Multimedia Enhanced

JENNAIR® KitchenAid®

TECHNICAL MANUAL

JennAir® and KitchenAid® 36", 42", and 48" Built-In Side by Side Refrigerators

W11636548 Rev C

FOREWORD

This Technical Manual (Part No. W11636548 Rev C), provides the In-Home Service Professional with service information for the “JennAir® and KitchenAid® 36", 42", and 48" Built-In Side by Side Refrigerators.”

The Wiring Diagram used in this Technical Manual is typical and should be used for training purposes only. Always use the Wiring Diagram supplied with the product when servicing the refrigerator.

For specific operating and installation information on the model being serviced, refer to the literature provided with the refrigerator.

GOALS AND OBJECTIVES

The goal of this Technical Manual is to provide information that will enable the In-Home Service Professional to properly diagnose malfunctions and repair the “JennAir® and KitchenAid® 36", 42", and 48" Built-In Side by Side Refrigerators.”

The objectives of this Technical Manual are to:

- Understand and follow proper safety precautions.
- Successfully troubleshoot and diagnose malfunctions.
- Successfully perform necessary repairs.

WHIRLPOOL® CORPORATION assumes no responsibility for any repairs made on our products by anyone other than authorized In-Home Service Professionals.

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JennAir® and KitchenAid® 36", 42", and 48" Built-In Side by Side Refrigerators

Notes

Section 1: General Information

This section provides general safety, parts, and information for the “JennAir® and KitchenAid® 36", 42", and 48" Built-In Side by Side Refrigerators.”

- Safety
- Product Specifications
- Product Features
  - Using the Controls
- Model Number Nomenclature
- Model Number and Serial Number Label Location
- Tech Sheet Location

Safety

Your safety and the safety of others are very important.

We have provided many important safety messages in this manual and on your appliance. Always read and obey all safety messages.

This is the safety alert symbol.

This symbol alerts you to potential hazards that can kill or hurt you and others.

All safety messages will follow the safety alert symbol and either the word “DANGER” or “WARNING.” These words mean:

DANGER — **You can be killed or seriously injured if you don't immediately follow instructions.**

WARNING — **You can be killed or seriously injured if you don't follow instructions.**

All safety messages will tell you what the potential hazard is, tell you how to reduce the chance of injury, and tell you what can happen if the instructions are not followed.

IMPORTANT SAFETY INSTRUCTIONS

WARNING: To reduce the risk of fire, electric shock, or injury to persons when using your appliance, follow basic precautions, including the following:

- Children should be supervised to ensure that they do not play with the appliance.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory, or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
- Do not use an extension cord.
- If power supply cord is damaged, it must be replaced by the manufacturer, its service agent, or a similarly qualified person in order to avoid a hazard.
- Connect to potable water supply only.
- This appliance is intended to be used in household and similar applications such as: staff kitchen areas in shops, offices, and other working environments; farm houses and by clients in hotels, motels, and other residential-type environments; bed and breakfast-type environments; and catering and similar non-retail applications.
- Do not store explosive substances such as aerosol cans with a flammable propellant in this appliance.
- Do not use replacement parts that have not been recommended by the manufacturer (e.g., parts made at home using a 3D printer).
- Keep ventilation openings, in the appliance enclosure or in the built-in structure, clear of obstruction.
- Do not use mechanical devices or other means to accelerate the defrosting process, other than those recommended by the manufacturer.
- Do not damage the refrigerant circuit.
- Do not use electrical appliances inside the food storage compartments of the appliance, unless they are of the type recommended by the manufacturer.
- Ice maker kit can be added to some models. See serial tag inside the food compartment of appliance for ice maker kit model information.
- A qualified service technician must install the water line and ice maker. See installation instructions supplied with ice maker kit for complete details.

SAVE THESE INSTRUCTIONS

Product Specifications

JennAir® Built-In Side by Side Refrigerators

AHAM Volumes And Shelf Area	
Freezer Volume (cu ft)	9.2 or 10.3
Refrigerator Volume (cu ft)	16.3 or 19.1 or 25.5
Total Volume (cu ft)	25.5 or 29.4
Bottle Capacity	16
Dimensions	
Capacity (cu ft)	25.5 or 29.4
Carton Depth (IN, inches)	30
Carton Height (IN, inches)	86
Carton Width (IN, inches)	44 or 50
Cutout Depth Max (IN, inches)	25
Cutout Depth (IN, inches)	24 or 25
Cutout Height Min (IN, inches)	84
Cutout Height (IN, inches)	84
Cutout Width (IN, inches)	41 1/2 or 42 or 47 1/2 or 48
Depth Closed Excluding Handles (IN, inches)	24 or 25
Depth Closed Including Handles (IN, inches)	27 11/16
Depth Excluding Doors (IN, inches)	22 3/8
Depth With Door Open 90 Degree (IN, inches)	46 3/4 or 47 3/16 or 50 1/4 or 50 11/16
Depth (IN, inches)	24 3/4 or 27 3/4
Height to Top Of Cabinet (IN, inches)	74 1/2 or 83 1/8
Height to Top of Door Top Grill (IN, inches)	83 3/8
Height (IN, inches)	83 1/8 or 83 3/8
Net Weight (LB, pounds)	601
Width Doors Open 90 Degrees	46 3/4 or 47 3/16 or 50 1/4 or 50 11/16
Width (IN, inches)	41 3/4 or 42 3/8 or 47 3/4 or 48 3/8
Description	
Installation Option	Built-In
Refrigerator Type	Side-by-Side
Exterior	
Base Grille Color	Black
Cabinet Color	Grey
Cabinet Finish	Smooth
Door Color	Panel Ready or Stainless Steel
Door Finish	Smooth
Door Style	Flat
Handle Color	Stainless Steel
Handle Material	Metal
Handle Type	Reach Through Handle
Hidden Hinge	Yes
Number of Doors	2

GENERAL INFORMATION (CONT.)

Controls	
Automatic Defrost	Yes
Control Location	Exterior or Interior Up Front
Control Type	Electronic
Door Ajar/Open Alarm	Yes
Max Cool/Fast Cool	Yes
Sabbath Mode	Yes
Water Filter Indicator/Reset	Yes
Refrigerator Compartment	
Door Bins	1 Full-Width Gallon 3 Adjustable Full-Width
Lighting	LED
Non Climate Control Drawers	2 Full Width
Number of Interior Shelves	4
Shelf Supports	Cantilever
Spill-Proof Glass Shelves	4 Adjustable Full Width
Temperature-Controlled Drawers	1 Full Width
Freezer Compartment	
Door Type	Swing
Freezer Drawer/Basket	2 Full Width Lower
Freezer Number of Shelves	4 or 6
Freezer Type	Standard
Light	LED
Shelves	2 Adjustable Full Width Wire 2 Fixed Full Width Wire or 2 Adjustable Full Width Wire 4 Adjustable Full Width Wire or 2 Fixed Full Width Wire 4 Adjustable Full Width Wire
Dispenser	
Dispenser Type	No Dispenser or Exterior Ice and Water
Dispenser Options	Light Ice Filtered Water Ice Dispenser Lock Measured Fill
Icemaker	
Icemaker	Factory Installed
Icemaker Location	Freezer
Design Type	
Design Expression	Panel-Ready or RISE™
Details	
Refrigerant	R600a
Ice Production Per Day (lbs)	More than 3.0 lb
Filters	
Fresh Flow Air Filter Included	Yes
Produce Preserver	Yes
Water Filter Location	Exterior

Certifications	
CEE Tier	Tier I
Prop 65	Standard
Star K Certified	Yes
UL	Yes
Energy Star® Qualified	ENERGY STAR® Qualified
Electrical	
Amps	15
Volts	120

KitchenAid® Built-In Side by Side Refrigerators

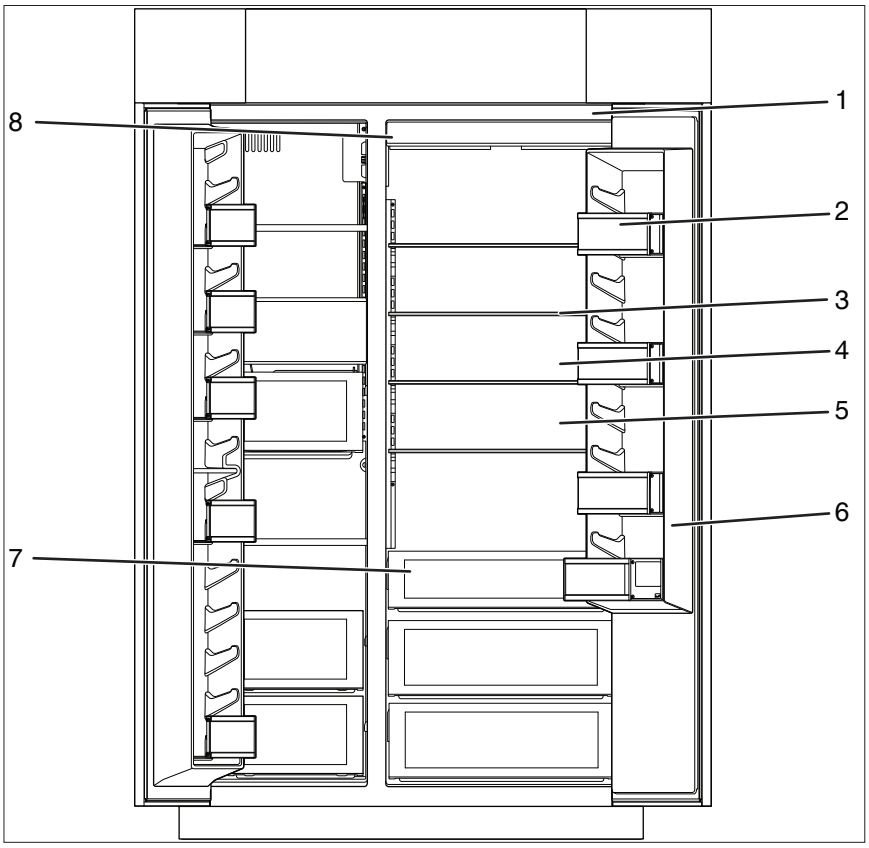
AHAM Volumes And Shelf Area	
Freezer Volume (cu ft)	7.3 or 8.8 or 9.2 or 10.3 or 10.9
Refrigerator Volume (cu ft)	13.5 or 16.3 or 19.1
Total Volume (cu ft)	20.8 or 25.1 or 25.5 or 29.4 or 30
Dimensions	
Cabinet Width (IN, inches)	35 or 41 or 47
Carton Depth (IN, inches)	31 or 31 1/2
Carton Height (IN, inches)	86
Carton Width (IN, inches)	38 or 44 1/2 or 45 or 50 1/2
Cutout Depth (IN, inches)	24
Cutout Height Min (IN, inches)	83 1/2
Cutout Height (IN, inches)	83 1/2
Cutout Width (IN, inches)	35 1/2 or 41 1/2 or 47 1/2
Depth Closed Excluding Handles (IN, inches)	25
Depth Closed Including Handles (IN, inches)	25 or 27 11/16
Depth Excluding Doors (IN, inches)	22 3/8
Depth With Door Open 90 Degree (IN, inches)	43 3/4 or 47 3/16 or 50 11/16
Depth (IN, inches)	25 or 27 11/16
Height to Top Of Cabinet (IN, inches)	74 1/2
Height to Top of Door Top Grill (IN, inches)	83 3/8
Maximum Height (IN, inches)	83 3/8
Width Doors Open 90 Degrees	43 3/4 or 47 3/16 or 50 11/16
Width (IN, inches)	35 1/4 or 40 3/4 or 46 3/4 or 47 1/4
Description	
Refrigerator Type	Side-by-Side
Details	
Advance Foam Insulation	Using Advance Foam Insulation in our refrigerators that provides over 99% lower global warming potential
Refrigerant	R600a

GENERAL INFORMATION (CONT.)

Exterior	
Base Grille Color	Black
Cabinet Color	Grey
Cabinet Finish	Smooth
Door Color	Black Stainless Steel or Panel Ready or Stainless Steel or Stainless Steel with PrintShield Finish
Door Finish	Smooth
Door Style	Flat
Fingerprint Resistant	Yes
Handle Color	Stainless Steel
Handle Material	Metal
Handle Type	Reach Through Handle
Hidden Hinge	Yes
Controls	
Automatic Defrost	Yes
Control Location	Exterior or Interior Up Front
Control Options	Vacation Mode
Control Type	Electronic
Door Ajar/Open Alarm	Yes
Max Cool/Fast Cool	Max Freeze/Max Cool
Sabbath Mode	Yes
Water Filter Indicator/Reset	Yes
Refrigerator Compartment	
Additional Storage	Under Shelf Prep Zone Faux Wood Pull Out Tray
Conventional Shelves	1 Slide-Out-Wood Finish
Door Bins	1 Full Width Non Adjustable Small Item 1 Full Width Non Adjustable Gallon 3 Adjustable Full-Width
Lighting	LED
Non Climate Control Drawers	2 Full Width
Number of Interior Shelves	4
Shelf Supports	Cantilever
Spill-Proof Glass Shelves	3 Adjustable Full Width Nano Edge
Supplementary Containers	19x13 Cake Pan 19x13 Sheet Pan or 19x13 Cake Pan 19x13 Sheet Pan Under Shelf Prep Zone or 19x9 Cake Pan 29x9 Loaf Pans
Temperature-Controlled Drawers	1 Full Width

Freezer Compartment	
Door Bins	3 Adjustable Full-Width or 5 Adjustable Full-Width
Freezer Drawer/Basket	1 Fixed Full Width Upper 2 Full Width Lower
Freezer Number of Shelves	6
Light	LED
Shelves	2 Fixed Full Width Wire 4 Adjustable Full Width Wire
Dispenser	
Dispenser Options	Light Ice Filtered Water Ice Dispenser Lock Measured Fill
Dispenser Type	Exterior Ice and Water or No Dispenser
Icemaker	
Icemaker	Factory Installed
Icemaker Location	Freezer
Filters	
Air Filter Part Number	W10311524
Water Filter Location	Exterior
Water Filter Part Number	EDR3RXD1
Certifications	
ADA Compliant	ADA Compliant when ice maker is not connected
CEE Tier	Tier I
Energy Star® Qualified	ENERGY STAR® Qualified
Prop 65	Standard
Star K Certified	Yes
Electrical	
Amps	15
Volts	120

Product Features



1. Fully Integrated and Flush Design with Articulating Hinge

Creates an integrated appearance with custom cabinetry without exposed hinges or trim pieces.

2. Adjustable Door Bins with Metal Accents

Refrigerator and freezer door bins can be positioned to accommodate a variety of container sizes.

3. Adjustable Elegance Shelving

Glass shelves, accented with brushed aluminum, make foods and beverages appear to float, allowing more light to fill the interior.

4. Obsidian Interior

Satisfies consumer's desire to make a design statement with an exclusive color among luxury refrigerators on the market.

5. Multi-Point LED THeater Lighting

Minimizes shadows and evenly distributes light throughout the refrigerator, crisper and freezer.

6. 90°/110° Door Stop Lighting Position

Limits the opening angle of a refrigerator to either 90° or 110°.

7. Soft, Auto-Close Crisper Drawers

Provide smooth operation by rolling open even when fully loaded, and feature an innovative auto-close design that pulls the drawer closed.

Electronic Controls with LED Display

Allow independent control of refrigerator and freezer temperatures with an integrated design that is easy-to-clean and responds to touch for easy operation.

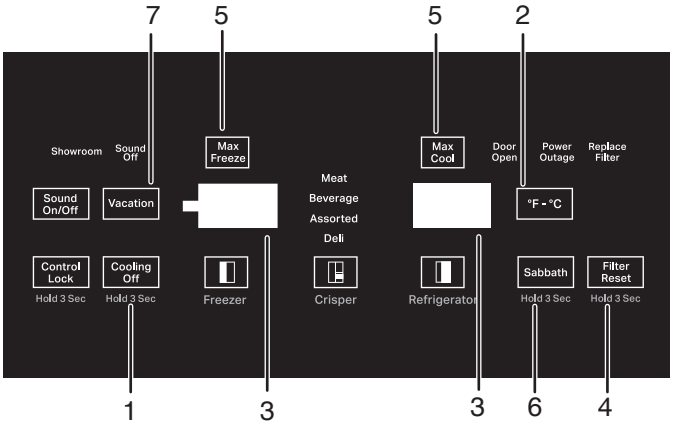
8. Water Filter Indicator (On Some Models)

The water filter indicator, located on the control panel, will help you know when to change the water filter.

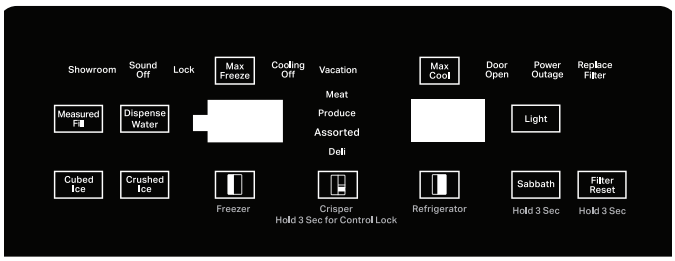
It is recommended that you replace the filter when "Replace Filter" is displayed or when water flow to your water dispenser and/or ice maker decreases noticeably.

After changing the water filter, press and hold FILTER RESET for 3 seconds until the "Replace Filter" indicator light disappears.

Using The Controls



Non-Dispenser Control Panel



Dispenser Control Panel

IMPORTANT:

- The refrigerator control adjusts the refrigerator compartment temperature. The freezer control adjusts the freezer compartment temperature.
- Wait 24 hours after you turn on the refrigerator before you put food into it. If you add food before the refrigerator has cooled completely, your food may spoil.

  NOTE: Adjusting the refrigerator and freezer controls to a lower (colder) setting will not cool the compartments any faster.
- If the temperature is too warm or too cold in the refrigerator or freezer, first check the air vents to be sure they are not blocked before adjusting the controls.
- The preset settings should be correct for normal household usage. The controls are set correctly when milk or juice is as cold as you like and when ice cream is firm.
- The actual temperature may differ from the display when a door is open for an extended period of time.

NOTE: The factory recommended set points are 0°F (-18°C) for the freezer and 37°F (3°C) for the refrigerator.

1. Turning Refrigerator ON and Viewing Set Points

Your refrigerator and freezer will not cool when cooling is turned OFF. Follow the directions specific to your model.

Turn ON - Dispenser Model

- Press and hold Max Freeze and Max Cool buttons at the same time for 3 seconds.
- Cooling OFF button blinks twice and remains ON.

Turn ON - Non-Dispensing Model

- Press and hold Cooling OFF button for 3 seconds.
- Cooling OFF button blinks twice and remains ON.

NOTE: The Cooling ON/OFF touch pad on the control panel shuts down refrigerator functions such as cooling, lighting, fans, and compressors. To turn the power OFF completely, use the power ON/OFF switch located behind the top grille.

2. Setting the Temperature °F/°C

Dispensing Models

Press and hold the Max Cool and Crisper buttons at the same time for 3 seconds to change between Celsius and Fahrenheit. When activated, the selected temperature option displays. When deactivated, the display is OFF.

Non-Dispensing Models

Press °F-°C button to change between Celsius and Fahrenheit. When activated, the selected temperature option displays. When deactivated, the LED is OFF.

3. Adjusting Controls

NOTE: Wait at least 24 hours between adjustments. Recheck the temperatures before other adjustments are made.

To Adjust Set Point Temperatures:

- Press the refrigerator or freezer PLUS (+) or MINUS (-) touch pad until the desired temperature is reached.
- Press the Set to Recommended touch pad to reset the set points to the factory recommended temperatures.

  NOTE: The set point range for the freezer is -8°F (-22°C) to 5°F (-15°C). The set point range for the refrigerator is 33°F (1°C) to 43°F (6°C).

Condition/Reason	Temperature Adjustment
REFRIGERATOR too cold	REFRIGERATOR Control 1°C or 2°F higher
REFRIGERATOR too warm	REFRIGERATOR Control 1°C or 2°F lower
FREEZER too cold	FREEZER Control 1°C or 2°F higher
FREEZER too warm/too little ice	FREEZER Control 1°C or 2°F lower

4. Water Filter Indicator and Reset

The water filter indicator, located on the control panel, will help you know when to change the water filter.

It is recommended that you replace the filter when “Replace Filter” is displayed or when water flow to your water dispenser and/or ice maker decreases noticeably.

After changing the water filter, press and hold Filter Reset for 3 seconds until the “Replace Filter” indicator light disappears.

5. Max Cool/Max Freeze

The Max Cool feature assists with periods of heavy ice usage, full grocery loads, or temporarily warm room temperatures.

- Press Max Cool to turn ON the Max Cool feature. The Max Cool indicator light will remain on for 24 hours unless manually turned OFF.

NOTE: The temperature display will remain at 33°F (1°C) and -8°F (-22°C) for the refrigerator and freezer compartments, respectively, while the Max Cool feature is enabled. After 24 hours, the refrigerator returns to the previous temperature set points.

The Max Freeze feature assists with temporary periods of heavy ice use by increasing ice production.

- Press Max Freeze to set the freezer to the lowest temperature setting.
  Press the Max Freeze feature touch pad again to return to the normal freezer set point.

NOTE: The Max Freeze feature will shut OFF automatically in approximately 48 hours.

- While Max Freeze is ON, changing the freezer temperature will deactivate Max Freeze.

6. Sabbath Mode

Your refrigerator is equipped with the Sabbath Mode feature, which is designed for those whose religious observances require turning OFF the lights and ice maker.

By selecting this feature:

- The temperature set points and Deli Pan settings remain unchanged.
- LEDs from the electronic controls will not display.
- The Sabbath button will be the only light displaying.
- Ice and Water will not dispense.
- No alarm will ring.
- Interior lights will turn OFF.
- The product will not change its behavior by opening the door.

For most efficient refrigerator operation, it is recommended to exit Sabbath mode when it is no longer required.

To fully activate Sabbath Mode, you must follow the instructions below for the control panel.

IMPORTANT: If you do not activate Sabbath Mode in both ways listed below, some functions you wish to disable will remain active.

Control Panel

In Sabbath Mode, the temperature set points remain unchanged and the interior lights turn OFF.

1. To turn ON the Sabbath Mode, Press the Sabbath button on the dispensing or internal controls.
2. Turn OFF Ice Maker.
3. Press the SABBATH button again for 3 seconds to turn OFF Sabbath Mode. Turn Ice Maker back ON.

NOTE: If a power outage occurs while in Sabbath Mode the appliance will remain in Sabbath Mode when power returns.

7. Vacation Care

Vacation

If You Choose to Leave the Refrigerator On While You're Away:

1. Use up any perishables and freeze other items.
2. If your refrigerator has an automatic ice maker, and is connected to the household water supply, turn OFF the water supply to the refrigerator. Property damage can occur if the water supply is not turned OFF.
3. If you have an automatic ice maker, turn off the ice maker.
4. Empty the ice bin.
5. Set Vacation Mode.

For Non-Dispensing Units:

1. Press Vacation button to turn ON and light displays. Press again to turn OFF

For Dispensing Units:

1. To turn ON Vacation mode, Hold [max freeze] and [Freezer] button for 3 seconds, the Vacation indicator shows 100% bright and blinks twice and remains ON.
2. To turn OFF Vacation mode, Hold [max freeze] and [Freezer] button for 3 seconds, the vacation indicator blinks twice and remains OFF.

NOTE: Activating Vacation mode does not turn off the ice maker.

If you choose to turn OFF the refrigerator before you leave:

1. Remove all food from the refrigerator.
2. If your refrigerator has an automatic ice maker:
   - Turn OFF the water supply to the ice maker at least one day ahead of time.
   - When the last load of ice drops, raise the wire shutoff arm to the Off (up) position or press the switch to Off, depending on your model.
3. Empty the ice bin.
4. Depending on your model, turn the Thermostat Control (or Refrigerator Control) to OFF. See "Using the Controls."
5. Clean refrigerator, wipe it, and dry well.
6. Tape rubber or wood blocks to the tops of both doors to prop them open far enough for air to get in. This stops odor and mold from building up.

Alarm Functions

Master Alarm Reset

Pressing Alarm Reset once will turn OFF the audio alarm and indicator light. The audio alarm will not sound again for the current condition that caused the alarm until a new condition occurs or until a Master Alarm Reset is performed.

A Master Alarm Reset can be performed by pressing Cooling (ON/OFF) twice or by turning the power to the refrigerator OFF and ON again.

After performing a Master Alarm Reset, the indicator light will reactivate if the condition that caused the alarm is still present.

Door Open

The Door Ajar Alarm feature sounds an alarm when the refrigerator or freezer door is open for 5 minutes and the product cooling is turned ON. The alarm will repeat every 2 minutes. Close both doors to turn it OFF. The feature then resets and will reactivate when either door is left open again for 5 minutes.

NOTE: To deactivate the audio alarm and indicator light, see "Master Alarm Reset."

Power Outage

The power outage indicator lets you know if the power supply to the refrigerator has been cut off and the freezer temperature has risen to 18°F (-8°C) or higher. When power has been restored, the button repeatedly flashes and the red Power Outage icon appears. When the indicator is on, all other control and dispenser functions are disabled until you confirm that you are aware of the power outage.

To enable other functions, press Measured Fill to reset the display screen to its normal status.

Water and Ice Dispensers

Please read before using the water system. Follow the directions specific to your model.

Style 1 (Dispenser Models)

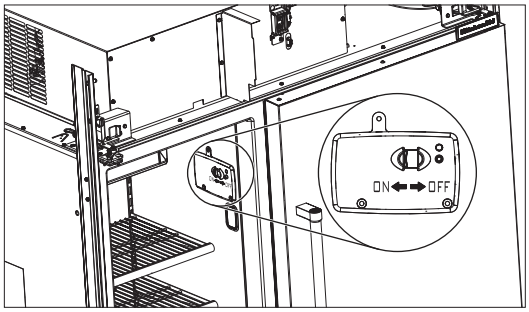
IMPORTANT:

- After connecting the refrigerator to a water source, replacing the water filter, follow the steps below to make sure that the water system is properly cleaned. This will flush air from the filter and water dispensing system, and prepare the water filter for use.
- Connect to potable water supply only.

Do not use with water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after the system. Systems certified for cyst reduction may be used on disinfected waters that may contain filterable cysts.

NOTE: If your model has a base grille filter system, make sure the base grille filter is properly installed and the cap is in the horizontal position.

1. Open the freezer door and turn OFF the ice maker. The ON/OFF switch is located on the top right side of the freezer compartment. Move the switch to the OFF (right) setting as shown.



2. Use a sturdy container to depress and hold the water dispenser lever for 5 seconds, then release it for 5 seconds. Repeat until water begins to flow. Once water begins to flow, continue depressing and releasing the dispenser lever (5 seconds on, 5 seconds off) until a total of 3 gallon (12 L) has been dispensed. This will flush air from the filter and water dispensing system and prepare the water filter for use. Additional flushing may be required in some households.

   NOTE: As air is cleared from the system, water may spurt out of the dispenser.

3. Open the freezer door and turn on the ice maker. Move the switch to the ON (left) position.

   NOTE:

   - Allow 24 hours to produce the first batch of ice.
   - Discard the first three batches of ice produced.
   - Allow 3 days to completely fill ice container.

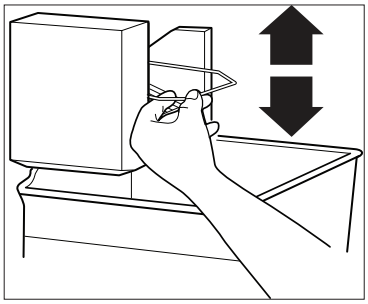
Style 2 (Non-Dispenser Models)

IMPORTANT: After connecting the refrigerator to a water source or replacing the water filter, fill and discard two full containers of ice to prepare the water filter for use, before using the ice.

Do not use with water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after the system. Systems certified for cyst reduction may be used on disinfected waters that may contain filterable cysts.

NOTE: If your model has a base grille filter system, make sure the base grille filter is properly installed and the cap is in the horizontal position.

1. Turn on the ice maker. Lower the wire shutoff arm as shown.



   NOTE:

   - Allow 24 hours to produce the first batch of ice.
   - Allow 3 days to completely fill ice container.
   - Depending on your model, you may want to select the maximum ice feature to increase the production of ice.

IMPORTANT:

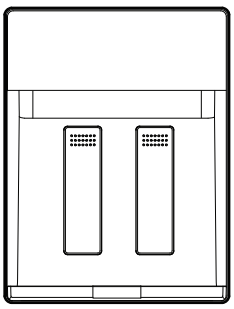
- After connecting the refrigerator to a water source, replacing the water filter, flush the water system. Use a sturdy container to depress and hold the water dispenser lever for 5 seconds, then release it for 5 seconds. Repeat until water begins to flow. Once water begins to flow, continue depressing and releasing the dispenser lever (5 seconds on, 5 seconds off) until a total of 3 gallon (12 L) has been dispensed. This will flush air from the filter and water dispensing system, and prepare the water filter for use. Additional flushing may be required in some households.

  NOTE: As air is cleared from the system, water may spurt out of the dispenser.
- Allow 24 hours for the refrigerator to cool down and chill water.
- Allow 24 hours to produce the first batch of ice. Discard the first three batches of ice produced.
- The dispensing system will not operate when the freezer door is open.
- Depending on your model, your water and ice dispensers may have one or more of the following features: A dispenser tray, a special light that turns on when you use the dispenser, or a lock option to avoid unintentional dispensing.

Water Dispenser

To Dispense Water:

1. Press a sturdy glass against the water dispenser pad.



NOTE:

- While dispensing water and for 3 seconds after dispensing has stopped, the digital display will show how many ounces of water have been dispensed.
- Water will only dispense when left door is closed and will stop dispensing when door is opened.
- It is NOT possible to dispense both water and ice at the same time. The paddle that is pressed first will be the one that dispenses.

2. Remove the glass to stop dispensing.

   NOTE: Water may have an off-flavor if you do not use the dispenser periodically. Dispense enough water every week to maintain a fresh supply.

Ice Dispenser

Ice dispenses from the ice maker storage bin in the freezer when the dispenser pad is pressed. The dispensing system will not operate when the freezer door is open.

Your ice maker can produce both crushed and cubed ice. The display screen reads "CRUSHED" or "CUBED," indicating which type is selected. To change the setting, press the ICE button before dispensing ice.

For crushed ice, cubes are crushed before being dispensed. This may cause a slight delay when dispensing crushed ice. Noise from the ice crusher is normal, and pieces of ice may vary in size. When changing from crushed to cubed, a few ounces of crushed ice will be dispensed along with the first cubes.

To Dispense Ice:

1. Press the button to select the desired type of ice.

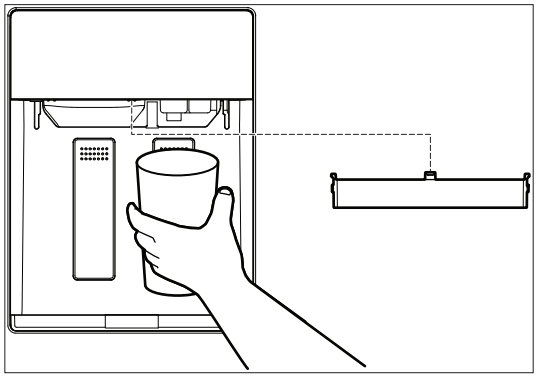
⚠WARNING

Cut Hazard

Use a sturdy glass when dispensing ice.

Failure to do so can result in cuts.

2. Press a sturdy glass against the ice dispenser pad. Hold the glass close to the dispenser opening so ice does not fall outside of the glass.



IMPORTANT: You do not need to apply a lot of pressure to the pad in order to activate the ice dispenser. Pressing hard will not make the ice dispense faster or in greater quantities.

3. Remove the glass to stop dispensing.

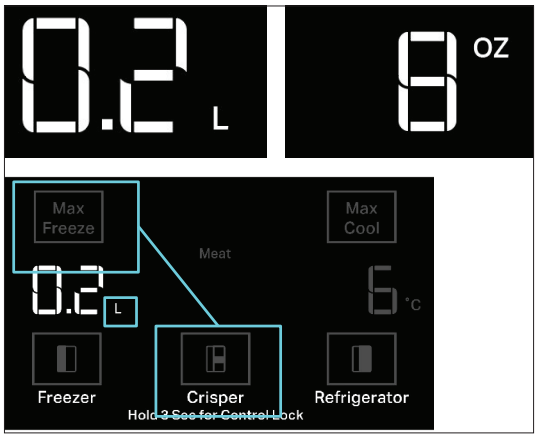
   NOTE: Ice may continue to dispense for up to 10 seconds after removing the glass from the pad. The dispenser may continue to make noise for a few seconds after dispensing.

Dispenser Tray (on some models)

Some models have a tray at the bottom of the dispenser area. The tray is designed to catch small spills and is removable for easy emptying and cleaning.

NOTE: There is no drain in the tray.

Setting Liters and Ounces



Hold [Max Freezer] + [Crisper] button for 3 seconds to switch between L and OZ.

When activated, the corresponding point LED is lit at FULL brightness. The LED will turn off after 10 seconds if it's not in the mode associated to the water amount mode.

The L/OZ only turns on when there is an interaction associated to water amount (e.g. measured fill, calibration).

Measured Fill

Calibrate Measured Fill

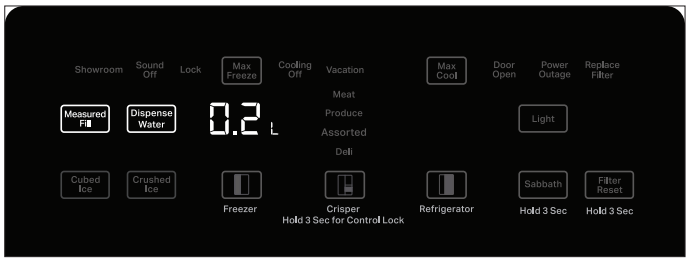
Household water pressure may affect the accuracy of the Measured Fill feature. For optimum performance of your water dispenser, you must first calibrate Measured Fill.

Start Calibration Mode

1. Press and hold the Measured Fill button for 3 seconds to enter Calibration Mode. The button will display along with the 0.2 L or 8 oz default settings.
2. Pressing the water pad will dispense water (e.g. into a measuring cup) until the desired amount is dispensed. Releasing the water pad will stop water dispensing.

Save and Exiting Calibration

1. If water was dispensed, pressing the Measured Fill button will save the amount dispensed, a tone will play and the calibration amount display will blink twice.
2. If no water was dispensed, Pressing the Measured Fill button will exit Calibration mode without saving the calibration amount.



NOTE: The amount of water you select will be dispensed. Be sure that the container is empty and can hold the entire volume. If ice is in the container, you may need to adjust your selection.

IMPORTANT: Low water pressure may affect the accuracy of this feature.

1. Press Measured Fill to turn the feature on. When the feature is on, the Measured Fill screen appears on the display.
2. To dispense water, press a sturdy glass against the water dispenser pad or place the glass below the water dispenser and press the Measured Fill button. Hold the glass close to the water dispenser spout to ensure that the water dispenses into the glass.
3. The Measured fill button can be pressed to loop the preset amounts. Each press advances the preset amount until the end of the options are reached. Example - 8 oz to 16 oz to 24 oz, END (0.2 L to 0.5 L to 1.0 L, END).

NOTE:

- The dispenser will automatically turn off Measured Fill after 1 minute of inactivity. When Measured Fill is turned off, any changes you have made will be lost and all defaults will be restored.
- Most coffee cups are 4-6 oz (118-117 ml) and are not the same size as an 8 oz (237 ml) measuring cup. You may need to adjust the volume to avoid overfilling coffee cups.
- While dispensing water, the digital display will count down how much water remains to be dispensed, according to the volume you selected. The flow of water will automatically stop once the desired volume has been dispensed.

Model Number Nomenclature

JennAir® Model Number Nomenclature

Model Number	J	B	S	F	S	42	N	M	X

INTERNATIONAL SALES OR MARKETING CHANNEL

Brand

J = JennAir®

Category

B = Built-In Refrigeration

Configuration

S = Side-by-Side

Installation

F = Flush Install (84 Inch tall)
S = Standard Install (84 Inch tall)

Product Detail

S = SxS

Size (Width)

42 = 42 Inch
48 = 48 Inch

Feature Pack

N = Non Dispense
I = Internal Dispense
E = External Dispense

Production Year

K = 2020
L = 2021
M = 2022

Color SKU

L = ProLux/RISE SS
X = Custom Overlay

Model Number Nomenclature

KitchenAid® Model Number Nomenclature

Model Number	K	B	S	D	70	8	M	SS

INTERNATIONAL SALES OR MARKETING CHANNEL

Brand

K = KitchenAid®

Category

B = Built-In Refrigeration

Configuration

S = Side by Side

Product Detail

D = External Ice and Water
N = Non Dispenser

Feature Pack

70 = Platinum Interior

Width

6 = 36 Inch
2 = 42 Inch
8 = 48 Inch

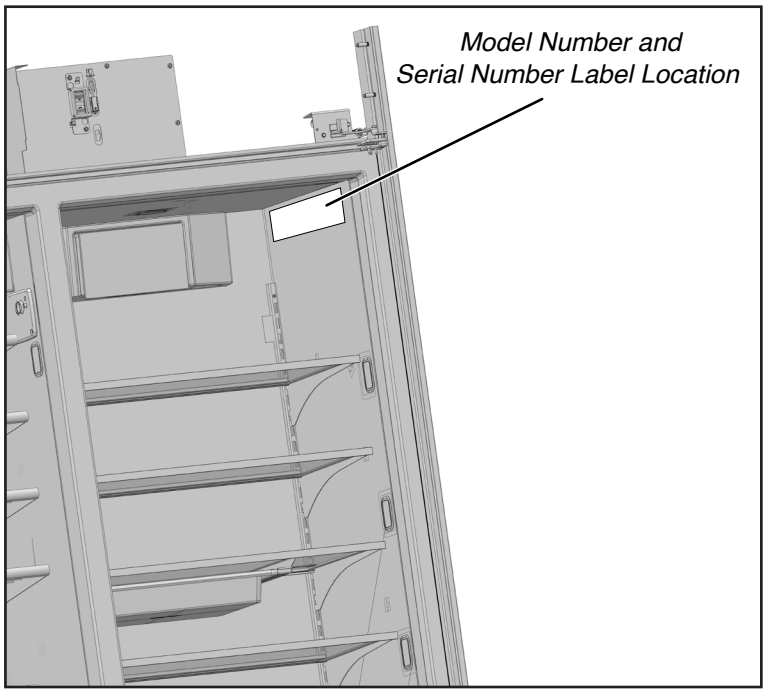
Production Year

M = 2022

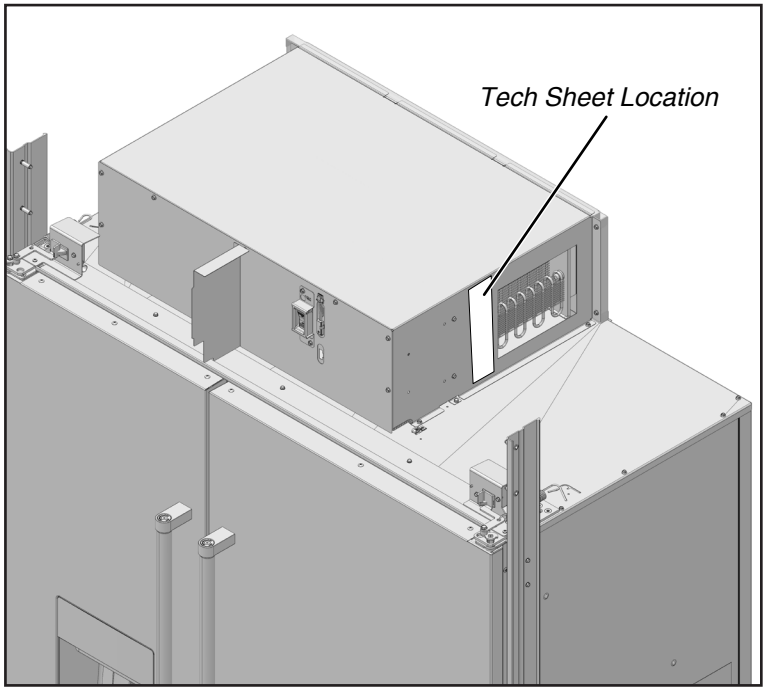
Color

BS = Black Stainless
PA = Panel-Ready
PS = Stainless Steel with PrintShield™ Finish
SS = Stainless Steel

Model Number and Serial Number Label Location



Tech Sheet Location



Section 2: Diagnostics and Troubleshooting

This section provides diagnostics mode and sales mode information for the “JennAir® and KitchenAid® 36", 42", and 48" Built-In Side by Side Refrigerators” (Dispensing and Non-Dispensing Models). It also shows all electrical power operations of each circuit.

