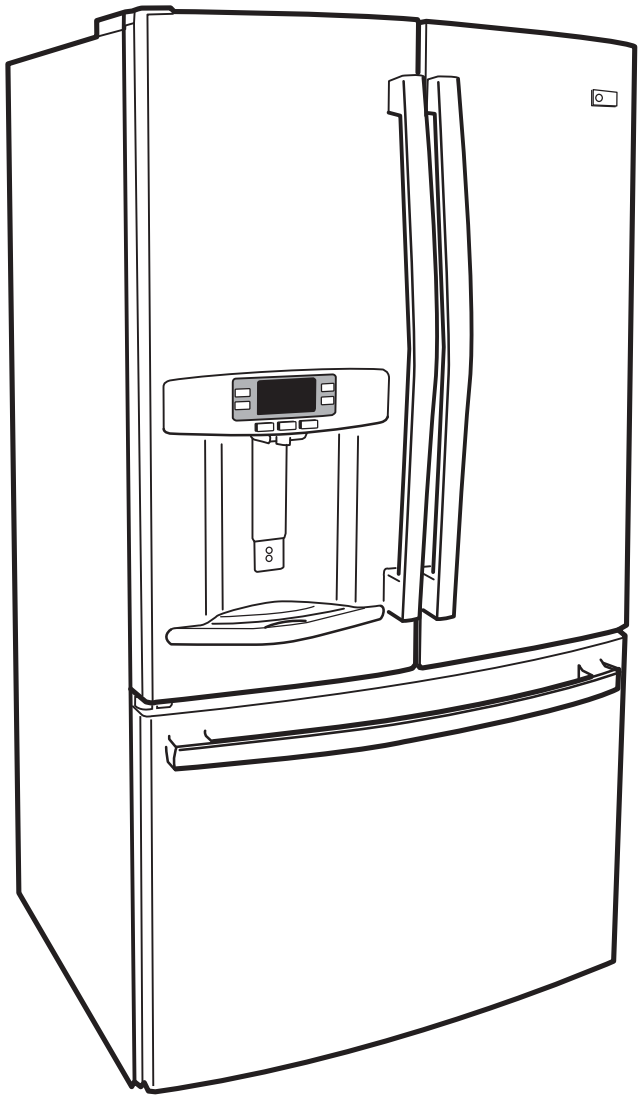
GE Appliances

Technical Service Guide

December 2012

2012 Profile and GE French Door Refrigerators

DFE29JG	PFE27KG
DFE29JM	PFE27KS
DFE29JS	PFE29PG
GFE27GG	PFE29PS
GFE27GS	PYE23KG
GFE29HG	PYE23KS
GFE29HM	PYE23PS
GFE29HS	



31-9227

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.

GE Appliances
Technical Service Guide

Table of Contents

(*Continued next page*)

Introduction

The 2012 Profile and GE French Door Refrigerators have the following features:

- Available in 23-29-cubic foot capacity
- ENERGY STAR® qualified
- Integrated Dispenser with Crushed Ice, Water, and Actual Temperature Display — Features easy-to-reach, easy-to-read temperature controls and a setting to quickly restore proper temperature after frequent door openings.
- Advanced filtration system — GE's exclusive filtration system removes harmful pharmaceuticals from water and ice.
- In-the-door filter — Located in the door for more available space in the fresh food section and easy replacement.
- Seamless stainless steel water/ice dispenser with pullout tray — Gives a streamlined look while easily allowing the filling of tall items.
- Hands-free Auto Fill — Allows you to walk away while the dispenser automatically fills most containers with filtered water.
- Space-saving icemaker in the door and an additional icemaker on some models
- Stainless steel doors with hidden hinges — Offer a sleek finish with the clean look of concealed hinges.
- An articulating door mullion attached to the left-side door provides a movable center mullion that maximizes access to the fresh food compartment.
- Secure-Close Door Systems — Securely pulls the doors and drawers shut.
- TwinChill™ with Dual Evaporators — Uses 2 evaporators to help maintain temperature and humidity levels to keep foods fresh.
- Most Profile models have a full-width deli pan with 5 electronically controlled temperature settings and LED lighting. Other models have a full-width deli pan with a mechanically adjustable temperature control without LED lighting.
- 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.
- TurboFreeze — Rapidly cools the freezer compartment in order to more quickly freeze foods.
- LED Pin-Point Lighting — Casts a clean, beautiful light throughout the fresh food and freezer.
- Available in white or black finish or stainless wrap.
- Drop-down tray — Allows for extra door storage when you need it and tucks away when you don't.

Note: Features may vary by model.

Nomenclature

P F E 2 9 P S D A S S

Brand/Product
P - Profile
G - GE
D - Adora

Configuration
F - French Door, Standard Depth

Energy Star

Capacity
23 to 29 - Cubic Foot

Feature Pack

Finish
Stainless

Model Year
D - 2012

Engineering Digit

Exterior Color
S - Stainless
B - Black
W - White

Handle Color
S - Stainless
B - Black
W - White

The mini-manual is located inside the hinge cover.

The nomenclature plate is located on the upper right 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 characters of the serial number identify the month and year of manufacture.

Example: ZZ123456S = December, 2012

Z – DEC	2012 – Z
A – JAN	2011 – V
D – FEB	2010 – T
F – MAR	2009 – S
G – APR	2008 – R
H – MAY	2007 – M
L – JUN	2006 – L
M –JUL	2005 – H
R – AUG	2004 – G
S – SEP	2003 – F
T – OCT	2002 – D
V – NOV	2001 – A

The letter designating the year repeats every 12 years.

Example:
Z - 2012
Z - 2000
Z - 1988

Technical Data

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

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

ELECTRICAL SPECIFICATIONS

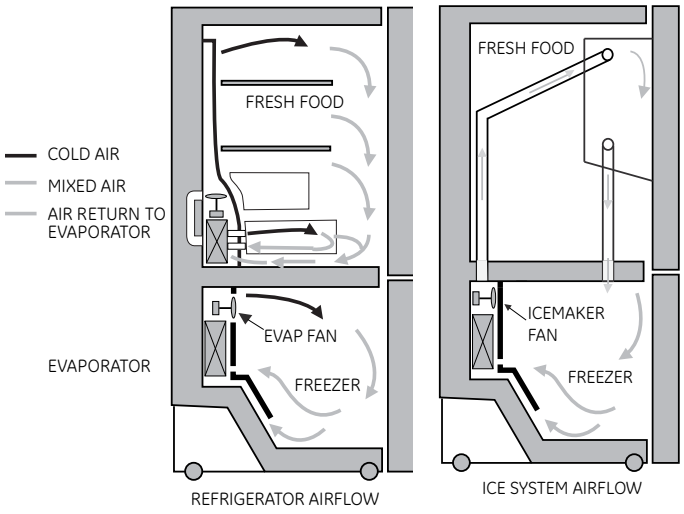
Adaptive Defrost Control
Fresh Food 32hrs
Adaptive Defrost Control
Freezer 96hrs
Thermistor kilo-ohm resistance ..... @32°F 16.3
Over temperature Thermostat ..... 140°F
Electrical Rating: 115V AC 60 Hz ..... 9.5 Amp

NO LOAD PERFORMANCE

Control Position 37/0 and Ambient of 65°F to 90°F
Run Time, % @ 65°F ..... 30 to 55
Run Time, % @ 90°F ..... 55 to 95

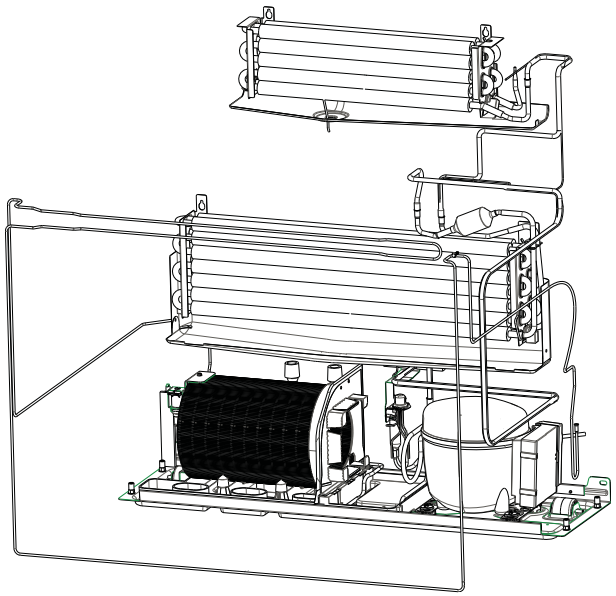
REFRIGERANT CHARGE (R134a) ..... 5.75 ounces

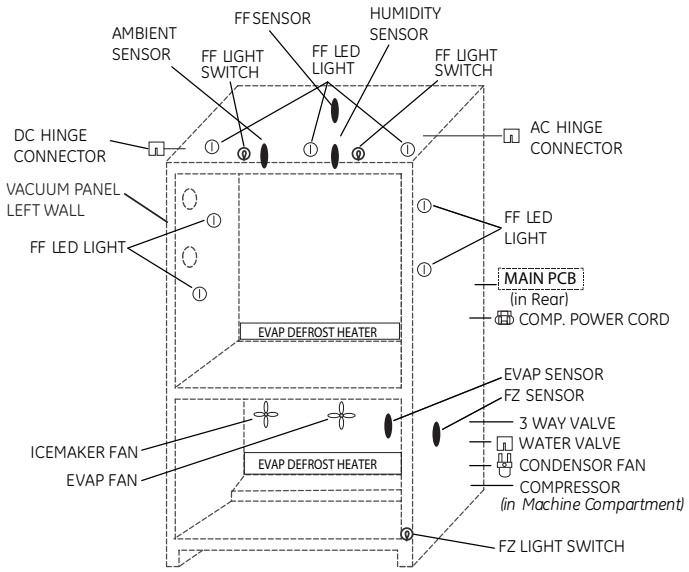
AIR FLOW

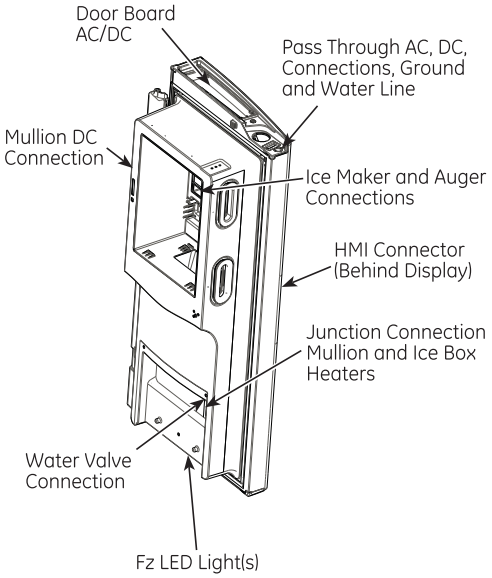


REFRIGERATION SYSTEM

Compressor (variable speed) ..... 900 BTU/hr @ 3700 RPM
Compressor (single speed) ..... 920 BTU/hr @ 3600 RPM

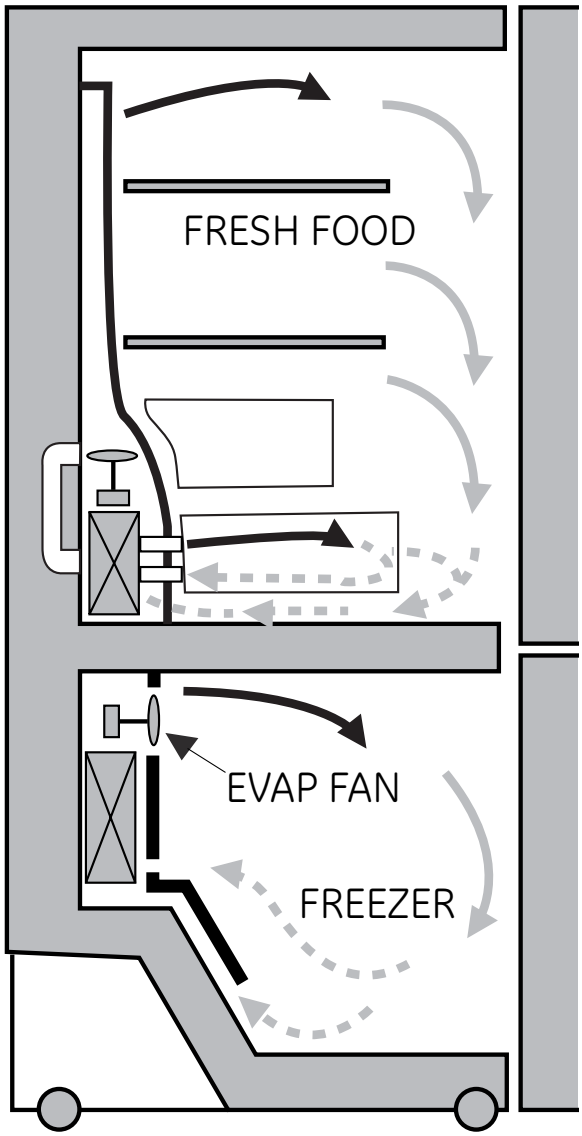




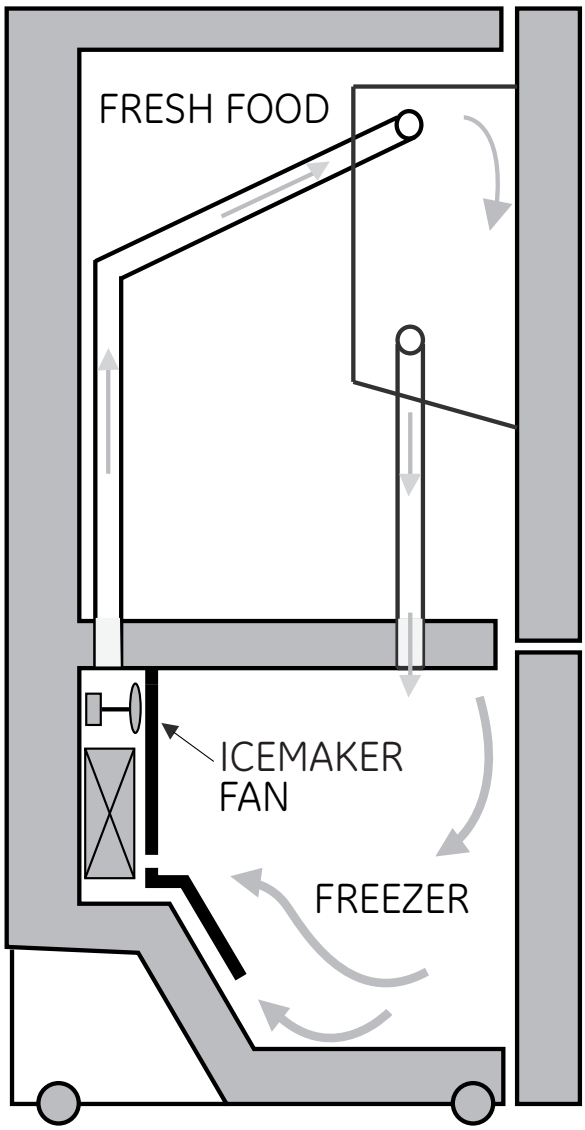


Interior Airflow

Refrigerator Air Flow (side view)



Ice System Air Flow (side view)



COLD AIR

MIXED AIR

AIR RETURN TO EVAPORATOR

The fresh food evaporator fan forces air thru the evaporator into the fresh food compartment. Air from the evaporator can also pass thru the deli drawer damper/heater assembly to the deli drawer, thru the fresh food compartment, and return to the evaporator. The damper/heater assembly is controlled by the main control board. When open, the damper allows the chilled air from the fresh food evaporator to move into the deli drawer. Air returns from the fresh food compartment to the fresh food evaporator via 3 return vents located on the bottom of the evaporator cover.

The freezer evaporator fan forces air thru the evaporator into the freezer compartment. An additional ice box fan circulates air into and returns air from the ice box via plastic conduits embedded in the cabinet foam insulation. Air returns from the freezer compartment to the freezer evaporator via 2 return vents located on the bottom of the evaporator cover.

Note: Most Profile models use an electronically controlled damper and heater. Other models use a mechanically adjustable temperature control damper without a heater.

Installation

POWER CORD

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

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

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

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

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

USE OF EXTENSION CORDS

Because of potential safety hazards under certain conditions, we strongly recommend against the use of an extension cord.

However, if you must use an extension cord, it is absolutely necessary that it be a UL-listed (in the United States) or a CSA-listed (in Canada), 3-wire grounding-type appliance extension cord having a grounding-type plug and outlet, and that the electrical rating of the cord be 15 amperes (minimum) and 120 volts.

REFRIGERATOR LOCATION

Do not install the refrigerator where the temperature will go below 60°F because it will not run often enough to maintain proper temperatures.

Do not install the refrigerator where the temperature will go above 100°F because it will not perform properly.

Install the refrigerator on a floor strong enough to support the refrigerator in a fully loaded condition.

CLEARANCES

Allow the following clearances for ease of installation, proper air circulation, and plumbing and electrical connections.

Sides: 1/8 inch (3 mm)

Top: 1 inch (25 mm) Cabinet/Hinge Cover

Back: 2 inches (50 mm)

Fresh Food Door and Freezer Drawer Handles

To remove the fresh food door and freezer drawer handles:

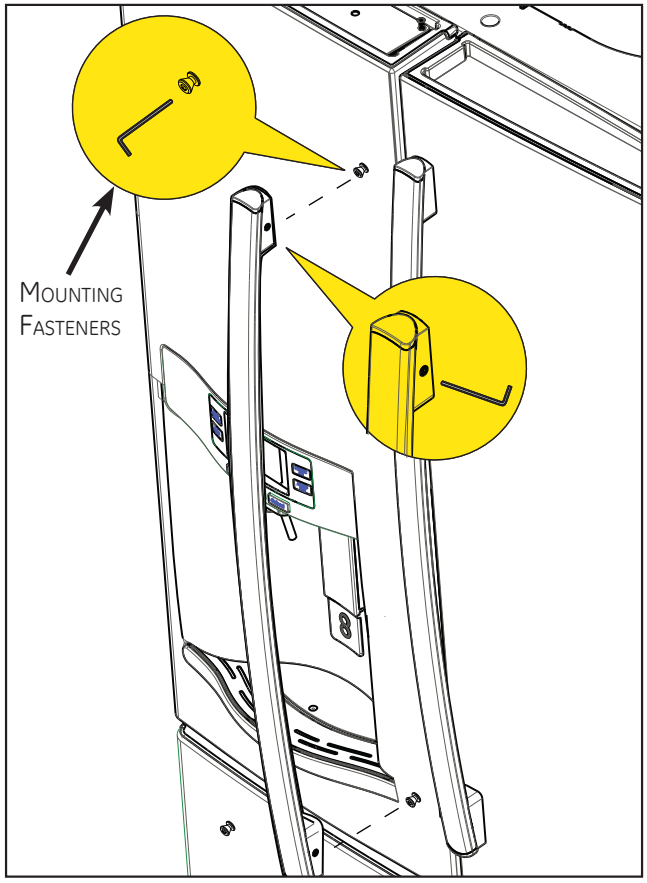
Handle design varies based on models, however, installation is the same.

Stainless Steel and Plastic:

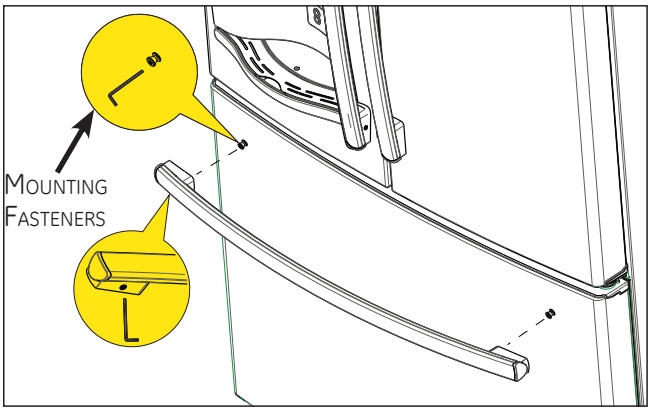
Loosen the set screws with the 1/8-in. Allen wrench and remove the handle.

Note: If the handle mounting fasteners need to be adjusted or removed, use a 1/4-in. Allen wrench.

Fresh Food Door Handle



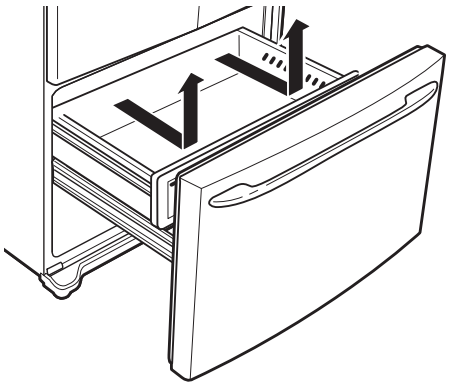
Freezer Drawer Handle



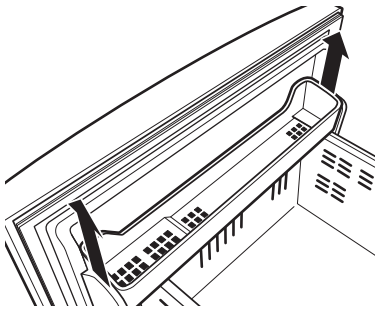
Freezer Drawer, Bin, and Basket

To remove the freezer drawer, bin, and basket:

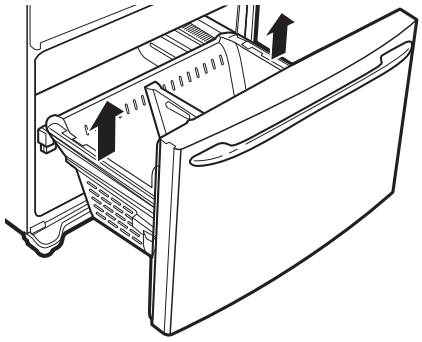
1. Open freezer drawer, then lift and remove freezer drawer.



2. Remove freezer drawer bin by pushing plastic tab on either left or right side to release bin hinge pin.



3. Remove freezer basket by lifting up the rear of the basket and moving basket rearward until the front of the basket can be rotated upward and out.

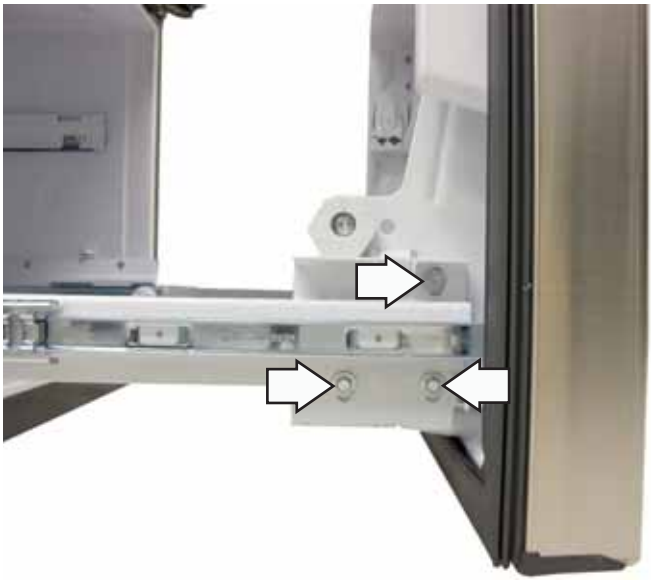


Freezer Drawer Front

The freezer drawer front is inserted into alignment slots (1 on each side) and attached to the slide assemblies with 6 bolts (3 on each side).

To remove the freezer drawer:

1. Remove the freezer drawer, bin, and basket. (See *Freezer Drawer, Bin, and Basket*.)
2. Remove the six 3/8-in. hex-head bolts (3 on each side) that attach the drawer front to the slide assemblies.

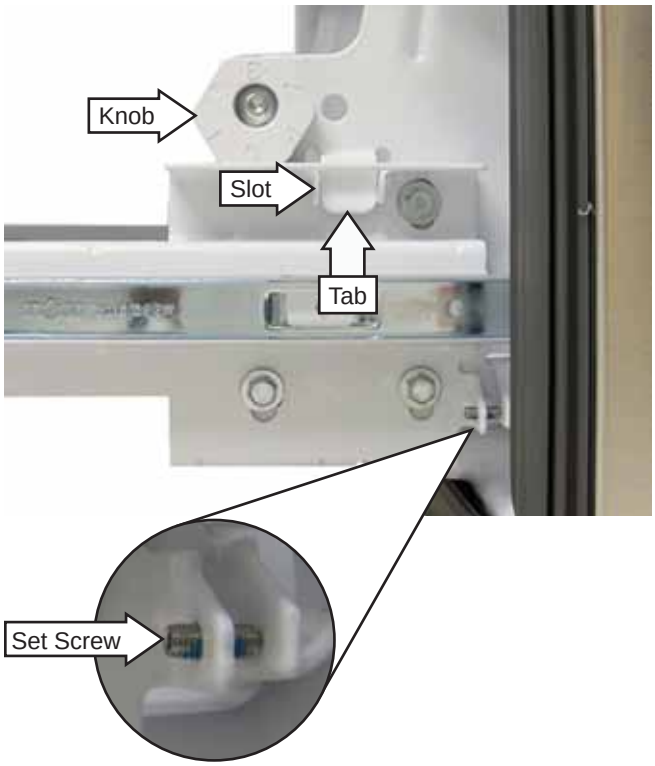


3. Lift the drawer front from the slide assemblies.

4. Place the drawer front on a protected surface.

Note:

- When installing the freezer drawer front, make sure the drawer alignment tabs are placed inside the alignment slots before installing the six 3/8-in. hex-head bolts.
- An adjustment knob is provided on each side of the freezer drawer front to change the horizontal drawer position.



After installation of the freezer drawer front, check for uniform gaps (top and bottom of right and left hand side). Gap should be 0.6 inches.

To adjust the freezer drawer front gaps:

Caution: The 6 mounting screws (3 on each side) are NOT interchangeable with the center or top hinge screws.

1. Loosen the six 3/8-in. hex-head bolts (3 on each side) that attach the drawer front to the slide assemblies.
2. Adjust the 3/32-in. Allen set screw clockwise if gap at the top is too big.
3. Adjust the set screw counterclockwise if gap at the bottom is too big.
4. Tighten the 3 screws on each side (right and left).
5. Re-check the gaps and repeat steps 1 to 4 if required.

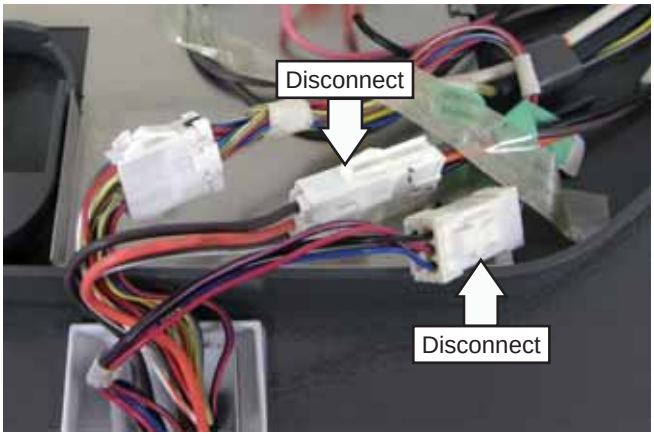
Removing the Fresh Food Doors

The procedure to remove the right and left fresh food doors is similar. There are no wires or water lines on the right side door.

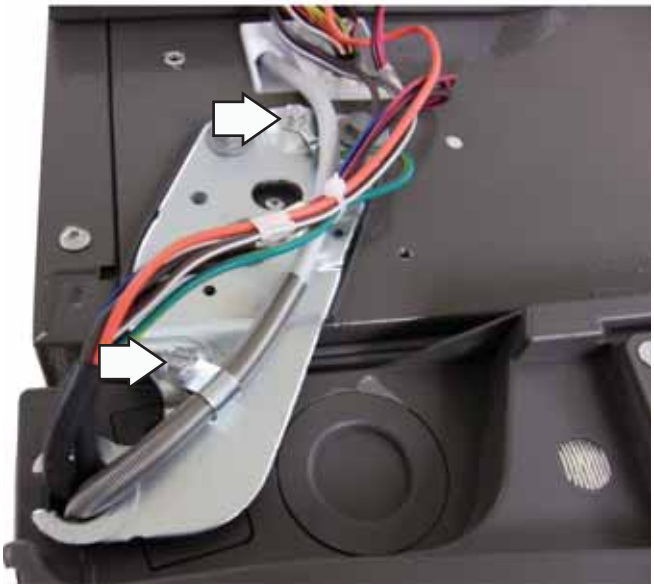
Caution: To prevent damage or injury, securely tape the door shut with masking tape or have a second person support the door.

To remove the left fresh food door:

1. Remove the hinge cover. (See ***Hinge Cover***.)
2. Disconnect both electrical connectors at the top cover.

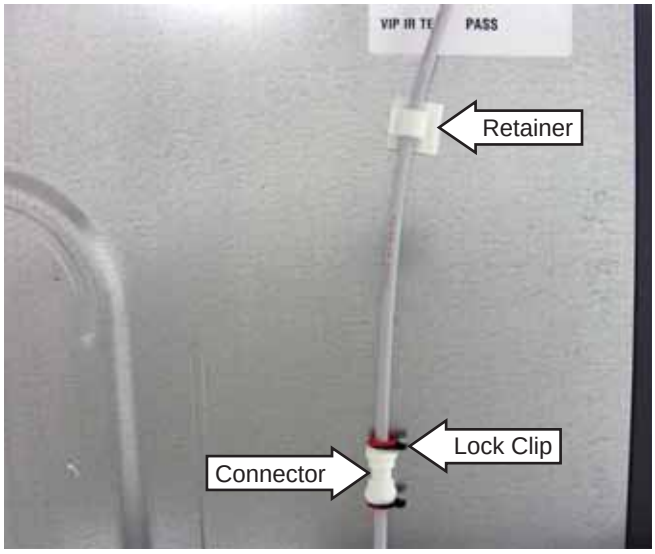


3. Remove the 1/4-in. hex-head screw to disconnect the ground wire from the hinge.
4. Remove the 1/4-in. hex-head screw to remove the strain relief from the hinge.



5. Remove the plastic lock clip off the coupling and push the collar in while pulling the filter inlet tube out from the connector located at the rear of the cabinet. Remove the inlet tube from retainer.

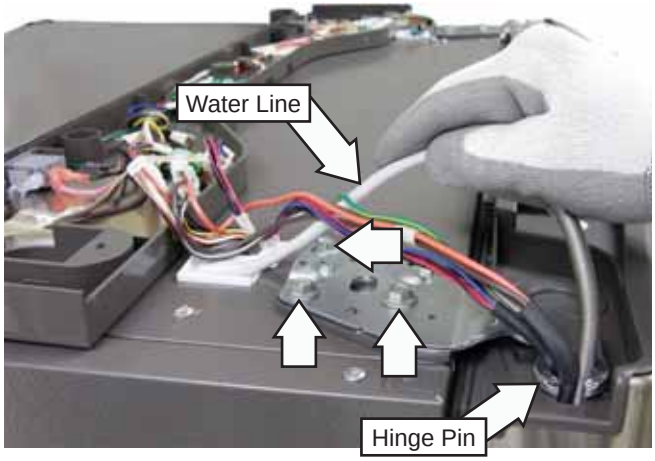
Note: Lock clips must be reinstalled to prevent leaks. After the water line is removed from the connector, the lock clip can be reinstalled on the connector. The water line can then be inserted with the clip in place.



6. Pull water line thru case conduit from the top to free the line for door removal.

Note: The water line is more than 4 feet long and may need to be taped to refrigerator for accessibility when reinstalling.

7. Remove the 3/8-in. hex-head screws that secure the top hinge to the cabinet.
8. Lift the hinge straight up to free the hinge pin from the recess in the top of the door.



(*Continued next page*)

Caution: In the following step, to prevent damage to door and electronics, carefully place the door in a protected location.

Note: The lower door hinge pin and hinge are keyed and must be matched correctly for the door to self-close properly. For proper installation later, please follow the directions carefully.

9. Remove tape, and keeping the door as vertical as possible, open the door to 90 degrees+, then lift straight up from the bottom hinge.

To install the left fresh food door:

Note: To close correctly to the cabinet, the hinge pin must be properly aligned with the lower hinge.

1. With the left side door at 90 degrees+ to the front of the case, lower the refrigerator door onto the center hinge. Ensure that the door and hinge align correctly.
2. Rotate door closed and make sure the pin on top of the articulating mullion engages the guide located at the top of the fresh food compartment.
3. Install top hinge, water line, strain relief, ground wire, and connect wire harnesses. Install hinge cover.

If the door will not close after reinstalling, it will be necessary to remove and turn the door upside down, and check alignment mark and arrow. Rotate door-closure mechanism hex-head screw to align mark and arrow, and reinstall door.

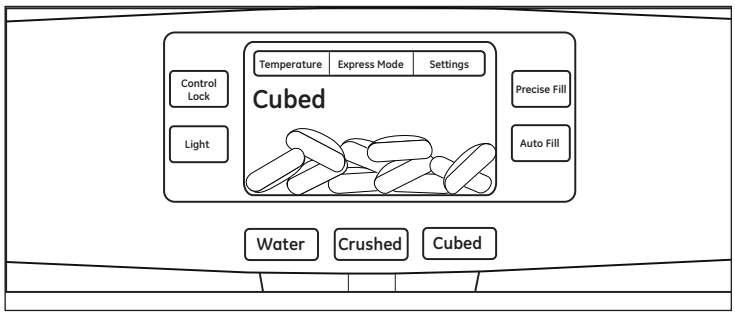
Note: Turn the closer pin on the right door counterclockwise and the one on the left door clockwise.

Using a 5/32-in. Allen wrench (some may be 1/4-in. hex), align the parallel flat surfaces of the hinge pin with the arrow on the hinge bushing, making sure the purple mark is facing the arrow. Turn the closer pin on the right door counterclockwise and the one on the left door clockwise.

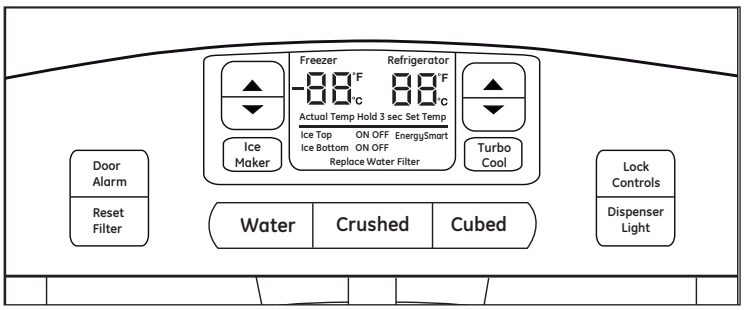
With the pin set properly in this location, the door can now be remounted on the lower hinge with the door 90 degrees to the cabinet.

About the controls with temperature settings.

PFE29 Control Style A, LCD External Control



GFE29 Control Style C, External Control



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.

Changing the Temperature for Control Style A

To Change the Refrigerator Temperature:
Access By: Temperature Button [Temperature]
Activate By: Below the word "Refrigerator", use the arrows to select the desired temperature. Press ***DONE*** when finished to return to ***HOME*** screen.
To Change the Freezer Temperature:
Access By: Temperature Button [Temperature]
Activate By: Below the word "Freezer", use the arrows to select the desired temperature.
Press ***DONE*** when finished to return to ***HOME*** screen.

