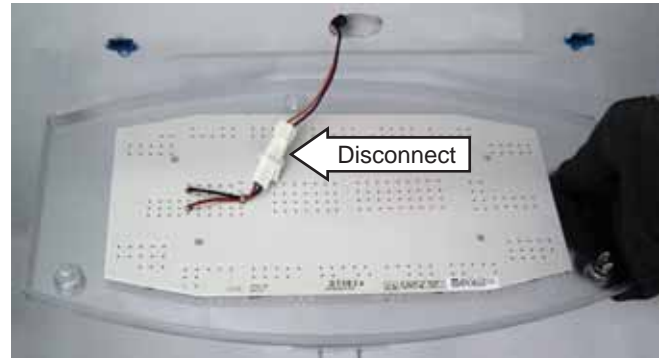
### Refrigerator LED Lights

**Note:** Setting the controls to **OFF** does not remove power to the LED light circuit.

The refrigerator utilizes 12 LED lights that are permanently contained in a fixture and cannot be replaced separately. The fixture is attached to the ceiling of the fresh food section with 3 Phillips-head screws.



The fixture is connected to the refrigerator with a wire harness. After removing the screws, the wire harness can be disconnected.

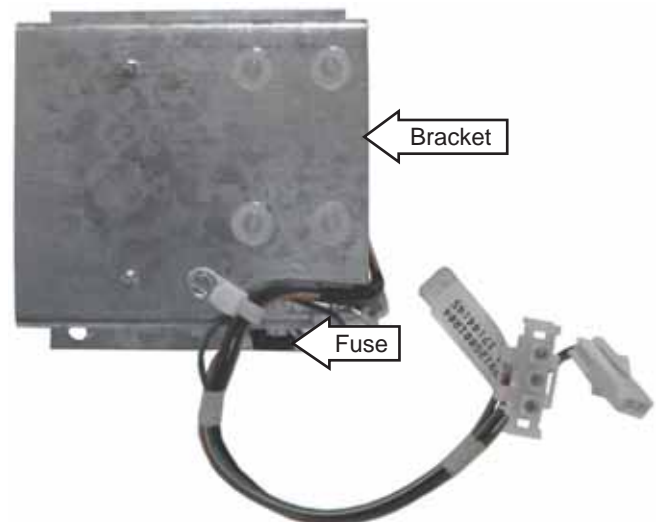


The LED light fixture is powered by a transformer assembly that is located behind the water valve in the machine compartment. The assembly consists of a bracket, transformer, circuit board, and replaceable fuse.

#### Note

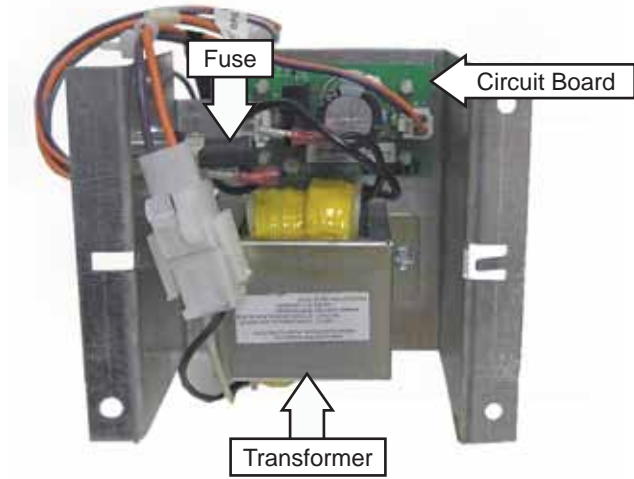
- Determine and correct the cause of fuse failure when replacing the 3-amp fuse (part # WR55X10766).
- The replacement transformer assembly is supplied as a complete unit. The bracket, transformer, and circuit board cannot be ordered separately.
- On later production models, the fuse is eliminated in the LED transformer assembly.

#### Transformer Assembly Removed



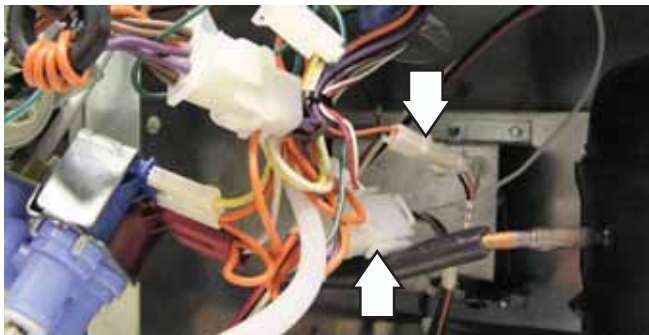
The transformer assembly converts 120 VAC to approximately 36 VDC to power the LED lights. The transformer primary winding has an approximate resistance value of 9.9  $\Omega$ . The secondary winding has an approximate resistance value of .9  $\Omega$ .

### Transformer Assembly Components

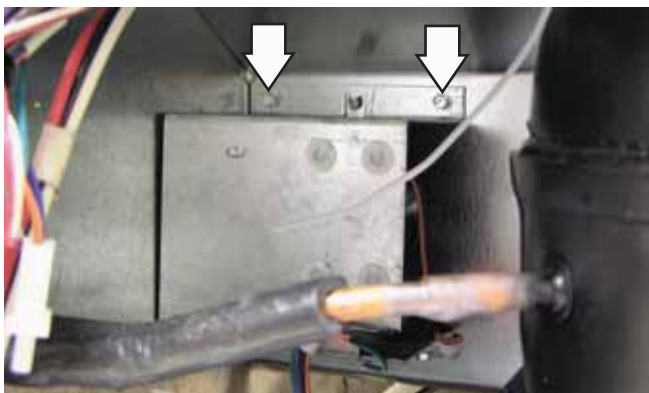


To remove the LED transformer assembly:

1. Unplug the refrigerator.
2. Remove the Inverter. (See *Inverter*.)
3. Disconnect the 2 transformer wire harnesses.



4. Remove the two 1/4-in. hex-head screws that attach the transformer assembly to the machine compartment.
5. Lift up and carefully remove the transformer assembly from the machine compartment.

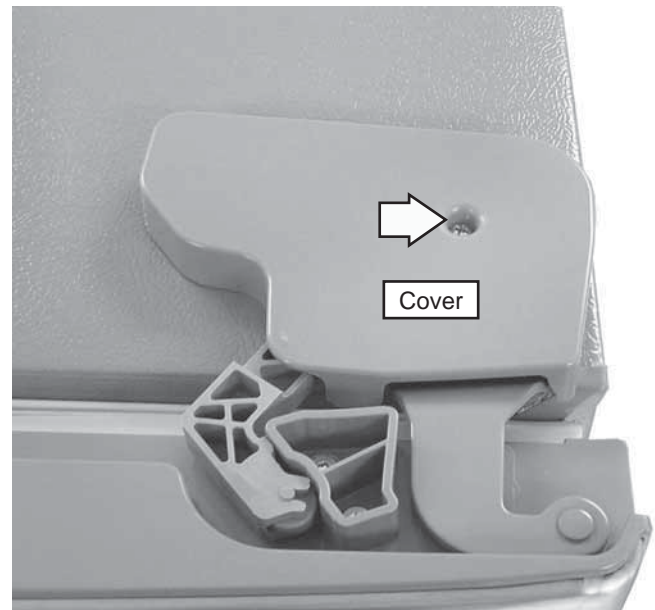


## Door Closure Mechanisms

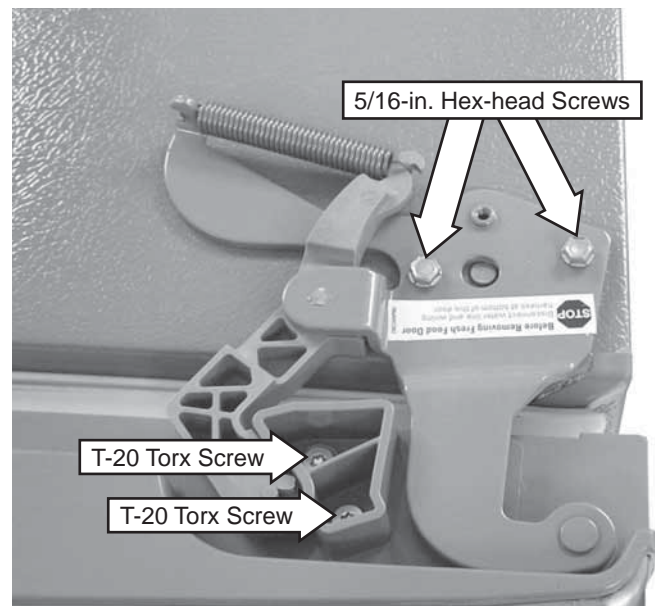
### Refrigerator Doors

The closure mechanism for each refrigerator door consists of a hinge closure assembly attached to the top of the cabinet, which interacts with a cam attached to the top of each door.

To access the hinge closure assembly, it is necessary to remove the Phillips-head screw and the cover from the top of the hinge closure assembly.



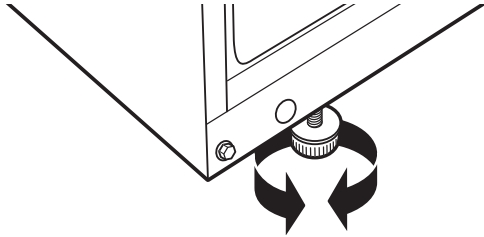
The hinge closure assembly is held to the top of the cabinet with two 5/16-in. hex-head screws. The cam is attached to the top of the door with two T-20 Torx screws.



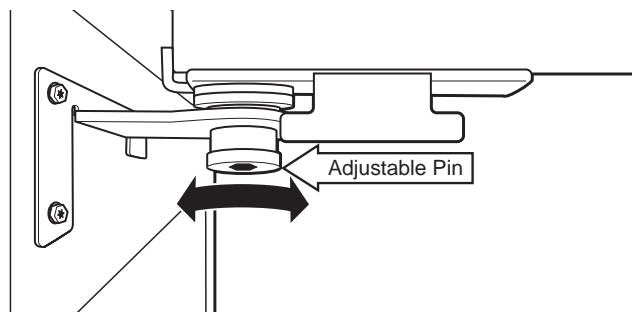
(Continued next page)

## Door Alignment

If the top of the doors are uneven, first try to raise the lowest door by turning the leveling leg on the same side as the door until the doors are even. If the unit rocks, re-adjust the leveling legs until the unit is stable.

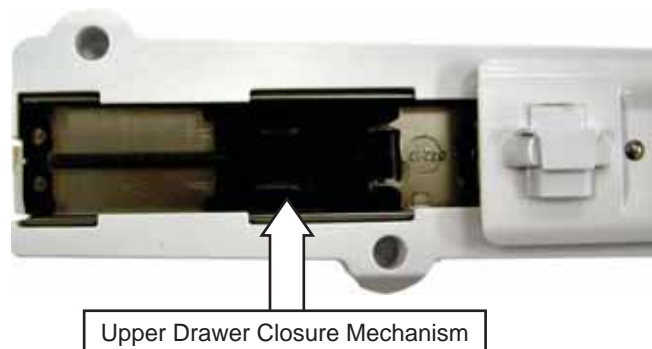


If the doors remain uneven, turn the adjustable pin to raise or lower the left door to match the right door. Use a 1/4-in. Allen wrench to turn the pin.



## Upper Freezer Drawer Closure Mechanisms

The upper freezer drawer utilizes 2 closure mechanisms that automatically pull the drawer shut when it is within 1 inch of the closed position. The mechanisms are built into the 2 upper drawer rail assemblies and are not replaceable as a separate part.

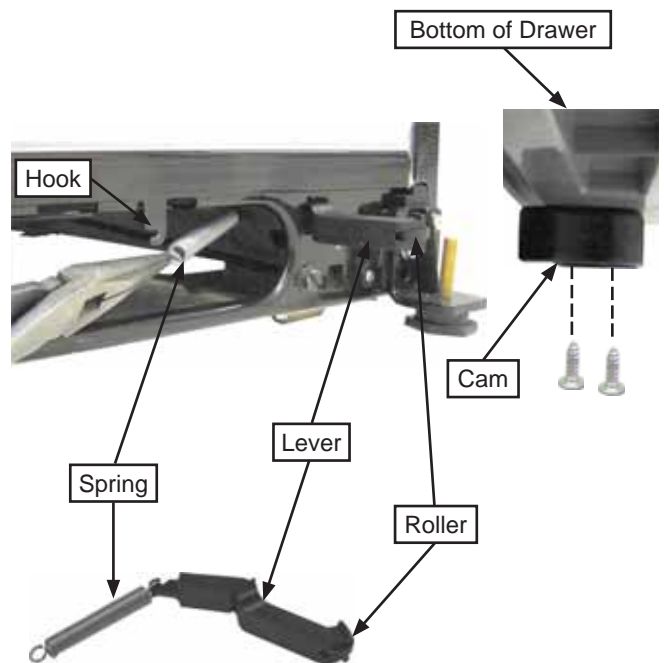


## Lower Freezer Drawer Closure Mechanisms

Two self-closing freezer drawer cam and lever mechanisms automatically pull the lower freezer drawer shut when it is within 1 inch of the closed position. The closure mechanisms are located on the lower corner areas of the drawer and cabinet.

Each closure mechanism consists of a lever, spring, and cam. The lever is attached with a spring to a hook in the base channel. The cam is attached to the bottom of the drawer with two T-20 Torx screws. The lever interacts with the cam to complete the closing of the drawer.

A pair of pliers can be used to remove the spring from the hook. The spring and lever can then be pulled out through the hole in the base channel.



**Note:** Each door closer cam can be installed incorrectly. Ensure each cam is installed on the bottom of the drawer with the hooked end towards the center of the drawer.

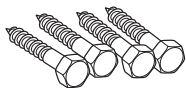
## Bottom View of Drawer and Right Side Cam





## Anti-Tip Floor Bracket (on 21 ft. models)

### MATERIALS YOU MAY NEED (not included)



Lag Bolts



Anchor Sleeves

Drill Bit Appropriate for Anchors

For Anti-Tip Bracket Mounted on CONCRETE Floors Only

### ⚠ WARNING



Under certain circumstances, this refrigerator can tip forward.

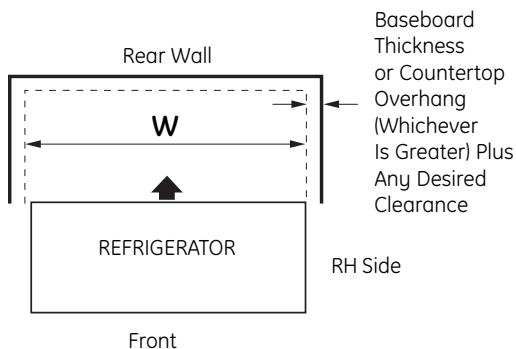
Injury to persons can result.

Install Anti-Tip Bracket packed with this refrigerator.

### 1 MEASURE CABINET OPENING AVAILABLE VS. REFRIGERATOR WIDTH

Measure width of cabinet opening where refrigerator will be placed, *W*.

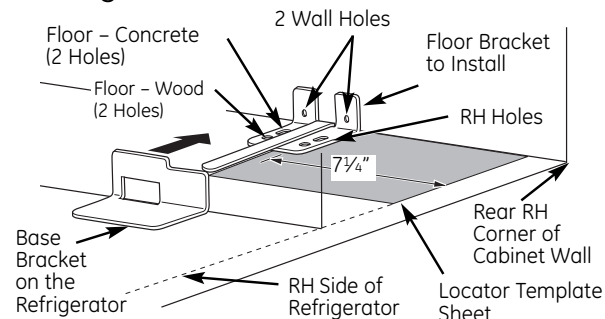
Be sure to account for any countertop overhang, baseboard thickness and any clearance desired. Width, *W*, should not be less than 36 inches. The refrigerator will be placed approximately in the middle of this opening.



### 2 LOCATING THE ANTI-TIP FLOOR BRACKET

- A** Place the anti-tip floor bracket locator template (included inside the anti-tip kit) onto the floor up against the rear wall, within *W*, and in line with the desired location of the RH side of the refrigerator (see Figure 1).

Figure 1 – Installation Overview



- B** Place the anti-tip floor bracket onto the locator template with its RH floor holes lined up with the floor holes indicated on the template sheet, approximately  $7\frac{1}{4}$ " from the edge of the sheet or the RH side of the refrigerator.
- C** Hold down in position and use the anti-tip floor bracket as a template for marking the holes based upon your configuration and type of construction as shown in Step 3. Mark the hole locations with a pencil, nail or awl.

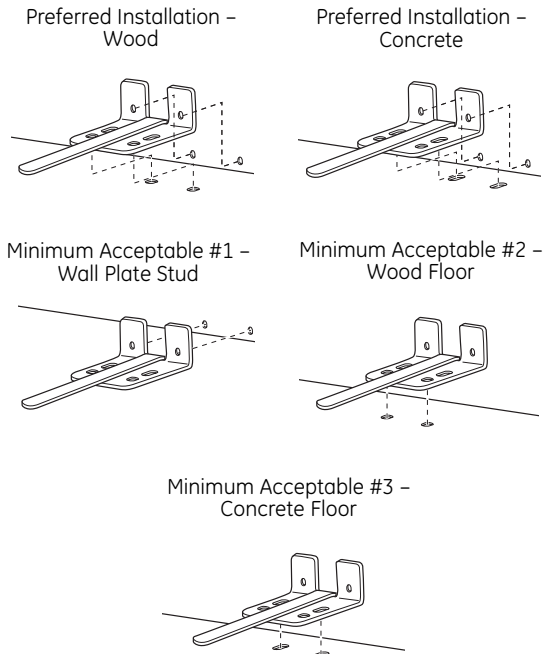
#### NOTE:

- It is REQUIRED to use at least 2 screws to mount the floor bracket (one on each side of the anti-tip floor bracket). Both must be into either the wall or the floor. Figure 2 indicates all the acceptable mounting configurations for screws. Identify the screw holes on the anti-tip floor bracket for your configuration.

(Continued next page)

## 2 LOCATING THE ANTI-TIP FLOOR BRACKET (cont.)

Figure 2 – Acceptable Screw Placement Locations

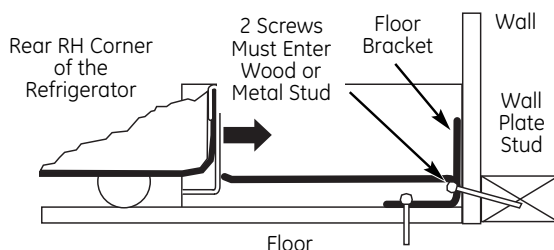


## 3 ANTI-TIP BRACKET INSTALLATION

### A WOOD Wall and Floor Construction:

- Drill the appropriate number of 1/8" pilot holes in the center of each floor bracket hole being used (a nail or awl may be used if a drill is not available) AND remove the locator template from the floor.
- Mount the anti-tip floor bracket by fastening the 2, or preferably 4, #10-16 hex-head screws tightly into place as illustrated in Figure 3.

Figure 3 – Attachment to Wall and Floor



### B CONCRETE Wall and Floor Construction:

- Anchors required (not provided):  
4 each 1/4" x 1 1/2" lag bolts  
4 each 1/2" O.D. sleeve anchors
- Drill the recommended size holes for the anchors into the concrete at the center of the holes marked in Step 2.
- Install the sleeve anchors into the drilled holes. Place the anti-tip floor bracket as indicated in Step 2. Remove the locator template from the floor.
- Install the lag bolts through the anti-tip floor bracket and tighten appropriately.

### C WOOD Wall and TILE Floor Construction:

- For this special case, locate the 2 wall holes identified in Fig. 1. Drill an angled 1/8" pilot hole (approx. as shown in Fig. 3) in the center of each hole.
- Mount the anti-tip floor bracket using the Minimum Acceptable Installation #1, as illustrated in Fig. 2.

## 4 POSITIONING THE REFRIGERATOR TO ENGAGE THE ANTI-TIP FLOOR AND BASE BRACKETS

- A** Before pushing the refrigerator into the opening, plug the power cord into the receptacle and connect waterline (if equipped). Check for leaks.
- B** Locate the refrigerator's RH side and move back approximately in line with the RH side of the cabinet opening, W. This should position the anti-tip floor bracket to engage the anti-tip base bracket on the refrigerator.
- C** Gently roll the refrigerator back into the cabinet opening until it comes to a complete stop. Check to see if the refrigerator front lines up with the cabinet front face. If not, carefully rock the refrigerator forward and backward until engagement occurs and you notice that the refrigerator is fully pushed up against the rear wall.
- D** OPTIONAL: Adjust the rear (and front) wheel height settings to fully engage the rear anti-tip brackets, while also aligning the refrigerator front with the cabinet front face.

### NOTE:

If you pull the refrigerator out and away from the wall for any reason, make sure the anti-tip floor bracket is engaged when the refrigerator is pushed back against the rear wall.

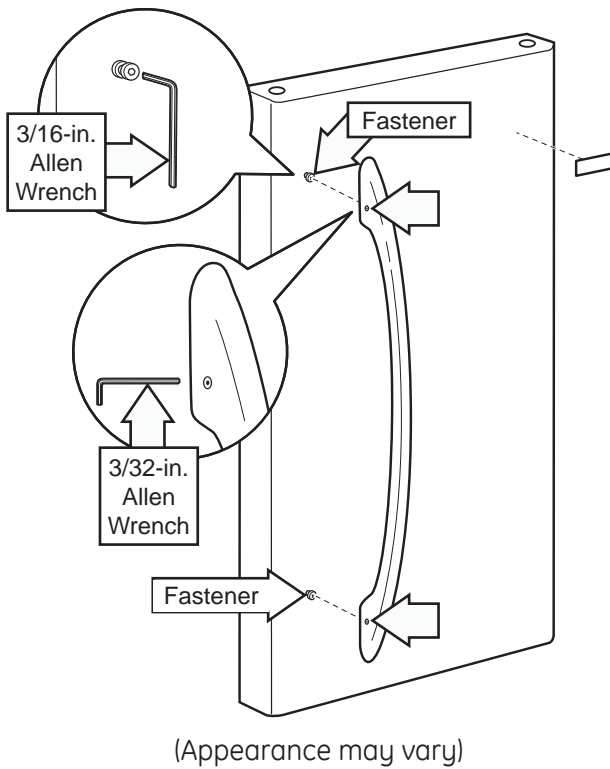
## Refrigerator Doors

### Refrigerator Door Handle Removal

**Note:** Each refrigerator door handle is held in place by an upper and lower fastener and locked in position by 2 recessed 3/32-in. Allen screws. Each fastener is located behind the handle and attached to the door panel.

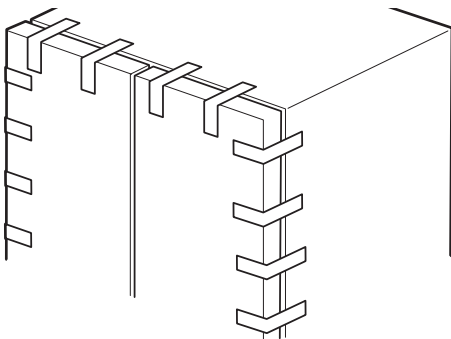
Using a 3/32-in. Allen wrench, the 2 recessed screws can be loosened, then the handle can be pulled straight out from the door.

**Note:** If the handle mounting fasteners need to be tightened or removed, use a 3/16-in. Allen wrench.



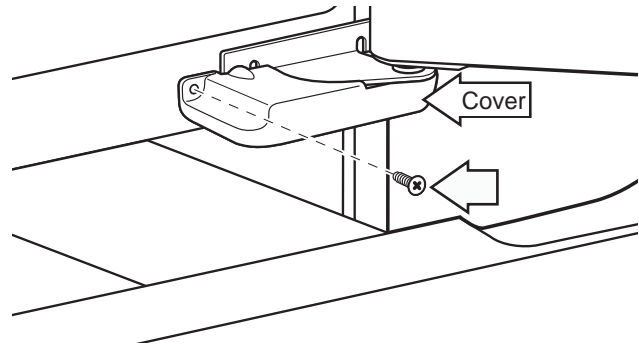
### Refrigerator Door Removal

1. Tape the doors shut with masking tape.

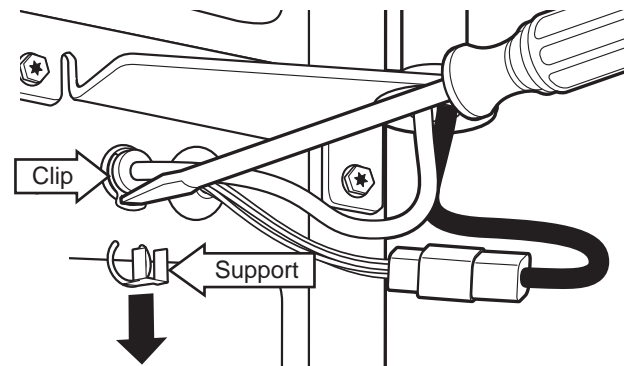


**Note:** The following procedure applies to removing the right-side door with dispenser. On non-dispenser models, follow this same procedure for removing the right-or left-side doors. There are no wires, water lines, or center hinge covers on non-dispenser doors.

