SERVICE MANUAL

French-Door Bottom Mount Refrigerator

Multimedia Enhanced



Model Numbers	**WRF954CIHM**	**WRF954CIHB**	**WRF954CIHW**	**WRF954CIHV**
	WRF954CIHZ	**WRF964CIHV**	**WRF964CIHZ**	**WRF974CIHV**
	WRF974CIHZ	**WRF984CIHZ**	**WRF984CIHV**	**WRFA94CIHN**
	WRFA94CIHZ	**KRFC804GSS**	**KRFC804GPS**	**KRFC804GBS**
	WRF972SIHV	**WRF972SIHZ**	**JFFCC72EFP**	**JFFCC72EFS**
	KRFC604FSS	**KRFC704FBS**	**KRFC704FPS**	**KRFC704FSS**

W11366204

FORWARD

This Whirlpool Service Manual (Part No. W11366204), provides the In-Home Service Professional with service information for the “French-Door Bottom Mount Refrigerator.”

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

For specific operating and installation information on the model being serviced, refer to the “Use and Care Guide” or “Installation Instructions” provided with the refrigerator.

GOALS AND OBJECTIVES

The goal of this Service Manual is to provide information that will enable the In-Home Service Professional to properly diagnose malfunctions and repair the “French-Door Bottom Mount Refrigerator.”

The objectives of this Service 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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French-Door Bottom Mount Refrigerator

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Notes

Section 1: Diagnostics

This section provides diagnostic mode and sales mode information for the “French-Door Bottom Mount Refrigerator.”

- Safety
- Model and Serial Number and Wiring Diagram Location
- Model Nomenclature
  - Whirlpool® Model Nomenclature
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- Theory of Operation
  - Power Distribution
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- Control Panel
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  - Dispenser and IB Duct Heater (Door) Troubleshooting
  - Mullion Heater
  - Water Troubleshooting
  - Ice Troubleshooting
  - RC and FC LED Lighting Troubleshooting
  - Dispenser LED Light Troubleshooting

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.

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.**

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.

For Service Technician Use Only
Model and Serial Number and Wiring Diagram Location

Model and Serial plate.
Open the Left door and look up to the front of the ceiling

Wiring diagram is located under the right side hinge cover



For Service Technician Use Only
Model Nomenclature

Whirlpool® Model Nomenclature

MODEL NUMBER	W	R	F	9	54	C	I	H

INTERNATIONAL SALES OR MARKETING CHANNEL

Brand
W = Whirlpool

Categories
R = Freestanding Refrigeration
B = Built-in Refrigeration

Configuration
B = Bottom Mount
F = French Door

Series
1 = OPP
3 = Low Line
5 = Mid Line
7 = High (Gold)
9 = Hero (Gold)

Capacity
3 = 13 or 15 cu.ft.
4 = 14 or 24 cu.ft.
5 = 15 or 25 cu.ft.
6 = 16 or 26 cu.ft.
7 = 17 or 27 cu.ft.
8 = 18 or 28 cu.ft.
9 = 19 or 29 cu.ft.

Size
C = Counter Depth
F = Flat
S= Smooth Contour

Feature
I = In-door Ice
N = Non-dispensive
W = Internal Water

Year
E = 2015
F = 2016
G = 2017
H = 2018

For Service Technician Use Only
Model Nomenclature

KitchenAid® Model Nomenclature

MODEL NUMBER	K	R	F	C	60	4	F	SS

INTERNATIONAL SALES OR MARKETING CHANNEL

Brand
K = KitchenAid

Categories
R = Freestanding Refrigeration
B = Built-in Refrigeration

Configuration
B = Bottom Mount
F = French Door
M = Multi Door
S = Side by Side

Product Detail
X = Reversible Door
F = Full Depth
C = Counter Depth

Feature Pack
40 = External Ice and Water + White Liner
50 = External Ice and Water + White Liner + BB Interior
60 = External Ice and Water + White Liner + PB Interior
70 = External Ice and Water + Platinum Liner

Capacity/Width
0 = 20 Cu. Ft.
2 = 22 Cu. Ft.
3 = 23 Cu. Ft.
4 = 24 Cu. Ft.
5 = 25 Cu. Ft.
6 = 26 Cu. Ft.
7 = 27 Cu. Ft.
9 = 19 OR 29 Cu. Ft.

Year
E = 2015
F = 2016
G = 2017
H = 2018

Color
BL = Black
BS = Black Stainless
BW = Premium Black with Watermarks
PA = Panel Ready
SB = Stainless Door with Black Cabinet
SP = Stainless Steel with Pro-Style Handle
SS = Stainless Steel
PS = Print Sheild
FP = Fingerprint Resistant

For Service Technician Use Only
Model Nomenclature

JennAir® Model Nomenclature

MODEL NUMBER	J	F	F	C	C	72	E	F	P
INTERNATIONAL SALES OR MARKETING CHANNEL									
Brand **J = JennAir**									
Categories **F = Freestanding Refrigeration** **B = Built-in Refrigeration**									
Configuration **F = French Door (3 door)** **M = Multi-Door (4+ door)** **S = Side by Side**									
Installation **F = Full depth** **C = Counter depth** **L = Flush**									
Product Detail **F = Flat Door** **C = Curved Door**									
Size **69 = 69 inch high** **72 = 72 inch high**									
Feature Pack **N = Non Dispense** **I = Internal Dispense** **E = External Dispense**									
Production Year **F = 2016** **G = 2017** **H = 2018**									
Color **S = Euro SS/Agnostic** **P = Pro SS** **M = Modern (Noir SS)** **L = ProLux/RISE SS**									

For Service Technician Use Only
Theory of Operation
Power Distribution

Overview

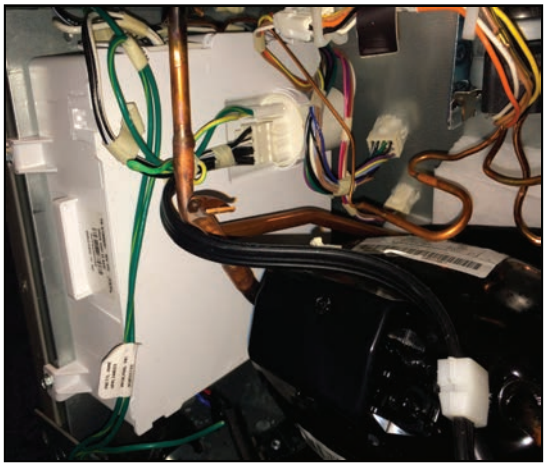
The refrigerator components operate at 115 VAC, 140 VDC, and various DC low voltages.