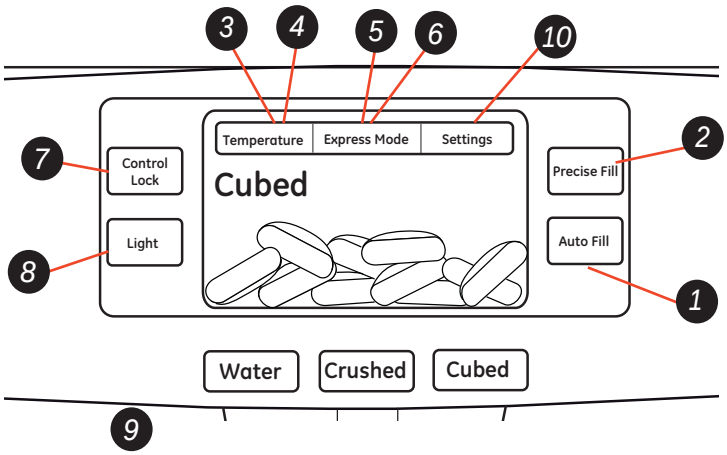
To turn OFF cooling system, access ***SETTINGS*** from the ***HOME*** screen. Page over and tap ***COOLING SYSTEM ON***. Press ***DONE*** to return to ***HOME*** screen.
To turn ***ON*** cooling system, access ***SETTINGS*** from the ***HOME*** screen. Page over and tap COOLING SYSTEM OFF. Press ***DONE*** to return to ***HOME*** screen.
Turning the cooling system off stops the cooling to refrigerator, but it does not shut off the electrical power.

Changing the Temperature for Control Style C

To change the temperature, press and release the [▲▼] pad. The ***ACTUAL TEMP*** light will come on and the display will show the actual temperature. To change the temperature, tap either the [▲▼] pad until the desired temperature is displayed.

To turn ***OFF*** cooling system, press and hold the Freezer [▲▼] pads simultaneously for 3 seconds. When the cooling system is ***OFF*** the display should read ***OFF***.
To turn ON cooling system, press either [▲▼] pad. The display will show the preset temperature settings of ***37°F*** for refrigerator and ***0°F*** for freezer. Turning the cooling system off stops the cooling to refrigerator, but it does not shut off the electrical power.

(*Continued next page*)



1 **Hands-free Autofill**

Hands-free Autofill uses sensors to monitor container height to automatically dispense filtered water without having to activate the paddle.

2 **PreciseFill setting**

Precisely dispenses filtered water in accurate measurements in ounces, cups, quarts, or liters using paddle.

3 **Refrigerator temp control**

Adjust freezer compartment temperature.

4 **Fresh food temp control**

Adjust fresh food compartment temperature.

5 **TurboFreeze™ setting**

Activate TurboFreeze to quickly restore freezer temperatures after frequent door openings.

6 **TurboCool™ setting**

Activate TurboCool to quickly restore fresh food temperature after frequent door openings.

7 **Lock controls**

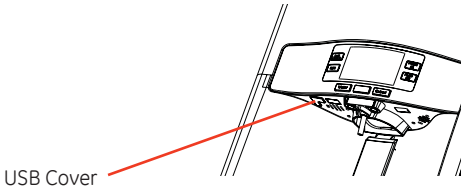
Press and hold 3 seconds to lock out ice and water dispenser and all feature and temperature buttons.

8 **LED dispenser light**

LED lighting that can be turned on/off to light your dispenser.

9 **Photo upload**

Insert USB memory stick to upload personal photos to the refrigerator LCD screen.
LCD will provide on screen prompts to load and view slideshow.*



Additional settings:

10
- Connected Home ready
- Slideshow
- Reset filter
- Ice maker on/off
- Door alarm
- Sound control
- Cooling system On/Off
- Metric/English units

Additional Modes

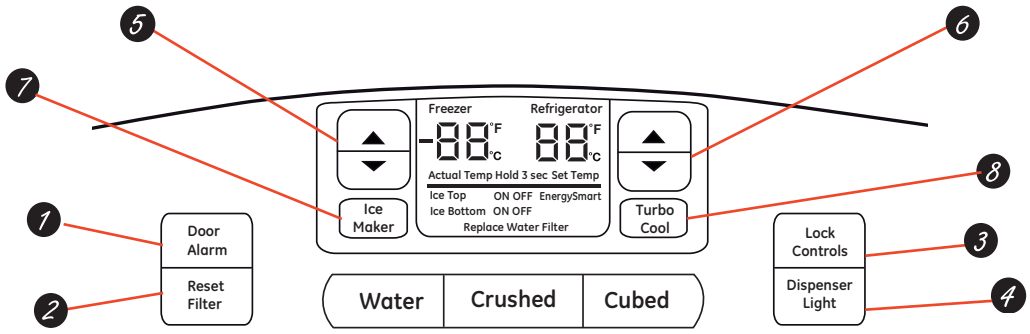
- **Demo Mode**
- **Sabbath Mode**

To enter/exit Sabbath mode, press and hold lock and light buttons simultaneously for 3 seconds.

Activate Sabbath Mode to turn off interior lights, temperature control and advanced features. Compressor will run on a timed defrost when in Sabbath mode.

*Capacity is 90 photos on the root folder of the USB stick. Photos can not be in a sub-folder. Must be JPG or JEPG format.

(*Continued next page*)



1 Alarm
Sounds to alert when the freezer or fresh food doors have been left open.

2 Reset Filter
Hold for 3 seconds after replacing filter.

3 Lock Controls
Press and hold 3 seconds to lock out ice and water dispenser and all feature and temperature buttons.

4 LED dispenser light
LED lighting that can be turned on/off to light your dispenser.

5 Freezer temp control
Adjust freezer compartment temperature

6 Refrigerator temp control
Adjust fresh food compartment temperature

7 Dual Ice maker control (select models)
Turn your ice makers on/off.

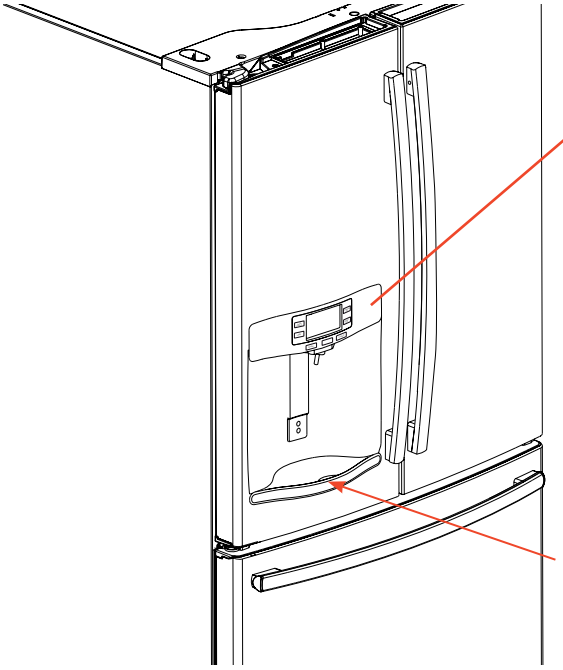
8 TurboCool™ setting
Activate TurboCool to quickly restore refrigerator temperature after frequent door openings.

GEF LED User Interface notes:

- The Warmer/Colder buttons adjust the fresh food and freezer temperatures.
- The 7-segment display shows the Actual Temp or Set Temp of the fresh food and freezer temperatures.
- The Ice Maker button is toggled to turn on or off the fresh food door and freezer icemakers. Ice Top is the indicator for the fresh food door icemaker and Ice Bottom is the indicator for the freezer icemaker.
- The Turbo Cool button is toggled to activate the fresh food turbo cool and/or the freezer turbo freeze features. The fresh food 7-segment displays tc when in turbo cool and the freezer 7-segment displays tf in turbo freeze mode.
- If the water filter timer has expired, the Replace Water Filter display will be on.
- The Reset Filter button will reset the water filter timer.
- The Door Alarm button will activate and deactivate the door alarm.
- The Lock Control will prevent the consumer from interfacing with the refrigerator.
- The Dispenser Light button will turn on or off the dispenser light.
- The Water/Crushed/Cubed functions are exclusively linked by the system logic. Pressing 1 button selects the function and turns off the other 2 functions. The appropriate LED is lit when a function is selected. When the door switches are closed and the cup switch is depressed, dispensing occurs according to the selected function.

(*Continued next page*)

About the dispenser



If no water is dispensed when the refrigerator is first installed, there may be air in the water line system. Press the dispenser paddle for at least two minutes to remove trapped air from the water line and to fill the water system. To flush out impurities in the water line, throw away the first six full glasses of water.

CAUTION: Never put fingers or any other objects into the ice crusher discharge opening.

To remove Dispenser Tray

1. Pull Dispenser Tray out until it stops.
2. Locate tab in the center on the bottom and push in.
3. Pull Dispenser Tray assembly out.
4. Lift metal Dispenser Tray out at center notch to clean.

To reinstall Dispenser Tray

1. Place the Dispenser Tray cover on top of catch tray and position under the two plastic retainers on either side.
2. Center Dispenser tray, and align with center guides.
3. Push in until it firmly in place.

Important Facts About Your Dispenser

- Do not add ice from trays or bags to the door icemaker bucket. It may not crush or dispense.
- Avoid overfilling glass with ice and use of narrow glasses. Backed-up ice can jam the chute or cause the door in the chute to freeze shut. If ice is blocking the chute remove the ice bucket, poke it thru with a wooden spoon.
- Beverages and foods should not be quick-chilled in the door icemaker bin. Cans, bottles or food packages in the storage drawer may cause the icemaker or auger to jam.
- To keep dispensed ice from missing the glass, put the glass close to, but not touching, the dispenser opening.
- Some crushed ice may be dispensed even though you selected CUBED ICE. This happens occasionally when a few cubes accidentally get directed to the crusher.
- After crushed ice is dispensed, some water may drip from the chute.
- Sometimes a small mound of snow will form on the door in the ice chute. This condition is normal and usually occurs when you have dispensed crushed ice repeatedly. The snow will eventually evaporate.

(*Continued next page*)

About autofill.

To Use HANDS FREE AUTO FILL:

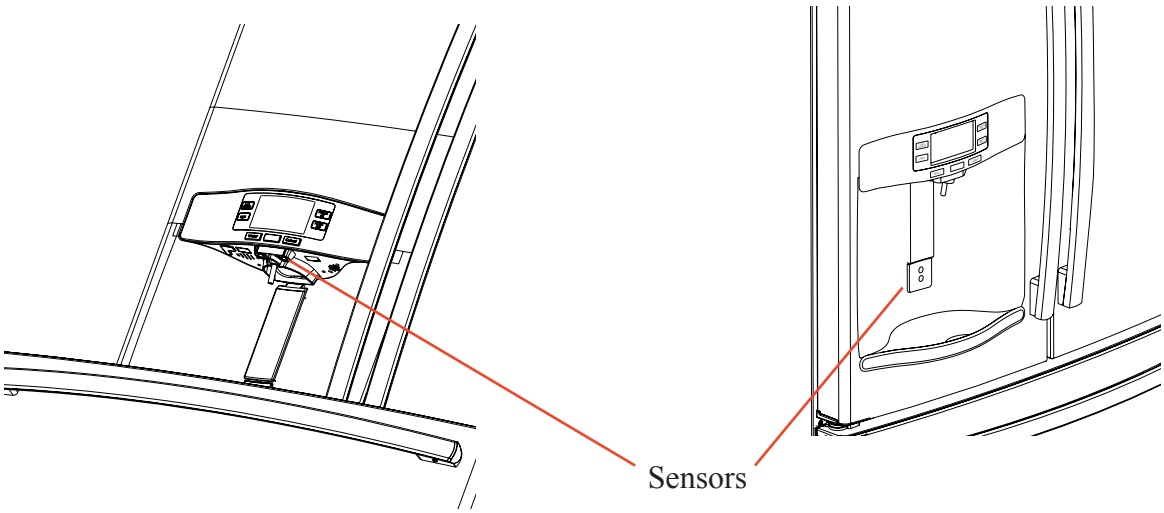
1. Center container on recess dispenser tray (not touching bottom sensors) and remove hand from container
2. Press AUTO FILL

To Stop AUTO FILL

1. Press CANCEL, to resume filling press AUTO FILL.

Important Facts about AUTO FILL

- For optimum results, use a uniform container between 4 to 8 inches tall and 2 to 6 inches wide. Container should be as tall as the bottom sensors.
- Container shape, fill level and functionality may vary on containers taller than 8 inches.
- Container volumes may vary, if error message **Container Not Found** is given, try a different container.
- If an unusual-shaped container does not fill to the proper volume use Precise Fill.
- AUTO FILL will time out.
- Handles and garnishes on the rim of the container my cause overfilling or variation in fill volumes.
- Splashing may occur depending on the location of the container, water flow rate, container shape, and ice cubes.
- Keep sensors clean with a clean damp cloth, and do not spray liquid or cleaners directly on sensors
- AUTO FILL works best with household water pressure of 60 to 100 psi.



(*Continued next page*)

About the GE® RPWF water filter cartridge

Water Filter Cartridge

The water filter cartridge is located in one of the following places:

- In the left-hand fresh food door (recessed in the door flange).
- In the fresh food interior on the left side wall, near the top.

When to replace the filter cartridge

The filter cartridge should be replaced **every six months** or earlier if the flow of water to the dispenser or icemaker decreases.

Touch Screen Models: A filter status message will appear on the screen when the water filter needs to be replaced. The filter status message must be reset manually.

The Water Filter: Replace status message can be reset by entering the Settings menu from the home screen. Then, select the Water Filter menu and press the RESET button. This will reset the filter status.

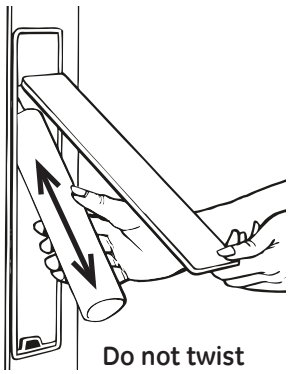
Non-touch Screen Models: A filter indicator message will illuminate in the screen when the water filter needs to be replaced. This light must be reset by pressing and holding the Reset Filter button for three seconds.

The filter cartridge has an expected life of six months and should be replaced when indicated by the filter indicator on the refrigerator, or sooner if a significant reduction in flow occurs.

Removing the filter cartridge

To replace the filter, first remove the old cartridge by gently lifting the filter away from housing until first release, then lift again to remove. **DO NOT TWIST**. A small amount of water may drip out.

Installing the Filter Cartridge



1. Align top of filter with cartridge holder and push until cartridge is fully seated.

2. While continuing to ensure cartridge is fully seated in the holder, gently rotate the filter (inward for BF models) until it can no longer rotate. If rotation is difficult, check to ensure filter is properly aligned and fully seated within the holder.

3. Run water from the dispenser (approx. 2 gallons or about 5 minutes) to clear any particles and remove air from the system.

4. Reset Filter Status.

Touch Screen Models: Access RESET button thru the Water Filter menu.

Non-touch Screen Models: Press and hold the Reset Filter button for three seconds.

Note: A newly installed water filter cartridge may cause water to spurt from the dispenser during the first 5 minutes of operation. Use a large pitcher or sports bottle to catch the water spray.

Note: It is normal for water to appear discolored during the initial system flush. Water color will return to normal after first few minutes of dispensing.

Filter Bypass Plug

To reduce the risk of property damage due to water leakage, you **MUST** use the filter bypass plug when a replacement filter cartridge is not available. The dispenser and icemaker will not operate without either the filter or bypass plug installed. The bypass plug is installed in the same way as a filter cartridge.

WARNING: To reduce the risk associated with choking, do not allow children under 3 years of age to have access to small parts during the installation of this product. The disposable filter cartridge should be replaced every 6 months at the rated capacity, or sooner if a noticeable reduction in flow rate occurs.

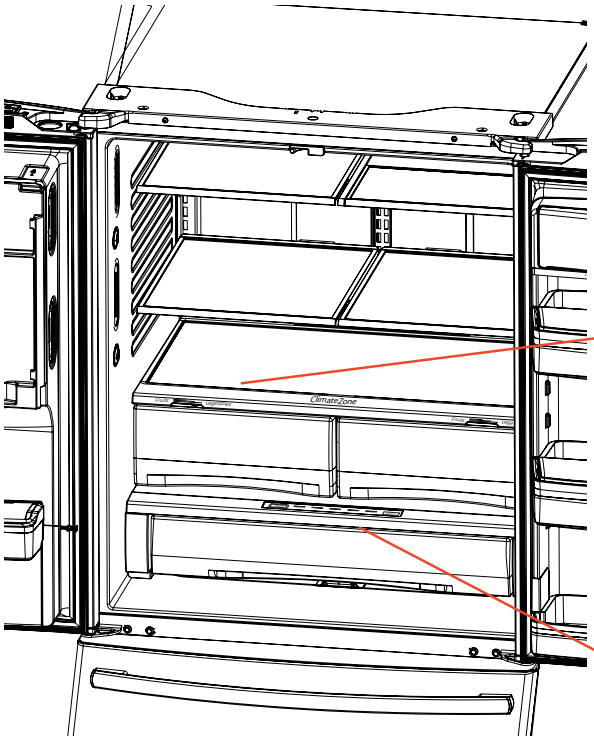
For the maximum benefit of your filtration system, GE recommends the use of GE-branded filters only. Using GE-branded filters in GE and Hotpoint® refrigerators provides optimal performance and reliability. GE filters meet rigorous industry NSF standards for safety and quality that are important for products that are filtering your water. GE has not qualified non-GE-branded filters for use in GE and Hotpoint refrigerators and there is no assurance that non-GE-branded filters meet GE's standards for quality, performance and reliability.

If you have questions, or to order additional filter cartridges, visit our website at www.geappliancesparts.com or call GE Parts and Accessories, 800.626.2002.

Customers in Canada should consult the yellow pages for the nearest Camco Service Center.

(*Continued next page*)

About the climate zone and temperature controlled drawer.

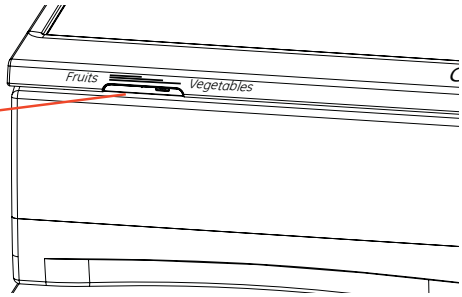


Note: when fresh food temperature is set to 40° or higher, temperature controlled drawer can only be set to citrus.

ClimateZone

Keep fruits and vegetables organized in separate compartments for easy access.

Excess water that may accumulate in the bottom of the drawers or under the drawers should be wiped dry.

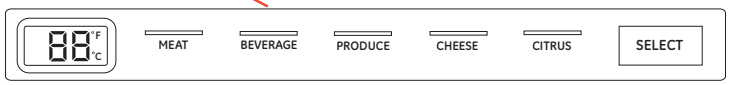


Temperature Controlled Drawer

(on some models)

The temperature controlled Drawer is a full-width drawer with adjustable temperature control. This drawer can be used for large miscellaneous items.

To change setting, press select button.



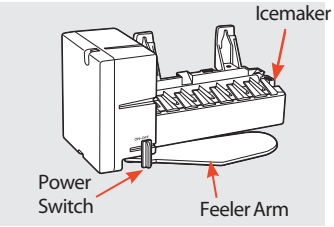
32° 34° 36° 38° 40°

⚠ *CAUTION:* Do not store glass bottles at this setting. If they are frozen, they can break and cause personal injury.

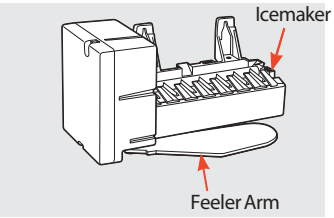
(*Continued next page*)

About the automatic icemaker.

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



(On some models)



(On some models)

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 or turn icemaker off on control panel.

When the refrigerator has been connected to the water supply, set the power switch to the I (on) position.

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

Throw away the first few batches of ice to allow the water line to clear.

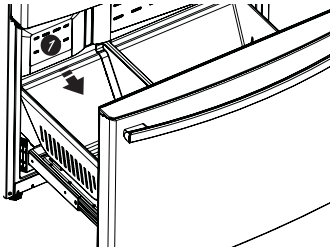
Be sure nothing interferes with the sweep of the feeler arm.

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

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

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 on ice maker or control panel to ***O*** (off) position if the water supply is shut off.



Accessing Ice (on some models)

Open the freezer drawer and pull forward the ice bucket. The Ice bucket is on the left side below the mullion.

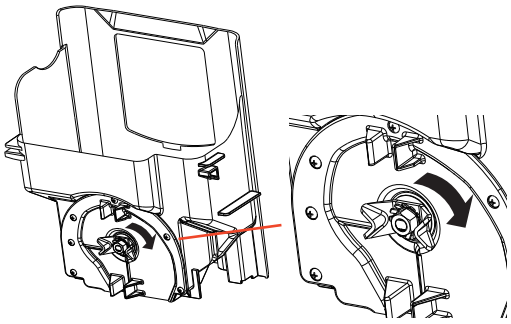
1 Ice bucket

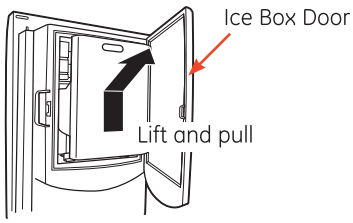
Ice Bucket and Dispenser

- Pull up and out on the ice bucket to remove it from the compartment.
- To replace the ice bucket, set it on the guide brackets and push until the ice bucket seats properly.
- If bucket cannot be replaced, rotate the Ice Bucket Fork 1/4 turn clockwise.

Extra Ice Storage

- There is additional ice storage in the freezer compartment drawer.



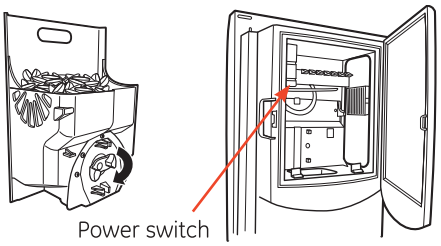


To reach the power switch

Accessing Ice and Reaching the Power Switch (Ice and water models)

To access Ice: open the Ice box door located on the refrigerator door and remove the bucket.

To reach the icemaker power switch:
To access the icemaker power switch remove the ice bucket (PFE27 models only).



Dealer Demo Mode

Model PFE29 with LCD Display

To enter the dealer demo mode, press ***Lock Controls*** and ***Precise Fill*** pads simultaneously for 3 seconds. **Entering Demo Mode** will be displayed. The lights and fans (if previously operating) will still operate, but the compressor will not operate. Exit demo mode by pressing the same buttons again.

When dealer demo mode is active, the following will occur:

- The compressor is off at all times.
- All heaters will be disabled.
- The icemaker(s) are turned off, but control will operate the display function.
- The fans and dampers may run if prompted by a user setting change.
- Opening the doors will not turn on the fans.
- Liner protection mode is active.
- The deli pan LED lighting will work normally.
- The deli fan will turn on at the heating mode speed.
- The deli pan settings will remain the same between door openings, as the set points are not reset.
- LED lighting will come on when the door or drawer is opened and stay at full power for 8 minutes if the door remains open.
- After 8 minutes, the LEDs will start to lower their intensity in a smooth transition over the next 3 minutes to 75% of their original power and remain there until the door(s) is closed. Closing and reopening the doors will restart the timer.
- The user can activate and deactivate the Door Alarm, Lock, Dispenser Light, and Reset Filter functions.
- The user can adjust the temperatures, but the cooling components will not operate.
- The user interface will display the actual compartment temperatures.
- The paddle and switch will not operate dispenser components if pressed.
- The Turbo Cool and Turbo Freeze can be turned on and off, but no cooling action will be initiated.
- The Precise Fill feature can be selected and amount of water set, but water valve will not be activated.

- The Auto Fill can be set, but will not activate water valve.
- In Demo Mode, when the **Auto Fill** button is pushed, a video tutorial will play uninterrupted for 49 seconds, then return to the demo home screen. Once the video starts, it cannot be stopped.

Video

(*Continued next page*)

Model GE/Adora with LED Display

Entering and Exiting the Demo Mode

Enter Demo Mode by pressing the ***Refrigerator*** and ***Freezer*** up arrow buttons.

dE no is displayed after approximately 5 minutes with no key touch.

If no other key is touched, the display will show thermistor temperature.

If the **Warmer** or **Colder** arrows are touched, the display will show that temperature.

To exit the Demo Mode, unplug the unit.

Entering and Exiting Sabbath Mode

Enter the Sabbath Mode by pressing and holding the ***Dispenser Light*** and ***Lock Controls*** buttons for 3 seconds.

The display will show **SA bb** while control is in Sabbath mode.

Exit the Sabbath Mode by pressing and holding the ***Dispenser Light*** and ***Lock Controls*** buttons for 3 seconds.

About the home screen

The home screen is the initial screen presented after power-up.

About temperature adjustments

Note: The LCD customer control does not incorporate pads for temperature adjustment.

To change compartment temperatures, touch the screen to wake the control up and change temperatures directly on the LCD screen.

Once Temperature control is pressed, the adjustment screen will appear in the display. When adjusting the temperature, the actual temperature will show in the display window. After adjusting to the desired temperature setting, press ***Done***.

The customer also has the option to change the displayed temperature from °F to °C from this screen.

(*Continued next page*)

About dispenser selections

When the customer changes the dispenser functions, the display will show a short animation of the dispenser selection.

(*Continued next page*)

About Turbo Cool and Turbo Freeze

The Express Modes option allows the consumer to turn on or off the Turbo Cool and Turbo Freeze functions.

Note: Select ***Turbo Freeze*** or ***Turbo Cool*** separately. When Turbo Freeze or Turbo Cool is selected, the set temperatures in the freezer and refrigerator are not changed. The set temperatures for the compartments can be changed while these functions are in use.

Turbo Freeze Function

When selected, Turbo Freeze adjusts controls to the coldest freezer setting for 8 hours, and the freezer fan runs continually. After 8 hours or if Turbo Freeze has been cancelled, the indicator goes off and the freezer set temperature will be restored.

Turbo Cool Function

When selected, Turbo Cool adjusts controls to 35°F for 8 hours, and the fresh food fan runs continually. After 8 hours or if Turbo Cool has been cancelled, the indicator goes off and the fresh food set temperature will be restored.

(*Continued next page*)

About Precise Fill Options

There are 2 modes of operation for water dispense, Precise Fill and Auto Fill.

By selecting Precise Fill, the customer can select the amount of water.

By selecting Auto Fill, the dispenser will function by the use of 4 ultrasonic sensors (2 sensors located below the base of the paddle and 2 sensors located in front of the dispenser funnel). These sensors measure the height, width, volume, and shape of the container and will automatically fill the container to approximately 90% full*.

Ultrasonic sensors work in much the same way as backup sensors used on many automobiles.

This system is operated by the LCD control and the door control board.

When using Auto Fill, if a container is not placed in the dispenser, Auto Fill will not operate, and the display will notify the consumer.

*Typical fill level is approximately 80%, but will vary based on the height of the container. Typical range is 70% to 95%. If the container is over 7.5 inches tall, the fill level could be anything UP TO 90%.

(*Continued next page*)

PFE29 Auto Fill Diagnostic Procedure

To enter sensor diagnostic:

1. Wake the screen.
2. Simultaneously press and hold the ***Water***, ***Cubed***, and ***Precise Fill*** buttons for 5 seconds.

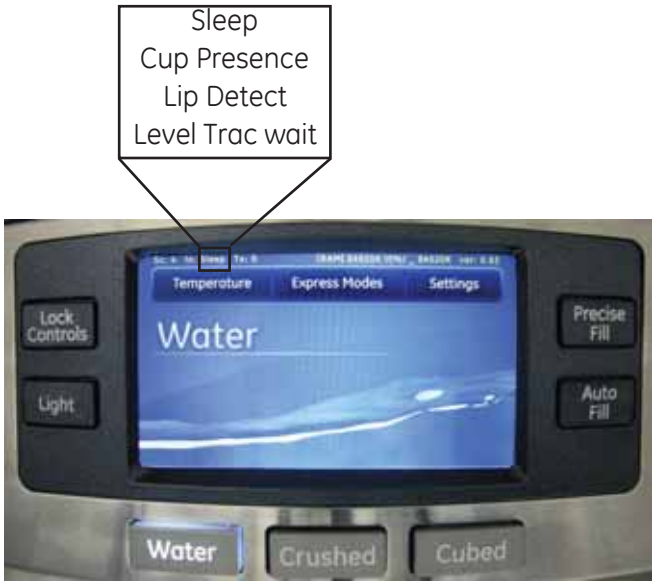
The display on the upper right should show the status of the sensors.

The first display shows the dispenser in Sleep mode. Place a cup in the recess, the display will then show Cup Presence, Lip Detect, Level Trac wait, and then go back to sleep when the container is removed.

If there is a lower sensor failure, the display will not detect the container.

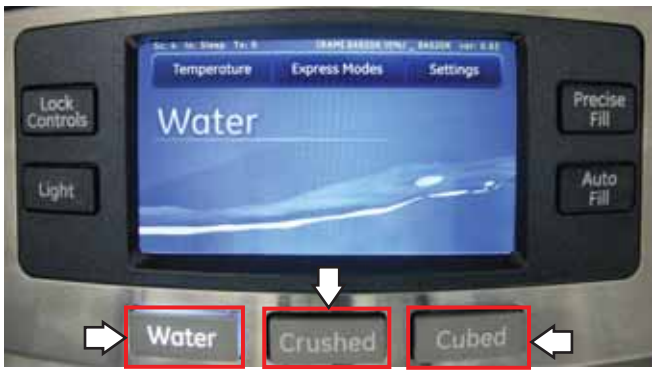
If the display cycles thru these test messages, the sensors are OK. If the Auto Fill display quickly displays between Cup Presence and Lip Detect, the upper sensors have failed and need to be replaced.

Press ***Auto Fill*** button to begin dispensing water and the LCD will display the amount.



To exit sensor diagnostic:

1. Enter service mode by simultaneously pressing ***Water***, ***Cubed***, and ***Crushed*** buttons for 5 seconds.
2. Select Yes.
3. Once in service mode, use code 00-16 to reboot the refrigerator. (See ***Service Diagnostic Functions***.)



(*Continued next page*)

About Consumer System Settings

When the consumer selects System Settings from the main screen, they can change or reset functions on the unit by scrolling thru the screens. These changes and resets are as follows:

- Upload up to 90 photos
- Initiate slideshow
- Connect to smart meter or nucleus*
- Reset the water filter
- Turn the icemaker on and off
- Turn the door alarm on and off
- Turn the control sound on and off
- Turn the cooling system on and off
- Change the temperature display to F or C
- Change the water dispenser from US Imperial to Metric

*For smart meter, refer to documents included with device as devices may vary.

(*Continued next page*)

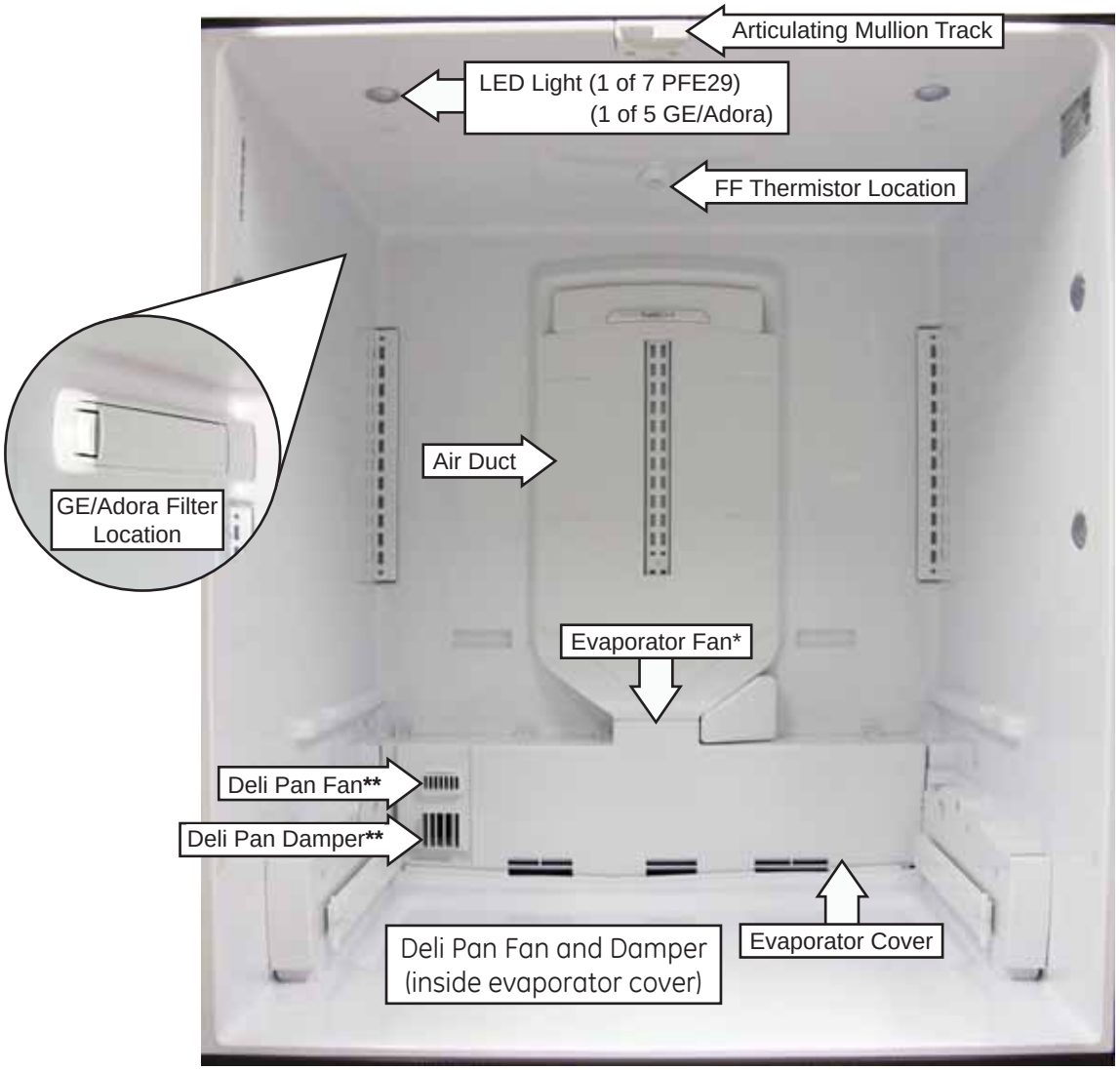
About Sabbath Mode

To enter or exit Sabbath mode; press and hold simultaneously the ***Lock Controls*** and ***Light*** buttons for 3 seconds.

- This feature was designed for use on the Jewish Sabbath Holiday.
- The Sabbath mode feature will override typical interaction with the refrigerator.
- In Sabbath mode, the refrigerator will still cool normally, but will not respond to user actions.
- The LCD display will change to a screen prompting the consumer to enter or exit Sabbath mode.
- The display will show **Enter Sabbath Mode** or **Exit Sabbath Mode** for 3 seconds and then the display goes to sleep and won't wake up until Sabbath mode is exited.
- All of the displayed icons will be turned off.
- All of the sounds and tones will be turned off.
- The Sabbath mode will expire 76 hours after being activated by the consumer.
- The fan may or may not be running when the door is opened; however, this is not a result of the user's actions.
- There is a 20-second delay on all control changes (fans and compressor) while the door is open. This includes any fan action as a result of doors opening.
- After a power outage, the refrigerator will power back up in the Sabbath mode.
- The temperature settings of the refrigerator will remain as set prior to turning on Sabbath mode and will return to those setting after Sabbath mode is turned off.
- The door alarm is disabled.
- All of the button actions on the dispenser will be ignored by the control during Sabbath mode.
- The dispenser auto fill ultrasonic sensors are disabled.
- The water valve, auger motor, and duct door motor are disabled.
- The icemakers are inoperative during Sabbath mode.
- Door openings are not counted for adaptive defrost, so the user has no influence on the defrost process.
- The time between defrost cycles is fixed at 8 hours. The defrost heater termination is controlled by time or temperature.