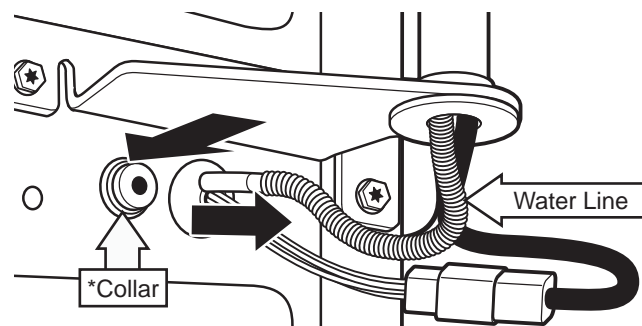
2. Remove the screw securing the center hinge cover.
3. Pull the left side of the hinge cover out and remove the cover from the hinge.



4. Using a flat blade screwdriver, push down and remove the metallic water line support.
5. Using a flat blade screwdriver, push the red plastic locking clip down and off.



6. Carefully push the red collar in while pulling the water line out from the coupling.

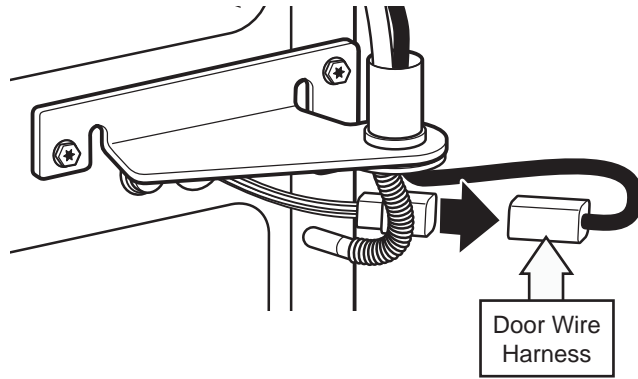


\*Replacement collar unavailable

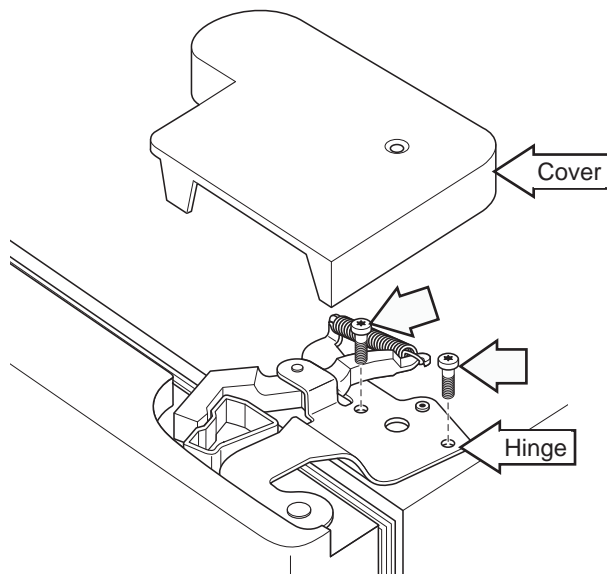
(Continued next page)



7. Disconnect the door wire harness.

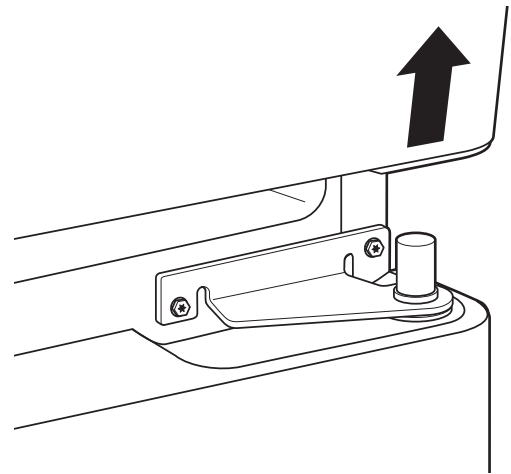


8. Remove the hinge cover on top of the refrigerator door by removing the Phillips-head screws and pulling it up.
9. Using a 5/16-in. socket ratchet/driver, remove the bolts securing the top hinge to the cabinet. Then lift the hinge straight up to free the hinge pin from the socket in the top of the door.

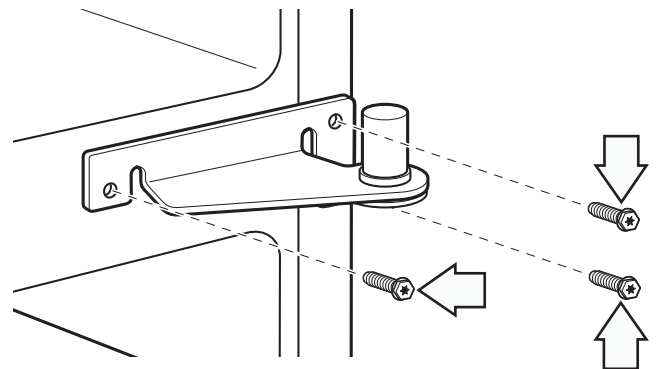


10. Remove the tape and tilt the door away from the cabinet. Lift the door off the center hinge pin.

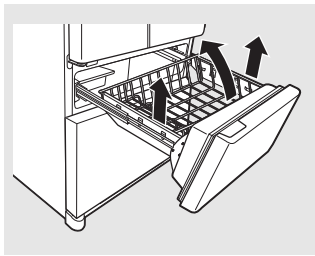
**Note:** Ensure that the plastic hinge pin thimble remains on the hinge pin or inside door hinge pin hole located in the bottom of the door.



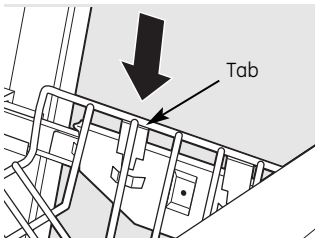
11. Set the door on a non-scratching surface with the handle side up.
12. Using a 5/16-in. socket ratchet/driver, remove the bolts securing the center hinge to the cabinet. Set the hinge and bolts aside.



## Freezer Basket Removal



Appearance may vary



### Basket Removal (Top Drawer)

To remove the full-width basket on top freezer drawer models:

- 1 Open the top freezer drawer until it stops.
- 2 The freezer basket rests on the inside tabs on the drawer slides.
- 3 Lift the front end of the basket so that the front two alignment tabs come out of the slide bracket first. Then rotate the front edge of the basket up while lifting the remaining two rear alignment tabs out of the slide bracket.
- 4 Make sure the plastic sleeves remain attached to the 4 slots on the slide brackets.

### When replacing the full-width basket:

Tilt the basket back and lower it down into the drawer. Rotate the basket to a horizontal position and press it down into the 4 alignment tabs.

**NOTE:** Always be sure that all 4 basket slots are engaged in the slide brackets before sliding back into the freezer.

### Basket Removal (Bottom Drawer)

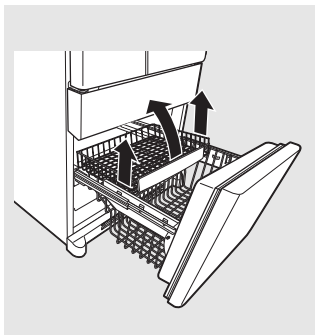
To remove the full-width upper basket:

- 1 Open the bottom freezer drawer until it stops.
- 2 Pull the basket out to the stop location.
- 3 Lift the basket up at the front to release it from the slides.
- 4 Lift the back up and out of the slide.

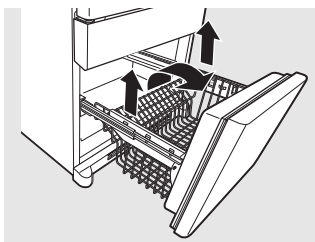
### When replacing the full-width upper basket:

Drop the upper rear wire rail of the basket into place behind the plastic tabs. Then drop the front end of the basket into place and slide the basket back into the closed position.

**NOTE:** Always be sure to fully close this basket.



Appearance may vary



Appearance may vary

To remove the deep full-width lower basket:

- 1 Open the bottom freezer drawer until it stops.
- 2 Lift the rear of the basket up so the two rear alignment tabs are pulled out of the slide bracket.
- 3 Rotate the basket up and out of the drawer.

### When replacing the deep full-width lower basket:

Lower the front end of the basket into position so that the two front alignment tabs enter the slide bracket. Then lower the rear of the basket into place, ensuring the two rear alignment tabs are pressed into place in the slide bracket.

**NOTE:** Always be sure that all 4 basket slots are engaged in the slide brackets before sliding back into the freezer.

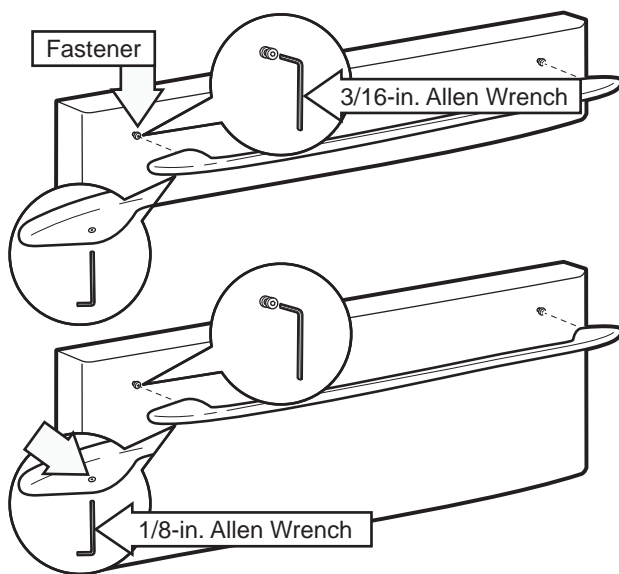
## Freezer Drawers

### Freezer Drawer Handle Removal

**Note:** Each freezer drawer handle is held in place by a left and a right fastener, and locked in position by 2 recessed 1/8-in. Allen screws. Each fastener is located behind the handle and attached to the drawer panel.

Using a 1/8-in. Allen wrench, loosen the 2 recessed screws, then pull the handle straight out from the door.

**Note:** If the handle mounting fasteners need to be tightened or removed, use a 3/16-in. Allen wrench.



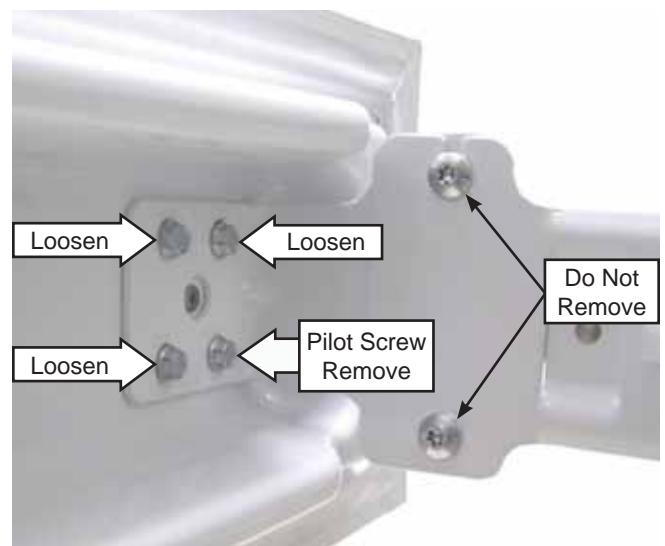
### Upper Drawer Front Vertical Adjustment

**Note:** This following instruction is for adjusting the upper drawer front vertically to meet appearance needs of the customer. Both the right and left side of the drawer front can be adjusted independently.

#### To adjust the upper drawer front vertically:

1. Remove the full-width basket. (See *Freezer Basket Removal*.)
2. Remove the pilot screw on the side of the drawer front that needs to be adjusted. Do one side at a time if both need adjustment.
3. Loosen the remaining three 10-mm hex-head screws, on the side that needs to be adjusted, 3 full turns.
4. Raise or lower the side of the drawer front, requiring adjustment to the desired position. Once positioned, tighten the 3 screws.

**Note:** Do not replace the pilot screw once the drawer front is adjusted. It is no longer needed.



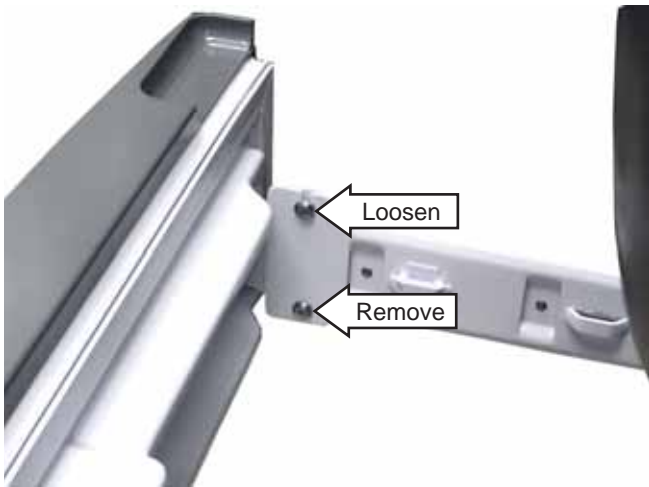
Left Side Bracket Shown

### Upper Drawer Front Removal

#### To remove the upper drawer front:

1. Remove the full-width basket. (See *Freezer Basket Removal*.)

- Loosen (do not remove) the T-30 Torx screw at the top of the left side door bracket.
- Remove the two T-30 Torx screws from the bottom of each door bracket.



Left Side Bracket Shown

- Tilt the drawer front 45° out from the bottom, then lift up and remove the drawer front from the rail assemblies.



- Push the rail assemblies back into the cabinet.

#### Lower Drawer Front Vertical Adjustment

**Note:** This following instruction is for adjusting the lower drawer front vertically to meet appearance needs of the customer. Both the right and left side of the drawer front can be adjusted independently.

#### To adjust the lower drawer front vertically:

- Remove the upper and lower full-width baskets. (See *Freezer Basket Removal*.)

- Remove the pilot screw (center screw) on the side of the drawer front that needs to be adjusted. Do one side at a time if both need adjustment.
- Loosen the remaining four 10-mm hex-head screws, on the side that needs to be adjusted, 3 full turns.
- Raise or lower the side of the drawer front to be adjusted to the desired position. Once positioned, tighten the 4 screws.

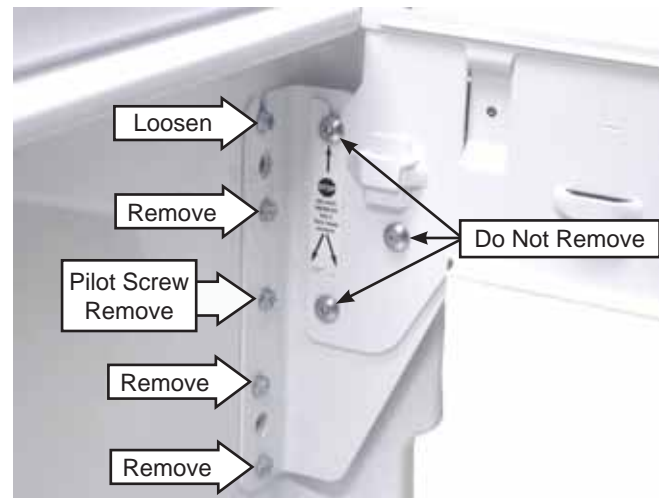
**Note:** Do not replace the pilot screw once the drawer front is adjusted. It is no longer needed.

#### Lower Drawer Front Removal

To remove the lower drawer front:

- Remove the upper and lower full-width baskets. (See *Freezer Basket Removal*.)
- Loosen (do not remove) the two 10-mm hex-head screws (1 on each side), at the top of each door bracket.
- Remove the three 10-mm hex-head screws and the 10-mm hex-head pilot screw (on each side), located under the top screw loosened in step 2.

**Note:** Do not remove the Torx screws.



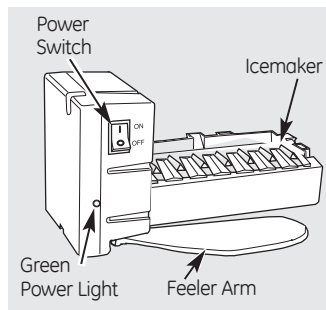
Left Side Bracket Shown

- Lift the drawer front from the rail assemblies.
- Push the rail assemblies back into the cabinet.

**Note:** The pilot screw location helps to provide proper drawer-to-rail alignment. When installing the drawer front, lower the drawer front on the rail assemblies, then insert the pilot screw first.

## Icemaker

A newly installed refrigerator may take 12 to 24 hours to begin making ice.



### Automatic Icemaker (on some models)

The icemaker will produce seven cubes per cycle—approximately 100–130 cubes in a 24-hour period, depending on freezer compartment temperature, room temperature, number of door openings and other use conditions.

See below for how to access ice and reach the power switch.

If the refrigerator is operated before the water connection is made to the icemaker, set the power switch in the **O (off)** position.

When the refrigerator has been connected to the water supply, set the power switch to the **I (on)** position. The icemaker power light will turn green when the lower freezer drawer light switch is pressed in or when the lower freezer drawer is closed.

The icemaker will fill with water when it cools to 15°F (-10°C). A newly installed refrigerator may take 12 to 24 hours to begin making ice cubes.

You will hear a buzzing sound each time the icemaker fills with water.

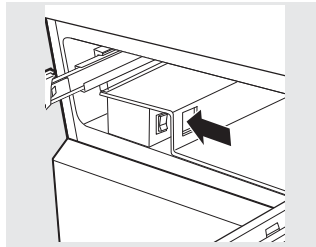
Be sure nothing interferes with the sweep of the feeler arm or the movement of the ice level switch vertical actuator. (See *Ice Level Switch*.)

When the bin fills to the level of the vertical actuator, the icemaker will stop producing ice. It is normal for several cubes to be joined together.

**NOTE:** Each time the icemaker calls for water the evaporator fan motor will operate for 2 hours, resulting in increased ice production.

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

**NOTE:** Set the power switch to the **O (off)** position if the water supply is shut off.

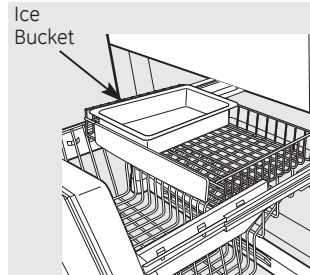


To reach the power switch.

### Accessing Ice and Reaching the Power Switch

To reach the icemaker power switch, open the top freezer drawer and remove the full-width basket. Always be sure to replace the basket.

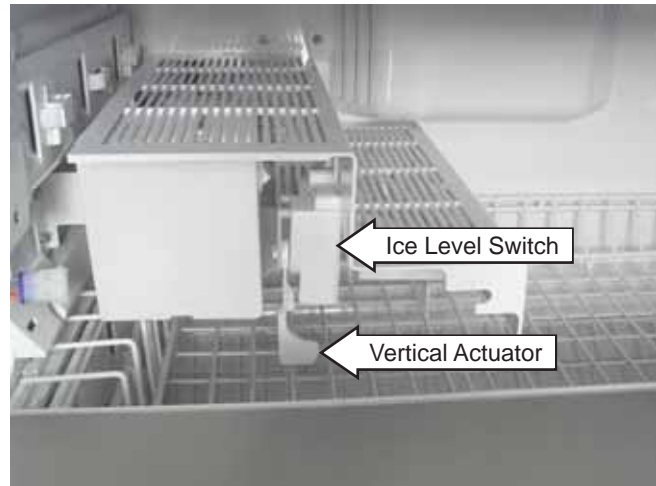
To access ice, simply open the bottom freezer drawer and slide out the full-width basket to expose the ice bucket.



To access ice.

## Ice Level Switch

The ice level switch utilizes a vertical actuator to prevent too high of an ice level in the bucket that would interfere with lower drawer opening or closing. The horizontal feeler arm attached to the bottom of the icemaker now acts as a backup in case the extra ice switch or mechanism fails to disconnect power to the icemaker with a full bucket of ice. It is necessary to remove the icemaker cover and the icemaker bucket cover to remove the ice level switch. (See *Evaporator*, steps 1-12.)