This section describes how power is supplied to the refrigerator and distributed to the control boards. The control boards provide power output to individual components.

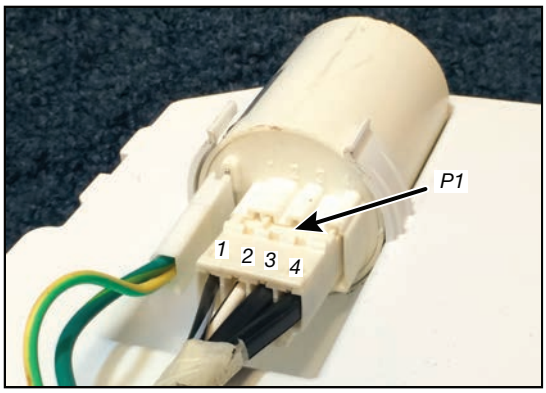
Power Supply

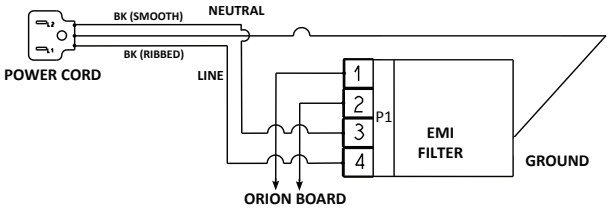
Power is supplied to the refrigerator by a plug and is filtered through an Electromagnetic Interference (EMI) filter. The EMI filter prevents electrical interference from entering or leaving the refrigerator over the power cord.

The EMI Filter is located in the machine compartment. It is attached to the cover of the Orion Assembly.



The power cord mates to the EMI filter through a 4-pin connector. Pin 3 (Line) and Pin 4 (Neutral) supply power from the power cord to the EMI Filter. The 120 VAC output of the EMI filter leaves the filter at Pin 1 (Line) and Pin 2 (Neutral) and is routed to the Orion board Connector P1.





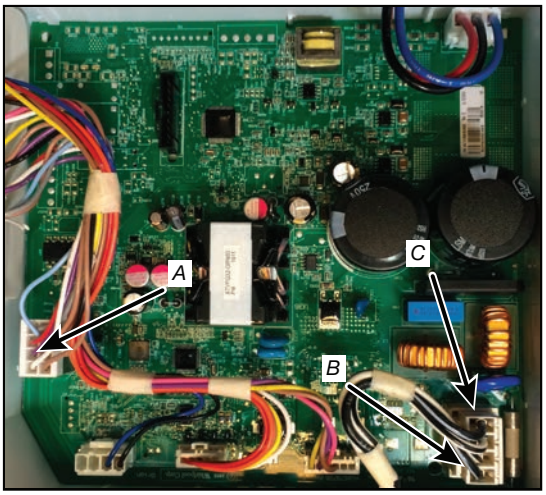
Orion High Voltage Board

The Orion board is attached to the left rail in the machine compartment. The board receives 115 VAC power and uses it to power loads and distribute power to other control boards (Refer figure on Page 1-9).

For Service Technician Use Only

115 VAC Supply

Filtered 115 VAC power from the EMI Filter is supplied to the Orion board at P1-1.



A. 12.7 VDC Outputs
B. 115 VAC Output to GF2
C. 115 VAC Supply

115 VAC Load(s)

The Orion board supplies 115 VAC power to the following loads:

- Linear compressor
- FC door switch

115 VAC Distribution

The Orion board distributes the 115 VAC power to:

- Gemini flash board (GF2)

115 VAC Power is distributed From:

- Orion board, P1-4

115 VAC Power is distributed To:

- GF2 board, P1-1
- GF2 board, P3-5

12.7 VDC Supply

The Orion board generates 12.7 VDC power from the 115 VAC power supply. The 12.7 VDC power is used to power loads and supply power to other control boards (Refer figure on Page 1-10).

12.7 VDC Load(s)

The Orion board supplies 12.7 VDC power to the following loads:

- Freezer compartment LED lights
- Refrigerator compartment LED shelf lighting (select models)
- 3-Way valve
- Ice box fan
- Condenser fan
- FC evaporator fan
- RC evaporator fan