Component Locator Views

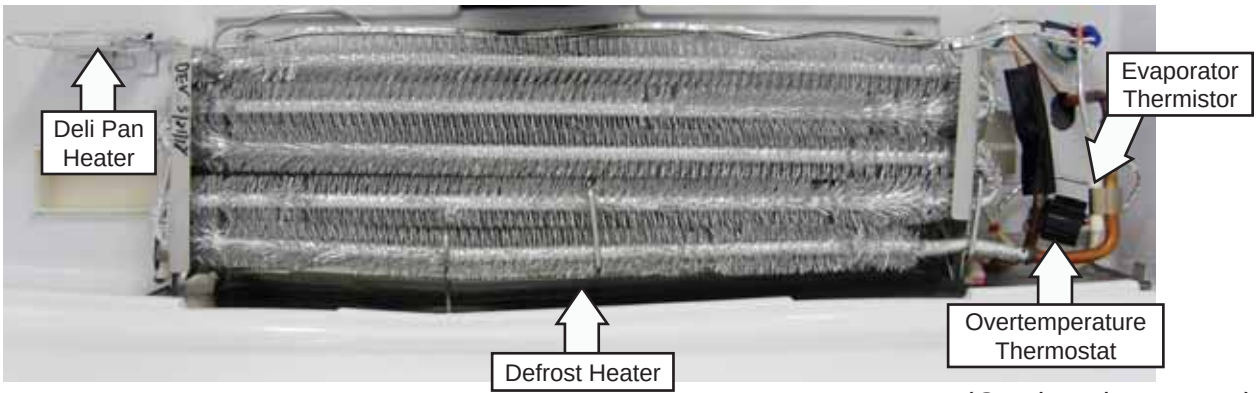
Fresh Food Compartment



*The evaporator fan is attached to the inside of the air duct.

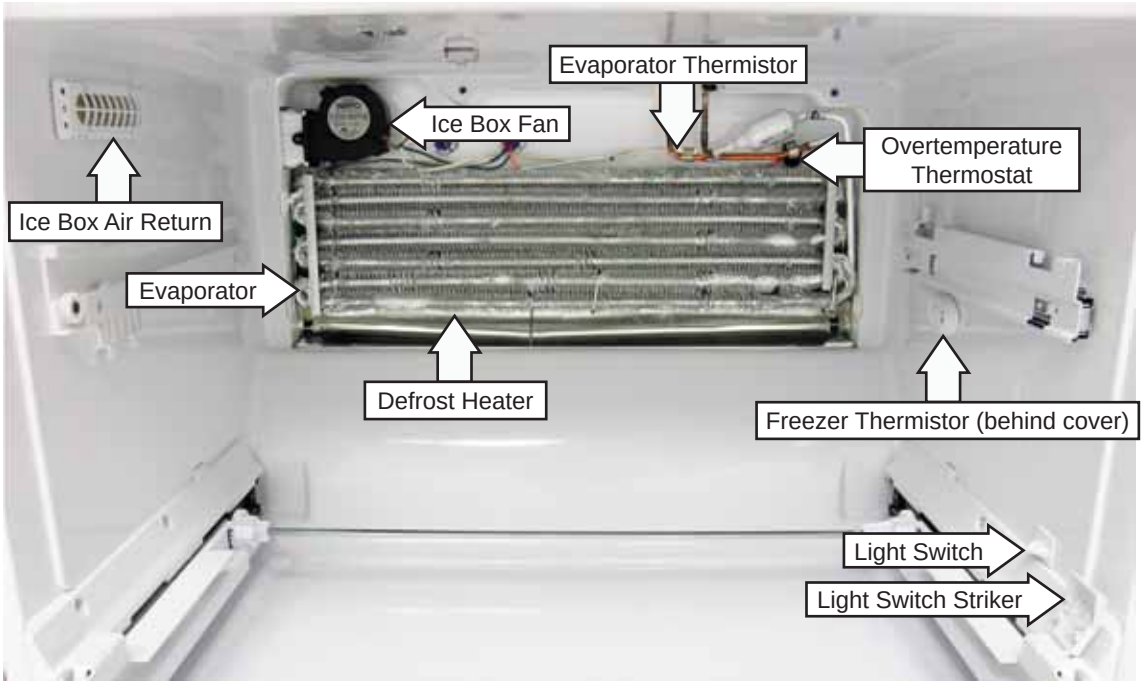
**On most Profile models, the deli pan fan and deli pan damper are attached to the inside of the evaporator cover. Damper is mechanical and manually operated on GE models.

Fresh Food Evaporator (shown with evaporator cover removed)

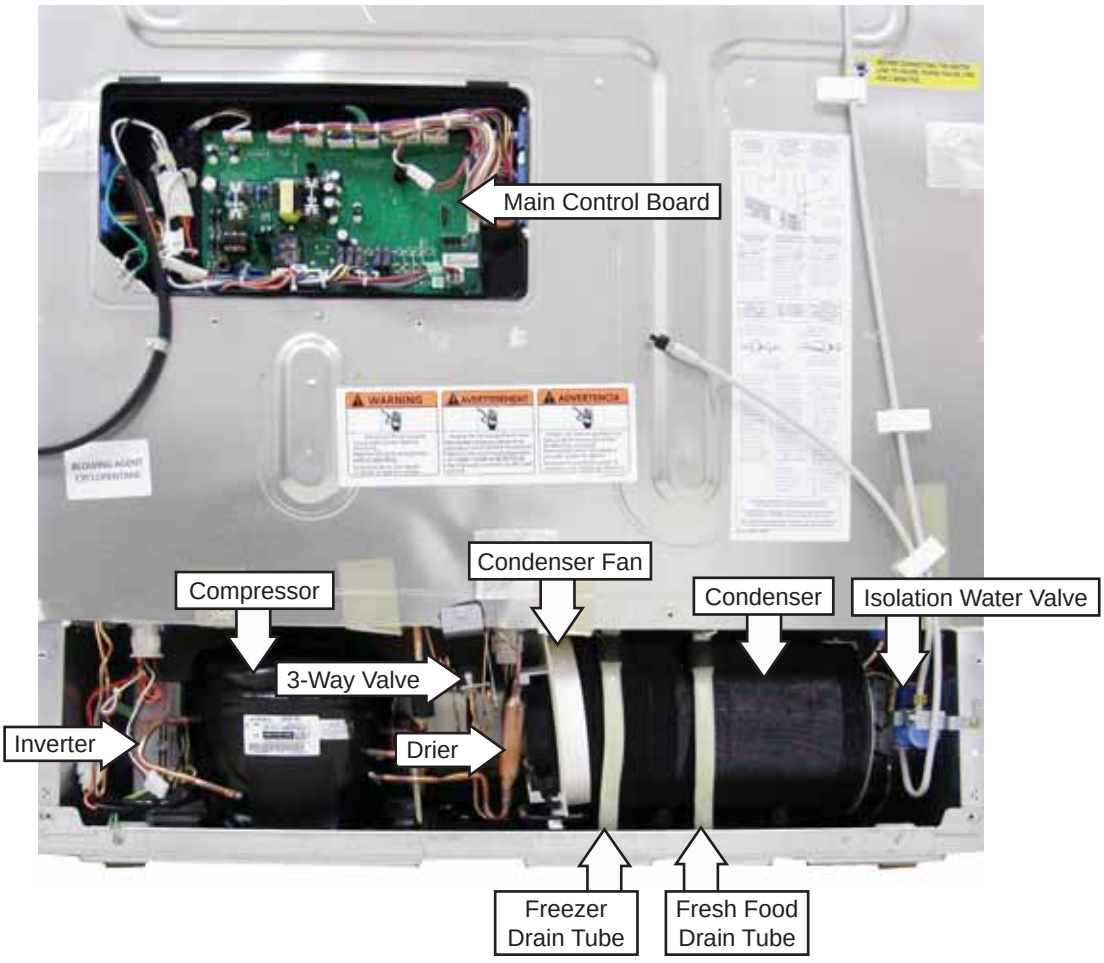


(*Continued next page*)

Freezer Compartment

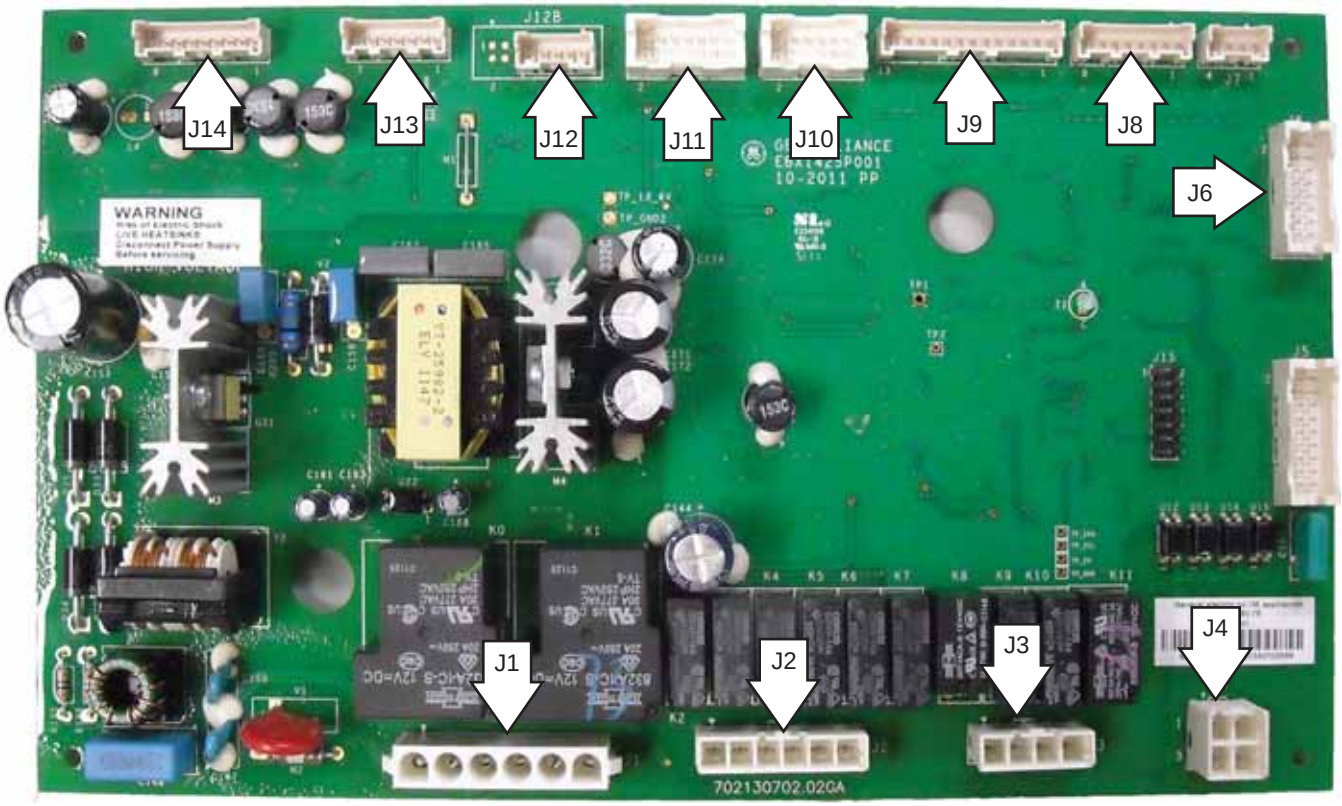


Rear View



Control Board Connector Locator

Main Control Board



J1 - Earth (Ground), Neutral Input, Freezer Defrost Heater, Line Input

J2 - Isolation Water Valve, Fresh Food Defrost Heater, Ice Port Heater, Deli Pan Heater

J3 - Freezer Icemaker (GE Models)

J4 - Left Door Switch, Freezer Light Switch, Right Door Switch

J6 - Deli Pan Fan, Fresh Food Fan, Deli Pan Damper

J8 - Freezer Evaporator Fan, Freezer Icebox Fan

J9 - Condenser Fan, Main Board Enclosure Heater, Inverter, Ambient Thermistor, Humidity Sensor

J10 - Freezer Thermistor, Freezer Evaporator Thermistor

J11 - Deli Pan Board, Deli Pan Thermistor, Fresh Food Evaporator Thermistor, Fresh Food Thermistor

J12 - 3-Way Valve

J13 - Energy Management System

J14 - LED Lighting

(*Continued next page*)

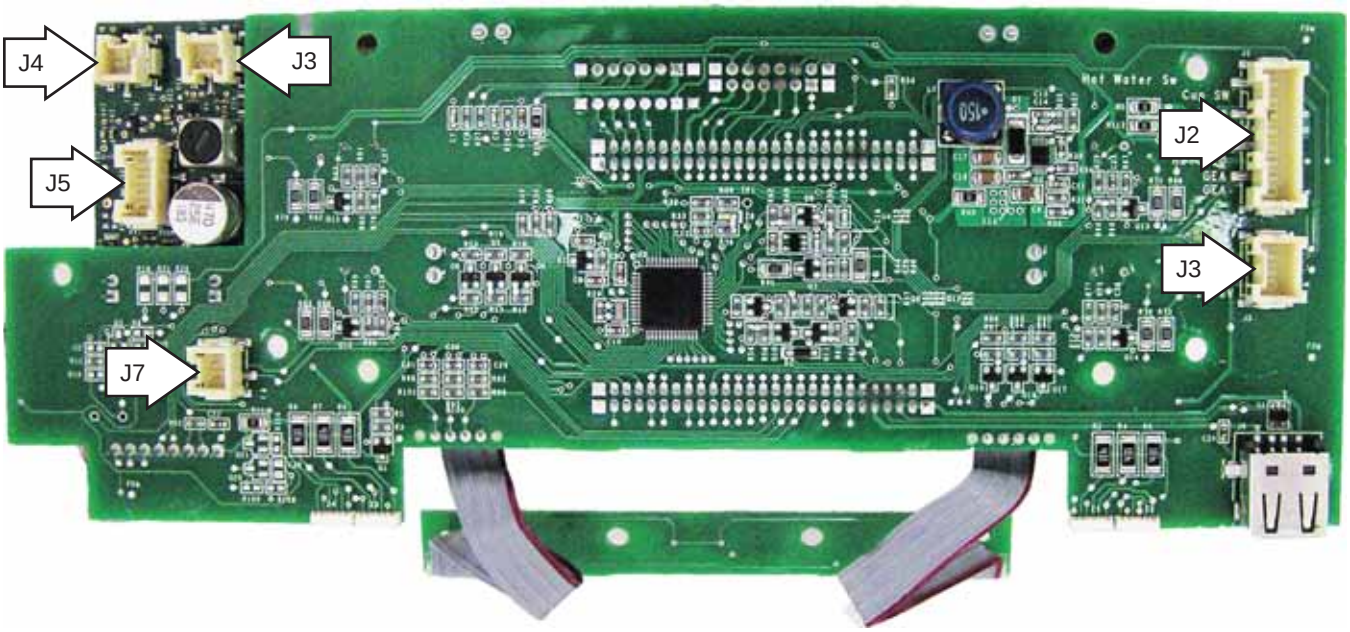
Door Board

J3 - Ice Box Heater Gasket, Freezer LEDs, Articulating Mullion Heater, Icemaker Feeler Arm Sensor, Duct Door Motor, Flowmeter, Recess Heater, Icemaker Ejector Rake Sensor, Paddle Switch, Icemaker Fill Tube Heater

J4 - L1 Supply, Icemaker Rake Motor, Icemaker Water Valve, Switched L1 Auger Input, Auger Motor, Dispenser Water Valve, Icemaker Mold Heater, A/C Neutral

J5 - Icemaker Thermistor, 5 VDC, Ice Box Thermistor

Dispenser Board



J2 - Communication, Hot H_2O LED, 12 VDC, Board Ground, Hot H_2O Cut Switch

J3 - Paddle Switch

J7 - Sound Module

Sensor Section:

J3 - Upper Ultrasonic Sensor

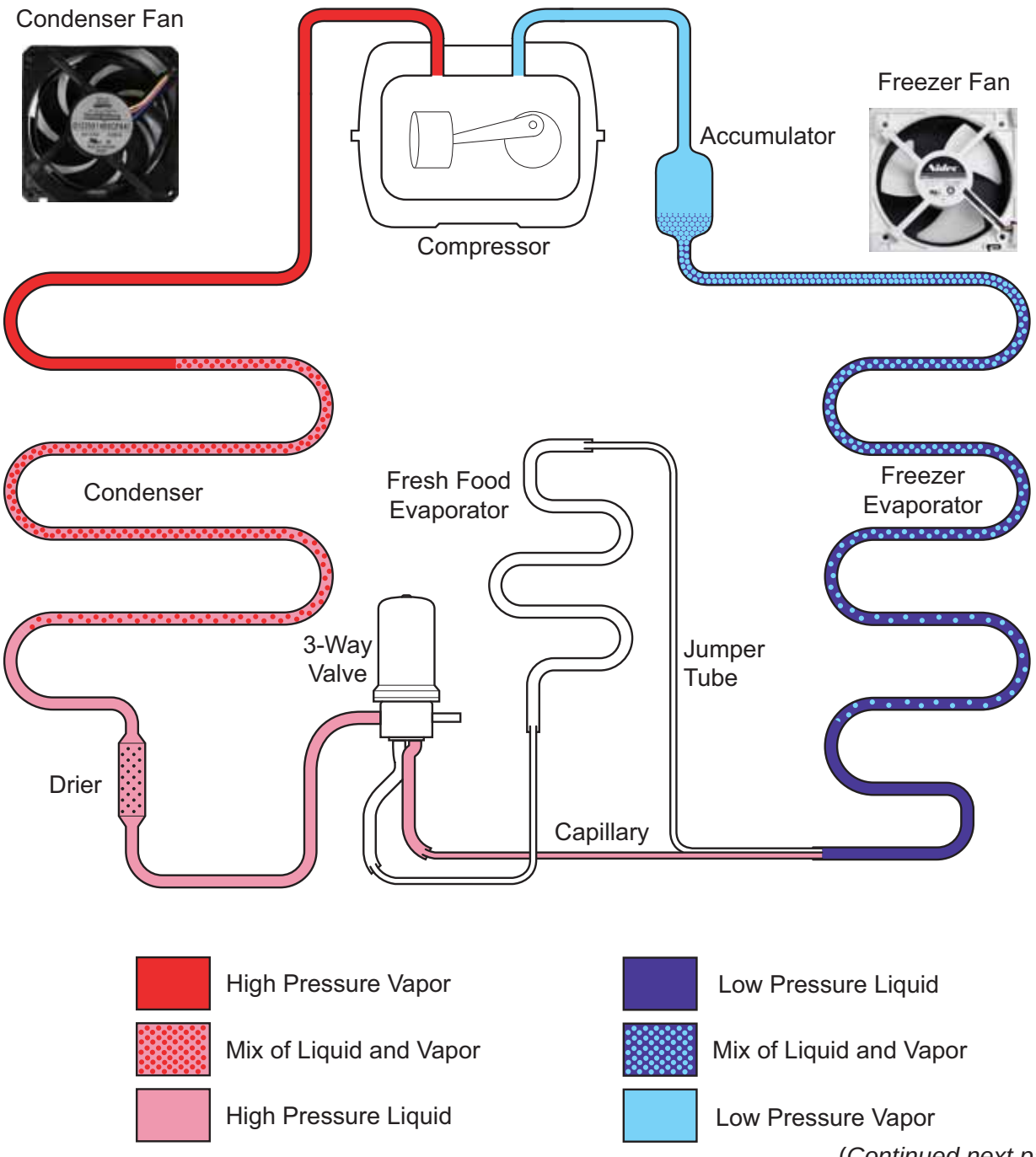
J4 - Upper Ultrasonic Sensor

J5 - Lower Ultrasonic Sensors

Refrigeration System

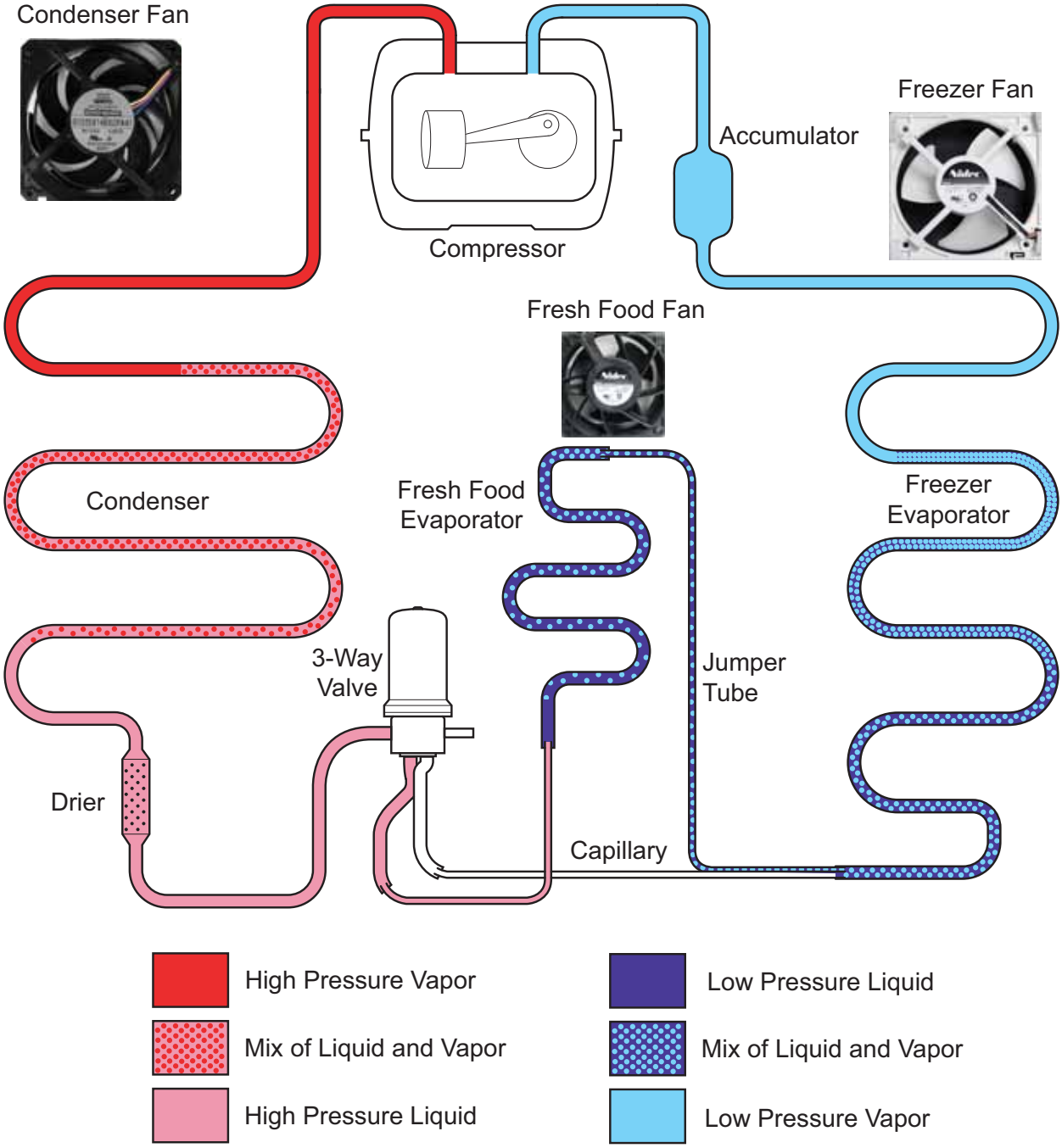
The compressor compresses R134a refrigerant, raising its pressure and temperature. Refrigerant vapor is pumped out the compressor discharge, down thru the drain pan loop, up thru the condenser coil, around the condenser loop, thru the drier, and into the 3-way valve. By the time the refrigerant has reached the 3-way valve, it has completely condensed into a liquid. Depending upon whether the main control board opens the 3-way valve to the freezer evaporator or the fresh food and freezer evaporators, refrigerant flows thru the appropriate capillary tube and into the evaporator. As the high pressure liquid passes thru the capillary and enters the low pressure evaporator, it quickly expands and evaporates. During evaporation, the refrigerant absorbs heat, becoming cold. At the outlet of the freezer evaporator, an accumulator captures any remaining liquid, allowing only low pressure vapor to return to the compressor thru the suction line.

FREEZER SECTION COOLING - Position B



(*Continued next page*)

FRESH FOOD AND FREEZER SECTION COOLING - Position A



Note: The refrigerator will operate with the 3-way valve set for freezer only or set for fresh food and freezer. There is no 3-way valve setting for fresh food only. If the fresh food thermistor is not satisfied, but the freezer thermistor is satisfied, the refrigerator will still operate with the 3-way valve set in the fresh food and freezer mode.

Normal Operating Characteristics

Liner protection mode will turn on either the fresh food or freezer fan if the doors or drawer are open for more than 3 minutes respectively.

The condenser fan may run without the compressor operating.

Dispenser will not operate with either fresh food door open.

Fan(s) running without the compressor operating is normal.

The variable speed compressor uses an inverter like previous variable speed.

The compressor will start at high speed for 1 minute, then may change to a lower speed, based on fresh food and freezer temperature. This may be perceived as a noise issue.

There is a 20-second compressor delay on power up, but fans will start immediately if cooling is required.

Compressor maximum-run time is limited to 6 hours and the compressor minimum-off time is 2 minutes.

If either fresh food door is open when the freezer drawer is opened, the freezer LEDs on the bottom of the left fresh food door will not come on.

When either of the fresh food door(s) or freezer drawer is opened, the fans will turn off.

The box type fans used on these models have different sound characteristics than fans used on previous models. Consumers may perceive this as a noise issue.

On power-up or board reset, if the icemaker rake is not in the home position, the door icemaker heater will turn on for 1 minute (2 minutes for freezer icemaker) before power is applied to the rake motor. This could take up to 3 minutes to complete. The mold temperature is only limited by a 210°F one shot thermal cutout.

Note: The mold can get very warm.

Note: A loud buzzing sound may be heard every 20 to 40 minutes if the refrigerator is not connected to a water supply, Turn off the icemaker until connected.

The duct door is operated by a motor and the consumer may notice a very distinct motor sound when the duct door opens and closes.

When either fresh food door is opened while dispensing, the dispenser will stop. After the door(s) are closed, the dispenser will not restart until the dispenser paddle switch is released and pressed again.

Liner Protection Mode

Liner protection mode is controlled by 2 timers.

Timer #1 monitors door-open time. A 3-minute door-open count begins when the door is opened.

If 3 minutes elapse before the door is closed, the liner protection mode will become active.

Once the door 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-closed count.

If 3 minutes elapse without a door opening, liner protection mode will reset.

If a door is opened within the timer #2 door-closed count, the remaining time in the door-closed count will be deducted from the timer #1 door-open count.

Refrigerator Operation

GE and Profile models operate in the following states:

- Pull Down
- Cooling Operation
- Fresh Food Cycle Defrost
- Pre-Chill
- Fresh Food Only Heated Defrost
- Fresh Food and Freezer Heated Defrost
- Dwell
- Post Dwell

Pull Down

Pull down occurs any time the refrigerator is plugged in and the freezer temperature is above 60˚F.

The 3-way valve moves to the B position. Compressor start is delayed for 20 seconds. The compressor will start and run at HIGH speed for 1 minute, then change to LOW speed (variable speed models only). The freezer fan will run at HIGH speed.

When the freezer temperature falls to approximately 12˚F, the compressor will change to HIGH speed and the 3-way valve will move to the A position, delivering refrigerant to both the fresh food and freezer evaporators. The fresh food fan will begin running at HIGH speed and the freezer fan will continue to run at HIGH speed.

(*Continued next page*)

Compressor and fan speeds will vary with cabinet temperatures until the set temperature is obtained.

After 6 hours of compressor run time (door openings not counted), both the fresh food and freezer will enter a heated defrost cycle.

Cooling Operation

When cooling is required, the main control board moves the 3-way valve to either A position (supplying refrigerant to both fresh food and freezer evaporators) or B position (supplying only the freezer evaporator), depending upon compartment temperatures.

The compressor and fan(s) are delayed for 3 minutes before restarting.

The compressor will start at HIGH speed for 1 minute, then may change speeds depending upon the temperature of both the fresh food and freezer compartments.

When only the fresh food temperature is satisfied, the 3-way valve will move to the B position (supplying only the freezer evaporator) to continue cooling the freezer. Fresh food cycle defrost will begin.

When the freezer and fresh food temperatures are satisfied, the compressor and fans will turn off. The 3-way valve will move to the D position, shutting off refrigerant flow to both evaporators to improve efficiency and to reduce refrigerant sounds.

After the accumulated compressor run time (including door openings) has been reached, the unit will begin the defrost pre-chill cycle. (1 second of door-open time = 100 seconds of compressor run time.)

Fresh Food Cycle Defrost

Fresh food cycle defrost occurs between heated fresh food defrost cycles to reduce excessive frost accumulations on the fresh food evaporator.

During fresh food cycle defrost, the evaporator fan runs and there is no refrigerant flow thru the evaporator.

Fresh food cycle defrost does not use the fresh food defrost heater.

Fresh food cycle defrost will occur any time the temperature in the fresh food compartment has been satisfied. The fresh food fan will run at LOW speed for 10 minutes, then cycle off if fresh food temperatures are satisfied.

The fresh food cycle defrost does not occur when the compressor cycles off.

Defrost Pre-Chill (Single and Variable Speed Compressor)

After accumulating 32 hours of compressor run time (actual compressor run time and door openings), the operating system will enter freezer pre-chill.

Pre-chill will occur whether the last freezer defrost was normal or abnormal.

Pre-chill time will vary from 10 to 60 minutes, depending on door openings and compartment temperatures during pre-chill.

Any compressor run time prior to the beginning of pre-chill does not count in the pre-chill time.

There is a 6-second delay after the compressor cuts off at the end of pre-chill before energizing the defrost heaters.

The ice box fan will run at HIGH speed whenever ice box cooling is needed during the pre-chill cycle.

Pre-chill ends when either the maximum time expires, evaporator pre-chill temperature is met, or freezer pre-chill temperatures is met.

Fresh Food Only Heated Defrost

Fresh food only heated defrost occurs after 32 hours of compressor run time.

A freezer pre-chill will run before the fresh food only heated defrost.

Providing the previous freezer and/or fresh food heated defrost cycles were normal, the freezer will defrost with every third fresh food defrost cycle.

Fresh food only heated defrost occurs 32, 64, and 96 hours after defrosting both fresh food and freezer together.

(*Continued next page*)

Freezer and Fresh Food Heated Defrost

Following pre-chill, the heated freezer and heated fresh food defrost cycle is initiated where both heaters will be on at the same time.

The 3-way valve will move to the A position. The compressor will turn off. The condenser, freezer, fresh food, and ice box fans will turn off.

The freezer defrost heater remains on until the freezer evaporator is 50˚F (defrost termination temperature) or the maximum defrost time of 45 minutes is reached.

The fresh food defrost heater remains on until the fresh food evaporator is 45˚F (defrost termination temperature) or the maximum defrost time of 45 minutes is reached.

If either the fresh food or freezer defrost heater's ON time exceeds the normal defrost threshold of approximately 20 minutes, the defrost is considered abnormal. Abnormal defrost forces both the fresh food and freezer into pre-chill after 6 hours of compressor run time (door openings not counted).

During defrost, if power is interrupted, the refrigerator will restart in the dwell state if the freezer evaporator temperature is above 50˚F (defrost termination temperature).

After both defrost heaters turn off, the refrigerator will enter the dwell cycle.

Dwell Cycle

After both defrost heaters have cycled off, the unit will enter the dwell cycle.

During the dwell cycle, the compressor and fans will remain off. The 3-way valve will move to the A position (both fresh food and freezer open) and remain there for the entire cycle.

Dwell cycle will terminate after 7 minutes.

At the end of the dwell cycle, the compressor run timer for adaptive defrost is reset to 0 hours and the refrigerator enters the post-dwell cycle.

If power is interrupted during the dwell cycle and the freezer temperature is greater than 50˚F (the freezer defrost termination temperature), the dwell cycle will start over. **Note:** Pull down will start if the freezer temperature is over 60°F.

Post Dwell Cycle

Upon completion of the dwell cycle, the unit will enter the post-dwell cycle.

The 3-way valve will move to either the A or B position, depending upon whether the fresh food temperature is satisfied.

The compressor and condenser fan will start, but the fresh food fan, freezer fan, and ice box fan will remain off.

Post-dwell cycle will end when the freezer and fresh food evaporators reach the post dwell exit temperature of -10˚F, or the post-dwell time of 10 minutes has expired.

Upon exit of post-dwell cycle, the control system will now operate all cooling components by its logic and restarts the compressor run timer for adaptive defrost.

Refrigerator Operation Summary

Models operate as follows:

- Pull down occurs when the refrigerator is powered up and freezer is above 60˚F.
- Cooling operation is the normal cycling of temperatures whether the last defrost was normal or abnormal.
- Fresh food cycle defrost occurs when the 3-way valve turns off refrigerant flow to the fresh food evaporator, but the freezer continues to cool.
- Pre-chill occurs before freezer heated defrost.
- Fresh food defrosts occur 32, 64, and 96 hours from the previous freezer and fresh food heated defrost.
- Freezer heated defrost occurs every 96 hours of compressor run time.
- Dwell occurs after every heated defrost cycle.
- Post dwell occurs after every dwell cycle.

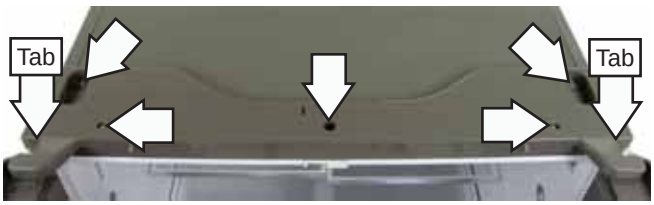
Note: Throughout this appliance, certain water-handling components utilize lock clips. Lock clips must be reinstalled to prevent leaks. After the water handling component is removed from the connector, the lock clip can be reinstalled on the connector. The water-handling component can then be inserted with the lock clip in place.

Hinge Cover

The hinge cover is located on top of the refrigerator. The hinge cover houses 2 door switches, ambient sensor, and the humidity sensor with Zigbee™ ACM (Appliance Communication Module) board. The hinge cover covers both door hinges, wire harnesses, and the dispenser water tubing. The cover is attached to the cabinet with 5 screws and 2 tabs (1 on each side) that engage the door hinges.

To remove the hinge cover:

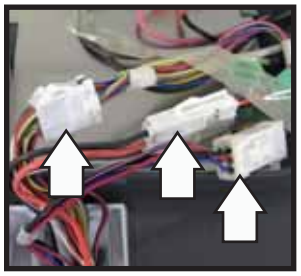
1. Open both doors to the 90-degree position.
2. Remove the five 1/4-in. hex-head screws that hold the hinge cover to the cabinet.
3. Lift the tab from each hinge and release the hinge cover from the top of the cabinet.