BIN NOT FULL CONDITION



BIN NOT FULL - SWITCH CLOSED POSITION



BIN FULL CONDITION



BIN FULL - SWITCH OPEN POSITION





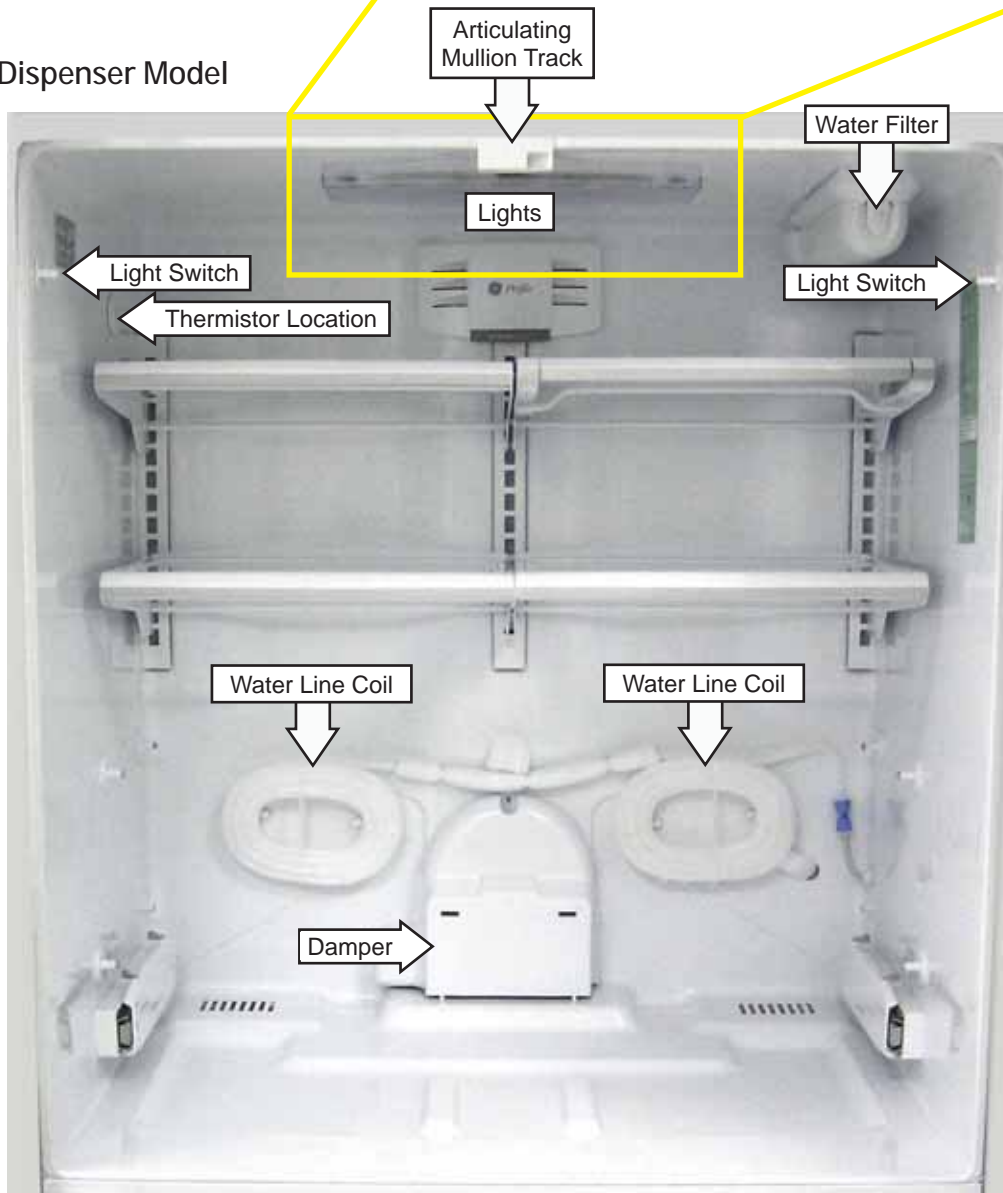
# Components Locator Views

## Fresh Food Compartment

### Non-Dispenser Model



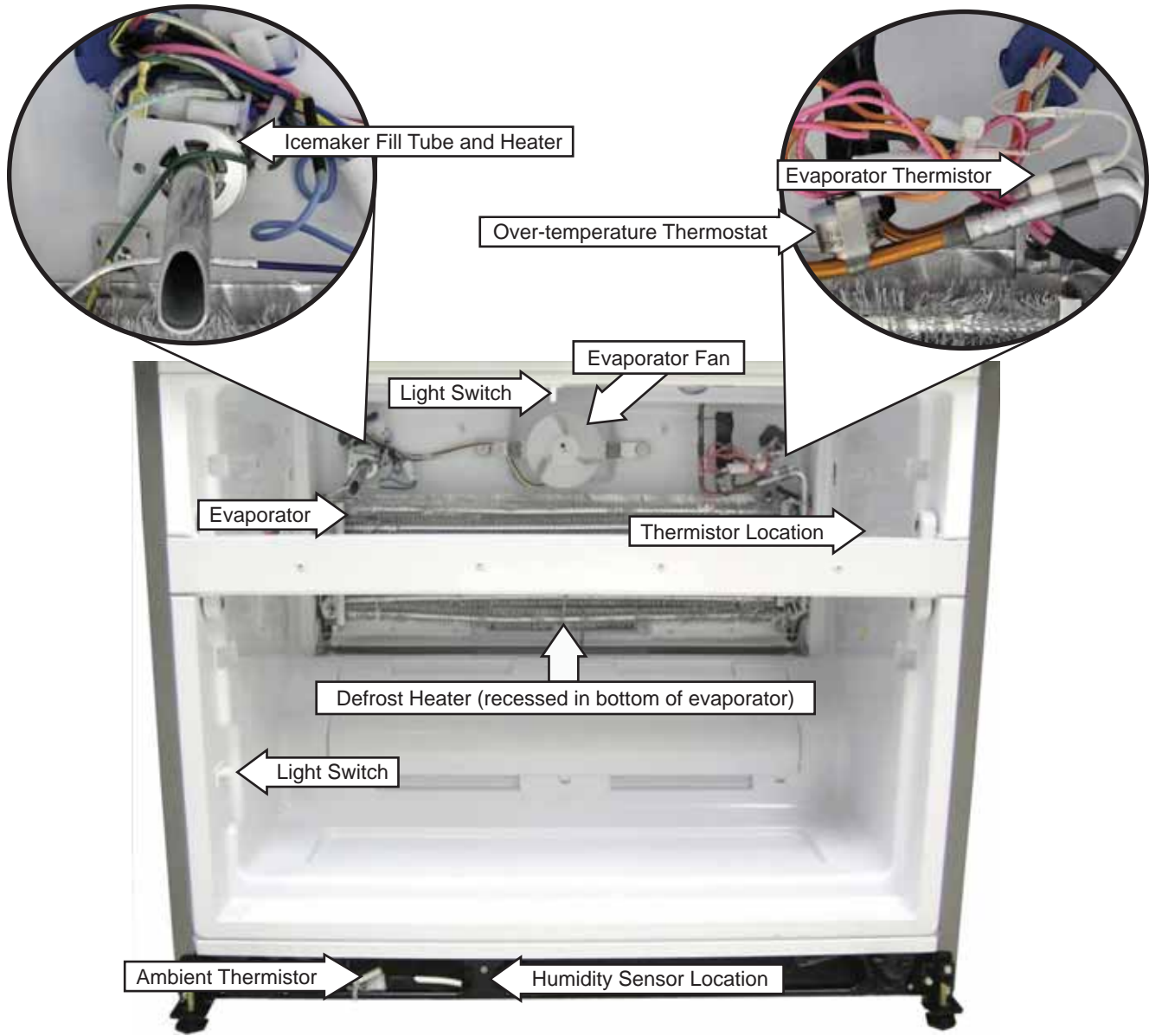
### Dispenser Model



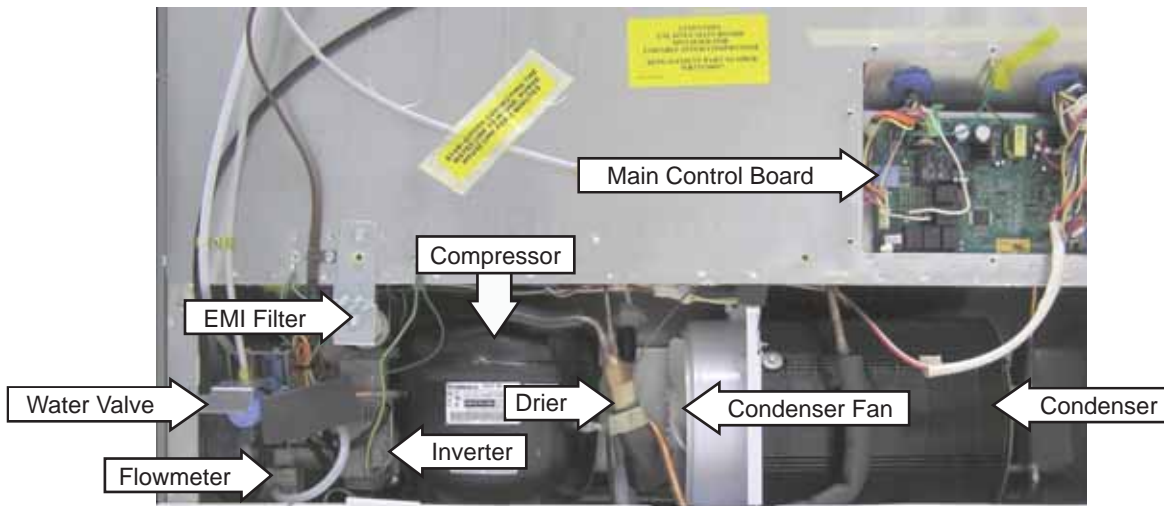
**Note:** On non-dispenser models, the control panel is located in front of the light housing at the top of fresh food compartment.



# Freezer Compartment

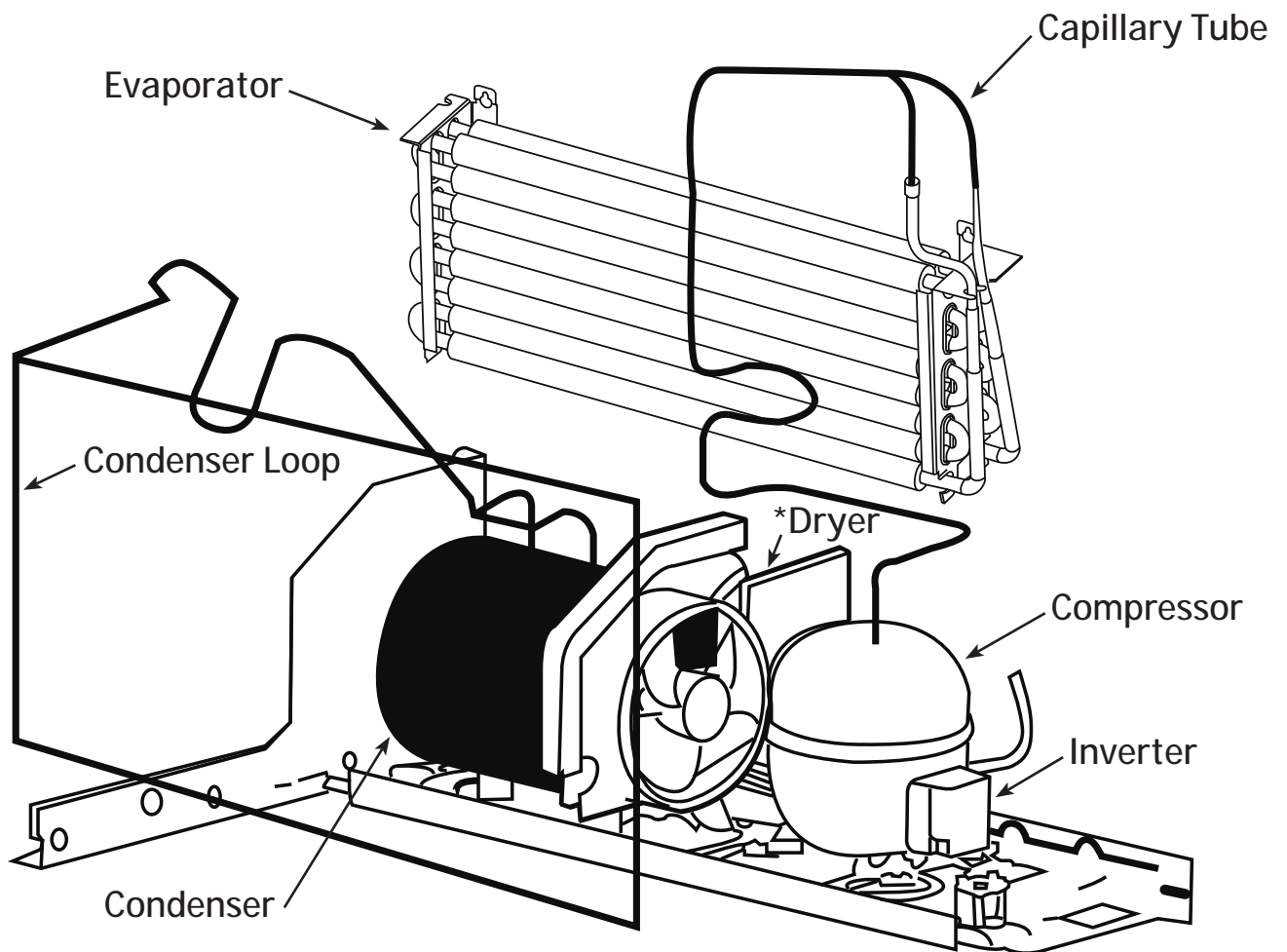


# Rear View



# Refrigeration System

## Refrigeration Components



\* The dryer (not shown), is vertically positioned between the compressor and the condenser fan motor.

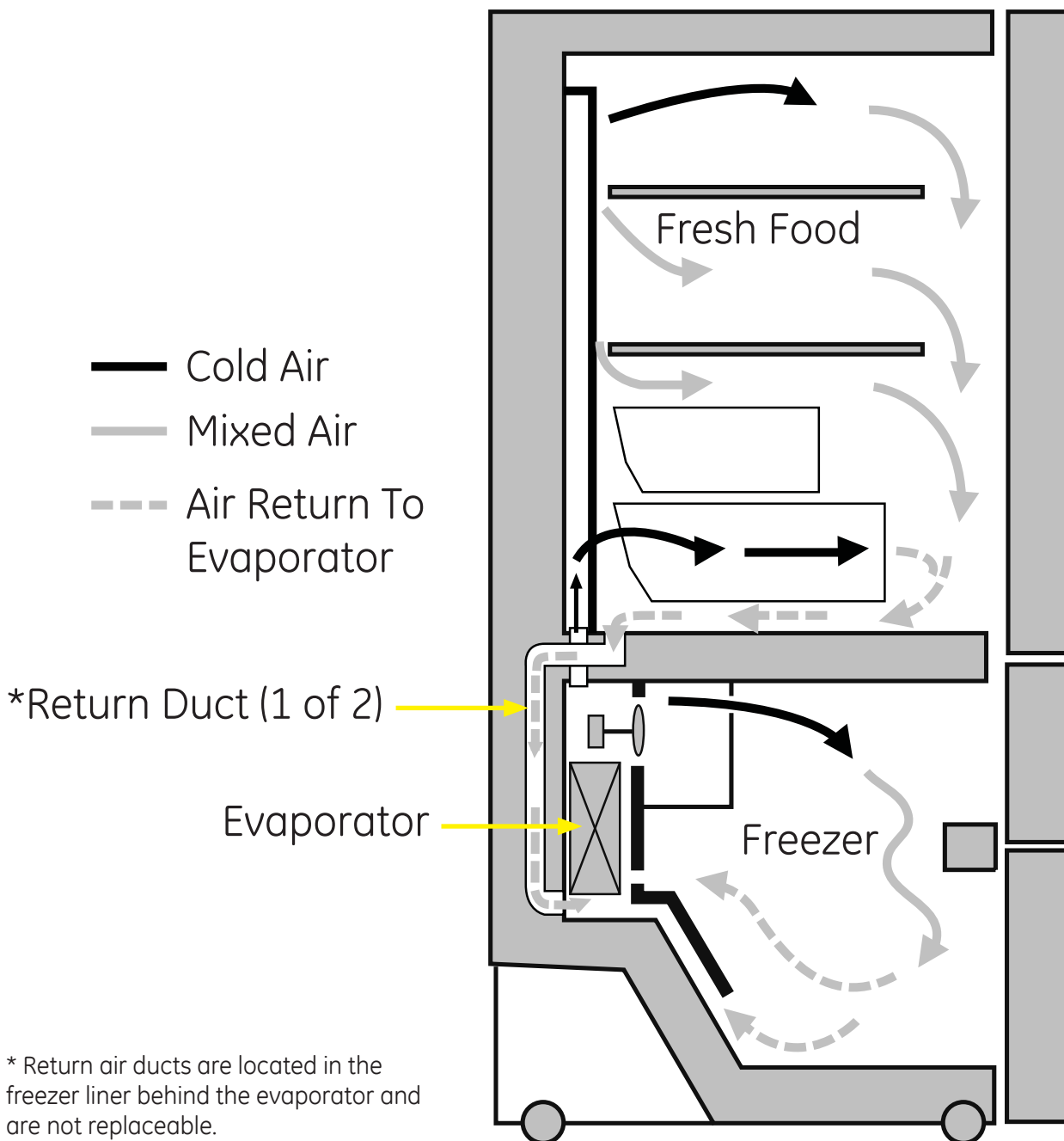
# Airflow

The evaporator fan forces air through the evaporator into the freezer compartment.

Air from the evaporator can also pass through the electronic damper to the air tunnel outlet, through the fresh food compartment, and return to the evaporator.

The damper is controlled by the main control board. When open, the damper allows the chilled air from the freezer to move into the fresh food compartment.

Air returns from the fresh food compartment to the freezer compartment via two vents located to the left and right of the electronic damper.



## Evacuation and Charging Procedure

### WARNING:

- Be careful when using a torch inside the plastic cabinet. Use approved safety equipment and protect the liner from damage with the heat shield kit (part #WX5X8926) which includes the heat shield and thermal paste. The thermal paste is available separately (part #WX5X8927).
  - Before cutting or using a torch on refrigerant tubes, recover the refrigerant from the system, using approved recovery equipment.
  - Never charge new refrigerant through the purge valve. This valve is always located on the high-pressure side of the system.
  - Never apply heat from any source to a container of refrigerant. Such action will cause excessive pressure in the container.
  - Always wear goggles when working with refrigerants and nitrogen holding charge in some replacement parts. Contact with these gases may cause injury.
1. Attach the hose from the R-134a charging cylinder to the process tube port on the compressor.
  2. Evacuate the system to a minimum 20-in. vacuum using the refrigerator compressor and recovery pump, which is attached to the new drier assembly.
  3. Turn off the recovery pump. Close the ball valve on the hose connected to the high-pressure side port connection. Add 3 ounces of R-134a refrigerant to the system. Let the refrigerator operate and circulate the refrigerant for 5 minutes.
  4. Open the ball valve. Recover the purge/sweep charge using the recovery pump and the refrigerator compressor until a 20-in. vacuum is attained. Close the ball valve and remove the recovery hose.
  5. Charge the system with the exact amount of R-134a refrigerant specified.
  6. Disconnect the power cord to the refrigerator. This allows the pressure to equalize. After 3 to 5 minutes, the low-pressure side will be positive and then, the hose-to-charging port can be disconnected.
  7. Using an electronic leak detector, check all brazed joints and both schrader ports. Reinstall caps to schrader ports.

# Components

## Thermistors

Thermistor Values		
Temperature Degrees (F)	Temperature Degrees (C)	Resistance in Kilo-Ohms
-40	-40	166.8 kΩ
-31	-35	120.5 kΩ
-22	-30	88 kΩ
-13	-25	65 kΩ
-4	-20	48.4 kΩ
5	-15	36.4 kΩ
14	-10	27.6 kΩ
23	-5	21 kΩ
32	0	16.3 kΩ
41	5	12.7 kΩ
50	10	10 kΩ
59	15	7.8 kΩ
68	20	6.2 kΩ
77	25	5 kΩ
86	30	4 kΩ
95	35	3.2 kΩ
104	40	2.6 kΩ
113	45	2.2 kΩ
122	50	1.8 kΩ
131	55	1.5 kΩ
140	60	1.2 kΩ

**Note:** To accurately test a thermistor, place the thermistor in a glass of ice and water (approximately 33°F (0.5°C)) for several minutes and check for approximately 16K Ω.

### Ambient Thermistor

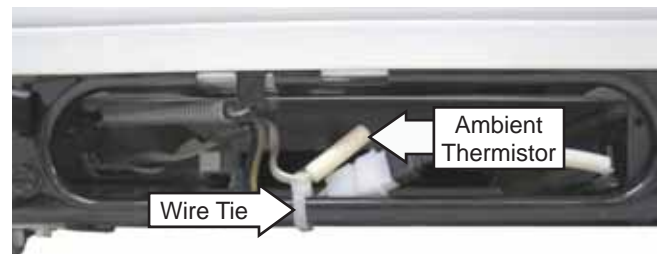
The ambient thermistor is located under the freezer compartment and connected at J1-2 on the main control board. (See *Component Locator Views*.) It assists the main control board in compensating for room ambient that is higher or lower than 60°F (15°C).

For example, in ambient below 60°F (15°C), the fresh food temperature control will shut down properly. The cooler room ambient assists in keeping fresh food temperature at the preset temperature. However, the compressor does not get enough run time to bring the freezer down to 0°F (-18°C).

At lower room temperatures, the ambient thermistor alters the main control board's calculations for the target temperature. The main control board then runs the compressor at higher speeds to get the freezer, as well as the fresh food, to an acceptable temperature.

If the external thermistor is not functioning, the main control board default will assume the ambient temperature is 90°F (32°C) and there will be no adjustment to the fresh food or freezer set point.

The ambient thermistor is attached to the front of the base (under the left side of the freezer compartment) with a plastic wire tie.

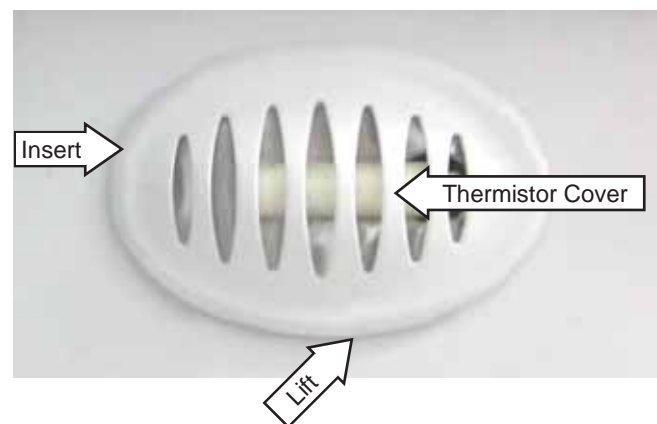


### Fresh Food and Freezer Thermistors

The fresh food thermistor is located in the left wall of the fresh food compartment. The freezer thermistor is located in the right wall of the freezer compartment.

**Note:** The fresh food and freezer thermistors are removed in the same manner.

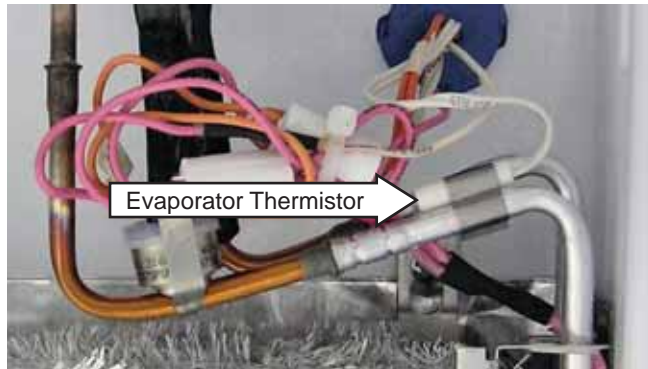
To remove the thermistor cover, insert a flat blade screwdriver under the front of the cover and gently lift the bottom edge until it releases from the compartment wall.



(Continued next page)

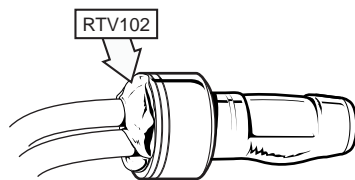
## Evaporator Thermistor

The evaporator thermistor is clipped to the suction tube line of the evaporator. See *Evaporator* for accessing instructions.



### Replacement

Should a thermistor require replacement, use plastic bell connectors (part # WR01X10466). Fill each connector with RTV102 silicone, then splice a new thermistor into the harness as shown in the illustration.



## Fresh Food and Freezer Light Thermostats

Incandescent fresh food light and freezer light housings have thermostats that interrupt power to the lights when the thermostat temperature reaches 175°F. Power is restored when the thermostat temperature cools to 155°F.

Each thermostat is attached to the back of each light housing with an 11/32-in. nut.

To access each thermostat, remove the light cover and light housing. The fresh food light housing is held in place by 3 Phillips-head screws. The freezer light housing is held in place by a single Phillips-head screw.

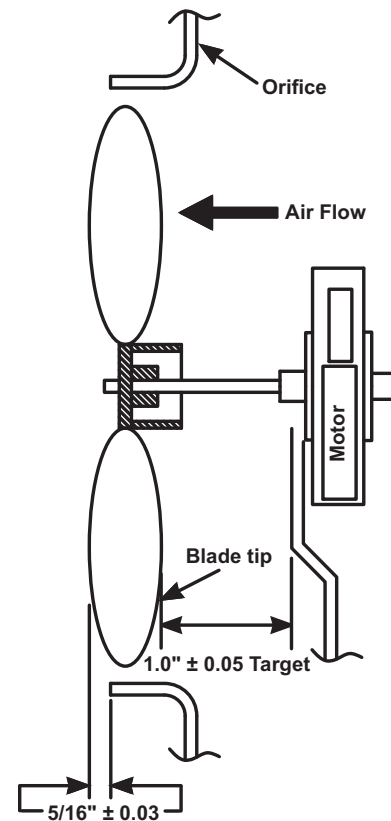
**Note:** It is necessary to remove the freezer light bulb to access the freezer light housing screw.

### Replacement

Should a thermostat require replacement, use plastic bell connectors (part # WR01X10466). Fill each connector with RTV102 silicone, then splice a new thermostat into the harness.

## Evaporator Fan

The position of the fan blade in relation to the shroud is important.

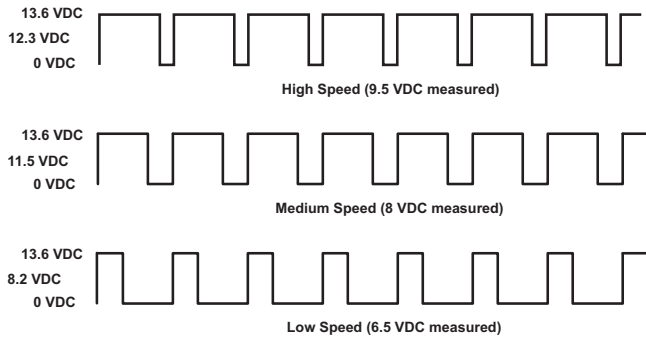


The evaporator fan is the same fan used on previous models; however, a significant difference is that the main control board neither requires nor receives input from the fan feedback/rpm (blue) wire. The fan utilizes a permanent magnet, 4-pole, DC motor that operates at three different speeds: high, medium, and low.