12.7 VDC from Orion board connector P4 supplies power for communications between boards.

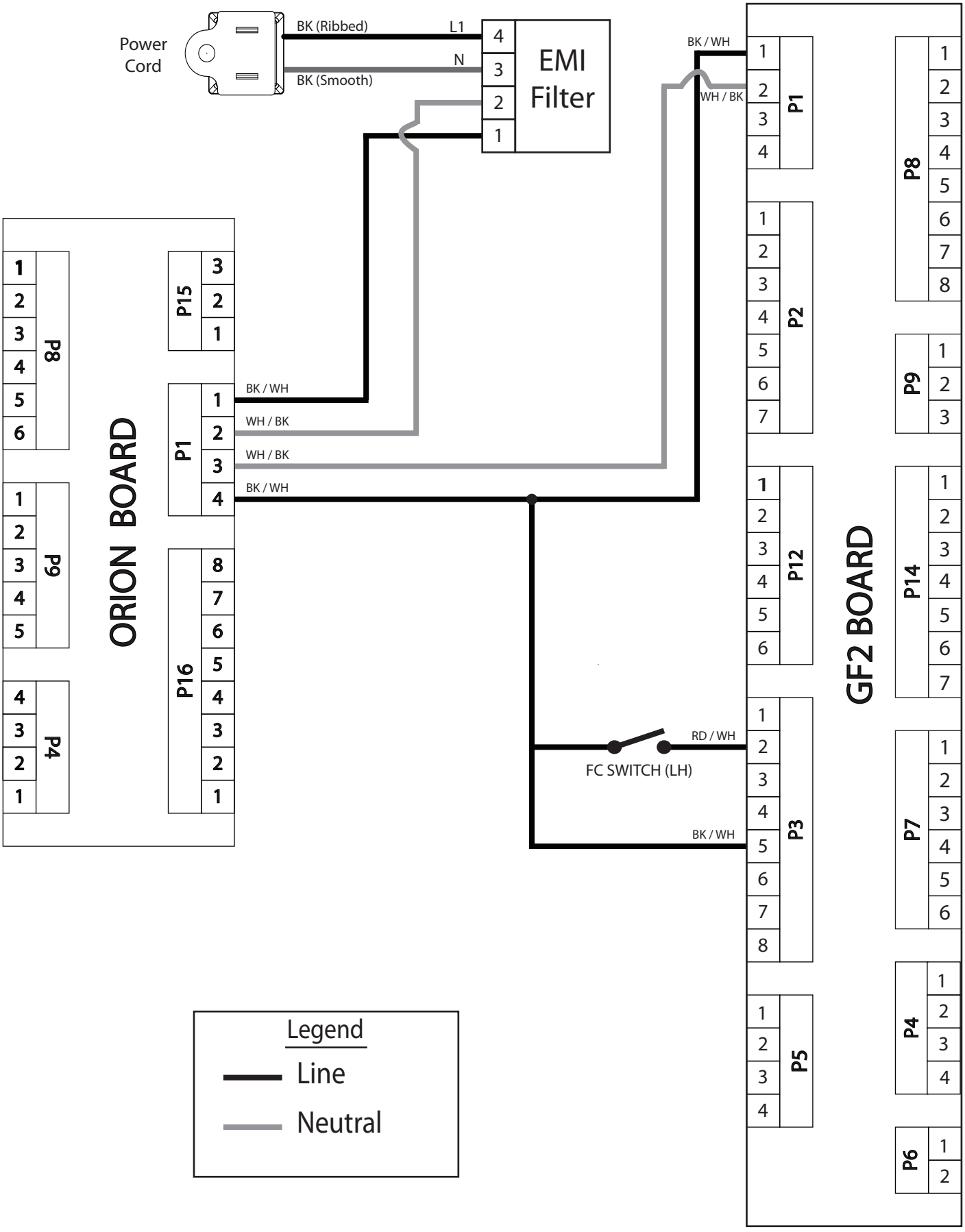
12.7 VDC Distribution

The Orion board distributes the 12.7 VDC power to:

- GF2 board
  - From – Orion board, P16-1
  - To – GF2 board, P6-2
- WIFI board (select models)
  - From - Orion board, P16-1
  - To – WIFI board, J3-1
- Eyebrow UI
  - From – Orion board, P16-2
  - To – dispenser UI, J4-1
- Dispenser UI
  - From – Orion board, P16-3
  - To – eyebrow UI, J1-1