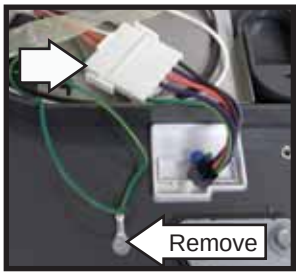


4. Lift and invert hinge cover, then place it in the service position on top of the refrigerator.

Hinge Cover Service Position

5. Disconnect the 3 wire harnesses from the left side.
6. Disconnect the right-side wire harness and remove the 1/4-in. hex-head screw that attaches the ground wire to the cabinet.



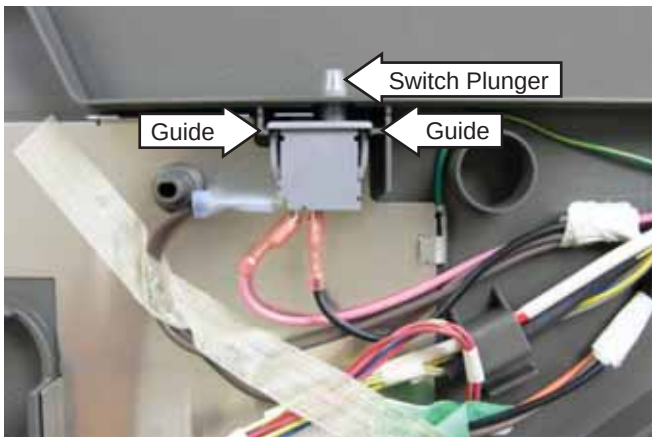


Door Switches

The hinge cover houses 2 door switches (1 for each door). Each switch informs the main control board the status of each door, whether it is open or closed. The right door switch has 2 terminals and the left door switch has 3 terminals.

To replace a door switch, it is necessary to place the hinge cover in the service position.

To lift the switch out from the guides in the hinge cover, the switch plunger must be fully pressed inward.

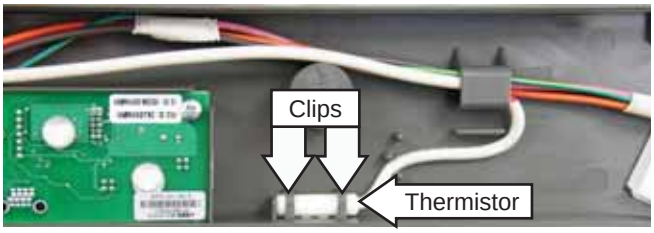


Ambient Thermistor

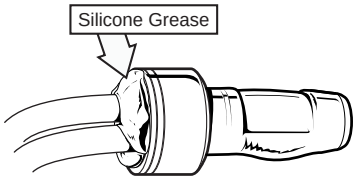
The ambient thermistor is located inside the hinge cover on the top of the cabinet The thermistor is used to set the duty time of the sweat heaters and adjust the cooling system based on room temperature.

To replace the ambient thermistor:

1. Place the hinge cover in the service position. (See *Hinge Cover*.)
2. Pull the thermistor out from the retaining clips.



3. Place the replacement thermistor next to the original thermistor.
4. Cut the wiring at a location that will match the original length when the replacement thermistor is spliced to it.
5. Use plastic bell connectors (Part # WR01X10466). Fill each connector with silicone grease then splice a new thermistor into the harness as shown in the illustration.

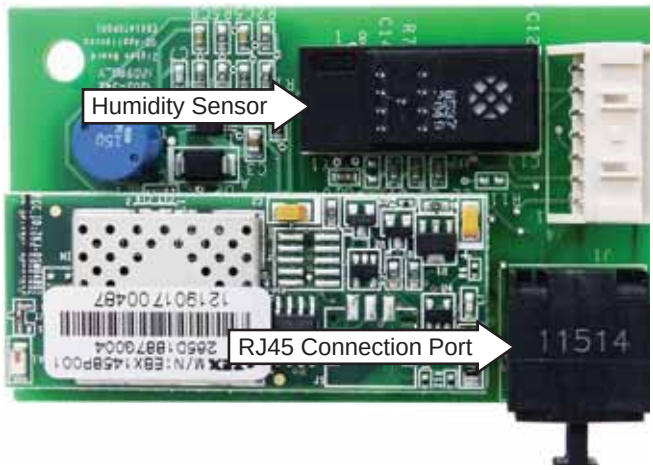


Note: Service kit supplied with heat seal connectors.

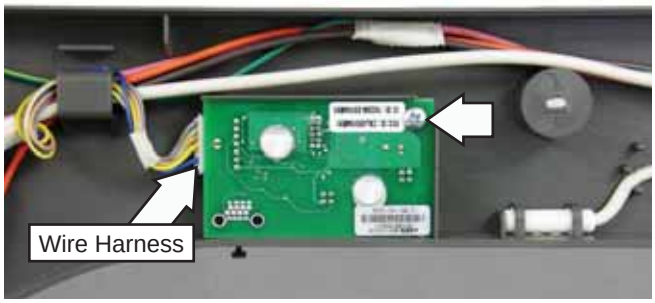
Zigbee™ Board

Zigbee Board is a wireless communication module used for an external energy management network.

The Zigbee™ board is located on the top of the cabinet in the hinge cover. It contains the sensor that monitors the humidity level of the room and the RJ45 connection port for energy management communications.



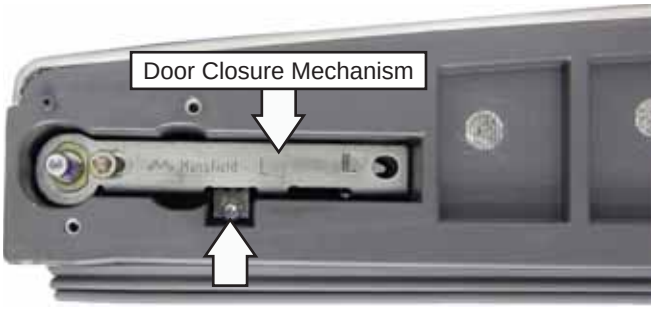
A wire harness is connected to the board. The board is attached to the hinge cover with a Phillips-head screw.



Door Closure Mechanisms

Refrigerator Doors

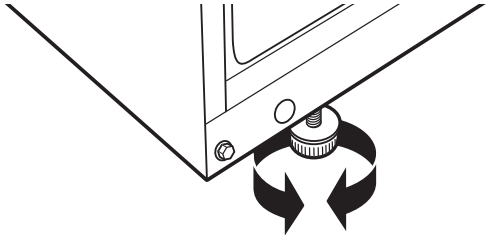
The closure mechanism for each door is attached to a recess in the bottom of the door with a 1/4-in. hex-head screw. To access the door closure mechanism, it is necessary to remove the two T-20 Torx screws and the door stop.



The door closure mechanism has a spring loaded pin that engages the lower door hinge.

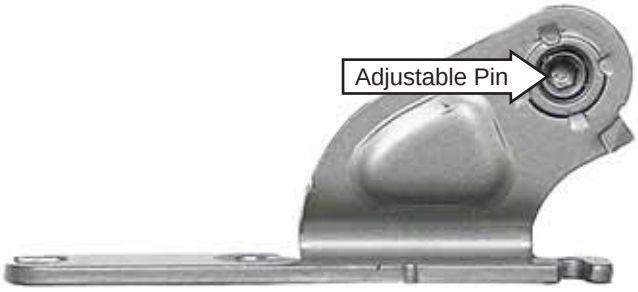
Door Alignment

To correctly align doors, adjust front legs until they are extended to the floor. If door alignment line does not match, turn each leveling leg separately until the leveling matches across both doors.

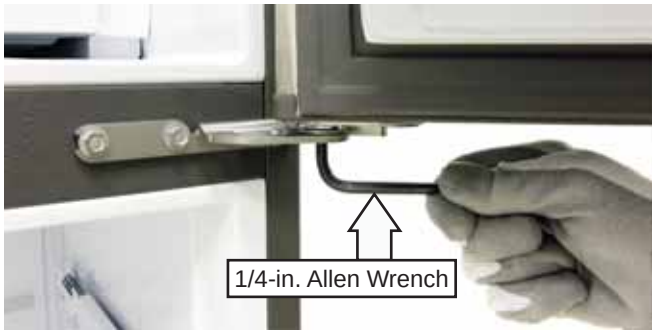


The right door lower hinge bracket, attached to the cabinet, has an adjustable pin that allows leveling of the fresh food doors.

Bottom view of right door lower hinge



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



Note: If the left door needs to be raised and an adjustable pin is not located in the left door hinge bracket, shims (Part #WR01X11047) are available as a service part.

Door/Drawer Gaskets

The fresh food door and freezer drawer have magnetic gaskets that create a positive seal to the front of the steel cabinet. The magnetic gaskets are secured to the doors/drawer by a barbed edge that locks into a retainer channel.

To remove and replace the door/drawer gasket:

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

Interior Lights

- Depending on model, 5 or 7 Pin-Point LEDs are located in the fresh food compartment. One or 2 Pin-Point LEDS are located in the bottom of the left freezer door. Multiple LEDs are connected in a series circuit.
- When the freezer door is opened the lights in the bottom of the left fresh food door come on to illuminate the freezer baskets, but if the left fresh food door is opened while the freezer door is open the freezer lights turn off. If the freezer is open and the right fresh food door is opened the freezer lights will stay on.
- When the fresh food or freezer door is open, the LED lighting should come on and stay at full power for 8 minutes. After 8 minutes the lights should start to lower their intensity in a smooth transition over the next three minutes to 75% of their original power. After 15 minutes the LED's will turn off. If the fresh food or freezer door is closed and reopened, the timer restart.
- If 1 LED fails (but the LED's resistor is still OK), that LED will not be lit while the others will be dim.
- When 1 LED fails completely, none of the LEDs will light.
- With a voltmeter, 5VDC – 20VDC can be read across the terminals of the completely failed LED assembly.
- Each LED has a 2-pin connector for easy replacement.

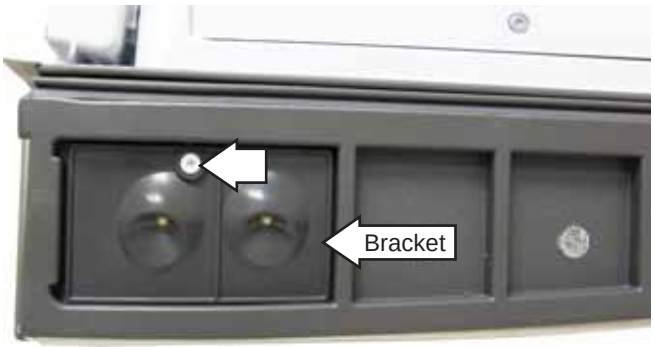
(*Continued next page*)

Fresh Food Compartment LEDs

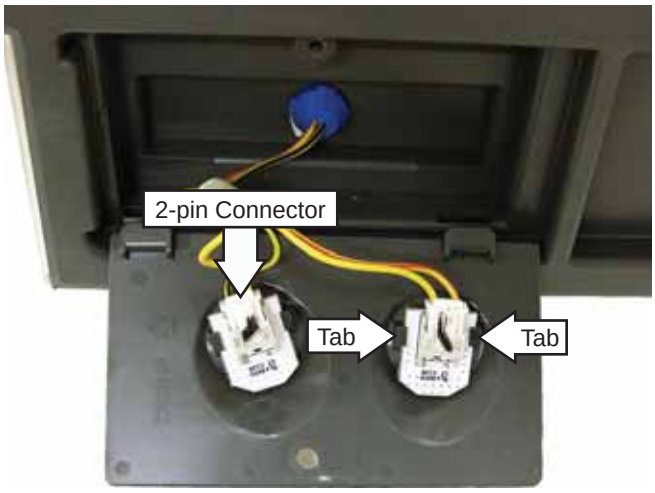
To remove the LED, using a small flat blade screwdriver, pry out the LED from the back side and slide the LED to the rear to release the tab located at the front.

Freezer Compartment LEDs

The LEDs are attached onto the inside of a bracket located in the bottom of the LEFT fresh food door. The bracket is attached with a T-20 Torx screw.



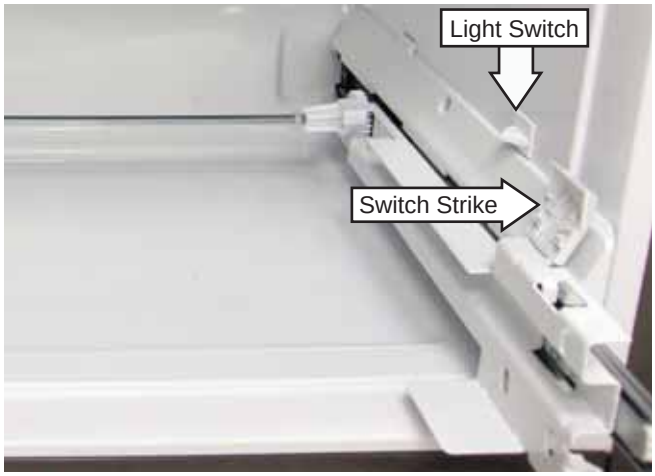
Each LED is attached to the bracket with 2 tabs.



Note: GE/Adora models have a single LED attached to the bracket. The identical wiring harness is used on both Profile and GE/Adora models. A jumper is used on the 2nd connector to complete the circuit.

Freezer Compartment Light Switch

Freezer compartment LED switch is located on the right-side wall and is actuated by the strike attached to the right-side drawer bracket.



(*Continued next page*)

Deli Pan Assembly

Profile Models

The deli pan assembly on most Profile models consists of the deli pan, pan cover, pan slide assemblies, circuit board, thermistor, heater, and fan and damper assembly.

The deli pan circuit board sends the customer setting to the main board to control the pan temperatures based on the deli thermistor value.

Temperature is controlled by opening or closing the deli damper, varying fan speeds, and turning on a 5-watt heater, as needed.

The consumer presses a single button (tactile switch) to scroll thru the settings.

LEDs on the control will light the selected mode. White LEDs will also light the pan area.

Deli Pan Set Points

FF Set Point					
46	OFF	OFF	OFF	OFF	ON
45	OFF	OFF	OFF	OFF	ON
44	OFF	OFF	OFF	ON	ON
43	OFF	OFF	OFF	ON	ON
42	OFF	OFF	ON	ON	ON
41	OFF	OFF	ON	ON	ON
40	OFF	ON	ON	ON	ON
39	OFF	ON	ON	ON	ON
38	ON	ON	ON	ON	ON
37	ON	ON	ON	ON	ON
36	ON	ON	ON	ON	ON
35	ON	ON	ON	ON	ON
34	ON	ON	ON	ON	ON
DP Setting	Meat	Deli	Produce	Cheese	Citrus
	32	34	36	38	40

Deli pan selectable modes depend on FF set point.

The selections that show OFF are not available at the fresh food set points on the left.

For example, Meat is not available when fresh food temperature is set to 39°F or higher.

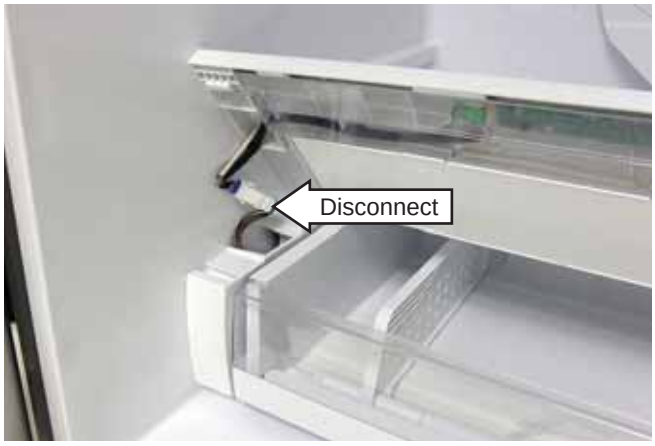
Deli Pan Circuit Board

The deli pan circuit board is located inside the deli pan front cover.

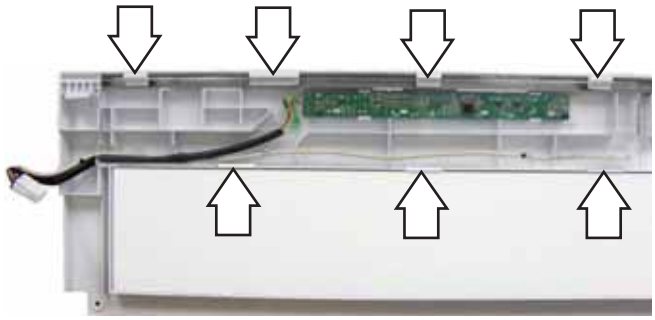
To replace the deli pan circuit board:

1. Remove vegetable bins, vegetable bins cover, and deli pan.
2. Remove the two 1/4-in. hex-head screws from the top of the deli pan covers.

3. Lift the front deli pan cover, disconnect the wire harness, and place the cover on a protective surface.



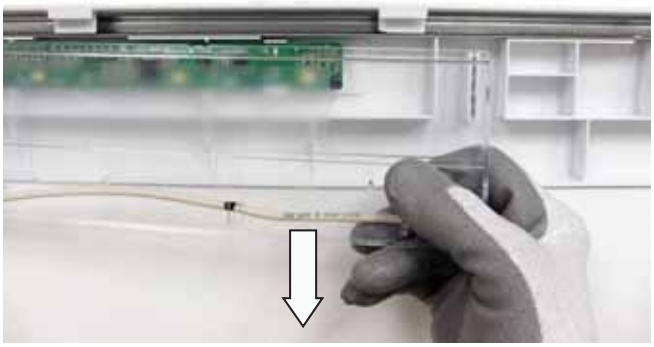
Note: In the following steps, the shield over the circuit board is attached to the cover with 7 tabs.



(*Continued next page*)

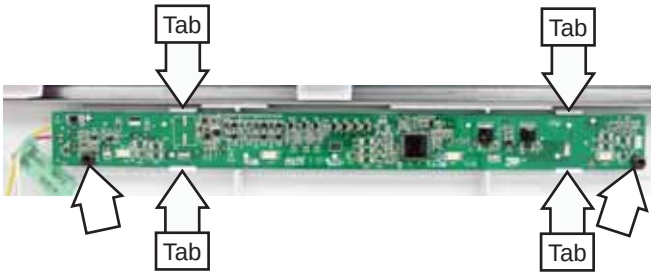
4. Simultaneously press each of the 3 bottom tabs while lifting the bottom of the circuit board shield.

5. Slide the circuit board shield out from the 4 top tabs.



6. Remove the two T-15 Torx screws from the circuit board.

7. Carefully press each of the 4 tabs and remove the circuit board from the deli pan cover.



8. Disconnect the circuit board wire harness.

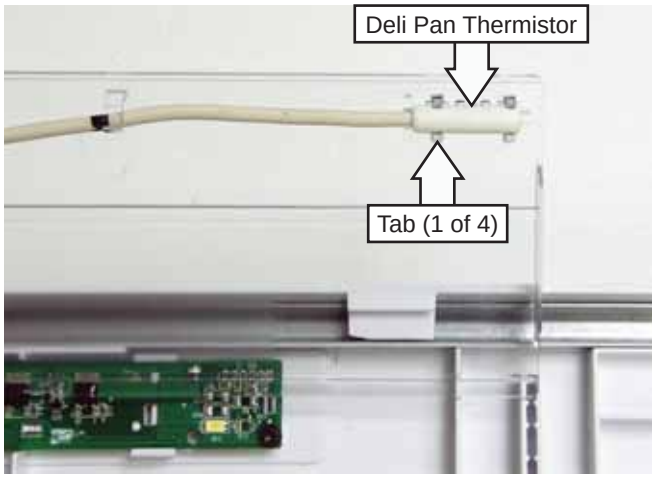
To replace the deli pan thermistor:

1. Unplug the refrigerator.

2. Access the deli pan thermistor. (See **Deli Pan Circuit Board**, follow steps 1 thru 6.)

3. Turn the circuit board shield over to access the thermistor.

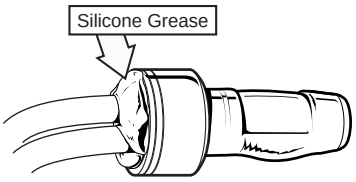
4. Pull the thermistor out from the 4 tabs in the circuit board shield.



5. Place the replacement thermistor next to the original thermistor.

6. Cut the wiring at a location that will match the original length when the replacement thermistor is spliced to it.

7. Use plastic bell connectors (Part # WR01X10466). Fill each connector with silicone grease then splice a new thermistor into the harness as shown in the illustration.



(*Continued next page*)

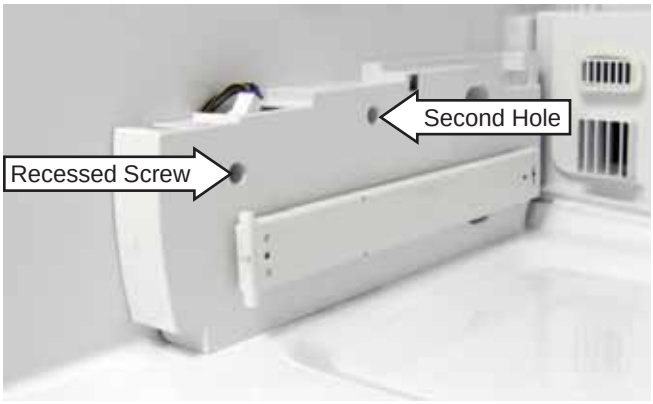
Deli Pan Slides

To remove a deli pan slide:

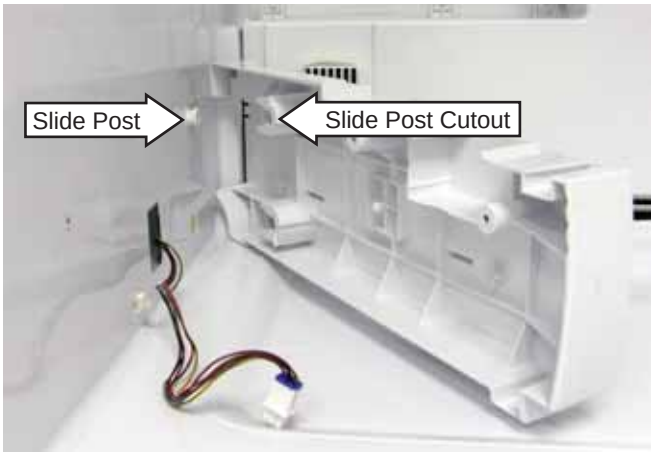
1. Remove the recessed 1/4-in. hex-head screw that attaches the front of the slide support to the liner wall.

Note: If there is not a screw in the front hole and the deli pan side support does not come loose, look for a screw in the second hole.

2. With the slide support against the liner wall, pull the slide support toward the front of the refrigerator.



Note: When installing the slide support, make sure to engage the slide post cutout into the slide post before pushing the slide into place.



Deli Pan Heater and Thermostat

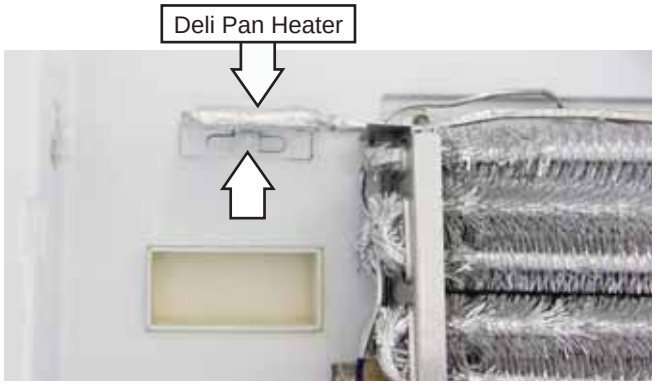
The deli pan heater and thermostat are foil enclosed and attached to a bracket located on the back wall of the fresh food compartment. The thermostat opens at 162°F and is nonresettable. The heater, thermostat, and bracket are part of the AC component wire harness. The heater has an approximate resistance value of 1.1K Ω.

To access the heater, it is necessary to remove the fresh food evaporator cover.

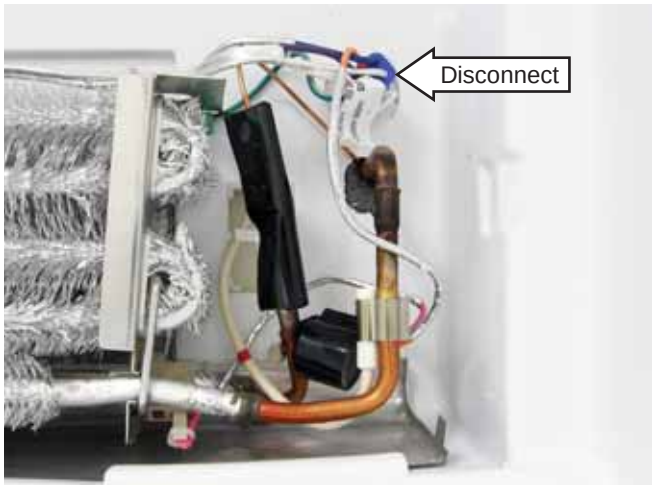
To remove the deli pan heater:

1. Remove the fresh food evaporator cover. (See *Fresh Food Evaporator Cover*.)

2. Remove the 1/4-in. hex-head screw that attaches the heater bracket to the back wall of the fresh food compartment.



3. Disconnect the AC component wire harness.



4. Disconnect wiring from the evaporator defrost heater terminals and remove the defrost overtemperature thermostat from the evaporator.

5. Loosen the two 1/4-in. hex-head screws that attach the evaporator to the back wall of the fresh food compartment.

6. Carefully lift and pull the evaporator from the back wall to access the rear of the drain trough.

7. Remove the ground wire from the drain trough.

8. Remove wiring from the 2 wire retainers attached to the back wall.

(*Continued next page*)

Deli Pan Damper and Fan Assembly

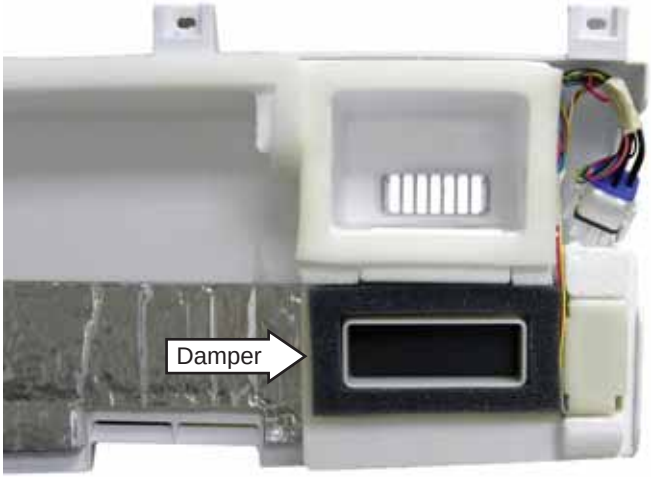
The deli pan damper and fan assembly is inserted in a Styrofoam™ recess that is located on the inside of the fresh food evaporator cover.

The deli pan fan will operate at 3000 to 6000 RPM with RPM feedback to the control.

To access the deli pan damper and fan assembly, it is necessary to remove the fresh food evaporator cover.

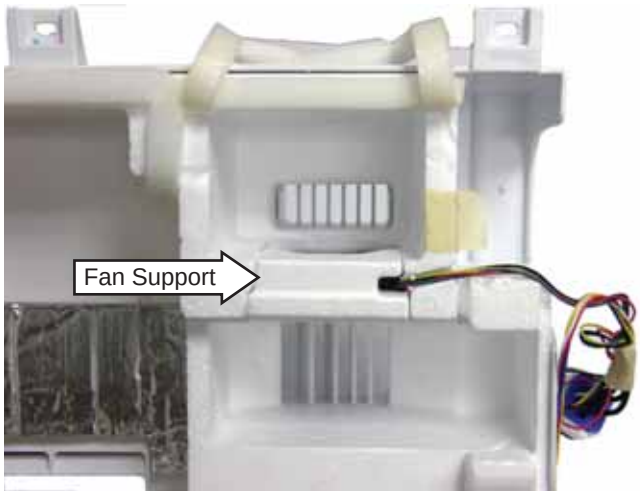
To replace the deli pan fan and damper assembly:

1. Remove the fresh food evaporator cover. (See *Fresh Food Evaporator Cover*.)
2. Pull the damper straight out from the Styrofoam recess located inside the evaporator cover.



3. Peel back the damper gasket.

4. Pull the Styrofoam™ fan support straight out from the Styrofoam recess.



5. Pull the deli pan fan straight out from the Styrofoam recess.

(*Continued next page*)

Deli Pan GE/Adora Models

GE/Adora models utilize a mechanical deli pan damper.

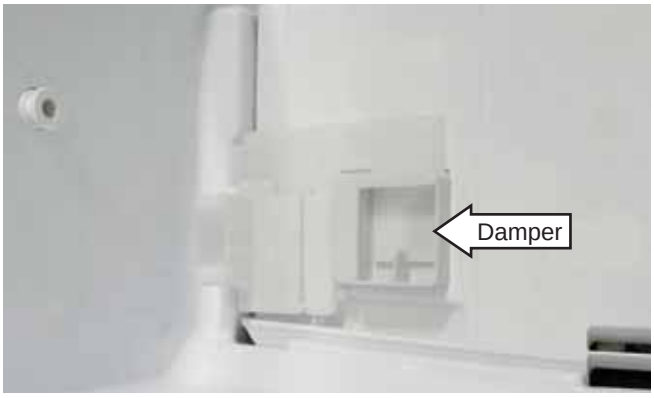
The mechanical deli damper is located on the fresh food evaporator cover and is accessed the same way.

The damper is operated by a lever in the left deli pan slide assembly.

Moving the lever up closes the damper while moving it down opens it.

Damper lever shown in closed position

Damper shown in closed position



Damper shown in open position

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) for several minutes and check for approximately 16K Ω.

Fresh Food and Freezer Air Thermistors

The fresh food air thermistor is located in the ceiling and the freezer air thermistor is located on the right hand side wall. (See ***Component Locator Views***.)

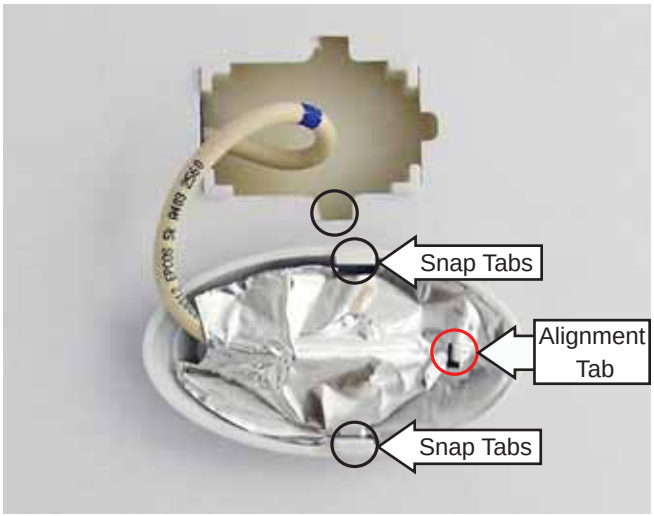
The procedure to replace a fresh food air thermistor or a freezer air thermistor is similar.

(*Continued next page*)

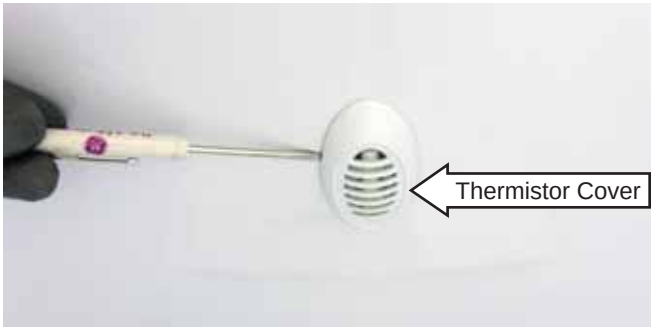
To replace a fresh food or freezer air thermistor:

1. Unplug the refrigerator.

Note: The thermistor grille uses an alignment tab to ensure proper grille placement. The grille also uses 2 snap tabs to lock it into the liner.

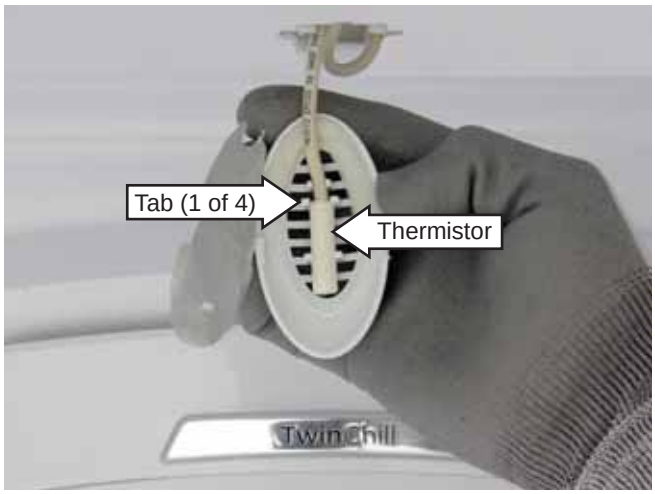


2. Insert a small flat blade screwdriver under the thermistor cover and gently lift the edge until it releases from the ceiling.



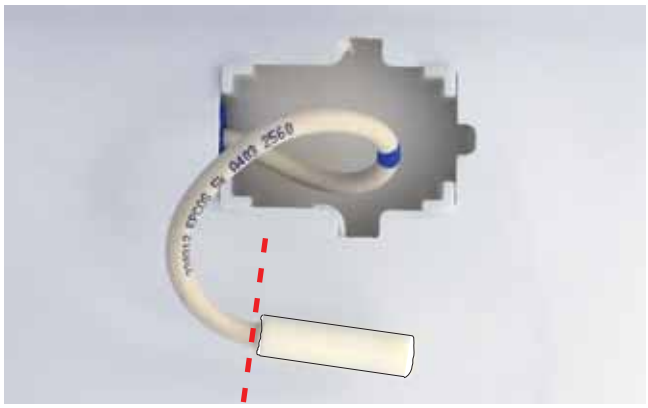
3. Peel back the foil shunt (if present) from the cover.

4. Pull the thermistor out from the 4 tabs in the cover.



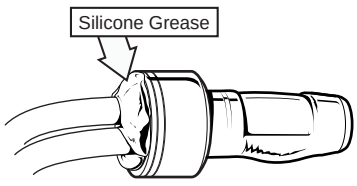
5. Cut the thermistor wiring as close to the thermistor as possible.

6. Strip the outer insulation from the thermistor case harness back 1 inch. Strip the 2 internal wires back 3/16 inch for splicing.



7. Prepare the replacement thermistor by cutting the wiring 4 inches back from the thermistor and strip the wires back 3/16 inch.

8. Using two WR01X10466 bell connectors, splice the wiring. After the splices are complete, fill the bell connectors fully with WR97X163 silicone grease.



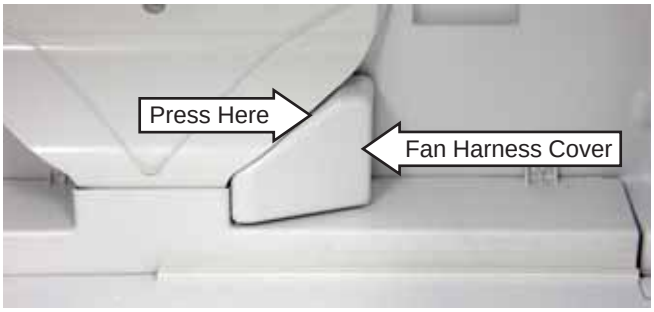
9. Snap the thermistor into the grille and replace the foil shield (if present) inside the cover. Place excess wiring into the thermistor pocket, then snap the grille back into the liner, taking note of the alignment pin.