The speed of the fan is controlled by the voltage output from the main control board (J2 pin 4 to J2 pin 3). Voltage output from the main control board to the fan is 13.6 VDC; however, to regulate the speed of the fan, the main control board uses pulse width modulation (PWM).



When operating, voltage is sent in pulses (much like a duty cycle) as opposed to an uninterrupted flow. This pulsing of 13.6 VDC produces effective voltage being received at the motor, which is equivalent to a reduction in voltage.



**Note:** Depending on speed, the effective voltage may range from 6.5 - 13.6 VDC.

Fan speed is selected and maintained by the main control board regulating the length and frequency of the 13.6 VDC pulse. Temperature can cause some fan speed variation. Fan speed can vary +/- 5%, depending on the temperature, with higher temperatures causing slightly higher speeds.

The evaporator fan has a 4-wire connection:

**White Wire** - DC Common (J2 pin 3)

The white wire is the DC common wire used for testing. During repairs, DC polarity must be observed. Reversing the DC polarity causes a shorted motor and/or board.

**Red Wire** - Supply (J2 pin 8)

Each motor uses an internal electronic controller to operate the motor. Supply voltage from the main control board remains at a constant 13.6 VDC.

**Blue Wire** - Feedback/RPM (J2 pin 1)

On previous Arctica models, the blue wire reported rpm (speed) information to the main control board for speed control purposes. On this model, the board does not require or read any feedback information from the fan motor.

**Yellow Wire** - Signal (J2 pin 4)

The yellow wire is the input wire from the main control board. The main control board provides 8.2 VDC effective voltage for low speed, 11.5 VDC effective voltage for medium speed, and 12.3 VDC effective voltage for high speed. The fan operates in low speed only when the fresh food thermistor is satisfied.

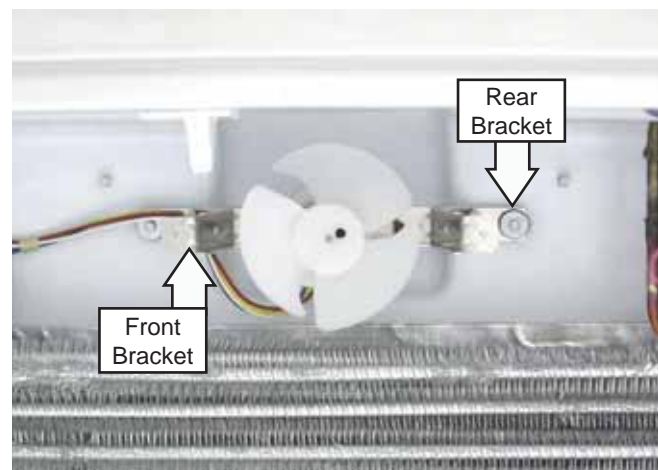
**Note:** When testing these motors:

- You cannot test with an ohmmeter.
- DC common is not AC common.
- Verify 2 voltage potentials:
  - a. Red to white - power for internal controller
  - b. Yellow to white - power for fan
- Observe circuit polarity.
- Motors can be run for short periods using a 9 volt battery. Connect the white wire to the negative (-) battery terminal only. Connect the red and yellow wires to the positive (+) battery terminal.

The evaporator fan motor is positioned between the front and rear fan motor brackets that are located behind the evaporator cover. The evaporator cover must be removed to access the fan motor brackets. (See *Evaporator*.)

Note the position of the fan blade on the motor shaft and the locations of the fan motor mounting grommets.

It is necessary to pull the fan blade off the motor shaft to remove the two 1/4-in. hex head screws that hold the front bracket to the rear bracket. A single wire harness is connected to the fan motor.



**Note:** To prevent excessive vibration and noise, be sure to install the fan motor grommets in their original positions.

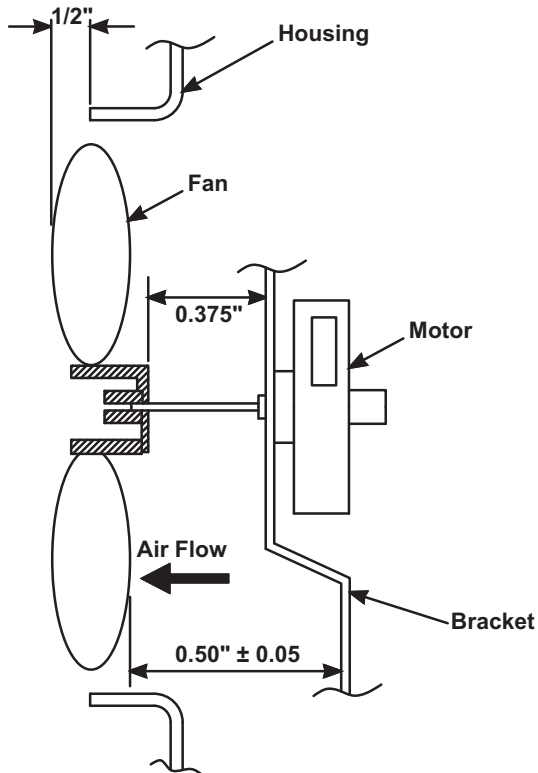
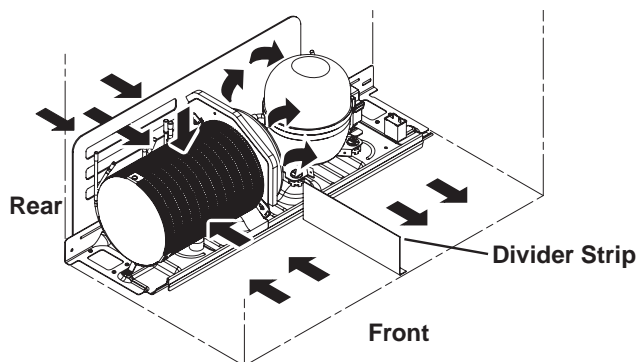


## Condenser Fan

The fan is mounted in the machine compartment with the no-clean condenser. The fan and fan shroud are mounted on one end of the condenser, and the other end of the condenser is blocked.

When the fan is operating, air is pulled from the center of the condenser, drawing air in through the coils. The air is then exhausted over the compressor and out the right side of the refrigerator.

Inlet air is available through the left front and left rear of the machine compartment. A rubber divider strip underneath the refrigerator divides the inlet and outlet sides of the machine compartment.



The rear access cover must be tightly fitted to prevent air from being exhausted directly out of the rear of the machine compartment, bypassing the compressor.

The condenser fan is mounted with screws to a fan shroud and mounting bracket that is attached to the condenser. To access the condenser fan motor, disconnect power from the refrigerator and remove the machine compartment cover.

Use one of the two following methods to remove the condenser fan motor from the refrigerator:

### Method #1

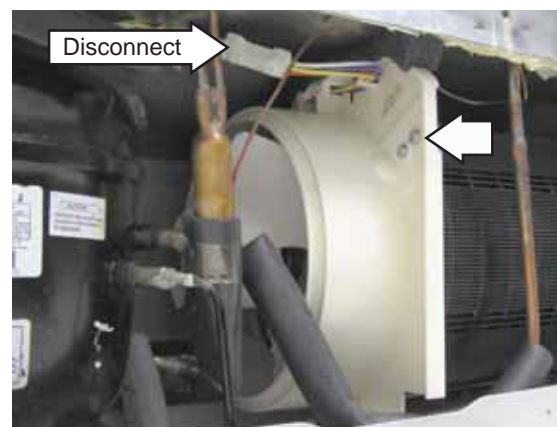
1. Disconnect the condenser fan harness, then remove the 1/4-in. hex-head screw from the upper corner (closest to you).
2. Pull the shroud assembly slightly to disengage from the mounting tab.

**Note:** In the following step, adequate clearance may not exist to easily pull the assembly out. It may be necessary to reverse steps 1 and 2, then proceed to method #2.

3. Tilt the shroud assembly towards the compressor and gently pull the assembly out.

### Method #2

1. Pull the condenser fan blade off the motor shaft.
2. Remove the two 1/4-in. hex-head screws that hold the mounting bracket together.
3. Remove the front mounting bracket and note the position of the grommet.
4. Disconnect the condenser fan harness, remove the wire harness from the fan shroud clips, then remove the fan motor.



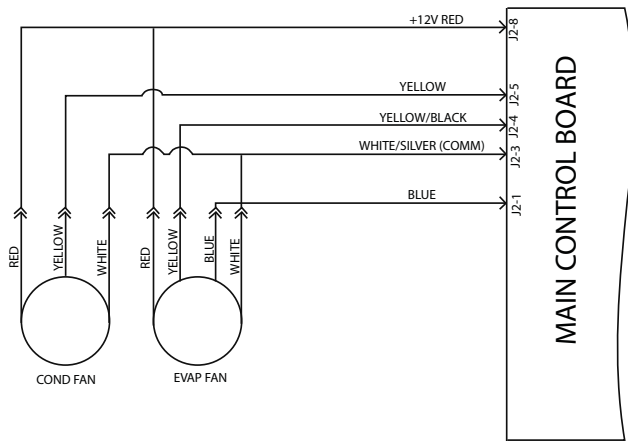
Condenser fan speed corresponds with compressor speed (low, medium, high) to minimize pressure variations in the sealed system except when the freezer temperature is 20°F above the set point. If this condition exists (such as during initial startup), the condenser fan operates at super high speed while the compressor operates at medium speed.

*(Continued next page)*

The speed of the fan is controlled by the voltage output from the main control board (J2 pin 5 to J2 pin 3). Voltage output from the control board to the fan is 13.6 VDC; however, to regulate the speed of the fan, the main control board uses pulse width modulation (PWM).

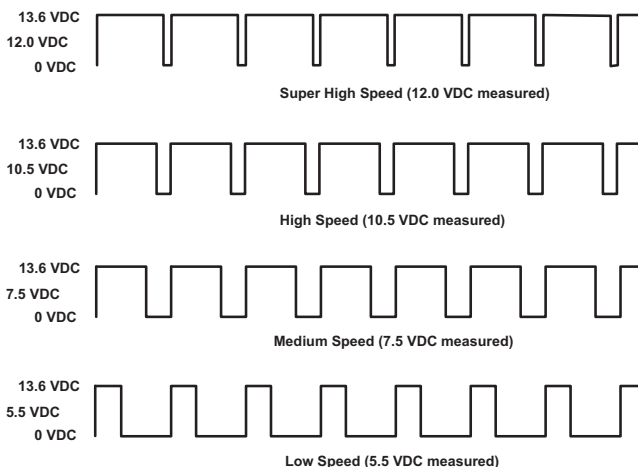
When operating, voltage is sent in pulses (much like a duty cycle) as opposed to an uninterrupted flow. This pulsing of 13.6 VDC produces effective voltage being received at the motor, which is equivalent to a reduction in voltage.

Fan speed is selected and maintained by the main control board regulating the length and frequency of the 13.6 VDC pulse.



Temperature can cause some fan speed variation. Fan speed can vary +/- 5%, depending on the temperature, with higher temperatures causing slightly higher speeds.

Condenser fan speed is controlled by Pulse Width Modulation (PWM), the same method used to control fan speed for the evaporator.

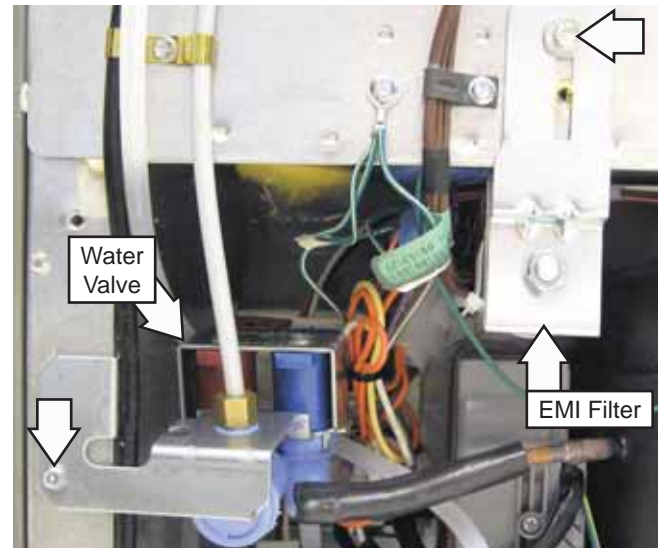


## Inverter

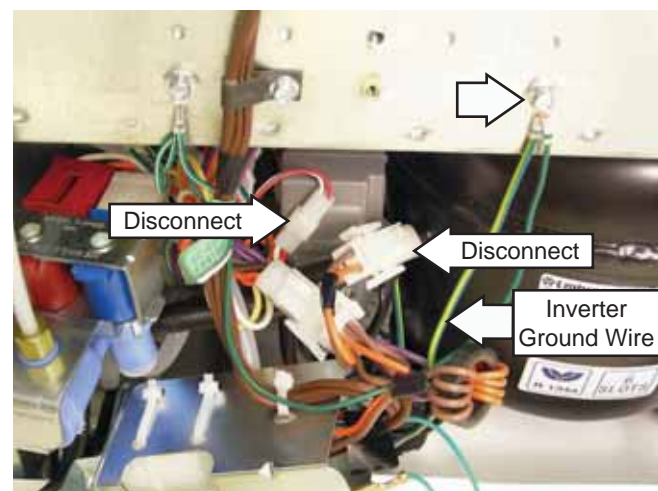
The inverter is accessed from the back of the refrigerator and is located on the left side of the compressor behind the water valve. The water valve and the EMI filter must be removed to access the inverter.

To remove the inverter:

1. Remove the 1/4-in. hex-head screw that holds the water valve and the 5/16-in. hex-head screw that holds the EMI filter to the cabinet.



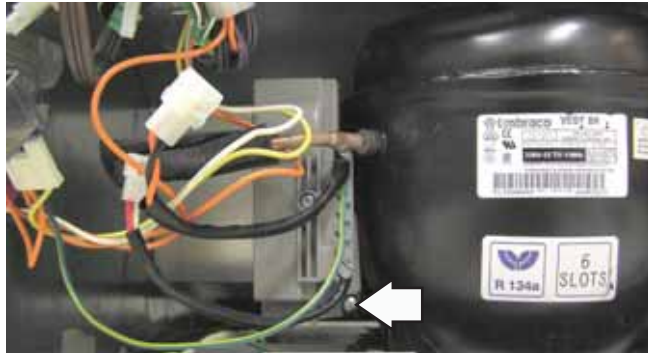
2. Carefully pull the water valve and the EMI filter out from the cabinet.
3. Disconnect the 2 wire harnesses to the inverter.
4. Remove the 1/4-in. hex-head screw and the inverter ground wire from the cabinet.



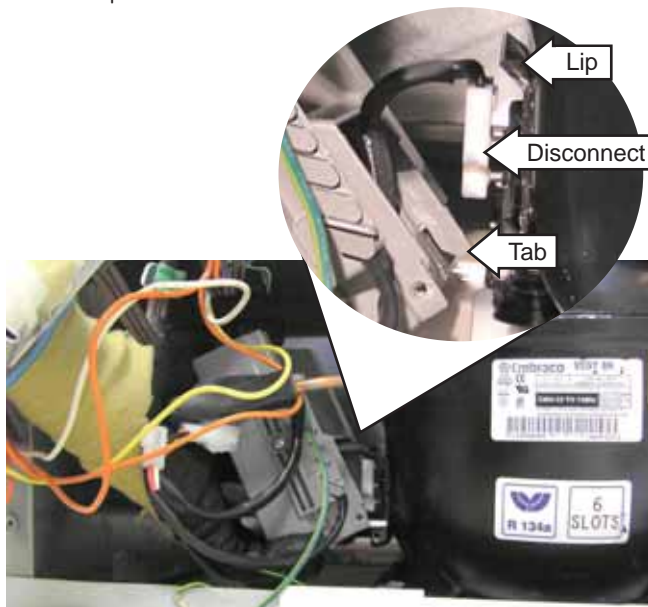
**Note:** The inverter is attached to the compressor by a lip above the compressor terminals, a tab (located at the bottom rear corner), and a Phillips-head screw.

*(Continued next page)*

- Remove the Phillips-head screw from the inverter.



- Lift and rotate the inverter counterclockwise.
- Disconnect the compressor harness from the compressor terminals.



**WARNING:** When the refrigerator is plugged in, 120 VAC is always present at the inverter.

**Note:** Certain voltmeters will not be able to read voltage output from the inverter. If no voltage or erratic voltage is measured, it does not necessarily indicate a faulty inverter.

The inverter receives 120 VAC line-in from the power supply. The inverter converts this single-phase, 60 Hz, 120 VAC into 3-phase, 240 VAC, with frequency variations between 57 Hz and 104 Hz. This voltage is delivered to the compressor through 3 lead wires. Each wire will carry identical voltage and frequency.

**Note:** The compressor leads must be connected to measure voltage output. If the compressor wires are not connected, or if an open occurs in one of the 3 lead wires or in the compressor, the inverter will stop voltage output.

When checking inverter voltage output, connect the test-meter leads to any 2 of the 3 compressor lead wires at the inverter plug (plug should be connected). The same reading should be measured between any 2 of the 3 wires.

The inverter controls compressor speed by frequency variation and by Pulse Width Modulation (PWM). Changing frequency and PWM will cause an effective voltage between 80 and 240 VAC to be received at the compressor.

- Low speed (1710 rpm) - 57 Hz
- Medium speed (2100 rpm) - 70 Hz
- High speed (3120 rpm) - 104 Hz

The inverter receives commands from the main control board. The main control board will send a PWM run signal from the J15 connector of 4-6 VDC effective voltage to the inverter (all wires must be connected). The inverter will select compressor speed (voltage output) based on this signal.

The main control board will only send a run signal to the inverter when the compressor should be on.

**Note:** When measuring signal voltage (from the main control board) at the inverter, a reading of 4-6 VDC will be measured with all wires connected. If the inverter wiring is disconnected, the board output will measure between 10-12 VDC.

The inverter will monitor compressor operation and if the compressor fails to start or excessive current draw (4 amps maximum) is detected, the inverter will briefly stop voltage output. The inverter will then make 12 consecutive compressor start attempts (once every 12 seconds). After 12 attempts, if the compressor has not started, an 8-minute count will initiate. After the 8-minute count, the inverter will attempt to start the compressor again. If the compressor starts, normal operation will resume. If the compressor fails to start, this process will be repeated. Removing power to the unit will reset the inverter count. When power is restored, the inverter will attempt to start the compressor within 8 minutes.

The inverter has a built-in circuit protection to guard against damage from a failed or shorted compressor. However, if a failed compressor is diagnosed, order a new compressor and inverter. If the compressor fails to start after replacement, replace the inverter.

## Inverter Compressor

**Caution:** Do not attempt to direct-start the compressor. The compressor operates on a 3-phase power supply. Applying 120 VAC to the compressor will permanently damage the unit. It is not possible to start the compressor without an inverter.

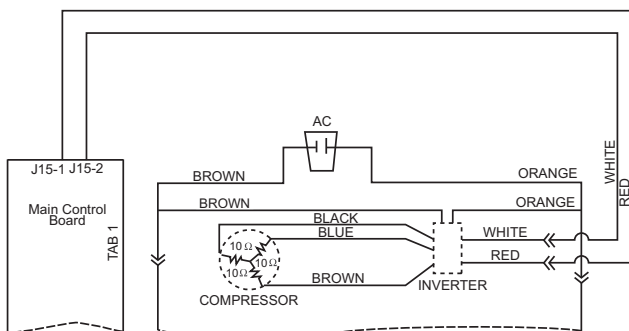
The compressor is a reciprocating, variable speed, 4-pole type. It operates on 3-phase, 80 to 240 VAC within a range of 57 to 104 Hz.

**Note:** Certain voltmeters will not be able to read voltage output or frequency from the inverter.

Compressor wattages at various speeds are:

- LOW - 65 watts
- MED - 100 watts
- HIGH - 150 watts

The compressor is controlled by the inverter, which receives its signal from the main control board. Varying the frequency to the inverter changes the compressor speed.



Compressor speed is based on the temperature set point in conjunction with the specific cabinet temperature. Speeds are selected according to the following cabinet temperatures, with freezer temperature being the primary:

- 7°F to 19.5°F above freezer set point = high speed.
- 4.5°F to 6.5°F above freezer set point = medium speed.
- 1°F to 4°F above freezer set point = low speed.
- 1°F to 2.5°F above refrigerator set point = low speed.

- 3°F to 5°F above refrigerator set point - medium speed.
- 5.5°F to 7°F above refrigerator set point - high speed.

**Note:** The compressor will run at medium speed if the freezer temperature is 20°F or more above the setpoint.

The use of 3-phase power eliminates the need for the relay, capacitor, and individual start and run windings; therefore, the start, run, and common pins found on conventional compressors are not applicable on this 3-phase model. Compressor pin functions are identical and compressor lead wire configuration is of no importance. A resistance of 9 Ω to 11 Ω should be read between any 2 of the 3 pins. Should an opening occur in the compressor winding or should one of the compressor lead wires become open or disconnected, the inverter will stop voltage output to the compressor.

Compressor operation is extremely smooth and cool. The compressor exterior may be slightly higher than room temperature while operating; therefore, it may be difficult to detect a running unit.

**To verify that the compressor is running:**

Disconnect power from the unit and place a hand on the compressor. Reconnect power and feel for a vibration when the compressor tries to start. It may take up to 8 seconds before the compressor attempts to start.

**Note:**

- When ordering a replacement compressor, order both the compressor and inverter. Replace the compressor first. If, after compressor installation, the compressor fails to start, replace the inverter.
- When servicing the compressor, it is important to dress the wiring to keep low voltage DC wiring and 120 VAC wiring separate.



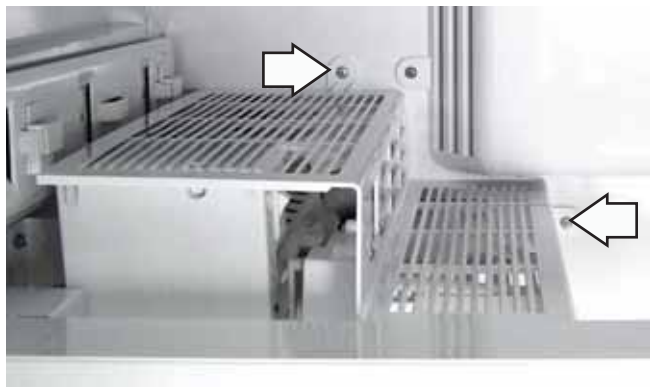
## Evaporator

The following components must be removed in the appropriate order to access the evaporator:

1. Unplug the refrigerator.
2. Remove the freezer baskets. (See *Freezer Basket Removal*.)
3. Remove the upper and lower freezer drawer fronts. (See *Freezer Drawers*.)

### Note

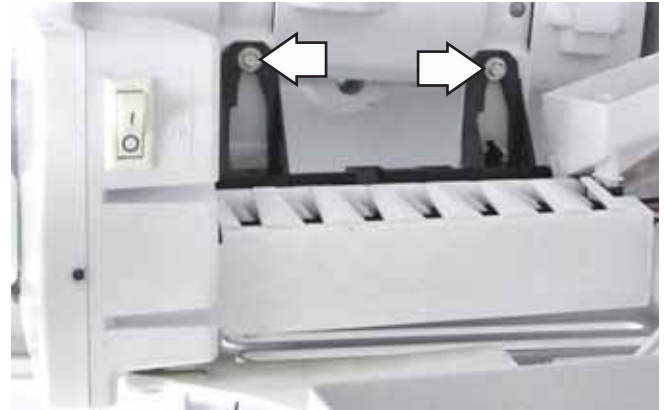
- For added accessibility to freezer components, it may be necessary to remove the freezer drawers mullion assembly. (See *Freezer Drawers Mullion Assembly*.)
  - The icemaker cover is held in place with 2 Phillips-head screws and 2 grommets attached to the evaporator cover.
4. Remove the 2 Phillips-head screws from the icemaker cover.
  5. Slide the icemaker cover to the right and lower it away from the icemaker.



6. Using a small flat blade screwdriver, expand the 2 clips and disconnect the ice level switch wire harness from the icemaker harness.