- Safety
- Control Panel
- Diagnostic Guide
- Control Board Location
- Theory of Operation
- Fault/Error Codes
- Troubleshooting Guide
  - No Operation
  - Cooling
  - Pantry Temperature Issues
  - RC and FC Lights
  - Ice Maker Issues
  - Dispenser Issues
  - Other Issues, Moisture in RC, Frost in FC, Water on FC Floor
  - Noise Issues

For Service Technician Use Only
Safety

⚠ DANGER

Electrical Shock Hazard

Only authorized technicians should perform diagnostic voltage measurements.

After performing voltage measurements, disconnect power before servicing.

Failure to follow these instructions can result in death or electrical shock.

⚠ WARNING

Electrical Shock Hazard

Disconnect power before servicing.

Replace all parts and panels before operating.

Failure to do so can result in death or electrical shock.

⚠ WARNING

Explosion Hazard

Risk of fire or explosion. Flammable refrigerant used.
Do not use mechanical devices to defrost refrigerator.

Do not puncture refrigerant tubing.

Voltage Measurement Safety Information

When performing live voltage measurements, you must do the following:

- **Verify the controls are in the off position so that the appliance does not start when energized.**
- **Allow enough space to perform the voltage measurements without obstructions.**
- **Keep other people a safe distance away from the appliance to prevent potential injury.**
- **Always use the proper testing equipment.**
- **After voltage measurements, always disconnect power before servicing.**

For Service Technician Use Only

IMPORTANT: Electrostatic Discharge (ESD) Sensitive Electronics
ESD problems are present everywhere. ESD may damage or weaken the electronic control assembly. The new control assembly may appear to work well after repair is finished, but failure may occur at a later date due to ESD stress.

- Use an antistatic wrist strap. Connect wrist strap to green ground connection point or unpainted metal in the appliance

  -OR-

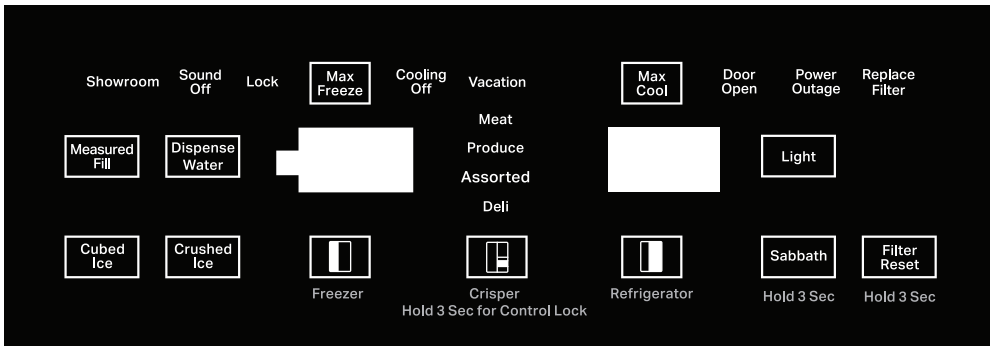
  Touch your finger repeatedly to a green ground connection point or unpainted metal in the appliance.
- Before removing the part from its package, touch the antistatic bag to a green ground connection point or unpainted metal in the appliance.
- Avoid touching electronic parts or terminal contacts; handle electronic control assembly by edges only.
- When repackaging failed electronic control assembly in antistatic bag, observe above instructions.

IMPORTANT SAFETY NOTICE — "For Technicians only"

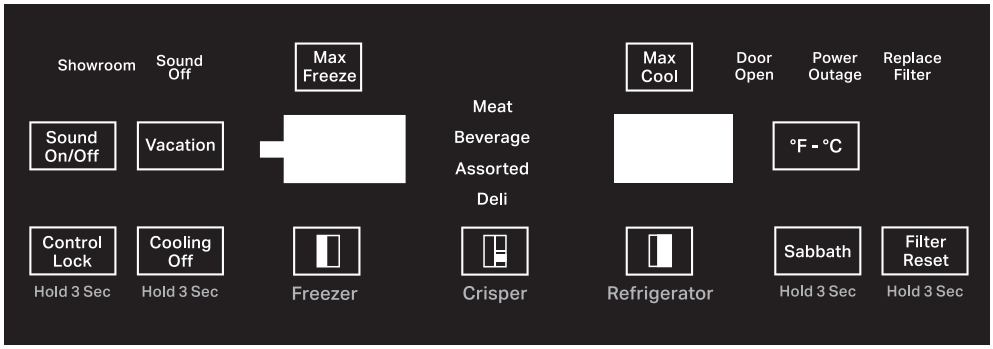
This service data sheet is intended for use by persons having electrical, electronic, and mechanical experience and knowledge at a level generally considered acceptable in the appliance repair trade. Any attempt to repair a major appliance may result in personal injury and property damage. The manufacturer or seller cannot be responsible, nor assume any liability for injury or damage of any kind arising from the use of this data sheet.

For Service Technician Use Only
Control Panel

Control Panel (Dispenser Units)



Control Panel (Non-Dispenser Units)



Diagnostic Guide

Before servicing, check the following:

- Make sure there is power at the wall outlet.
- Has a household fuse blown, or circuit breaker or GFCI tripped?
- Is the water supply hose unobstructed?
- All tests/checks should be made with a VOM (volt-ohm-milliammeter) or DVM (digital-voltmeter) having a sensitivity of 20,000 Ω/V DC or greater.
- Resistance checks must be made with appliance unplugged or power disconnected.

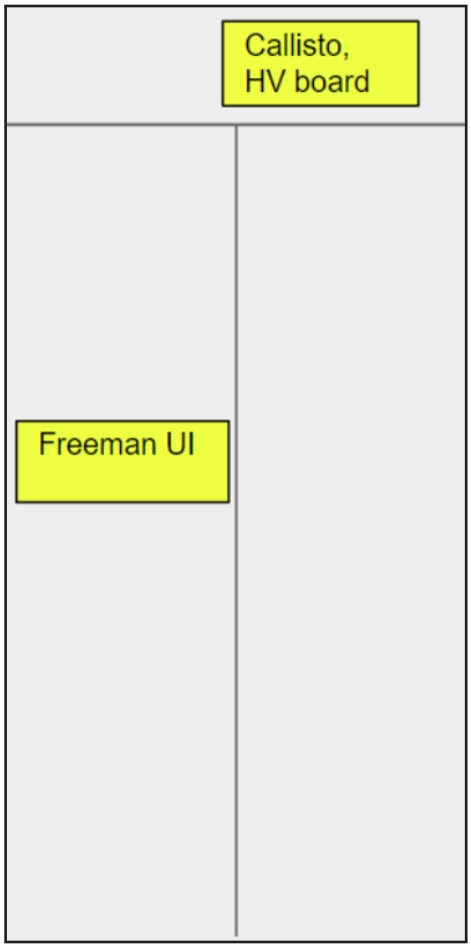
IMPORTANT: Voltage checks must be made with all connectors attached to the boards.

IMPORTANT: Avoid using large diameter probes when checking harness connectors as the probes may damage the connectors upon insertion.

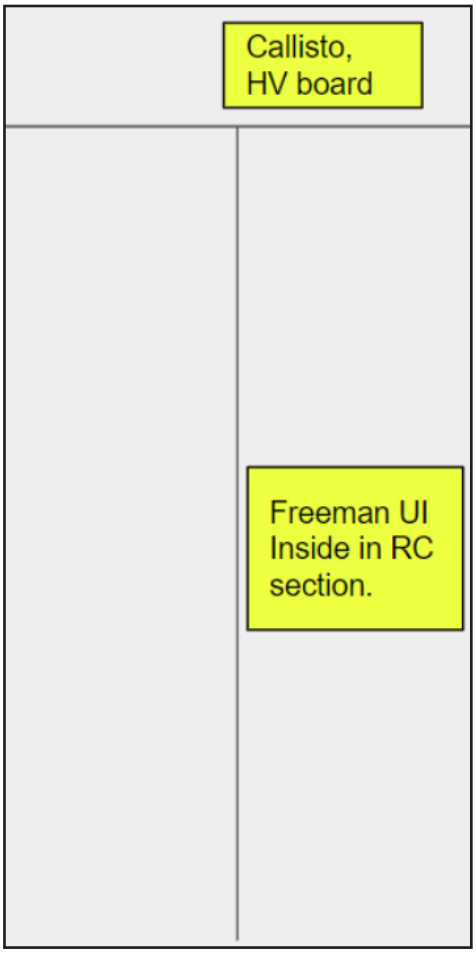
- Check all harnesses and connections before replacing components. Look for connectors not fully seated, broken or loose wires and terminals, pin insertion, or wires not pressed into connectors far enough to engage metal barbs.
- A potential cause of a control not functioning is corrosion or contamination on connections. Use an ohmmeter to check for continuity across suspected connections.

For Service Technician Use Only
Control Board Location

Dispenser Units

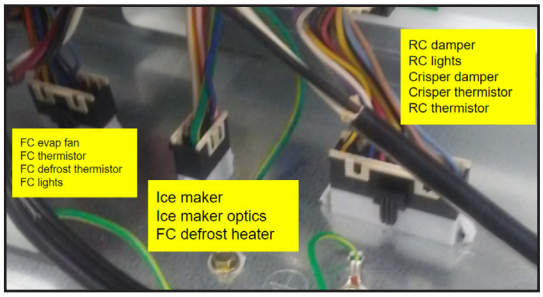


Non-Dispenser Units

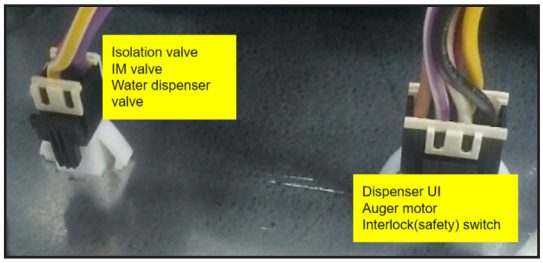


Wiring connections in Machine Compartment

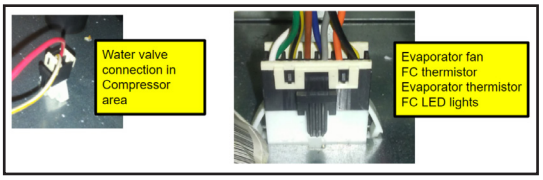
Cabinet Connections at Top of Unit

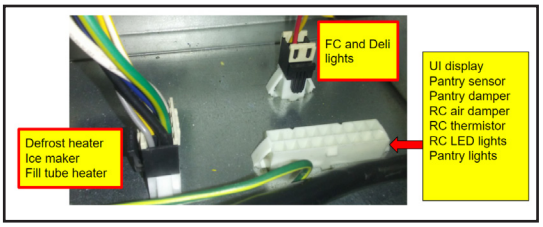


Compressor Connections



Wiring Connections in Machine Compartment





For Service Technician Use Only
Theory of Operation

The refrigerator Constant Flow Temperature Management System uses two Thermistors to monitor temperature changes inside the refrigerator and freezer compartments. Two electronic control boards are used in the refrigerator. The main electronic control board manages the operation of the Variable Capacity Compressor (VCC), a Variable Speed Evaporator Fan Motor, and a Variable Position Air Door. The air door allows independent temperature control of the refrigerator and freezer compartments.

The main electronic control board seeks the most efficient means possible to maintain temperatures as it controls the operation and speed of the compressor and the Evaporator fan motor. Higher fan speed is used before increasing the compressor speed to minimize power consumption to a nearly constant run.

The Electronic Control (HMI)

The Freezer temperatures have 7 preset settings that can be adjusted from 5°F to -8°F (-15°C to -22°C).

Refrigerator temperatures have 5 preset settings that can be adjusted from 44°F to 33°F (6°C to 1°C).

Pantry (Drawer) temperatures can be set as Meat 32°F (0°C), Produce (Refrigerator temperature), Assorted 35°F (1.6°C), and Deli 37°F (2.7°C).

The Adaptive Defrost Control (ADC) portion of the main electronic control board utilizes “pulsed defrost” technology to perform the defrost function.

The numeric display can be set for Fahrenheit or Celsius.

Temperature Control (HV Board or ACU)

The main electronic control board checks the resistance of the Thermistors, and compares it to both the customer temperature settings and the last Thermistor reading taken. This information is used to determine when to begin a cooling operation, and if a change is necessary in the damper setting, or the Evaporator fan or compressor speed. When a warm refrigerator is first put into a cooling mode, the refrigerator air door partially opens, and the compressor and Evaporator fan motors start to run at calculated speeds, depending how far they’re from the desired temperatures.

When a warm pantry is put into cooling mode, the pantry air door partially opens and the Evaporator fan starts to run. The air door for the refrigerator or pantry will gradually move to its fully open position. As the actual temperature in the refrigerator or pantry nears the selected temperature setting, the electronic control compares the temperatures in both compartments. The compartment that has the greatest need for cooling will control the speed of the Evaporator fan motor.

Freezer Temperature Control

Temperature Increasing

When the freezer calls for cooling, the compressor begins to run at minimum RPM, and the Evaporator fan begins to run. The compressor and Evaporator speeds are continuously updated. Speed changes are made based on:

- The difference between the actual temperature and the selected temperature setting.
- The rate of temperature change. If the temperature increases 4°F (-15.5°C) above the selected temperature setting, the Evaporator fan speed begins to gradually increase. The Evaporator fan motor reaches the maximum speed at 5°F (-15°C) above the selected temperature setting, and the compressor speed begins to gradually increase. A maximum compressor speed will be reached at 9°F (-12.7°C) above the selected temperature setting.

Temperature Decreasing

When the freezer temperature begins to decrease, the process will reverse. The compressor speed decreases, followed by the Evaporator fan speed.

Refrigerator Temperature Control

Temperature Increasing

When the refrigerator calls for cooling while the freezer is satisfied, the air door begins to open, and the Evaporator fan starts to run at minimum speed. If the temperature continues to rise, the air door will continue to open. If the temperature continues to rise after the air door is fully open, the Evaporator fan speed will gradually increase to a maximum RPM.

If the temperature continues to rise, the compressor starts to run, or if it has already been running, begins to increase in speed.

Temperature Decreasing

As the refrigerator temperature approaches the selected setting, the control compares the temperatures in both compartments to determine which compartment will control the fan speed.

If the freezer is further from the selected temperature setting, it controls the fan speed, and the air door begins to close, thus reducing the airflow to the refrigerator.

If the freezer is satisfied, the air door remains open, and the fan speed begins to decrease. When the selected temperature setting is reached, the air door closes.

Compressor/Inverter

The main control board supplies a 5 VDC, peak-to-peak square wave, at 54 to 150 Hz, to the inverter board. A standard VOM will read approximately 3-6 VDC.

The inverter board supplies the variable capacity compressor with three-phase 230 VAC. Varying the voltage and frequency to the inverter board changes the speed of the compressor.

NOTE: It is not necessary, nor is it recommended, to test the output of the inverter board. While the compressor is running, its speed is continuously updated. Speed is determined after analyzing two factors:

- The difference between the actual temperature and the selected temperature settings.
- The rate of temperature change. Minimum compressor speed is based on the freezer’s selected temperature.

The compressor generally cycles on and off according to the cut-in and cut-out temperatures of the freezer, however the refrigerator can turn on the compressor if the Evaporator fan is at maximum speed and the refrigerator temperatures are not dropping.

To protect the compressor and maintain efficiency, minimum compressor off time is programmed into the main control board. When the compressor turns off, a minimum of 7 minutes must elapse before allowing a restart.

Supply Air Damper

The air door is driven by a reversible DC stepper motor. The motor operates on a 12 VDC, peak-to-peak square wave. Voltage is delivered to the air door in a series of short pulses.

Separate windings are used to move the air door open or closed. The door can be in any position from 0 to 90°. The air door is used to fine-tune the airflow to the refrigerator. The refrigerator temperature determines the opening of the air door. When the refrigerator requires cooling, the air door partially opens, and then adjusts, if necessary. While the refrigerator is cooling, the door will be adjusting continuously to maintain or recover refrigerator temperature.

For Service Technician Use Only
Fault/Error Codes

How to Retrieve Error Codes

Dispenser Units

To retrieve codes press and hold RC temperature and Cube Ice buttons for 3 seconds.

Press the Refrigerator button to advance to the next code.

To reset the codes: Press the Freezer temperature button for 3 seconds till 0000 is displayed. You will have to reset each code if there is more than one.

To EXIT: Hold RC temperature and Cube Ice buttons for 3 seconds.

Non-Dispenser Units

To retrieve codes press and hold RC temperature and Control lock for 5 seconds.

Press the Refrigerator button to advance to the next code.

To reset the codes: Press the Control lock button till 0000 is displayed. You will have to reset each code if there is more than one.

To EXIT: Hold RC button for 5 seconds.

NOTE: If the issue is not fixed, the code will remain and not reset. If the issue was fixed, try to exit the error code and go to a normal display for 2 minutes, then go back into the error code and try to reset. If the code still will not reset, then the issue has not been fixed.

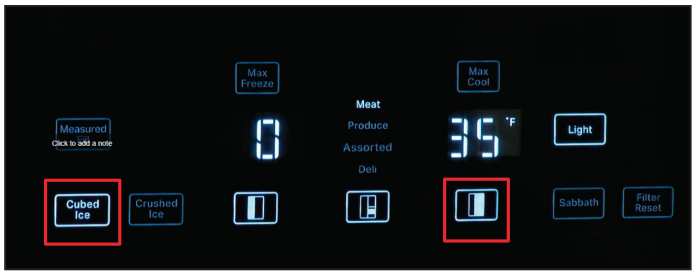


Figure: HMI (Dispenser Units)

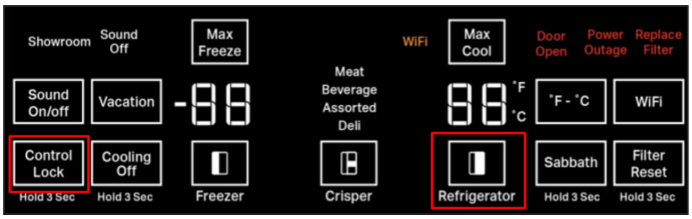


Figure: HMI (Non-Dispenser Units)

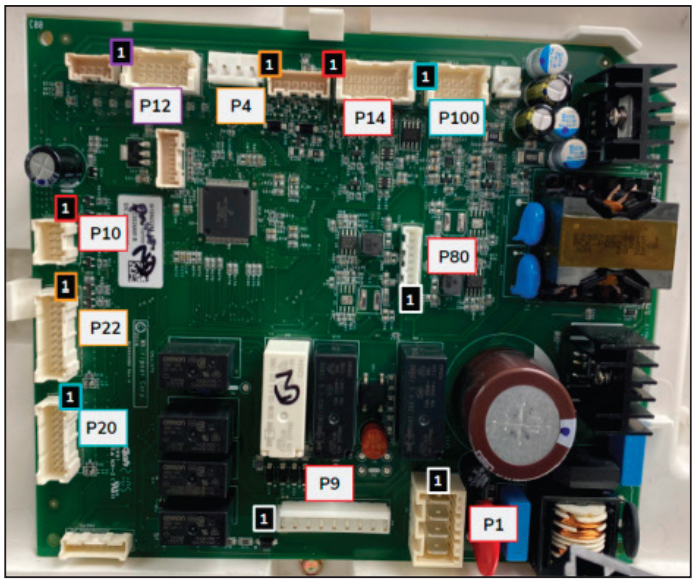
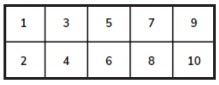
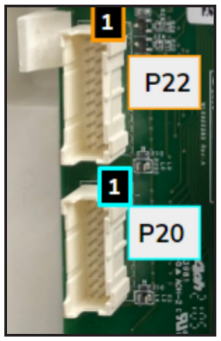
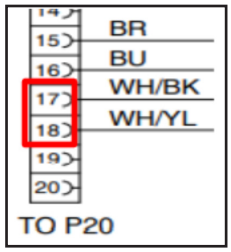
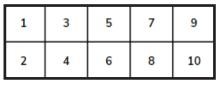
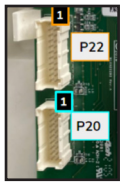
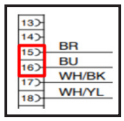
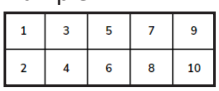
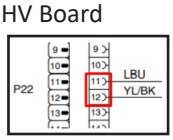
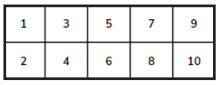
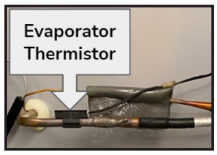
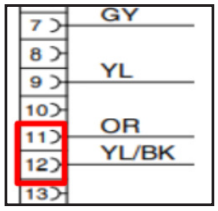
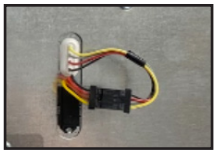


Figure: Callisto HV Board

For Service Technician Use Only

Fault Code	Possible Causes	Corrective Action
F3E1	RC Thermistor **NOTE:** When looking at connectors on the board, the pin numbers are across from each other. Example:     	The RC Thermistor is not working correctly. Before replacing the Thermistor do the following check: **1.** Check product temperature to see what temperatures are right now. **2.** Make sure air flow is not restricted by damper or issue with air return. **3.** Make sure there are no loading issues. **4.** Check the Damper in test mode to make sure it is working properly. **5.** Check FC Fan in test mode to make sure there are no issues. **6.** Run Test 01 mode on RC Thermistor. Test will show temperature, Open or Short. If the Thermistor checks Open or Shorted, then go to the HV Board and do a resistance reading in a glass of ice water. HV Board: P20-17 to P20-18 RC Sensor. If the Thermistor is in range, then check for loose connection or bad HV Board. If the Thermistor is out of range, then replace the Thermistor. Refer Thermistor Resistance Range Chart for the nominal resistance (tolerance) at different temperatures.
F3E2	FC Thermistor **NOTE:** Thermistor can be checked by placing the Thermistor in an ice water. Do not get electrical connections wet. The water should be ≈ 32°F and leave it for 10 minutes and check. **NOTE:** When looking at connectors on the board, the pin numbers are across from each other. Example:    	Run Test 02 FC Thermistor The read out will show on UI. °F/°C Temperature OP = OPEN > 88 kΩ SH = SHORT < 1600 Ω **1.** If the Thermistor reads Open or Shorted, then do an ohm reading HV Board. **2.** If the Thermistor resistance reads out of range at the HV Board, then check the wiring and replace the Thermistor. **3.** If the Thermistor reads in spec at the HV Board, then change the board. HV Board: P20-15 to P20-16 Refer Thermistor Resistance Range Chart for the nominal resistance (tolerance) at different temperatures.
F3Eb	Pantry Thermistor **NOTE:** When looking at connectors on the board, the pin numbers are across from each other. Example:  HV Board   Pantry Thermistor 	Run Test 05 on the Pan Thermistor. The readout will show on UI. °F/°C Temperature OP = OPEN > 88 kΩ SH = SHORT < 1600 Ω **1.** If read out is OP or SH on display, then check the Thermistor at the HV Board with the P22 connection unplugged. Check between the P22-11 to P22-12. **2.** If the Thermistor reads out of spec at HV Board, then check wiring for loose connection and replace Thermistor. **3.** If the temperature is showing in the display and it matches the temperature in crisper, then the Thermistor is ok. Make sure all wiring connections are not loose. Refer Thermistor Resistance Range Chart for the nominal resistance (tolerance) at different temperatures.

For Service Technician Use Only

Fault Code	Possible Causes	Corrective Action
F3E5	Evaporator Defrost Thermistor **NOTE:** The Defrost Heater will not work if the Defrost Thermistor is above 60°F. **NOTE:** Thermistor can be checked by placing the Thermistor in an ice water. Do not get electrical connections wet. The water should be ≈ 32°F and leave it for 10 minutes and check. **NOTE:** When looking at connectors on the board, the pin numbers are across from each other. Example:   HV Board  	Run Service Test 04 The measured temperature will be displayed on the UI. SH (for short circuit) OP (for open circuit) **1.** Check resistance reading at the HV Board and look for loose wiring at the connections of the HV Board. **2.** If the Thermistor reads out of range at the HV Board, check the wiring and connections and replace the Thermistor. **3.** If the Thermistor resistance reads in range, then look for possible loose connection. HV Board: P20-11 to P20-12 FC Defrost Thermistor output 1.5-5 VDC (maximum) Refer Thermistor Resistance Range Chart for the nominal resistance (tolerance) at different temperatures.
F3E8	RH Sensor 	The humidity sensor is not working. Run Test 104 for RH Sensor. **1.** If the sensor reads bad, then check wiring connections between sensor and HV Board. If the wiring is good then replace the sensor. **2.** If the sensor reads good, then make sure all connections are good.
F3E9	Ambient Temperature Sensor 	The ambient temperature is too high for the unit to run correctly. Run Test 12 The measured temperature will be displayed on the UI. SH (for short circuit) OP (for open circuit) will be displayed. **1.** Make sure the unit is installed correctly. **2.** If the unit is installed correctly then check the condenser fan in Service Mode to make sure it is running. **3.** Make sure the condenser is clean and air flow through it is good.
F4E1	FC Defrost Heater 	Defrost Heater is not working. Service mode 89 runs the Defrost Heater for 5 minutes or until the temperature in the Evaporator rises higher than 60°F. If the Thermistor is above 60°F, the test will not work. **NOTE:** Wire colors are subject to change. Go by the pin number on the board. **1.** Run Test 89 on the Defrost Heater and check voltage. P9-7 to P1-2 = 120 VAC FC Defrost Heater. **2.** If the voltage is present, then check wiring for connection issues then check the Defrost Heater for proper resistance. **3.** If the voltage is missing on P9-7 to P1-2 , then replace the HV Board. Heater resistance is 27-35 Ω. Power is 450 W.

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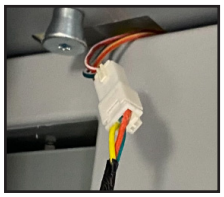
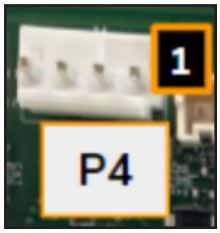
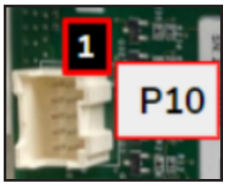
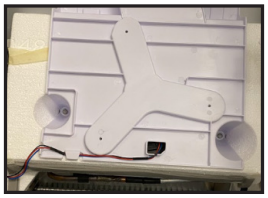
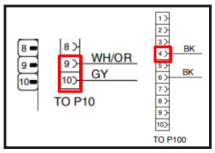
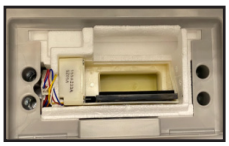
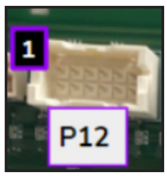
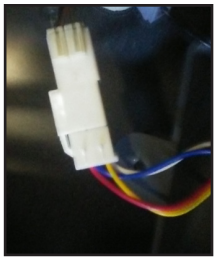
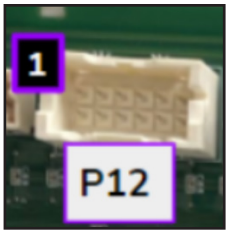
Fault Code	Possible Causes	Corrective Action
F6E1	Communication  	**1.** Check for an open communication wire from the UI to the HV Board. HV Board P4-3 to Temperature UI J4B-2. ■ If the wire is open to the UI it will come on and work but none of the functions like Door Open signal or when in Service Mode the Thermistor will not read correctly and none of the functions will not work to run components. ■ If the wire is not the issue then change the HV Board.
F7E1	Compressor Issue or Sealed System Issue **NOTE:** When looking at connectors on the board, the pin numbers are across from each other. Example: 1 3 5 7 9 2 4 6 8 10   **LED Status** / **LED Status Description** 1 flash, 15 seconds period — Normal operation 2 flash, 5 seconds period — Control communication problem 3 flash, 5 seconds period — VCC Inverter Problem 4 flash, 5 seconds period — VCC Compressor problem 1 flash, 0.5 seconds period — Temperature protection active	This code means there is a cooling issue. If the compressor is not running and fans are running, then unplug the unit from the wall for 1 minute to reset. If the compressor and fan runs when power is reapplied, then look for seal system issue and go to “No cool in both sections Fans and compressor running” section. If the compressor still does not run, do the following steps. Check to see if the Inverter is blinking LED light. Look at Inverter codes. Go to No cooling in both sections. Go to service Test 40 Compressor and Cooling Test. **NOTE:** After entering, the compressor and condenser fan will be turned ON and will be turned OFF when leaving the step. **1.** Check voltage at HV Board P10-1 to P10-2 = 3-6 VDC going to Inverter. **2.** Check for 120 VAC at the Inverter. This voltage is constant. **3.** If AC voltage is not present, check wiring. **4.** If DC voltage is not present at the Inverter and it is present at board, check the wiring harness. **5.** If both voltages are present, ohm out windings of the compressor. **6.** If compressor windings are in range, replace the Inverter. **7.** If compressor windings are open, replace the compressor and Inverter.
FAE1	Freezer Fan    	Run Test 56 Evaporator Fan Motor. **1.** Run Test mode check for DC voltage at HV Board for Evaporator fan motor. P100-4 to P10-10 = 12.7 VDC when the fan is running. P10-9 to P10-11 = 0-12 VDC signal voltage from HV Board. **2.** If this is too hard to check at the HV Board, then check at the fan. ■ In Service Mode and fan is ON, check between RD to BLK = 12 VDC. Also check between BLK and Blue (PWM) = 12 VDC in test mode. Fan power is 7.1 W when running. 3. If the 12.7 VDC is missing, then unplug the FC Fan and recheck for the 12.7 VDC. ■ If voltage is still missing when the fan is unplugged, then check wiring for loose connections. If wiring is good, then replace the HV Board. ■ If the 12.7 VDC is present with the fan unplugged, then replace the fan.

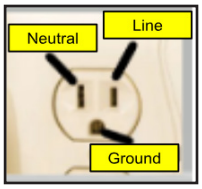
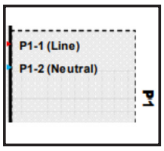
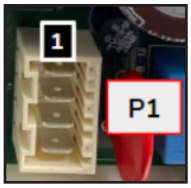
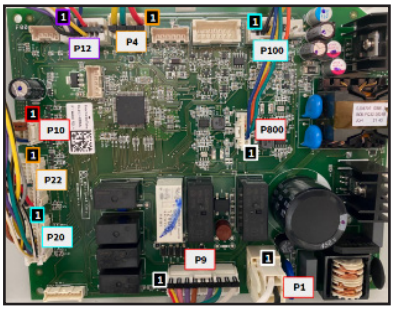
For Service Technician Use Only

<table>
<tr><th>Fault Code</th><th>Possible Causes</th><th>Corrective Action</th></tr>
<tr><td>FAEb</td><td>RC Air Damper
NOTE: When looking at connectors on the board, the pin numbers are across from each other.
Example:
<table>
<tr><td>1</td><td>3</td><td>5</td><td>7</td><td>9</td></tr>
<tr><td>2</td><td>4</td><td>6</td><td>8</td><td>10</td></tr>
</table>
Connections
<table>
<tr><th colspan="2">Liner Side to Damper Side</th></tr>
<tr><td>Blue</td><td>Blue</td></tr>
<tr><td>Red</td><td>Red</td></tr>
<tr><td>White</td><td>White</td></tr>
<tr><td>Orange</td><td>Yellow</td></tr>
</table>
Connections at Air Damper (RC Damper)
 
HV Board
 
</td><td>Run Test 41 Air Damper.
Remove the Air Cover to see the Damper.
To open and close the damper push Freezer button while in Service Mode.
CL = Closed Door
OP = Open Door
The voltage is a pulse DC that is going to this part. Depending on the meter that is being used, it may not show voltage. If there is an issue reading DC voltage, then switch the meter to AC voltage and see if you can get the same voltage reading.
1. Check for 12-13 V at the RC damper door between RD to YL when the door is opening and closing.
2. If voltage is present at the damper while running Service Mode and the damper is not moving, then replace the Air Damper.
3. If voltage is not present, then go to the HV Board and do the same voltage check at the HV Board.
HV Board: P12-1 AND P12-2 = 12-13 V.
■ If voltage is present at the HV Board when running the damper, then check wiring connections to the damper for being loose or open.
■ If voltage is not present, then replace the HV Board.</td></tr>
<tr><td>FAEC</td><td>Pantry Damper
NOTE: When looking at connectors on the board, the pin numbers are across from each other.
Example:
<table>
<tr><td>1</td><td>3</td><td>5</td><td>7</td><td>9</td></tr>
<tr><td>2</td><td>4</td><td>6</td><td>8</td><td>10</td></tr>
</table>
Connections
<table>
<tr><th colspan="2">Liner Side to Damper Side</th></tr>
<tr><td>BLK</td><td>Blue</td></tr>
<tr><td>Brown</td><td>Red</td></tr>
<tr><td>Blue</td><td>White</td></tr>
<tr><td>Gray</td><td>Yellow</td></tr>
</table>
HV Board
 
 
</td><td>Run Test 42 Pantry Air Damper.
Remove the Air Cover to see the Damper.
To open and close the damper push Freezer button while in Service Mode.
CL = Closed Door
OP = Open Door
The voltage is a pulse DC that is going to this part. Depending on the meter that is being used, it may not show voltage. If there is an issue reading DC voltage, then switch the meter to AC voltage and see if you can get the same voltage reading.
1. Check for 12-13 V at the RC damper door between RD to YL when the door is opening and closing.
2. If voltage is present at the damper while running Service Mode and the damper is not moving, then replace the Air Damper.
3. If voltage is not present, then go to the HV Board and do the same voltage check at board.
HV Board: P12-5 to P12-6 = 12-13 V.
■ If voltage is present at the HV Board when running the damper, then check wiring connections to the damper for being loose or open.
■ If voltage is not present, then replace the HV Board.
Damper windings RD to YL 430 Ω.</td></tr>
</table>

For Service Technician Use Only Troubleshooting Guide

No Operation

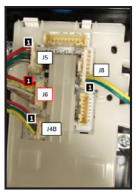
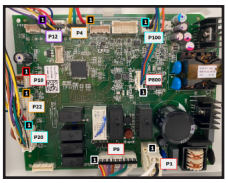
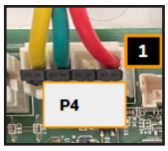
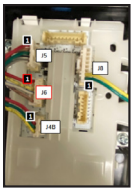
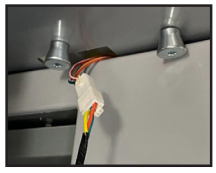
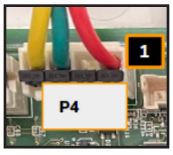
NOTE: Wire colors are subject to change. Go by the pin number on the board.

Symptoms	Possible Causes	Corrective Action
No Cool No Ui Display No Fans or Compressor No Interior Lights	No Power to the Appliance 	Check the circuit breaker and outlet for proper voltage, polarity and grounding.
	No Voltage to Main ON/OFF Switch 	Check power to the Main power switch between the BLK and White for 120 VAC. **1.** If the voltage is present, then go to check power at the HV (Callisto) board. **2.** If no voltage is present, then check cord and outlet.
	DC Power Issue 	There could be shortened DC parts. Turn off power at the main switch. Unplug the P100 connection off the HV Board, then turn power on. **1.** If the unit turns ON, then look for issues with fans. **2.** If the unit does not turn ON, then check power at the HV Board.
	Faulty HV (Callisto) Board   HV Board 	Check power at Callisto board. HV Board: P1-1 to P1-2 for 120 VAC. **NOTE:** Wire colors are subject to change. Go by the pin number on the board. **1.** If AC voltage is missing at the Callisto board, then check the cord and main ON/OFF switch. **2.** If AC voltage is present, then replace the board.

For Service Technician Use Only

No Operation

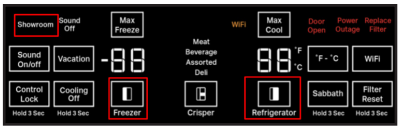
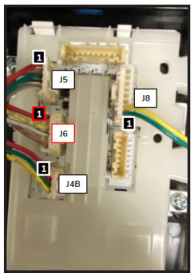
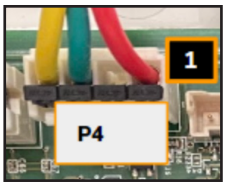
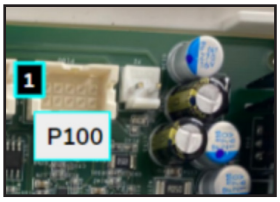
NOTE: Wire colors are subject to change. Go by the pin number on the board.

Symptoms	Possible Causes	Corrective Action
GFCI/AFCI Breaker Tripping Nuisance	Loose Wire Harness	Check for loose connections or backed out wiring from the connector. Secure any loose connections.
	Bad Component	Run Service Mode on all components. If running Service Mode finds a bad component then change the part. If nothing trips the breaker, go to the next section.
	See Service pointer W11525530	Look at Service Pointer W11525530. There is a form you will have to download to complete this pointer.
No UI temperature display Interior lights are working	Loose Wire Harness	Check for loose connections or backed out wiring from the connector. Secure any loose connections.
	Missing Voltage at Freeman UI Temperature UI  Dispenser Units  Non-Dispenser Units Dispenser Units Non-Dispenser Units HV Board  	Check for 14 VDC at the connection of the UI Temperature Board (Freeman UI). HV Board: J4B-1 to J4B-3 = 14 VDC **1.** If voltage is not present at the connection, then check for power at the HV Callisto board. HV Board: P4-1 to P4-4 = 14 VDC **2.** If voltage is not present at the HV Callisto board, then replace the board. **3.** If voltage is present at the HV Callisto board and not at UI, then check for wiring or connection issues. **4.** If voltage is present at the UI and UI is not coming on, then replace the UI.
	DC Power Issue 	There could be shortened DC parts. Turn off power at the main switch. Unplug the P100 connection off the HV Board, then turn power on. **1.** If the unit comes ON, then look for issues with fans. **2.** If the unit does not come ON, then check power at the HV Board.
UI temperature display is on Not responding correctly	Loose Wire Harness	Check for loose connections or backed out wiring from the connector. Secure any loose connections.
	Faulty Temperature UI Communication Temperature UI  Dispenser Units  Non-Dispenser Units HV Board 	**1.** Check for an open communication wire from the UI to the HV Board. HV Board P4-3 to Temperature UI J4B-2. ■ If the wire is open to the UI it will come on and work but none of the functions like Door Open signal or when in Service Mode the Thermistor will not read correctly and none of the functions will not work to run components. ■ If the wire is not the issue then change the HV Board.

For Service Technician Use Only

Cooling

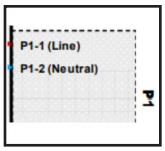
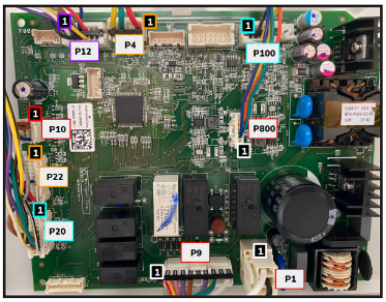
NOTE: Wire colors are subject to change. Go by the pin number on the board.

Symptoms	Possible Causes	Corrective Action
No cool in both sections Lights working and UI lit, No Fans or Compressor.	Unit in Showroom Mode 	Make sure the unit is not in Showroom Mode. Press Refrigerator temperature and Freezer temperature for 3 seconds. This will put the unit into showroom mode. Showroom will be on display. Repeat steps to remove from showroom mode. **1.** If the unit does not start and you are not in Showroom Mode, then try to put the unit into Service Mode. **2.** If the unit goes into Service Mode and the readings at the UI when running test modes do not match the tech sheet, then the issue would be a bad UI. **3.** If the unit does not go into Service Mode then replace the UI.
	Loose Wire Harness	Check for loose connections or backed out wiring from the connector. Resecure any loose connections.
	Faulty Temperature UI Communication  	**1.** Check for an open communication wire from the UI to the HV Board. HV Board P4-3 to Temperature UI J4B-2 ■ If the wire is open to the UI it will come on and work but none of the functions like Door Open signal or when in Service Mode the Thermistor will not read correctly and none of the functions will not work to run components. ■ If the wire is not the issue then change the HV Board.
	DC Power Issue (For Dispenser Units Only) 	There could be shortened DC parts. Turn off power at the main switch. Unplug the P100 connection off the HV Board, then turn power on. **1.** If the unit turns ON, then look for issues with fans. **2.** If the unit does not turn ON, then check power at the HV Board.