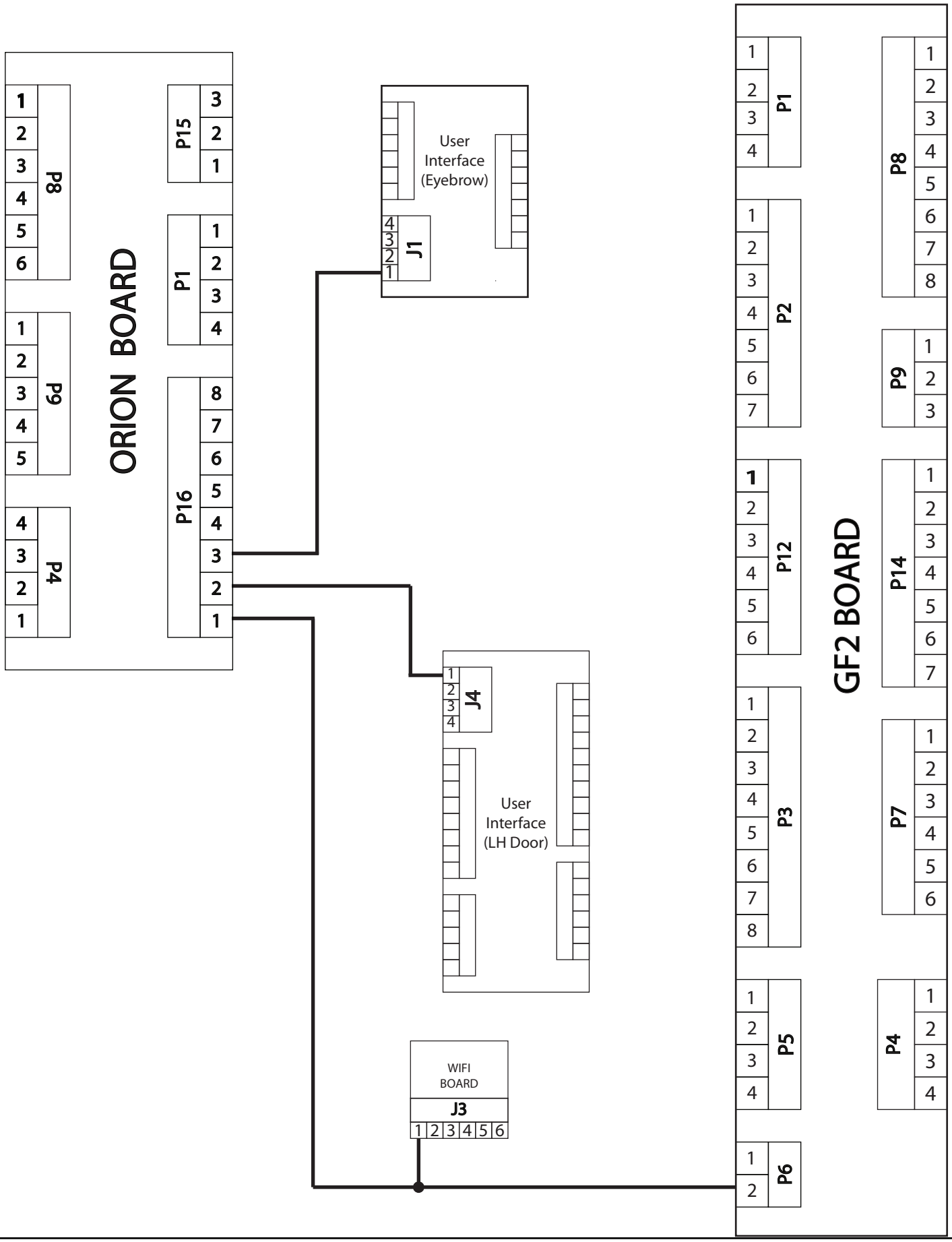
For Service Technician Use Only

115 VAC Power Supply and Distribution



For Service Technician Use Only

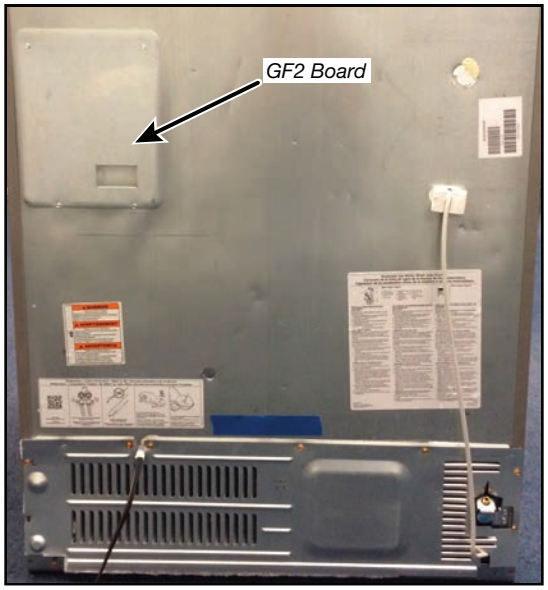
12.7 VDC Power Supply and Distribution



For Service Technician Use Only

GF2 High Voltage Board

The GF2 board is located on the back left side of the cabinet behind a metal cover. It receives 115 VAC and 12.7 VDC power from the Orion board. It uses this power to produce 5 VDC power, and supply loads.



115 VAC Supply

The GF2 board is supplied 115 VAC power at P1-1 and P3-5. Power is supplied from the Orion board, P1-4.

115 VAC Load(s)

The GF2 board supplies 115 VAC power to the following loads:

- Pantry air baffle
- Ice maker duct cabinet heater
- Freezer compartment defrost heater
- Refrigerator compartment defrost heater (selected models)
- Ice maker water valve
- Water isolation valve
- Freezer compartment ice maker water valve (select models).

140 VDC Supply

The GF2 board uses the 115 VAC power to generate a 140 VDC power supply.

140 VDC Load(s)

The GF2 board directly supplies 140 VDC power to the following load(s):

- Ice dispenser motor

12.7 VDC Supply

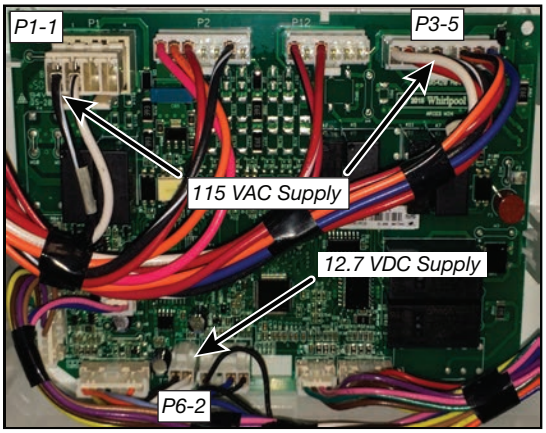
The GF2 board is supplied 12.7 VAC power at P6-2.

Power is supplied from the Orion board, P16-1.

12.7 VDC Load(s)

The GF2 board directly supplies 12.7 VDC power to the following load(s):

- Fill tube heater – FC ice maker (select models)
- Ice maker motor – FC ice maker (select models)
- Ice maker motor switch – FC ice maker (select models)
- Ice box fan (speed control)
- FC evaporator fan (speed control)
- RC evaporator fan (speed control)
- Condenser fan (speed control).



5 VDC Supply

The GF2 board uses the 12.7 VDC power to generate a 5 VDC power supply:

5 VDC Load(s)

The GF2 board supplies 5 VDC power to the following loads:

- FC temperature thermistor
- RC temperature thermistor
- FC evaporator temperature thermistor
- RC evaporator temperature thermistor.

For Service Technician Use Only
Refrigeration System

Operation

The refrigeration system compares actual compartment temperatures to set-point temperatures. If the temperature is too warm, the sealed system operates to cool the appropriate compartment. Fans are run to move compartment air over the evaporator, removing heat and cooling the compartment.

Temperature Set-Point and Sensing

The refrigeration system uses dual evaporators to control the temperature of four temperature controlled zones located in two separate compartments.

The compartments and temperature controlled zones are:

Compartment 1 (C1)

- Freezer Compartment (FC)
- Ice Box (IB)

Compartment 2 (C2)

- Refrigerator Compartment (RC)
- Temperature controlled drawer (pantry)



A. Ice Box
B. Refrigerator Compartment
C. Pantry
D. Freezer Compartment

Temperature Set-Points

The refrigerator maintains the four temperature controlled zones at the designated set-points. The temperature set-points for the FC, RC, and Pantry are set using the Eyebrow UI. The IB set-point temperature is fixed at 14°F (-10°C).

Compartment	Temperature Zone	Temperature Range
C1	Freezer Compartment	-5°F to 5°F (-21°C to -15°C)
C1	Ice Box	5° F (-15°C) - Ice Making 14°F (-10°C) - Ice Bin Full
C2	Refrigerator Compartment	33°F to 42°F (0.5°C to 5.5°C)
C2	Pantry	Meats - 32°F (0°C) Drinks - 35°F (2°C) Deli / Cheese - 38°F (3°C)

Temperature Sensing

The refrigerator compares the actual temperature to the temperature zone set-point to determine when cooling is necessary. Actual temperatures of the Pantry, RC, FC, and IB are determined by a thermistor located in each temperature zone.

Cooling Priority

The refrigerator can only cool one of the two compartments at a time. If both compartments are calling for cooling, the refrigerator uses a cooling priority to determine which compartment is cooled first. Cooling priorities are assigned by comparing actual temperature to the temperature set-point. The larger the deviation above set-point, the higher the priority. There are four cooling priorities:

- 3 – High Priority,
- 2 – Medium Priority,
- 1 – Low Priority,
- 0 – Satisfied

C1 Priority = FC Priority + IB Priority

C2 Priority = RC Priority + Pantry Priority

The compartment with the higher priority will cool first.