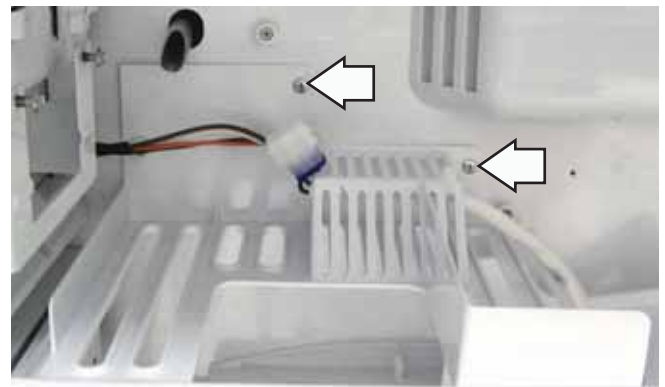


7. Loosen the two 1/4-in. hex-head screws, then lift and remove the icemaker from the mounting bracket.



**Note:** The ice bucket cover is held in place with 2 Phillips-head screws and a grommet attached to the evaporator cover.

8. Remove the 2 Phillips-head screws from the ice bucket cover.
9. Slide the ice bucket cover to the right and lower it.



**Note:** The icemaker mounting bracket is held in place with two 1/4-in. hex-head screws and a grommet attached to the left side of the freezer.

10. Remove the two 1/4-in. hex-head screws, then slide the bracket towards the front of the freezer.



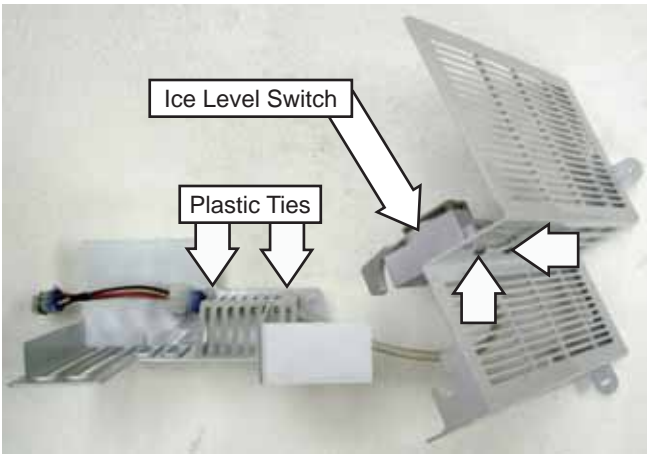
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11. Using a small flat blade screwdriver, expand the 2 clips and disconnect the ice level switch wire harness from the cabinet receptacle.



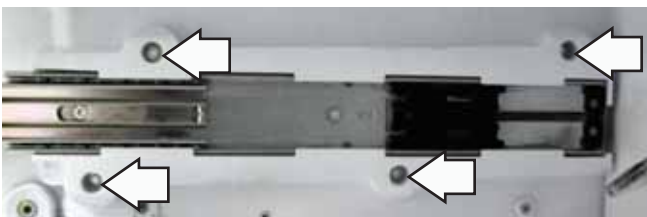
12. Remove the icemaker cover and ice bucket cover from the freezer.

**Note:** The ice level switch is held to the icemaker cover with 2 Phillips-head screws, and the switch wire harness is attached to the ice bucket cover with 2 plastic ties.



**Note:** Each upper drawer side rail assembly is held in place by four 1/4-in. hex-head screws and a hook that locks into an opening in the side of the freezer.

13. Extend both upper drawer rail assemblies to the open position.
14. Remove the four 1/4-in. hex-head screws from each upper rail assembly.



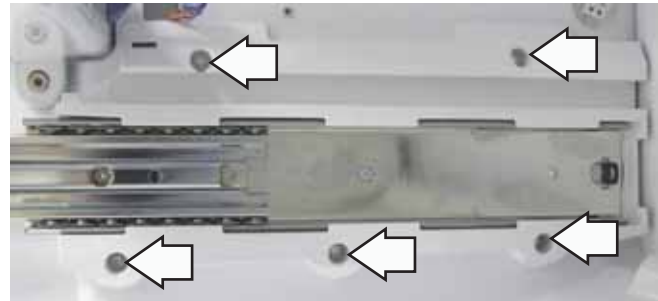
15. Pull the front of the rail assembly towards the center of the freezer and unhook the assembly from the side of the freezer.



16. Remove the Phillips-head screw and the mullion heater harness cover.

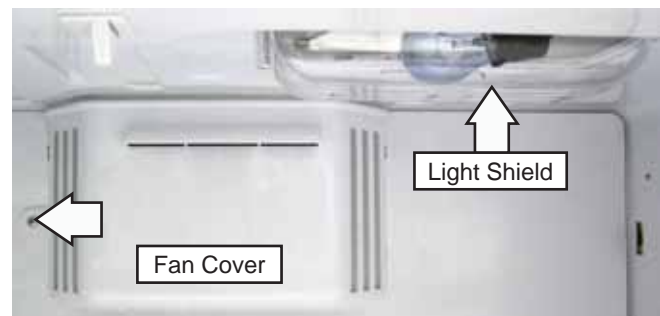
17. Extend both lower drawer rail assemblies to the open position.

18. Remove the five 1/4-in. Hex-head screws that attach each lower rail assembly to the freezer wall.



19. Remove the light shield. (See *Refrigerator Lights*.)

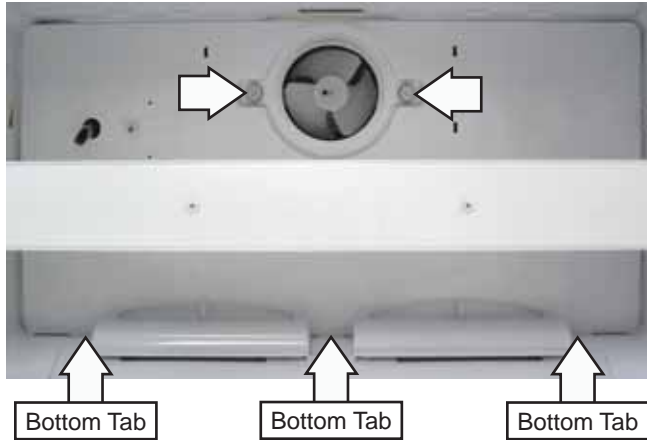
20. Remove the Philips-head screw and the fan cover from the evaporator cover.





**Note:** The evaporator cover is attached to the evaporator compartment with two 1/4-in. hex-head screws, 3 bottom tabs, and 8 snap tabs located on the back of the cover.

21. Remove the two 1/4-in. hex-head screws that attach the evaporator cover to the fan bracket.



22. Grasp and pull the right side of the fan opening towards the front of the freezer to release the right side snap tabs.



23. Pull out the left side of the cover and carefully remove it from the evaporator compartment.



## Replacing Evaporator Using the Brazing Method

### Parts Needed:

- Freezer Evaporator
- Drier Assembly
- Access Tube (part # WJ56X61)
- Heat Shield Kit (part # WX5X8926)

**Caution:** A heat shield kit is required for this procedure to prevent damage to the plastic interior (liner) of the freezer compartment.

**Note:** If it is determined that the epoxy joints (the transition joint between the aluminum and copper jumper) on the freezer evaporator assembly are defective, then LOKRING connectors can be used to repair the joints. Refer to Service Guide #31-9067 for complete instructions on using the LOKRING method of installing an evaporator.

1. Unplug the refrigerator.
2. Remove the rear access cover and evacuate the sealed system.
3. Remove components necessary to expose the evaporator. (See *Evaporator*.)
4. Note the location of the thermistor and over-temperature thermostat on top of the old evaporator and remove.
5. Remove heater from bottom of evaporator. Bundle remaining wires and tape high on the back wall of freezer.
6. Apply a liberal amount of thermal paste to suction line where it enters the rear wall of freezer.
7. Insert the brazing shield behind the joints of the evaporator inlet and outlet to protect the liner.
8. Use torch to heat the joints of the evaporator inlet and outlet, separate the joints and clean the suction line and the capillary surface.
9. Loosen the 2 Phillips-head screws that hold the evaporator in place. Note locations of the heat transfer wires at the sides of old evaporator. These are needed to transfer heat to the turns of the evaporator during the defrost cycle. Remove the transfer wires and save for new evaporator installation. Remove the old evaporator.
10. Install the new evaporator and tighten the 2 Phillips-head screws.

(Continued next page)

11. Connect the evaporator inlet and outlet to the suction line and capillary tubes.
12. Check that the thermal paste is still on the suction line where it enters the rear wall of the freezer. If not, apply paste. In addition, apply thermal paste around epoxy joints on the new evaporator to prevent the heat from damaging joint integrity.
13. Move the brazing shield behind the capillary and suction line joints. Protect the freezer floor from molten solder during brazing.
14. Angle torch so that flame is directed away from rear wall when brazing. Braze suction line and capillary to new evaporator.
15. Remove the brazing shield. Clean and inspect all joints.
16. Remove the old drier by cutting the halo loop as close as possible to the drier. Install the new drier assembly making sure that there is sufficient space between the tubing.
17. Install the access tube. Clean and inspect joints.
18. Replace the heater supplied with the evaporator. Reinstall the over-temperature thermostat, thermistor, and heat transfer wires at the sides of new evaporator. Dress wiring.
19. Evacuate and charge the system. Use original factory charge quantity of R-134a. (See *Evacuation and Charging Procedure*.)
20. Replace all component parts in the freezer.
21. Reinstall the rear access cover.

## Replacing Evaporator Using the LOKRING Method

### Parts Needed:

- Freezer Evaporator
- Drier Assembly
- Access Tube (part # WJ56X61).
- LOKRING Connectors (part # WR97X10044)

**Note:** If it is determined that the epoxy joints (the transition joint between the aluminum and copper jumper) on the freezer evaporator assembly are defective, then LOKRING connectors can be used to repair the joints. Refer to Service Guide #31-9067 for complete instructions on using the LOKRING method of installing an evaporator.

## Defrost Heater

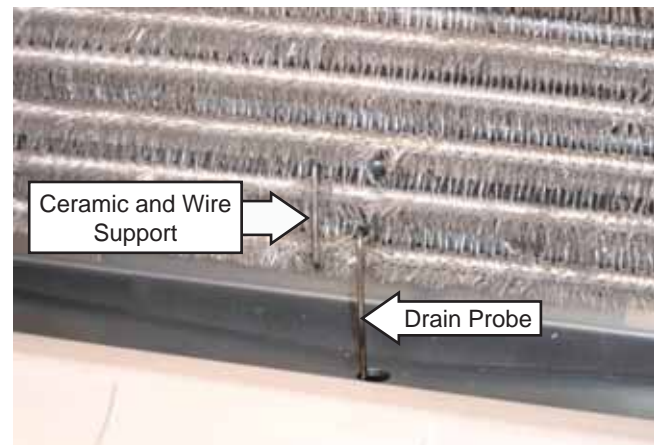
The defrost heater is a single-tube, glass-enclosed radiant heater. It is held in place by 2 tabs on the evaporator (1 on each side) and by a ceramic and wire support. The defrost heater has an approximate resistance value of 31.5  $\Omega$ .

### To remove the defrost heater:

1. Access the freezer evaporator. (See *Evaporator*.)

#### Note:

- During defrost, the drain probe assists in preventing the drain from icing closed. During assembly, the probe must be installed on the evaporator and inserted in the drain to prevent drain freeze-up.
  - A ceramic and wire support prevents the heater from sagging and touching the metal drain trough if the glass is broken.
2. Remove the ceramic and wire support and the drain probe from the evaporator.



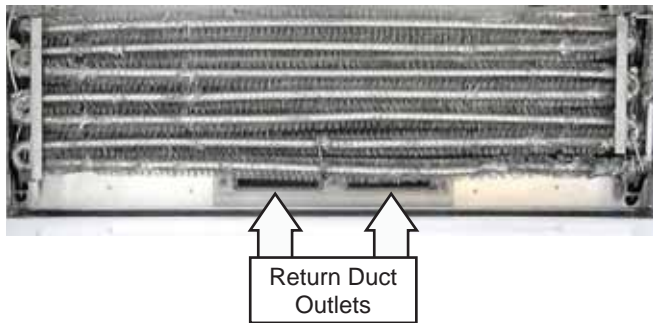
3. Bend the aluminum tabs back (located at each end of the defrost heater) and lower the heater out of the evaporator.
4. Disconnect 2 lead wires and remove the heater.

## Icemaker Fill Tube Heater

The fill tube heater is energized during the defrost cycle when the defrost thermostat is closed. Remove the evaporator cover to access the icemaker fill tube heater. (See *Evaporator*.) Disconnect the fill tube heater wire harness. The resistance of the fill tube heater is approximately 2644  $\Omega$ .

## Return Duct Heaters

A return duct heater has been added to each of the 2 fresh food compartment return air ducts. The heaters prevent water from freezing and blocking the air flow in the ducts. Restricted ducts can cause warm fresh food temperatures. (See *Airflow*.)



The heaters operate with 120 VAC and each heater has an approximate resistance value of 440  $\Omega$ . The heaters are in a parallel circuit consisting of 2 duct heaters, icemaker fill tube heater, and the defrost heater. The line voltage wires of the duct heaters and the fill tube heater are connected to the blue wire of the defrost heater. The neutral wires of the heaters go through the over-temperature thermostat. The 2 duct heaters and the fill tube heater are energized (along with the defrost heater) during the defrost cycle when the over-temperature thermostat is closed.

## Return Duct Heaters Test

If open duct heaters are suspected, perform the following:

1. With the over-temperature thermostat closed, test for approximately 27  $\Omega$  (the equivalent resistance of this parallel circuit) between J9 and J7-9 .
2. For a resistance reading other than approximately 27  $\Omega$ , remove the evaporator cover (See *Evaporator*.), disconnect the fill tube heater, and one lead from the defrost heater. Insert a volt ohm meter into the fill tube heater receptacle. A reading of approximately 220  $\Omega$  indicates both heaters are good.

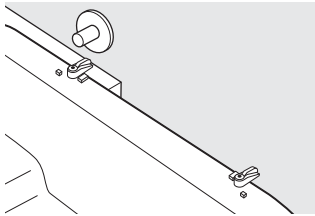
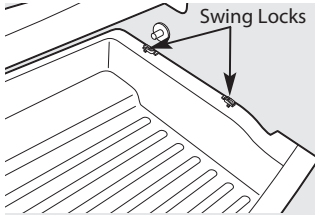
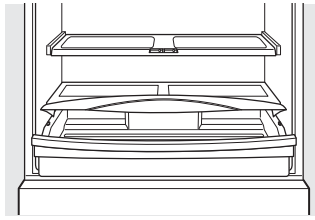
**Note:** The return duct heaters are integral to the foamed in place internal ductwork of the refrigerator and are not replaceable.

## Deli Pan Removal

### How to Remove and Replace the Deli Pan

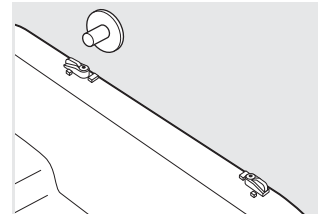
To remove:

- 1 Remove the fruit and vegetable drawers.
- 2 Remove the Deli Pan cover.
- 3 Pull the drawer out to the stop position.
- 4 Lift the lid to access the 4 swing locks.
- 5 Rotate all four swing locks to the unlock position.
- 6 Lift the front of the drawer up and out.



To replace:

- 1 Make sure all four swing locks are in the unlock position.
- 2 Place the sides of the drawer into the drawer supports, making sure the swing locks fit on the drawer slots.
- 3 Lock all four swing locks by rotating them to the lock position.



- 4 Lower the lid and slide in the drawer.
- 5 Replace the fruit and vegetable drawers.

## Fresh Food Damper

A damper assembly is used to control airflow from the freezer into the fresh food compartment. It is located on the back wall of the fresh food compartment, behind the deli and crisper drawers. The damper assembly consists of a 12 VDC motorized damper (sealed inside a styrofoam air tower), inlet gasket, and a plastic air tower cover. The assembly is held in place with one 1/4-in. hex-head screw at the top, and 2 pins at the bottom that fit into the liner.

### To remove the fresh food damper:

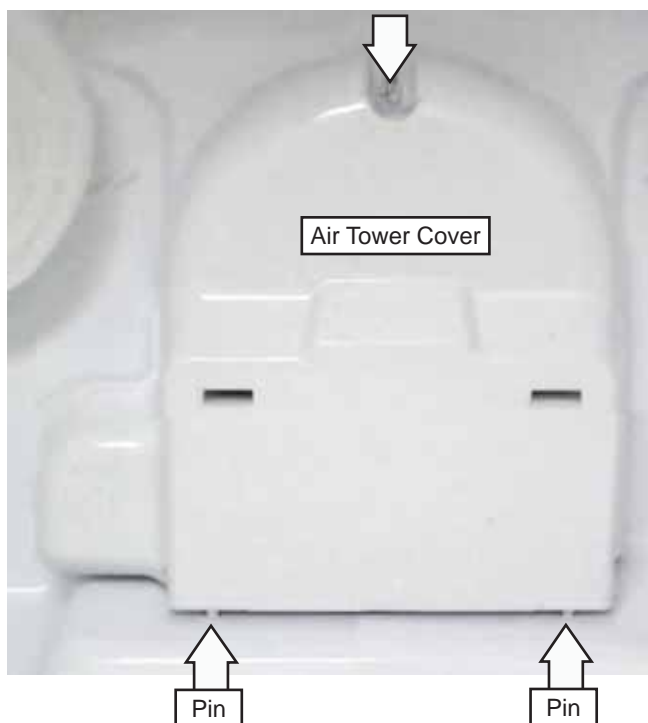
1. Remove the fruit and vegetable crisper drawers and the crisper drawer cover and frame assembly.

**Caution:** The glass inserted in the deli pan cover and frame may easily separate. Care should be taken when removing the deli pan cover and frame assembly.

2. Partially open the deli pan, lift and remove the deli pan cover and frame.

**Note:** For added accessibility to the fresh food damper, it may be helpful to remove the Deli Pan drawer. (See *Deli Pan Removal*.)

3. Pull the deli pan out to the fully open position.
4. Remove the 1/4-in. hex-head screw from the top of the air tower cover.



5. Pull up on the damper assembly until the pins are out of the holes in the liner, then tilt it toward the front of the refrigerator.



6. Disconnect the damper motor wire harness.



### Note:

- The damper assembly (part # WR17X12456) includes the motorized damper, inlet gasket, air tower, and the air tower cover.
- To prevent moisture and ice from accumulating in the fresh food compartment, ensure the inlet gasket is seated correctly between the bottom of the air tower and the liner.

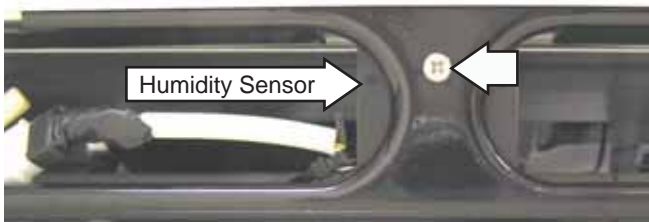
## Humidity Sensor

This device senses the humidity in the kitchen and assists the control board in adjusting the wattage outputs of the 3 mullion heaters accordingly.

The humidity sensor receives 5 VDC from the main control board and sends back 1 to 3.6 VDC, depending on the relative humidity. There is no resistance check for the humidity sensor.

The humidity sensor is contained in a housing that is attached to the front of the base with a Phillips-head screw.

To access the humidity sensor, it is necessary to remove the 2 Phillips-head screws and the base grille from the refrigerator.



Humidity Sensor-Front View



Humidity Sensor-Rear View



## Mullion Heaters

The refrigerator utilizes 2 AC mullion heaters and 1 DC mullion heater. They are the articulating door mullion (DC), freezer/fresh food mullion (AC), and freezer face DD (Double Drawer) mullion heaters (AC).

The 3 mullion heaters are controlled by the main board software logic. The main control board takes into account the percentage of room humidity, room temperature, and either freezer or fresh food temperatures. As the room humidity increases, the amount of voltage supplied to the heaters is increased to keep the mullion surfaces from sweating. At lowest humidity, the articulating door mullion and freezer/fresh food mullion may turn off completely, but the freezer face DD mullion heater will always have some voltage present.

If the energy saver is off, all heaters are on.

When the energy saver is on, the articulating door mullion and the freezer/fresh food mullion are off. The freezer face mullion heater is on at a lower rate.

The freezer face DD mullion heater will not operate with either freezer drawer in the open position.

Every 20 minutes, the main control board utilizes a "duty cycle" to monitor and react to the condition of the humidity sensor. Control board corrections, if needed, are made at a specific time period during the duty cycle.

If the control detects a failed humidity sensor, and the energy saver is off, all mullion heaters will be operated at 100%.

If the control detects a failed humidity sensor, and the energy saver is on, the freezer drawers mullion heater will be operated and cycle at a rate of 21% on time and 79% off time. The articulating door and freezer/fresh food mullion heaters will remain off.

Sweat or frost on mullion surfaces indicate malfunctioning heaters, wiring, or control board.

*(Continued next page)*



## Articulating Door Mullion

The articulating door mullion consists of the mullion, heater, internal spring, and 2 hinges. It is available only as an assembly.

The articulating door mullion is attached to the right side door, and provides a movable center mullion that maximizes access to the fresh food compartment. With both refrigerator doors closed or only the left side door opened, the mullion stays in position. When the right side door is opened, the spring-loaded mullion is activated to fold against the handle side of the door liner.

The pin on top of the mullion and the track, located at the top center front of the refrigerator, ensure proper mullion bar alignment upon closure of the right side door.

Door Closed -  
Pin in Track



Door Opening -  
Pin Exiting Track



**Note:** If the Energy Saver light is on, then the articulating door mullion heater is disabled.

The heater operates on DC voltage when both doors are closed. It is necessary to close the left side door and close the right side light switch to test for the operating voltage of 0 to 13.6 VDC. (See *Mullion Heaters*.) The resistance of the heater is approximately 24  $\Omega$ .

To replace the articulating door mullion assembly it is necessary to remove the 2 Phillips-head screws from the top and bottom hinges. The wire harness can be pulled out from the recess in the bottom of the door and disconnected.

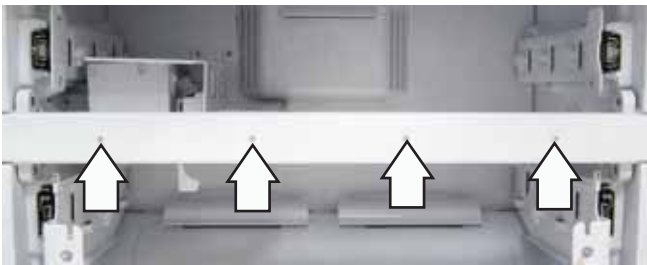


## Freezer Double Drawer (DD) Mullion Assembly

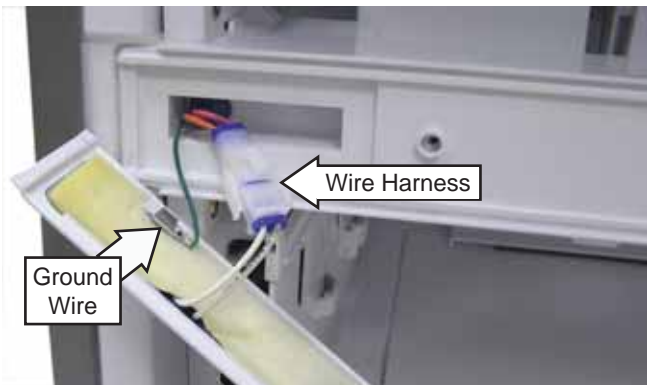
The freezer double drawer mullion assembly consists of a mullion heater bonded to a mullion face. The mullion face is attached to the mullion with 4 Phillips-head screws. The mullion is inserted in 2 recesses and attached to the freezer walls with four 3/16-in. Allen-head shoulder bolts.