Fresh Food Evaporator Cover

The fresh food evaporator cover is held to the back wall of the refrigerator with five 1/4-in. hex-head screws.

To remove the fresh food evaporator cover:

1. Remove the 2 fruit and vegetable drawers, climate control shelf, and deli pan that are in front of the evaporator cover.
2. Remove the deli pan covers and deli pan slides. (See ***Deli Pan Assembly***.)
3. Press down and remove the fan harness cover.



4. Remove the five 1/4-in. hex-head screws from the top of the evaporator cover.

5. Tilt the top of the evaporator cover out and disconnect the deli pan fan and damper wire harness. Remove the cover.

Fresh Food 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 Ω.

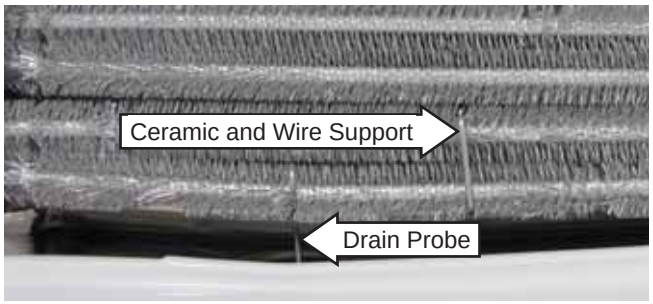
To remove the defrost heater:

1. Remove the fresh food evaporator cover. (See ***Fresh Food Evaporator Cover***.)

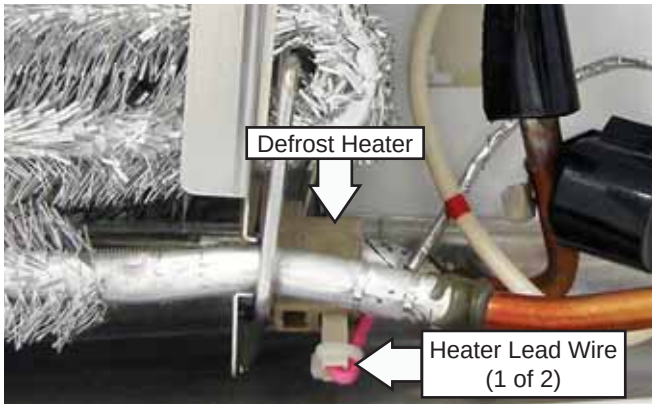
Note

- 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.



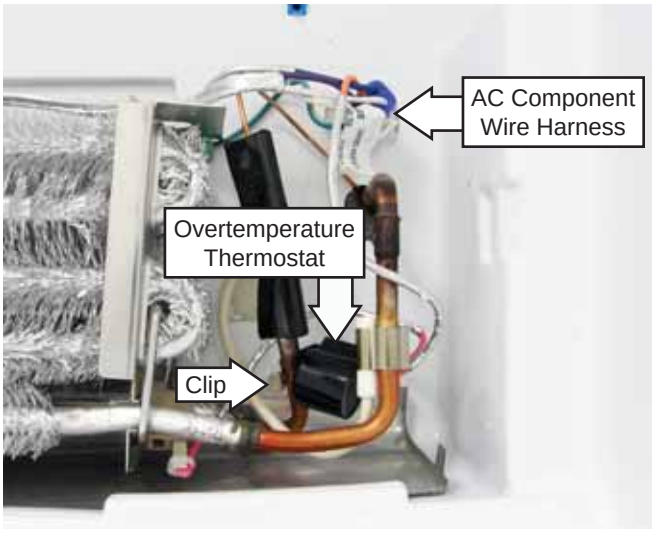
3. Bend the aluminum tabs back (located at each end of the defrost heater) and lower the heater out of the evaporator.
4. Disconnect 2 lead wires and remove the heater.



Fresh Food Overtemperature Thermostat

The fresh food overtemperature thermostat will open its contacts and de-energize the heater whenever the evaporator temperature reaches approximately 140°F. The thermostat contacts will close at approximately 110°F.

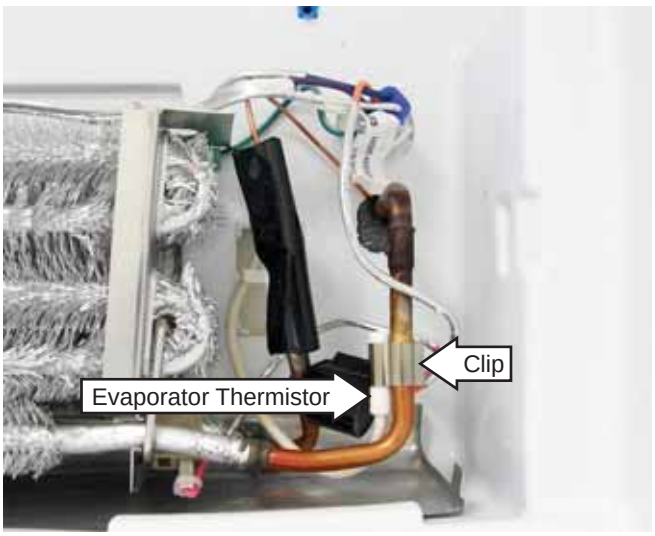
The fresh food overtemperature thermostat is attached to the evaporator inlet tube with a metal clip and is connected to the AC component wire harness.



Fresh Food Evaporator Thermistor

To access the fresh food evaporator thermistor the fresh food evaporator cover must be removed. (See *Fresh Food Evaporator Cover*.)

The fresh food evaporator thermistor is attached to the evaporator inlet tube with a metal clip.



Fresh Food Fan

The fresh food fan is inserted in a recess in the bottom of the fresh food air duct.

The fresh food fan will operate at 3 speeds with RPM feedback to the control. Approximate fan speeds are:

Low Speed = 2700 RPM*

Medium Speed = 3000 RPM*

High Speed = 3300 RPM*

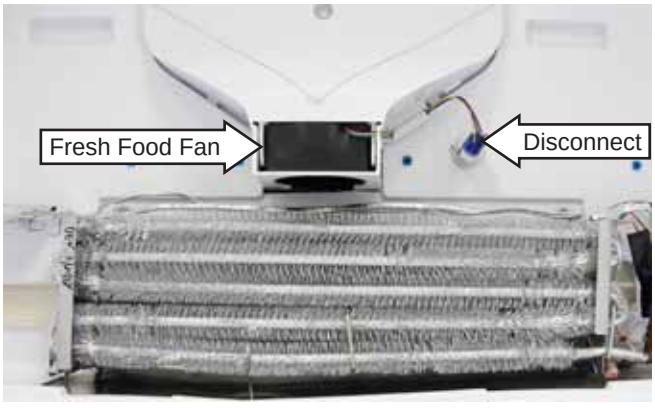
*A fan-speed range of 1500 to 4100 RPM is acceptable.

To replace the fresh food fan, the fresh food evaporator cover must be removed.

Note: The fan connector can be accessed for multi-meter checks by removing only the fan harness cover from the evaporator cover.

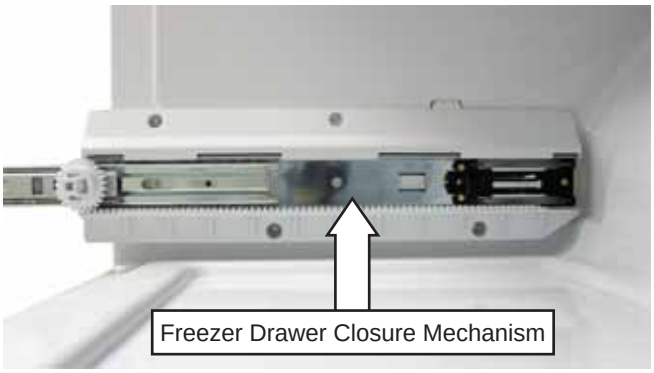
To remove the fresh food fan:

1. Remove the fresh food evaporator cover. (See ***Fresh Food Evaporator Cover***, follow steps 1 thru 5.)
2. Disconnect the fresh food fan wire harness.
3. Pull the fresh food fan out from the air duct.



Freezer Drawer Slide Assemblies

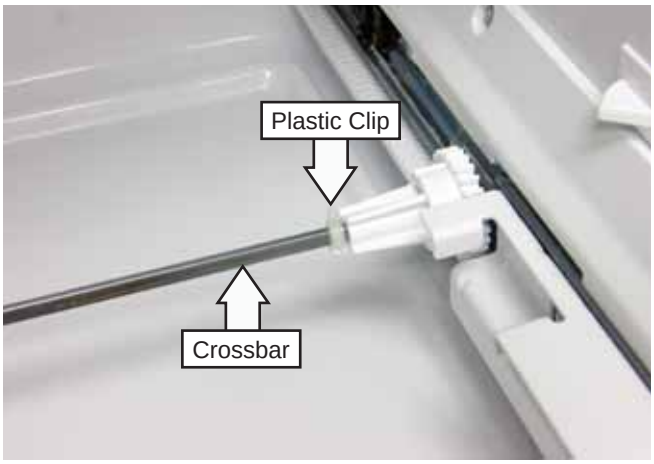
The freezer drawer utilizes 2 closure mechanisms that automatically pull the drawer shut when it is within 1 inch of the closed position. The mechanisms are built into the 2 freezer drawer slide assemblies and are not replaceable as a separate part.



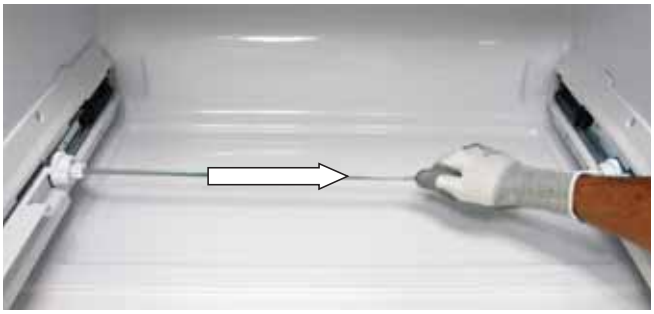
The freezer drawer is inserted into alignment slots (1 on each side) and attached to the slide assemblies with 6 bolts (3 on each side).

To remove the freezer drawer slide assemblies:

1. Remove the freezer drawer front. (See *Freezer Drawer Front*.)
2. Remove the plastic clip from the crossbar.

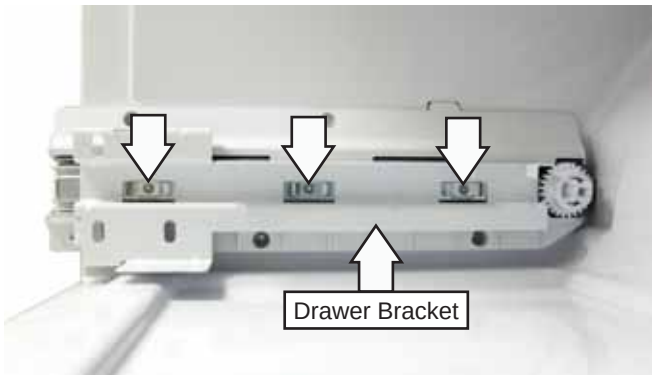


3. Pull the crossbar to the right then remove it from the right-side drawer gear.

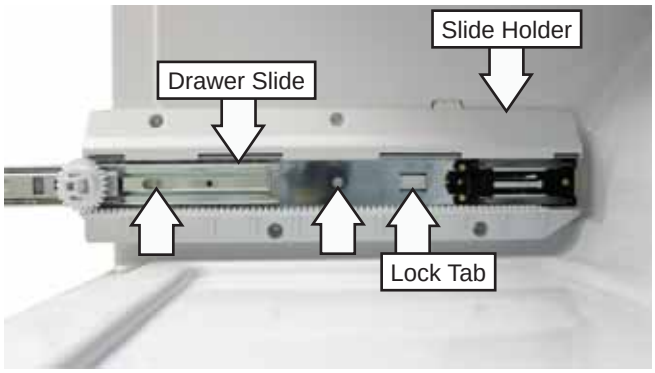


Note: The procedure to remove both drawer slide assemblies is similar.

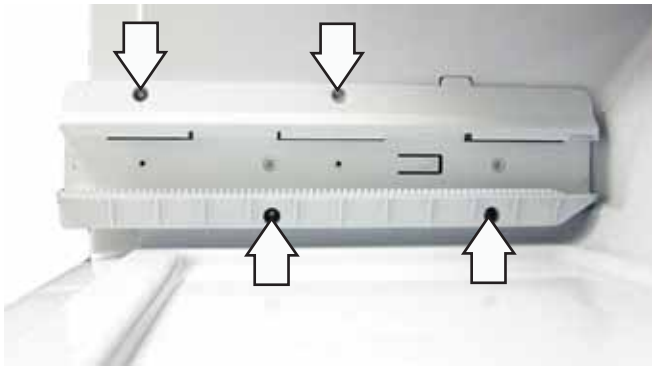
4. Remove the three T-20 Torx screws from the drawer bracket.



5. Lift the drawer bracket from the slide assembly.
6. Pull the drawer slide out to the stop position.
7. Remove the two T-20 Torx screws from the drawer slide.
8. Press in the lock tab and pull the drawer slide straight out from the slide holder.



9. Remove the 4 recessed 1/4-in. hex-head screws from the slide holder.
10. Pull the slide holder out from the freezer wall.



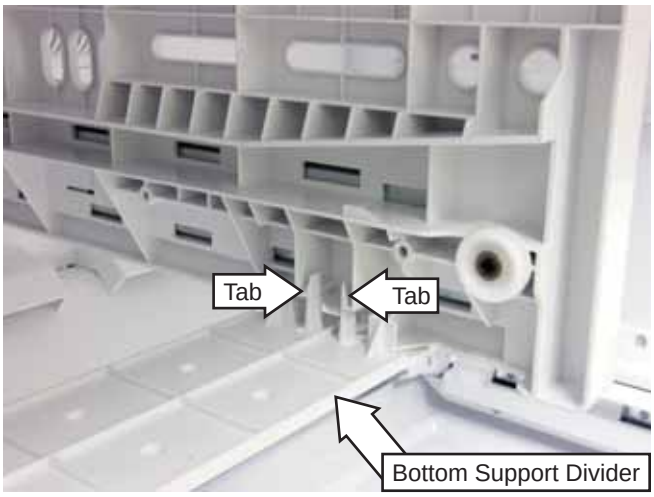
Freezer Evaporator Cover

The freezer evaporator cover is held to the back wall of the freezer with two 1/4-in. hex-head screws. It is necessary to remove the freezer divider support and the freezer fan when removing the freezer evaporator cover.

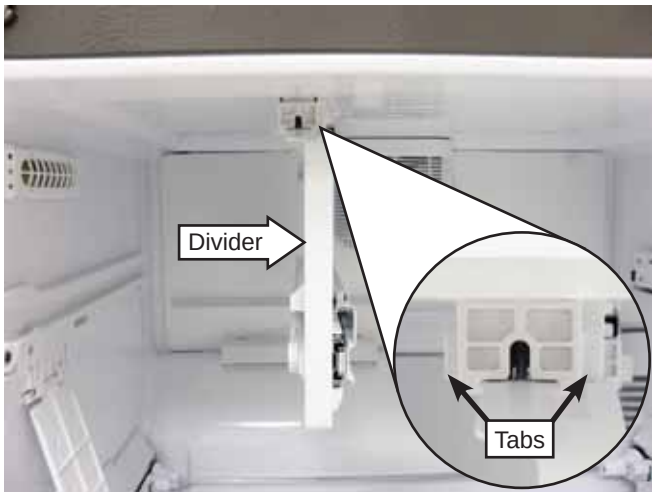
To remove the freezer evaporator cover:

1. Remove the freezer drawer slide assemblies. (See *Freezer Drawer Slide Assemblies*.)
2. Using a small flat blade screwdriver, pry out the bottom support divider pin.

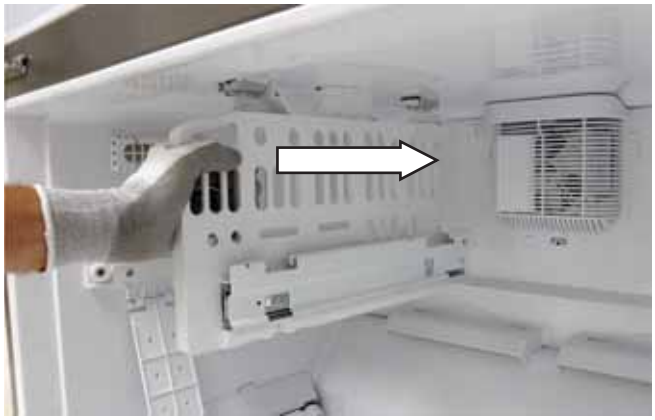
3. Squeeze inward both bottom support divider tabs and release support from divider.



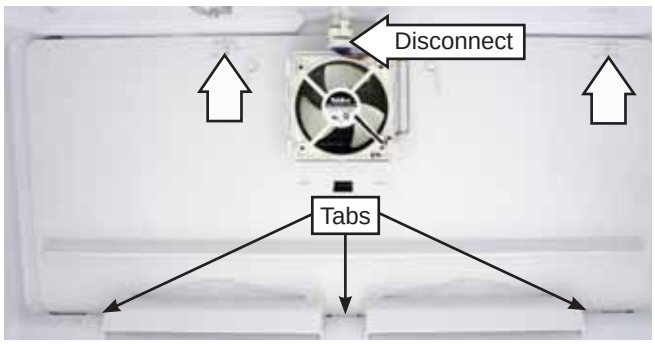
4. Expand both tabs and pull out the front and rear divider stoppers.



5. To release the divider from the ceiling, sharply push the divider toward the evaporator cover.



6. Remove the freezer fan cover. (See *Freezer Fan*, follow steps 2 and 3.)
7. Disconnect the freezer fan wire harness.
8. Remove the two 1/4-in. hex-head screws from the top of the evaporator cover.
9. Lift the bottom of the cover to release 3 bottom tabs, then pull cover out from the back wall.



Freezer Fan

The freezer fan is attached to the evaporator cover and utilizes a fan cover to direct airflow.

The freezer fan will operate at 3 speeds with RPM feedback to the control. Approximate fan speeds are:

Low Speed = 2200 RPM

Medium Speed = 2400 RPM

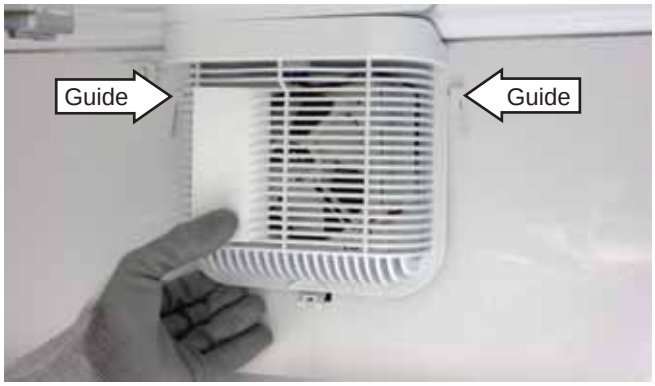
High Speed = 2500 RPM

Note: The fan connector can be accessed for multimeter checks by removing only the fan cover.

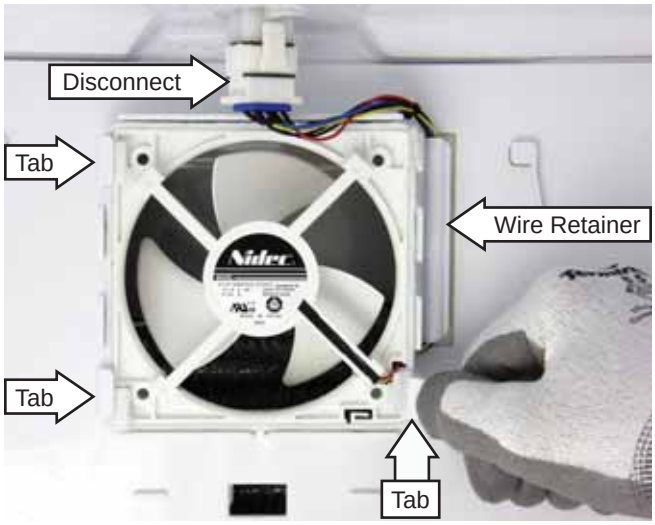
To remove the freezer fan:

1. Remove the freezer drawer front. (See ***Freezer Drawer Front***.)
2. Using a flat blade screwdriver, pry up the fan cover lock tab.

3. Slide the fan cover down from the guides on the evaporator cover.



4. Disconnect the fan wire harness and remove the wires from the wire retainer.
5. Flex the bottom right tab, then release the right side of the fan from the evaporator cover.
6. Slide the fan to the right to disengage the 2 left-side tabs.



Freezer Defrost Heater

The defrost heater is a 420-watt, single-tube, glass-enclosed radiant heater. It is located at the bottom of the evaporator between the rows of coils. It is held in place by 2 tabs on the evaporator (1 on each end plate), a ceramic and wire support, and a right-side wire support.

The defrost heater has an approximate resistance value of 32 Ω.

To remove the defrost heater:

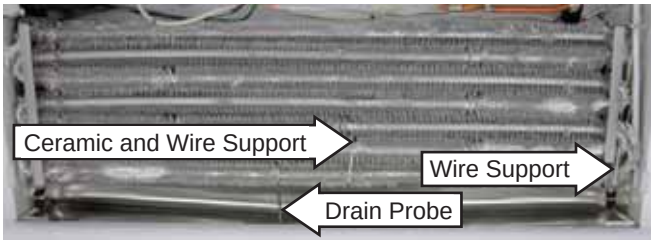
1. Remove the freezer evaporator cover. (See *Freezer Evaporator Cover*.)

Note

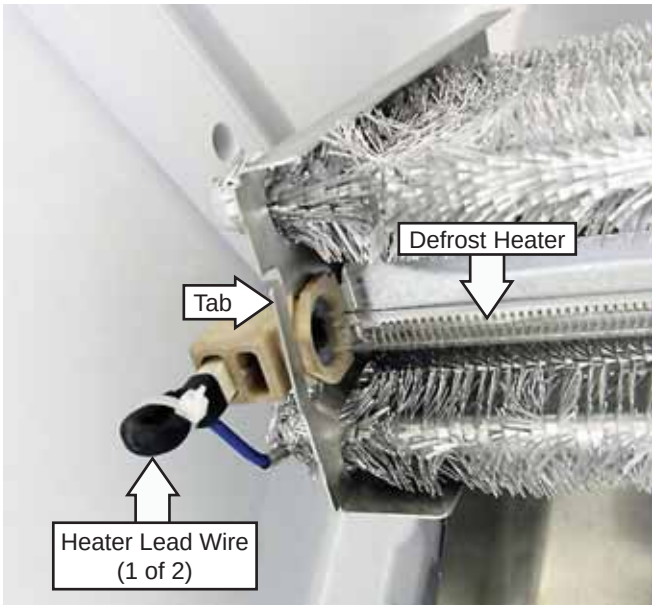
- During defrost, the drain probe assists in preventing the drain from icing closed. During assembly, the probe must be installed on the evaporator and inserted in the drain to prevent drain freeze-up.
- The ceramic and wire support prevents the heater from sagging and touching the metal drain trough if the glass is broken.
- There is a drip shield located just above the heater.

Note: The following procedures can be made easier by loosening the 2 Phillips-head screws (1 on each top corner of the evaporator) and tilting the bottom of the evaporator out from the drain trough.

2. Remove the ceramic and wire support, right-side wire support, and the drain probe from the evaporator.



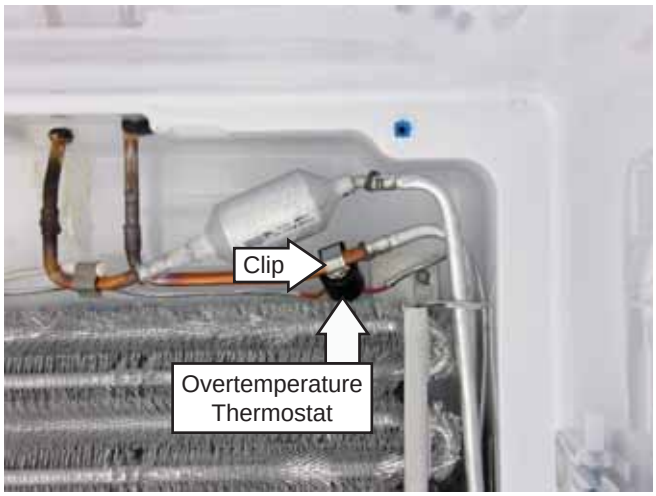
3. Bend the aluminum tabs back (located at each end of the defrost heater) and lower the heater from the evaporator.
4. Disconnect 2 lead wires and remove the heater.



Freezer Overtemperature Thermostat

The freezer overtemperature thermostat is attached to the evaporator inlet tube with a metal clip. The overtemperature thermostat will open its contacts and de-energize the heater whenever the evaporator temperature reaches approximately 140°F. The thermostat contacts will close at approximately 110°F.

To access the freezer overtemperature thermostat the freezer evaporator cover must be removed. (See *Freezer Evaporator Cover*.)



Freezer Evaporator Thermistor

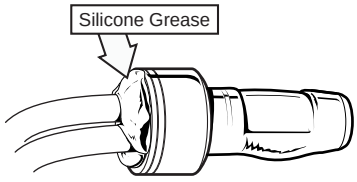
The freezer evaporator thermistor is attached to the suction line with a metal clip. The purpose of the thermistor is to monitor the evaporator temperature for defrost control.

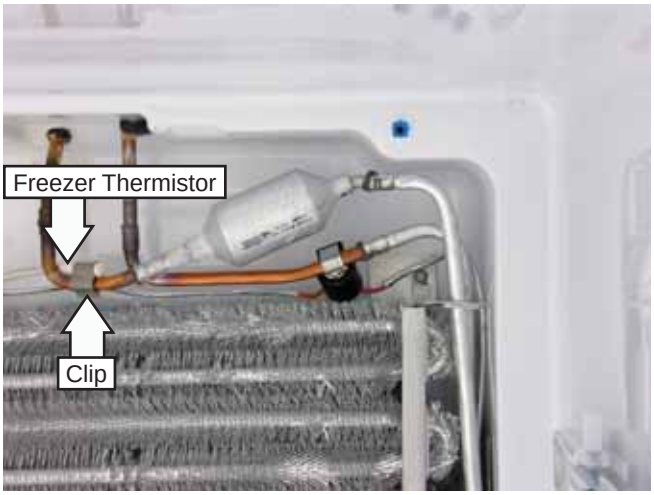
To access the freezer evaporator thermistor the freezer evaporator cover must be removed. (See *Freezer Evaporator Cover*.)

Note: The ice box fan wire connector also contains the freezer evaporator thermistor connections. The freezer evaporator thermistor can be replaced separately (Part #WR55X10025).

When replacing the freezer thermistor:

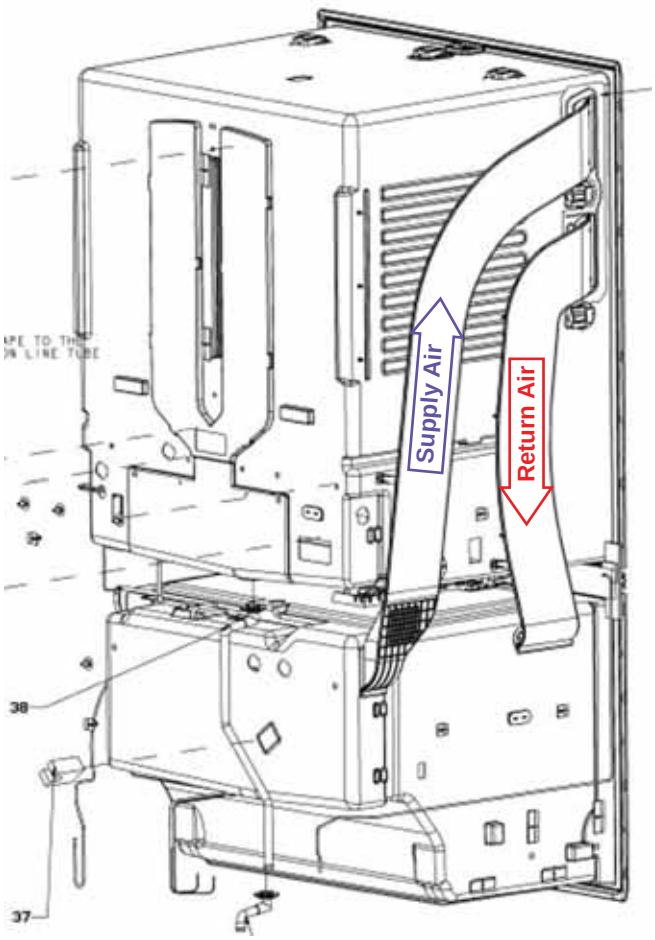
1. Place the replacement thermistor next to the original thermistor.
2. Cut the wiring at a location that will match the original length when the replacement thermistor is spliced to it.
3. Use plastic bell connectors (Part # WR01X10466). Fill each connector with silicone grease then splice a new thermistor into the harness as shown in the illustration.





Ice Box Fan

The ice box fan is located at the top left rear of the freezer compartment above the evaporator. The ice box fan circulates air into the left fresh food door ice box via duct work foamed into the case.



The fan will operate at 3 speeds with RPM feedback to the control. Speeds selected depend on the ice box cooling temperature and are controlled by the main board. Approximate fan speeds are:

Low Speed = 1500 RPM
Medium Speed = 1800 RPM
High Speed = 1800 RPM

(*Continued next page*)

To remove the ice box fan:

1. Remove the freezer evaporator cover. (See *Freezer Evaporator Cover*.)

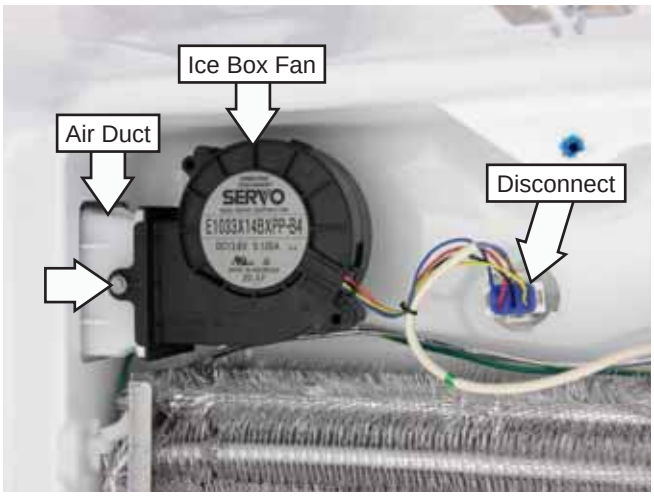
2. Disconnect the ice box fan wire harness.

Note: The ice box fan wire connector also contains the freezer evaporator thermistor connections.

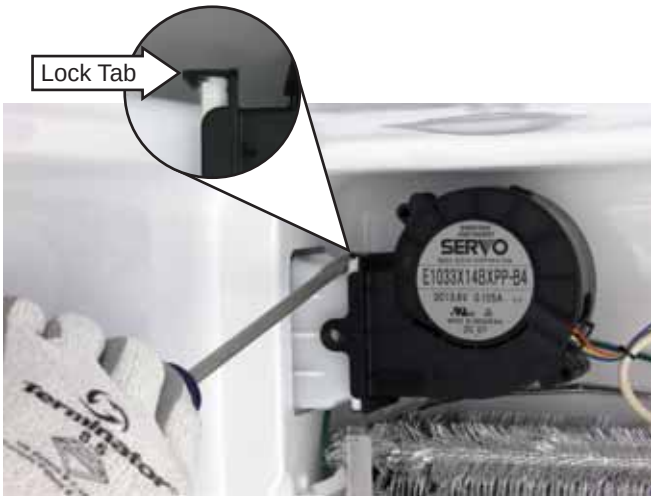
3. Remove the evaporator thermistor from the thermistor clip attached to the evaporator.

Note: In the following steps, the ice box fan is attached to the air duct with a screw and 4 lock tabs.

4. Remove the 1/4-in. hex-head screw from the ice box fan.



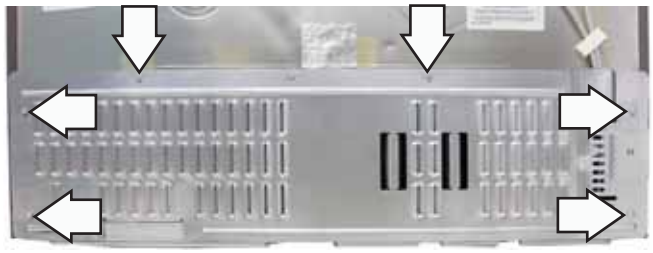
5. Using a flat blade screwdriver, pry the top 2 lock tabs up, lower the fan, and release the bottom 2 lock tabs from the air duct.



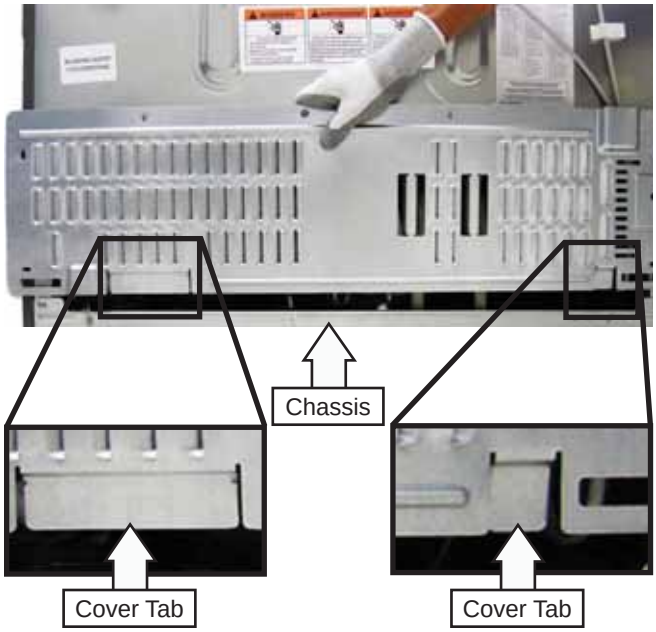
Caution: To prevent damage, make sure the freezer evaporator thermistor is installed under the thermistor clip attached to the evaporator.

Machine Compartment Cover

The machine compartment cover is held to the rear of the refrigerator with six 1/4-in. hex-head screws. After removing the screws, the cover can then be lifted from the 2 bottom tabs.



Note: When installing the machine compartment cover, be sure to place the 2 cover tabs behind chassis before installing screws.



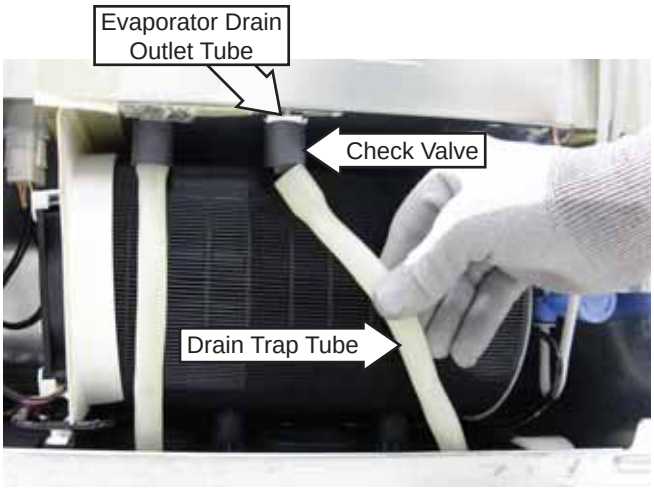
Note: The machine compartment cover must be properly installed to ensure air passes thru the condenser.