For Service Technician Use Only

Cooling

NOTE: Wire colors are subject to change. Go by the pin number on the board.

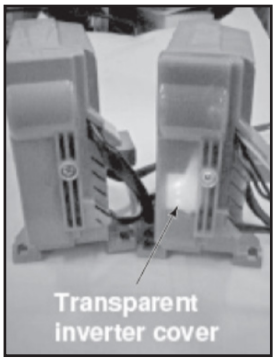
Symptoms	Possible Causes	Corrective Action
No cool in both sections Lights working and UI lit, No fans or compressor.	Missing Voltage to HV Board **NOTE:** Wiring colors are subject to change.  	Check for AC voltage at the HV Board. **NOTE:** Wire colors are subject to change. Go by the pin number on the board. **1.** Check for AC voltage at HV Board P1-1 to P1-2 = 120 VAC. **2.** If the AC is missing, then check for a wiring issue. **3.** If voltage is present at both, then replace the HV Board.
No cool in both sections Fans Running No Compressor	Incorrect Control Settings Check the Product Temperature **NOTE:** Flashing LED light on Inverter. Do not unplug the appliance. Faulty Compressor, check windings on compressor for any loose wire harness. Do not use an Infrared scanner. The surfaces of a refrigerator are highly reflective to an IR light. When measuring with an IR non-contact device, it is probable that you are measuring reflected temperature and not surface temperatures.	Verify unit product temperature with probe or thermometer and compare to set points before starting service. Product temperature should be within ±2°F of set point. **1.** If the product is too warm then go to the next section. **2.** If the product is too cold, then go to the symptom column that matches the issue. **3.** If temperature is within range, then look at possible use and care issues like, product placement and temperature adjustments. **IMPORTANT:** Do not use an Infrared temperature gun.

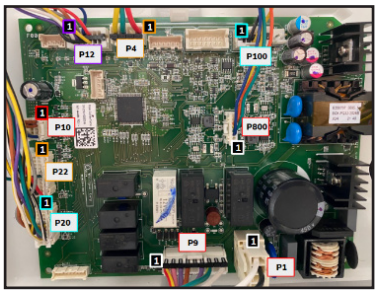
For Service Technician Use Only

Cooling

NOTE: Wire colors are subject to change. Go by the pin number on the board.

Symptoms	Possible Causes	Corrective Action
No Cool in Both Sections Fans Running No Compressor	Flashing LED Light on Inverter Do not unplug the appliance.	The Inverter performs a self diagnostic check at the beginning of each cooling cycle. LED on the Inverter blinks a code to signal a failure. Follow the diagnostic code. Diagnostic LED Codes are: **ONE flash every 15 seconds:** No failure detected, the Inverter software finds no defect with the compressor or Inverter. **ONE flash every 0.5 seconds:** Temperature protection active. Check air flow around the compressor area. Make sure the condenser fan is running and the unit is installed correctly. **TWO flashes every 5 seconds:** No 3-6 VDC signal from the control board: The 3-6 VDC is signal voltage to determine the compressor speed. This can be caused by a shorted component on the low voltage circuit. ■ Check for shorted FC Fan, supply Air Damper. ■ Check wiring to make sure all connections are secured. **THREE flashes every 5 seconds:** Inverter failure: The software has detected an issue with the Inverter. ■ Before replacing the Inverter, ohm out the compressor windings (refer to tech sheet for ohm readings). ■ If the windings are Open or Shorted, replace the compressor also. ■ If the windings are good, replace the Inverter. **FOUR flashes every 5 seconds:** Compressor failure: The software has detected an issue with the compressor. The compressor windings may be bad or the compressor is locked. This can also indicate a possible restriction in the Sealed system. ■ If the compressor windings are in spec, check for restrictions and replace the compressor. ■ If the compressor was changed and gives this flashing indicator, then check for high head pressure like a restriction. ■ See check Sealed system section. HV Board checks: ■ P10-1 to P10-2 = 3-6 VDC Inverter output. Inverter wires: ■ 3-6 VDC constant when the compressor is running. ■ Also check for 120 VAC on BK to WH going to the Inverter.



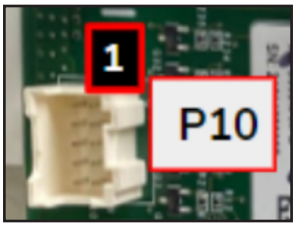


LED Status	LED Status Description
1 flash 15 seconds period	Normal operation
2 flash 5 seconds period	Control communication problem
3 flash 5 seconds period	VCC Inverter Problem
4 flash 5 seconds period	VCC Compressor problem
1 flash 0.5 seconds period	Temperature protection active

For Service Technician Use Only

Cooling

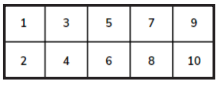
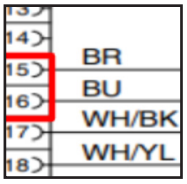
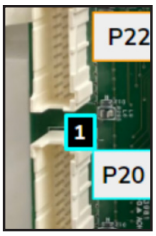
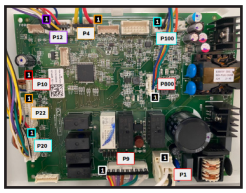
NOTE: Wire colors are subject to change. Go by the pin number on the board.

<table>
<tr><th>Symptoms</th><th>Possible Causes</th><th>Corrective Action</th></tr>
<tr><td rowspan="4">No Cool in Both Sections
Fans Running
No Compressor</td><td>Faulty Compressor
<table><tr><th>LED Status</th><th>LED Status Description</th></tr><tr><td>1 flash
15 seconds period</td><td>Normal operation</td></tr><tr><td>2 flash
5 seconds period</td><td>Control communication problem</td></tr><tr><td>3 flash
5 seconds period</td><td>VCC Inverter Problem</td></tr><tr><td>4 flash
5 seconds period</td><td>VCC Compressor problem</td></tr><tr><td>1 flash
0.5 seconds period</td><td>Temperature protection active</td></tr></table>  </td><td>Run Test 40
This will run the compressor and condenser fan at 100%.
1. If the compressor runs, then check the wiring connections.
2. If the compressor does not run and the Inverter is flashing that there are no errors, then check for power at the Inverter again for proper voltage.
3. If voltage is correct at the Inverter, then go to check windings on the compressor.
HV Board checks:
■ P10-1 to P10-2 = 3-6 VDC Inverter output.
Inverter wires:
■ 3-6 VDC constant when the compressor is running.
■ Also check for 120 VAC on BK to WH going to the Inverter.</td></tr>
<tr><td>Check Windings on Compressor</td><td>Check winding on the compressor per the tech sheet.
1. If windings are Open or Shorted, then replace the compressor.
2. If windings are good and voltage is good, then the compressor could be locked up or a bad Inverter.
3. Replace Inverter and if the compressor still does not run, then replace compressor.</td></tr>
<tr><td>Loose Wire Harness</td><td>Check for loose connections or backed out wiring from the connector. Resecure any loose connections.</td></tr>
<tr><td>Faulty Sealed System</td><td>Link to Sealed System Troubleshooting Guide.
If the compressor was recently replaced and is not running and the Inverter LED is flashing 4 times:
1. It is unlikely the compressor has failed again. This code can also indicate a possible restriction in the Sealed System.
2. Recheck compressor refrigerant connections for restrictions or kinked lines.
3. If a restriction is found, remove restriction and recharge Sealed System.
4. If there is no restriction found, then an ohm out winding on the compressor.
5. If the windings are Shorted or Open, replace the compressor.
6. If the windings are within resistance reading per tech sheet, then replace the Inverter.</td></tr>
</table>

For Service Technician Use Only

Cooling

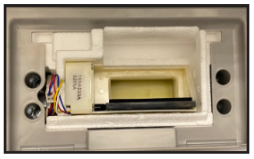
NOTE: Wire colors are subject to change. Go by the pin number on the board.

Symptoms	Possible Causes	Corrective Action
No Cool in Both Sections Fans Running No Compressor	FC Thermistor **NOTE:** Thermistor can be checked by placing the Thermistor in an ice water. Do not get electrical connections wet. The water should be ≈ 32°F and leave it for 10 minutes and check. **NOTE:** When looking at connectors on the board, the pin numbers are across from each other. Example:     	Run Test 02 FC Thermistor The read out will show on UI. °F/°C Temperature OP = OPEN > 88 kΩ SH = SHORT < 1600 Ω **1.** If the Thermistor reads Open or Shorted, then do an ohm reading HV Board. **2.** If the Thermistor resistance reads out of range at the HV Board, then check the wiring and replace the Thermistor. **3.** If the Thermistor reads in spec at the HV Board, then change the board. HV Board: P20-15 to P20-16. Refer Thermistor Resistance Range Chart for the nominal resistance (tolerance) at different temperatures.
No Cool in Both Sections Fans and Compressor Running	Incorrect Control Settings Check Product Temperature. **NOTE:** Do not use an Infrared scanner. The surfaces of a refrigerator are highly reflective to an IR light. When measuring with an IR non-contact device, it is probable that you are measuring reflected temperature and not surface temperatures.	Verify unit product temperature with probe or thermometer and compare to set points before starting service. Product temperature should be within ±2°F of set point. **1.** If the product is too warm then go to the next section. **2.** If the product is too cold, then go to the symptom column that matches the issue. **3.** If temperature is within range, then look at possible use and care issues like, product placement and temperature adjustments. **IMPORTANT:** Do not use an Infrared temperature gun.
	Faulty Compressor Watts/Sealed System Check	Before opening the sealed system, do the following. **1.** Using a Watt Meter plugged into the unit, check for wattage on the unit. Check the tech sheet for compressor wattage. **2.** Once you have wattage then go to technical training pointer #: W10683203 Use pointer to determine sealed system issue. **3.** To find system leak or restriction this can be done by using a UV dye drier (R134a freon only) or by using nitrogen or soap bubbles.

For Service Technician Use Only

Cooling

NOTE: Wire colors are subject to change. Go by the pin number on the board.

Symptoms	Possible Causes	Corrective Action
No/Low Cool in RC Section FC Section Temperatures are good	Incorrect Control Settings Check product temperature. **NOTE:** Do not use an Infrared scanner. The surfaces of a refrigerator are highly reflective to an IR light. When measuring with an IR non-contact device, it is probable that you are measuring reflected temperature and not surface temperatures.	Verify unit product temperature with probe or thermometer and compare to set points before starting service. Product temperature should be within ±2°F of set point. **1.** If the product is too warm then go to the next section. **2.** If the product is too cold, then go to the symptom column that matches the issue. **3.** If temperature is within range, then look at possible use and care issues like, product placement and temperature adjustments. **IMPORTANT:** Do not use an Infrared temperature gun.
	Product Loading	**1.** There may be an issue where containers are blocking air flow or items are interfering with the door closing and causing warm spots in the RC section. **2.** Make sure the customer is not putting hot food in the unit.
	Door Gasket	Check to see if the RC door gaskets are sealing all the way around the product with no gaping. **1.** If gaps are present, use a heat gun on a low heat setting and heat the gasket to reshape the part so that it seals properly. **2.** If the gasket does not hold shape, then replace the gasket.
	Air Flow RC Damper  Air Return 	Check for restricted air flow on the Evaporator. Issues like RC damper operation, FC Evaporator defrost, FC Fan operation and air return.
	Loose Wire Harness	Check for loose connections or backed out wiring from the connector. Resecure any loose connections.

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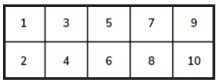
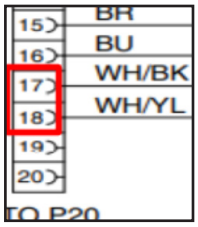
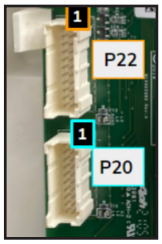
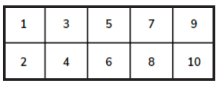
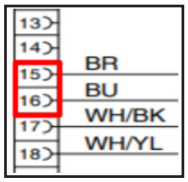
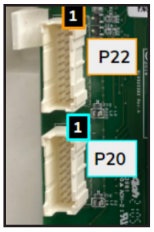
Cooling

NOTE: Wire colors are subject to change. Go by the pin number on the board.

Symptoms	Possible Causes	Corrective Action
No/Low Cool in RC Section FC Section Temperatures are good	RC Thermistor **NOTE:** Thermistor can be checked by placing the Thermistor in an ice water. Do not get electrical connections wet. The water will be ≈ 32°F and leave it for 10 minutes and check. **NOTE:** When looking at connectors on the board, the pin numbers are across from each other. Example:     	Run Test 01 RC Thermistor The read out will show on UI. °F/°C Temperature OP = OPEN > 88 kΩ SH = SHORT < 1600 Ω **1.** If the Thermistor reads Open or Shorted, then check the wiring and check resistance of the Thermistor at the HV Board. **2.** If the Thermistor resistance reads out of range at the HV Board, then check the wiring and replace the Thermistor. **3.** If the display shows temperature, then the Thermistor is giving the right reading to the board but still could have connection issue, check all wiring connections for wiring that are backed out of the connector or loose. HV Board: P20-17 to P20-18 RC Sensor. Refer Thermistor Resistance Range Chart for the nominal resistance (tolerance) at different temperatures.
	FC Thermistor **NOTE:** Thermistor can be checked by placing the Thermistor in an ice water. Do not get electrical connections wet. The water should be ≈ 32°F and leave it for 10 minutes and check. **NOTE:** When looking at connectors on the board, the pin numbers are across from each other. Example:     	Run Test 02 FC Thermistor The read out will show on UI. °F/°C Temperature OP = OPEN > 88 kΩ SH = SHORT < 1600 Ω **1.** If the Thermistor reads Open or Shorted, then do an ohm reading HV Board. **2.** If the Thermistor resistance reads out of range at the HV Board, then check the wiring and replace the Thermistor. **3.** If the Thermistor reads in spec at the HV Board, then change the board. HV Board: P20-15 to P20-16. Refer Thermistor Resistance Range Chart for the nominal resistance (tolerance) at different temperatures.

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Cooling

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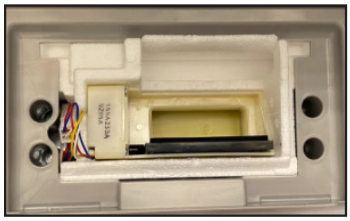
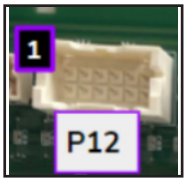
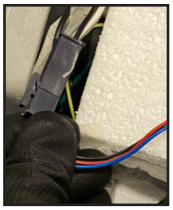
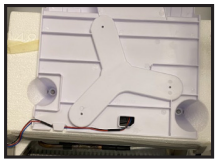
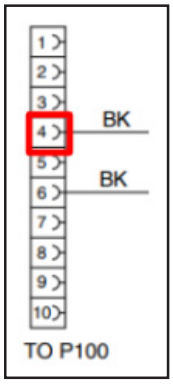
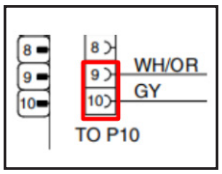
Symptoms	Possible Causes	Corrective Action
No/Low Cool in RC Section FC Section Temperatures are good.	Faulty RC Air Damper **NOTE:** When looking at connectors on the board, the pin numbers are across from each other. Example: 1 3 5 7 9 2 4 6 8 10 Connections **Liner Side to Damper Side** Blue – Blue Red – Red White – White Orange – Yellow RC Damper  HV Board 	Run Test 41 Air Damper Remove the Air Cover to see the Damper. To open and close the damper push Freezer button while in Service Mode. CL = Closed Door OP = Open Door The voltage is a pulse DC that is going to this part. Depending on the meter that is being used, it may not show voltage. If there is an issue reading DC voltage, then switch the meter to AC voltage and see if you can get the same voltage reading. **1.** Check for 12-13 V at the RC damper door between RD to YL when the door is opening and closing. **2.** If voltage is present at the damper while running Service Mode and the damper is not moving, then replace the Air Damper. **3.** If voltage is not present, then go to the HV Board and do the same voltage check at board. HV Board: P12-1 to P12-2 = 12-13 V ■ If voltage is present at the HV Board when running the damper, then check wiring connections to the damper for being loose or open. ■ If voltage is not present, then replace the HV Board.
	Freezer Fan    	Run Test 56 Evaporator Fan Motor **1.** Run Test mode check for DC voltage at HV Board for Evaporator fan motor. P100-4 to P10-10 = 12.7 VDC when the fan is running. P10-9 to P10-10 = 0-12 VDC signal voltage from HV Board. ■ If this is too hard to check at the HV Board, then check at the fan. ■ In Service Mode and fan is ON, check between RD to BLK = 12 VDC. Also check between BLK and Blue (PWM) = 0 to 12 VDC. Fan power is 7.1 W when running. **2.** If the 12.7 VDC is missing, then unplug the FC Fan and recheck for the 12.7 VDC. ■ If voltage is still missing when the fan is unplugged, then check wiring for loose connections. If wiring is good, then replace the HV Board. ■ If the 12.7 VDC is present with the fan unplugged, then replace the fan.

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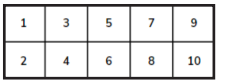
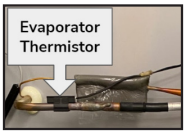
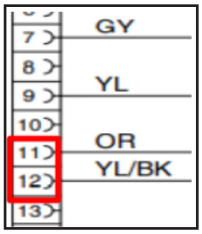
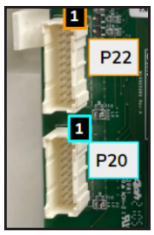
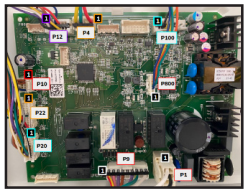
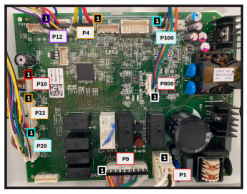
NOTE: Wire colors are subject to change. Go by the pin number on the board.

Symptoms	Possible Causes	Corrective Action
No/Low Cool in RC Section FC Section Temperatures are good.	Evaporator Defrost Thermistor **NOTE:** The Defrost Heater will not work if the Defrost Thermistor is above 60°F. **NOTE:** Thermistor can be checked by placing the Thermistor in an ice water. Do not get electrical connections wet. The water should be ≈ 32°F and leave it for 10 minutes and check. **NOTE:** When looking at connectors on the board, the pin numbers are across from each other. Example:    **HV Board**  	Run Service Test 04 The measured temperature will be displayed on the UI. SH (for short circuit) OP (for open circuit) **1.** Check resistance reading at the HV Board and look for loose wiring at the connections of the HV Board. **2.** If the Thermistor reads out of range at the HV Board, check the wiring and connections and replace the Thermistor. **3.** If the Thermistor resistance reads in range, then look for possible loose connection. HV Board: P20-11 to P20-12 FC Defrost Thermistor output 1.5-5 VDC (maximum). Refer Thermistor Resistance Range Chart for the nominal resistance (tolerance) at different temperatures.
	Check FC Evaporator for Defrost Issue  	Defrost Heater is not working. Service Test 89 runs the Defrost Heater for 5 minutes or until the temperature in the Evaporator rises higher than 60°F. If the Evaporator Defrost Thermistor is above 60°F, the test will not work. **NOTE:** Wire colors are subject to change. Go by the pin number on the board. **1.** Run Test 89 on the Defrost Heater and check voltage P9-7 to P1-2 = 120 VAC FC Defrost Heater. **2.** If the voltage is present, then check wiring for connection issues then check the Defrost Heater for proper resistance. **3.** If the voltage is missing on P9-7 to P1-2, then replace the HV Board. Heater resistance is 27-35 Ω. Power is 450 W.

For Service Technician Use Only

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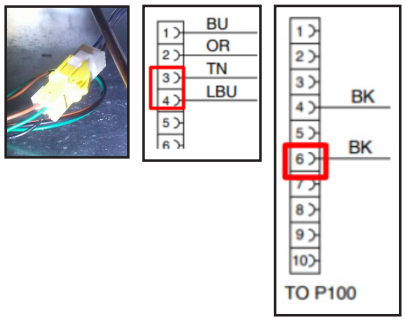
<table>
<tr><th>Symptoms</th><th>Possible Causes</th><th>Corrective Action</th></tr>
<tr><td>No/Low Cool in RC Section
FC Section Temperatures are good.</td><td>Condenser Fan
 
</td><td>Run Test 58 Condenser Fan Motor
00 = OFF
01 = ON
1. Check from P100-6 to P10-4 for 12.7 VDC when the fan is running.
2. If the voltage is present and the fan is not running, then check at the fan motor and wiring.
3. If no voltage is present, then replace the HV Board.
Fan wiring
GRN to BLK = 12 VDC constant
BLK to Brown = 0 VDC fan OFF, 12 VDC Fan ON in test mode
5 W when the fan is running.</td></tr>
<tr><td rowspan="4">No/Low Cool in FC Section</td><td>Compressor Issue
<table><tr><th>LED Status</th><th>LED Status Description</th></tr><tr><td>1 flash
15 seconds period</td><td>Normal operation</td></tr><tr><td>2 flash
5 seconds period</td><td>Control communication problem</td></tr><tr><td>3 flash
5 seconds period</td><td>VCC Inverter Problem</td></tr><tr><td>4 flash
5 seconds period</td><td>VCC Compressor problem</td></tr><tr><td>1 flash
0.5 seconds period</td><td>Temperature protection active</td></tr></table></td><td>Check to see if the compressor is running.
1. If the compressor is not running then refer to flashing LED light on the Inverter section.
2. If the compressor is running, then continue to check product temperature.</td></tr>
<tr><td>Check Product Temperature
NOTE: Do not use an infrared scanner. The surfaces of a refrigerator are highly reflective to an IR light. When measuring with an IR non-contact device, it is probable that you are measuring reflected temperature and not surface temperatures.</td><td>IMPORTANT: Do not use an Infrared temperature gun.
Verify unit temperature with probe or thermometer and compare to set points before starting service.</td></tr>
<tr><td>FC Door Gasket</td><td>Verify if the FC door gasket is sealing all the way around the product with no gaping.
1. If gaps are present, use a heat gun on a low heat setting and heat the gasket to reshape the part so that it seals properly.
2. If the gasket does not hold shape, replace the gasket.</td></tr>
<tr><td>Air Flow</td><td>Check for restricted air flow on the Evaporator.
Check for issues like FC Evaporator defrost, FC Fan operation and air return blocked could cause this.</td></tr>
<tr><td>Loose Wire Harness</td><td>Check for loose connections or backed out wiring from the connector. Resecure any loose connections.</td></tr>
</table>

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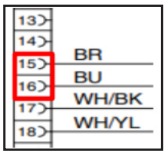
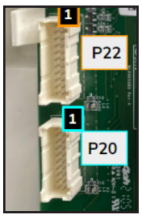
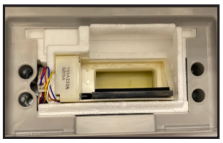
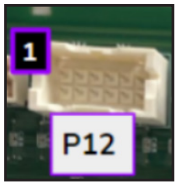
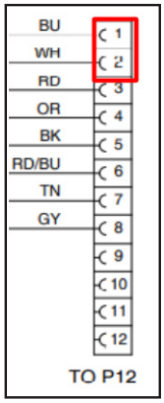
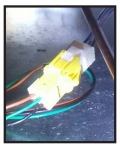
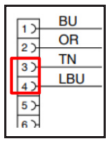
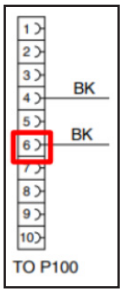
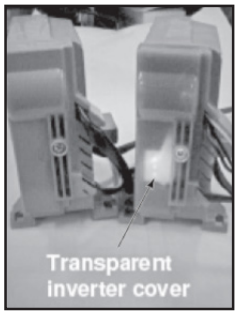
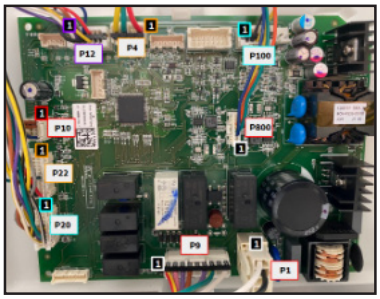
NOTE: Wire colors are subject to change. Go by the pin number on the board.

Symptoms	Possible Causes	Corrective Action
No/Low Cool in FC Section	FC Thermistor **NOTE:** Thermistor can be checked by placing the Thermistor in an ice water. Do not get electrical connections wet. The water will be ≈ 32°F and leave it for 10 minutes and check. **NOTE:** When looking at connectors on the board, the pin numbers are across from each other. Example: 1 3 5 7 9 2 4 6 8 10   	Run Test 02 FC Thermistor The read out will show on UI. °F/°C Temperature OP = OPEN > 88 kΩ SH = SHORT < 1600 Ω **1.** If the Thermistor reads Open or Shorted, then do an ohm reading HV Board. **2.** If the Thermistor resistance reads out of range at the HV Board, then check the wiring and replace the Thermistor. **3.** If the Thermistor reads in spec at the HV Board, then change the board. HV Board: P20-15 to P20-16 Refer Thermistor Resistance Range Chart for the nominal resistance (tolerance) at different temperatures.
	Faulty RC Air Damper **NOTE:** When looking at connectors on the board, the pin numbers are across from each other. Example: 1 3 5 7 9 2 4 6 8 10 Connections **Liner Side to Damper Side** Blue – Blue Red – Red White – White Orange – Yellow RC Damper  HV Board  	Run Test 41 Air Damper Remove the Air Cover to see the Damper. To open and close the Damper, push Freezer button while in Service Mode. CL = Closed Door OP = Open Door The voltage is a pulse DC that is going to this part. Depending on the meter that is being used, it may not show voltage. If there is an issue reading DC voltage, then switch the meter to AC voltage and see if you can get the same voltage reading. **1.** Check for 12-13 V at the RC damper door between RD to YL when the door is opening and closing. **2.** If voltage is present at the damper while running Service Mode and the damper is not moving, then replace the Air Damper. **3.** If voltage is not present, then go to the HV Board and do the same voltage check at board. HV Board: P12-1 and P12-2 = 12-13 V. ■ If voltage is present at the HV Board when running the damper, then check wiring connections to the damper for being loose or open. ■ If voltage is not present, then replace the HV Board.

For Service Technician Use Only

Cooling

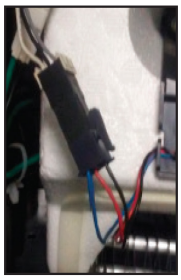
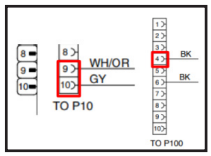
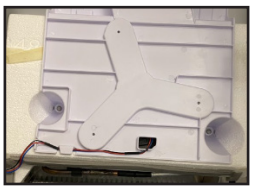
NOTE: Wire colors are subject to change. Go by the pin number on the board.

Symptoms	Possible Causes	Corrective Action
No/Low Cool in FC section	Condenser Fan   	Run Test 58 Condenser Fan Motor When in test mode, the display will say ON. **1.** Check from P100-6 to P10-4 for 12.7 VDC when the fan is running. **2.** If the voltage is present and the fan is not running, then check at the fan motor and wiring. **3.** If no voltage is present, then replace the HV Board. Fan connection Green to BLK = 12 VDC constant BLK to Brown = 12 VDC when the fan is running in test mode.
	Flashing LED Light on Inverter. Do not unplug the appliance.   **LED Status / LED Status Description** 1 flash, 15 seconds period — Normal operation 2 flash, 5 seconds period — Control communication problem 3 flash, 5 seconds period — VCC Inverter Problem 4 flash, 5 seconds period — VCC Compressor problem 1 flash, 0.5 seconds period — Temperature protection active	The Inverter performs a self diagnostic check at the beginning of each cooling cycle. An LED on the Inverter blinks a code to signal a failure. Follow the diagnostic code. Diagnostic LED Codes are: **One flash every 15 seconds:** No failure detected, the Inverter software finds no defect with the Compressor or Inverter. **One flash every 0.5 seconds:** Temperature protection active. Check air flow around the compressor area. Make sure the Condenser Fan is running and the unit is installed correctly. **Two flashes every 5 seconds:** No 3-6 VDC signal from the control board: The 3-6 VDC is signal voltage to determine the compressor speed. This can be caused by a shorted component on the low voltage circuit. ■ Check for shorted FC Fan, supply Air Damper. ■ Check wiring to make sure all connections are secured. **Three flashes every 5 seconds:** Inverter failure: the software has detected an issue with the Inverter. ■ Before replacing the Inverter ohm out the compressor windings (refer to tech sheet for ohm readings). ■ If the windings are Open or Shorted, replace the compressor also. ■ If the windings are good, replace Inverter. **Four flashes every 5 seconds:** Compressor failure: The software has detected an issue with the compressor. The compressor windings may be bad or the compressor is locked. This can also indicate a possible restriction in the Sealed system. ■ If the compressor windings are in spec, check for restrictions and replace the compressor. ■ If the compressor was changed and gives this flashing indicator, then check for high head pressure like a restriction. ■ See check Sealed system section. HV Board checks: ■ P10-1 to P10-2 = 3-6 VDC Inverter output. Inverter wires: ■ 3-6 VDC constant when the compressor is running. ■ Also check for 120 VAC on BK to WH going to the Inverter.

For Service Technician Use Only

Cooling

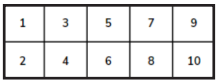
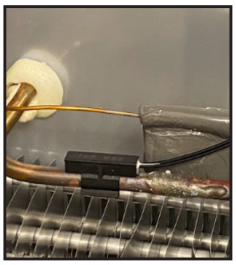
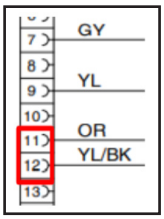
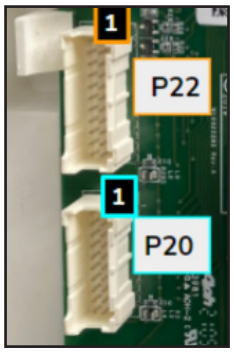
NOTE: Wire colors are subject to change. Go by the pin number on the board.

Symptoms	Possible Causes	Corrective Action
No/Low Cool in FC Section	Faulty Compressor Watts/Sealed System	Run Test 40 Compressor When you enter the service step and it goes to ON right away. off - OFF on - ON (Compressor On + Condenser Fan at 100%) **1.** When maximum speed is reached, check the wattage of the unit with a Watt Meter. **2.** Refer to technical training pointer #: W10683203. This will help you determine sealed system issues. **3.** There is a Seal System Troubleshooting Guide for this unit, Use UV Dye Drier (R134a Only), nitrogen, and soap bubbles to identify Sealed System leaks or restrictions.
	Freezer Fan   	Run Test 56 Evaporator Fan Motor **1.** Run test mode check for DC voltage at HV Board for Evaporator fan motor. P100-4 to P10-10 = 12.7 VDC when the fan is running. P10-9 to P10-110 = 0-12 VDC signal voltage from HV Board. If this is too hard to check at the HV Board, then check at the fan. ■ In Service Mode and fan is ON, check between RD to BLK = 12 VDC Also check between BLK and Blue (PWM) = 12 VDC in test mode. Fan power is 7.1 W when running. **2.** If the 12.7 VDC is missing, then unplug the FC Fan and recheck for the 12.7 VDC. ■ If voltage is still missing when the fan is unplugged, then check wiring for loose connections. If wiring is good, then replace the HV Board. ■ If the 12.7 VDC is present with the fan unplugged, then replace the fan.

For Service Technician Use Only

Cooling

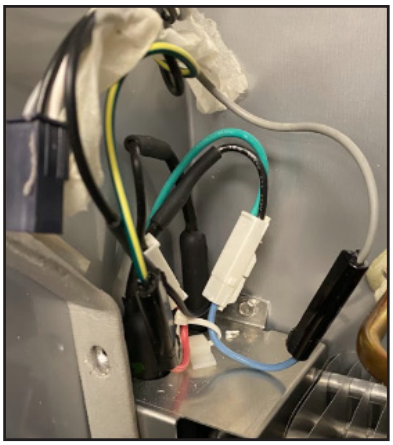
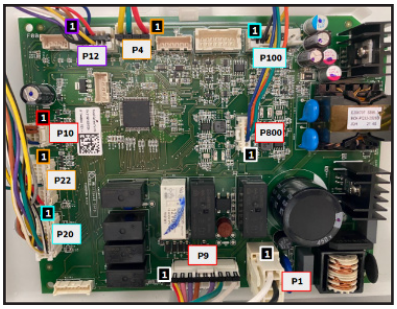
NOTE: Wire colors are subject to change. Go by the pin number on the board.

Symptoms	Possible Causes	Corrective Action
No/Low Cool in FC Section	Faulty FC Defrost Thermistor **NOTE:** In normal defrost the Heater will pulse on and off till the Defrost Thermistor reaches 50°F. **NOTE:** The Defrost Heater will not work if the Defrost Thermistor is above 60°F. **NOTE:** Thermistor can be checked by placing the Thermistor in an ice water. Do not get electrical connections wet. The water should be ≈ 32°F and leave it for 10 minutes and check. **NOTE:** When looking at connectors on the board, the pin numbers are across from each other. Example:     	Service Test 04 The measured temperature will displayed on UI or SH (for short circuit) OP (for open circuit) will be displayed. **1.** Check resistance reading at the HV Board and look for loose wiring at the connections of the HV Board. **2.** If the Thermistor reads out of range at the HV Board, check the wiring and connections and replace the Thermistor. **3.** If the Thermistor resistance reads in range, go to the next section. HV Board: P20-11 to P20-12 FC Defrost Thermistor output 1.5-5 VDC (maximum). Refer Thermistor Resistance Range Chart for the nominal resistance (tolerance) at different temperatures.

For Service Technician Use Only

Cooling

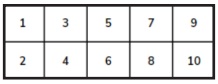
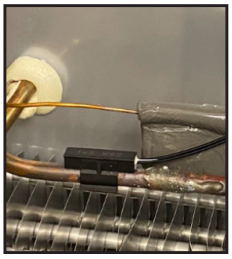
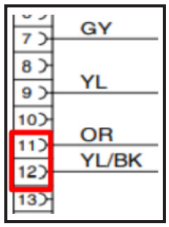
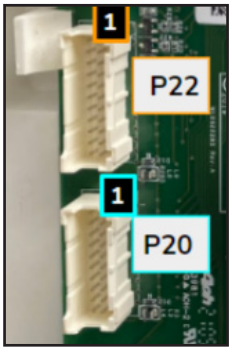
NOTE: Wire colors are subject to change. Go by the pin number on the board.

Symptoms	Possible Causes	Corrective Action
No/Low Cool in FC Section	Defrost Heater **NOTE:** There is a thermal fuse on both sides of the Defrost Heater.  	Run Service Test 89 This runs the Defrost Heater for 5 minutes or until the temperature in the Evaporator rises higher than 60°F. If the Thermistor is above 60°F the test will not work. **NOTE:** Wire colors are subject to change. Go by the pin number on the board. **1.** Run on the Defrost Heater and check voltage P9-7 to P1-2 = 120 VAC FC Defrost Heater. **2.** If the voltage is present, then check wiring for connection issues then check the Defrost Heater for proper resistance. **3.** If the voltage is missing on P9-7 to P1-2, then replace the HV Board. Heater resistance is 27-35 Ω. Power is 450 W.
FC not Defrosting	Door Gasket	Check to see if the RC door gaskets are sealing all the way around the product with no gaping. **1.** If gaps are present, use a heat gun on a low heat setting and heat the gasket to reform the part so that it seals properly. **2.** If the gasket does not hold shape, then replace the gasket.
	Air Flow	Check for restricted air flow on the Evaporator. Issues like FC Evaporator defrost, FC Fan operation and air return.
	FC Drain Line	Check the drain line for any debris in the line stopping water from draining to the pan.
	Loose Wire Harness	Check for loose connections or backed out wiring from the connector. Resecure any loose connections.

For Service Technician Use Only

Cooling

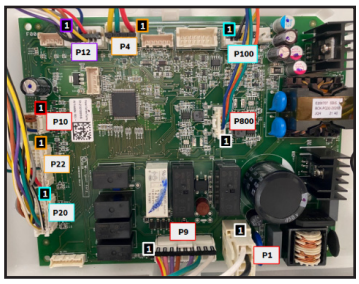
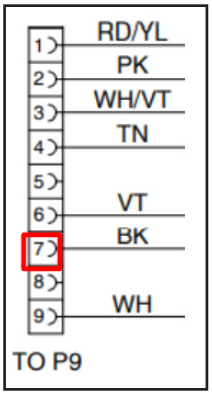
NOTE: Wire colors are subject to change. Go by the pin number on the board.

Symptoms	Possible Causes	Corrective Action
FC not Defrosting	Faulty FC Defrost Thermistor **NOTE:** In normal defrost the Heater will pulse on and off till the Defrost Thermistor reaches 50°F. **NOTE:** The Defrost Heater will not work if the Defrost Thermistor is above 60°F. **NOTE:** Thermistor can be checked by placing the Thermistor in an ice water. Do not get electrical connections wet. The water should be ≈ 32°F and leave it for 10 minutes and check. **NOTE:** When looking at connectors on the board, the pin numbers are across from each other. Example:     	Service Test 04 The measured temperature will displayed on UI or SH (for short circuit) OP (for open circuit) will be displayed. **1.** Check resistance reading at the HV Board and look for loose wiring at the connections of the HV Board. **2.** If the Thermistor reads out of range at the HV Board, check the wiring and connections and replace the Thermistor. **3.** If the Thermistor resistance reads in range, go to the next section. HV Board: P20-11 to P20-12 FC Defrost Thermistor output 1.5-5 VDC (maximum). Refer Thermistor Resistance Range Chart for the nominal resistance (tolerance) at different temperatures.

For Service Technician Use Only

Cooling

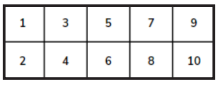
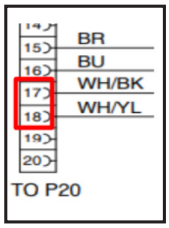
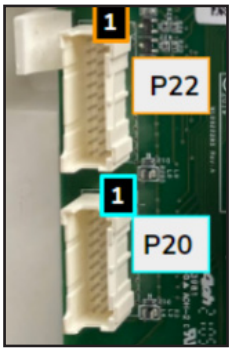
NOTE: Wire colors are subject to change. Go by the pin number on the board.

Symptoms	Possible Causes	Corrective Action
FC not Defrosting	Defrost Heater **NOTE:** In normal defrost the Heater will pulse on and off till the Defrost Thermistor reaches 50°F. **NOTE:** The Defrost Heater will not work if the Defrost Thermistor is above 60°F.  	Run Service Test 89 Defrost Heater. Remove the Evaporator Cover and see if the Evaporator is FC defrosting. **1.** Check voltage across the Defrost Heater. This should be 120 VAC. ■ If the voltage is not present at the Heater, then check wiring and HV Board. ■ If voltage is present at the Heater, then check wiring connections and replace the Heater. **2.** If the voltage is not present at the FC Defrost Heater. ■ Check voltage at the HV Board. P9-7 to P1-2 = 120 VAC. ■ If voltage is present at board but not at Heater and thermal fuses on Heater are good, then look for bad wiring harness or loose connections. ■ If voltage is not present at the HV Board, then replace the board. Heater resistance is 27-35 Ω. Power is 450 W.
FC too Cold Display showing temperatures too cold	Check Control Settings	Have the owner adjust FC controls to a warmer setting and wait 24 hours to see if the issue stops.
	Max Cool is ON	Refrigerator operating in the “Max Cool” mode. Press the “Max Cool” button to return to normal operation.
	Ice Maker Producing Ice	If the unit is making ice the control drives the temperature to the coldest temperature of -5°F to -7°F Once the unit shuts off it can get as cold as -10°F. **1.** If the -10°F temperature is there longer than 24 hours, then look at the wiring connection for loose or backed out connection. **2.** If connections are good and the issue remains, then refer to the RC and FC Thermistor sections.
	Loose Wire Harness	Check for loose connections or backed out wiring from the connector. Resecure any loose connections.

For Service Technician Use Only

Cooling

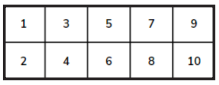
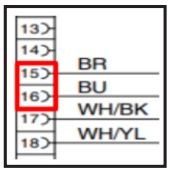
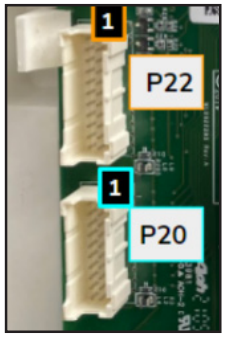
NOTE: Wire colors are subject to change. Go by the pin number on the board.