### To remove the freezer double drawer mullion assembly:

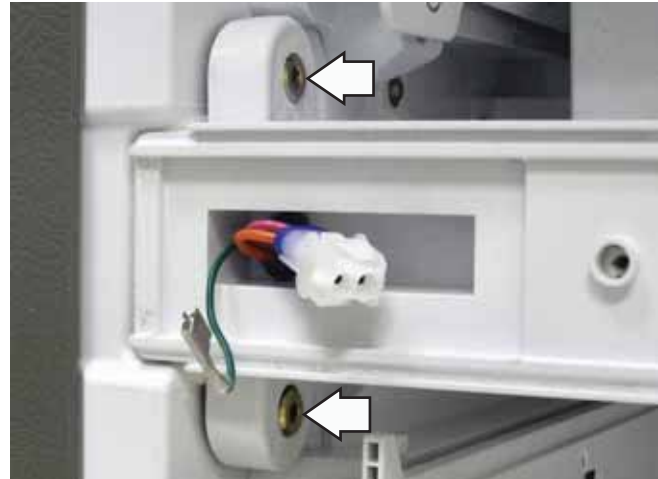
1. Unplug the refrigerator.
2. Remove the freezer baskets. (See *Freezer Basket Removal*.)
3. Remove the upper and lower freezer drawer fronts. (See *Freezer Drawers*.)
4. Remove the 4 Phillips-head screws that attach the mullion face to the mullion.



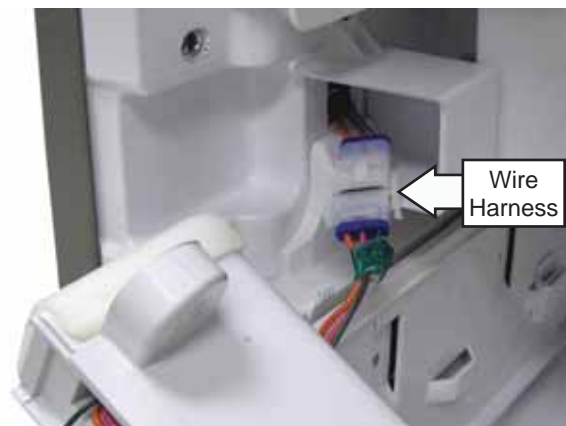
5. Separate the mullion face from the refrigerator cabinet.
6. Disconnect the mullion face wire harness and ground wire.



7. Remove the four 3/16-in. Allen-head shoulder bolts (2 on each side) that attach the mullion to the freezer walls.



8. Pull out the mullion from the recesses (1 on each side) in the freezer walls.
9. Disconnect the mullion wire harness.



**Note:** To test the operation of the mullion heater, disconnect the humidity sensor. Within the next 20 minutes (duty cycle), the control will recognize the open humidity sensor, the heater will then receive voltage, and the mullion will get warm.

## Freezer/Fresh Food Mullion Heater

The freezer/fresh food mullion heater is foamed in place and is located behind the cabinet flange and between the freezer and fresh food compartments.

**Note:** If the Energy Saver light is on, then the freezer/fresh food mullion heater is disabled.

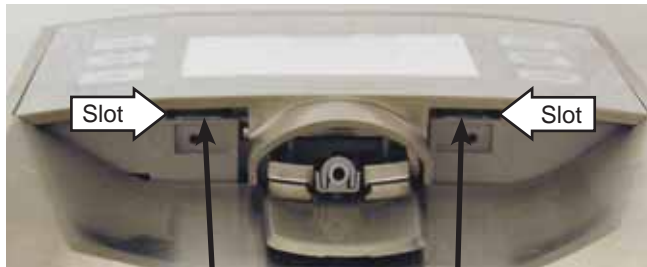
The heater is not replaceable.

## Water Dispenser and Interface

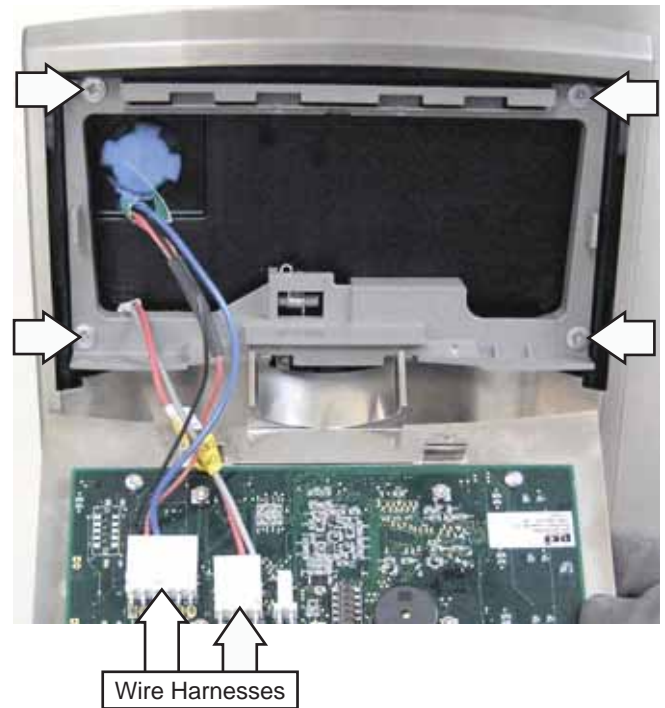
The water dispenser assembly incorporates the interface used for temperature control and features. The interface has 2 tabs that hold it to the cradle support. The tabs are located above 2 slots located behind the bottom of the interface.

To remove the water dispenser assembly:

1. Using a flat blade screwdriver, push up on each tab, then pry the bottom of the interface away from the dispenser recess.



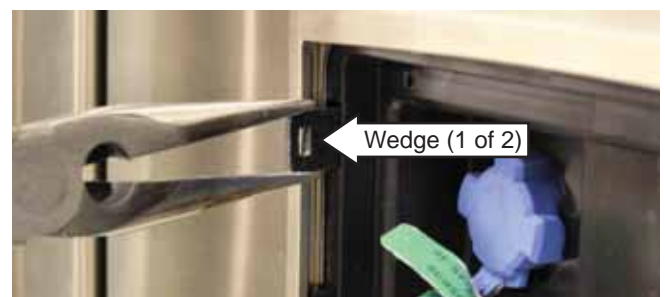
2. Carefully lower the interface and disconnect the 2 wire harnesses.
3. Remove the 4 Phillips-head screws and the cradle support from the dispenser recess.



4. Lift and remove the drip tray.

**Note:** There are 2 plastic wedges that help hold the top of the trim flush against the door panel. If the wedges are not installed the trim will fit loosely.

5. Using a pair of long-nose pliers, pull out the 2 plastic wedges.

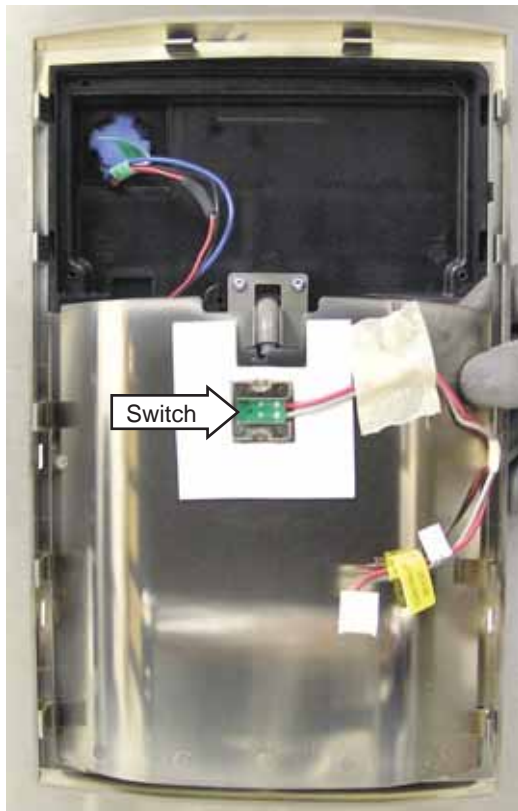


**Note:** The dispenser trim is held to the dispenser recess by 5 retaining tabs along each side and 2 at the top.

- Using your hands or a plastic putty knife, carefully lift or pry the dispenser trim away from the dispenser recess.



Dispenser Switch (rear view)

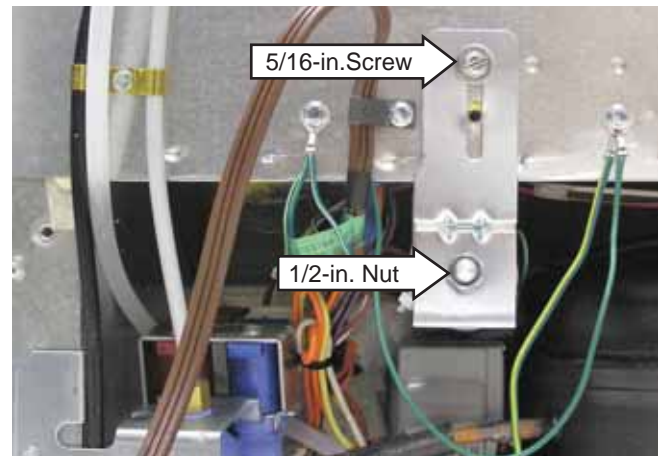


## EMI Filter

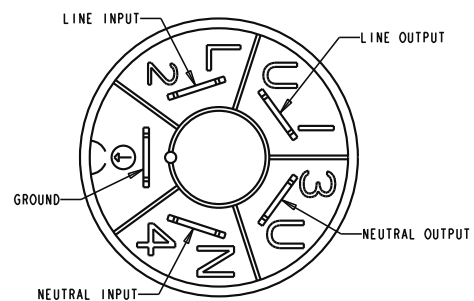
The EMI Filter is accessed from the back of the refrigerator and is located on the left side of the compressor.

To remove the EMI filter:

- Remove the 5/16-in. hex-head screw that attaches the bracket to the cabinet.
- Pull the bracket out and remove the 1/2-in. nut.



- Cut the 2 plastic wire ties that hold the EMI filter to the bracket.
- Mark and disconnect the wires from the EMI filter.



EMI FILTER CONNECTIONS



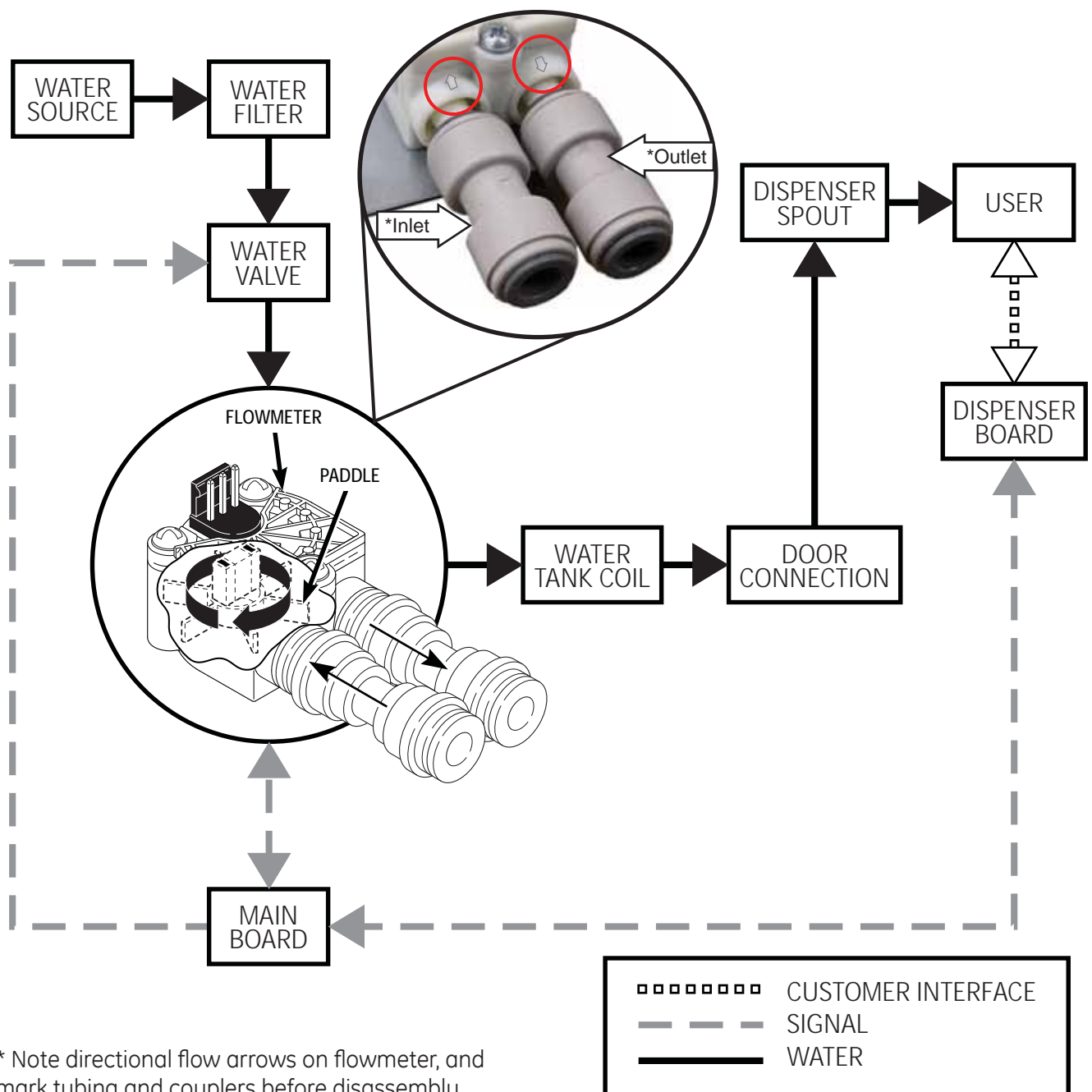
## Precise Fill

The Precise Fill mode allows the user to select a specific volume to be dispensed in either cups, ounces, pints, or liters.

### Overview

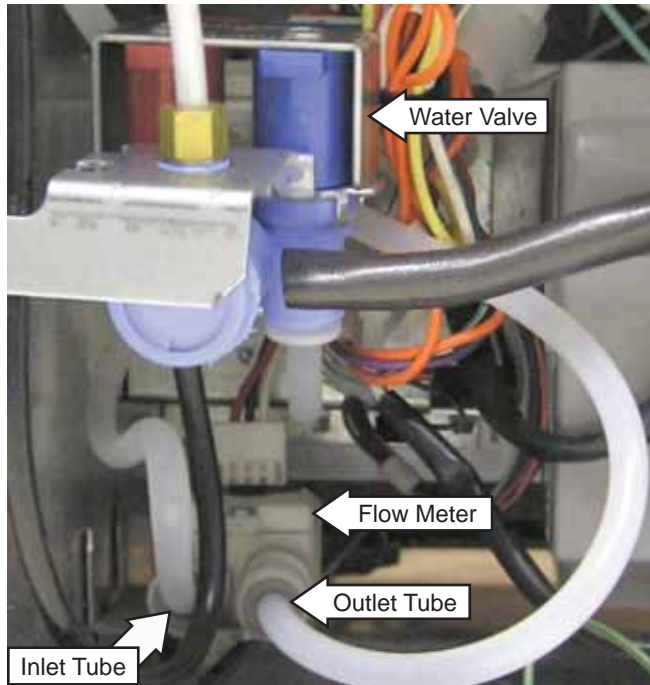
The Precise Fill design places a flowmeter between the water valve and the dispenser to measure water flow through the system. The flowmeter sends a signal to the main control board. The main control interprets the signal, turning the water valve off at the appropriate time. The quantity dispensed is displayed on the dispenser board.

When the dispenser is activated, the flow of water through the meter rotates a paddle. The paddle contains a magnet which passes by a sensor within the flowmeter. The sensor counts the number of revolutions and sends that information to the main control board. For example, 1 Cup = Nr (number of revolutions). The main control board cycles the water valve relay based on the information.



## Flowmeter

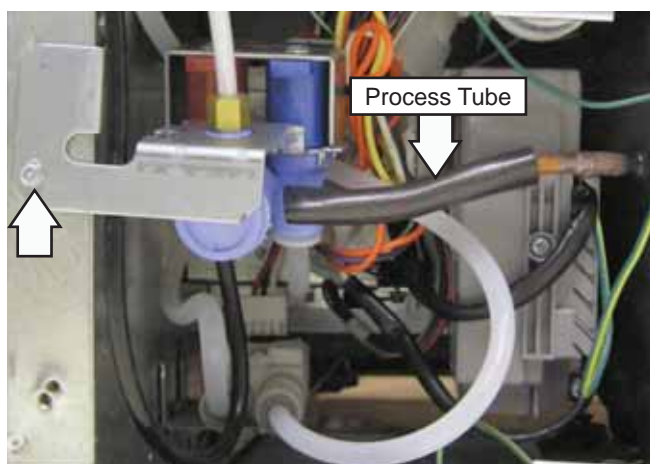
The flowmeter is located in the machine compartment behind the water valve. The water valve must be removed to access the flowmeter.



### To remove the flowmeter:

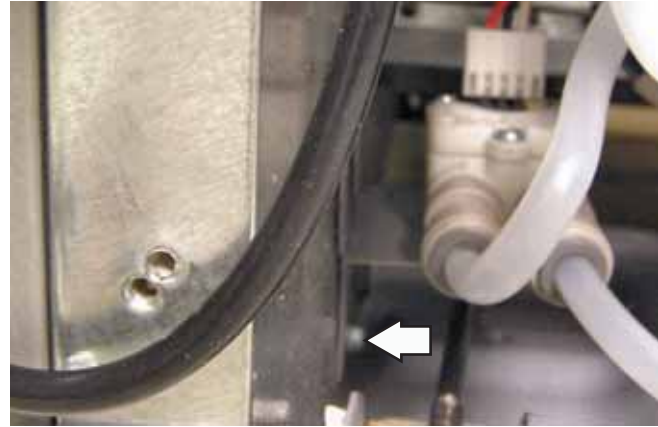
**Caution:** It may be necessary to bend the process tube in order to remove the water valve. If it is necessary to bend the process tube, use extreme caution.

1. Remove the 1/4-in. hex-head screw that holds the water valve to the cabinet.
2. Lift and move the valve to the right to disengage the tab at the top of the valve.

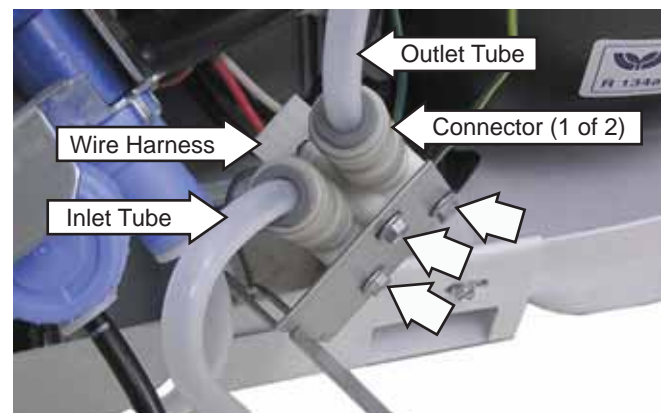


**Note:** The flowmeter is attached to a mounting bracket that is held to the cabinet with a 1/4-in. hex-head screw and 2 tabs. It may be necessary to use a stubby nutdriver or 1/4-in. ratchet wrench and socket.

3. Remove the 1/4-in. hex-head screw from the flowmeter bracket.



4. Lift and rotate the flowmeter bracket counterclockwise to disengage the 2 tabs at the top of the bracket.
5. Carefully pull out the bracket and flowmeter.
6. Mark and disconnect the inlet and outlet tubes from the flowmeter connectors.
7. Disconnect the wire harness from the flowmeter.
8. Remove three 1/4-in. hex-head screws from the mounting bracket.



### Note:

- When replacing or repairing the water line tubing, ensure the end of the tubing is cut square and fully inserted into the water valve and flowmeter connectors.
- Do not discard mounting bracket. The mounting bracket is not available as a replacement part.
- Connectors are identical (part # WR02X10471).



# Troubleshooting

## Control Diagnostics Using LCD Screen

The LCD screen has a self-diagnosis mode that can be accessed and will assist the technician to test certain functions of the LCD screen, dispenser, and freezer fan. This mode can aid the service technician in quickly identifying failed or improper operation of certain components and systems.

Control diagnostics using the LCD screen do not use error codes to identify problems. Instead, the LCD screen displays a list of components or systems to be checked if a problem is detected.

To enter the self-diagnosis mode, press and hold in the **HOME**, **TURBO COOL**, and **ENERGY SAVER** pads. The **SELF DIAGNOSIS** screen will appear. Press **SOFTWARE VERSION**, **FACTORY TEST**, or **HMI TEST**. Select **EXIT** to exit the self diagnosis mode.



Self Diagnosis	Description
SOFTWARE VERSION	Verifies using latest main and HMi board software. Test EEprom status.
FACTORY TEST	Turns on the freezer fan.  Calibrate - calibrates the touch screen assembly of LCD screen  Scan Screen - Starts LCD screen quality scan. Operates the TurboCool™, Energy Saver, Door Alarm, and Lock LEDs.  Returns to Factory Test screen.
HMI TEST	Operates all pad LEDs, and screen LCD. Press any pad or the glass cradle to check switch contact.  Press the LCD screen to return to the Self Diagnosis screen.
EXIT	Returns refrigerator back to normal mode.

## Diagnostics Aid Kit

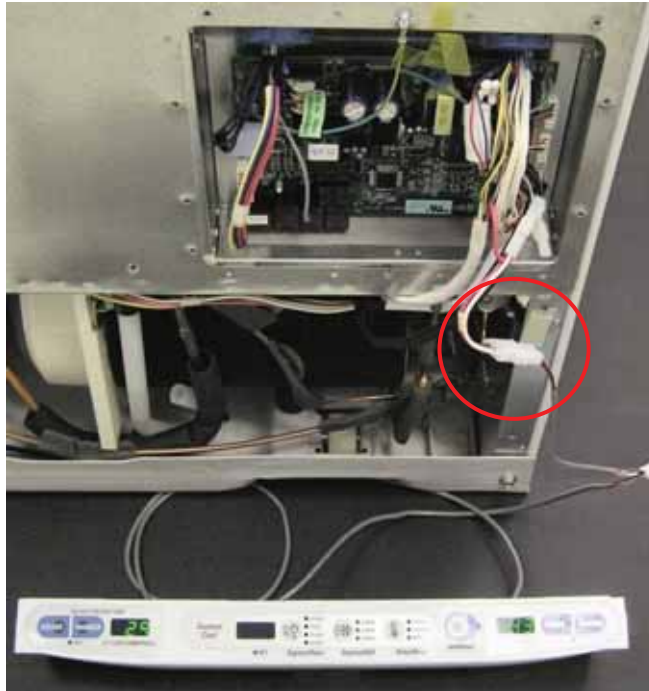
The diagnostic aid kit may assist the technician to functionally test individual components.

A diagnostic aid kit can be assembled and consists of a key pad temperature control assembly and wire harness. The parts required are WR55X10390 and WX05X14999.

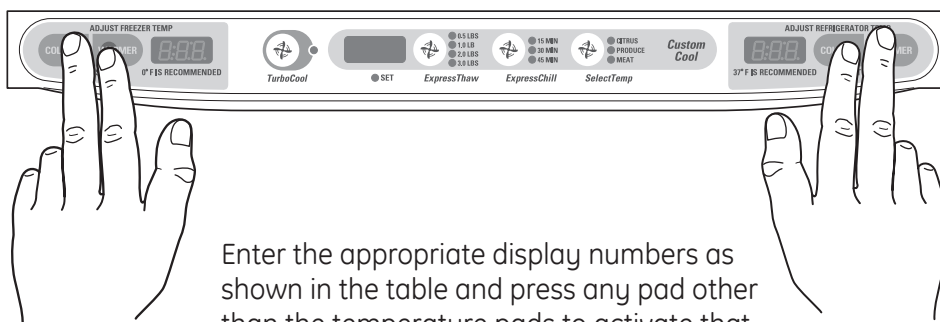
Using the kit, diagnostics can be performed by accessing the main board on the back of the refrigerator and plugging into the harness extended from the board.

**Note:** After plugging in the diagnostic aid kit, if the display is blank, press and release any of the temperature pads. The display will show actual temperatures.

### Diagnostic Aid - Main Board Access



Enter the diagnostic mode by pressing both the freezer temperature (COLDER and WARMER) pads and the refrigerator temperature (COLDER and WARMER) pads simultaneously. All four pads must be held for approximately 3 seconds. Blinking "0"s in both displays indicate the refrigerator has entered the test mode. Remove fingers within 5 seconds and press any middle pad to lock-in the test mode. The blinking "0"s will change over to solid (non-blinking) "0"s when the test mode is locked in. You can now test specific components using the chart.