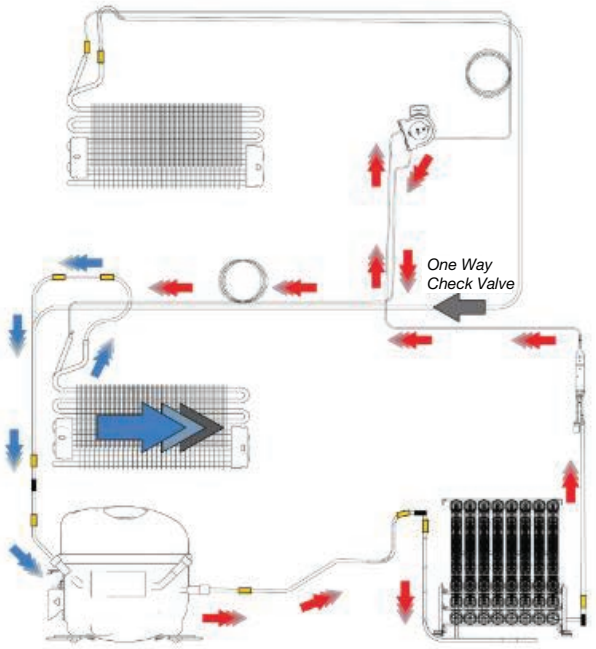
If a compartment is cooling and another compartment calls for cooling, the first compartment will continue to cool until either the temperature is satisfied, or for 15 minutes, whichever comes first. After this time, cooling switches to the other compartment.

If both compartments have High priority—for example, a warm refrigerator just plugged in—the refrigerator will enter Pull-Down Mode.

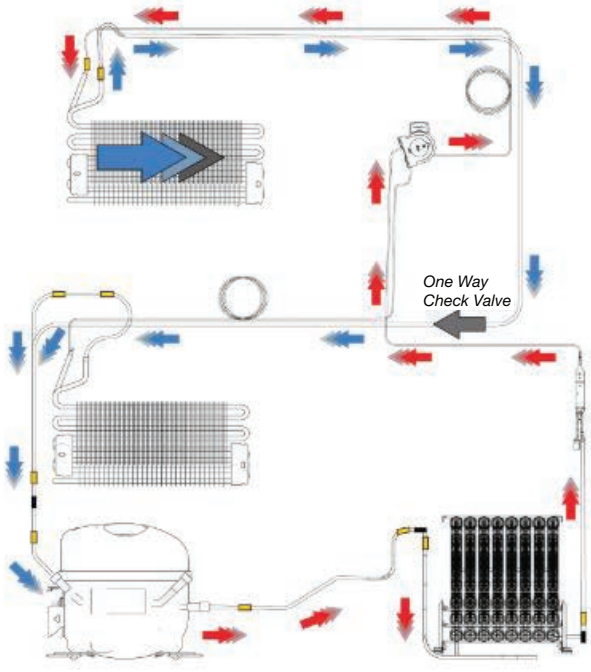
For Service Technician Use Only
Machine Compartment Components

Sealed System with Check Valve

The sealed system uses a new, linear compressor to drive the refrigeration cycle.



Cooling Freezer

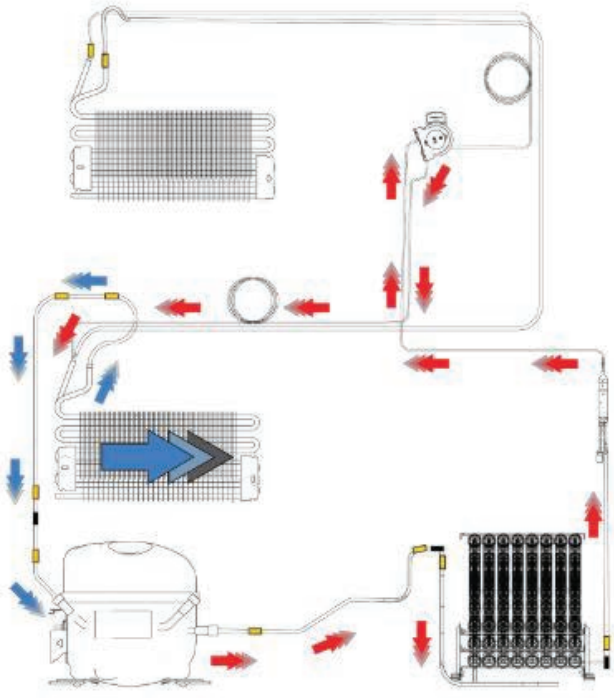


Cooling Refrigerator

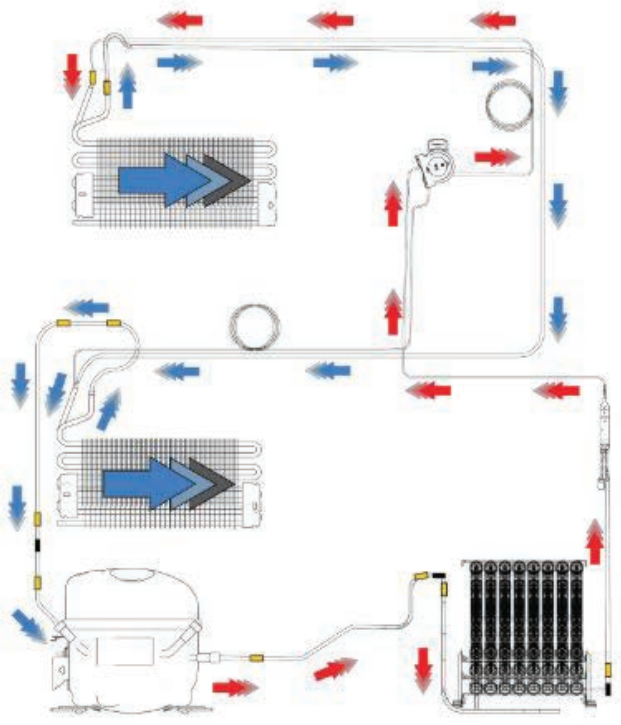
Refrigerant is pumped through the condenser and a non-UV dye drier to the three-way valve. The three-way valve aligns to allow refrigerant to either the RC or FC evaporator, depending on which is being cooled. A check valve is positioned at the outlet of the FC Evaporator to prevent refrigerant back flow during RC cooling. The linear compressor takes a suction of the evaporator outlet of the compartment being cooled.