Symptoms	Possible Causes	Corrective Action
FC too Cold Display showing temperatures too cold	RC Thermistor **NOTE:** Thermistor can be checked by placing the Thermistor in an ice water. Do not get electrical connections wet. The water will be ≈ 32°F and leave it for 10 minutes and check. **NOTE:** When looking at connectors on the board, the pin numbers are across from each other. Example:     	Run Test 01 RC Thermistor The read out will show on UI. °F/°C Temperature OP = OPEN > 88 kΩ SH = SHORT < 1600 Ω **1.** If the Thermistor reads Open or Shorted, then check the wiring and check resistance of the Thermistor at the HV Board. **2.** If the Thermistor resistance reads out of range at the HV Board, then check the wiring and replace the Thermistor. **3.** If the display shows temperature, then the Thermistor is giving the right reading to the board but still could have connection issue, Check all wiring connections for wiring that are backed out of the connector or loose. HV Board: P20-17 to P20-18 RC Sensor. Refer Thermistor Resistance Range Chart for the nominal resistance (tolerance) at different temperatures.

For Service Technician Use Only

Cooling

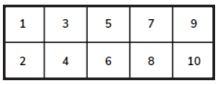
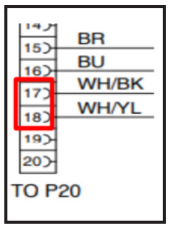
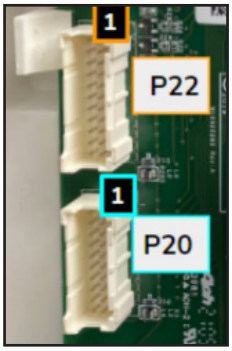
NOTE: Wire colors are subject to change. Go by the pin number on the board.

Symptoms	Possible Causes	Corrective Action
FC too Cold Display Showing Temperatures too Cold	FC Thermistor **NOTE:** Thermistor can be checked by placing in an ice water. Do not get electrical connections wet. The water should be ≈ 32°F and leave it for 10 minutes and check. **NOTE:** When looking at connectors on the board, the pin numbers are across from each other. Example:     	Run Test 02 FC Thermistor The read out will show on UI. °F/°C Temperature OP = OPEN > 88 kΩ SH = SHORT < 1600 Ω **1.** If the Thermistor reads Open or Shorted, then do an ohm reading HV Board. **2.** If the Thermistor resistance reads out of range at the HV Board, then check the wiring and replace the Thermistor. **3.** If the Thermistor reads in spec at the HV Board, then change the board. HV Board: P20-15 to P20-16. Refer Thermistor Resistance Range Chart for the nominal resistance (tolerance) at different temperatures.
RC Display Showing too Cold RC Freezing	Check Control Settings	Have the owner adjust RC controls to a warmer setting and wait 24 hours to see if the issue stops.
	Loose Wire Harness	Check for loose connections or backed out wiring from the connector. Resecure any loose connections.

For Service Technician Use Only

Cooling

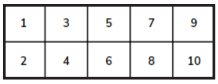
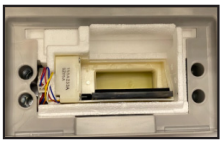
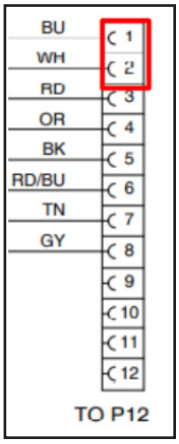
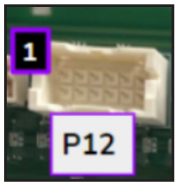
NOTE: Wire colors are subject to change. Go by the pin number on the board.

Symptoms	Possible Causes	Corrective Action
RC Display Showing too Cold RC Freezing	RC Thermistor **NOTE:** Thermistor can be checked by placing in an ice water. Do not get electrical connections wet. The water will be ≈ 32°F and leave it for 10 minutes and check. **NOTE:** When looking at connectors on the board, the pin numbers are across from each other. Example:     	Run Test 01 RC Thermistor The read out will show on UI. °F/°C Temperature OP = OPEN > 88 kΩ SH = SHORT < 1600 Ω **1.** If the Thermistor reads Open or Shorted, then check the wiring and check resistance of the Thermistor at the HV Board. **2.** If the Thermistor resistance reads out of range at the HV Board, then check the wiring and replace the Thermistor. **3.** If the display shows temperature, then the Thermistor is giving the right reading to the board but still could have connection issue, Check all wiring connections for wiring that are backed out of the connector or loose. HV Board: P20-17 to P20-18 RC Sensor. Refer Thermistor Resistance Range Chart for the nominal resistance (tolerance) at different temperatures.

For Service Technician Use Only

Cooling

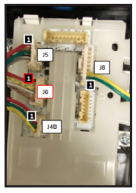
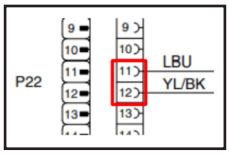
NOTE: Wire colors are subject to change. Go by the pin number on the board.

Symptoms	Possible Causes	Corrective Action
RC Display Showing too Cold RC Freezing	Faulty RC Air Damper **NOTE:** When looking at connectors on the board, the pin numbers are across from each other. Example:  Connections **Liner Side to Damper Side** Blue — Blue Red — Red White — White Orange — Yellow RC Damper   HV Board  	Run Test 41 Air Damper Remove the Air Cover to see the Damper. To open and close the damper push Freezer button while in Service Mode. CL = Closed Door OP = Open Door The voltage is a pulse DC that is going to this part. Depending on the meter that is being used, it may not show voltage. If there is an issue reading DC voltage, then switch the meter to AC voltage and see if you can get the same voltage reading. **1.** Check for 12-13 V at the RC damper door between RD to YL when the door is opening and closing. **2.** If voltage is present at the damper while running Service Mode and the damper is not moving, then replace the Air Damper. **3.** If voltage is not present, then go to the HV Board and do the same voltage check at board. HV Board: P12-1 and P12-2 = 12-13 V. ■ If voltage is present at the HV Board when running the damper, then check wiring connections to the damper for being loose or open. ■ If voltage is not present, then replace the HV Board.

For Service Technician Use Only

Pantry Temperature Issues

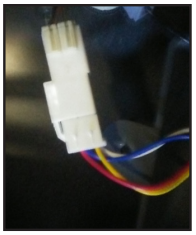
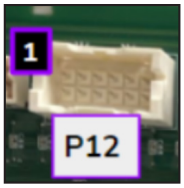
NOTE: Wire colors are subject to change. Go by the pin number on the board.

Symptoms	Possible Causes	Corrective Action
No Display on UI Control	Missing Voltage at Freeman UI Temperature UI  Dispenser Units  Non-Dispenser Units	Check for 14 VDC at the connection of the UI Temperature Board (Freeman UI). J4B-1 to J4B-3 = 14 VDC. **1.** If voltage is not present at the connection, then check for power at the Callisto HV Board. P4-1 to P4-4 = 14 VDC A. If voltage is not present at the Callisto board, then replace the board. B. If voltage is present at the Callisto board and not at UI, then check for wiring or connection issues. **2.** If voltage is present at the UI and UI is not coming on, then replace the UI.
Temperature Controlled Pantry Freezing	Product Temperature **NOTE:** Do not use an Infrared scanner. The surfaces of a refrigerator are highly reflective to an IR light. When measuring with an IR non-contact device, it is probable that you are measuring reflected temperature and not surface temperatures.	**IMPORTANT:** Do not use Infrared Temperature Gun. Verify unit temperature with probe or Thermometer and compare to set points before starting service. Setting temperatures: **1.** Meat - setpoint = 33.8°F **2.** Produce (KA) = Beverages (JA) - The crisper will be 2-4°F warmer than RC temperature. **3.** Assorted - setpoint = 35.6°F **4.** Deli - setpoint = 37.4°F
	Product Loading	**1.** There may be an issue where containers are blocking air flow or items are interfering with the door closing and causing warm spots in the RC section. **2.** Make sure the customer is not putting hot food in the unit.
	RC Door Gasket	Check to see if the RC door gaskets are sealing all the way around the product with no gaping. **1.** If gaps are present, use a heat gun on a low heat setting and heat the gasket to reform the part so that it seals properly. **2.** If the gasket does not hold shape, then replace the gasket.
	Check for Air Leaks Around Damper	Remove cover and check for air leaks around the damper. Replace the parts as needed.
	Crisper Thermistor Malfunction HV Board  Crisper Thermistor 	Run Test 05 On the crisper Thermistor to see if it shows temperature, Open or Shorted. **1.** If read out is OP or SH on display, then check the Thermistor at the HV Board with the P22 connection unplugged. Check between the P22-11 to P22-12 to see if the Thermistor is in spec. Also check wiring, if it is good, then replace the Thermistor. **2.** If the temperature is showing in the display and it matches the temperature in crisper, then the Thermistor is ok. Refer Thermistor Resistance Range Chart for the nominal resistance (tolerance) at different temperatures.

For Service Technician Use Only

Pantry Temperature Issues

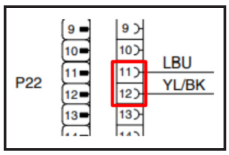
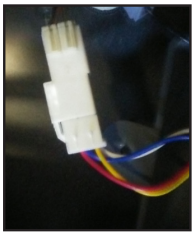
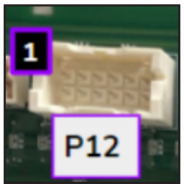
NOTE: Wire colors are subject to change. Go by the pin number on the board.

<table>
<tr><th>Symptoms</th><th>Possible Causes</th><th>Corrective Action</th></tr>
<tr><td>Temperature Controlled Pantry Freezing</td><td>Pantry Damper
NOTE: When looking at connectors on the board, the pin numbers are across from each other.
Example:
<table><tr><td>1</td><td>3</td><td>5</td><td>7</td><td>9</td></tr><tr><td>2</td><td>4</td><td>6</td><td>8</td><td>10</td></tr></table>
Connections
<table><tr><th colspan="2">Liner Side to Damper Side</th></tr><tr><td>Blue</td><td>Blue</td></tr><tr><td>Brown</td><td>Red</td></tr><tr><td>Blue</td><td>White</td></tr><tr><td>Gray</td><td>Yellow</td></tr></table>HV Board
   </td><td>Run Test 42 Pantry Air Damper
Remove the Air Cover to see the Damper.
To open and close the Damper push Freezer button while in Service Mode.
CL = Closed Door
OP = Open Door
The voltage is a pulse DC that is going to this part. Depending on the meter that is being used, it may not show voltage. If there is an issue reading DC voltage, then switch the meter to AC voltage and see if you can get the same voltage reading.
1. Check for 12-13 V at the RC damper door between RD to YL when the door is opening and closing.
2. If voltage is present at the damper while running Service Mode and the damper is not moving, then replace the Air Damper.
3. If voltage is not present, then go to the HV Board and do the same voltage check at board.
HV Board: P12-5 to P12-6 = 12-13 V.
■ If voltage is present at the HV Board when running the damper, then check wiring connections to the damper for being loose or open.
■ If voltage is not present, then replace the HV Board. Damper windings RD to YL 430 Ω.</td></tr>
<tr><td rowspan="4">Temperature Controlled Pantry too Warm</td><td>Product Temperature
NOTE: Do not use an Infrared scanner. The surfaces of a refrigerator are highly reflective to an IR light. When measuring with an IR non-contact device, it is probable that you are measuring reflected temperature and not surface temperatures.</td><td>IMPORTANT: Do not use an Infrared temperature gun. Verify unit temperature with probe or thermometer and compare to set points before starting service.
Setting temperatures:
1. Meat - setpoint = 33.8°F
2. Produce (KA) = Beverages (JA) - The crisper will be 2-4°F warmer than RC temperature.
3. Assorted - setpoint = 35.6°F
4. Deli - setpoint = 37.4°F</td></tr>
<tr><td>Product Loading</td><td>1. There may be an issue where containers are blocking air flow or items are interfering with the door closing and causing warm spots in the RC section.
2. Make sure the customer is not putting hot food in the unit.</td></tr>
<tr><td>RC Door Gasket</td><td>Check to see if the RC door gaskets are sealing all the way around the product with no gaping.
1. If gaps are present, use a heat gun on a low heat setting and heat the gasket to reform the part so that it seals properly.
2. If the gasket does not hold shape, then replace the gasket.</td></tr>
<tr><td>Check for Air Leaks Around Damper</td><td>Remove cover and check for air leaks around the damper. Replace the parts as needed.</td></tr>
</table>

For Service Technician Use Only

Pantry Temperature Issues

NOTE: Wire colors are subject to change. Go by the pin number on the board.

Symptoms	Possible Causes	Corrective Action
Temperature Controlled Pantry too Warm	Crisper Thermistor Malfunction HV Board  Crisper Thermistor 	Run Test 11 On the pan Thermistor to see if it shows temperature, Open or Shorted. **1.** If read out is OP or SH on display, then check the Thermistor at the HV Board with the P22 connection unplugged. Check between the P22-11 to P22-12. If the Thermistor reads above 1.6 kΩ or below 88 kΩ and wiring is good, then replace the Thermistor. **2.** If the temperature is showing in the display and it matches the temperature in crisper, then the Thermistor is ok. Refer Thermistor Resistance Range Chart for the nominal resistance (tolerance) at different temperatures.
	Pantry Damper **NOTE:** When looking at connectors on the board, the pin numbers are across from each other. Example: 1 3 5 7 9 2 4 6 8 10 Connections **Liner Side to Damper Side** BLK – Blue Brown – Red Blue – White Gray – Yellow HV Board  	Run Test 42 Pantry ir Damper Remove the Air Cover to see the Damper. To open and close the Damper push Freezer button while in Service Mode. CL = Closed Door OP = Open Door The voltage is a pulse DC that is going to this part. Depending on the meter that is being used, it may not show voltage. If there is an issue reading DC voltage, then switch the meter to AC voltage and see if you can get the same voltage reading. **1.** Check for 12-13 V at the RC damper door between RD to YL when the door is opening and closing. **2.** If voltage is present at the damper while running Service Mode and the damper is not moving, then replace the Air Damper. **3.** If voltage is not present, then go to the HV Board and do the same voltage check at board. HV Board: P12-5 to P12-6 = 12-13 V. ■ If voltage is present at the HV Board when running the damper, then check wiring connections to the damper for being loose or open. ■ If voltage is not present, then replace the HV Board. Damper windings RD to YL 430 Ω.

For Service Technician Use Only

Pantry Temperature Issues

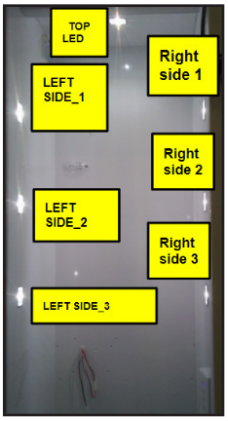
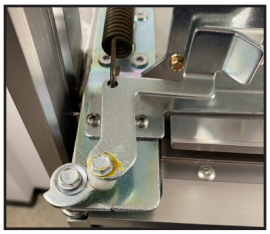
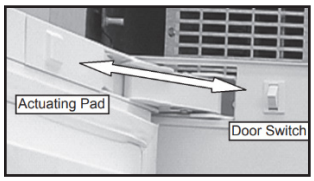
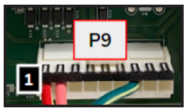
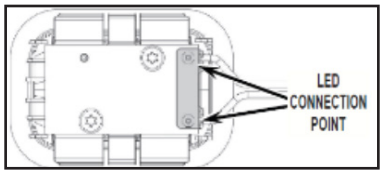
NOTE: Wire colors are subject to change. Go by the pin number on the board.

Symptoms	Possible Causes	Corrective Action
Crisper Freezing (Non temperature controlled)	Incorrect Control Settings Check product temperature. **NOTE:** Do not use an Infrared scanner. The surfaces of a refrigerator are highly reflective to an IR light. When measuring with an IR non-contact device it is probable that you are measuring reflected temperature and not surface temperatures.	Verify unit product temperature with probe or thermometer and compare to set points before starting service. Product temperature should be within ±2°F of set point. **1.** If the product is too warm then go to the next section. **2.** If the product is too cold, then go to the symptom column that matches the issue. **3.** If temperature is within range, then look at possible use and care issues like, product placement and temperature adjustments. **IMPORTANT:** Do not use an Infrared temperature gun.
	Leaking Damper Seals	The temperature controlled Pantry damper could be leaking air between the seal and liner. If seals are leaking or damaged, then replace seals.
	Air Flow	Make sure air return is not blocked or product blocking air flow.
	RC Compartment set too cold	If the RC compartment is set too cold this could cause the crisper to freeze. Raise RC compartment by 2°F.
Crispers are too Warm (Non temperature controlled)	Incorrect Control Settings Check product temperature. **NOTE:** Do not use an Infrared scanner. The surfaces of a refrigerator are highly reflective to an IR light. When measuring with an IR non-contact device it is probable that you are measuring reflected temperature and not surface temperatures.	Verify unit product temperature with probe or thermometer and compare to set points before starting service. Product temperature should be within ±2°F of set point. **1.** If the product is too warm then go to the next section. **2.** If the product is too cold, then go to the symptom column that matches the issue. **3.** If temperature is within range, then look at possible use and care issues like, product placement and temperature adjustments. **IMPORTANT:** Do not use an Infrared temperature gun.
	RC Door Gasket	Check RC door gasket for gaping. **1.** If gaps are present, use a heat gun on a low heat setting and heat the gasket to reshape the part so that it seals properly. **2.** If the gasket does not hold shape, replace the gasket.
	Product Loading	**1.** There may be an issue where containers are blocking air flow or items are interfering with the door closing and causing warm spots in the RC section. **2.** Make sure the customer is not putting hot food in the unit.
	Crisper Drawer not Closing	Make sure the Crisper is closing all the way to help hold the temperature in the Crisper.

For Service Technician Use Only

RC and FC Lights

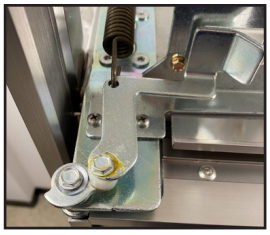
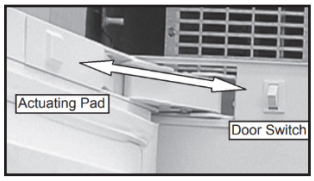
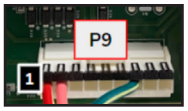
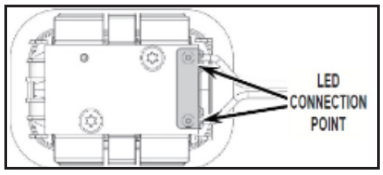
NOTE: Wire colors are subject to change. Go by the pin number on the board.

Symptoms	Possible Causes	Corrective Action
No/Flickering/Dim RC Lights and Crisper **NOTE:** The lights are wired in series. 	Sabbath Mode	If the unit is in Sabbath Mode the lights will shut off. Press the Sabbath Mode button to turn on. Press Sabbath Mode again to turn off Sabbath Mode.
	Lights turned lights off due to door open too long	If the door is left open too long the lights will shut off and a door open signal will be heard. Make sure nothing is blocking the door from closing properly.
	Loose Wire Harness	Check for loose connections or backed out wiring from the connector. Resecure any loose connections.
	RC Door Switch KitchenAid  JennAir  HV Board  Dispenser Units  Non-Dispenser Units 	Make sure the RC door switch is working correctly. Run Test 44 to see if lights work. If lights works, then proceed to step 1. **1.** With the RC door open, check for voltage at the HV Board from P9-1 to P1-2 for 120 VAC. ■ If voltage is missing, then go to the light switch and see if you have voltage. ■ If voltage is present at the switch then check for open or bad connections. ■ If voltage is present at the switch but not at the board, then check wiring for open or loose connections. **2.** If voltage is present at the HV Board, then check power out to the lights from P80-3 to P80-4 of the HV Board. ■ If voltage is missing and the door switch is working correctly, then change the HV Board. ■ If voltage is present at the board and is present at the light, then replace the light. ■ If voltage is missing at light, then check the wiring harness for loose or bad connections.
	Faulty LED Light 	The LED lights in each compartment are wired in series. Depending on the number of lights in the series, the voltage at the HV Board will be from 3-30 VDC depending on the number of lights in the circuit. Also make sure wiring in the connector at the LED light is not backwards. If this happens, only that light will not work.

For Service Technician Use Only

RC and FC Lights

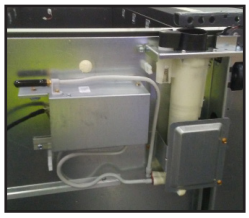
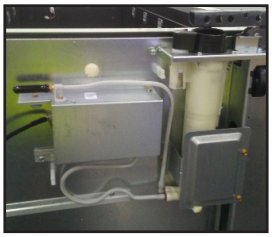
NOTE: Wire colors are subject to change. Go by the pin number on the board.

Symptoms	Possible Causes	Corrective Action
No/Flickering/Dim FC Light **NOTE:** The lights are wired in series. 	Sabbath Mode	If the unit is in Sabbath Mode the lights will shut off. Press the Sabbath Mode button to turn on. Press Sabbath Mode again to turn off Sabbath Mode.
	Lights turned lights off due to door open too long	If the door is left open too long the lights will shut off and a door open signal will be heard. Make sure nothing is blocking the door from closing properly.
	FC Door Switch  Non-Dispenser Units KitchenAid  JennAir  HV Board  Dispenser Units  Non-Dispenser Units 	Make sure the FC Door Switch is working correctly. Run Test 45 to see if lights work. If lights works, then proceed to step 1. **1.** With the FC door open, check for voltage at the HV Board from P9-2 to P1-2 for 120 VAC. ■ If voltage is missing, then go to the light switch and see if you have voltage. ■ If voltage is present at the switch then check for open or bad connections. ■ If voltage is present at the switch but not at the board, then check wiring for open or loose connections. **2.** If voltage is present at the HV Board, then check power out to the lights from P80-5 to P80-6 of the HV Board. ■ If voltage is missing and the door switch is working correctly, then change the HV Board. ■ If voltage is present at the board and is present at the light, then replace the light. ■ If voltage is missing at light, then check the wiring harness for loose or bad connections.
	Faulty LED Light 	The LED lights in each compartment are wired in series. Depending on the number of lights in the series, the voltage at the HV Board will be from 3-30 VDC depending on the number of lights in the circuit. Also make sure wiring in the connector at the LED light is not backwards. If this happens, only that light will not work.

For Service Technician Use Only

Ice Maker Issues

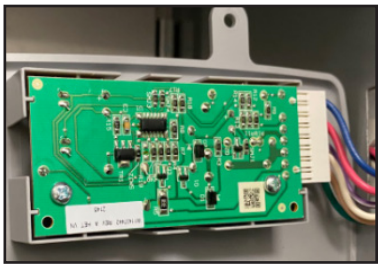
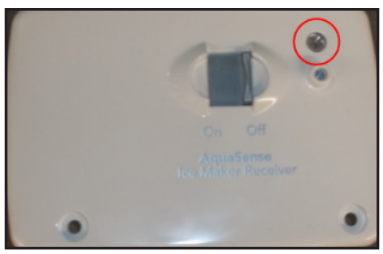
NOTE: Wire colors are subject to change. Go by the pin number on the board.

Symptoms	Possible Causes	Corrective Action
No/Slow Ice **NOTE:** For Dispenser Units, the fill time is 6.10-6.99 seconds, which yields ~110-156 CC of water depending on pressure and filter. **NOTE:** For Non-Dispenser Units, there will be no power to the ice maker till the FC thermistor senses the compartment is 16°F.	Product Temperature **NOTE:** Do not use an Infrared scanner. The surfaces of a refrigerator are highly reflective to an IR light. When measuring with an IR non-contact device, it is probable that you are measuring reflected temperature and not surface temperatures.	**IMPORTANT:** Do not use an Infrared temperature gun. Verify unit temperature with probe or thermometer and compare to set points before starting service. **NOTE:** Freezer temperature must be at least 16°F for the ice maker to work.
	Make sure water supply is not turned off/no kinked water line 	Make sure water supply is turned on to the unit and there are no kinked water lines to the unit.
	Water Filter 	Make sure the water filter is not plugged or not inserted all the way.
	Fill Tube Frozen	For Dispenser Units: Check for a frozen ice maker Fill Tube. If the fill tube is frozen, check for a leaking water valve or bad water pressure. For Non-Dispenser Units: Check for a frozen ice maker Fill Tube. **1.** If the Fill Tube is frozen, check for a leaking water valve. If the valve is not leaking, then check the faulty Fill Tube heater section. **2.** If the Fill Tube is clear, then go to the “Missing power to the FC IM” section.
	Check FC Door Switch (For Dispenser Units Only)	Make sure the FC Door Switch is closing all the way. If the switch is not not closing all the way, then check the hinge arm for being out of position.

For Service Technician Use Only

Ice Maker Issues

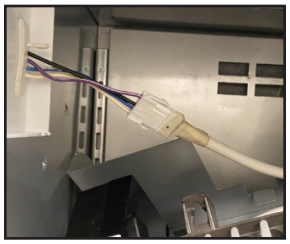
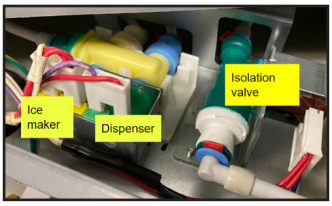
NOTE: Wire colors are subject to change. Go by the pin number on the board.

Symptoms	Possible Causes	Corrective Action
No/Slow Ice **NOTE:** For Dispenser Units, the fill time is 6.10-6.99 seconds, which yields ~110-156 CC of water depending on pressure and filter. **NOTE:** For Non-Dispenser Units there will be no power to the ice maker till the FC thermistor senses the compartment is 16°F.	Check Optics (For Dispenser Units Only) 	The optics control the ice bin level. These optics have changed from the previous optics. These optics have no LED read out. Follow the procedure below to cycle the ice maker. **1.** Open FC door and grab the ejector fingers and rotate to the 11-12 o'clock position. **2.** Close the freezer door to align the optics and the harvest cycle will begin in 2 minutes. **NOTE:** Make sure the interlock switch on the door and FC Door Switch are also closed. **3.** Open the freezer door and observe the ice maker. Observe the ejector fingers to see if they have moved. **4.** If fingers have moved, then optics are working. **5.** If fingers have moved, check for power going to the IM (120 VAC) with the FC Door Switch and interlock switch closed. **NOTE:** There is a 2 minute delay before IM starts to run. ■ If power is present at the ice maker. Turn off the unit at the main switch. Then remove the emitter and receiver. Turn the optics so you can access the boards and wiring without shorting out the boards. Make sure the FC and interlock switch are closed. ■ Turn the unit on and then go to check for 120 VAC at the emitter board between pins 1 and 4. Also check for 120 VAC on the receiver between pins 3 and 8. Remember the FC and interlock switches on the door must be closed. ■ If power is present at optics and at the ice maker, then check wiring to the ice maker, and if good, then replace the ice maker. ■ If power is present at the optics and no power to the ice maker from earlier check, then check the wiring harness and replace optics.
	Check Power to Optics (For Dispenser Units Only)  	**1.** Turn power off at the main switch and remove the screws to the receiver and emitter board to access wiring. **2.** Position boards so none of the wiring can short to ground and then turn power back on. Make sure the FC Door Switch and interlock switch are closed. Once power is on check for voltage at the Emitter board between the P1-1 to P1-4 = 120 VAC. Also check between at receiver P1-3 to P1-8 = 120 VAC. ■ If voltage is not present at all checks, then go to the FC Door Switch and make sure it is working correctly. ■ If all voltages are correct, put optics back in the liner. Then make sure the door on optics is pushed back to the liner and optics are turned ON and the door FC door is closed and the interlock switch on the door is closed. This can be done by pushing the door switch, then there will be a 2 minute delay, then start checking power at the ice maker. ■ If the ice maker is missing voltage, then check wiring and replace optics. ■ If voltage is present at the ice maker, then go to the next section.

For Service Technician Use Only

Ice Maker Issues

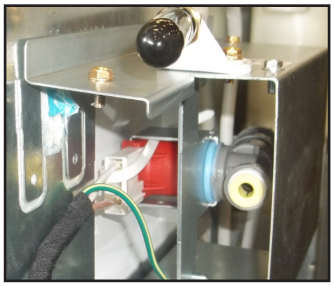
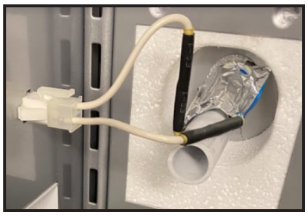
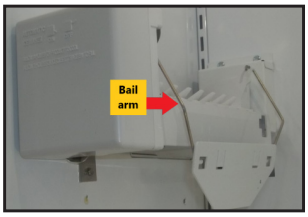
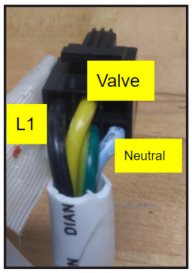
NOTE: Wire colors are subject to change. Go by the pin number on the board.

Symptoms	Possible Causes	Corrective Action
No/Slow Ice **NOTE:** For Dispenser Units, the fill time is 6.10-6.99 seconds, which yields ~110-156 CC of water depending on pressure and filter. **NOTE:** For Non-Dispenser Units there will be no power to the ice maker till the FC thermistor senses the compartment is 16°F.	Faulty Ice Maker (For Dispenser Units Only) 	Make sure optics are working correctly. If optics are working correctly then Disconnect the power supply. This can be done by turning the Main ON/OFF switch to OFF position. **1.** Lift cover for ice maker. **2.** Use your fingers to rotate the ejector fingers clockwise to the 11-12 o'clock position. **3.** Then turn power back on to the unit and make sure optics are turned on. The FC door must be closed for IM to work. After a 2 minute delay the IM should start to run. ■ If the optics are working the IM should start turning after a 2 minutes delay with the FC door closed. ■ If the ice maker does not start turning, then check for 120 VAC at the ice maker. ■ If the ice maker has voltage but not turning, then replace the ice maker. ■ If the ice maker is missing voltage, then check wiring and replace optics.
	Missing Power to the Water Valve (For Dispenser Units Only) **NOTE:** The fill time is 6.10-6.99 seconds, which yields ~110-156 CC of water depending on pressure and water filter. 	If the optics are working correctly then disconnect the power supply. This can be done by turning the Main ON/OFF switch to OFF position. **1.** Lift cover for an ice maker. **2.** Use your fingers to rotate the ejector fingers clockwise to the 11-12 o'clock position. **3.** Then turn power back on to the unit and make sure optics are turned on. The FC door must be closed for IM to work. There will be a 2 minutes delay before IM starts to rotate. **4.** Access the water valve under the unit and put the meter across the connection. When the IM fingers reach the 10-11 o'clock position there should be 90-120 VAC at the valve and should open. ■ If the valve has voltage and does not open, then replace the valve. ■ If the valve does not have voltage, then run the cycle again and check at the IM for voltage. If the ice maker sends out voltage to the valve at the ice maker, then check for bad connection or bad harness. ■ If no voltage is present at the ice maker to the valve, then replace the valve.
	24 Hour Cube Count	After 24 hours, the consumer should see 56-72 cubes in the bin. Can take 2-3 days to fill the bin.

For Service Technician Use Only

Ice Maker Issues

NOTE: Wire colors are subject to change. Go by the pin number on the board.

Symptoms	Possible Causes	Corrective Action
No/Slow Ice **NOTE:** For Dispenser Units, the fill time is 6.10-6.99 seconds, which yields ~110-156 CC of water depending on pressure and filter. **NOTE:** For Non-Dispenser Units there will be no power to the ice maker till the FC thermistor senses the compartment is 16°F.	Missing Power to the Water Valve (For Non-Dispenser Units Only) Connection in machine compartment by compressor for water valve 	If the Bail Arm is fully lowered to the on position and has 120 VAC to the ice maker, then gently pull the ejector fingers clockwise to the 11-12 o'clock position and Ice maker should start to turn on its own. **1.** Access the water valve under the unit and put the meter across the connection. When the IM fingers reach the 10-11 o'clock position there should be 90-120 VAC at the valve and should open. ■ If the valve has voltage and does not open, then replace the valve. ■ If the valve does not have voltage, then run the cycle again and check at the IM for voltage. If the ice maker sends out voltage to the valve at the ice maker, then check for bad connection or bad harness. ■ If no voltage is present at the ice maker to the valve, then replace the valve. Resistance on valves is 108 Ω.
	Faulty Fill Tube Heater (For Non-Dispenser Units Only) **NOTE:** The Fill Tube Heater is on for 45 minutes after the ice maker fills. 	Run Test 66 and check for voltage at Heater. HV Board: P14-11 to P14-12 = 14 VDC. Check resistance on the Fill Tube Heater. **NOTE:** Resistance is 58 Ω, ±5%, voltage is 12 VDC, and power is 3 W. **1.** If the Fill Tube Heater is out of range then check wiring and connections, then change the Fill Tube Heater. **2.** If the Fill Tube Heater is open, check the wiring and then change the HV Board along with the Fill Tube Heater. **3.** If the Fill Tube Heater is in spec, then look for leaking water valve or debris in the Fill Tube.
	Faulty Bail Arm (For Non-Dispenser Units Only) 	Make sure the Bail Arm is not stuck in the up position. **1.** If the Bail Arm is stuck in the up position and cannot be moved, replace the IM. **2.** If the Bail Arm is down and working freely, go to "Missing power to the FC IM."
	Missing Power to the FC IM (For Non-Dispenser Units Only) 	Check for 120 VAC to the IM by putting meter leads between L and N on the ice maker harness. **1.** If 120 VAC is present at the IM, be certain that the ice maker Bail Arm is fully lowered to the on position. **2.** If the Bail Arm is fully lowered to the on position, then gently pull the ejector fingers clockwise to the 11-12 o'clock position and ice make should start to turn on its own. **3.** If the Bail Arm is not fully lowered to the on position, check for free movement of it and replace the IM. **4.** If voltage is not present at the ice maker then check for loose connection or bad wiring harness.

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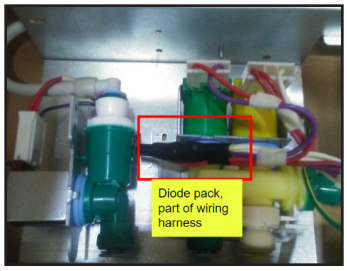
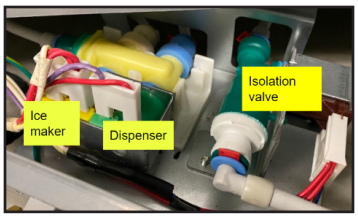
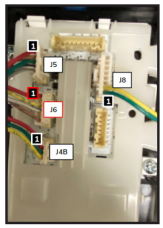
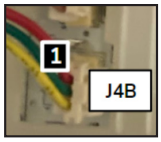
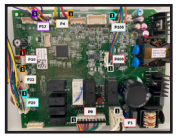
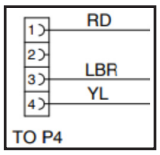
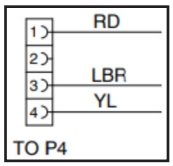
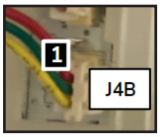
Ice Maker Fills when Dispensing Water	Faulty Diodes (For Dispenser Units Only)  	There are 2 diodes in the wiring harness going to the Ice maker valve and water dispensing valve. These diodes keep the valves from opening at the wrong time. If these diodes short out it will cause valves to open when they should not. To find out if diodes are bad unplug the wiring connection going to the ice maker valve and then dispense water. **1.** If the ice maker does not fill with water, then the diode is bad in the harness, change harness to valve. You can also check for voltage at the valve connection. If you have between 90-120 VAC,then diodes are bad, change the harness at the valve. **2.** If the ice maker fills when dispensing water, then the ice maker valve is the issue.
	Water Valve (For Dispenser Units Only)  	The ice maker water valve could be stuck open. **1.** Unplug the wiring connection that goes to the ice maker valve, then dispense water. **2.** If the ice maker fills, then the valve is stuck open, then replace the ice maker valve.
Ice Maker Overproducing Ice	Bail Arm Issue (For Non-Dispenser Units Only)	It is possible that consumers might experience the ice maker making too much ice and dumping outside the ice container. First check the following: **1.** Be sure the Bail Arm extender is attached to the Bail Arm. **2.** Check that the Bail Arm is inserted correctly into the ice maker module. **3.** Check that there are no other items stored in the ice container other than the ice it produces.

For Service Technician Use Only

Dispenser Issues

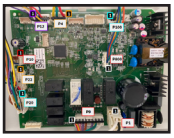
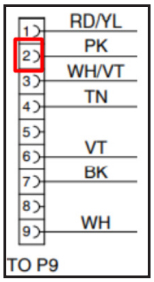
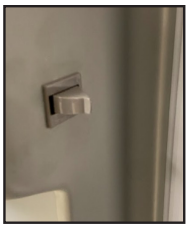
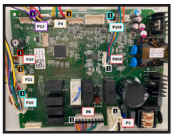
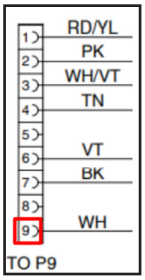
NOTE: Wire colors are subject to change. Go by the pin number on the board.

Symptoms	Possible Causes	Corrective Action
Dispenser UI has no Display	Loose Wire Harness	Check for loose connections or backed out wiring from the connector. Secure any loose connections.
	No power to display   HV Board  	Check power at the Dispenser UI. HV Board: J4-1B to J4-3B = 12.7 VDC **1.** If voltage is missing, check at the bottom of the FC door for power. ■ If power is present at the bottom of the door and not at the Dispenser UI, then check wiring in the door and for connection issues. ■ If voltage is not present at the bottom of the door, then go to the HV Board and check for voltage. HV Board: P4-1 to P4-4 = 12 VDC ■ If voltage is present at board and not at dispenser, then check for poor wiring connections or wires. ■ If voltage is not present at the HV Board, then unhook the Dispenser UI and see if voltage appears. If voltage does not return, replace the HV Board. If voltage is present with UI unhooked, then replace UI. **2.** If power is present at the Dispenser UI, then replace UI.
Dispenser UI has display Buttons not working or paddles not responding	Loose Wire Harness	Check for loose connections or backed out wiring from the connector. Secure any loose connections.
	Run Test Mode on Dispenser	Run the Service Test 93 on the Dispenser UI. **1.** If the UI will go into the test mode, then check to see if buttons respond in Test 93. **2.** If all buttons and dispenser paddles test good, then UI and dispenser paddles are not the issue and go to check the communication wire section. **3.** If only some buttons work in test mode, then replace the UI. **4.** If paddles do not respond in test mode, then replace the dispenser paddles.
	Check the Communication Wire  	Check the communication wire from the Dispenser UI to the HV Board. HV Board P4-3 to the Dispenser UI J4B-2. If the buttons and paddle work in Service Mode then the communication wire might have loose connections.
Not Dispensing Water	Water Turned Off	Make sure the water is turned on to the unit. If the unit is making ice, then the water is turned on and the water filter and head are good.
	Water Filter Head/Filter	Make sure the water filter and head are working properly. Remove the filter on the unit and the filter should go into auto bypass.
	Frozen Water Tank	Check to make sure the water tank is not frozen. If the water tank is frozen, then check for air flow issues in RC to make sure nothing is blocking air.
	Loose Connections	Check all connections from the Niagra board to the Dispenser UI are secured.

For Service Technician Use Only

Dispenser Issues

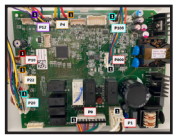
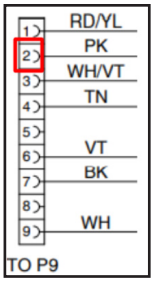
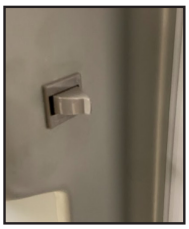
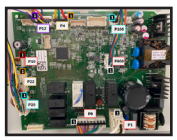
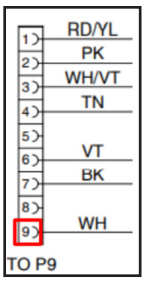
NOTE: Wire colors are subject to change. Go by the pin number on the board.