Freezer Display	Fresh Food Display	Diagnostics	Results	Comments
0	7	Control and Sensor System Test	Checks each thermistor in order.	See Note 1.
1	0	Damper Test	Damper will open for 10 seconds.	Test will not start for approximately 10 seconds after pad is pressed.
1	1	Fan Test	Cycles through each fan for 5 seconds.	
1	2	100% Run Time	Sealed system on 100% of the time. Times out after 1 hour.	
1	3	Prechill Test	Starts prechill mode. Unit returns to normal on its own.	
1	4	Defrost Test	Toggles on the defrost cycle. See Note 2.	Must press again to turn heater off. See Note 2.
1	5	Main Control Reset/Test Exit	Causes a system reset and exits test mode.	

**Note 1:** Display order is #1 = Fresh Food Thermistor, #2 = Ambient Thermistor, #3 = Freezer Thermistor, #4 = Freezer Evaporator Thermistor, #5 = Invalid (not used).

Thermistor test results are: P = Pass, 0 = Fail, S = Short to 5 VDC, B = Defective board (replace main control).

**Note 2:** You **must** enter the defrost test again to toggle the defrost heater off at the end of the test. The heater will not come on if the evaporator thermistor is above 50°F (21°C).

## Control Diagnostics Using the Temperature Display On Non-Dispenser Models

The temperature display has a self-diagnosis mode that can be accessed and will help the technician to test certain functions of the temperature display, defrost heater, damper, and interior fan. This mode can aid the service technician in quickly identifying failed or improper operation of certain components and systems.

Control diagnostics using the display does not use error codes to identify problems. Instead, the temperature display allows access to components or systems to be checked if a problem is detected.

The temperature display must be in an active mode before entering the self-diagnosis test. If the display is blank, press any temperature button once, then release it. The display will show actual temperatures.

Enter the diagnostic mode by pressing both the freezer temperature (COLDER and WARMER) pads and the refrigerator temperature (COLDER and WARMER) pads simultaneously. All four pads must be held for approximately 3 seconds. Blinking "0"s in both the freezer and refrigerator sections of the display indicate the refrigerator has entered the test mode. Remove fingers within 5 seconds and press any pad to lock-in the test mode. The blinking "0"s will change over to solid (non-blinking) "0"s when the test mode is locked-in. Failure to lock-in the test mode within 30 seconds will time out the test and return the refrigerator to the normal cooling mode.

### Temperature Display On Non-Dispenser Models



FZ Display	FF Display	Mode	Comments
0	1	Showroom Mode	When activated, a tone will sound briefly and the display will flash 1 time. The cooling system stops operation. All HMI functions will operate normally.
0	2	Display Combined HMI Software Version	Temperature to main controls communications test. A coded software version is displayed. Dispenser model will show two numbers. <b>See Note 1.</b> Internal display model will test for Pass/Fail. Should show "P". If the format is violated, the display will read "99".
0	3	Display Main Control Software Version	Temperature to dispenser communications test. A coded software version is displayed. Dispenser model will show two numbers. <b>See Note 1.</b> Internal display model will show "F" (no dispenser board). If the format is violated, the display will read "99".
0	4	Combined HMI to Main communications	Dispenser to main controls communications test. Dispenser model will test for Pass/Fail. Should show "P". Internal display will show "F" (no dispenser board).

(Continued next page)

FZ Display	FF Display	Mode	Comments
0	6	HMI Self Test	Illuminates all LEDs and numerical segments. FF and FZ displays will initially display "88". Pressing temperature pads will change initial display. Remaining pads pressed will toggle the LED associated with that pad. Filter pad repeatedly pressed will toggle red, green, and amber LEDs. To exit HMI Self Test, press and hold both FF temperature pads simultaneously for 3 seconds, then release.
0	7	Sensor Self Test	Checks each thermistor in order and displays "P" for pass, "0" for open circuit, or "S" for shorted circuit. See <b>Note 2</b> .
1	0	Open Damper	Damper will open, pause briefly, and then close.
1	1	Fan Speed Test	Cycles through each fan for 5 seconds.
1	2	100% Run Time	This mode runs the sealed system 100% of the time. This test will automatically time out after 1 hour of run time. A refrigerator reset may exit this mode.
1	3	Enter Pre-chill	This places the freezer in pre-chill mode essentially issuing a "Force Prechill" command to the main control. It will return to normal operation on its own. This command will be ignored if the refrigerator is set to OFF/ Standby mode.
1	4	Toggle the State of Defrost	Each time any button on the temperature board other than four temperature adjust buttons is pressed, the status of the FZ defrost heater will toggle. See <b>Note 3</b> .
1	5	Refrigerator Reset	Causes a soft reset to occur at both the Combined HMI and the Main board.
1	6	Test Mode Exit	Causes a soft reset to occur at the Combined HMI board. Note: This will not terminate test modes that the main board is maintaining as a result of the service diagnostics mode. To terminate test modes, Refrigerator Reset should be used.
1	7	Degree C/F	Internal display model only. Used to set the temperature unit of measure. The current mode is displayed on the FF display ("C" or "F"). Use either of the FF slew keys to adjust the mode. Press any key other than the FF slew keys to set the unit of measure to the displayed selection.

**Note 1:** The first two digits are numbers. The second two digits are numbers that correspond to a letter (01=a, 02=b, 03=c,...26=z). For example, 61 and 9= a software version of 61i. 41 and 10=a software version of 41j.

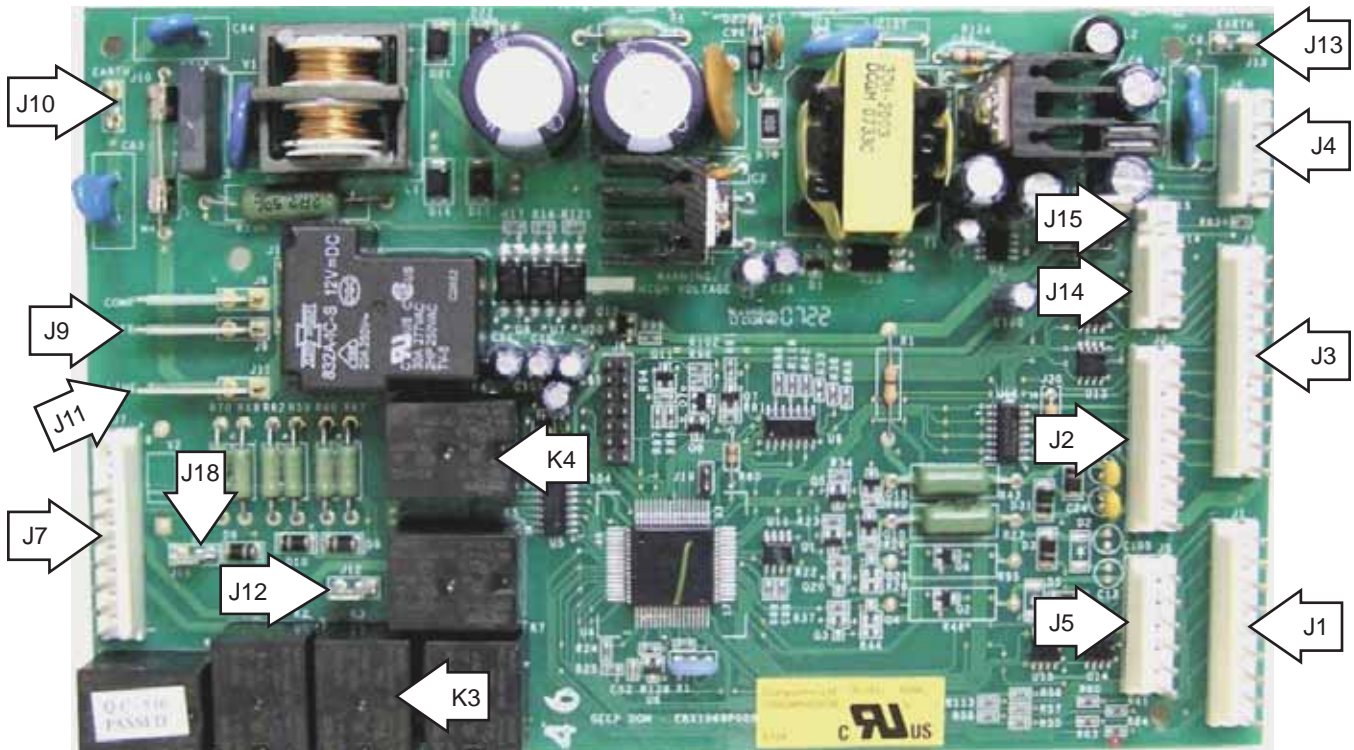
**Note 2:** Display order: 1 = Fresh Food Thermistor, 2 = Air Thermistor, 3 = Freezer Thermistor, 4 = Evaporator Thermistor, 5 displayed = No Thermistor installed at this location.

**Note 3:** The heater will not come on if the evaporator thermistor is above 50°F.



## Control Board Connector Locator

### Main Control Board



J10 and J13 - Earth (Ground)

J9 - Defrost Heater, Fill Tube Heater, Return Duct Heaters

J11 - Line (L1)

J7 - FF and FZ Interior Lighting Circuits, Dispenser Water Valve (Dispenser Models Only)

J12 - FF/FZ Mullion Heater

J18 - Icemaker Water Valve (Automatic Quick Ice)

K3 - Water

K4 - Defrost

J15 - Inverter

J14 - Flowmeter

J2 - Fan Common, Evaporator Fan, Condenser Fan, Mullion Bar Heater, Model Selector

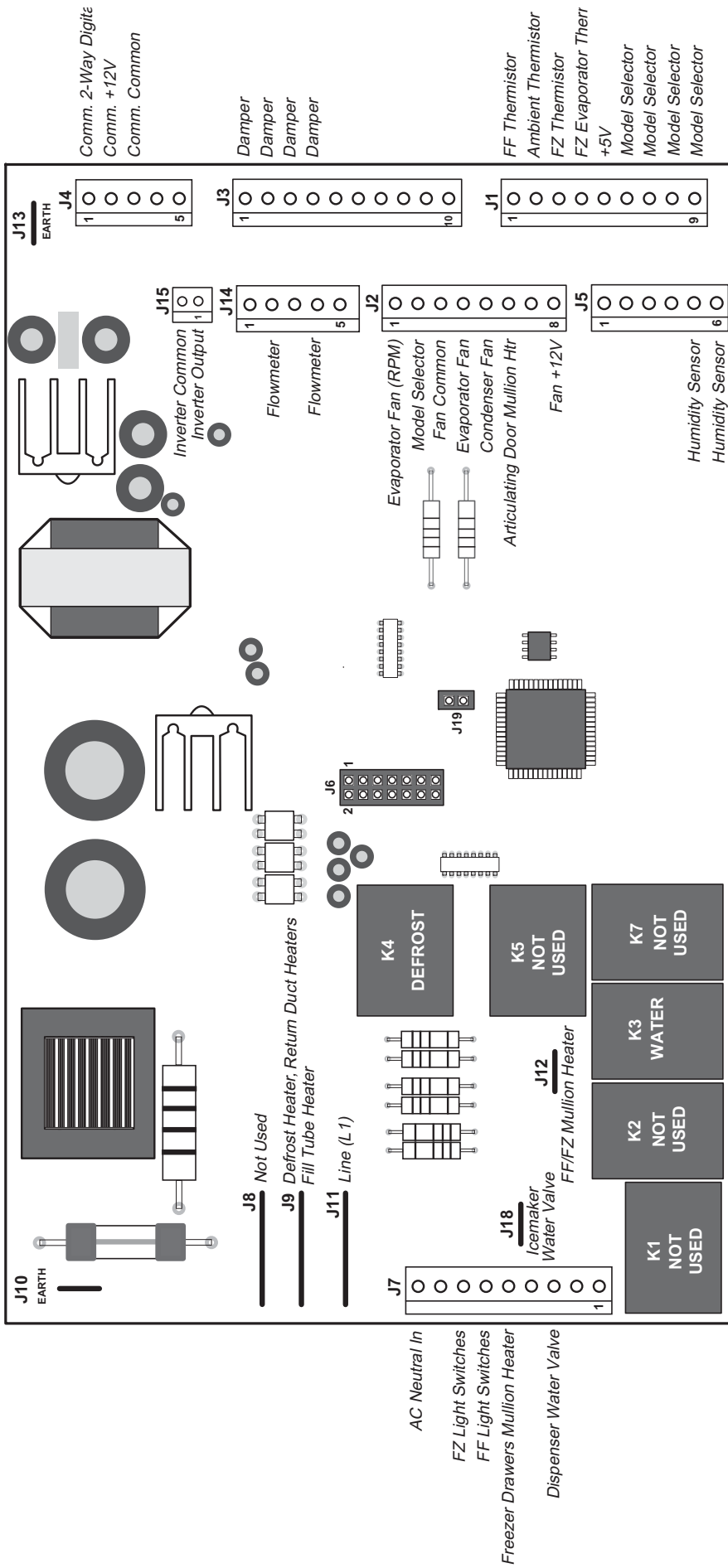
J5 - Humidity Sensor

J4 - Display Board

J3 - Damper

J1 - Fresh Food Thermistor, Ambient Thermistor, Freezer Thermistor, Evaporator Thermistor, Model Selector





## MAIN CONTROL BOARD TROUBLESHOOTING

The main control board is located at the back of the refrigerator, above the machine compartment on the right-hand side. (See *Control Board Connector Locator*.)

CONTROL BOARD PIN DEFINITIONS				
CONNECTOR	PIN	INPUT	OUTPUT	FUNCTION
J1	1	VDC		Feedback of fresh food thermistor value. Thermistor value is NTC (when temperature drops, resistance value increases), causing return voltage reduction. This value is used to cycle evaporator fan, compressor, and condenser fan. Feedback is filtered to respond to 8 degrees of change per minute.
J1	2	VDC		Feedback of ambient thermistor value. Thermistor value is NTC (when temperature drops, resistance value increases), causing return voltage reduction. This value is used to assist the main control board in compensating for room ambient higher or lower than 60°F. Feedback is filtered to respond to 8 degrees of change per minute.
J1	3	VDC		Feedback of freezer thermistor value. Thermistor value is NTC (when temperature drops, resistance value increases), causing return voltage reduction. This value is used to cycle evaporator fan, compressor, and condenser fan. Feedback is filtered to respond to 8 degrees of change per minute.
J1	4	VDC		Feedback of evaporator thermistor value. Thermistor value is NTC (when temperature drops, resistance value increases), causing return voltage reduction. This thermistor value is used to cycle the defrost heater on during defrost when temperature is below defrost value and off when the temperature is above defrost value. This value is also read during power-up to determine if refrigerator goes into pulldown mode or cycle continuation. Feedback is unfiltered and responds immediately.
J1	5		VDC	Provides 5 VDC for thermistors.
J1	6		VDC	Model Selector.
J1	7		VDC	Model Selector.
J1	8		VDC	Model Selector.
J1	9		VDC	Model Selector.

CONTROL BOARD PIN DEFINITIONS				
CONNECTOR	PIN	INPUT	OUTPUT	FUNCTION
J2	1	Hz		Feedback from evaporator fan. Evaporator fan feedback is not read for this application.
J2	2		VDC	Model pin selection.
J2	3		VDC	Evaporator fan and condenser fan common.
J2	4		VDC	Output to evaporator fan for motor operation. Effective voltage is determined by pulse width modulation.
J2	5		VDC	Output to condenser fan for motor operation. Effective voltage is determined by pulse width modulation.
J2	6		VDC	Output to articulating door mullion heater. Effective voltage is determined by main control board.
J2	8		VDC	Provides 12 VDC supply voltage to all fans, constant voltage.

CONTROL BOARD PIN DEFINITIONS				
CONNECTOR	PIN	INPUT	OUTPUT	FUNCTION
J3	1		VDC	Damper-6 VDC
J3	2		VDC	Damper-6 VDC
J3	3		VDC	Damper-6 VDC
J3	4		VDC	Damper-6 VDC

CONTROL BOARD PIN DEFINITIONS				
CONNECTOR	PIN	INPUT	OUTPUT	FUNCTION
J4	1	Digital Communication	Digital Communication	2-way communication between main control board and LCD board.
J4	2		VDC	12 VDC supply.
J4	3		VDC	DC common.

## CONTROL BOARD PIN DEFINITIONS

CONNECTOR	PIN	INPUT	OUTPUT	FUNCTION
J5	5		VDC	Humidity Sensor - 5 VDC
J5	6	VDC		Humidity Sensor - 1 to 3.6 VDC. (Proportionate to the relative humidity at the sensor location.)

## CONTROL BOARD PIN DEFINITIONS

CONNECTOR	PIN	INPUT	OUTPUT	FUNCTION
J7	3		VAC	Switched L1 voltage to the dispenser water valve - 120 VAC.
J7	5		VAC	Switched L1 voltage to the freezer drawers mullion heater - 120 VAC.
J7	6	VAC		Receives L1 input from fresh food door switches when either door is open. This input is used for evaporator fan control, liner protection mode calculations, door alarm calculations, and adaptive defrost calculations.
J7	7	VAC		Receives L1 input from freezer drawer switches when either drawer is open. This input is used for evaporator fan control, liner protection mode calculations, door alarm calculations, adaptive defrost calculations and some door interlock functions.
J7	9	VAC		AC neutral in.

### CONTROL BOARD PIN DEFINITIONS

CONNECTOR	PIN	INPUT	OUTPUT	FUNCTION
J9	1		VAC	Switched L1 voltage to the defrost circuit - 120 VAC. A timer (main control software), counts how long this circuit is energized and uses this information to determine if the next defrost cycle is adaptive or nonadaptive.

### CONTROL BOARD PIN DEFINITIONS

CONNECTOR	PIN	INPUT	OUTPUT	FUNCTION
J11	1	VAC		Constant L1 voltage to control board circuits - 120 VAC input potential for switched L1 terminals.

### CONTROL BOARD PIN DEFINITIONS

CONNECTOR	PIN	INPUT	OUTPUT	FUNCTION
J12	1		VAC	Switched L1 voltage to the FF/FZ mullion heater - 120 VAC.

### CONTROL BOARD PIN DEFINITIONS

CONNECTOR	PIN	INPUT	OUTPUT	FUNCTION
J14	2		VDC	Flowmeter - 6.5-7 VDC when first activated.
J14	4	VDC		Flowmeter - 13.6 VDC.

### CONTROL BOARD PIN DEFINITIONS

CONNECTOR	PIN	INPUT	OUTPUT	FUNCTION
J15	1		VDC	Output voltage to the compressor inverter - 4 to 6 VDC from J15 pin 1 to J15 pin 2.
J15	2		VDC	

### CONTROL BOARD PIN DEFINITIONS

CONNECTOR	PIN	INPUT	OUTPUT	FUNCTION
J18	1	VAC		Voltage from icemaker water valve - 120 VAC.

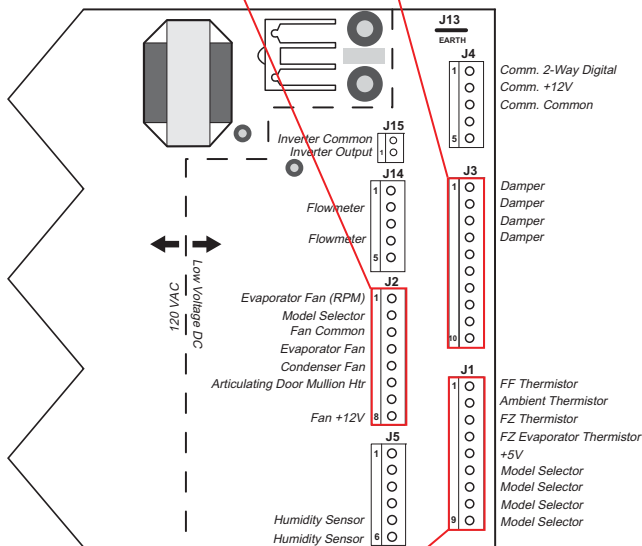


**Main Control Board  
J2 Connector (Low-Voltage DC Side)**

Pin	Wire Color	Component Termination	Input/Output	Pin-to-Pin Voltage Reading
1	Blue	Evaporator fan tachometer	Input	Not applicable to this model.
2	Blue/White	Model	Input	J2 pin 2 to pin 3 = 12 VDC
3	White/Silver	Fan Common	Common	J2 pin 3 to pin 8 = 12 VDC
4	Yellow/Black	Evaporator fan	Output	J2 pin 4 to pin 3 = 12.3 VDC (high), 11.5 VDC (med), 8.2 (low) <b>Note:</b> (See <i>Evaporator Fan</i> )
5	Yellow	Condenser fan	Output	J2 pin 5 to pin 3 = 12 VDC (super high), 10.5 VDC (high), 7.5 VDC (med), 5.5 VDC (low)
6	Black/White	Articulating Door Mullion Heater	Output	J2 pin 6 to pin 8 = 0 to 13.6 VDC (Voltage varies with room relative humidity, ambient temperature, and FF/FZ control settings.)
8	Red	Fan supply voltage (12 VDC)	Output	J2 pin 8 to pin 3 = 12 VDC

**Main Control Board  
J3 Connector (Low-Voltage DC Side)**

Pin	Wire Color	Component Termination	Input/Output	Pin-to-Pin Voltage Reading
1	Yellow	Damper	Output	J2 pin 3 to J3 pin 1 = 6 VDC
2	Red/Black	Damper	Output	J2 pin 3 to J3 pin 2 = 6 VDC
3	White/Brown	Damper	Output	J2 pin 3 to J3 pin 3 = 6 VDC
4	Blue/Yellow	Damper	Output	J2 pin 3 to J3 pin 4 = 6 VDC



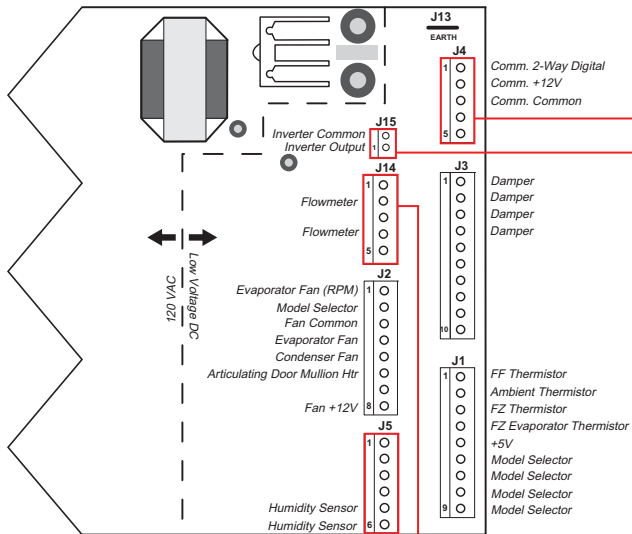
**Main Control Board  
J1 Connector (Low-Voltage DC Side)**

Pin	Wire Color	Component Termination	Input/Output	Pin-to-Pin Voltage Reading
1	Red/Blue	Fresh food thermistor	Input	N/A
2	Yellow	Ambient thermistor	Input	N/A
3	Red/White	Freezer thermistor	Input	N/A
4	Blue/White	Freezer evaporator thermistor	Input	N/A
5	Blue	Thermistor supply voltage (5 VDC)	Output	J1 pin 5 to J2 pin 3 = 5 VDC

*(Continued next page)*

## Main Control Board J4 Connector (Low-Voltage DC Side)

Pin	Wire Color	Component Termination	Input/Output	Pin-to-Pin Voltage Reading
1	Black	Temperature control	Communication	2-way digital communication
2	Red	Temperature control	Output	J4 pin 2 to pin 3 = 12 VDC
3	Blue	Temperature control	Common	J4 pin 2 to pin 3 = 12 VDC



## Main Control Board J14 Connector (Low-Voltage DC Side)

Pin	Wire Color	Component Termination	Input/Output	Pin-to-Pin Voltage Reading
2	White	Flowmeter	Output	J 14 pin 2 to J 4 pin 2 = 6.5 to 7 VDC when first activated
4	Black	Flowmeter	Output	J 14 pin 4 to J 4 pin 2 = 13.6 VDC