Sealed System without Check Valve

Refrigerant flow has been updated to make the refrigerator more efficient. The check valve that prevents refrigerant from one evaporator to the other was eliminated.



Cooling Freezer



Cooling Refrigerator

While cooling the freezer section, due to the low pressure in the capillary tubing, the refrigerant will be in the evaporator of refrigerator compartment but will not be flowing through the coil. The tubing was re-routed for the refrigerator evaporator to go through the freezer evaporator to keep it cold then back the compressor. The freezer fan does not run during this time.

For Service Technician Use Only
Air Flow System

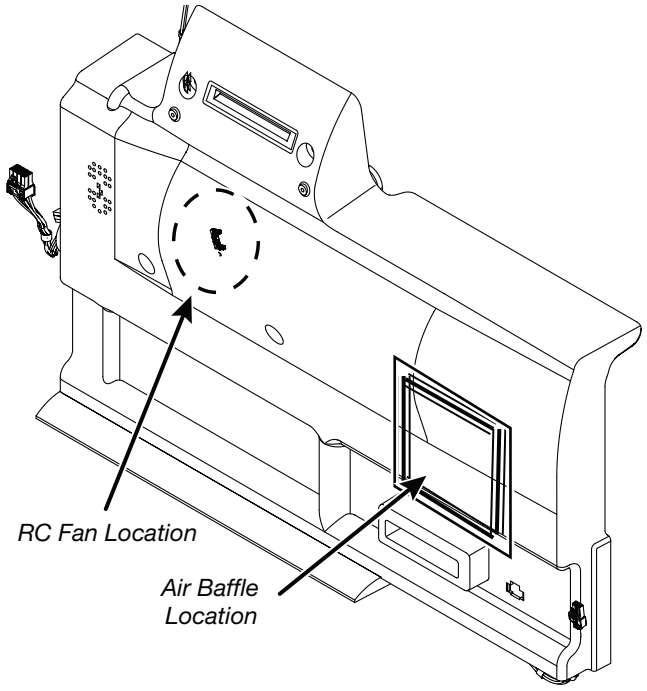
The air flow system is composed of ducting and a number of fans to provide air flow to the four temperature controlled zones located in the RC and FC Compartments. Proper air flow allows efficient removal of heat and uniform temperature distribution in each zone.

The air flow system also provides air flow in the machine compartment, cooling equipment and removing waste heat from the condenser.

All fans are supplied with a constant 12.7 VDC power from the Orion board, P16-4. The fans are switched On, when necessary, by a separate 12.7 VDC signal provided from the GF2 board.

Refrigerator Compartment (RC) Airflow

The RC evaporator fan and the pantry air baffle are located in the evaporator cover assembly in the RC. They control airflow to the two temperature controlled zones, the RC and the pantry.



RC Evaporator Fan

The RC evaporator fan is a variable speed fan. It moves RC air over the evaporator to remove heat from the RC.

The RC evaporator fan is supplied with constant 12.7 VDC power from Orion board P16-4. The fan is switched On and Off by a 12.7 VDC gating signal from GF2 board P14-3. The gating signal is adjusted based on temperature to change the speed of the fan between HI (3450 rpm) and LOW (1725 rpm).

The RC fan is switched On any time the refrigeration system is cooling the RC. The RC fan will run for a period of time following cooling, and then be switched off. If the refrigerator is in pull down mode, the RC fan will run for an additional 20 minutes after completion of RC cooling.

If the RC evaporator needs defrosting, the RC fan may run for up to 10 additional minutes after RC cooling.

Pantry Air Baffle

The pantry is the second temperature controlled zone cooled by the RC evaporator. The pantry is cooled by airflow from the RC fan directed through foam ducting in the RC evaporator cover assembly. The pantry air baffle is either full open, or full close dependent upon pantry temperature.

The pantry is operated by 115 VAC power supplied from GF2 board P2-5. 115 VAC power is also supplied to a feedback switch by GF2 board P2-2, providing the board with position indication for the pantry air baffle.

The pantry air baffle will open when:

- Pantry requests cooling.
- RC is cooling.

The pantry air baffle will be CLOSED at all other times.

Freezer Compartment (FC Airflow)

The FC evaporator fan and the ice box fan are located in the FC. They control airflow to the two temperature controlled zones, the FC and the ice box.

FC Evaporator Fan

The FC evaporator fan is a variable speed fan. It moves FC air over the evaporator to remove heat from the FC.

The FC evaporator fan is supplied with constant 12.7 VDC power from Orion board P16-4. The fan is switched On and Off by a 12.7 VDC gating signal from GF2 board P14-1. The gating signal is adjusted based on temperature to change the speed of the fan between HI (3450 rpm) and LOW (1725 rpm).

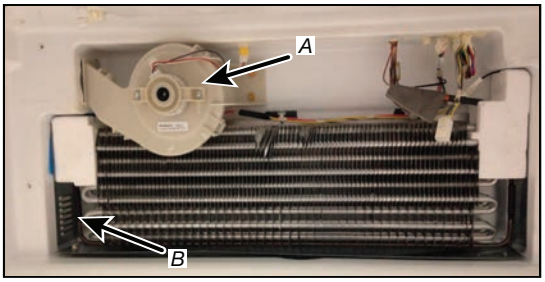
The FC fan is switched On any time the refrigeration system is cooling the FC. The FC fan will run for an additional 2 minutes after completion of FC cooling. The FC fan will also run an additional 2 minutes after completion of cooling while the refrigerator is in Pull Down Mode.

Ice Box (IB) Fan

The IB Fan is a variable speed fan located in the FC. It circulates air from the FC Evaporator area to the IB in the left RC door to maintain temperature at its set-point. For models with an ice maker in the FC, it also circulates air over the FC ice maker.

The IB fan is supplied with constant 12.7 VDC power from Orion board P16-4. The fan is switched On and Off by a 12.7 VDC gating signal from GF2 board P9-2. The gating signal is adjusted based on temperature to change the speed of the fan between HI (3450 rpm) and LOW (1725 rpm).