Symptoms	Possible Causes	Corrective Action
Not Dispensing Water	Run Dispenser UI Test Mode	Run UI dispenser to check if all test functions work properly on the Dispenser UI. If a button on any user interface is pressed the UI shall display the change of state. All button LEDs shall be lit 50% for back lit capacitive touch UI's, except navigation keys which shall be lit 100%. **NOTE:** The Back navigation key in Service Mode will not follow the same behavior as described. The Back key will execute the back navigation function. **1.** If all the test check good, then go to next section. **2.** If test does not work, then go to section. **NOTE:** Dispenser UI has display Buttons not working or paddles not responding.
	Check FC Door Switch  HV Board  	Make sure the FC Door Switch is closing proper and is operating properly. Run Test 75 on Dispenser UI Service Mode to check FC Door Switch. If the test works correctly then go to run test mode 93 to test dispenser buttons. If the FC Door Switch test does not work correctly, then check the following. **1.** Check voltage at the HV Board at the P9-2 to P1-2 = 120 VAC with the FC door open. ■ If voltage is missing on P9-2, then check the voltage at the door switch for 120 VAC. ■ If voltage is present at P9-2 go to the next section. **2.** If voltage is present on both checks, then go to next section.
	Interlock Switch  HV Board  	There is an interlock switch on the door liner. This sends the 120 VAC to the auger motor. Turn power off to the unit and unplug the P9 connector. Using Ohms settings on your meter go from the connector P9-9 wire to P1-1 with the FC door closed to see if you have continuity. ■ If you have continuity, then the switch is good. ■ If the meter reads OPEN, then check for a bad switch or bad wiring or connections. If you want to do a voltage check at the HV Board with the FC door closed. HV Board: P9-9 to P1-1 = 120 VAC. ■ If voltage is missing, then check for loose wire connection, open wire or bad interlock switch. ■ If voltage is present, then go to the next section.

For Service Technician Use Only

Dispenser Issues

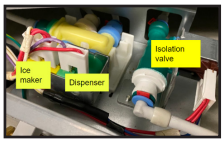
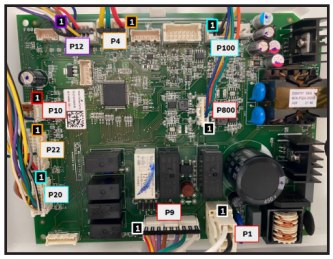
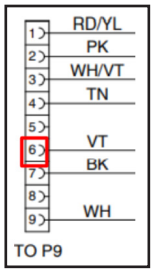
NOTE: Wire colors are subject to change. Go by the pin number on the board.

Symptoms	Possible Causes	Corrective Action
Not Dispensing Water	Check FC Door Switch  HV Board  	Make sure the FC Door Switch is closing proper and is operating properly. Run Test 75 on Dispenser UI Service Mode to check FC Door Switch. If the test works correctly then go to run test mode 93 to test Dispenser buttons. If the FC Door Switch test does not work correctly, then check the following. **1.** Check voltage at the HV Board at the P9-2 to P1-2 = 120 VAC with the FC door open. ■ If voltage is missing on P9-2, then check the voltage at the door switch for 120 VAC. ■ If voltage is present at P9-2 go to the next section. **2.** If voltage is present on both checks, then go to next section.
	Interlock Switch  HV Board  	There is an interlock switch on the door liner. This sends the 120 VAC to the auger motor. Turn power off to the unit and unplug the P9 connector. Using Ohms settings on your meter go from the connector P9-9 wire to P1-1 with the FC door closed to see if you have continuity. ■ If you have continuity, then the switch is good. ■ If the meter reads Open, then check for a bad switch or bad wiring or connections. If you want to do a voltage check at the HV Board with the FC door closed. HV Board: P9-9 to P1-1 = 120 VAC. ■ If voltage is missing, then check for loose wire connection, open wire or bad interlock switch. ■ If voltage is present, then go to the next section.

For Service Technician Use Only

Dispenser Issues

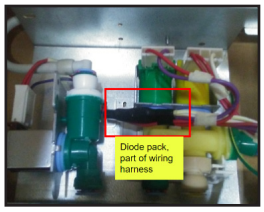
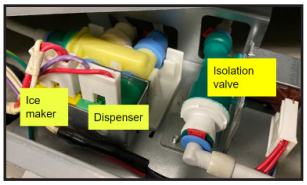
NOTE: Wire colors are subject to change. Go by the pin number on the board.

Symptoms	Possible Causes	Corrective Action
Not Dispensing Water	Faulty Water Dispensing Valve 	There are 2 water valves on this unit used for dispensing water. One is the isolation valve and the other is the water dispensing valve. Both need to activate to dispense water. The isolation valve will open if either dispensing water or filling the ice maker. In the wiring harness are diodes to block voltage to keep from sending power to the other valve that is NOT being used. Check for 120 VAC across the water dispensing valve down below the unit. **1.** If voltage is present, check to see if the valve is opening. ■ If the water valve is not opening, then replace the valve ■ If the water valve does open, then make sure the isolation valve is opening. The voltage across that ISO valve is going to be about 50-70 VAC depending on your meter and because of the diodes. ■ If you have voltage and the valve is not opening, then replace the isolation valve. ■ If voltage is not present at the valve, then check wiring for open diodes and connections. **2.** If voltage is not present at either valve, then you will need to check voltage coming out of the HV Board. Go to the next section.
	HV Board  	When dispensing water check from the HV Board. P9-6 to P1-2 = 120 VAC. **1.** If voltage is present at the HV Board, then check wiring from board to valve for poor connections. **2.** If voltage is not present, then replace the HV Board.

For Service Technician Use Only

Dispenser Issues

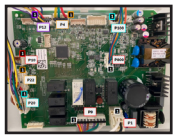
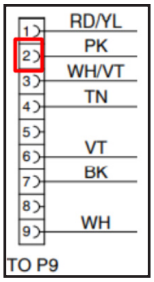
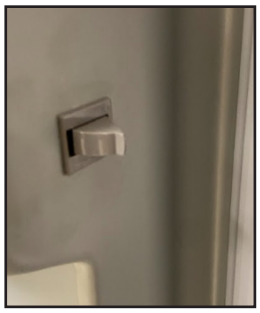
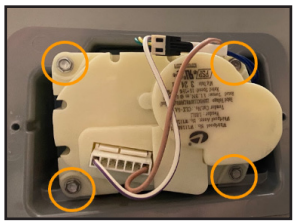
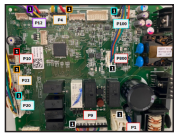
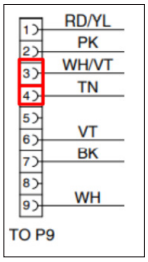
NOTE: Wire colors are subject to change. Go by the pin number on the board.

Symptoms	Possible Causes	Corrective Action
Dispensing Water When Ice Maker Fills	Faulty Diodes 	There are 2 diodes in the wiring harness going to the Ice maker valve and water dispensing valve. These diodes keep the valves from opening at the wrong time. If these diodes short out it will cause valves to open when they shouldn't. To find out if diodes are bad, unplug the wiring connection going to the water dispensing valve and then run the ice maker to fill the ice maker with water. **1.** If the dispenser does not dispense water when the ice maker is filling, then the diode is bad in the harness, change harness to valve. You can also check for voltage at the valve connection. If you have between 90-120 VAC,then diodes are bad, change the harness at the valve. **2.** If the ice maker fills when dispensing water, then the ice maker valve is the issue.
	Water Valve 	The ice maker water valve could be stuck open. **1.** Unplug the wiring connection that goes to the water dispensing valve, then run the ice maker to fill mold. **2.** If the water comes out of the dispenser, then the valve is stuck open, then replace the ice maker valve.
Not Dispensing Ice	Ice Bin Jammed	Remove the ice bin and then try to run the auger motor with the FC door closed. **1.** If the auger motor runs, look for an ice bin issue or ice clumping issue. Look at ice clumping issue symptoms. Look at pointer R4317452 **2.** If the auger does not run, then go to the next section.
	Loose Connections	Check all connections from the board to the auger motor to make sure they are all secured.
	Run Dispenser UI Test Mode	Run Test 93 UI dispenser to check if all test functions work properly on the Dispenser UI. User Interface Button and Paddle Test If a button on any user interface is pressed the UI shall display the change of state. All button LEDs shall be lit 50% for back lit capacitive touch UI's, except navigation keys which shall be lit 100%. **NOTE:** The Back navigation key in Service Mode will not follow the same behavior as described. The Back key will execute the back navigation function. **1.** If all the test check good, then go to next section. **2.** If test does not work, then go to Dispenser UI has display Buttons not working or paddles not responding section.

For Service Technician Use Only

Dispenser Issues

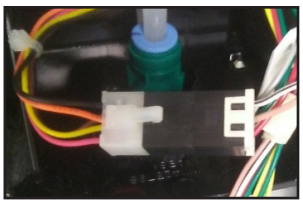
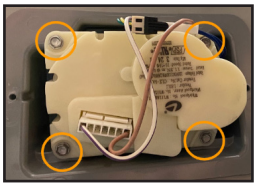
NOTE: Wire colors are subject to change. Go by the pin number on the board.

Symptoms	Possible Causes	Corrective Action
Not Dispensing Ice	Check FC Door Switch  HV Board  	Make sure the FC Door Switch is closing proper and is operating properly. Run Test 75 on Dispenser UI Service Mode to check FC Door Switch. If the test works correctly then go to run test mode 93 to test dispenser buttons. If the FC Door Switch test does not work correctly, then check the following. **1.** Check voltage at the HV Board at the P9-2 to P1-2 = 120 VAC with the FC door open. ■ If voltage is missing on P9-2, then check the voltage at the door switch for 120 VAC. ■ If voltage is present at P9-2 then the FC switch is good, and go to the next section. **2.** If voltage is present on both checks, then go to next section.
	Interlock Switch 	There is an interlock switch on the door liner. This sends the 120 VAC to the auger motor. Turn power off to the unit and unplug the P9 connector. **1.** Using Ohms settings on your meter go from the connector P9-9 wire to P1-1 with the FC door closed to see if you have continuity. ■ If you have continuity, then the switch is good. ■ If the meter reads OPEN, then check for a bad switch or bad wiring or connections. **2.** If you want to do a voltage check at the HV Board with the FC door closed. HV Board: P9-9 to P1-1 = 120 VAC ■ If voltage is missing, then check for loose wire connection, open wire or bad interlock switch. ■ If voltage is present, then go to the next section.
	Check Auger Motor 	At the auger motor check for 120 VDC when dispensing ice. **1.** If voltage is present, make sure the motor is not binding. If the motor is not binding, then replace the auger motor. **2.** If voltage is not present, then check wiring connections at the bottom of the door. Also check for 120 VDC at wiring also. ■ If voltage is present at the bottom of the door and not at auger, then replace the FC door. ■ If voltage is not present at the bottom of the door, then check voltage at HV Board. Go to the next section.
	HV Board  	Check power at the HV Board for power to the auger motor. HV Board: P9-3 to P9-4 = 120 VDC when dispensing ice. **1.** If voltage is present, then check wiring from HV Board to auger motor for poor connections or loose wiring. **2.** If voltage is not present, then recheck the interlock switch and check wiring at the HV Board and replace the HV Board.

For Service Technician Use Only

Dispenser Issues

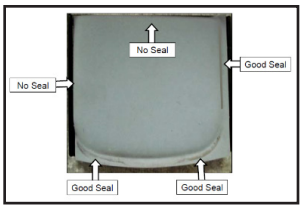
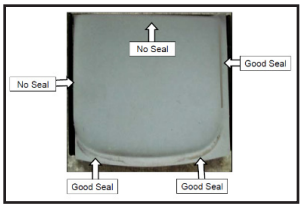
NOTE: Wire colors are subject to change. Go by the pin number on the board.

Symptoms	Possible Causes	Corrective Action
Ice chute door not opening or closing correctly	Ice Chute Door Motor Binding	Look for any binding on the motor or the door that would cause it to drag.
	Ice Chute Door Motor 	If the ice chute door is not opening or closing correctly, then check power at the ice door motor. You can do voltage checks at the motor connector at the UI dispenser board. **1.** If you do a DC voltage reading at the ice door motor from the RED wire to the WH/BK on the connector on the motor connection. When pushing the ice paddle and auger runs the voltage should be 2.6 VDC when the door is opening. Then there will be a delay then the door will close and voltage will reappear. **2.** If voltage is present and the motor is not moving, then check wiring and replace the ice door motor. **3.** If voltage is not present, then check wiring and replace the UI.
Water dispensing when Ice paddle is pushed or visa versa	Check Dispenser Pads 	**1.** If you are dispensing water and ice comes out. Unhook the ICE pad from the UI and see if the issue stops. A. If the issue stops, then replace the pad. B. If the issue continues, then replace the HV Board. **2.** If you are dispensing ice and water comes out. Unhook the water paddle from the UI and see if the issue stops. A. If the issue stops, then replace the pad. B. If the issue continues, then check all connections on the unit and make sure they are secure. If connections are secure then, replace the HV Board.
Dispensing crushed ice when set for cube	Run Test Mode on Dispenser	Run Test 93 the service on the Dispenser UI. **1.** If the UI will go into the test mode, then check to see if buttons respond in Test 93. **2.** If all buttons and dispenser paddles test good, then UI and dispenser paddles are not the issue and go to check the communication wire section. **3.** If only some buttons work in test mode, then replace the UI. **4.** If paddles do not respond in test mode, then replace the dispenser paddles.
	Mis-wired at Auger Motor 	Make sure wires at the auger motor are in the right places. If wiring is reversed at the motor, then the motor will run backwards. When in Cube setting the auger motor runs CCW when looking for the top of the ice bin. When set for Crushed setting auger will run CW when looking down on the bin.

For Service Technician Use Only

Dispenser Issues

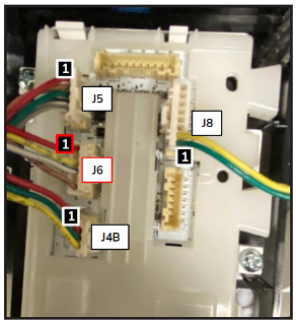
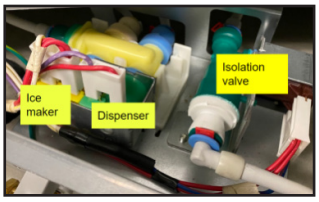
NOTE: Wire colors are subject to change. Go by the pin number on the board.

Symptoms	Possible Causes	Corrective Action
Ice clumping or frosting in the ice chute	Usage Issue	There could be a customer usage issue. Please look at service pointer R4317452. Now, if a customer uses very little ice, then they will have to empty the bin every 2 weeks.
	Check Ice Door Chute This is a picture of a bad seal. 	Make sure the ice chute door has a good seal when closed. There should be a good impression all the way around the door gasket. **1.** If the door seal is not sealing, then replace the ice chute door. **2.** If the seal has a good impression all the way around, then make sure the chute door is closing tight all the time. Look for loose or poor electrical connection going to the ice chute motor.
	FC Door Gasket Gaping	Check RC door gasket for gapping. **1.** If gaps are present, use a heat gun on a low heat setting and heat the gasket to reshape the part so that it seals properly. **2.** If the gasket does not hold shape, then replace the gasket.
	IM Fill Tube Spraying Water	Make sure the Ice maker is not spraying water while filling. **1.** If it is, check the fill tube for the proper position. **2.** Check the fill tube for debris.
Water Dispenser Dripping	Check for Loose Water Connection	Check all connections that go to the water dispenser. A loose connection can pull in air and cause dripping. You can pull the system apart and find where the dripping stops and then fix that area.
	Check for Air in Water	If there is air or bubbles in the tank this would cause dripping. This can be caused by loose connection or air in the water system coming to the unit.
	Check Water Valve	Check the water valve for seeping water. **1.** If the water valve is seeping water through the valve, then replace the valve. **2.** If the water valve is not seeping water, then you may want to install a check valve in the water tank outlet line. ■ 1/4" line check valve 2314271 ■ 5/16" line check valve 8201815
	Make sure ice door is sealed. This is a picture of a bad seal. 	Dripping water dispenser might be mistaken for dripping from an ice door chute. Make sure the ice chute door has a good seal when closed. There should be a good impression all the way around the door gasket. **1.** If the door seal is not sealing, then replace the ice chute door. **2.** If the seal has a good impression all the way around, then make sure the chute door is closing tight all the time. Look for loose or poor electrical connection going to the ice chute motor.

For Service Technician Use Only

Dispenser Issues

NOTE: Wire colors are subject to change. Go by the pin number on the board.

Symptoms	Possible Causes	Corrective Action
Water Dispenser Dripping	Dispenser Heater 	Run Test 87 to make the Heater on all the time. Entering the display shows the current activation mode for the Heater. Pressing the Increment and Decrement keys changes the activation mode of the Heater. 00 - Humidity Dependent 01 - Independent of Humidity Measurement (Runs 100% at all times) The activation mode shall be changed and stored in the EEPROM. On the next power cycle unit shall follow expected behavior. To check the Dispenser Heater check at UI. J8-1 to J8-2 = 12.7 VDC. **1.** If voltage is present, then ohm out the Heater. If the Heater is open, then replace the Heater. **2.** If voltage is not present, make sure connections are tight, then replace the Dispenser UI.
Dispenser not measuring out the right amount when dispensing water.	Water Filter	Water Filter may need to be changed. Remove the Water Filter and see if the amount works ok. If the Filter is removed and the dispenser works fine, then check water pressure (35 psi minimum) and replace the Water Filter.
	Water Pressure Issue	Check water pressure coming to the unit. If the water pressure is too low or high can affect the amount of water dispensed.
	Dispenser UI Board	Run the Service Test 93 on the Dispenser UI. **1.** If the UI will go into the test mode, then check to see if buttons respond in Test 93. **2.** If all buttons and dispenser paddles test good, then UI and dispenser paddles are not the issue. **3.** If only some buttons work in test mode, then replace the UI. **4.** If paddles do not respond in test mode, then replace the dispenser paddles.
	Check Water Valve 	Check fill time of a 10 oz glass. It should take 14 seconds to fill a 10 oz glass. **1.** If it does not fill the glass in the right time, then the issue could be water pressure (35 psi) minimum or water valve issue. If pressure is good, then replace the valve. **2.** If water fill is correct, then make sure pressure is steady or possible UI issue.

For Service Technician Use Only

Other Issues, Moisture in RC, Frost in FC, Water on FC Floor

NOTE: Wire colors are subject to change. Go by the pin number on the board.

Symptoms	Possible Causes	Corrective Action
RC Moisture Issue (Inside RC)	Unit Installation	Check install of the unit per "Use and Care Guide."
	RC Door Gasket	Check RC door gasket for gapping. **1.** If gaps are present, use a heat gun on a low heat setting and heat the gasket to reshape the part so that it seals properly. **2.** If the gasket does not hold shape, then replace the gasket.
	Air Flow	Make sure food products and containers are not packed too tightly in the unit which could be preventing air from moving freely.
	Product Loading	Check for proper loading. **1.** There may be an issue where containers are blocking air flow or items are interfering with the door closing and causing warm spots in the section. **2.** Make sure the customer is not putting hot food in the unit. **3.** Make sure nothing is keeping air from moving freely.
	Moisture on Shelving	When the door is open, the glass shelf will get some condensation due to the warm moist air hitting the cold shelf. This is normal.
	Door not Closing	Adjust leveling feet (left and right) to provide an inclination backwards to help the door close. Also check hinge spring to make sure it is not rubbing or catching that would interfere with door closing.
FC Moisture Issue Not Defrost Issue	FC Door Gasket	Check FC or RC door gasket for gapping. **1.** If gaps are present, use a heat gun on a low heat setting and heat the gasket to reshape the part so that it seals properly **2.** If the gasket does not hold shape, then replace the gasket.
	Product Loading	**1.** There may be an issue where containers are blocking air flow or items are interfering with the door closing and causing warm spots in the FC section. **2.** Make sure the customer is not putting hot food in the unit.
	Unit Installation	Check install of the unit per "Use and Care" guide.
	IM Fill Tube Spraying Water	Make sure the Ice maker is not spraying water while filling. **1.** If it is, check the fill tube for the proper position. **2.** Check the fill tube for debris.
	Moisture on Shelving	When the door is open, the glass shelf will get some condensation due to the warm moist air hitting the cold shelf. This is normal.
	Door not Closing	Adjust leveling feet (left and right) to provide an inclination backwards to help the door close. Also check hinge spring to make sure it is not rubbing or catching that would interfere with door closing.
Water on FC Floor	Drain Line Restricted	Check the drain line coming out of the bottom of the cabinet from the back of the unit. This drain line can get pinched between the pan and the cabinet causing issues. Loosen the drain pan and move the drain line to the right position.
	Ice Maker Fill Tube Spraying Water	The IM fill tube might be spraying water during fill that causes water on the floor. Make sure there is no debris in the fill tube.
	Drain Pan Frozen Over	The FC drain pan might be frozen over with ice. This can be caused by restricted or clogged drain line. It can also be caused by a drain pan that is not draining the water to the drain hole. If water is not completely draining water to the drain hole then use a shim to raise the pan to move water to the hole.

For Service Technician Use Only

Other Issues, Moisture in RC, Frost in FC, Water on FC Floor

NOTE: Wire colors are subject to change. Go by the pin number on the board.

Symptoms	Possible Causes	Corrective Action
Door Misaligned or Making Noise	RC Door and FC Door Uneven	Adjust RC door height with "pin adjustable hinge" to lower/raise RC Door. Instructions for door leveling are in the install guide.

Articulated Hinges

Articulated hinges are needed to achieve the close tolerances when this unit is built in flush with adjoining cabinets. The wider hinge is the top hinge and the narrow hinge is the bottom hinge, see figure 1.

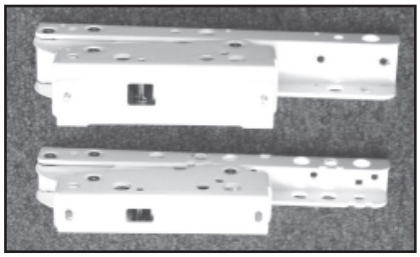


Figure 1

Lower Hinge - No Panel

Screws secure the lower hinge to the bottom of the cabinet, see figure 2. The hinges incorporate very strong springs, keep hands away from the pinch area when the hinge is extended, see figure 3. The inner door panels are attached to the hinges and Stainless steel panels or wood overlays are attached to the inner panels. Stainless steel panels or wood overlays attach to the hinges.

Figure 2

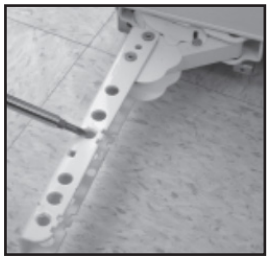


Figure 3

Adjusting Inner Door Panel and Hinge Gap

Two adjustable pins are used to attach the hinges to the inner door panel, see figure 4. To adjust inner door panel or inner door panel to hinge gap, remove two Torx cap screws, see figure 5.

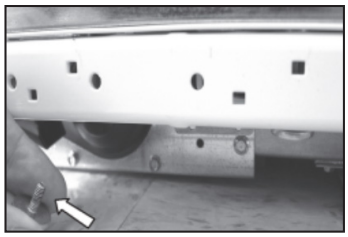


Figure 4

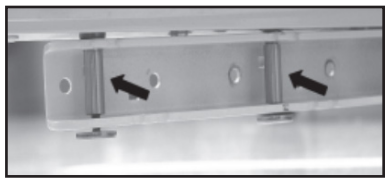
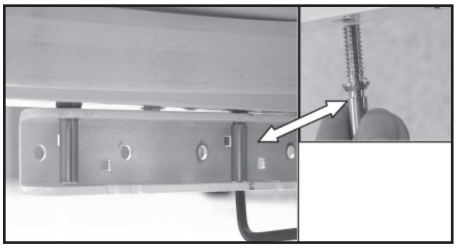


Figure 5

For Service Technician Use Only

Other Issues, Moisture in RC, Frost in FC, Water on FC Floor

NOTE: Wire colors are subject to change. Go by the pin number on the board.

Symptoms	Possible Causes	Corrective Action
Door Misaligned or Making Noise	RC Door and FC Door Uneven	**Top Door Hinge Adjustment** To adjust begin by loosening the two adjustable pins on the top hinge to allow the inner panel to move. Adjust the lower pins to raise or lower the inner door panel or close the gap between the hinge and inner door as needed, see figure 6. After making adjustments, tighten the top adjustment pins and replace the cap screws.  **Figure 6**
	RC Door and FC Door not Even Front to Back	If the issue is one door sits in further than the other, do the following. **1.** Use a heat gun on a low heat setting and heat the gasket to reshape the part so that it seals properly **2.** Heat up the door gasket on the door that is OUT too far and push the door in and hold it till it cools. **3.** Heat the gasket on the door that is IN too far and stretch the gasket out and let it cool.
	Door Gasket Gaping	Check RC door gasket for gapping. **1.** If gaps are present, use a heat gun on a low heat setting and heat the gasket to reshape the part so that it seals properly. **2.** If the gasket does not hold shape, then replace the gasket.

Noise Issues

NOTE: Wire colors are subject to change. Go by the pin number on the board.

Symptoms	Possible Causes	Corrective Action
Sound coming from the freezer cavity. Open the freezer door to determine if the noise gets louder. If it seems to be coming from the freezer cavity, investigate the following.	Evaporator Fan Assembly Noise	Evaporator fan assembly/wire interference ■ Look for wires interfering with the fan blade as it rotates.
		Evaporator fan assembly/scroll liner interference. ■ Look to ensure all the Evaporator fan mounting screws are in place.
		Evaporator fan assembly/cover gasket interference. ■ Ensure the gasket on the cover is in the correct place and not interfering with the fan blade.
		Evaporator fan assembly/cover hold ■ Look to see if the Evaporator fan shroud is vibrating.
		Gap between fan blade and shroud ■ Look to see if the fan blade is interfering with the shroud.
	Evaporator Fan Motor	Motor noise is high ■ Motor is noisy - clearance between the potting housing and the stator/rotor housing is insufficient.
		Motor RPM is high ■ Check to see if the motor RPM is higher than expected
		Motor RPM is too low ■ Check to see if the motor RPM is lower than expected.
		Ring retainer is loud ■ Check to see if the motor housing vibrates more than expected.
		Fan blade ■ Ensure the fan blade is not loose on the shaft.
	Condenser	Condenser/unit mounting interference ■ Condenser vibrates against the unit mounting rails or drain pan.
		Condenser/air baffle interference ■ Condenser vibrates against the air baffle.
		Condenser/compressor tube interference ■ Condenser vibrates against the inlet (comes out of the compressor) and outlet of the condenser (connects to the heat loop) that comes to the compressor.
	Condenser Fan Assembly	Condenser fan/condenser interference ■ Look for interference between the condenser fan and surrounding parts.
		Condenser fan/housing/baffle interference ■ Look for interference between the condenser fan and surrounding parts.
		Condenser fan/lower cardboard interference ■ Look for interference between the condenser fan and surrounding parts.
		Hand carts can damage the product during delivery/assembly causing noise from the cardboard bottom not providing protection. ■ Look for damage to the assembly that could be caused by a hand cart.
	Compressor	Does the compressor seem to be loud? ■ If it sounds louder than normal and all other remedies did not work, change the compressor.
		Is the compressor vibrating more than normal? ■ If the compressor vibrates more than normal and all other remedies did not work, change the compressor.

Multimedia Enhanced

Section 3: Component Testing

This section provides a breakdown of all electrical circuits on the wiring diagrams for the "JennAir® and KitchenAid® 36", 42", and 48" Built-In Side by Side Refrigerators."

- Safety
- Wiring Diagrams
  - Wiring Diagram (Dispensing Models)
  - Wiring Diagram (Non-Dispensing Models)
- Connection Diagrams
- Component Testing
- Service Test Mode
- Thermistor Resistance Range Chart
- Voltage Chart (Dispensing and Non-Dispensing Models)

Video Available Look for this  ICON throughout Section 3.

For Service Technician Use Only
Safety

⚠ DANGER

Electrical Shock Hazard

Only authorized technicians should perform diagnostic voltage measurements.

After performing voltage measurements, disconnect power before servicing.

Failure to follow these instructions can result in death or electrical shock.

⚠ WARNING

Electrical Shock Hazard

Disconnect power before servicing.

Replace all parts and panels before operating.

Failure to do so can result in death or electrical shock.

⚠ WARNING

Explosion Hazard

Risk of fire or explosion. Flammable refrigerant used.
Do not use mechanical devices to defrost refrigerator.

Do not puncture refrigerant tubing.

Voltage Measurement Safety Information

When performing live voltage measurements, you must do the following:

- **Verify the controls are in the off position so that the appliance does not start when energized.**
- **Allow enough space to perform the voltage measurements without obstructions.**
- **Keep other people a safe distance away from the appliance to prevent potential injury.**
- **Always use the proper testing equipment.**
- **After voltage measurements, always disconnect power before servicing.**

For Service Technician Use Only

IMPORTANT: Electrostatic Discharge (ESD) Sensitive Electronics
ESD problems are present everywhere. ESD may damage or weaken the electronic control assembly. The new control assembly may appear to work well after repair is finished, but failure may occur at a later date due to ESD stress.

- Use an antistatic wrist strap. Connect wrist strap to green ground connection point or unpainted metal in the appliance

  -OR-

  Touch your finger repeatedly to a green ground connection point or unpainted metal in the appliance.
- Before removing the part from its package, touch the antistatic bag to a green ground connection point or unpainted metal in the appliance.
- Avoid touching electronic parts or terminal contacts; handle electronic control assembly by edges only.
- When repackaging failed electronic control assembly in antistatic bag, observe above instructions.

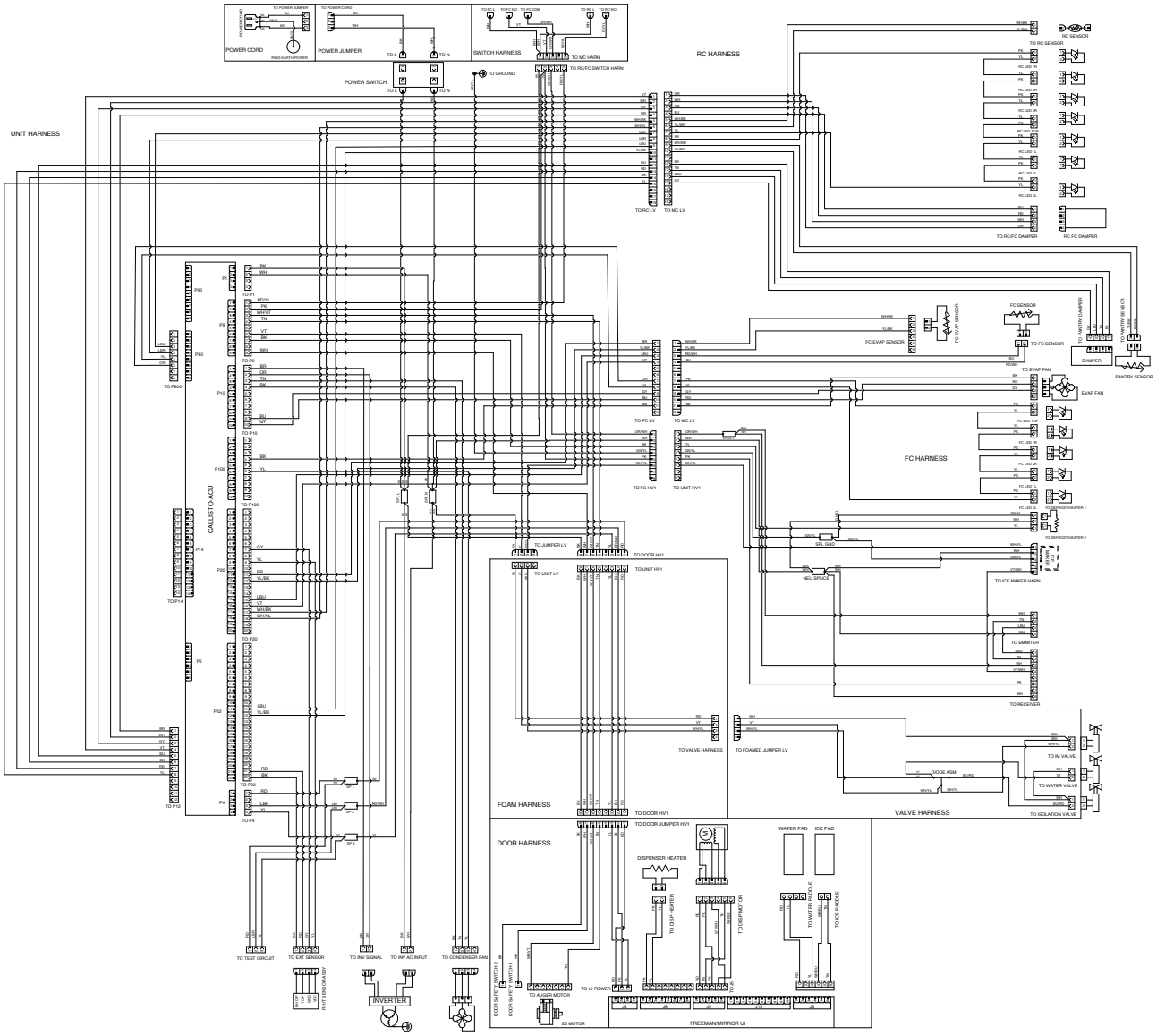
IMPORTANT SAFETY NOTICE — "For Technicians only"

This service data sheet is intended for use by persons having electrical, electronic, and mechanical experience and knowledge at a level generally considered acceptable in the appliance repair trade. Any attempt to repair a major appliance may result in personal injury and property damage. The manufacturer or seller cannot be responsible, nor assume any liability for injury or damage of any kind arising from the use of this data sheet.

For Service Technician Use Only

Wiring Diagrams

Wiring Diagram (Dispensing Models)

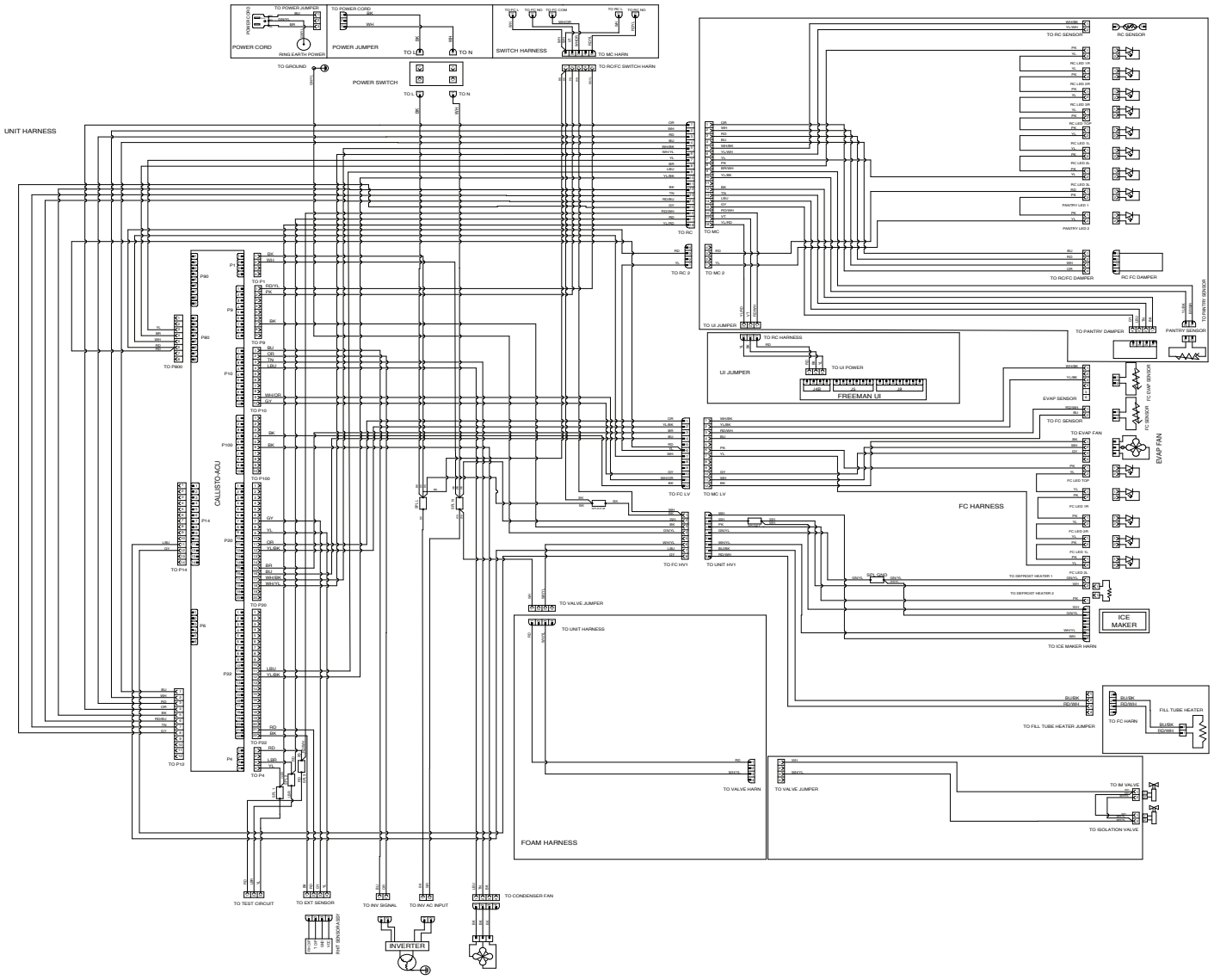


LEGEND

Ground	Connection	No Connection	On Some Models	In-Line Connection	P2-1 Connector P2, Position 1	Enclosed Circuitry Within	Terminals	Single Switch	Thermal Switch (opens on heat rise)	Thermal Switch (closes on heat rise)	Resistor or Element	Motor	Relay	Light Incandescent	Fuse Non-Resettable	Thermistor	Light Indicator	Triac	Thermo Fuse	Double Crimp	Splice	Temp Sensor

For Service Technician Use Only
Wiring Diagrams

Wiring Diagram (Non-Dispensing Models)



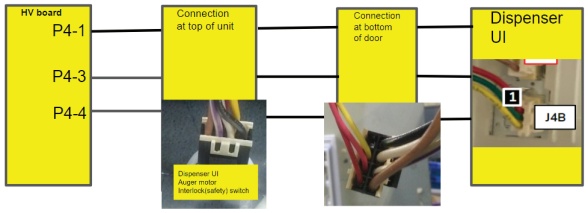
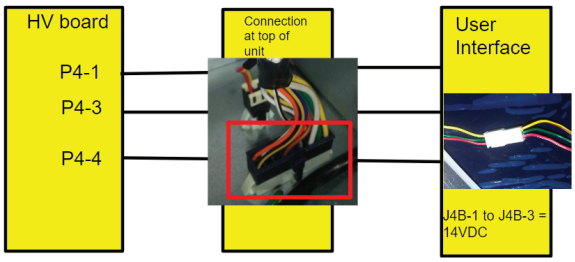
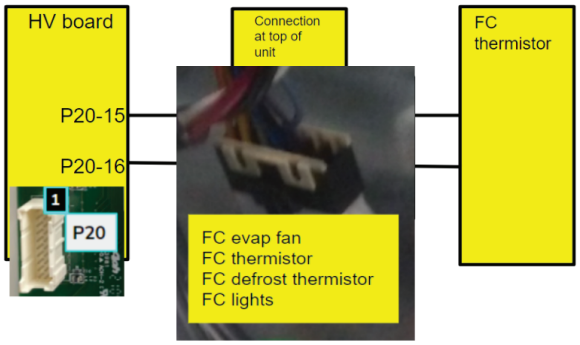
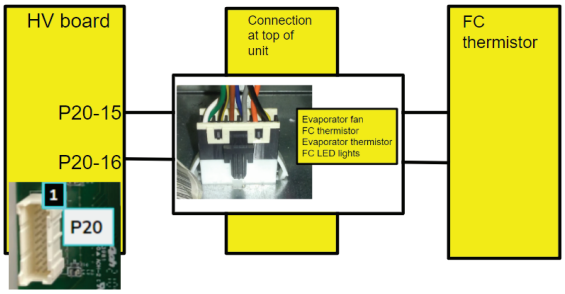
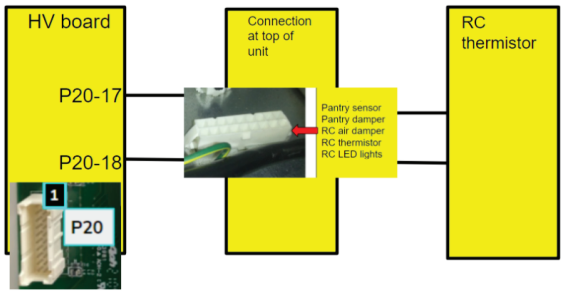
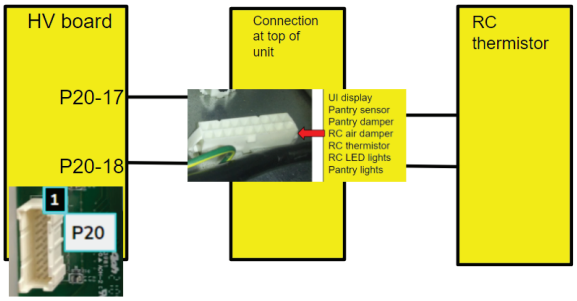
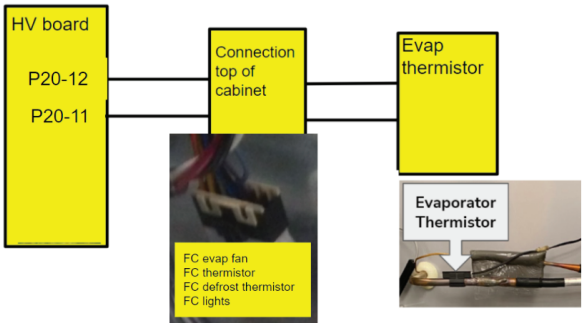
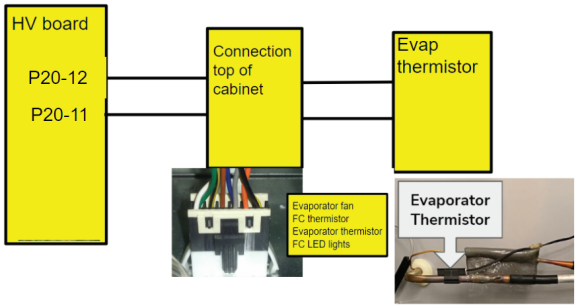
LEGEND

Ground	Connection	No Connection	On Some Models	In-Line Connection	P2-1 Connector P2, Position 1	Enclosed Circuitry Within	Terminals	Single Switch	Thermal Switch (opens on heat rise)	Thermal Switch (closes on heat rise)	Resistor or Element	Motor	Relay	Light Incandescent	Fuse Non-Resettable	Thermistor	Light Indicator	Triac	Thermo Fuse	Double Crimp	Splice	Temp Sensor

For Service Technician Use Only

Connection Diagrams

NOTE: Wire colors are subject to change. Go by the pin number on the board.