Freezer and Fresh Food Drain Trap Tubes

The freezer and fresh food drain trap tubes are identical. As viewed from the back, the freezer drain trap tube is closest to the condenser fan. The fresh food drain trap tube is located to the right of the freezer drain trap tube. (See *Component Locator Views*.)

A check valve is located between each evaporator drain outlet tube and each drain trap tube.

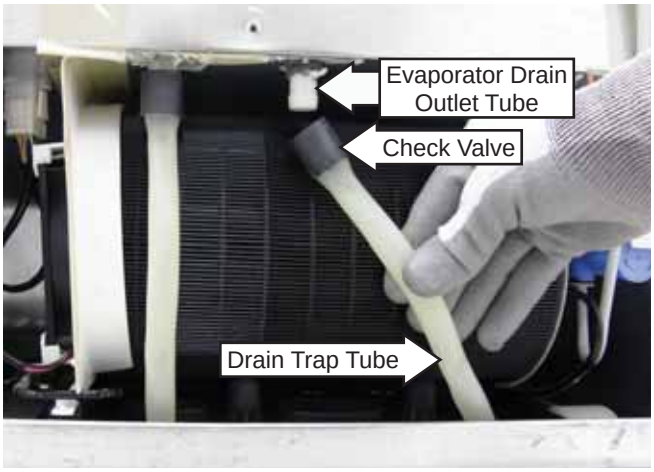
Each drain trap tube can be removed by pulling it down and off the check valve. The check valve can then be pulled off the evaporator drain tube.



Caution: An improperly assembled drain trap tube and check valve can result in a distorted check valve resulting in water overflowing the evaporator drain trough. To ensure the check valve functions properly, the check valve must be installed onto the drain trap tube first, and then attached to the evaporator drain outlet tube at the bottom of the cabinet.

Damaged Check Valve

Good Check Valve



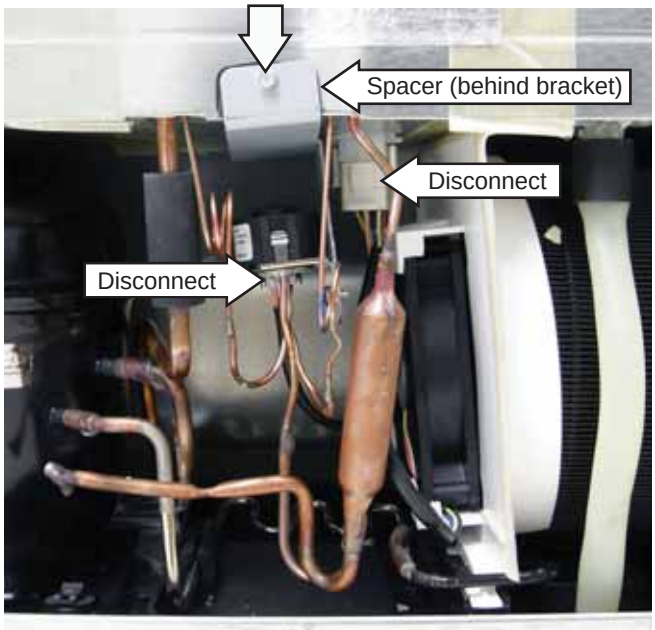
Condenser Fan

The condenser fan is located in the machine compartment between the 3-way valve and the condenser.

The condenser fan will operate at 1000–2100 RPM with RPM feedback to the control.

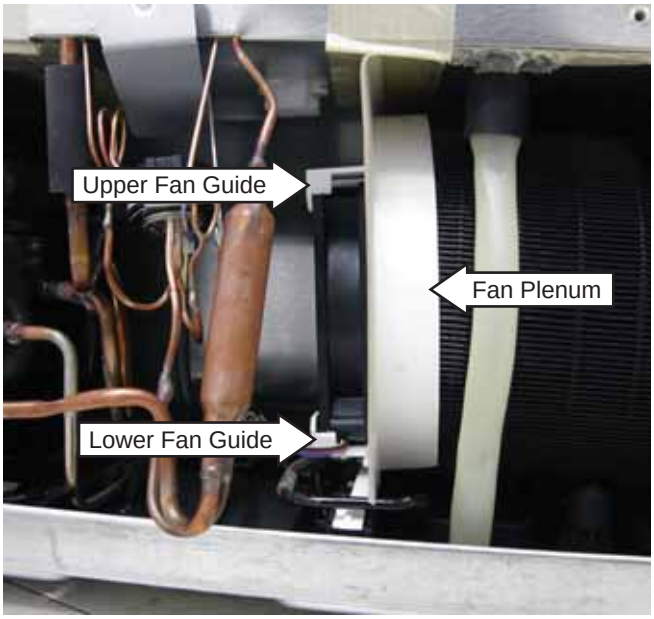
To remove the condenser fan:

1. Remove the machine compartment cover. (See *Machine Compartment Cover*.)
2. Remove the 1/4-in. hex-head screw that attaches the 3-way valve bracket and spacer to the refrigerator.
3. Carefully reposition 3-way valve and drier to gain better access to the condenser fan and valve wire harnesses.
4. Disconnect the wire harness attached to the back of the 3-way valve coil.
5. Disconnect the fan and valve wire harness from the cabinet.



(*Continued next page*)

Note: In the following step, the upper and lower fan guides in the fan plenum will expand when the condenser fan is pulled out.



6. Grasp and pull the condenser fan straight out from guides in the fan plenum.

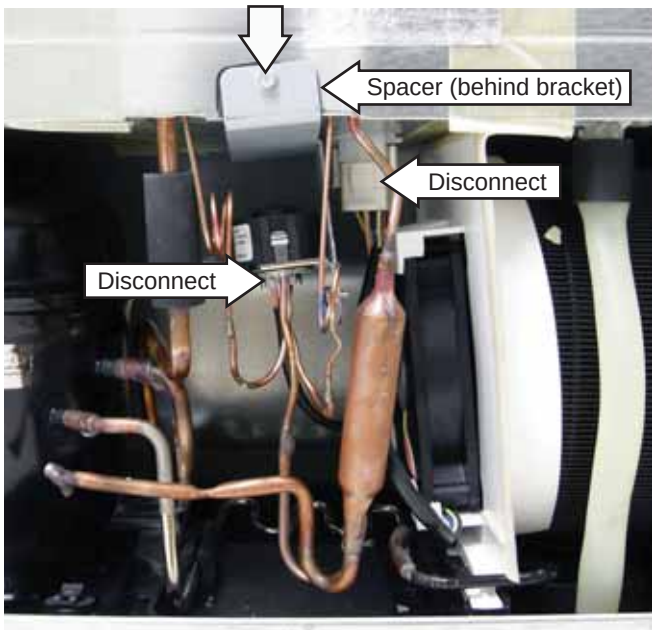
Fan Removed

3-Way Valve Coil

The 3-way valve coil is attached to the top of the 3-way valve.

To remove the 3-way valve coil:

1. Remove the machine compartment cover. (See *Machine Compartment Cover*.)
2. Remove the 1/4-in. hex-head screw that attaches the 3-way valve bracket and spacer to the refrigerator.
3. Carefully reposition 3-way valve and drier to gain better access to the condenser fan and valve wire harnesses.
4. Disconnect the wire harness attached to the back of the 3-way valve coil.
5. Disconnect the fan and valve wire harness from the cabinet.
6. Using a flat blade screwdriver, simultaneously pry out the tab and lift the 3-way coil from the valve assembly.



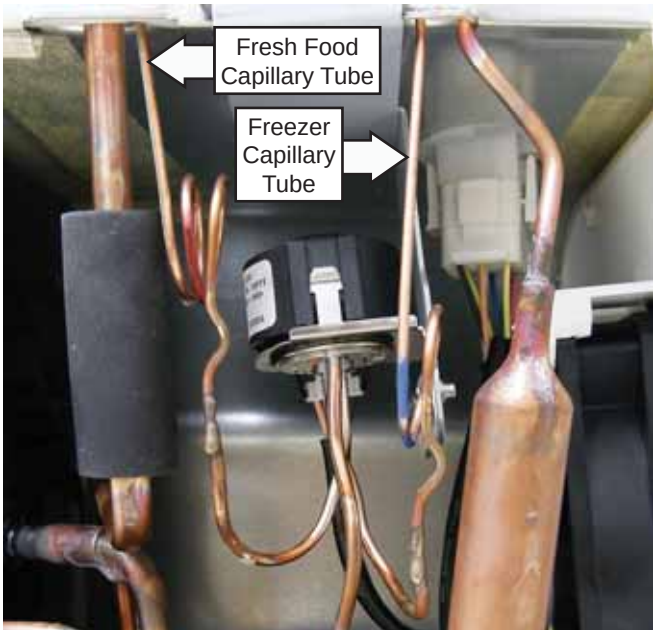
3-Way Valve

The 3-way valve is located in the machine compartment between the compressor and the condenser fan.

The capillary tubes on the refrigerator are color coded on the tubing.

The fresh food capillary tube is on the left and color coded with RED.

The freezer capillary tube is on the right and is color coded with BLUE.



The 3-way valve is used to direct refrigerant flow.

The valve has 4 different positions.

They are referred to by the letters A, B, C, and D.

A = Open to the fresh food and freezer evaporators in series (Refrigerant flows thru the fresh food evaporator and then into the freezer evaporator.)

B = Open to the freezer evaporator only

C = Open to both the fresh food and freezer evaporators via the individual capillary tubes (This position is not currently used on these models for cooling.)

D = Closed to both fresh food and freezer evaporators during the off cycle (This is also called the home position.)

Inverter

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. Frequency will vary from 40Hz low speed up to 151Hz at high speed.

The inverter receives commands from the main control board. The main control board will send a PWM run signal from the J9 connector pins 7 to 8 of 2-3 VDC (effective voltage) to the inverter (all wires must be connected). The inverter will select compressor speed (voltage output) based on this signal. The PWM run signal voltage can also be checked at the inverter harness. 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 4-5 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 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. Replace the inverter first. If the compressor fails to start after inverter replacement, replace the compressor.

(*Continued next page*)

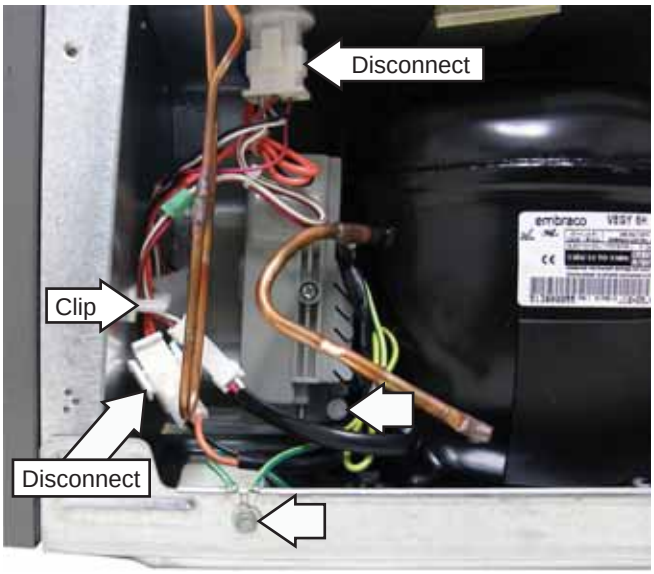
The inverter is accessed from the back of the refrigerator and is located on the left side of the compressor.

To remove the inverter:

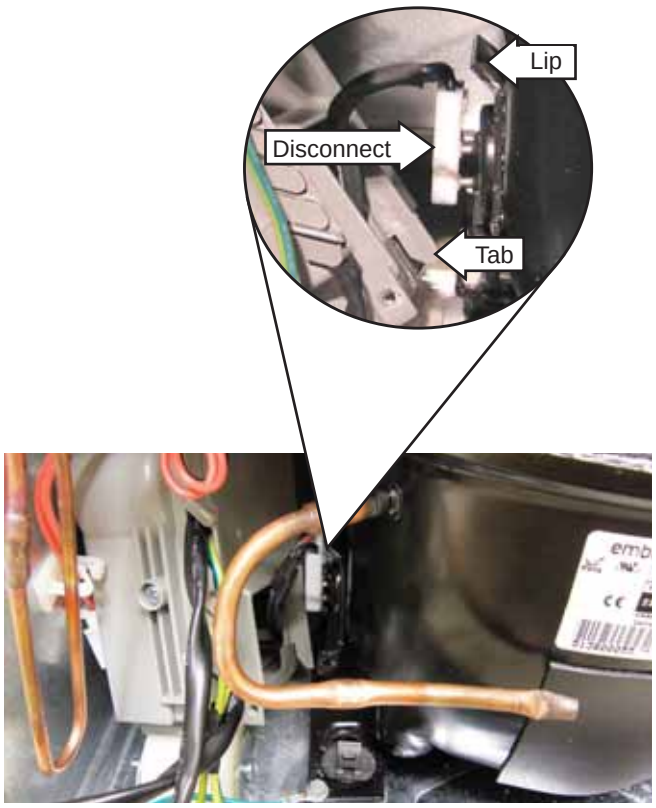
1. Remove the machine compartment cover. (See *Machine Compartment Cover*.)
2. Disconnect the inverter wire harnesses from the top of the machine compartment.
3. Remove the 2-wire inverter harness from the retainer clip and disconnect the 3-wire harness.
4. Remove the 1/4-in. hex-head screw that attaches the inverter ground screw from the chassis.
5. Remove the 1/4-in. hex-head screw from the inverter.

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 1/4-in. hex-head screw.

6. Remove the 1/4-in. hex-head screw from the inverter.



7. Lift the inverter off the compressor.
8. Disconnect the compressor harness from the compressor terminals.



WARNING: When the refrigerator connected to power, 120 VAC is always present at the inverter.

Compressor Replacement

This process applies to both variable speed and single speed compressors.

1. Recover refrigerant.
2. Remove all electrical components.
3. Disconnect suction and discharge lines.
4. Remove the 4 compressor mounting clips.
5. Loosen the compressor from the 4 grommets, it is not necessary to remove the grommets.
6. Move the compressor to the left off of the mounting studs.
7. Rotate the compressor with the base facing out and refrigerant lines facing up.
8. Pull the compressor out from its enclosure.
9. Reverse process to install compressor. Tip: lubricate the compressor grommet with a soap solution or refrigerant leak detect solution for easier grommet installation to compressor base.

Inverter Compressor

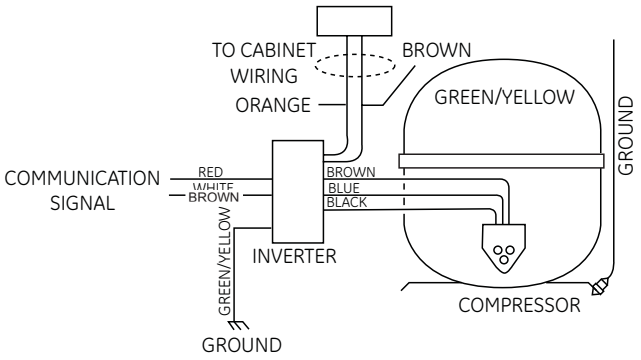
Caution: Do not attempt to direct-start the compressor. The compressor operates on a 3-phase power supply. Applying 120 VAC to the compressor will permanently damage the unit. It is not possible to start the compressor without an inverter.

The compressor is a reciprocating, variable speed, 4-pole type. It operates on 3-phase, 80 to 240 VAC within a range of 55 to 130 Hz.

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

Compressor wattages at various speeds are 60-180 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.

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 temperature 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:

Run diagnostic 0-95 and check for compressor startup. Feel for a vibration when the compressor tries to start. It may take up to 8 seconds before the compressor attempts to start.

Note:

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

Single-Speed Compressor

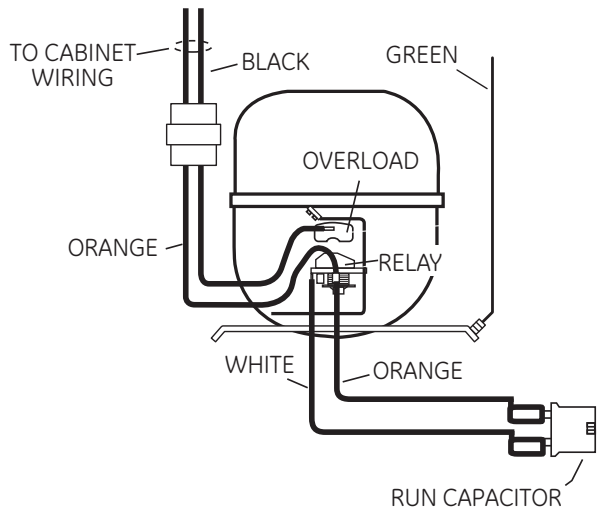
The compressor is a reciprocating type. Refer to the mini-manual for specifications.

To verify that the compressor is running:

WARNING: During normal operation, the temperature of the single-speed compressor may be hot. Use caution to avoid injury and wear Kevlar® gloves or equivalent protection.

Disconnect power from the unit. Wait 3 to 5 minutes for pressure to equalize. Place a hand on the chassis, near the compressor. Reconnect power and feel for a vibration when the compressor tries to start.

Note: The single-speed compressor will start right away if pressure is equal.



Dispenser Assembly

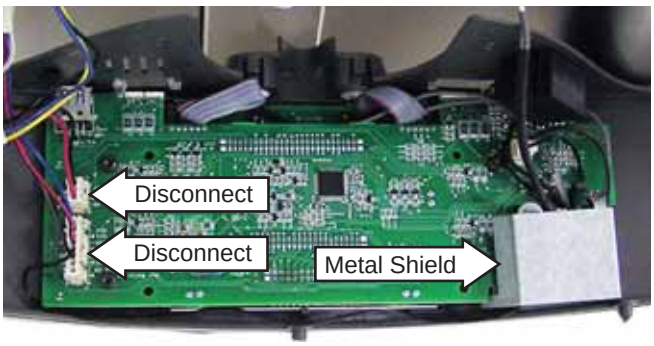
The dispenser assembly incorporates the user interface (UI) used for temperature control and features and houses the dispenser LED lights and ultrasonic sensors.

To remove dispenser assembly components:

Note: On early production models, the display assembly has 2 screws that hold it to the dispenser recess.

1. If present, remove the 2 Phillips-head screws from the bottom of the display assembly.

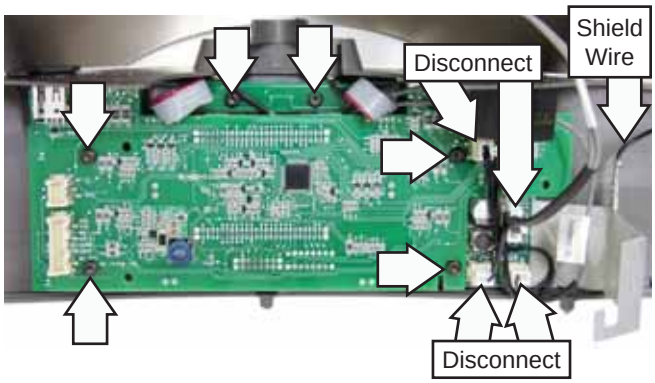
2. Pull the bottom of display assembly out, then lower display assembly from dispenser recess.
3. Disconnect the left side wire harnesses and lift and pivot open the metal shield.



4. Disconnect the speaker wire, 2 upper ultrasonic sensors, and the lower ultrasonic harnesses.

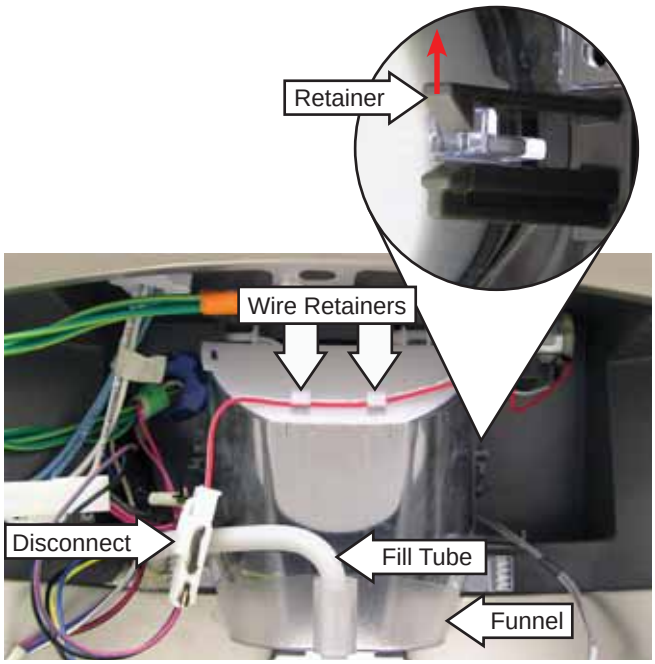
Note: In the following step, the shield wire uses a releasing lock tab.

5. Disconnect the shield wire from the metal shield.
6. Remove the six T-15 Torx screws that attach the display board to the display cover bracket.



7. Pull the fill tube out from the funnel.
8. Disconnect duct door motor wire harness and remove motor wiring from wire retainers.
9. Push up on both the right and left retainers and pull the funnel out from the dispenser recess.

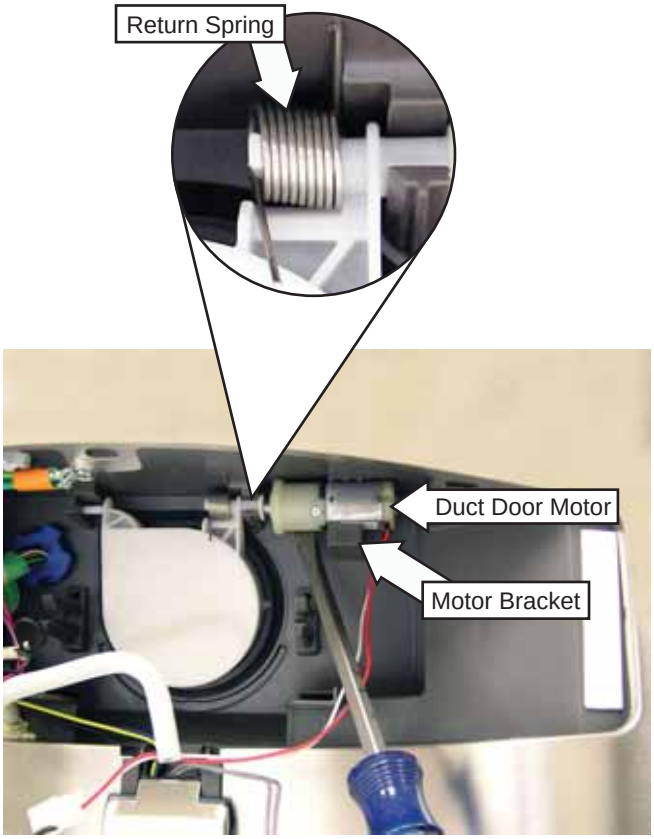
Note: Funnel on GE/Adora models is attached to the dispenser recess with two 1/4-in. hex-head screws.



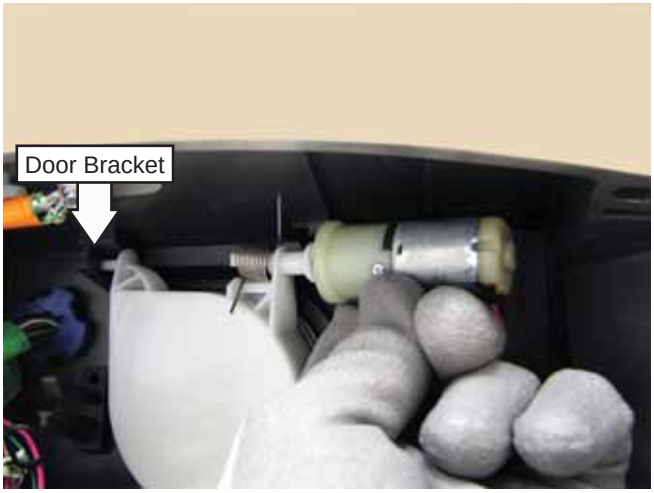
(*Continued next page*)

Note: Before performing the following step, take notice of the position of the duct door return spring.

10. Using a flat blade screwdriver, gently pry the duct door motor out from the motor bracket.



11. Move the motor, return spring, and duct door as an assembly to the right, then remove the duct door from the door bracket at the left.



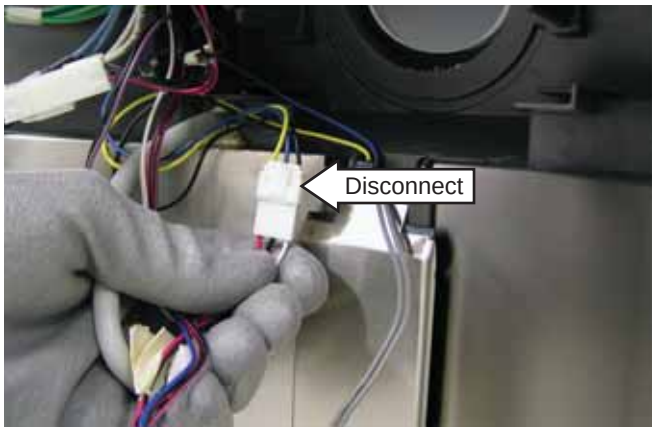
Actuator Paddle, Switch, and Lower Ultrasonic Sensors

Note:

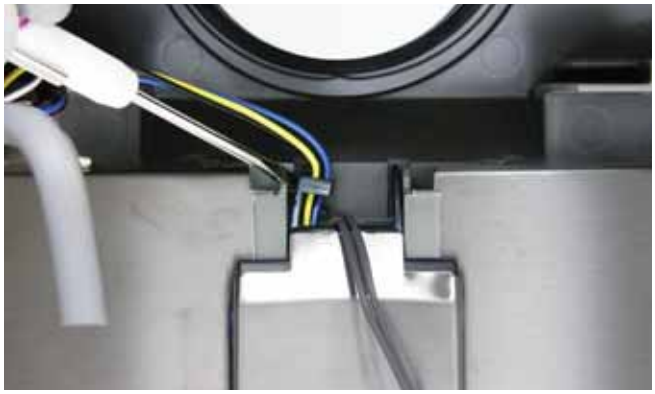
- The paddle switch is a 2-position switch with 3 wires. It has a normally open and a normally closed contact.
- Both the door board and user interface board (UI) look for a change of state of both contacts when the paddle is depressed before the selected function is activated.
- The door board monitors 1 of the contacts and the user interface board (UI) monitors the other contact.
- The paddle and switch are attached to the dispenser recess with 2 top pins and 2 bottom tabs located inside.

To remove the actuator paddle and switch:

1. Remove the funnel. (See **To remove dispenser assembly components,** follow steps 1 thru 9.)
2. Disconnect the actuator switch wire harness.

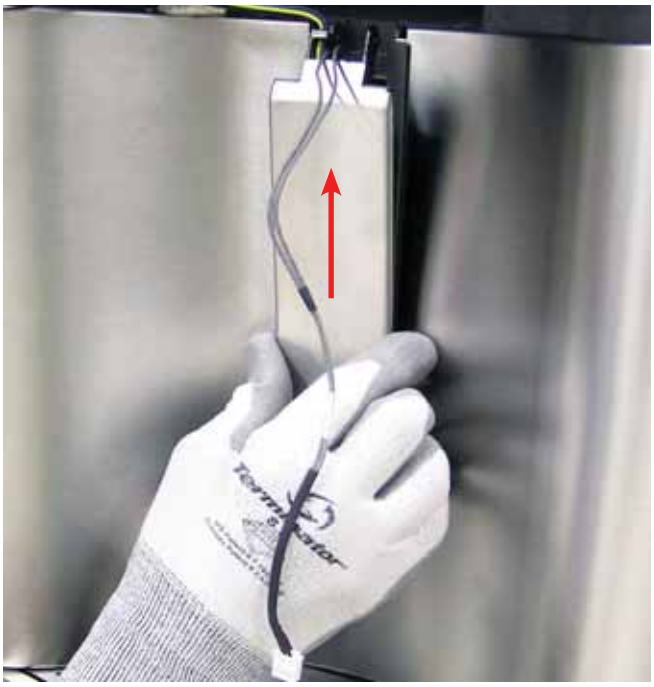


3. Using a small flat blade screwdriver, gently pry inward and disengage each top pin from the dispenser recess and then pull the paddle up.

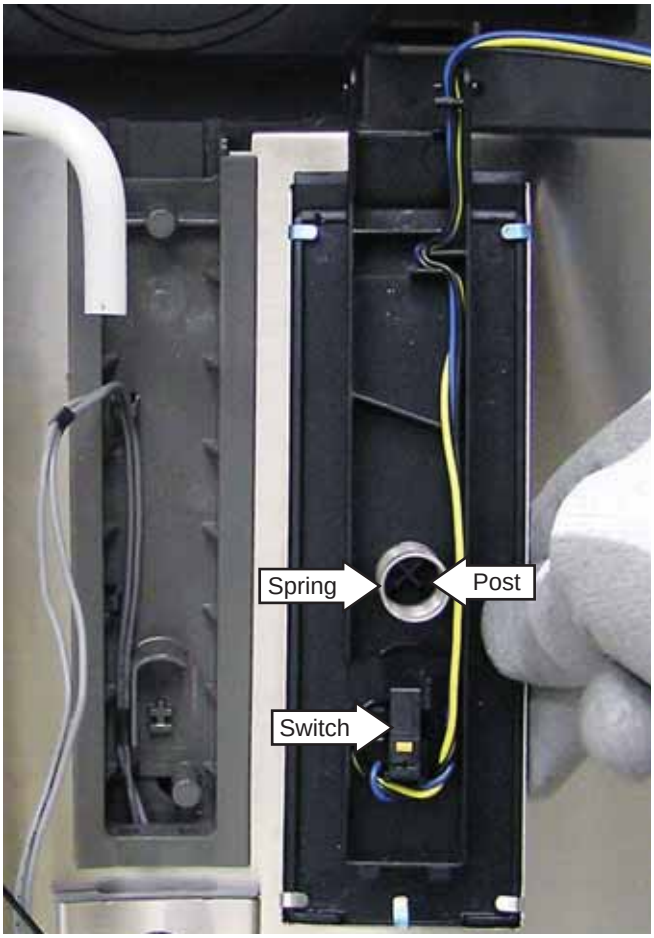


(*Continued next page*)

4. Tilt the top of the paddle out, then remove it from the dispenser recess.



Note: The paddle and switch are supplied as an assembly. The spring is inserted around a post and is available separately.



Lower Ultrasonic Sensor Assembly

The lower ultrasonic sensor assembly is attached to the back of the dispenser cavity with 2 tabs (1 on each side) located behind the front trim.

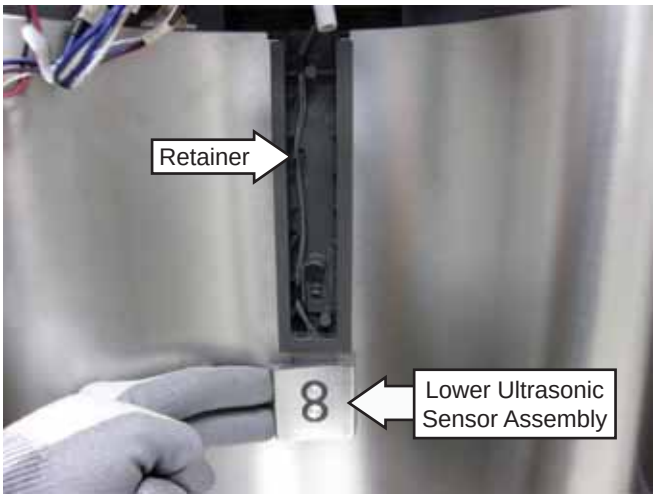
To remove the lower ultrasonic sensor assembly:

Note: Tabs on the sensor assembly are fragile. Do not remove unless a replacement sensor is on hand.

1. Remove the actuator paddle and switch. (See **To remove the actuator paddle and switch**.)
2. Remove the lower ultrasonic sensor assembly wires from the retainer in the cavity channel.

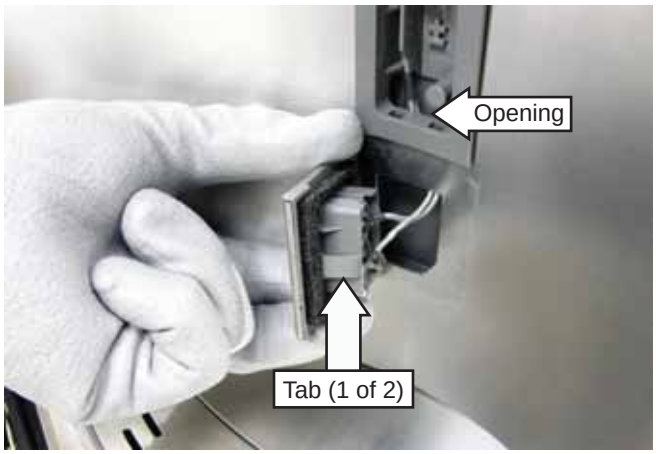
Caution: To prevent damage to the lower ultrasonic sensor assembly and the dispenser recess, in the following step, use a non-marring tool (plastic putty knife) to gently pry the sensor tabs out from the dispenser cavity. Take care not to scratch the dispenser recess.

3. Pry out the sensor assembly, then grasp and pull the sensor assembly out from the dispenser cavity.



4. Pull sensor wiring thru opening in the bottom of the dispenser channel.

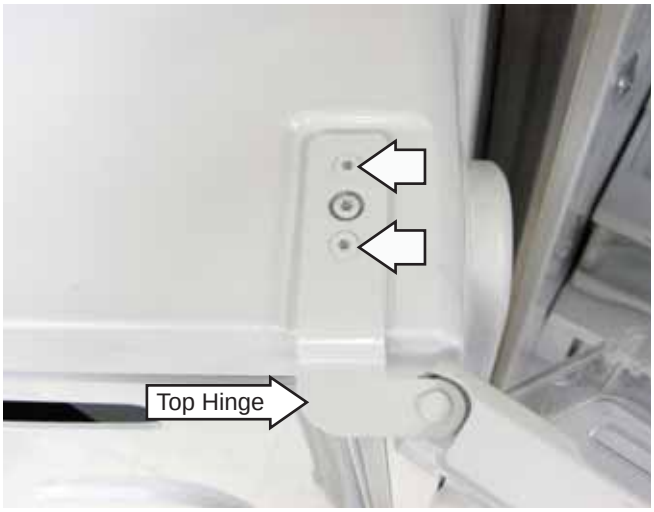
Sensor Assembly (rear view)



Ice Box Door Assembly

The ice box door assembly consists of the door, latch, and gasket.

The ice box door assembly is attached to the left-side refrigerator door with 2 hinges. To remove the ice box door assembly, it is necessary to open the door and remove the two T-15 Torx screws and the top hinge. The door assembly can then be lifted off the bottom hinge.



The door latch cover must be removed to access the latch to the ice box door. The cover is attached to the door with 2 rear tabs and 2 front tabs. A small flat blade screwdriver can be used to pry out the front of the latch cover.

The cover can then be pulled toward the latch handle and removed.

(*Continued next page*)

The door latch is attached to the ice box door with 2 Phillips-head screws.

The door gasket is secured to the door by a barbed edge that locks into a retainer channel.