The IB fan is On any time the FC fan is On. The IB Fan is Off when the FC fan is Off.



A. IB Fan
B. IB Air Duct Return

For Service Technician Use Only
Water and Ice System

The water and ice system receives household supplied water, filters the water, and makes it available to the water dispenser, in-door ice maker, and on some models, a second ice maker in the freezer.

Water Supply

Water is supplied into the refrigerator through an isolation valve, directed to a water tank, then filtered and sent to the dual valve controlling water flow to the water dispenser and Ice Maker.

On models with a freezer ice maker, filtered water is sent to a 'T' fitting which directs water to the dual valve, and a second single valve for the freezer ice maker.

Isolation Valve

The isolation valve is located in the machine compartment on the right rail. The valve is normally closed. The valve only opens when water is being provided to the water dispenser, or either ice maker.

The valve is opened by 115 VAC power supplied from GF2 board, P12-4.

Water Filter

The outlet of the water reservoir is directed to the water filter. The water filter is located behind the water filter door at the front left bottom of the RC.

The water filter supply line, and the rear of the water filter housing are heated to prevent condensation and freezing.

The dispenser UI tracks water dispensed and age of the filter providing water filter indication on the dispenser UI. Water filter indication information is given in below table.

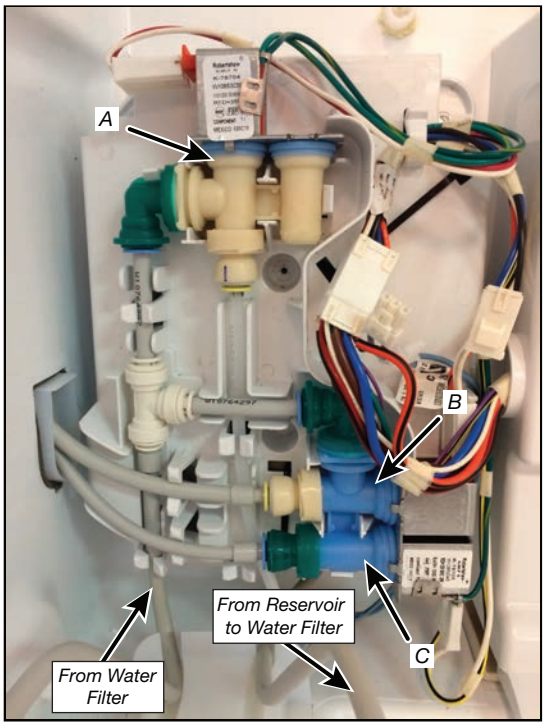
Indicator	Gallons Dispensed	Filter Age (Days)
No Indicator	0 - 160	0 - 144
"Order Filter"	161 - 200	145 - 180
"Replace Filter"	>200	>180

Single Ice Maker Models

The water filter outlet is directed to the dual valve. The dual valve directs the water supply to the water dispenser, or in-door ice maker through individual valves.

Dual Ice Maker Models

The water filter outlet is directed to a 'T' fitting. The 'T' fitting directs water to the dual valve and to the freezer ice maker fill valve.



A. Freezer IM Valve
B. ID IM Valve
C. Water Valve

Water Dispensing

The Dispenser UI is responsible for dispensing water to the in-water dispenser. The GF2 board controls water dispensing to the in-door ice maker, and freezer ice maker (some models).

In-Door Water Dispenser

The dispenser is controlled by the front paddle of a stacked dual paddle, or by the measured fill feature available on the dispenser UI.

When water is requested the dispenser UI sends the request to the GF2 board, which opens the isolation valve. The dispenser UI opens the low voltage Water Valve.

The GF2 board supplies 115 VAC to GF2 board, P12-4, opening the isolation valve.

The dispenser UI supplies 11.5 VDC dispenser UI, J8-5, opening the water valve and dispensing water.

In-Door Ice Maker

The dispenser UI controls all aspects of the in-door ice maker, including the Fill Cycle. The ice maker Fill Cycle is 10 seconds, filling the ice tray with about 3.2 oz. (100 ml) of water.

During a Fill Cycle, the Dispenser UI communicates to the GF2 board. The GF2 board supplies 115 VAC to P12-4, opening the Isolation Valve. At the same time, the GF2 board supplies 115 VAC to P3-3, opening the Water Valve for the In-Door Ice Maker.

After 10 seconds, the Dispenser UI instructs the GF2 board to end the Fill Cycle, the GF2 board removes power to the valve, ending the Fill Cycle.

Freezer Ice Maker

The Freezer Ice Maker is controlled by the GF2 board. This Fill cycle is 10 Seconds, filling the ice tray with about 3.2 oz. (100ml) of water.

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During a Fill Cycle, the GF2 board supplies 115 VAC to P12-4, opening the Isolation Valve. At the same time, the GF2 board supplies 115 VAC to P12-6, opening the FC Ice Maker Valve.

After 10 seconds, the GF2 board to ends the Fill Cycle. The GF2 board removes power to the valves, to end the Fill Cycle.

Ice Making

The refrigerator contains an Ice Maker (IM) in the left RC Door. Some models have a second IM in the Freezer.

Both are Twist Tray Ice Makers, using twisting action of the motor to break and dump the ice. No heaters are needed for the IM. All timing, logic, and control is outsourced to the control board powering the IM.

In-Door Ice Maker

The In-Door IM is controlled by the Dispenser UI and is composed of the Ice Maker Module.