	Dispensing Models	Non-Dispensing Models
Temperature UI		
FC Thermistor		
RC Thermistor		
Evaporator Thermistor		

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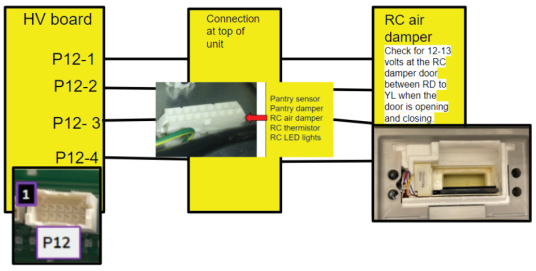
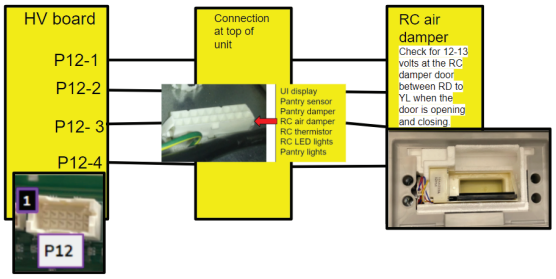
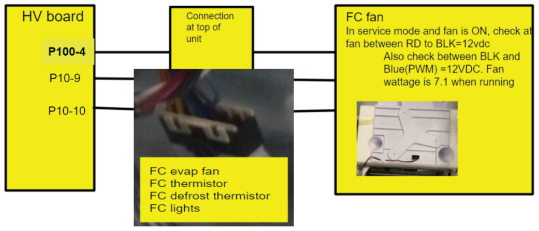
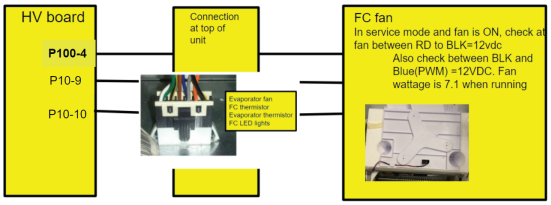
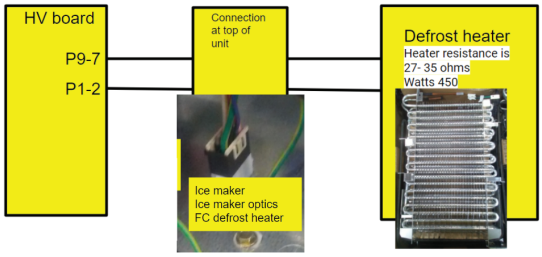
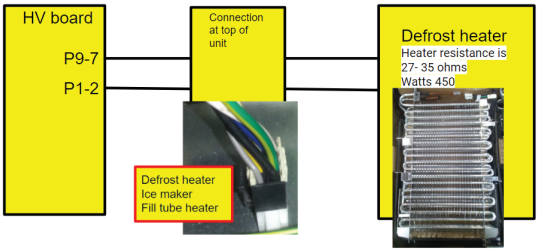
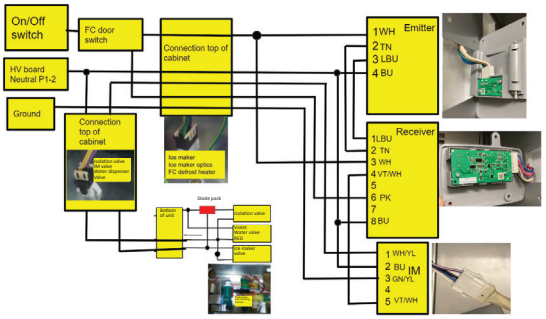
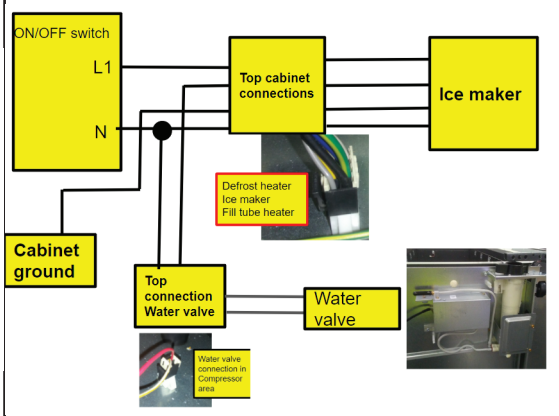
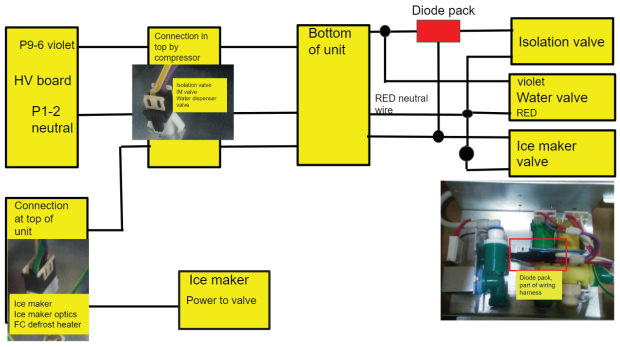
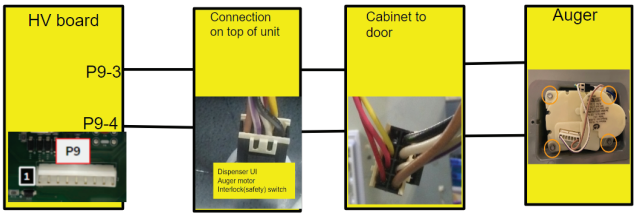
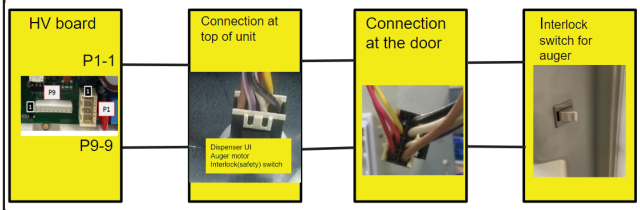
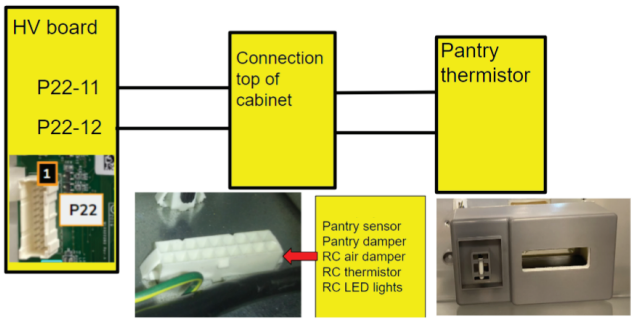
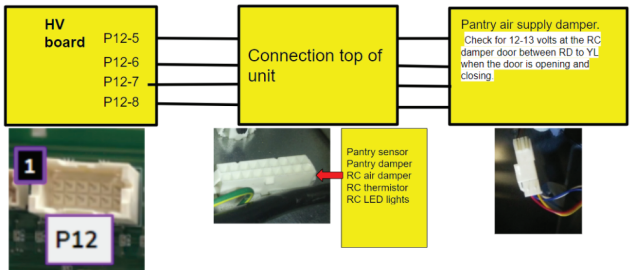
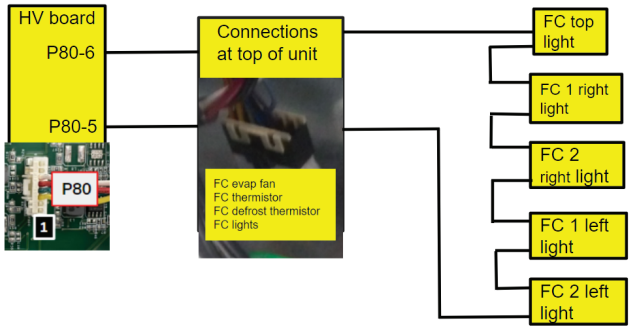
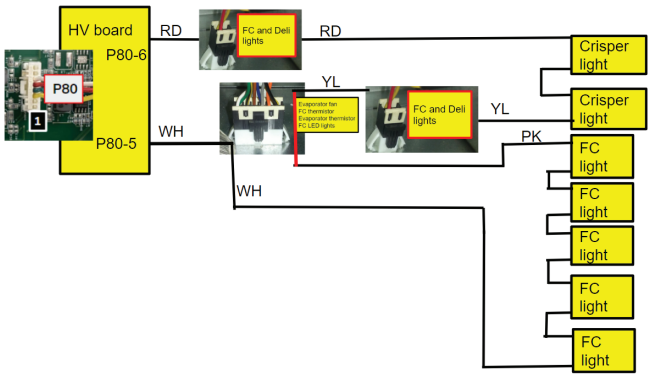
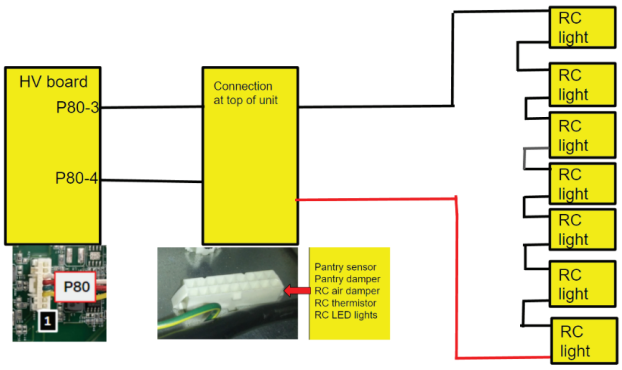
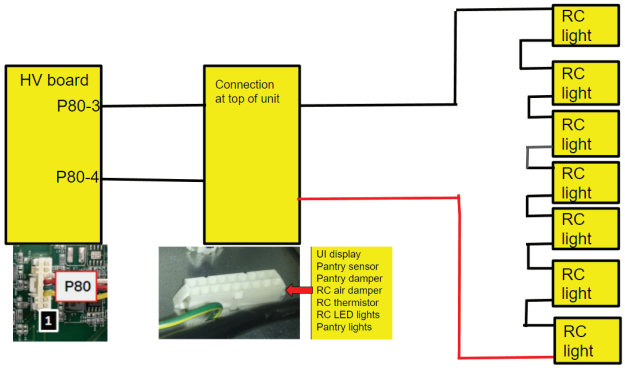
	Dispensing Models	Non-Dispensing Models
Air Damper		
FC Evaporator Fan		
FC Defrost Heater		
Ice Maker Power And Fill Valve **NOTE:** For Dispensing unit, Interlock switch on door must be closed to.		

For Service Technician Use Only

	Dispensing Models	Non-Dispensing Models
Dispenser Water NOTE: Wire colors are subject to change. Go by the pin number on the board.		NA
Auger Motor		NA
Interlock Switch		NA
Pantry Thermistor		NA

For Service Technician Use Only

	Dispensing Models	Non-Dispensing Models
Pantry Damper		NA
FC Lights/ Crisper		
RC Lights		
Videos	Compressor Inverter Accessing Fault codes Entering Diagnostic Mode (Service Mode)	Compressor Inverter

For Service Technician Use Only

Component Testing

Testing Components from the Control

Before testing any of the components, perform the following checks:

- The most common cause for misdiagnosed control failure is poor connections. Therefore, disconnecting, inspecting and reconnecting wires will be necessary throughout test procedures.
- All tests/checks should be made with a VOM or DVM having a sensitivity of 20,000 Ω/V DC, or greater.
- Check all connections before replacing components, looking for broken or loose wires, failed terminals, or wires not pressed into connectors far enough.

IMPORTANT: Voltage checks must be made with all connectors attached to the boards.

IMPORTANT: Resistance checks must be made with power cord unplugged or power disconnected, and with wiring harness or connectors disconnected from the control.

IMPORTANT: The following procedures may require the use of needle probes to measure voltage. Failure to use needle probes will damage the connectors.

Service Test Mode

Entering Test Mode

The service test functions are performed using the refrigerator temperature display and keypad. Enter the service test mode by performing the following sequence of events:

Press and release any 3 keypad buttons, three times: 1,2,3; 1,2,3; 1,2,3.

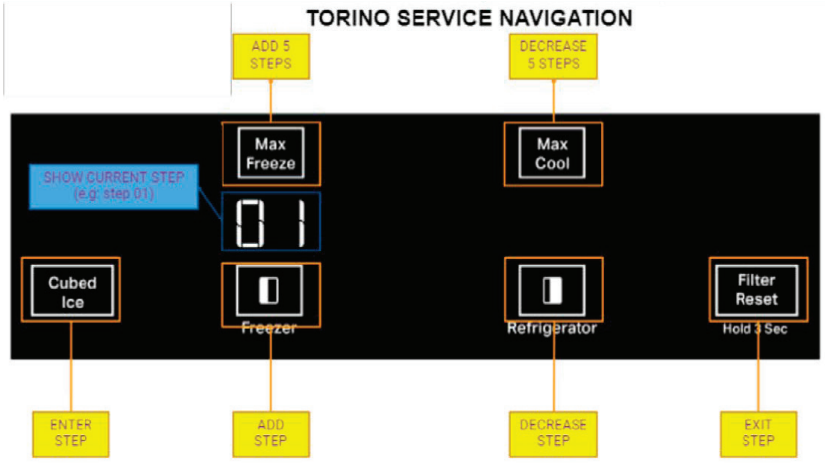
The 3 selected keypad buttons must be pressed consecutively and within 8 seconds.

The control will display to confirm entry into the service test mode.

You are now in the service test operational mode and may use the diagnostic tests.

Exiting Test Mode

To exit the service test mode, press and hold the Filter Reset button for 3 seconds.



For Service Technician Use Only

Step (Test)	Component	Function
0	Exit Service Mode	This step is an alternative method to exit Service Mode and return to Normal Operation.
1	RC Compartment Thermistor	Reads RC compartment temperature. SH indicates “shorted” Thermistor, OP indicated “open” Thermistor. HV Board: P20-17 to P20-18 RC Sensor. Refer the Thermistor Resistance Range Chart for the Nominal Resistance at different temperatures.
2	FC Compartment Thermistor	Reads FC compartment temperature. SH indicates “shorted” Thermistor, OP indicated “open” Thermistor. HV Board: P20-15 to P20-16 Refer the Thermistor Resistance Range Chart for the Nominal Resistance at different temperatures.
4	FC Evaporator Thermistor	Reads FC Evaporator temperature. SH indicates “shorted” Thermistor, OP indicated “open” Thermistor. HV Board: P20-11 to P20-12 Refer the Thermistor Resistance Range Chart for the Nominal Resistance at different temperatures.
5	Pantry Thermistor	Read Pantry temperature. SH indicates “shorted” Thermistor, OP indicated “open” Thermistor HV Board: P22-11 to P22-12. Refer the Thermistor Resistance Range Chart for the Nominal Resistance at different temperatures.
12	Ambient Temperature Thermistor	Read ambient temperature. SH indicates “shorted” Thermistor, OP indicated “open” Thermistor.
39	Compressor Speed Change With Ramping	Control the Compressor Speed. When entering the service test the compressor turns off if it was previously on. Go into Service Mode 39 and press Control lock (enter), using the Freezer Max button go by 10's to set wattage you want. Once you press the Control lock to start the compressor (there might be a slight delay), if you have a Watt Meter hooked to the unit, it will read out wattage on the compressor. (Watt Meter will be off but if wattage is within 20-30 W). If you wish to change wattage, use Max Freezer to raise by 10 W or Max Cool to lower by 10 W. Once you have changed wattage you have to press Control lock (enter) to change speed. ■ Select the power from 0 to 150 W. ■ Setting the power to 0 W, the compressor will shut off after 2.5 minutes.

For Service Technician Use Only

Step (Test)	Component	Function
40	Compressor And Compartment Freezing Cooling Test **NOTE:** There is a compressor protection delay of 7 minutes once the compressor switches the state.	When you enter the service step the unit display will go to ON (Compressor On + Condenser fan at 100%). Let it run for 5 minutes for wattage to steady, 120-160 W when steady.
41	RC Air Baffle	When you enter the service step to switch from Open to Close press the Freezer button. OP – when command was done to OPEN the damper; CL – when command was done to CLOSE the damper; The voltage is a pulse DC that is going to this part. Depending on the meter that is being used, it may not show voltage. If there is an issue reading DC voltage, then switch the meter to AC voltage and see if you can get the same voltage reading. Check for 12-13 V at the RC damper door between RD to YL when the door is opening and closing.
42	Main Pantry Air Baffle	When you enter the service step to switch from Open to Close press the Freezer button. OP – when command was done to OPEN the damper. CL – when command was done to CLOSE the damper. The voltage is a pulse DC that is going to this part. Depending on the meter that is being used, it may not show voltage. If there is an issue reading DC voltage, then switch the meter to AC voltage and see if you can get the same voltage reading. Check for 12-13 V at the RC damper door between RD to YL when the door is opening and closing.
44	RC Compartment Lighting & Air Tower If Connected In Series To RC Lighting.	Display shows ON using the seven segment display to indicate that lighting shall be ON.
45	FC Compartment Lighting	Display shows ON using the seven segment display to indicate that lighting shall be ON.
56	FC Fan Test	Display shows ON using the seven segment display to indicate that the fan shall be ON. Fan ON: BLK to RD and BLK to BLUE = 12 VDC, 7.1 W Fan OFF, RD to BLK 12 VDC, BLK to BLUE = 0 VDC, 2.6 W without running.
58	Condenser Fan Test	Display shows ON using the seven segment display to indicate that the fan shall be ON. Fan wiring GRN to BLK = 12 VDC constant BLK to Brown = 0 VDC fan OFF, 12 VDC Fan ON 5 W when the fan is running.
66	Ice Maker Fill Tube	Display shows ON using the seven segment display to indicate that Heater shall be ON. 12 VDC, 58 Ω, 5.6 W **NOTE:** Only on Non-dispensing units.
73	RC Door Switch State	00 Identifies door open 01 identifies door closed

For Service Technician Use Only

Step (Test)	Component	Function
75	FC Door Switch State	00 identifies door open 01 identifies door closed
87	Dispenser Heater Activation Mode	Entering the display shows the current activation mode for the Heater. Pressing the increment and decrement keys changes the activation mode of the Heater. 00 indicates Humidity Dependent. 01 indicates Independent of Humidity Measurement (Runs 100% at all times). The activation mode shall be changed and stored in the EEPROM. On the next power cycle unit shall follow expected behavior. **NOTE:** Only on Dispensing units.
89	Runs FC Defrost Heater	When entering this Service Test, Defrost Heater turns ON and stays on for 5 minutes or until the Evaporator Thermistor goes above 60°F. Heater resistance is 27-35 Ω, and power is 450 W. **NOTE:** ON will be displayed while the operation is executed. Will say OFF if the freezer Evaporator Thermistor is above 60°F.
92	Turn All User Interface LEDs On	All UI LED's come on.
93	User Interface Button And Paddle Test	If a button on any user interface is pressed the UI shall display the change of state. All button LEDs shall be lit 50% for back lit capacitive touch UI's, except navigation keys which shall be lit 100%. **NOTE:** The back navigation key in Service Mode will not follow the same behavior as described. The back key will execute the back navigation function.
100	Display Water Filter Gallons Remaining (For Dispenser Units Only)	Entering this Step allows the technician to read the remaining gallons left of usage of the water filter. Gallons remaining will be subtracted from the parameter found in the flashmap/settings file. **NOTE:** The allowable range of this is from 0 to 999 gallons. The actual maximum value is found within the flashmap/settings file. **NOTE:** Only on Dispensing units.
101	Display Water Filter Days Remaining	When entering this service test the display will show number of days remaining on filter.
102	Display Days Since Last Water Filter Reset	When entering this service test the display will show number of days since filter was reset.
103	Display Number Of Water Filter Resets	When entering this service test the display will show a number of filter reset.
104	Read Humidity Measurement	Will read out Humidity in percent on display.
115	Control Ice Door Motor Using Ice Pads (For Dispenser Units Only)	Allows the technician to control the Ice Door Motor with the dispensing Pad. When the pad is pressed, the motor shall begin moving the door to the open state. When reached the door shall remain open for 1 second prior to closing. With the pad released the door shall begin closing. When the door reaches the closed state it shall remain there for 1 second prior to an opening command. The display shall follow the door position during this test using the following designation: 01 Closed 02 Opening 03 Open 04 Closing **NOTE:** Only on Dispensing units.

For Service Technician Use Only

Step (Test)	Component	Function
140	ACU SW Version Number	Show XX for 1 second (version format XX YY ZZ) ■ Blank for 0.5 seconds ■ Show YY for 1 second (version format XX YY ZZ) ■ Blank for 0.5 seconds ■ Show ZZ for 1 second (version format XX YY ZZ) ■ Keep Blank When Complete.
141	System Setting File Part Number	Will show file number of software on board.
142	HMI SW Version Number	Show XX for 1 second (version format XX YY ZZ) ■ Blank for 0.5 seconds ■ Show YY for 1 second (version format XX YY ZZ) ■ Blank for 0.5 seconds ■ Show ZZ for 1 second (version format XX YY ZZ) ■ Keep Blank When Complete.
147	Run FC Only Forced Defrost	Displays the current defrost mode (OFF Default) Technician shall then choose between the available defrost modes. The display will use the following designation for states: “off” = OFF (No Forced Defrost), “on” = ON (Execute Defrost), to change this use Freezer key, to execute press control lock ENTER key shall save the selection.

Thermistor Resistance Range Chart

Nominal ohm (Tolerance)	Temperature
2.7 kΩ (2692 Ω - 2858 Ω)	77°F (25°C)
7.6 kΩ (7233 Ω - 7995 Ω)	37°F (2.78°C)
8.8 kΩ (8325 Ω - 9216 Ω)	32°F (0°C)
22.7 kΩ (21,408 Ω - 24,140 Ω)	0°F (-17.78°C)
37 kΩ (34,448 Ω - 39,634 Ω)	-15°F (-26°C)

For Service Technician Use Only

Voltage Chart (Dispensing and Non-Dispensing Models)

HV Board

Reference Description	From	To	Voltage	Load/Conditions
J5				Not used
P1	P1-1	P1-2	120 VAC	AC input
P2				Not used
P4	P4-1	P4-4	12.7 VDC	12.7 V to Freeman HMI
	P4-3	P4-4	Signal	WIN Data
P5				Not used (Unipolar stepper)
P9	P9-1	P1-2	120 VAC	RC Switch, 120 VAC with door open
	P9-2	P1-2	120 VAC	FC Switch, 120 VAC with door open
	P9-3	P9-4	120 VAC	Ice motor
	P9-6	P1-2	120 VAC	Water dispenser
	P9-7	P1-2	120 VAC	Defrost Heater, 120 VAC when activated
	P9-9	P1-2	120 VAC	AC line interlock for dispenser, FC door must be closed
P10	P10-1	P10-2	Signal	Signal to Compressor
	P10-3	P10-4	Signal	PWM Evaporator Fan
	P10-9	P10-10	Signal	PWM Condenser Fan
P12	P12-1	P12-2	12.7 VDC	Damper = 13.7 VAC when opening or closing
	P12-3	P12-4	12.7 VDC	RC air damper Stepper B
	P12-5	P12-6	12.7 VDC	Pantry air damper Stepper C
	P12-7	P12-8	12.7 VDC	Pantry air damper Stepper D
P14	P14-11	P14-12	12.7 VDC	Fill tube Heater
P20	P20-7		5 V	Temperature (external sensor)
	P20-9		5 V	Humidity (external sensor)
	P20-11	P20-12	5 V	Evaporator sensor
	P20-15	P20-16	5 V	FC sensor
	P20-17	P20-18	5 V	RC sensor
P22	P22-11	P22-12	5 V	Pantry sensor
	P22-21	P22-22	12.7 VDC	External sensor
P40				Stepper motor not used
P60				DC drivers (12 V) not used
P80				Stepper motor not used
P90				Not used (Unipolar stepper)
P400				Not used (LED driver)
P800	P800-3	P800-4	12.7 VDC	RC LED
	P800-5	P800-6	12.7 VDC	FC LED
P100	P100-4	P100-10	12.7 VDC constant	Evaporator Fan
	P100-6	P100-4	12.7 VDC constant	Condenser Fan

Notes

Section 4: Component Access

This section provides service parts access, removal, and replacement instructions for the “JennAir® and KitchenAid® 36", 42", and 48" Built-In Side by Side Refrigerators.”

- Top of the Refrigerator
  - Removing the Front Decorative Cover
  - Removing the Front Access Panel
  - Removing the Unit Top Cover
  - Removing the Control Board
  - Removing the Light Switches
  - Removing the Condenser Fan Assembly
  - Accessing the Compressor and Inverter
- Inside the Refrigerator Compartment (RC)
  - Removing the Front Decorative Cover
  - Removing the User Interface Board (Non-dispensing Units Only)
  - Removing the RC Upper Air Diffuser Assembly
  - Removing the RC Lower Air Diffuser and Thermistor Assembly
  - Removing the RC Thermistor
  - Removing the LED Modules
  - Removing the Water Reservoir (Dispensing Units Only)
- Inside the Freezer Compartment (FC)
  - Removing the Front Decorative Cover
  - Removing the FC Thermistor
  - Removing the Evaporator Cover
  - Removing the Evaporator Fan
  - Removing the Evaporator Thermistor
  - Access to Evaporator
  - Removing the Ice Maker Assembly (Non-dispensing Units Only)
  - Removing the Ice Maker Assembly Dispensing Units Only
  - Removing the Fill Tube Heater (Non-dispensing Units Only)
  - Removing the Fill Tube (Non-dispensing Units Only)
  - Removing the Fill Tube (Dispensing Units Only)
  - Removing the Emitter Cover and Circuit Board (Dispensing Units Only)
  - Removing the Receiver Cover and Circuit Board (Dispensing Units Only)
- FC Door (Dispensing Units Only)
  - Removing the Front Decorative Cover
  - Removing the User Interface
  - Removing the Dispenser Pad Assembly
  - Removing the Ice Door Motor Assembly
  - Removing the Ice Auger Motor
  - Removing the Auger Motor Switch
- Under the Refrigerator
  - Accessing the Ice Maker Water Inlet and Isolation Valves
- Back of the Refrigerator
  - Access to Drain Pan Assembly

Top of the Refrigerator

⚠ WARNING

Electrical Shock Hazard

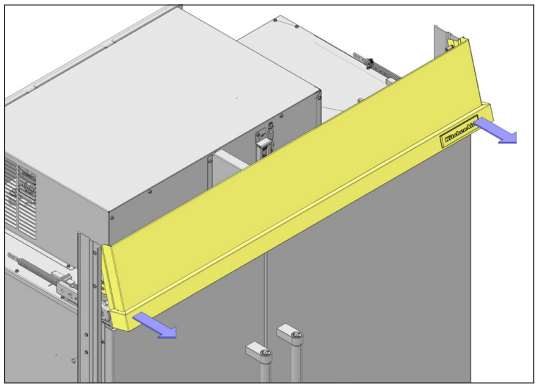
Disconnect power before servicing.

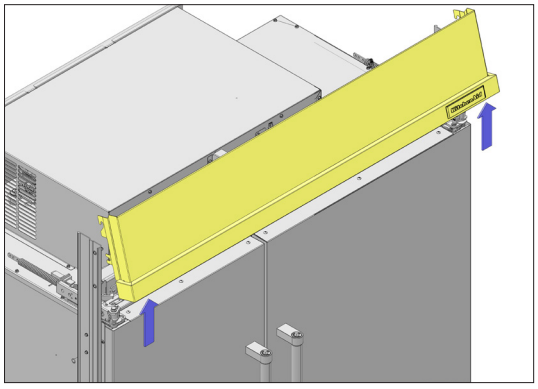
Replace all parts and panels before operating.

Failure to do so can result in death or electrical shock.

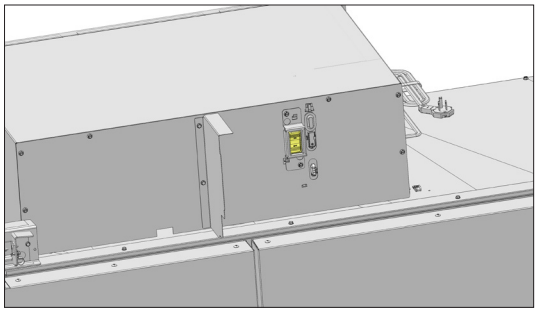
Removing the Front Decorative Cover

1. Grasp both ends of the front decorative cover.
2. Pull the front cover out first and then up to remove.



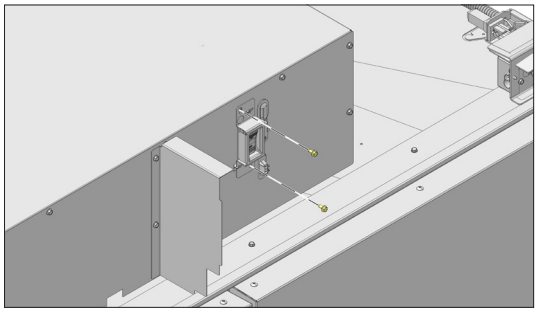


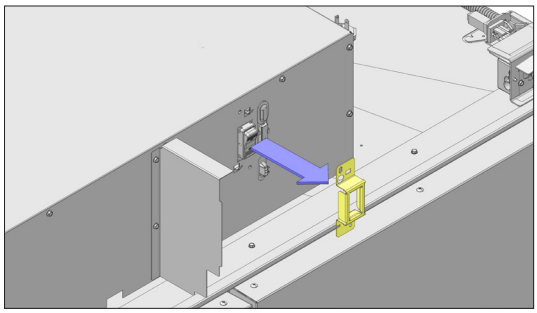
3. Unplug the refrigerator or use the ON/OFF power switch located behind the Decorative Cover to turn the refrigerator off.



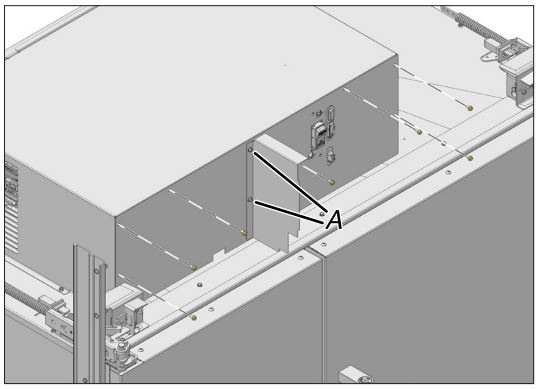
Removing the Front Access Panel

1. Remove two (2) 1/4" screws and remove the cover over the ON/OFF switch.

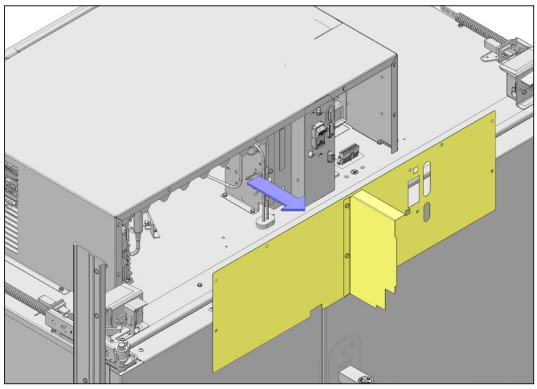




2. Remove seven (7) screws to remove the front access panel.
   NOTE: Removing the two (2) center divider screws is not necessary.



A. Center Divider Screws



Removing the Unit Top Cover

1. Remove four (4) 1/4" screws from the right side and six (6) 1/4" screws from the left side.

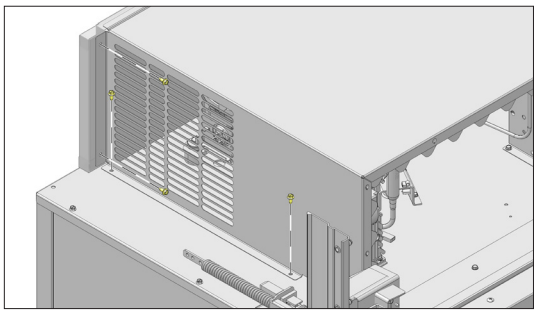


Figure - Unit Top Cover Left Side

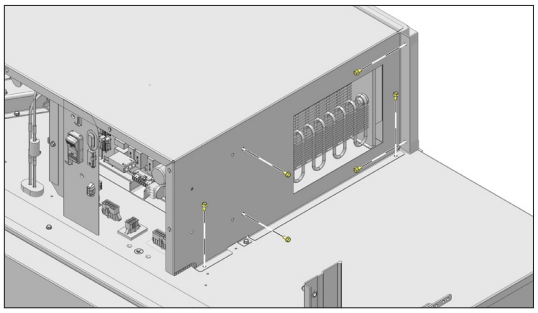
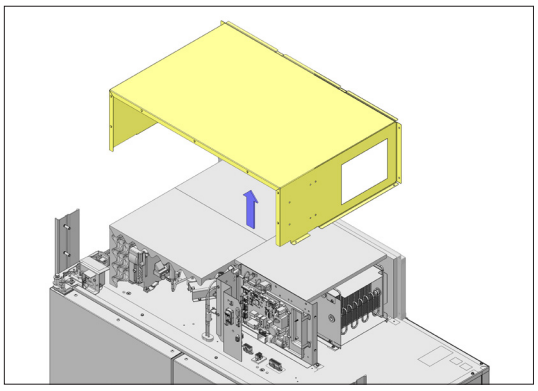


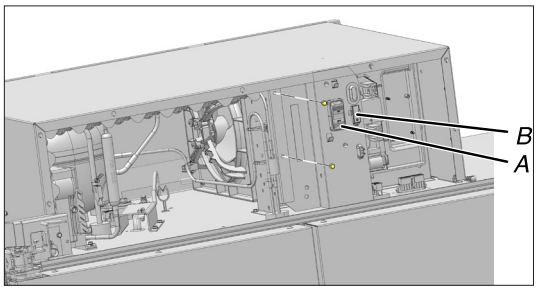
Figure - Unit Top Cover Right Side

2. Lift the Unit Top Cover off.

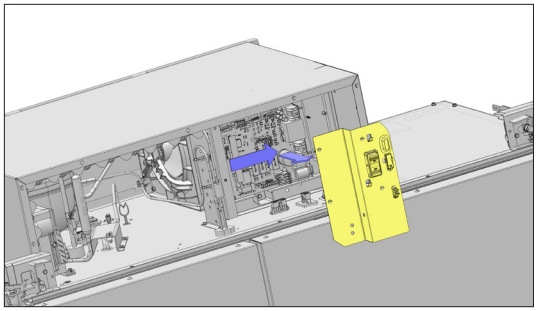


Removing the Control Board

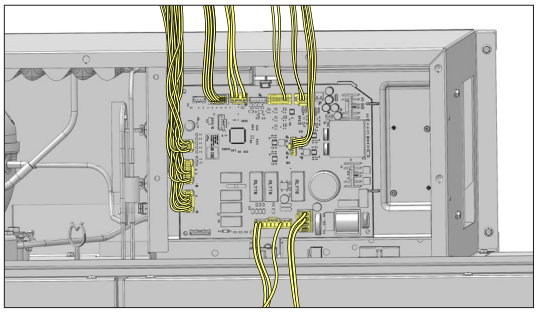
1. Complete the steps 1-3 from section Removing the Front Decorative Cover.
2. Complete the steps 1-2 from section Removing the Front Access panel.
3. Remove two (2) 1/4" hex head screws from the power switch and humidity sensor mounting bracket, then remove the bracket.



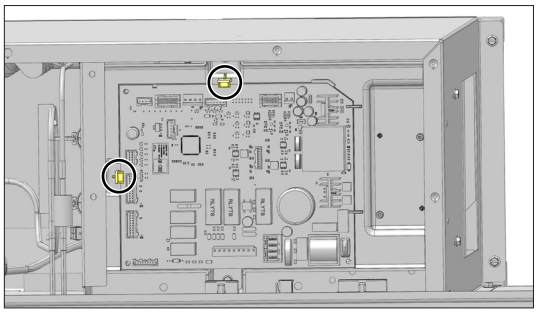
A. ON/OFF Switch
B. Humidity Sensor

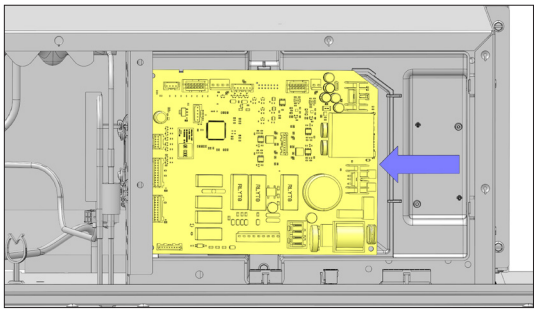


4. Disconnect all the wires.



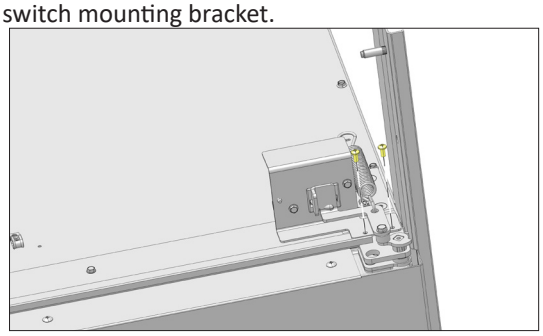
5. Push the release tabs on the left and top side of the board and slide board out of the mounting brackets on the right side.

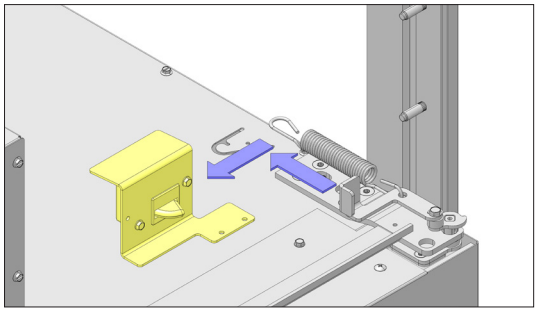




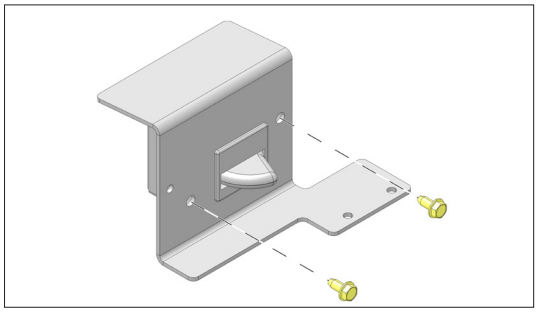
Removing the Light Switches

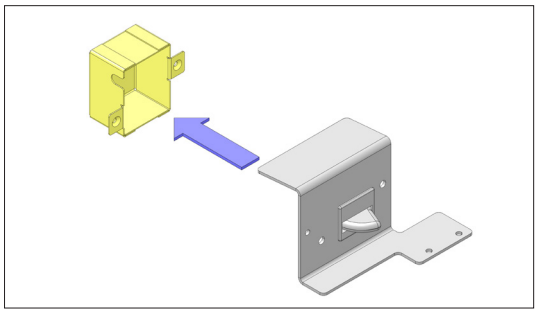
1. Complete the steps 1-3 from section Removing the Front Decorative Cover.
2. Light switches are located on the left and right hinge at the top of the doors.
3. Remove two (2) Phillips head mounting screws and remove the switch mounting bracket.