To remove and replace the door gasket:

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

Ice Bucket

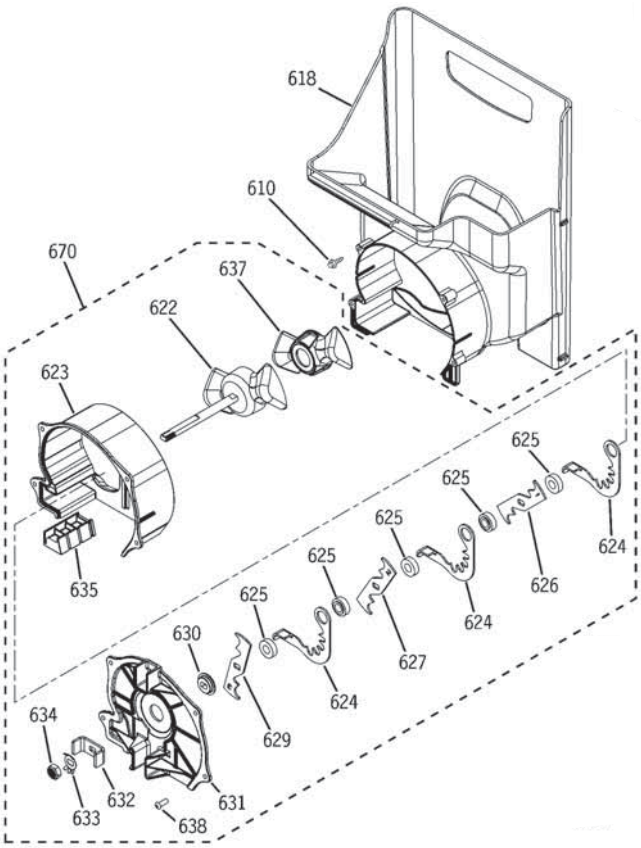
Ice Bucket

The bucket can be removed by pulling the door latch down, opening the ice box door, then lifting and pulling the bucket out.

(*Continued next page*)

Ice Bucket (rear view)

Ice Bucket (component view)



Note: Ice bucket and crusher available as an assembly.

Icemakers

The icemakers are similar to previous icemaker designs.

Although similar, they are NOT interchangeable with each other (between door and freezer models) or any other service icemaker.

PFE29 Ice Box-Mounted Icemaker

GE/Adora Freezer-Mounted Icemaker

(*Continued next page*)

The icemakers operate in much the same way as previous bottom mount models with one significant difference: the icemakers are controlled by either the main control board or the door control board. The board inside the icemaker does NOT control operation.

The icemaker in the door is controlled by the door control board.

The icemaker in the freezer is controlled by the main control board.

These boards will monitor the mold thermistor, rake and feeler arm sensors to operate the rake motor, heater and water valve.

The thermistor has the same resistance value as previous electronic icemakers.

The icemaker thermistor has a negative coefficient—an increase in temperature will cause a decrease in resistance.

Temperature Degrees (F)	Temperature Degrees (C)	Resistance in Kilo-Ohms
-40	-40	207 kΩ
35.6	2	25.37 kΩ
39.2	4	23.27 kΩ
50	10	18.07 kΩ
59	15	14.75 kΩ
68	20	12.11 kΩ
77	25	10 kΩ
176	80	1.67 kΩ

Icemaker Sequence

The normal icemaker sequence is to fill the mold with water, wait until the water is frozen, harvest the ice and then repeat the cycle.

To accomplish this sequence, 3 cycles are defined: **Freeze**, **Harvest** and **Water Fill**.

The **Freeze** cycle begins after a fill, when the mold temperature drops below 32˚F and will last for a minimum of 50 minutes.

After the **Freeze** cycle conditions have been met and the feeler arm is in the bin not full position, a harvest cycle will be initiated.

At the start of the **Harvest** cycle, the heater will turn on and remain on until the mold temperature is at least 36˚F (minimum heater time is 1 minute). The heater will cycle to maintain at least 36˚F during harvest.

Once 36˚F is reached, the rake motor will turn on, making one revolution to eject the cubes while the control monitors rotation thru the home position.

When the rake motor is back at the home position, the **Water Fill** cycle starts by cooling the mold to 40˚F.

The icemaker then fills with water for 5.1 seconds (no additional fills are used).

The icemaker then starts another **Freeze** cycle.

Average time from fill to fill is 60-70 minutes.

Icemaker Diagnostics

Use Service Diagnostic Mode to enter service diagnostics. (See ***Service Diagnostic Mode***.) Use diagnostic code 00 99 to cycle icemaker in the door and 01 00 to cycle icemaker in the freezer.

The service test will consist of a harvest cycle followed by a water fill cycle.

The harvest cycle will be entered immediately, regardless of mold temperature or feeler arm position.

The mold heater will be turned on for a minimum of 20 seconds.

At the end of the harvest cycle, a normal water fill cycle will be initiated.

After the water fill cycle, the icemaker will enter the freeze cycle.

(*Continued next page*)

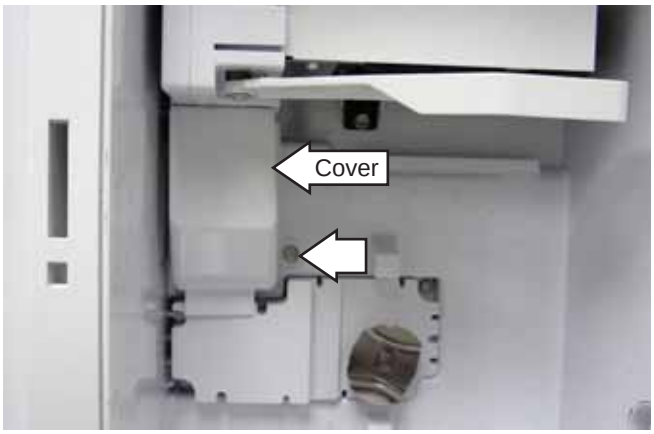
During the service diagnostic test, the feeler arm position sensor and motor position sensor are tested by the control board software. The motor and water valves are energized and can be visually observed for diagnostic purposes.

Under normal operating conditions, the icemaker is capable of producing approximately 100-130 cubes (approximately 4.3 pounds of ice) in a 24-hour period. The rate of ice production depends on freezer and ice box compartment temperature, room temperature, number of door/drawer openings, and other use conditions.

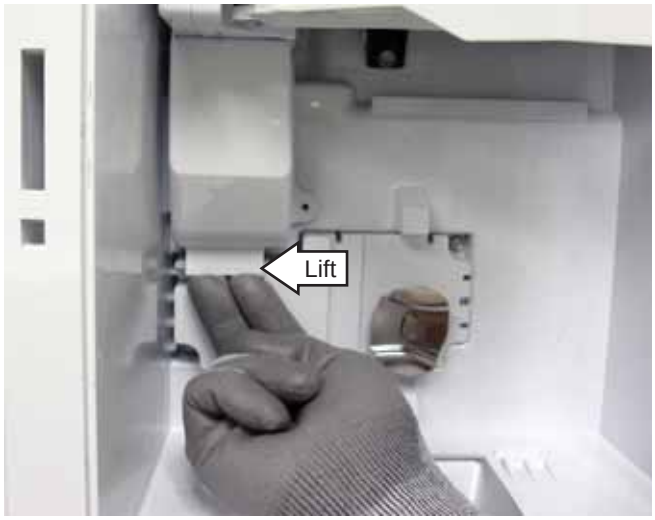
To remove the fresh food door icemaker:

Note: The icemaker is located inside the left-side refrigerator door.

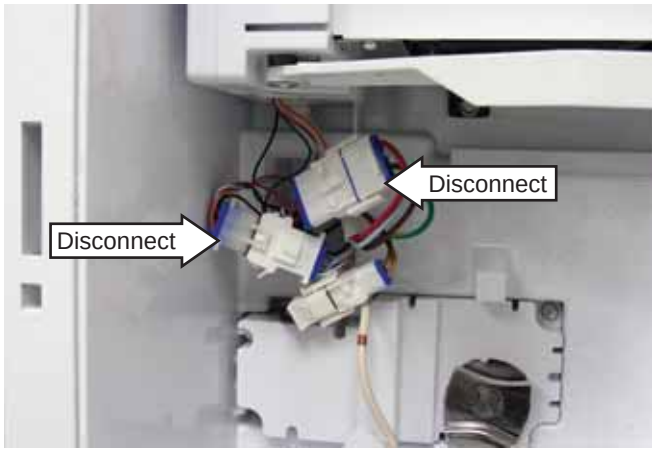
1. Open the ice box door and remove the ice bucket.
2. Remove the 5/16-in. hex-head screw from the wire harness cover.



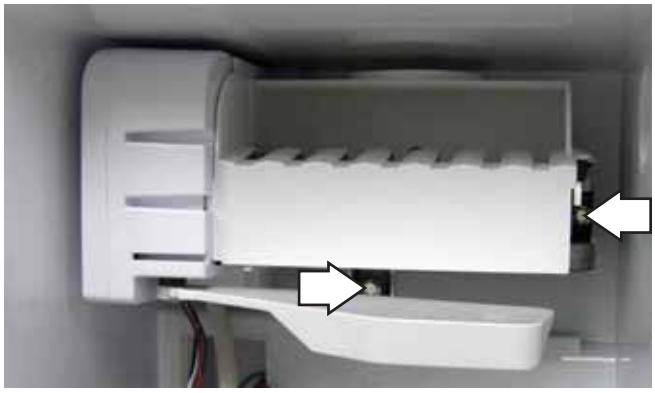
3. Lift the bottom of the wire harness cover then remove the cover.



4. Disconnect the icemaker wire harnesses.



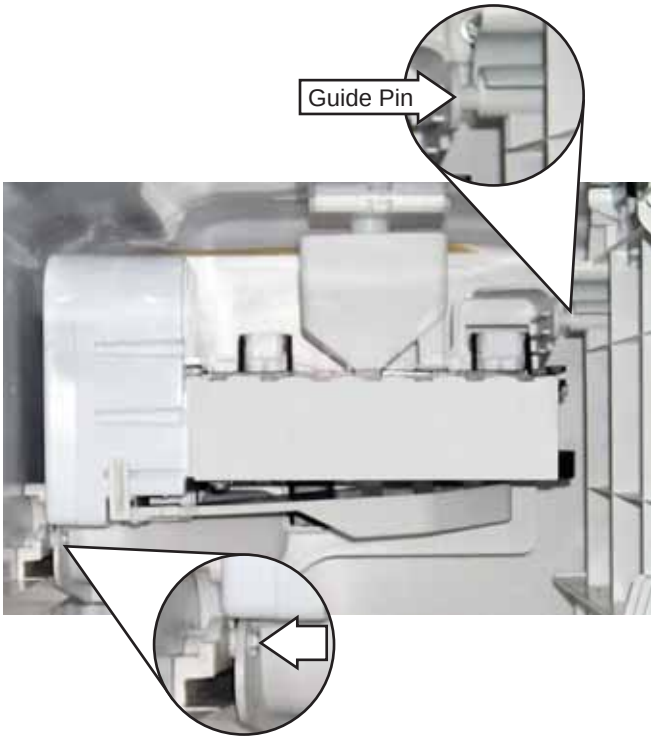
5. Remove the bottom center and the right side 5/16-in. hex-head screws (right-side screw omitted on some models) that attach the icemaker to the ice box.
6. Lift and remove the icemaker.



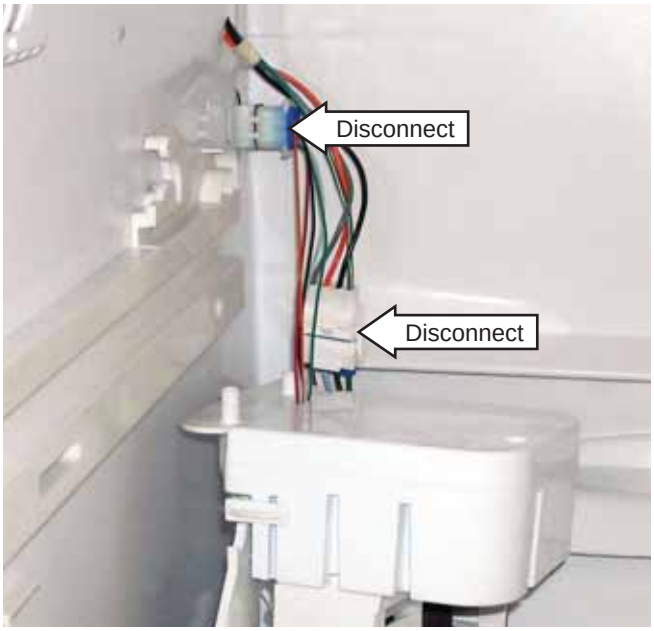
(*Continued next page*)

To remove the freezer icemaker:

1. Remove the 1/4-in. hex-head screw from the left side of the icemaker.
2. Lift the right side of the icemaker to disengage the icemaker guide pin from the freezer divider support.
3. Lower and disengage the 2 left-side posts from the upper basket left-side glide support.



4. Disconnect the 2 wire harnesses.



Ice Box Thermistor

The ice box thermistor communicates ice box temperatures to the door control board.

The door control board monitors the ice box thermistor to control temperatures in the ice box.

The ice box fan circulates cold air from the freezer evaporator thru the cabinet ducting to achieve the desired temperature.

The temperature in the ice box will vary based on the freezer setpoint and the state of ice production or storage.

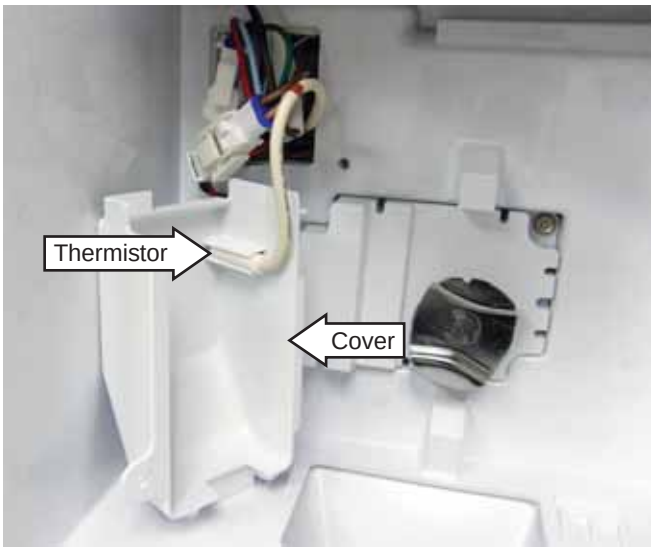
Based on freezer temperature and assuming the ice box has not been opened before testing, the maximum expected temperature in the ice box is shown in the table below.

Example: At a 0˚F freezer setpoint, the expected maximum temperature observed would be 15˚F. The temperature range is approximately 5˚to 15˚F.

Freezer Set Point	Ice Box Set Point
-6	3
-5	5
-4	7
-3	9
-2	11
-1	13
0	15
1	17
2	19
3	21
4	23
5	25
6	27
7	29
8	31

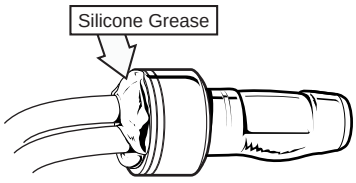
(*Continued next page*)

The ice box thermistor is located on the inside of the wire harness cover



To replace the ice box thermistor:

1. Place the replacement thermistor next to the original thermistor.
2. Cut the wiring at a location that will match the original length when the replacement thermistor is spliced to it.
3. Use plastic bell connectors (Part # WR01X10466). Fill each connector with silicone grease then splice a new thermistor into the harness as shown in the illustration.



Note: Service kit supplied with heat seal connectors.

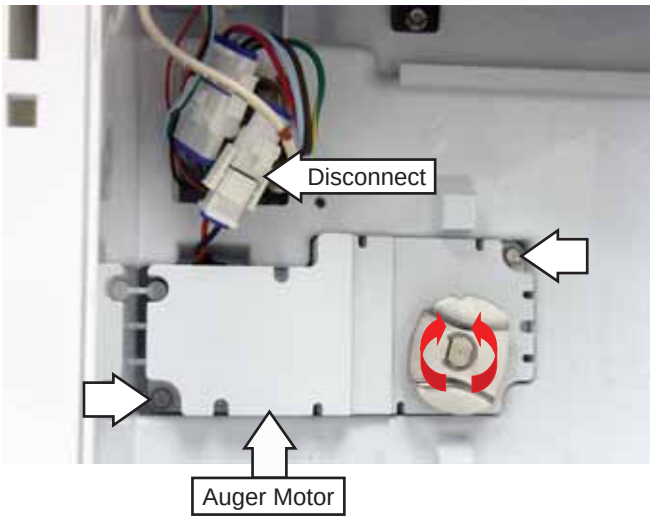
Auger Motor

The auger is rotated by utilizing a DC reversible motor that is located inside the left-side refrigerator door. It is necessary to remove the ice bucket to replace the auger motor.

To remove the auger motor:

1. Remove the wire harness cover. (See ***Icemakers***, follow steps 1 thru 3.)
2. Disconnect the auger motor wire harness.
3. Remove the two 5/16-in. hex-head screws that attach the auger motor to the ice box.

Note: As shown below, the coupling rotates clockwise for crushed ice and counterclockwise for cubed ice.



Water Filter

The water filter for Model PFE29 is located on the right side of the left fresh food door.

To remove the water filter on Model PFE29:

Note: Removing the water filter turns off the water to the door water valve.

1. Press the bottom of the filter compartment cover to release and swing open the cover.

Note:

- A bypass cartridge is installed in the water filter manifold for shipping.
- The water filter should be installed when the refrigerator is delivered to the consumer.

2. Lift and pivot the water filter upward until it stops.
3. Maintaining that same angle, pull the water filter straight out. DO NOT TWIST OR TURN THE FILTER.

To remove the water filter on Model GE/Adora:

The water filter, for models with icemaker in the freezer, is located on the left side of the fresh food compartment.

1. Pull the filter compartment door forward then swing open the cover.

Note:

- A bypass cartridge is installed in the water filter manifold for shipping.
- The water filter should be installed when the refrigerator is delivered to the consumer.

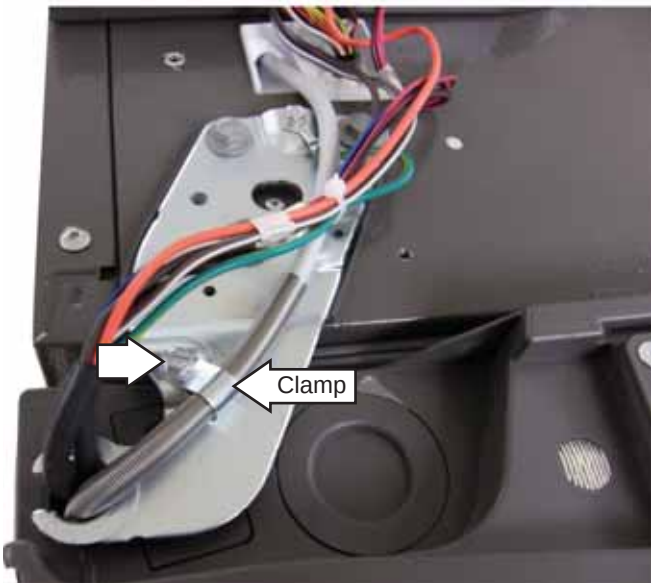
2. Grasp and pivot the water filter out until it stops.
3. Maintaining that same angle, pull the water filter straight out. DO NOT TWIST OR TURN THE FILTER.

Water Filter Manifold

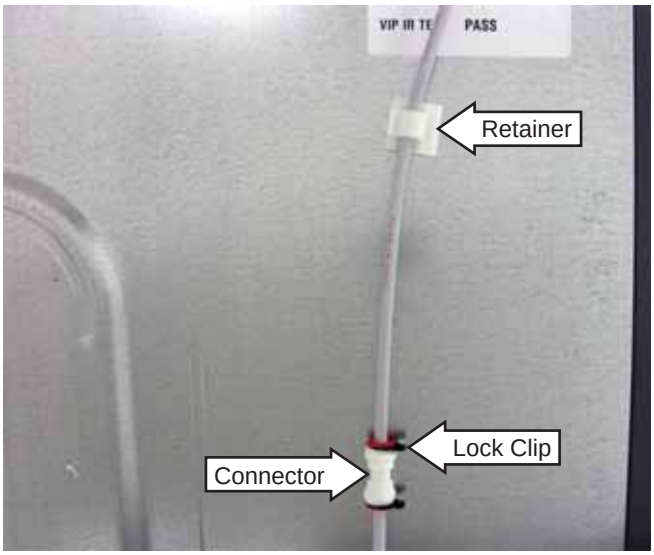
The water filter manifold for model PFE29 is located behind the water filter access door. It is attached to the left refrigerator door with 2 upper and 2 lower tabs and a Phillips-head screw.

To remove the water filter manifold on Model PFE29:

1. Remove the water filter. (See ***Water Filter***.)
2. Place the hinge cover in the service position. (See ***Hinge Cover***.)
3. Remove the 1/4-in. hex-head screw and clamp from the filter inlet tube.



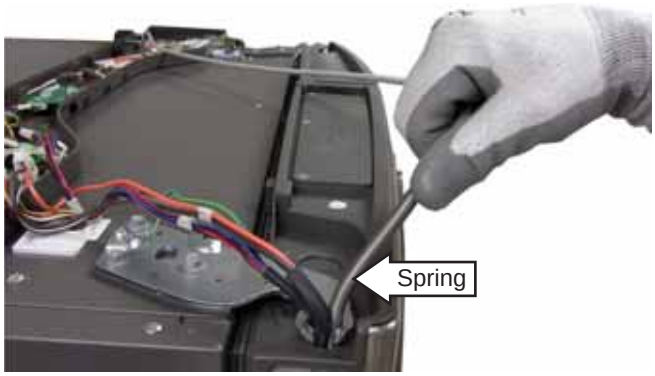
4. Remove the plastic lock clip off the coupling and push the collar in while pulling the filter inlet tube out from the connector located at the rear of the cabinet. Remove the inlet tube from retainer.



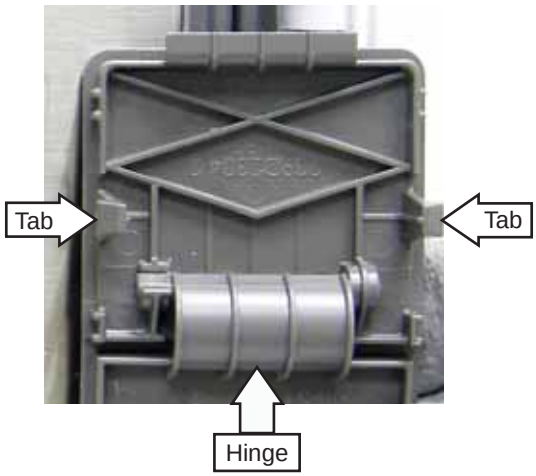
Note: See note on page 40 regarding lock clips.

5. Pull the filter inlet tube out of the tubing conduit at the top of the cabinet.

6. Slide the spring off the filter inlet tube.



Note: In the following step, the filter door has 2 tabs located inside, above the hinge, that attach it to the refrigerator door. Either tab can be pressed inward to release the filter door.

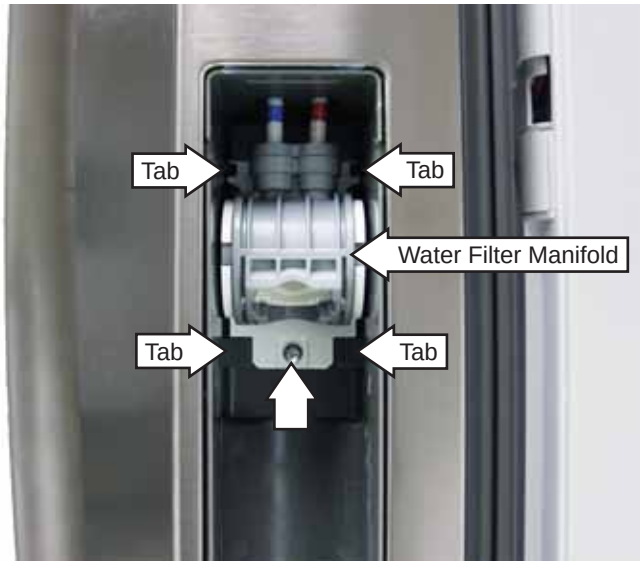


(*Continued next page*)

Caution: In the next step, to prevent damage, place a small piece of tape at either tab location (right-side tab location shown).

7. Open the filter door and place index finger under the cover hinge, then pull the filter door off the refrigerator door.

8. Disconnect the water inlet tube from the flow-meter. (See ***Water Valve and Flowmeter***.)
9. Remove the Phillips-head screw from the filter manifold.
10. Slide the filter manifold up to release it from the upper and lower tabs.

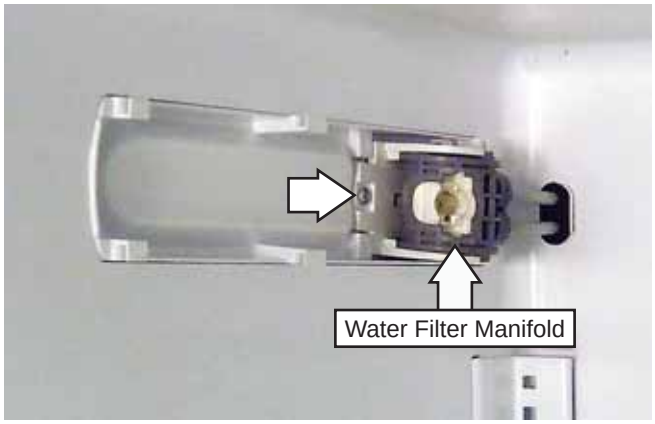


Note: In the following steps, for ease of insertion of the water lines thru conduits in the door, two WR01X11068 tubing plugs are needed. Plugs are included with replacement manifolds and left-side door assemblies.

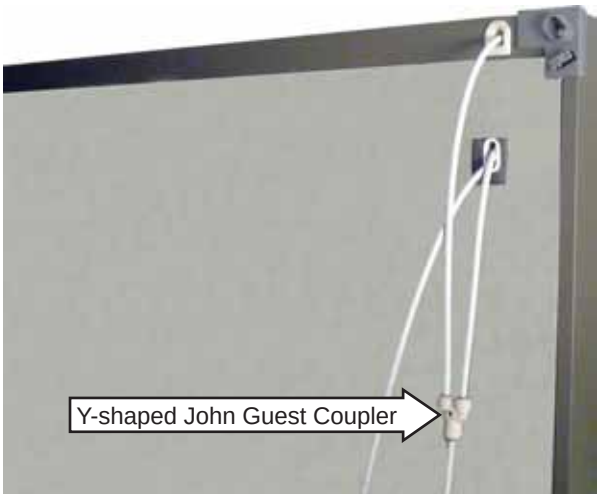
11. Pull the filter manifold and attached tubing from the door.

To remove the water filter manifold on Model GE/Adora:

The procedure to remove the water filter manifold for model GE/Adora is similar to the PFE29 model. The filter cover pulls forward to unsnap from the side wall. After removing the Phillips-head screw, the manifold can be pulled out forward at the front.



The Y-shaped John Guest coupler takes the filtered water and feeds the dispenser and icemakers.

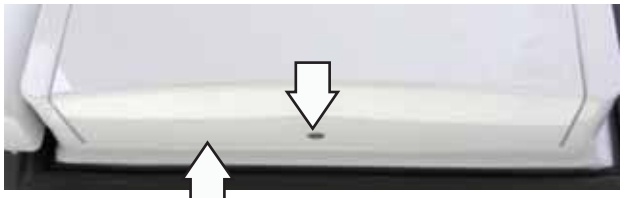


Water Tank

The water tank is located inside the left-side refrigerator door. The water tank capacity is 16 ounces. It is necessary to remove the access panel to replace the water tank.

To remove the water tank:

1. Remove the T-20 Torx screw from the bottom and the two T-20 Torx screws from the front that attach the access panel to the door.

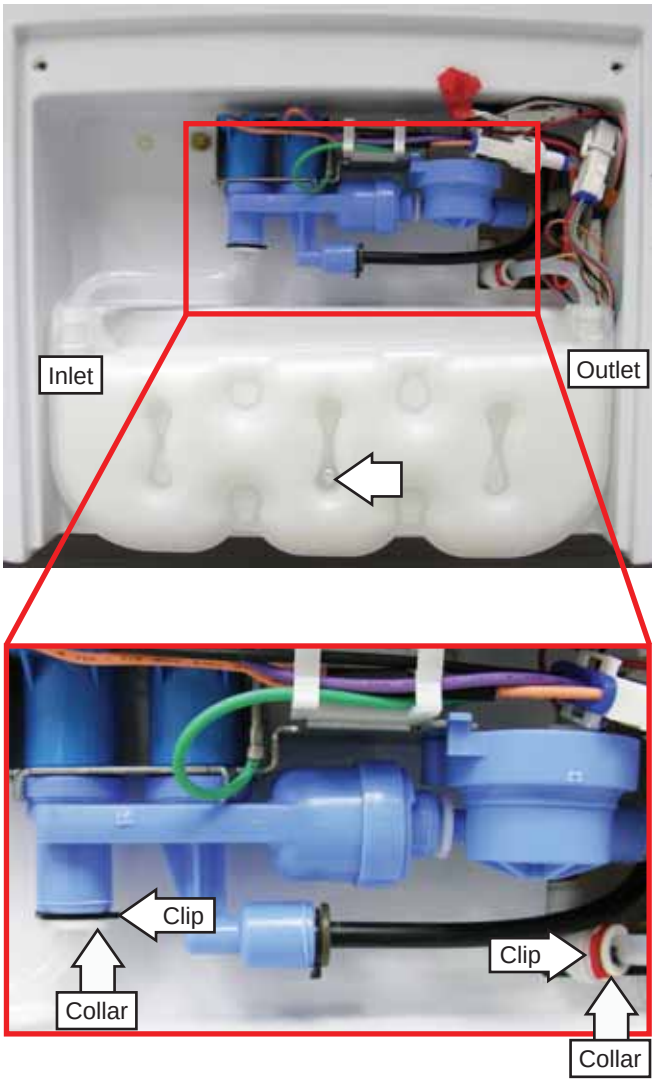


2. Using a flat blade screwdriver, push the plastic lock clip off the tank inlet coupling and the plastic lock clip off the tank outlet elbow coupling.

3. Carefully push each collar in while pulling each water line out from the coupling.

Note: See note on page 40 regarding lock clips.

4. Remove the 1/4-in. hex-head screw and water tank.



Isolation Water Valve

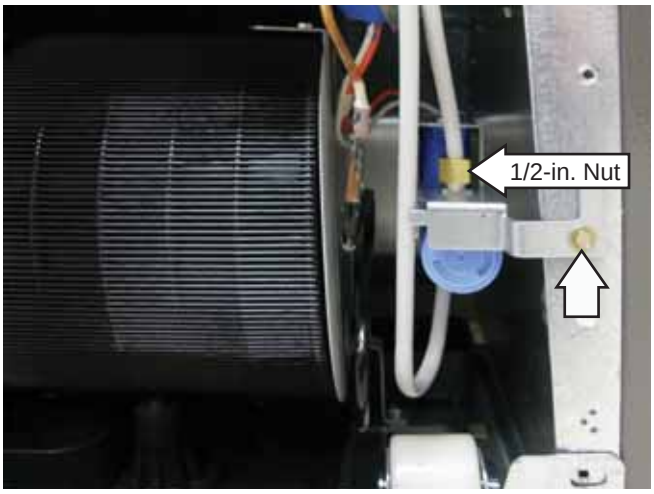
The isolation valve supplies water to the filter. The valve prevents the filter from being under constant house water pressure.

The isolation valve is operated by the main control board. The valve coil has an approximate resistance value of 415 Ω.

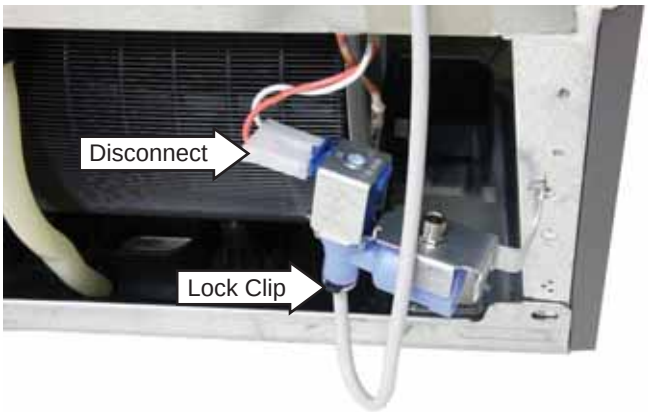
The isolation water valve is located in the machine compartment and to the right of the condenser.

To remove the isolation water valve:

1. Remove the machine compartment cover. (See *Machine Compartment Cover*.)
2. Shut off water supply to refrigerator, then remove the 1/2-in. nut that attaches the water supply line to the isolation water valve.
3. Remove the 1/4-in. hex-head screw and valve from the cabinet.



4. Disconnect the water valve wire harness.
5. Remove the plastic lock clip from the coupling.
6. Carefully push the collar in while pulling the water line out from the valve.



Water Valve and Flowmeter

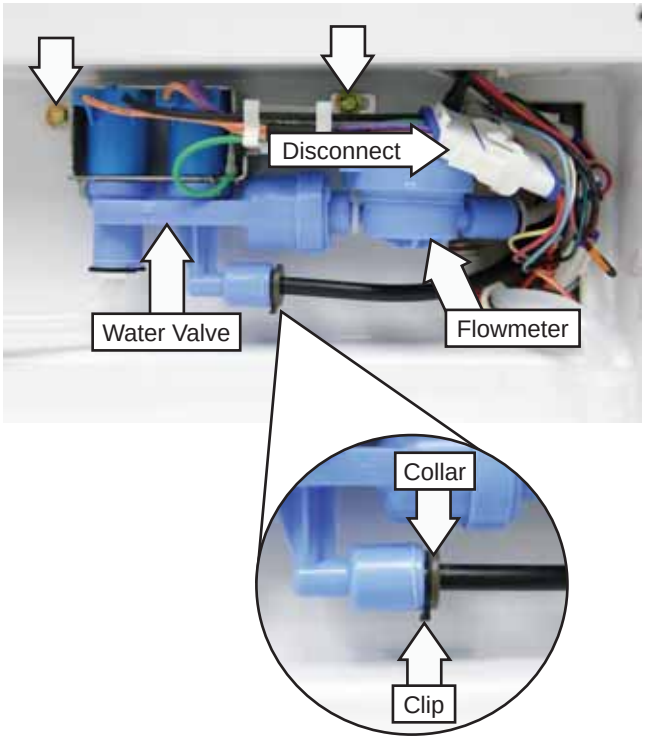
The water valve is located inside the left-side refrigerator door. Models with Precise Fill and Auto Fill utilize a flowmeter that is connected to the inlet of the water valve. The water valve supplies water to the icemaker and dispenser. Each coil on the water valve has an approximate resistance value of 400 Ω. It is necessary to remove the access panel to replace the water valve and flowmeter. The procedure to remove the water valve on GE/Adora models is similar.

To remove the water valve and flowmeter:

1. Remove the tank inlet tubing from the water valve. (See ***Water Tank***, step 1 thru 3.)
2. Using a flat blade screwdriver, push the plastic lock clip off the icemaker water outlet coupling.
3. Carefully push the collar in while pulling the water line out from the coupling.