## Main Control Board J5 Connector (Low-Voltage DC Side)

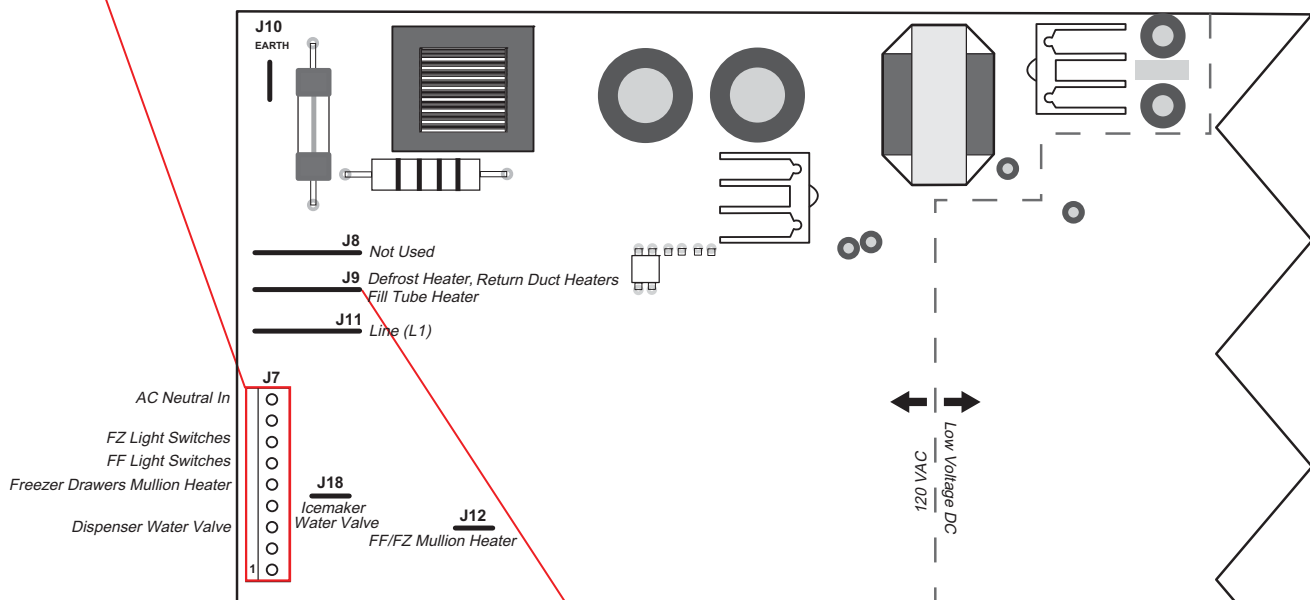
Pin	Wire Color	Component Termination	Input/Output	Pin-to-Pin Voltage Reading
5	Blue	Humidity Sensor	Output	J5 pin 5 to J4 pin 3 = 5 VDC
6	Yellow	Humidity Sensor	Input	J5 pin 6 to J4 pin 3 = 1 to 3.6 VDC

## Main Control Board J15 Connector (Low-Voltage DC Side)

Pin	Wire Color	Component Termination	Input/Output	Pin-to-Pin Voltage Reading
1	Red	Compressor inverter	Output	J 15 pin 1 to J15 pin 2 = 4 to 6 VDC
2	White	Compressor inverter	Output	J 15 pin 2 to J15 pin 1 = 4 to 6 VDC

## Main Control Board J7 Connector (High-Voltage Side)

Pin	Wire Color	Component Termination	Input/Output	Pin-to-Pin Voltage Reading
3	Yellow	Dispenser Water Valve	Output	J 7 pin 3 to J7 pin 9 = 120 VAC
5	Blue/White	Freezer Drawers Mullion Heater	Output	J 7 pin 5 to J7 pin 9 = 120 VAC
6	Purple	Fresh Food Door Light Switch	Input	J 7 pin 6 to J7 pin 9 = 120 VAC (Fresh food door open)
7	Red	Freezer Drawer Light Switches	Input	J 7 pin 7 to J7 pin 9 = 120 VAC (Freezer drawer open)
9	Orange	Neutral	Neutral	Neutral

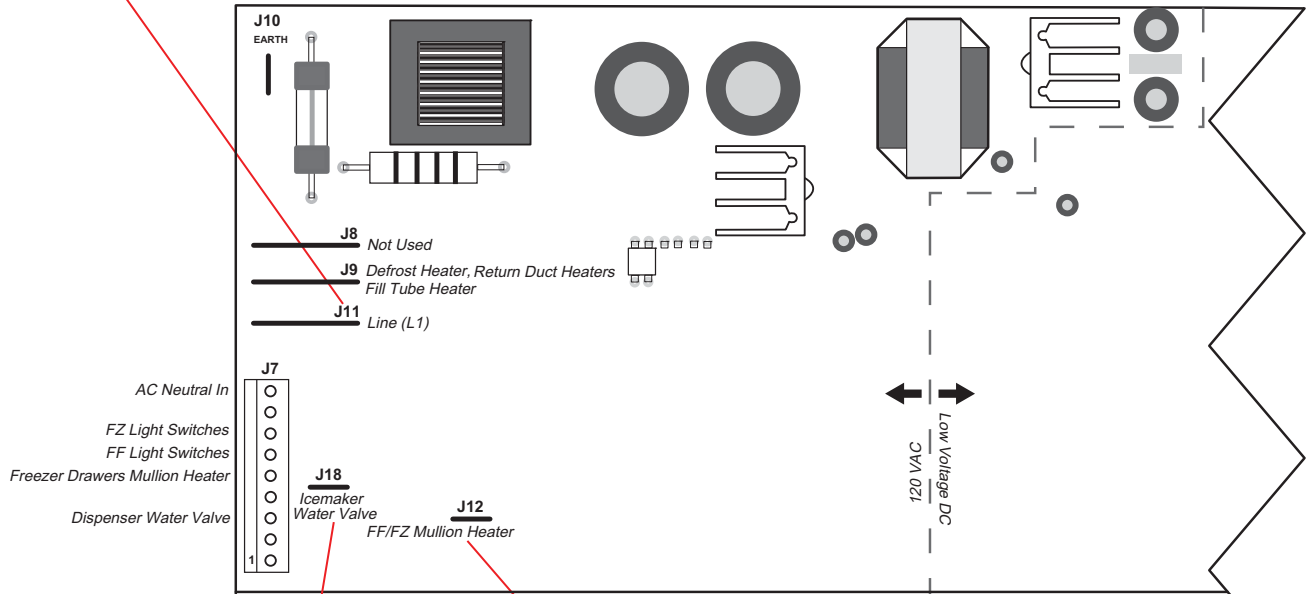


## Main Control Board J9 Connector (High-Voltage Side)

Pin	Wire Color	Component Termination	Input/Output	Pin-to-Pin Voltage Reading
J9	Blue	Defrost Heater	Output	J9 to J7 pin 9 = 120 VAC

## Main Control Board J11 Connector (High-Voltage Side)

Pin	Wire Color	Component Termination	Input/Output	Pin-to-Pin Voltage Reading
J11	Brown	L1 Input	Input	J 11 to J7 pin 9 = 120 VAC

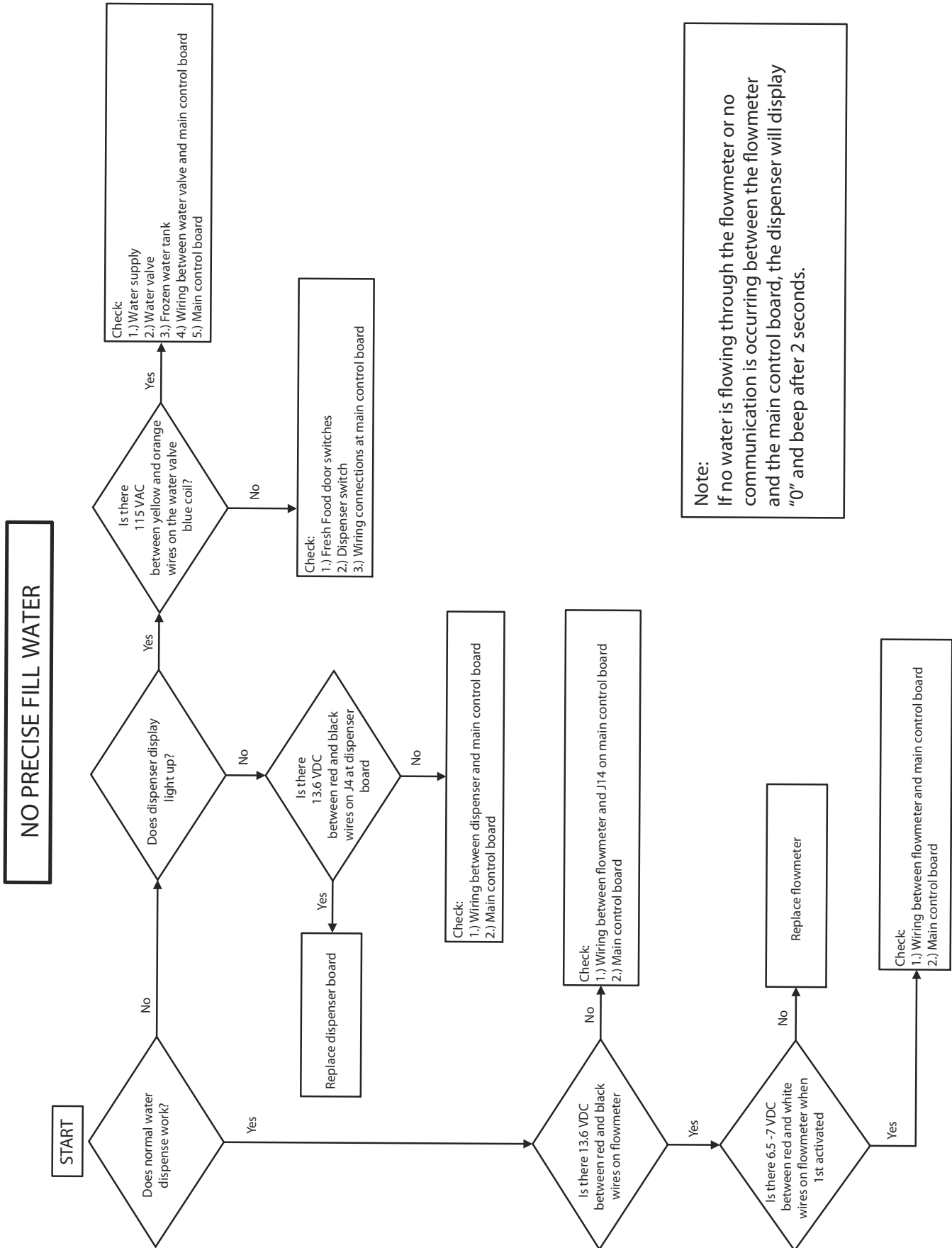


## Main Control Board J12 Connector (High-Voltage Side)

Pin	Wire Color	Component Termination	Input/Output	Pin-to-Pin Voltage Reading
J12	White	FF/FZ Mullion Heater	Output	J 12 to J7 pin 9 = 120 VAC

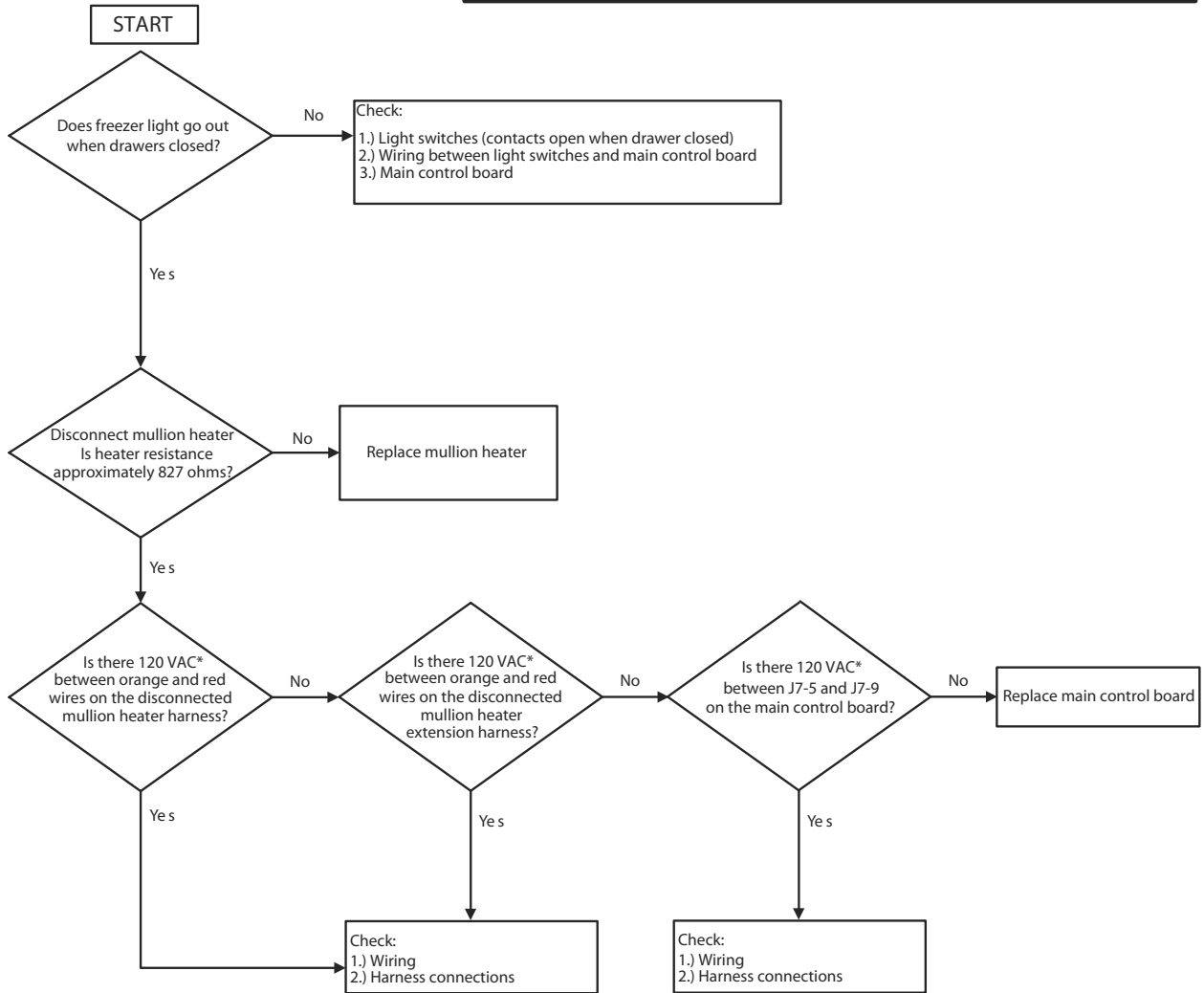
## Main Control Board J18 Connector (High-Voltage Side)

Pin	Wire Color	Component Termination	Input/Output	Pin-to-Pin Voltage Reading
J18	White	Icemaker Water Valve	Input	J 18 to J7 pin 9 = 120 VAC





## FREEZER DRAWERS MULLION SWEATING OR FROSTED



**\*NOTE**

The following conditions must be met before 120 VAC will be present:

- 1.) Energy Saver mode must be off
- 2.) Humidity sensor disconnected
- 3.) Both freezer drawer light switches in the drawer closed position
- 4.) Main control board "Duty Cycle" will initiate 120 VAC to the mullion heater in 2 to 20 minutes.

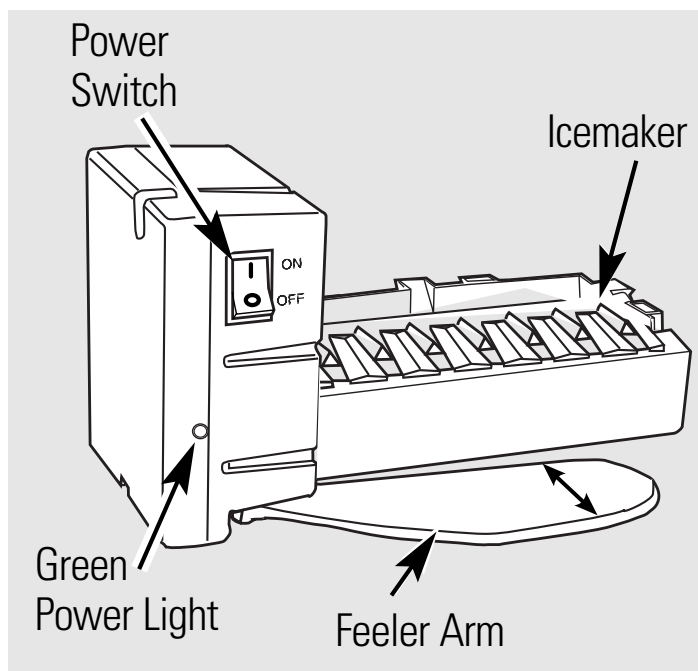
## Icemaker Service Test Mode

The electronic icemaker has a service test mode that can be utilized by the service technician in order to test basic operation of the icemaker. The service test mode consists of a harvest cycle followed immediately by a water fill. The harvest cycle is entered, regardless of icemaker temperature or arm position.

To enter the service test mode:

**Note:** The lower freezer drawer light switch must be in the drawer closed position.

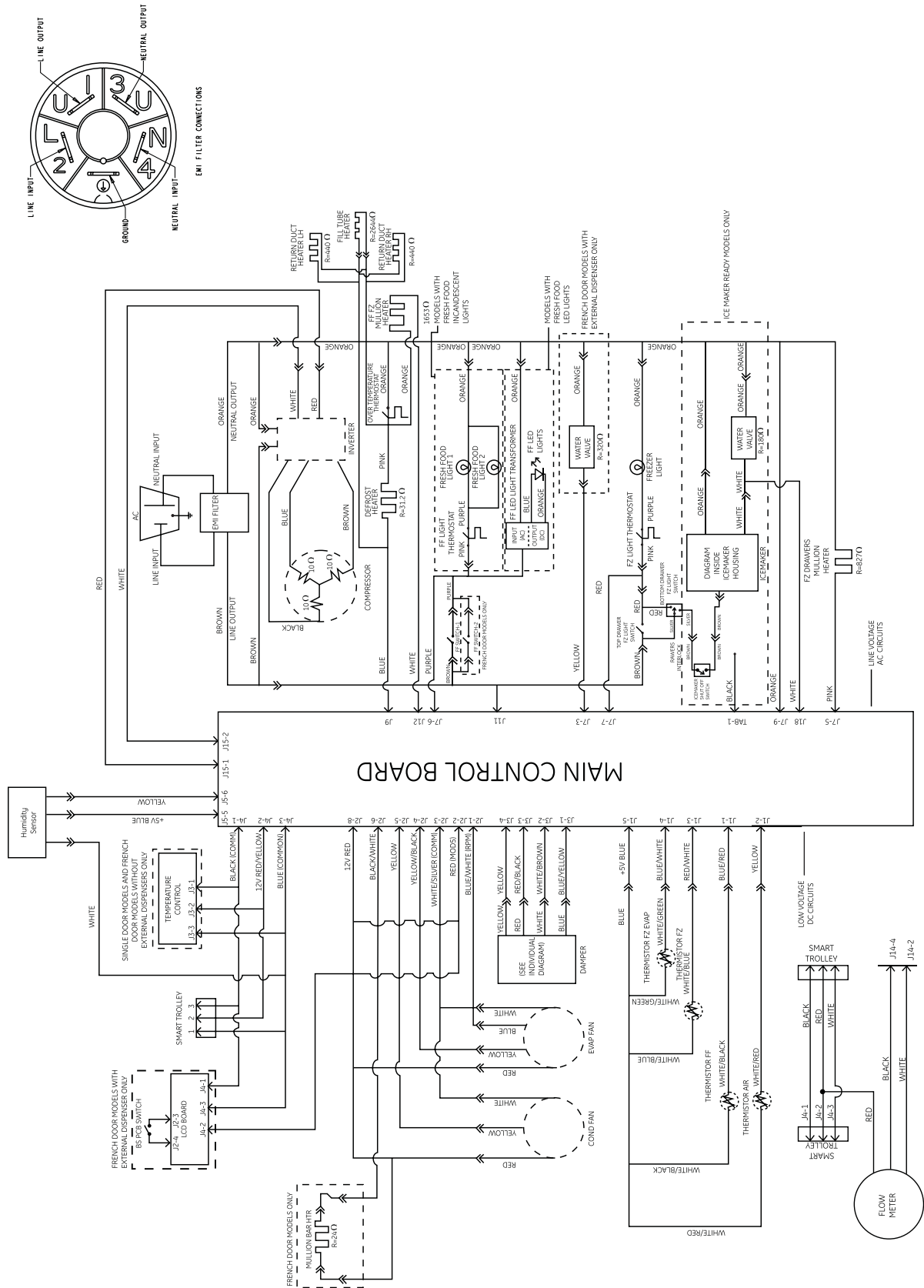
1. Turn the power switch to the off position and wait 20 seconds. (The green power light will be unlit.)
2. Turn the power switch to the on position. (The green power light will be lit.)
3. Push the feeler arm from the out position to the in position and back again 3 times and only 3 times within 20 seconds.



**Note:** If the icemaker has already started a harvest cycle and the arm is moving, it may be impossible to properly move the arm and enter the service mode without allowing it to reset and powering up again. If the icemaker is allowed to go through its normal harvest cycle, it will take 10-15 minutes after it dumps the ice for water to enter the icemaker.

While in the harvest mode, the heater will remain on for a minimum of 20 seconds. The water fill cycle will initiate the first fill (5.1 seconds) without waiting for the mold to prechill. Only one water fill occurs during the service mode. The icemaker will exit the service test on its own and enter the normal freeze cycle.

# Schematic



**Note:** 21' and 25' models have the white wire of the water valve connected to the main board at J18. The main board senses the water valve turning on and then runs the evaporator fan for 120 minutes. If the water valve cycles again in 120 minutes, the timer is reset to count another 120 minutes. Otherwise the fan will cycle off and on in a normal mode. This logic provides increased ice production.

# Warranty

## Refrigerator Warranty. (For customers in the United States)



All warranty service provided by our Factory Service Centers, or an authorized Customer Care® technician. To schedule service, on-line, 24 hours a day, visit us at [ge.com](http://ge.com), or call 800.GE.CARES (800.432.2737). Please have serial number and model number available when calling for service.

Staple your receipt here. Proof of the original purchase date is needed to obtain service under the warranty.

### For The Period Of: GE Will Replace:

#### GE and GE PROFILE MODELS:

##### One Year

From the date of the original purchase

**Any part** of the refrigerator which fails due to a defect in materials or workmanship. During this **limited one-year warranty**, GE will also provide, **free of charge**, all labor and related service to replace the defective part.

##### Thirty Days

(Water filter, if included)  
From the original purchase date of the refrigerator

**Any part** of the water filter cartridge which fails due to a defect in materials or workmanship. During this **limited thirty-day warranty**, GE will also provide, **free of charge**, a replacement water filter cartridge.

#### GE PROFILE MODELS ONLY:

##### Five Years

(GE Profile models only)  
From the date of the original purchase

**Any part of the sealed refrigerating system** (the compressor, condenser, evaporator and all connecting tubing) which fails due to a defect in materials or workmanship. During this **limited five-year sealed refrigerating system warranty**, GE will also provide, **free of charge**, all labor and related service to replace the defective part in the sealed refrigerating system.

### What GE Will Not Cover:

- Service trips to your home to teach you how to use the product.
- Improper installation, delivery or maintenance.
- Failure of the product if it is abused, misused, or used for other than the intended purpose or used commercially.
- Loss of food due to spoilage.
- Replacement of house fuses or resetting of circuit breakers.
- Damage caused after delivery.
- 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.
- Replacement of the light bulbs, if included, or water filter cartridge, if included, other than as noted above.
- Damage to the product caused by accident, fire, floods or acts of God.
- 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.**

This warranty is extended to the original purchaser and any succeeding owner for products purchased for home use within the USA. 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 excludes the cost of shipping or service calls to your home.

Some states do not allow the exclusion or limitation of incidental or consequential damages. 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, consult your local or state consumer affairs office or your state's Attorney General.