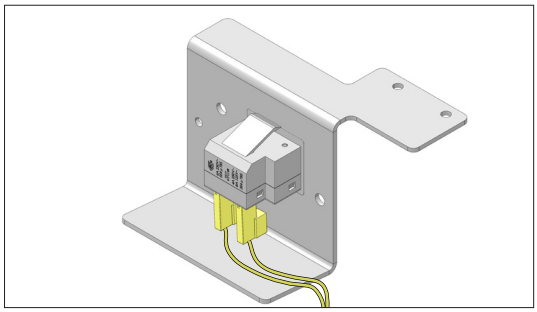


4. Remove two (2) 1/4" hex head screws from the front of the mounting bracket to release the switch cover.

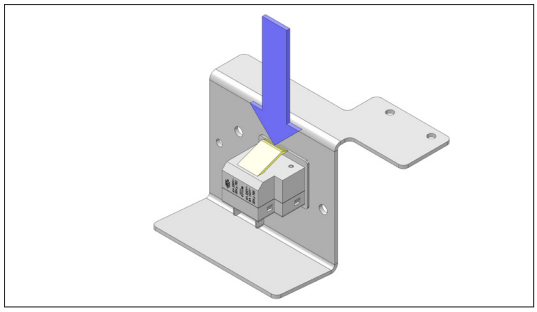


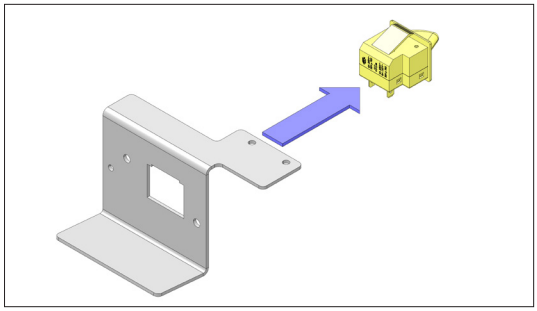


5. Disconnect the two (2) or three (3) wires (depends on model).



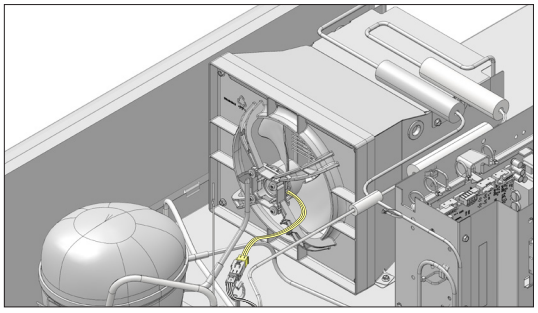
6. The switch is mounted in place by compression tabs, squeeze the tabs and push the switch out through the front of the bracket.



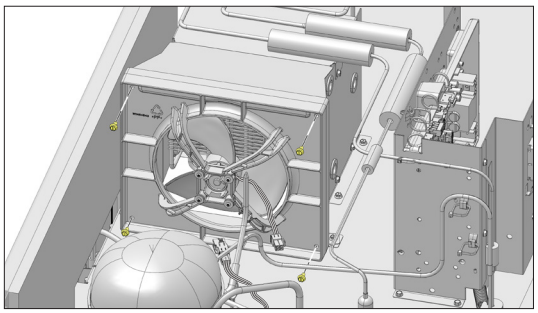


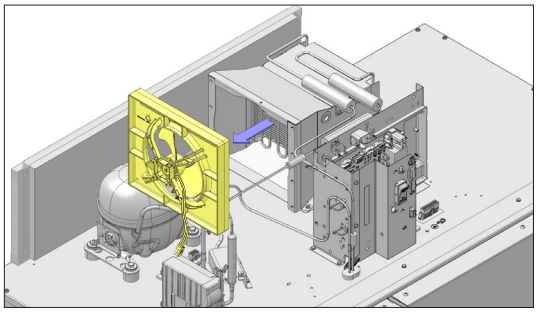
Removing the Condenser Fan Assembly

1. Complete the steps 1-3 from section Removing the Front Decorative Cover.
2. Complete the steps 1-2 from section Removing the Front Access panel.
3. Complete the steps 1-2 from section Removing the Unit Top Cover.
4. Locate the condenser fan assembly in the back of the compartment, to the right of the compressor.
5. Disconnect the wire harness located next to the fan assembly.



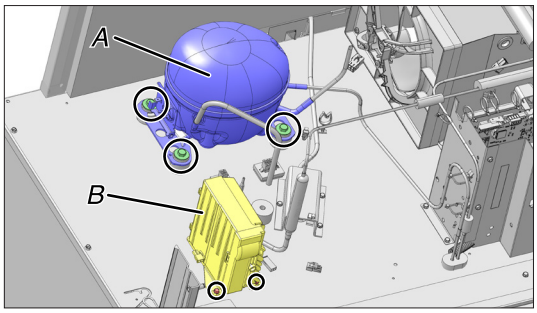
6. Remove four (4) 1/4" hex head screws to remove the condenser fan assembly.





Accessing the Compressor and Inverter

1. Complete the steps 1-3 from section Removing the Front Decorative Cover.
2. Complete the steps 1-2 from section Removing the Front Access panel.
3. Complete the steps 1-2 from section Removing the Unit Top Cover.
4. Locate the inverter in front of the compressor.
5. Compressor wire connections and electrical cover are located on the left of the compressor.
6. Four (4) 7/16" hex head bolts are used to mount the compressor.



A. Compressor
B. Inverter

7. The three (3) 1/4" hex head screws used to mount the inverter are located at the base of the inverter (Refer above figure).

Inside the Refrigerator Compartment (RC)

⚠ WARNING

Electrical Shock Hazard

Disconnect power before servicing.

Replace all parts and panels before operating.

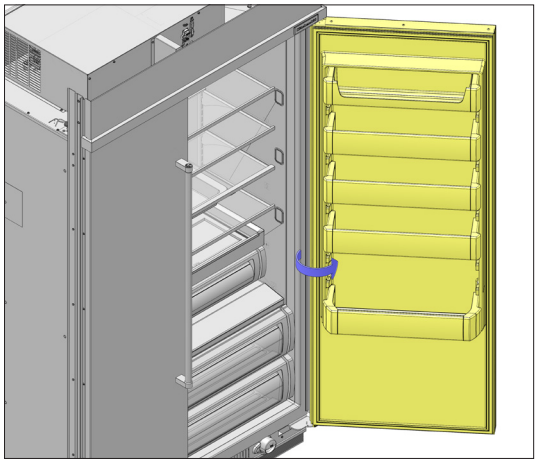
Failure to do so can result in death or electrical shock.

Removing the Front Decorative Cover

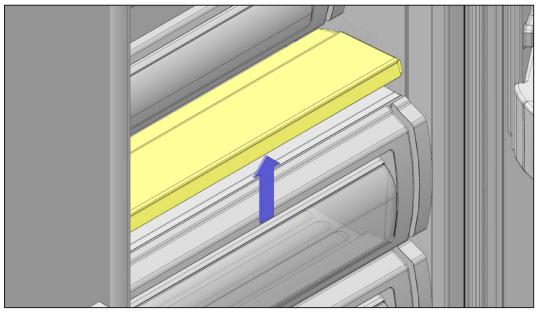
1. Complete the steps 1-3 from section Removing the Front Decorative Cover.

Removing the User Interface Board (Non-dispensing Units Only)

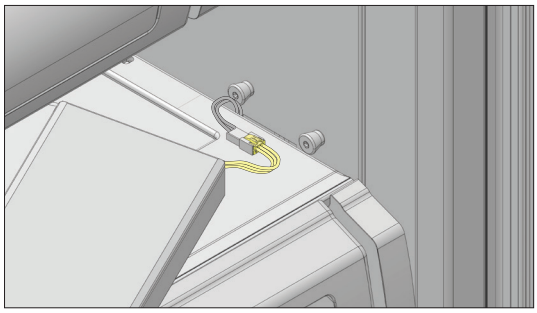
1. On a Non-dispensing unit, the User Interface or UI is mounted inside the refrigerator compartment. Open the refrigerator door and locate the UI in the center of the refrigerator compartment.



2. To remove UI, lift from the front, then lift off the rear tabs.

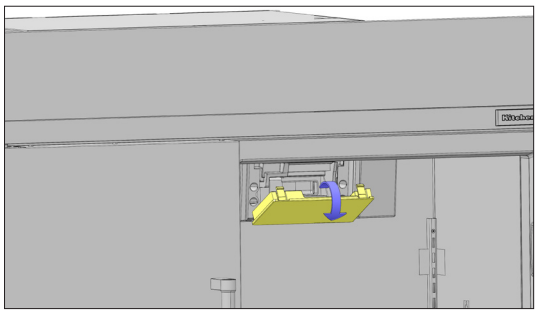


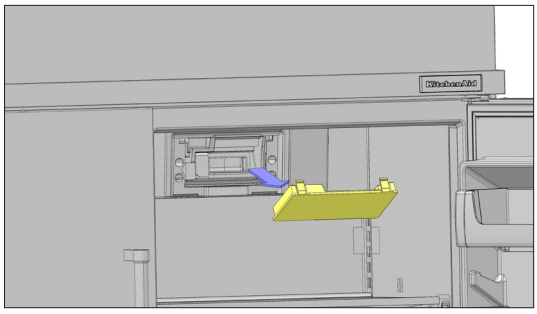
3. Disconnect the wire harness available on the right side.



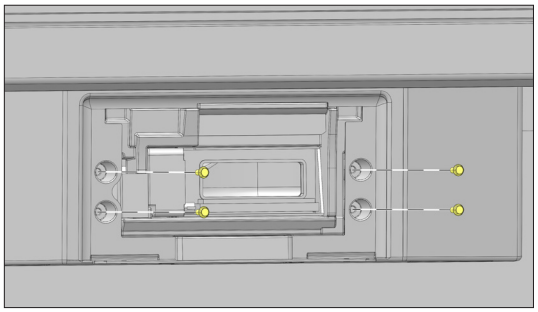
Removing the RC Upper Air Diffuser Assembly

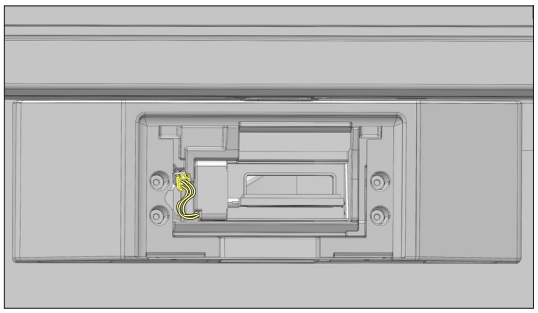
1. Remove the diffuser assembly cover by rotating from the tabs on top and then pulling them out.





2. Remove the four (4) 1/4" hex head screws and disconnect the wire harness to remove the assembly.





3. Remove the gasket and foam to remove the air baffle.

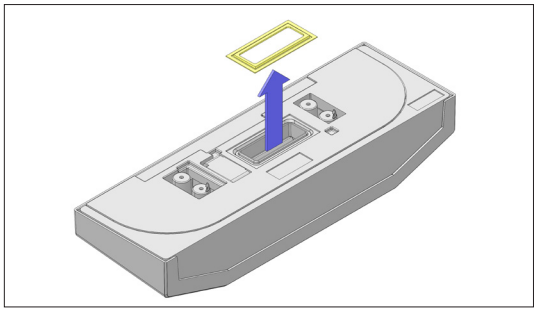


Figure - Removing the Gasket

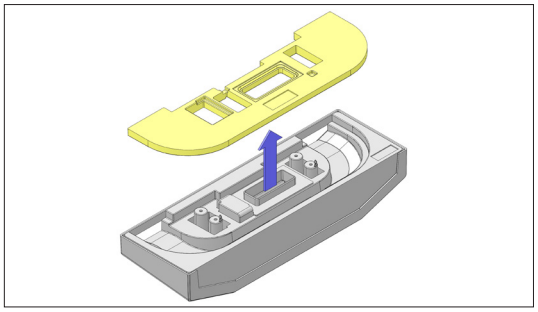


Figure - Removing the Foam

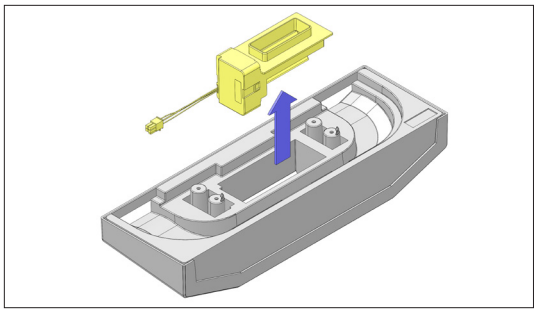
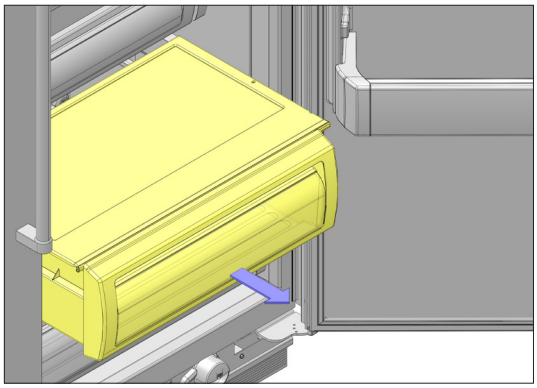
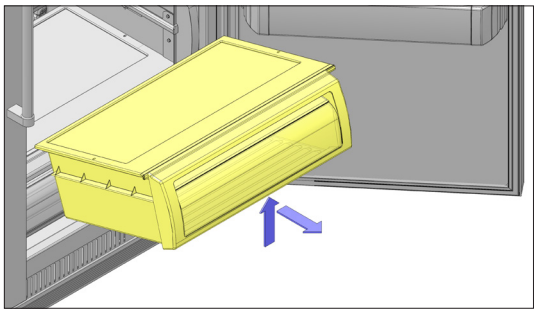


Figure - Removing the Air Baffle

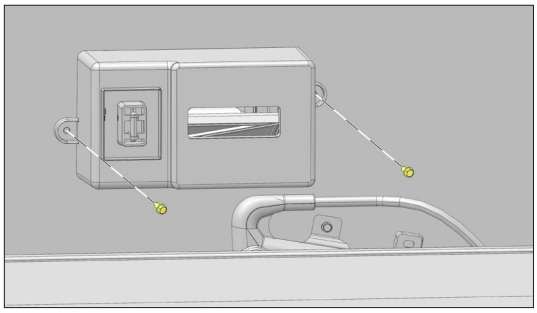
Removing the RC Lower Air Diffuser and Thermistor Assembly

1. Remove drawer to locate the air diffuser assembly.

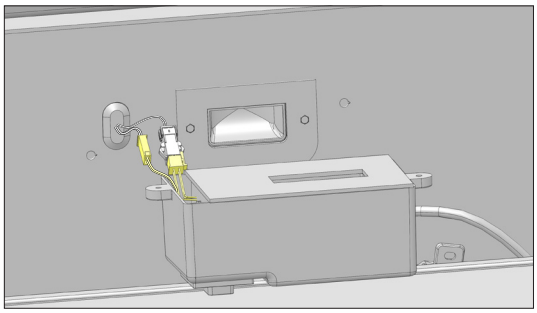




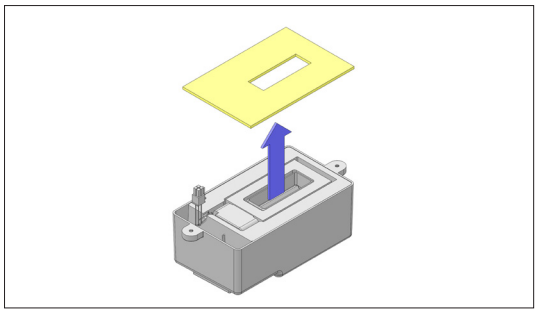
2. Remove two (2) 1/4" hex head screws.



3. Disconnect both wire harness connections to remove the assembly.



4. Gently remove the gasket as you will re-use it.



5. Remove the Air Baffle and foam.

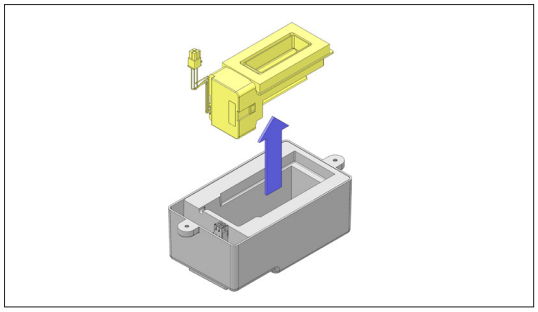


Figure - Removing the Air Baffle

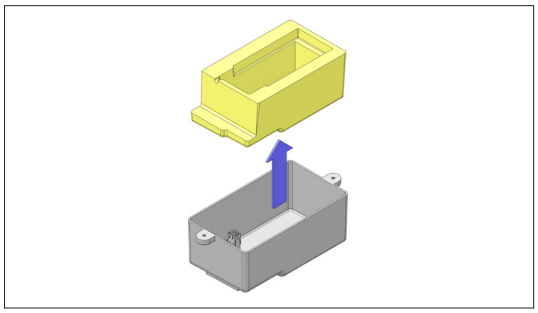
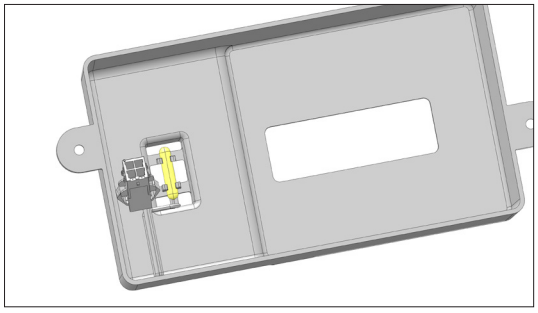


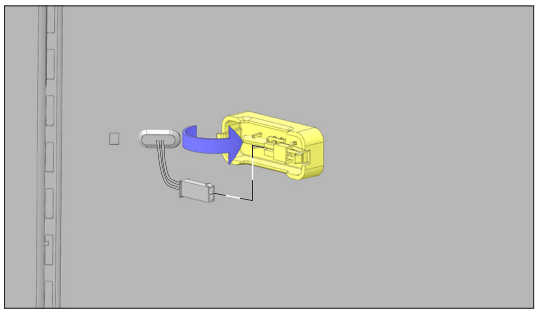
Figure - Removing the Foam

6. Locate the Thermistor mounted inside the cover.

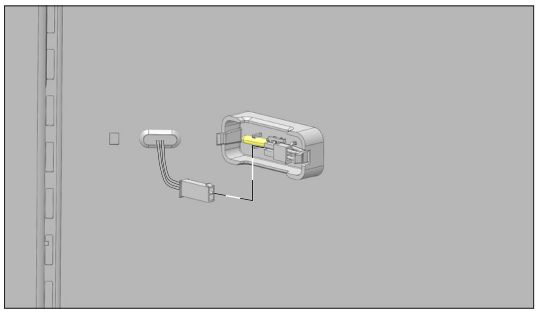


Removing the RC Thermistor

1. Locate the Thermistor cover on the left side of the back wall.
2. Pull on cover from the left side to remove.

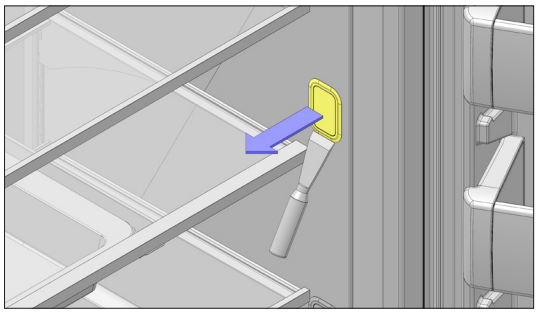


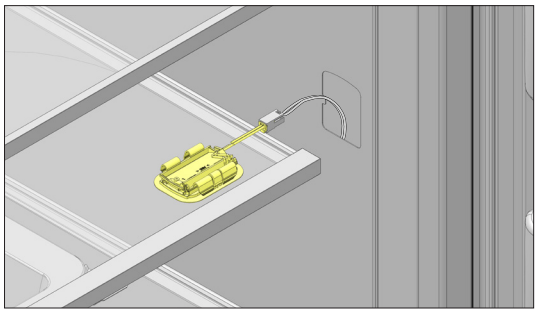
3. Thermistor is located inside cover.



Removing the LED Modules

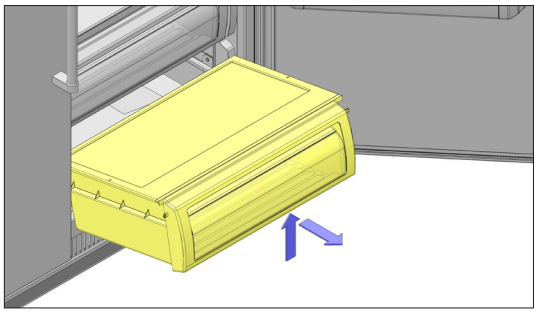
1. LED Modules are located along the walls of both the RC and FC.
2. To remove LED modules from the cabinet walls, protect the liner while using a putty knife to pry them out.



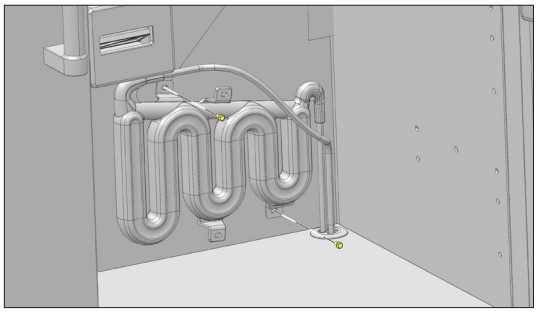


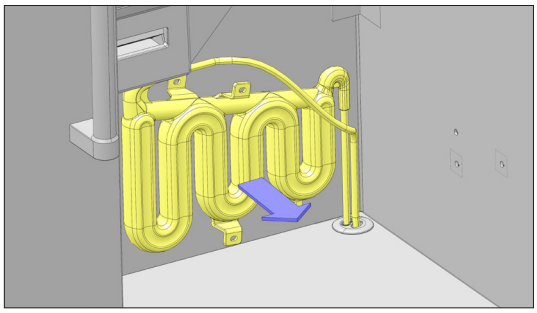
Removing the Water Reservoir (Dispensing Units Only)

1. The water reservoir is located under the lower diffuser and Thermistor assembly. The lower drawers will need to be removed.



2. Remove two (2) 1/4" hex head screws holding the reservoir in place.





Inside the Freezer Compartment (FC)

⚠ WARNING

Electrical Shock Hazard

Disconnect power before servicing.

Replace all parts and panels before operating.

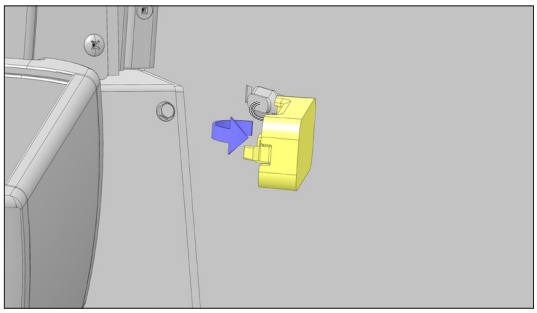
Failure to do so can result in death or electrical shock.

Removing the Front Decorative Cover

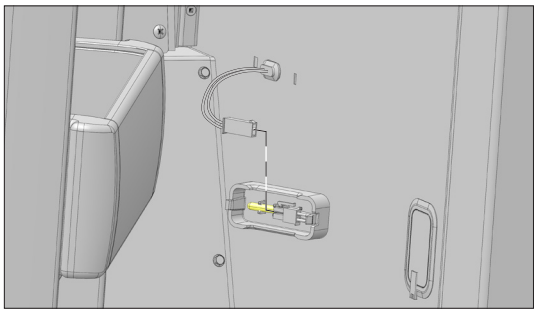
1. Complete the steps 1-3 from section Removing the Front Decorative Cover.

Removing the FC Thermistor

1. Locate the FC Thermistor along the center wall.
2. Pull on the cover from the back to remove.

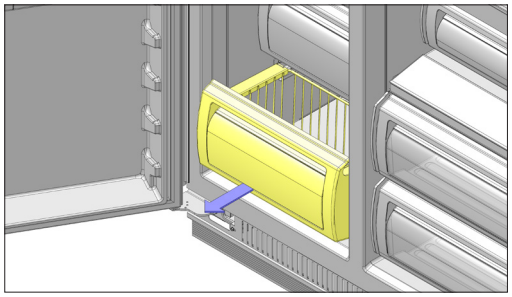


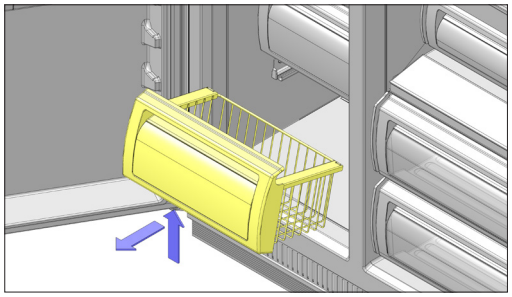
3. Thermistor is located inside the cover.

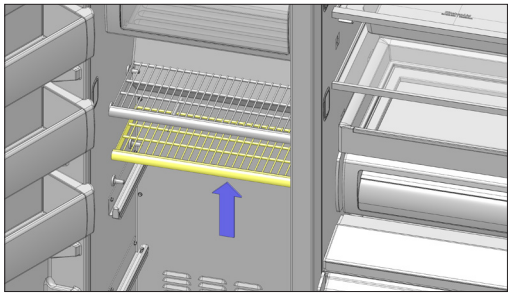


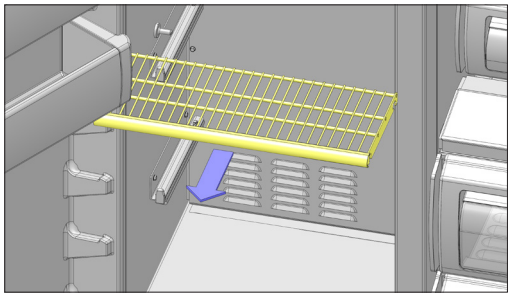
Removing the Evaporator Cover

1. Remove all drawers and shelves below the ice maker.

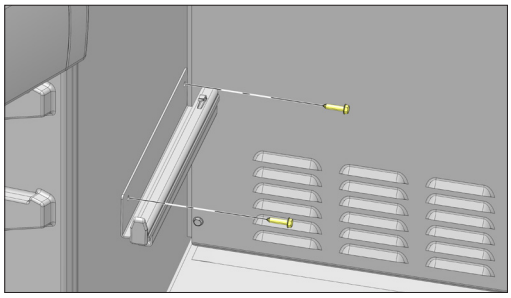








2. Remove four (4) sliders and eight (8) shelf studs.



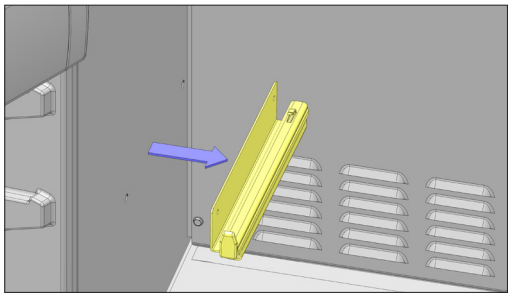


Figure - Removing the Sliders

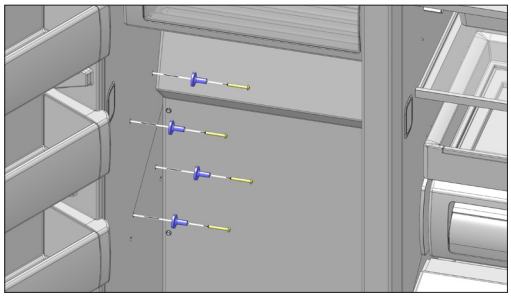
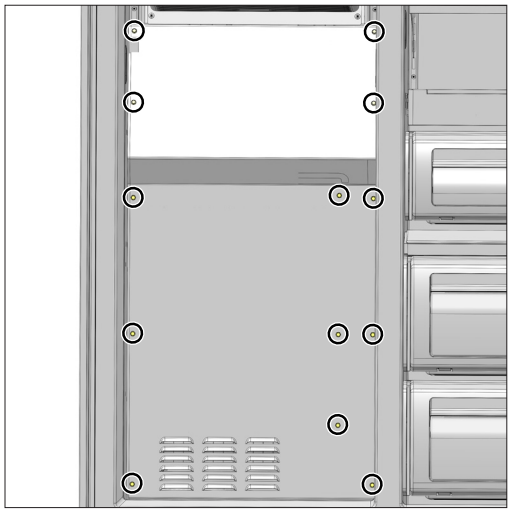
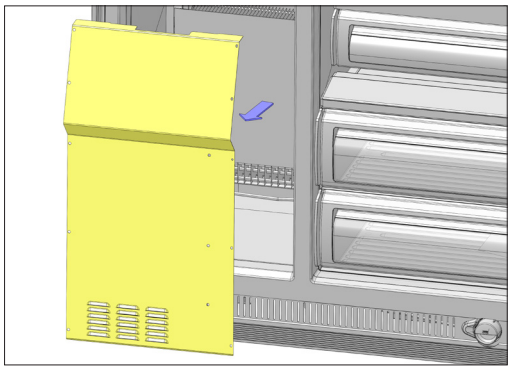


Figure - Removing the Shelf Studs

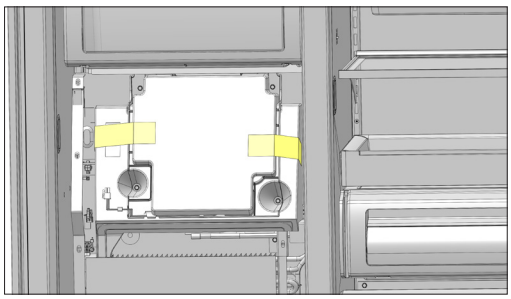
3. Remove thirteen (13) 1/4" hex head screws and remove cover.

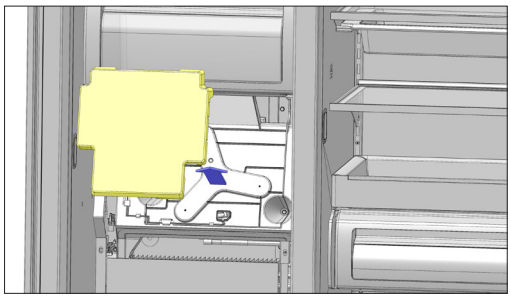




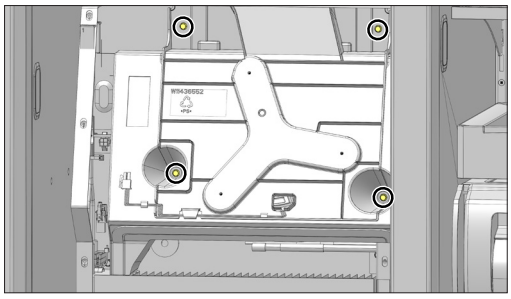
Removing the Evaporator Fan

1. Complete the steps 1-3 from section Removing the Evaporator Cover.
2. Remove the tape and piece of foam over the fan assembly.

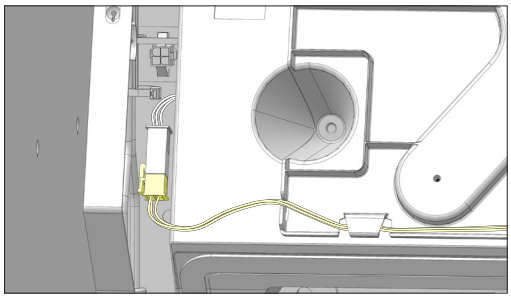




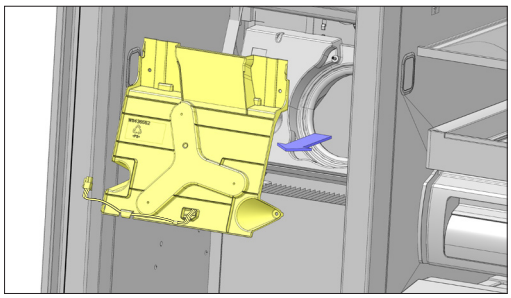
3. Remove four (4) 1/4" hex head screws.



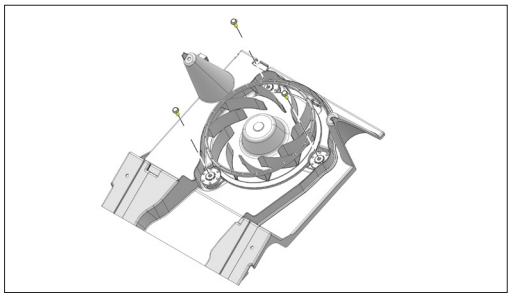
4. Disconnect the wire harness.

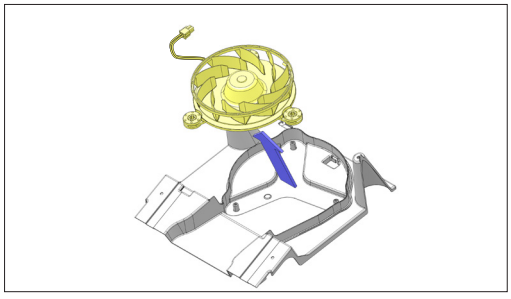


5. Lift the fan assembly from the bottom and pull out.



6. Remove three (3) 1/4" hex head screws to release Evaporator fan from the housing.

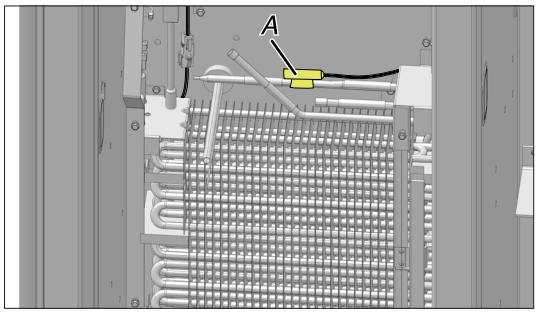




Removing the Evaporator Thermistor

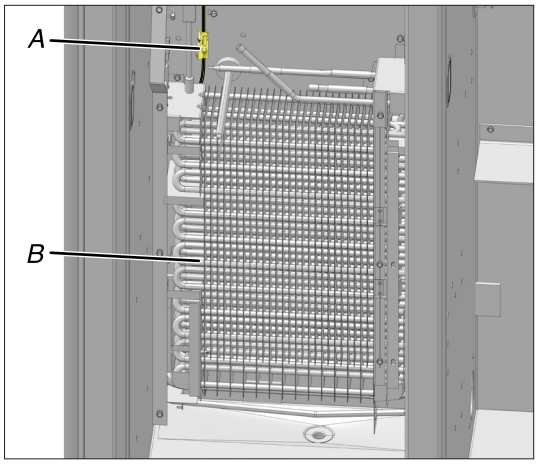
1. Complete the steps 1-3 from section Removing the Evaporator Cover.
2. Complete the steps 1-6 from section Removing the Evaporator Fan.
3. The Thermistor is mounted on the left side of the Evaporator on the outlet line. Positioning is critical so when replacing the Thermistor, mount in the same position.

   NOTE: Servicing this Thermistor will require a Thermistor kit which has components available to splice into the existing Thermistor harness.



Access to Evaporator

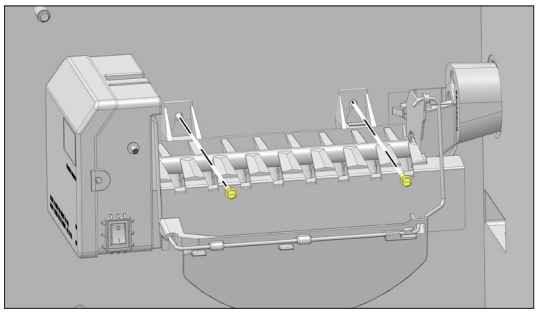
1. Complete the steps 1-3 from section Removing the Evaporator Cover.
2. Complete the steps 1-6 from section Removing the Evaporator Fan.
3. Now Evaporator can be accessed.



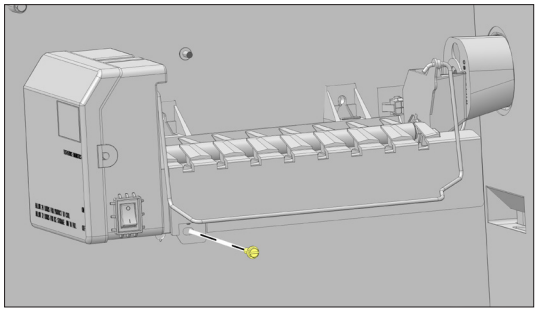
A. Defrost Heater Wire Connections
B. Evaporator and Heater Assembly

Removing the Ice Maker Assembly (Non-dispensing Units Only)

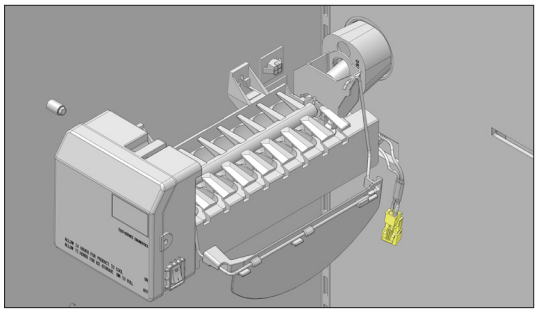
1. Loosen two (2) 1/4" hex head screws on top of the Ice maker.

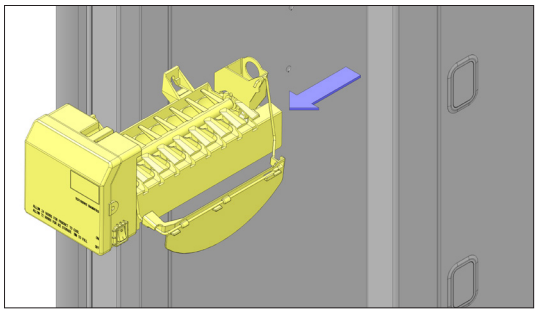


2. Remove one (1) 1/4" hex head screw from the Ice maker mounting bracket.



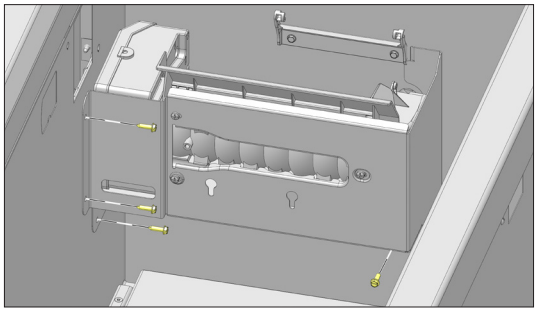
3. Disconnect the electrical connector and then remove the Ice Maker.



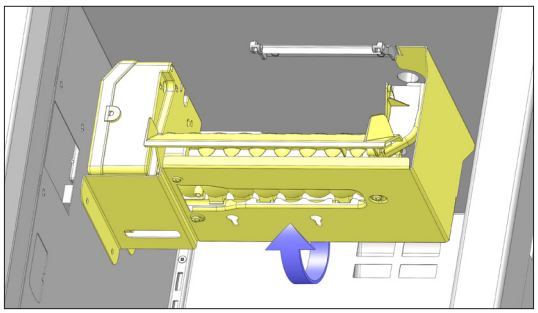


Removing the Ice Maker Assembly (Dispensing Units Only)

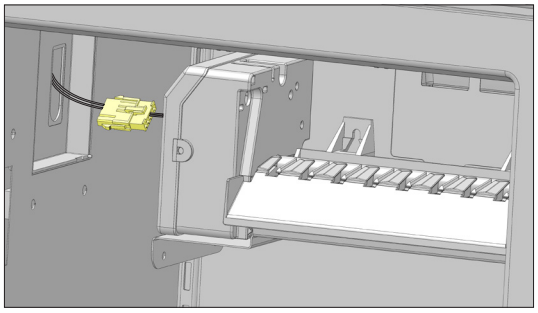
1. Remove four (4) 1/4" hex head screws on bracket. Three (3) are on the side wall and one (1) on ceiling wall.