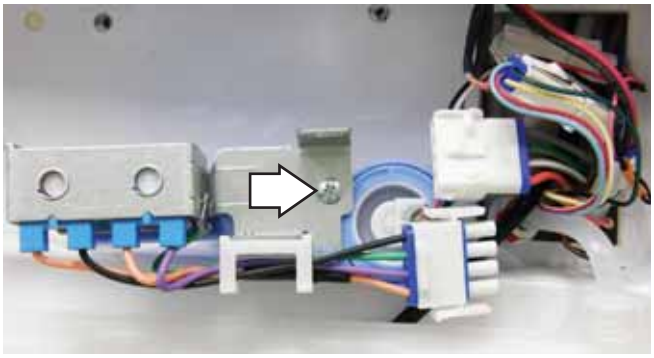
Note: Lock clips must be reinstalled to prevent leaks. After the water line is removed from the connector, the lock clip can be reinstalled on the connector. The water line can then be inserted with the clip in place.

4. Disconnect the valve wire harness.
5. Remove the two 5/16-in. hex-head screws that attach the valve to the refrigerator.



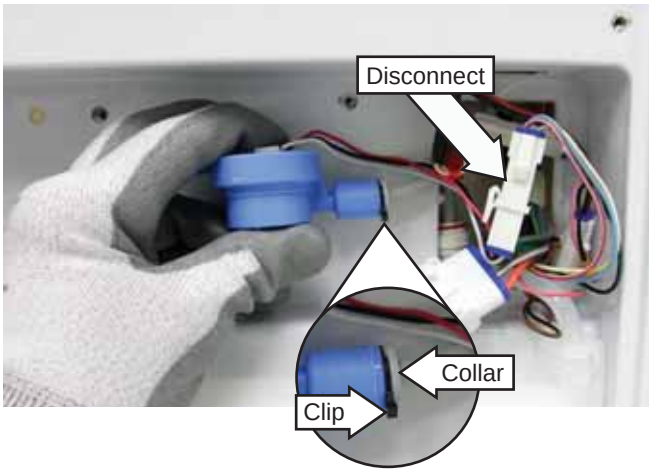
(*Continued next page*)

6. Rotate the water valve and remove the Phillips-head screw from the top of the flowmeter.



7. Carefully push the flowmeter collar in while simultaneously rotating and pulling the flowmeter out from the coupling.

8. Using a flat blade screwdriver, push the plastic lock clip off the flowmeter inlet coupling.
9. Carefully push the flowmeter inlet collar in while pulling the inlet water line out from the coupling.
10. Disconnect the flowmeter wire harness.



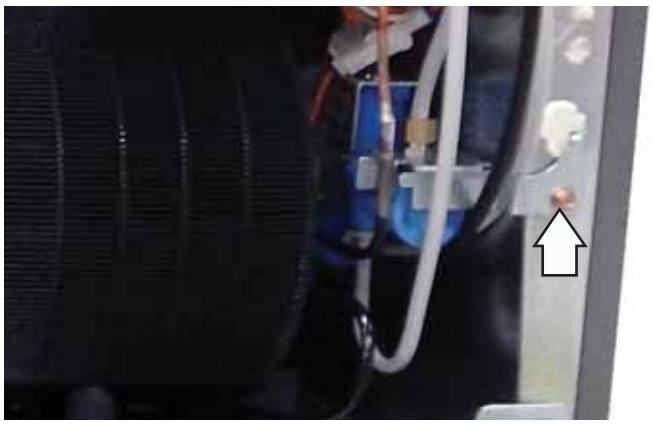
Freezer Icemaker Water Valve GE/Adora Models

The freezer icemaker water valve receives filtered water and supplies this water to the freezer icemaker. The valve coil has an approximate resistance value of 400 Ω.

The freezer icemaker water valve is located in the machine compartment to the right of the condenser and is attached to the isolation valve bracket.

To remove the freezer icemaker water valve:

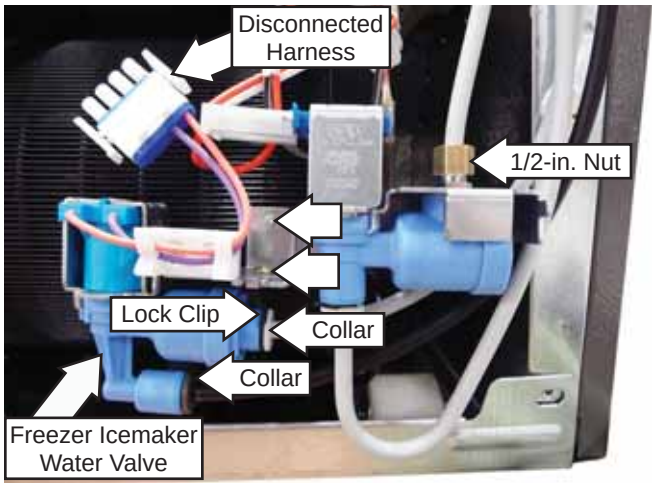
1. Remove the machine compartment cover. (See *Machine Compartment Cover*.)
2. Remove the 1/4-in. hex-head screw and valve assembly from the cabinet.



3. Shut off water supply to refrigerator and then remove the 1/2-in. nut that attaches the water supply line to the isolation water valve.
4. Disconnect the water valve wire harness.
5. Remove the plastic lock clips from the couplings, then carefully push each collar in while pulling each water line out from the valve.

Note: See note on page 78 regarding lock clips.

6. Remove the 2 Phillips-head screws from bracket.



Articulating Door Mullion

The articulating door mullion is attached to the left-side door, and provides a movable center mullion that maximizes access to the fresh food compartment. With both refrigerator doors closed or only the right-side door opened, the mullion stays in position. When the left-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, ensures proper mullion bar alignment upon closure of the left-side door.

Door Closed - Pin in Track

Door Opening - Pin Exiting Track

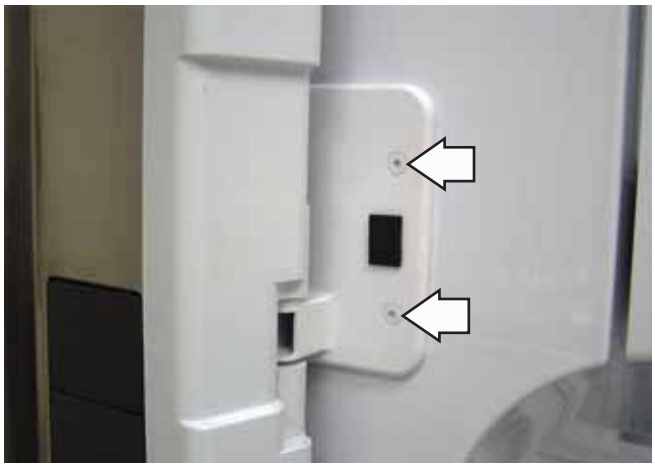
The articulating door mullion consists of the mullion and heater. The articulating door mullion is supplied as an assembly.

The heater operates on 12 VDC with the doors closed. Operation is based on room temperature and humidity.

The resistance value of the heater is approximately 24.7 Ω. Check for the correct voltage and resistance on the door board at J3 pin 4 to J3 pin 20.

To remove the articulating door mullion assembly:

1. Open the left door and move the articulating door mullion to the door-closed position.
2. Remove the two T-10 Torx screws from the wire harness cover.



3. Pull out and disconnect the wire harness.

(*Continued next page*)

4. Grasp the mullion and pull it vertically upward to release it from the top and bottom retainers.

Circuit Boards

Main Control Board

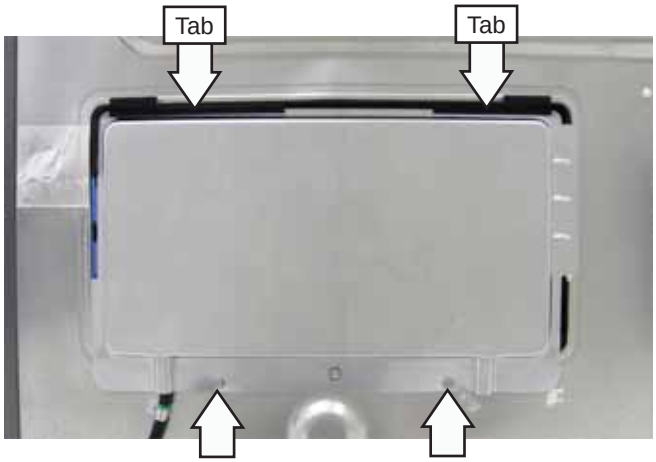
The main control board operates some or all of the following outputs, depending on the model identification used:

- Freezer temperature control using compressor, fans and 3-way valve
- Fresh Food temperature control using compressor, fans, 3-way valve, and damper (single evaporator models)
- Ice Box temperature control
- Deli pan control using the damper, fan and heater
- Variable fan speed control with RPM feedback for the condenser, fresh food and freezer evaporator, ice box and deli pan fans
- Freezer and fresh food evaporator defrost control
- Icemaker control for models with an icemaker in the freezer
- Control of freezer icemaker water valve.
- Control of case water dispenser on non-dispenser models
- Control of the isolation water valve
- Control of mullion and ice port heaters based on external temperature and relative humidity
- Control of the fill tube heater for the icemaker located in the freezer
- Control of the interior LED lighting in the fresh food compartment

The main control board is installed in a recess located in the back of the refrigerator. The recess is concealed by a cover that is attached with two 1/4-in. hex head screws at the bottom and 2 tabs at the top.

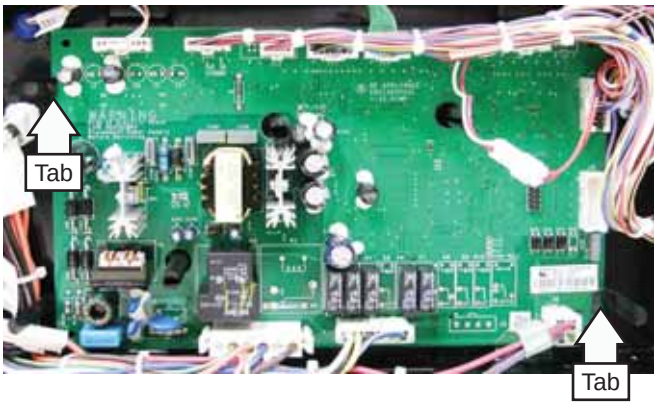
(*Continued next page*)

To access the main control board, it is necessary to remove the two 1/4-in. hex head screws then slide the cover down from the 2 tabs.



The main control board is attached to the recess with 2 tabs, 1 on each side. Some models may have 2 screws or 2 compression pins.

The board is connected to the refrigerator with 11 wire harnesses. To remove the board, it is necessary to disconnect the wire harnesses, and push each tab outward.



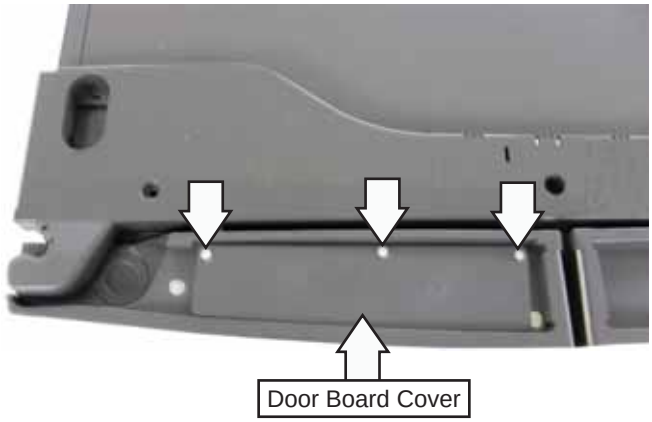
Door Control Board

The door control board controls all AC and DC functions of the left side fresh food door.

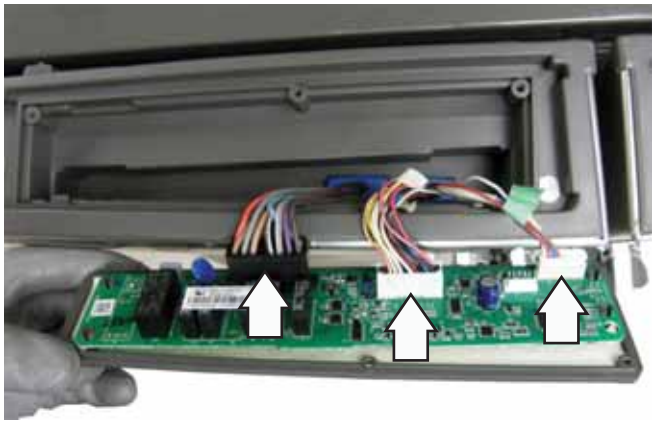
The door control board is attached to the bottom of the door board cover. The door board cover is attached to the top of the left side fresh food door with 3 screws and 2 tabs located inside the door board cavity.

To remove the door board:

1. Remove the three T-15 Torx screws that attach the door board cover to the top of the left side fresh food door.



2. Lift the back of the cover and disconnect the 3 wire harnesses from the door board.



3. Compress each of the 5 pins that attach the door board to the cover.

Service Diagnostic Mode

Service Diagnostic Functions

Entering Service Diagnostics:

Enter Service mode by pressing the ***Water***, ***Crushed***, and ***Cubed*** buttons simultaneously for 3 seconds.

The display will show **Enter Service Mode?** Press ***Yes.***

The display will show **Entering Service Mode**.

The display will show **00** in the FZ temperature display and **00** in the FF temperature display. All the components will turn off, 3-way valve will go to home position, dampers will go to closed position, and the temperature display will flash **0** in each of the FZ and FF displays.

Use the FZ or FF increase/decrease buttons from display to select the appropriate mode. Once the displays indicate the desired test mode, press any key, except the temperature adjustment buttons, to run test.

The test mode must be selected within 5 minutes of entering the diagnostic mode. Otherwise, it will time-out and normal refrigerator operation will resume.

Once a test mode is selected, the display will show the results of the mode selected.

Run test **00 16** to exit diagnostics mode and return to normal operation.

Note:

- The control will reset to normal operation if power is cycled.
- Nondispenser models require use of a service kit.

(*Continued next page*)

Service Diagnostic Table

Note: Tests will continue to run until another test is started.

All tests are not applicable to all models

FZ Display	FF Display	Mode	Comments
00	02	Dispenser Self-Test Mode	Turns on all LEDs and 7 Segments on Dispenser Board
00	06	COM Version	Return the COM Version (Only on LCD Models)
00	07	Degrees C Mode	Changes the System to be Degrees C
00	08	Degrees F Mode	Changes the System to be Degrees F
00	11	Join Zigbee Network	See Zigbee Network
00	12	Leave Zigbee Network	
00	13	Get Zigbee Network Status	
00	14	Force FF and FZ Defrost	Starts a FF and FZ Defrost
00	15	Exits all Defrost	Forces the Heated Defrost to the Idle State.
00	16	EXIT SERVICE MODE	Resets all boards in the system
00	17	Door Board Version Test	Confirm UI Communication this Board
00	18	Dispenser Version Test	
00	19	Deli Pan Version Test	
00	20	Internal Temp Version Test	
00	21	Zigbee Module Version Test	
00	22	AutoFill Version Test	
00	23	Main Board Version Test	
00	24	FF 1 Thermistor Test	Displays Unfiltered Thermistor Temperature (display of 300 or -41 indicates open/shorted or not present)
00	25	FF 2 Thermistor Test	
00	26	FF Evaporator Thermistor Test	
00	27	FZ Cabinet Thermistor Test	
00	28	FZ Evaporator Thermistor Test	
00	29	Ambient Temp Test	
00	30	Deli Pan Thermistor Test	
00	31	FZ Ice Mold Body Thermistor Test	
00	32	Conv Drawer Thermistor Test	
00	36	FF Door Ice Mold Body Thermistor Test	
00	37	FF Door Ice Cabinet Thermistor Test	
00	38	Hot Water 1 Thermistor Test	
00	39	Hot Water 2 Thermistor Test	
00	40	Humidity Sensor Test	Displays Current Humidity
00	41	Case (SxS) Flowmeter Test	Returns the Flow from Last Dispense for SxS
00	42	Door (BF) Flowmeter Test	Returns the Flow from Last Dispense for BF
00	43	Cycle Duct Door	Opens the Duct Door for 10 seconds and then closes it
00	44	Cycle FF Damper	Opens the Damper for 30 seconds then closes it
00	45	Cycle Conv Drawer Damper	
00	46	Cycle QC/Deli Damper	

(*Continued next page*)

Service Diagnostic Table

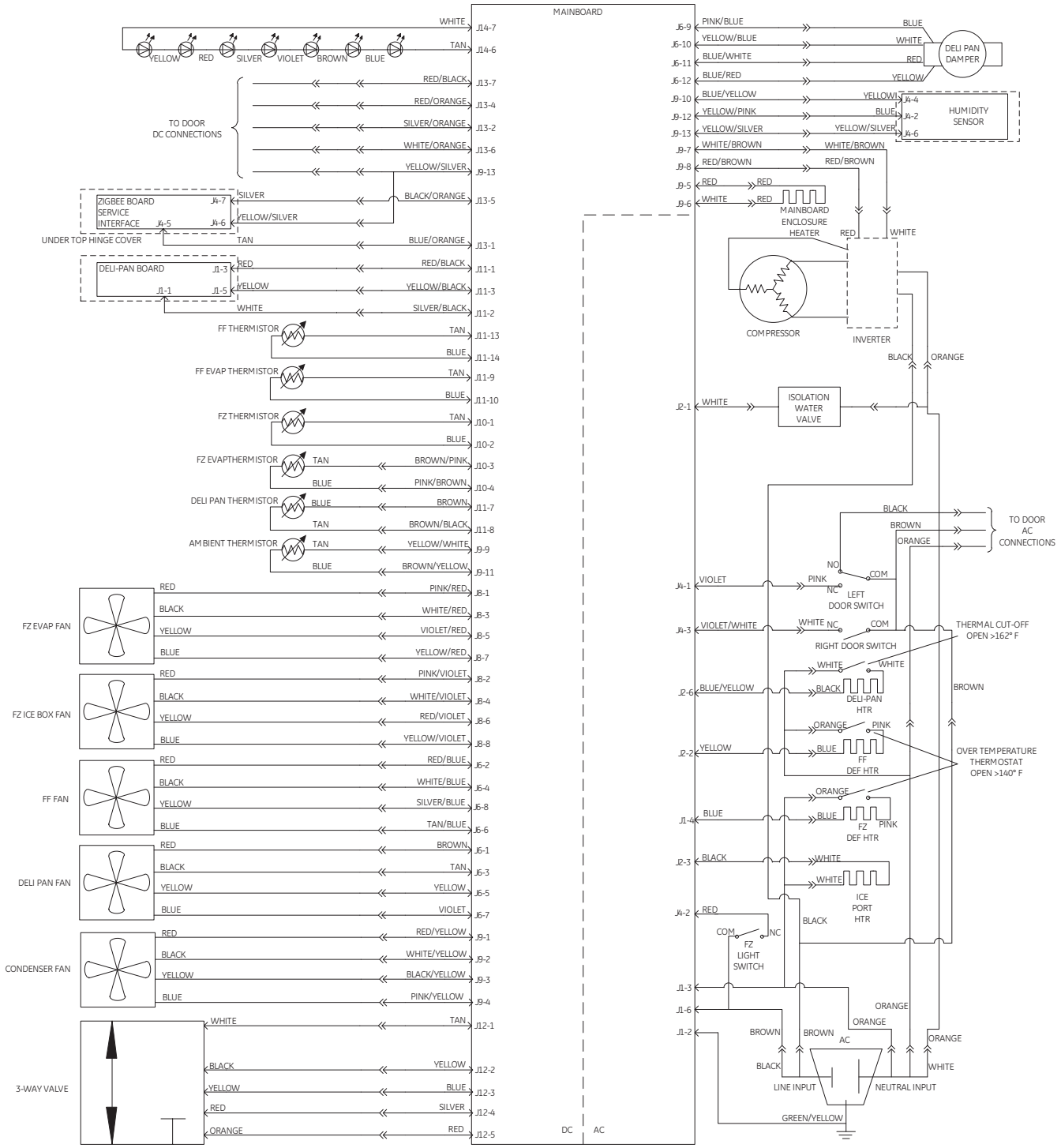
FZ Display	FF Display	Mode	Comments
00	47	FF Fan Test	Turns the Fan on 75% Duty Cycle and Returns the RPM
00	48	FZ Fan Test	
00	49	Condenser Fan Test	
00	50	Ice Box Fan Test	
00	51	Deli/QC Fan Test	
00	52	Convertible Drawer Fan Test	
00	53	FF Defrost Heater Test	Turns on the Load
00	54	Deli Pan/QC Heater Test (30 sec max)	
00	55	Isolation Valve Test	
00	56	Ice Port Heater Test	
00	57	Ice Duct Liner Htr/SxS Water Valve Test	
00	58	FZ Icemaker Water Valve Test	
00	59	FZ Icemaker Rake Motor Test	
00	60	FZ Defrost Heater Test	
00	61	Compressor Relay Test	
00	63	IMX Power Relay Test (Normally Closed Relay)	
00	64	FZ Icemaker Fill Tube Heater Test	
00	65	FF Door Icemaker Water Valve Test	
00	66	FF Door Icemaker Rake Motor Test	
00	67	FF Door Hot Water Valve Test	
00	68	FF Door Water Valve Test	
00	69	Hot Water Heater Test (5 sec max)	
00	70	Read Left FF Door Status	Returns the Input Status (0 = Closed, 1 = Open)
00	71	Read Right FF Door Status	
00	72	Read FZ Door Status	
00	73	Read Conv Drawer/IM Input Status	
00	74	Read FZ Icemaker Rake Status	Returns the Input Status (0 = Not Home, 1 = Home)
00	75	Read FZ Icemaker Arm Status	Returns the Input Status (0 = Not Full, 1 = Full)
00	76	Read FF Door Icemaker Rake Status	Returns the Input Status (0 = Not Home, 1 = Home)
00	77	Read FF Door Icemaker Arm Status	Returns the Input Status (0 = Not Full, 1 = Full)
00	78	Read FF Door Cold Water Cup Switch	Returns the Input Status (0 = Not Pressed)
00	79	Read FF Door Hot Water Cup Switch	

(*Continued next page*)

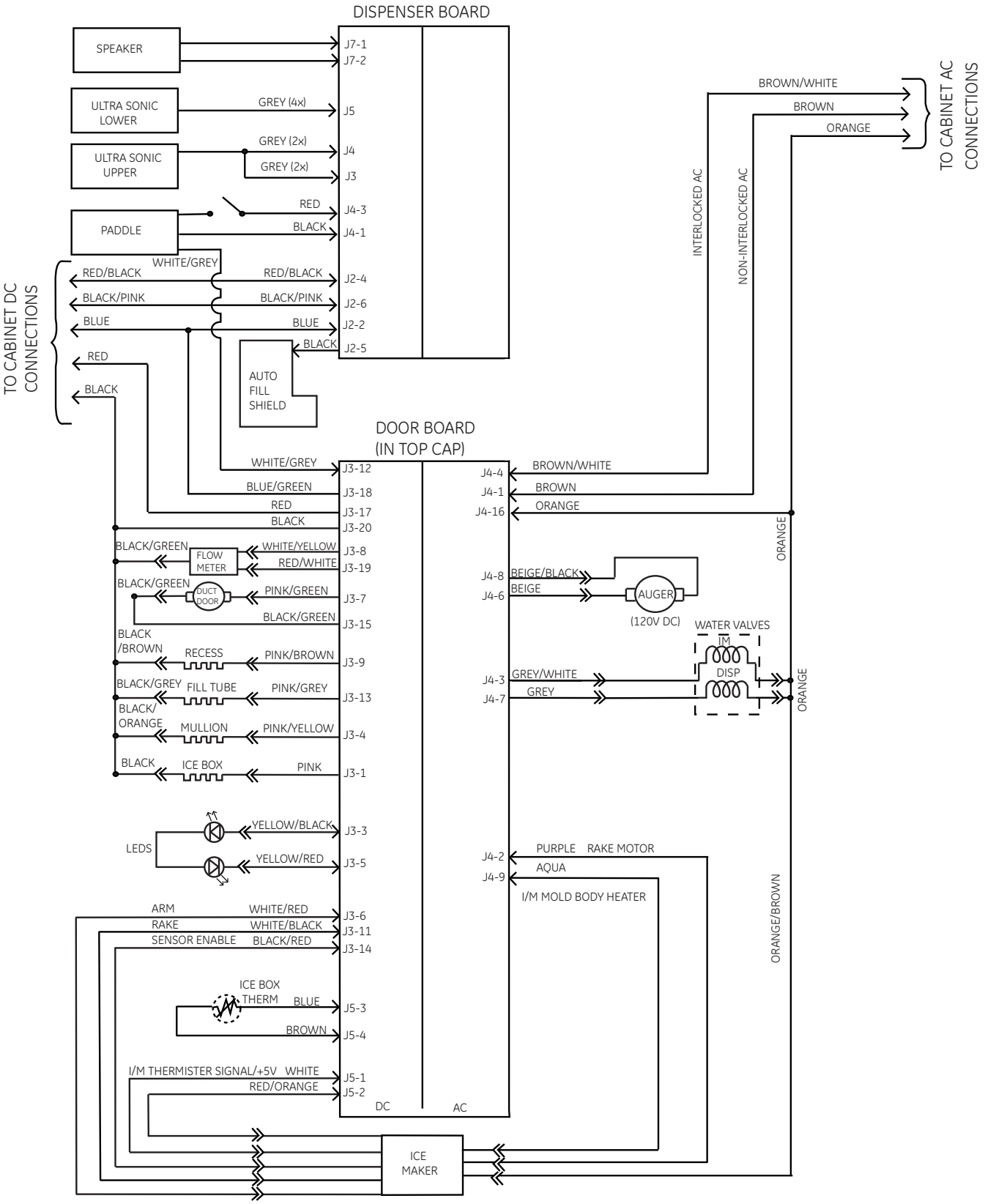
Service Diagnostic Table

FZ Display	FF Display	Mode	Comments
00	80	Read FF Door Hot Water Level Switch 1	Returns the Input Status (0 = Not Full)
00	81	Read FF Door Hot Water Level Switch 2	
00	82	Read FF Door Over Current Flag 1	Returns the Input Status (0 = Not Tripped)
00	83	Read FF Door Over Current Flag 2	
00	84	FF Door Icemaker Fill Tube Heater Test	Turns on the Load
00	85	FF Door Recess Heater Test	
00	86	Vertical Mullion Heater Test	
00	87	Unused Output	
00	88	Unused Output	
00	89	Ice Box Gasket Heater test	
00	91	FF Lights Test	Turns the Lights on at 100% Duty Cycle
00	92	FZ Lights Test	
00	93	FZ Defrost Heater Test with Feedback	Turns on FZ Defrost Heater, Displays FZ Evaporator Thermistor Temperature
00	94	FF Defrost Heater Test with Feedback	Turns on FF Defrost Heater, Displays FF Evaporator Thermistor Temperature
00	95	FF Cooling Test	Compressor (VS high SS on) - 3 Way Valve FF/ FZ - Condenser Fan (high) - FF Evaporator Fan (low) - Display FF Evaporator Thermistor Temperature
00	96	FZ Cooling Test	Compressor (VS high SS on) - 3 Way Valve FZ only - Condenser Fan (high) - FZ Evaporator Fan (low) - Display FZ Evaporator Thermistor Temperature
00	97	FF Door Icemaker Heater Test	Turns on FF Door I/M Heater, Displays FF Door I/M mold Thermistor Temperature
00	98	FZ Icemaker Heater Test	Turns on FZ I/M Heater, Displays FZ Door I/M Mold Thermistor Temperature
00	99	FF Door Icemaker Full Cycle Test	Icemaker Full Cycle Test (similar to 3-arm press)
01	00	FZ Icemaker Full Cycle Test	

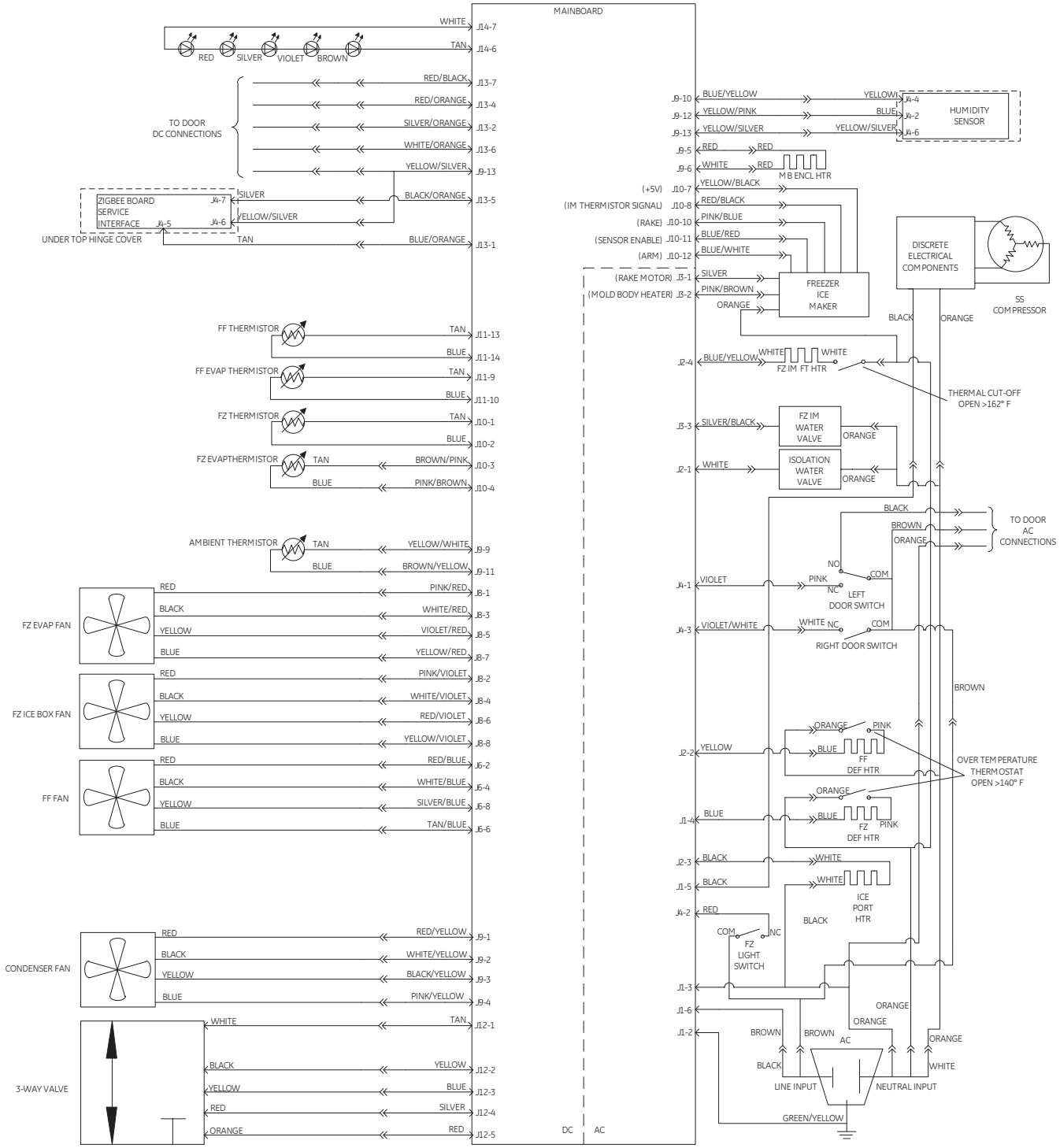
Main Board - Profile Models



(*Continued next page*)

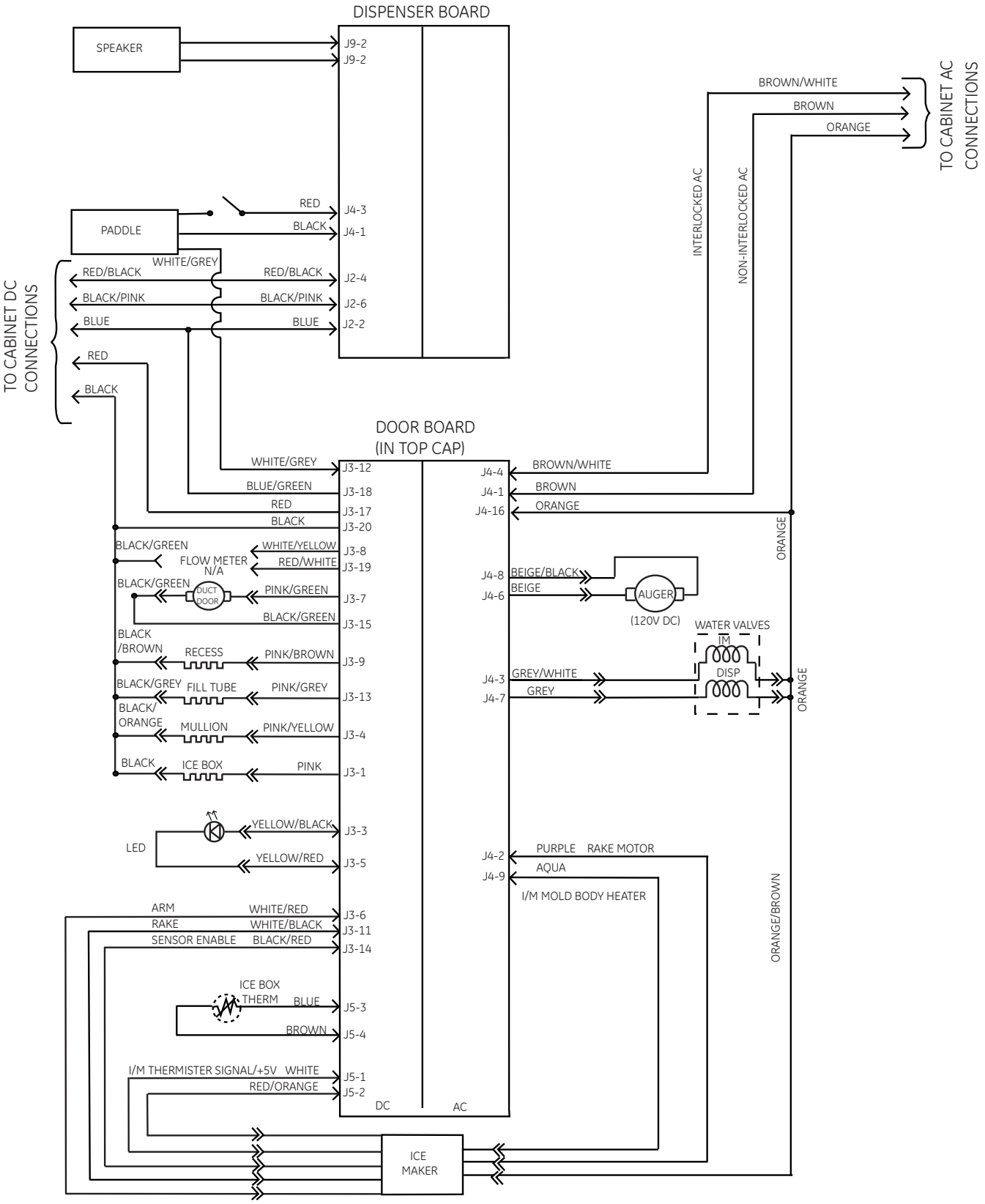


(*Continued next page*)



(*Continued next page*)

Dispenser and Door Boards - GE/Adora Models



Warranty

All warranty service provided by our Factory Service Centers, or an authorized Customer Care® technician. To schedule service, visit us online at GEAppliances.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 PROFiLE ™ AND GE CAFÉ™ 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 the ***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 purchase*	***Any part of the sealed refrigerating system*** (the compressor, condenser, evaporator an 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.**
- **Damage caused by a non-GE Brand water filter.**

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

Warrantor: General Electric Company. Louisville, KY 40225