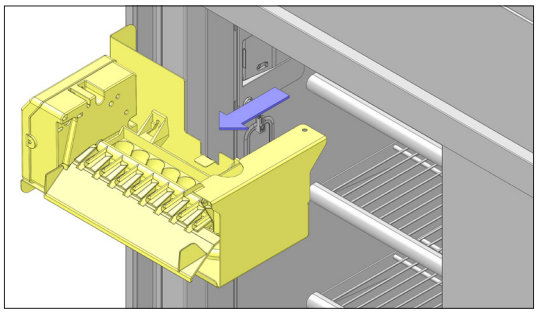


2. Rotate Ice maker bottom towards the front of the refrigerator to get metal bracket out of the ceiling.



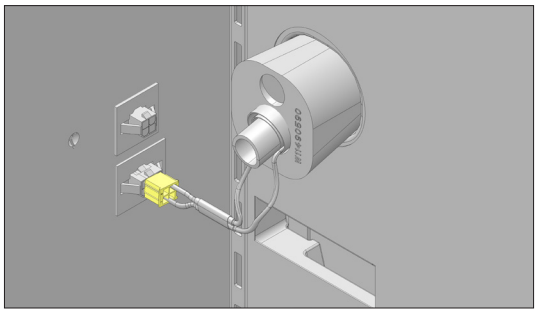
3. Disconnect the electrical connector and then remove the Ice maker.

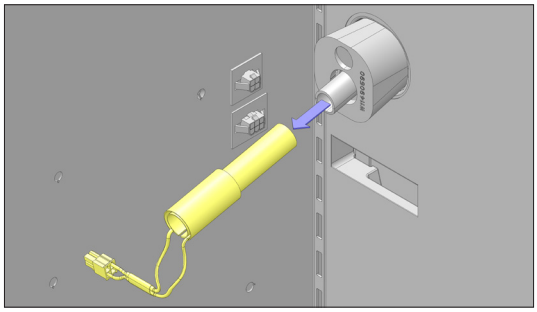




Removing the Fill Tube Heater (Non-dispensing Units Only)

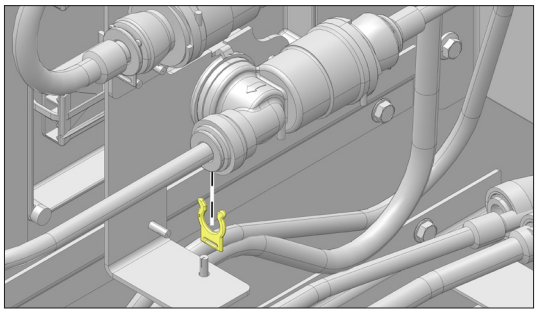
1. Complete the steps 1-3 from section Removing the Ice Maker Assembly (Non-dispensing Units Only).
2. Disconnect the electrical connector and then remvoe the Heater.

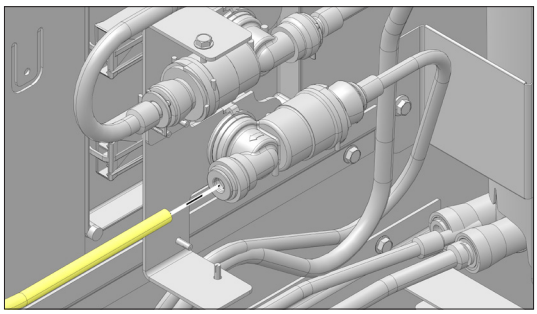




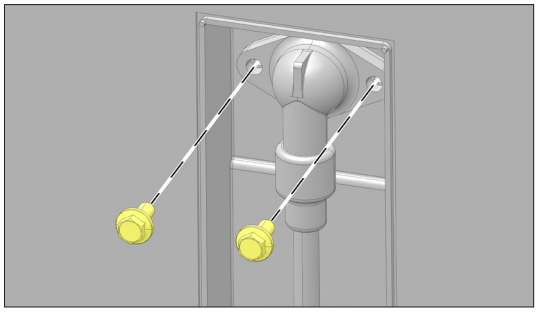
Removing the Fill Tube (Non-dispensing Units Only)

1. Complete the steps 1-3 from section Removing the Ice Maker Assembly (Non-dispensing Units Only).
2. Complete the steps 1-3 from section Removing the Fill Tube Heater (Non-dispensing Units Only).
3. Complete the steps 1-3 from section Accessing the Ice Maker Water Inlet and Isolation Valves.
4. Remove the water line from the ice maker water inlet valve by removing the lock ring from the John Guest fitting first.

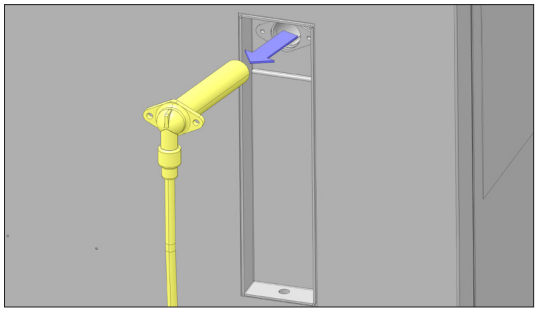




5. Locate the fill tube from behind the refrigerator and remove two (2) 1/4" hex head screws.

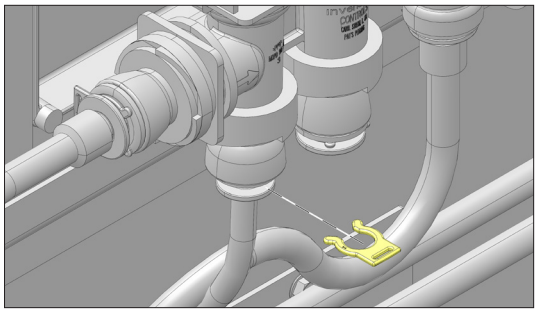


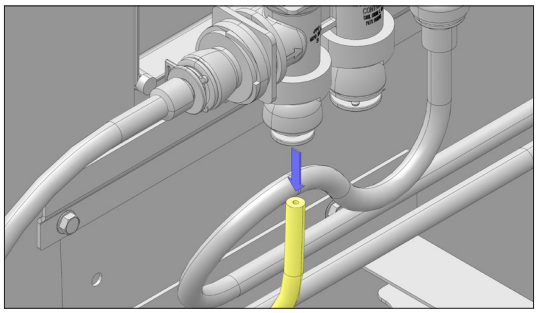
6. Pull fill tube and water line out of refrigerator.



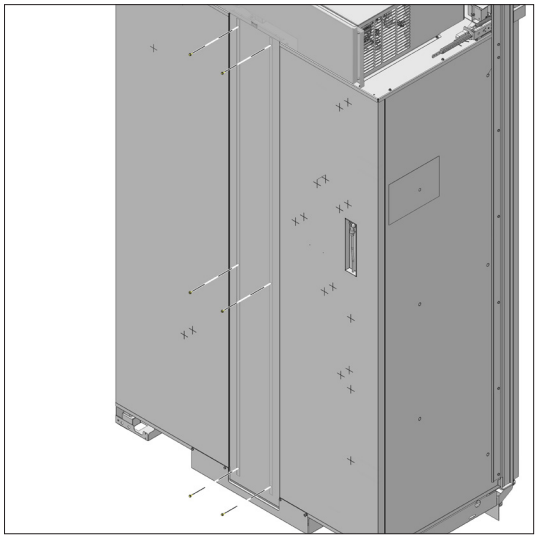
Removing the Fill Tube (Dispensing Units Only)

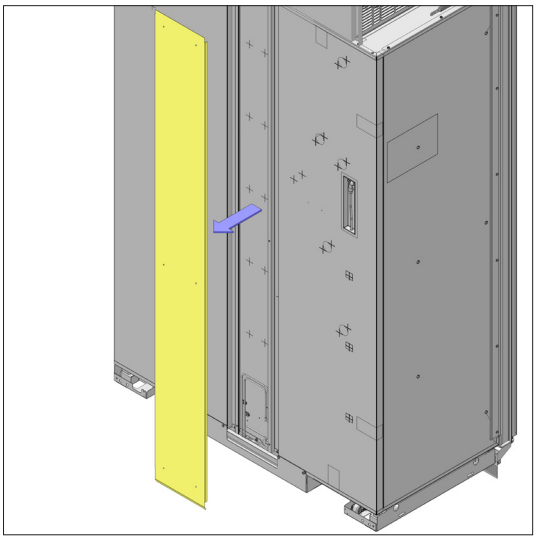
1. Complete the steps 1-4 from section Removing the Ice Maker Assembly (Dispensing Units Only).
2. Complete the steps 1-3 from section Accessing the Ice Maker Water Inlet and Isolation Valves.
3. Remove the water line from the ice maker water inlet valve by removing the lock ring from the John Guest fitting first.



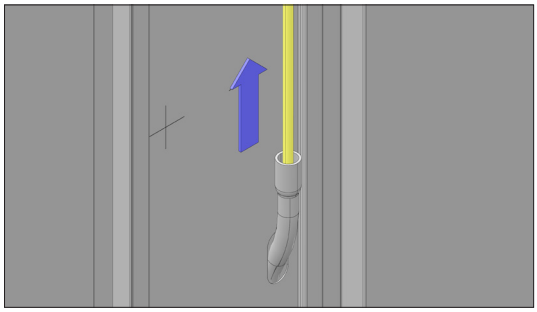


4. Remove center back panel by removing six (6) 1/4" hex head screws.



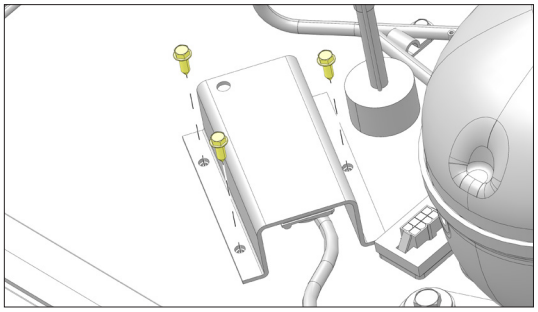


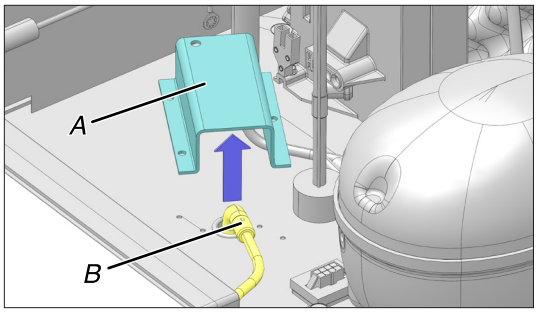
5. Pull water line out of conduit.



6. Complete the steps 1-3 from section Removing the Front Decorative Cover.
7. Complete the steps 1-2 from section Removing the Front Access panel.
8. Complete the steps 1-2 from section Removing the Unit Top Cover.

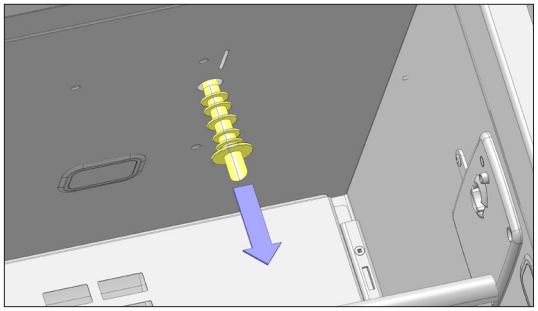
9. Locate cover over fill tube in front of compressor and remove three (3) 1/4" hex head screws and then remove the cover.





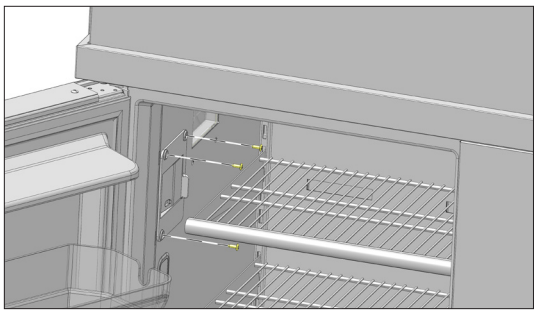
A. Cover
B. Fill Tube

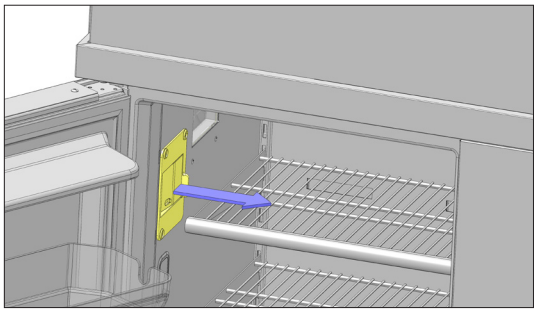
10. Inside the FC, pull on fill tube to remove fill tube and water line.



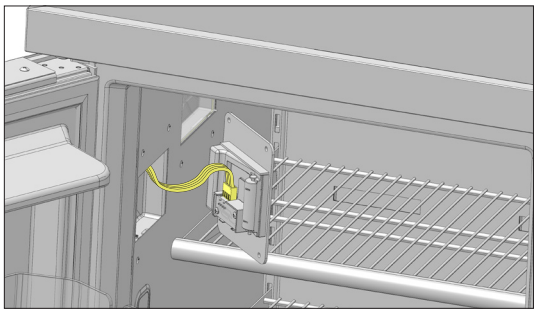
Removing the Emitter Cover and Circuit Board (Dispensing Units Only)

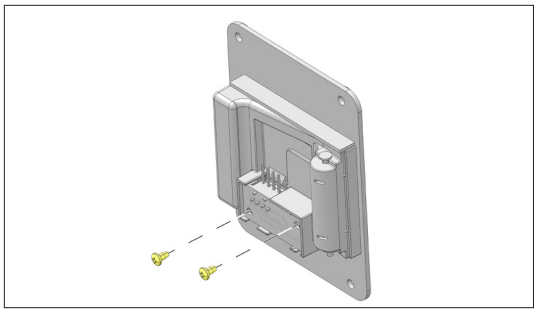
1. Locate the Emitter on the outer wall and remove three (3) Phillips head screws to remove cover and board.

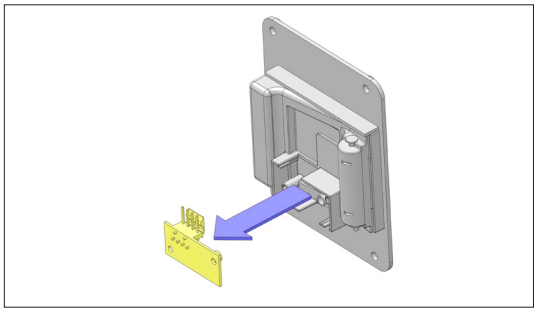




2. After disconnecting wire harness, remove two (2) Phillips head screws to remove the emitter circuit board.

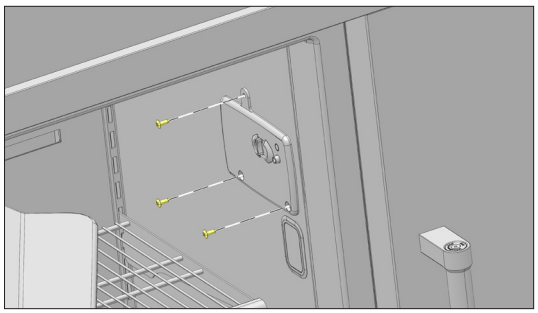


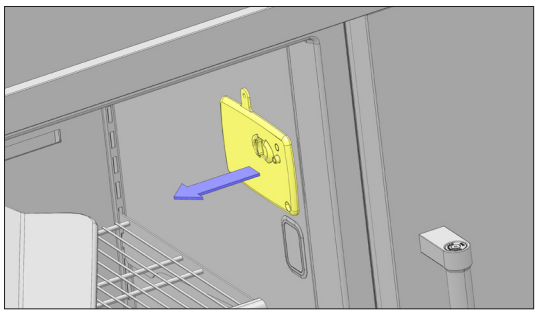




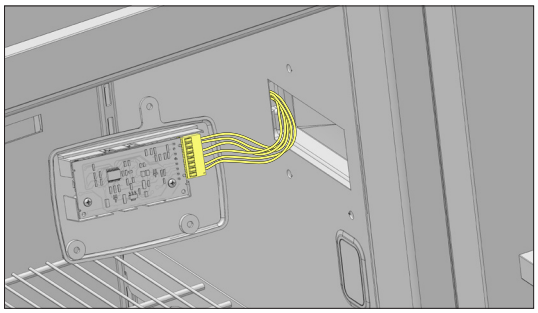
Removing the Receiver Cover and Circuit Board (Dispensing Units Only)

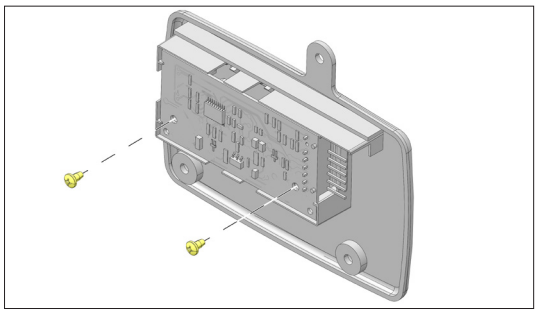
1. Locate the Receiver on the inner wall and remove three (3) Phillips head screws to remove cover and board.

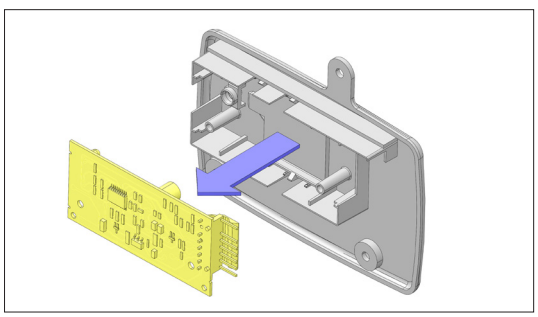




2. After disconnecting wire harness, remove two (2) Phillips head screws to remove the emitter circuit board.







FC Door (Dispensing Units Only)

⚠ WARNING

Electrical Shock Hazard

Disconnect power before servicing.

Replace all parts and panels before operating.

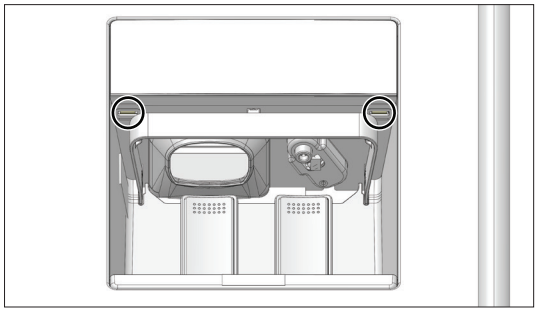
Failure to do so can result in death or electrical shock.

Removing the Front Decorative Cover

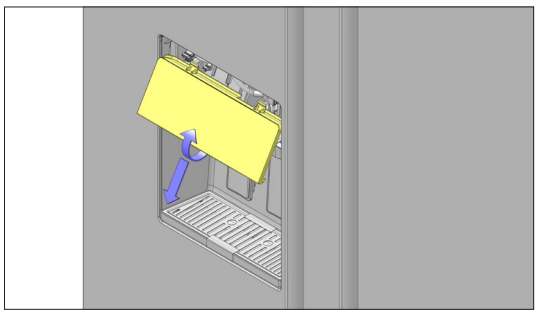
1. Complete the steps 1-3 from section Removing the Front Decorative Cover.

Removing the User Interface

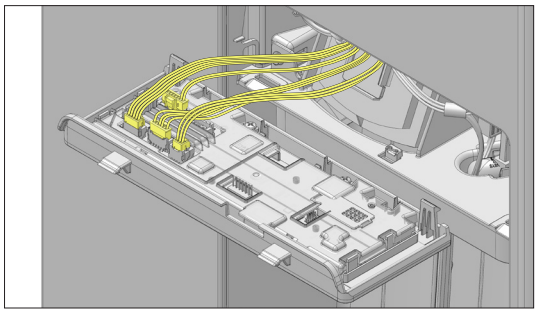
1. Release two (2) locking tabs securing the user interface or UI to the dispenser housing.



2. Drop down the UI.

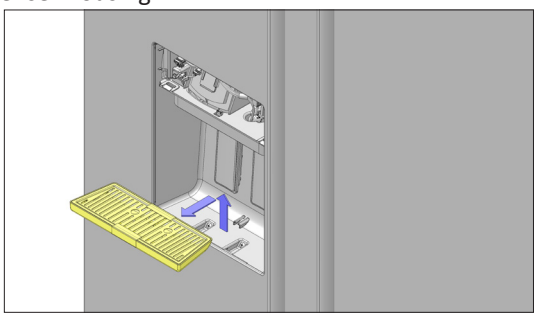


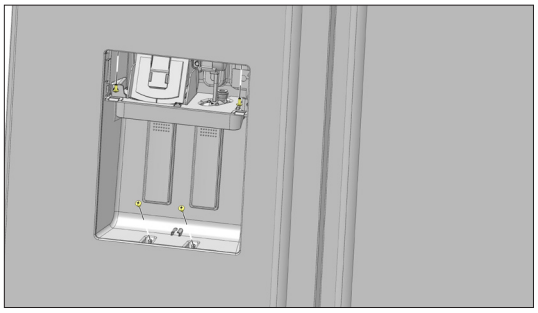
3. Remove wire harness connections to remove UI.



Removing the Dispenser Pad Assembly

1. Complete the steps 1-3 from section Removing the User Interface.
2. Remove drip tray and then remove four (4) screws holding dispenser housing.





3. Remove door skin by removing three (3) Phillips head screws on top, six (6) Phillips head screws on the side and two (2) Phillips head screws on the bottom.

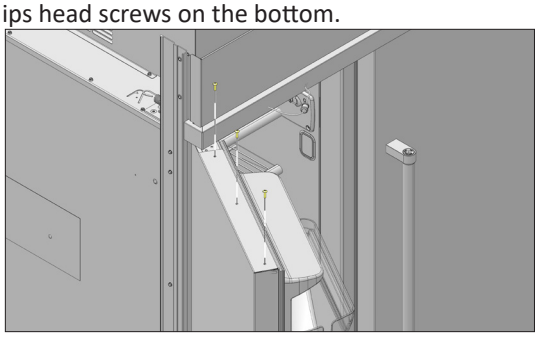


Figure - Removing the Top Screws

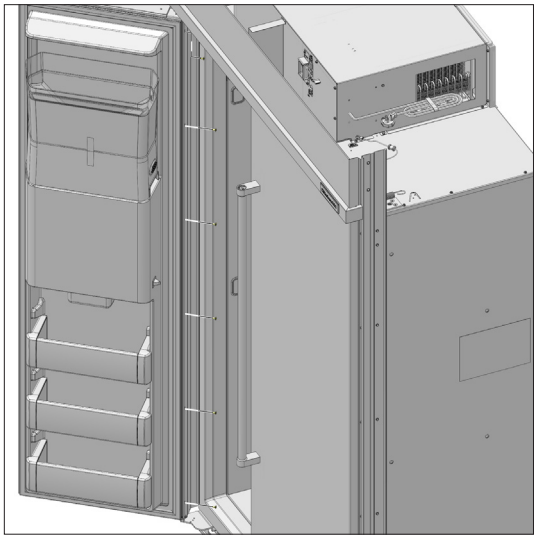


Figure - Removing the Side Screws

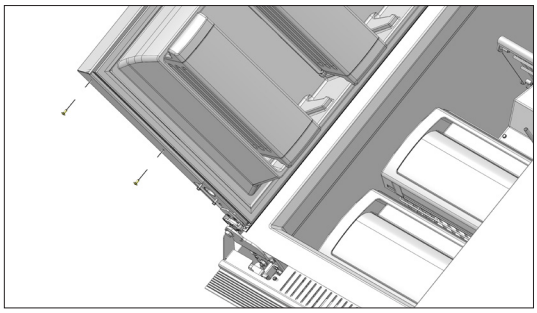
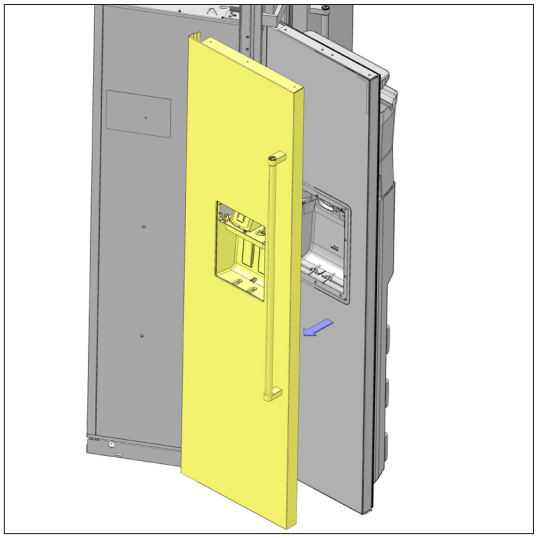
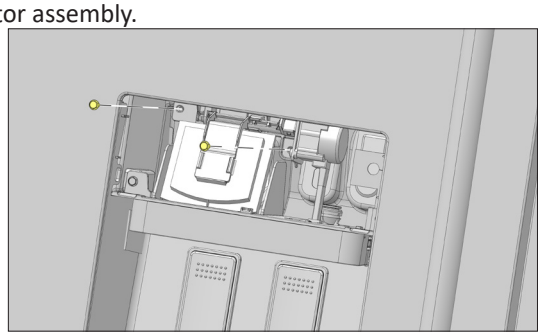


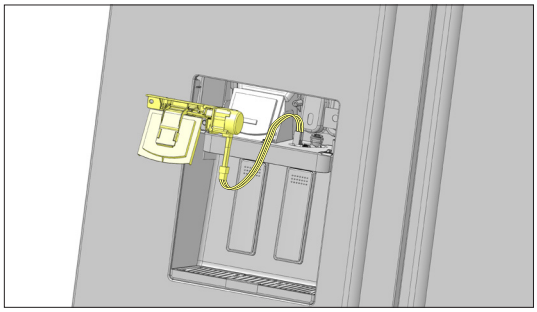
Figure 3. Removing the Bottom Screws



Removing the Ice Door Motor Assembly

1. Complete the steps 1-3 from section Removing the User Interface.
2. Remove two (2) 1/4" hex head screws to remove the ice door motor assembly.

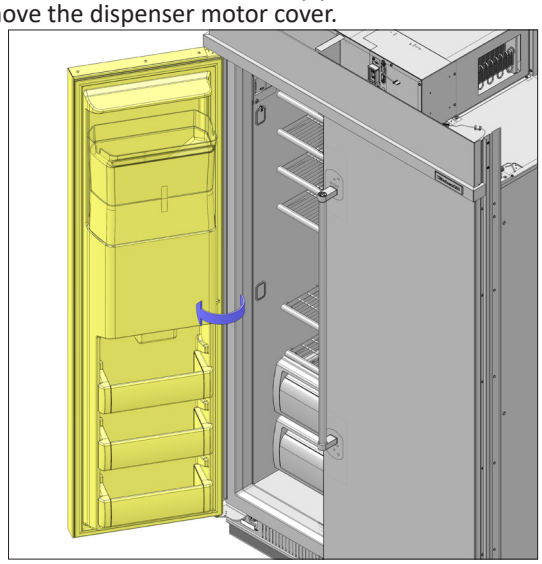


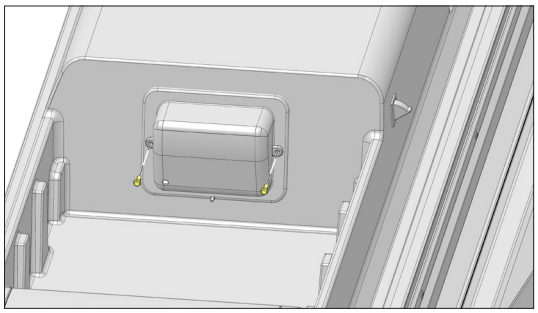


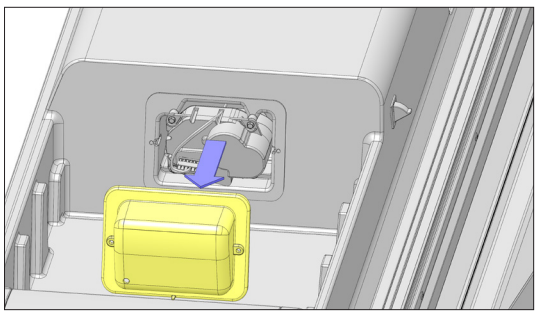
NOTE: Disconnect the wire harness before removing the ice door motor assembly.

Removing the Ice Auger Motor

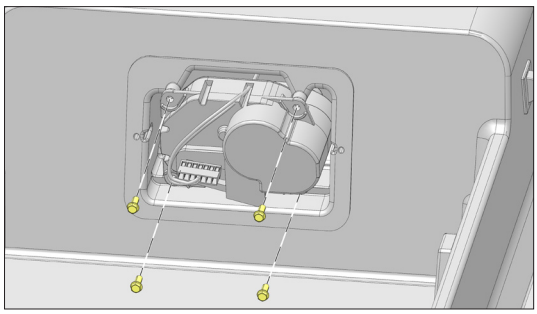
1. Inside of the door, remove two (2) 1/4" hex head screws to remove the dispenser motor cover.

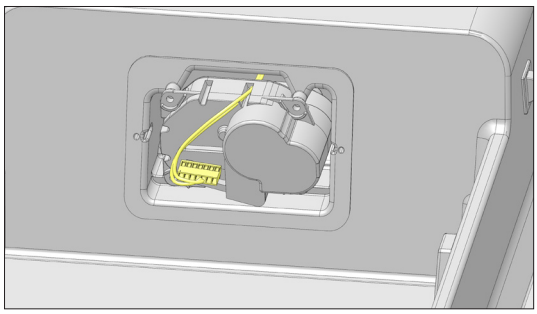


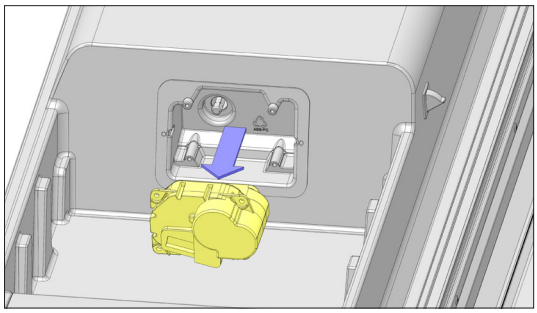




2. Remove four (4) 1/4" hex head screws and remove wiring harness to remove the dispenser motor.

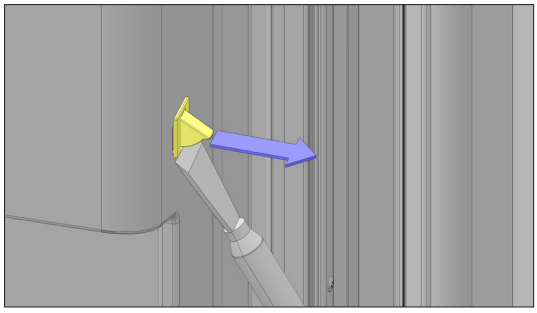




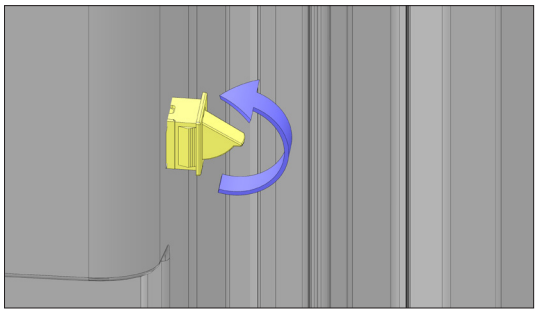


Removing the Auger Motor Switch

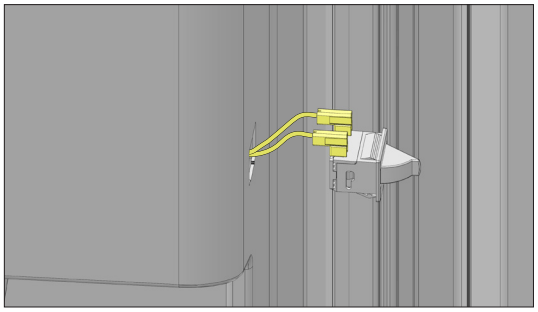
1. To remove switch from door wall, protect the door surface while using a putty knife to push up the retaining tab from the bottom.



2. When removing the switch, rotate from the bottom up.



3. The harness connectors will catch on the back side of the liner if pulled straight out.



Under the Refrigerator

⚠ WARNING

Electrical Shock Hazard

Disconnect power before servicing.

Replace all parts and panels before operating.

Failure to do so can result in death or electrical shock.

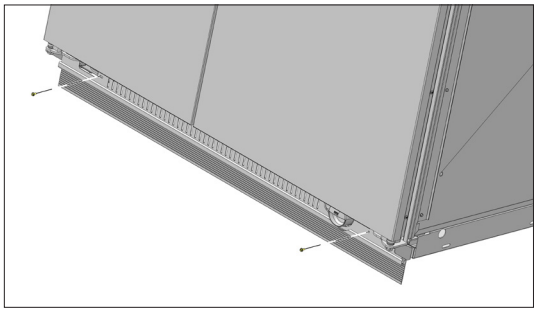
Accessing the Ice Maker Water Inlet and Isolation Valves

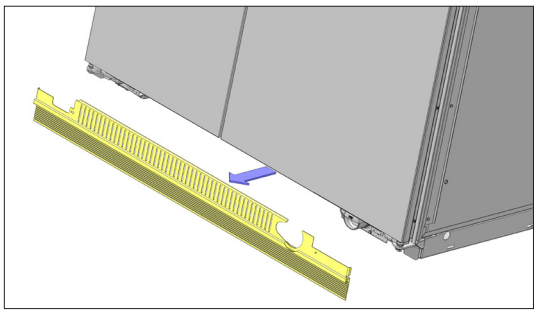
Beneath the refrigerator behind the front grill are the water inlet valves. There are two (2) possibly three (3) valves located together in a mounting bracket.

An isolation water valve receives incoming water and pushes the water to the water filter. Water from the water filter returns to the ice maker water inlet valve and if available a 3rd water valve that provides water to the water dispenser.

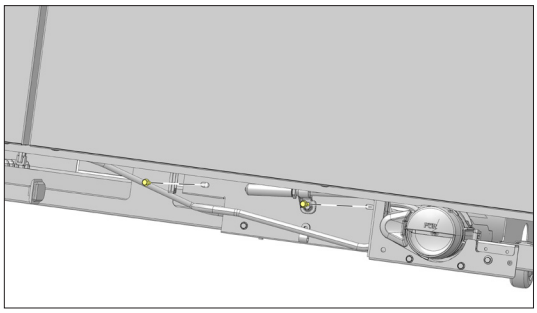
1. Complete the steps 1-3 from section Removing the Front Decorative Cover.

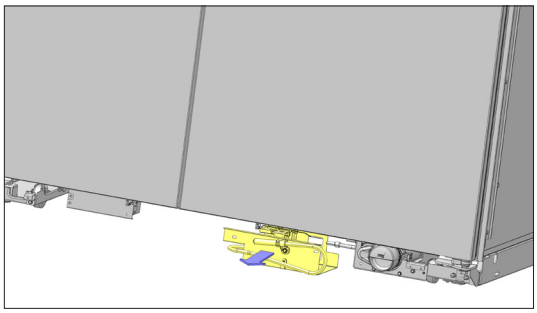
2. Remove two (2) screws to remove the front grill.





3. Remove two (2) 1/4" hex head mounting screws from the front of the water valve housing, then collect the water valve housing.





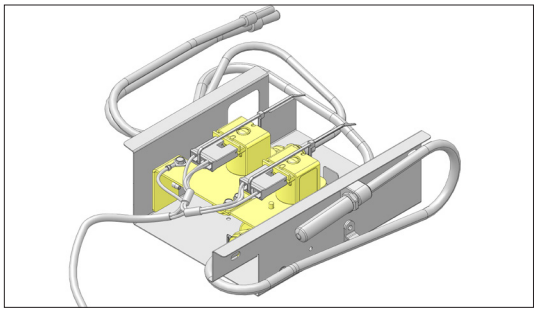


Figure - Water inlet valves with John Guest Fittings (Non-dispensing unit)

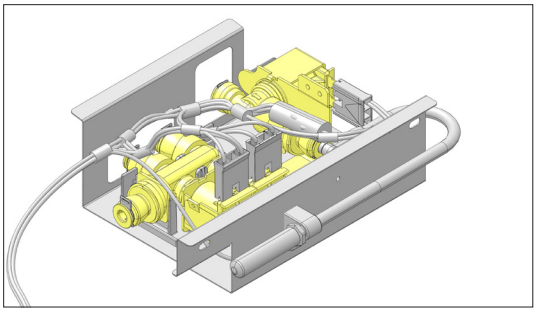


Figure - Water inlet valves with John Guest Fittings (Dispensing unit)

Back of the Refrigerator

⚠ WARNING

Electrical Shock Hazard

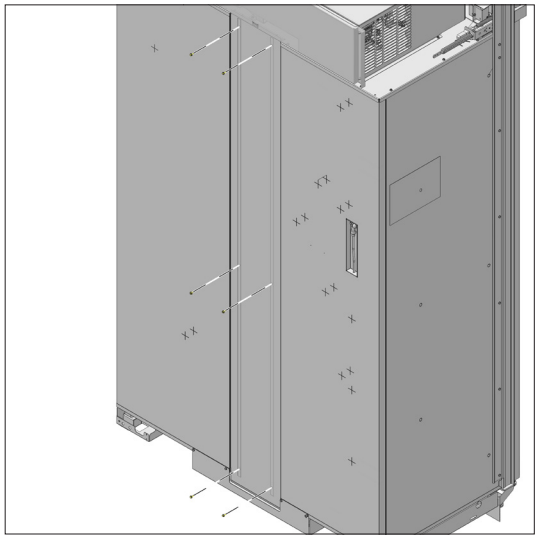
Disconnect power before servicing.

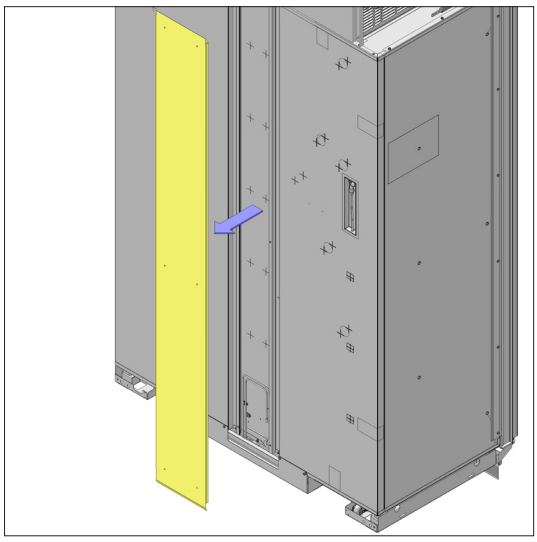
Replace all parts and panels before operating.

Failure to do so can result in death or electrical shock.

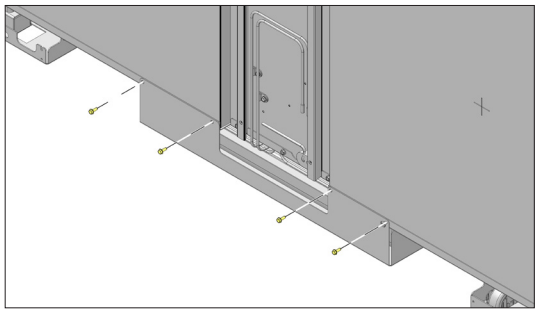
Access to Drain Pan Assembly

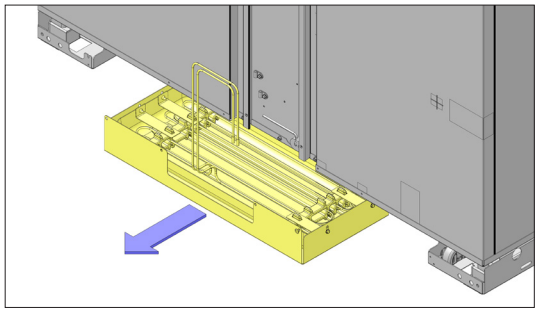
1. Complete the steps 1-3 from section Removing the Front Decorative Cover.
2. Remove center back panel by removing six (6) 1/4" hex head screws.





3. Remove four (4) 1/4" hex head screws to lower drain pan.





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THE TECHNICAL ASSISTANCE LINE: 1-800-832-7174

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FOR LITERATURE ORDERS (CUSTOMER EXPERIENCE CENTER):

PHONE: 1-800-851-4605

FOR TECHNICAL INFORMATION AND SERVICE POINTERS:

www.servicematters.com

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