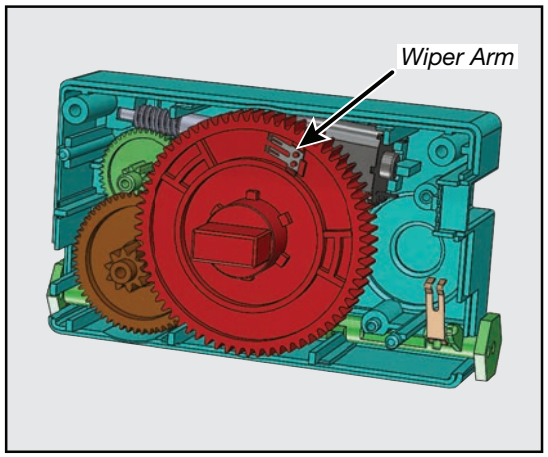
Ice Maker Module

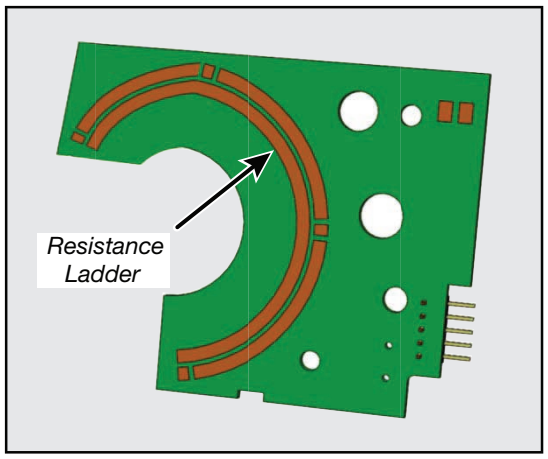
The Ice Maker module includes the Gear Box, Ice Bin Switch, Ice Box Temperature Sensor, and Ice Tray Temperature Sensor.

Gear Box

The Gear Box has a 12.7 VDC Motor which drives the Tray Gear, turning the Ice Tray and operating the Bail Arm through an associated worm gear. The Bail Arm is used to detect if the Ice Bucket is full.

The Ice tray position is determined by a wiper arm attached to the tray gear. As the tray gear turns, the wiper runs over a resistor ladder. As the wiper moves over the resistance ladder, the resistance changes. The resistance sensed at any given time tells the Dispenser UI the position of the Ice Tray.



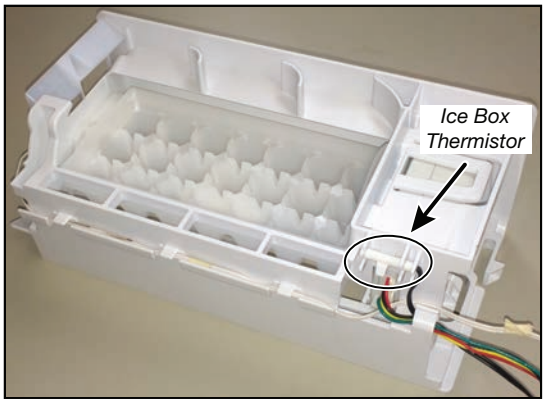


Ice Bin Switch

The Ice Bin Switch is a spring loaded, normally open switch. The switch is closed by the Ice Bucket when inserted. The switch must be closed for the Ice Maker to Harvest ice.

Ice Box Thermistor

The Ice Box Thermistor is mounted on the Ice Maker. It senses Ice Box temperature as an input into the Refrigeration System.



Ice Tray Temperature Sensor

The Ice Tray Temperature Sensor is mounted to the underside of the Ice Tray. It reads the temperature of the Ice Tray to ensure the ice is fully frozen.

Ice Making Process

The standard Ice Making process consists of the following cycles:

- Homing
- Filling
- Freezing
- Harvest

Homing

When power is initially applied to the Ice Maker, it will move to the home position. In the Home Position, the Ice Tray is horizontal and ready to receive water.

Filling

During the Fill Cycle, water is dispensed for 10 seconds. This fills the Ice Tray with about 3.2 oz. (100 ml) of water. At the beginning of the fill cycle, the fill tube heater is forced off. The fill tube heater remains off for 20 minutes. After this time delay, the fill tube heater will energize and remain energized for 90 minutes, or until the beginning of the next Fill Cycle, whichever comes first.

Freezing

During Freezing, the IM is waiting for time and temperature conditions to be met. These conditions vary between the Door Ice Maker and the Freezer Ice Maker.

For the Door Ice Maker, in the Normal mode, an 80 minute freeze timer must be satisfied, and the Ice Tray temperature must read 15°F (-9.4°C) before the ice is ready for Harvest.

In Max Ice mode, a 60 minute freeze timer must be satisfied, and the Ice Tray temperature must read 15°F (-9.4°C) before the ice is ready for Harvest. The Max Ice feature only affects the In-Door Ice Maker, and not the Freezer Ice Maker.

During Freezing, the freeze timer will be paused any time an RC door is opened. When the RC door is closed, additional time will be added to the timer. The additional time added is equal to the length of time the door was open. The timer will then begin counting down again.

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Harvest

When the ice is ready, the IM will Harvest. Before Harvesting, the IM checks that the Ice Bucket is in place (Ice Bucket Switch Closed).

Ice Break

12.7 VDC is applied to the IM Motor, driving it Counter-Clockwise (CCW) to the Ice Break position. In this position, the Ice Tray is flexed, breaking the ice.

Ice Level Detection (Bucket Full)

At the Ice Break position, polarity is reversed, driving the Ice Tray clockwise (CW). As the Ice Tray continues driving past the home position, the Bail Arm lowers. If the Ice Bucket is full, a switch will close in the gearbox, changing the resistance of the resistance ladder. The polarity is again reversed to the motor, returning the Ice Tray to the Home position. This process will repeat every hour until the Ice Bucket is not full.

Ice Level Detection (Bucket Not Full)

As the Ice Tray drives CW past the home position, the Bail Arm is lowered. If the Ice Bucket is not full, the Ice Tray will continue driving to the End of Travel position.

End of Travel

The tray is flexed as it reaches End of Travel, releasing the ice to fall into the Ice Bucket.

Homing

When the tray reaches End of Travel, voltage polarity to the motor is again swapped. The Ice Tray drives CCW until it senses the Home position and stops. The ice maker is now ready for a new fill cycle to begin making more ice.

Jammed Timer

While the Ice Tray is travelling, a jammed timer is initiated. If the Ice Tray does not return to the Home position within 90 seconds, the IM transitions to a Jammed state, and will not make Ice. The IM will attempt to Home once every hour.

Freezer Ice Maker

Operation of the Freezer Ice Maker is nearly identical to the In-Door Ice Maker, with a few exceptions.

Time and temperature conditions for the Freezer Ice Maker ice to be ready are different from the Door Ice Maker. In Normal and Max Ice Mode, a 100 minute freezer timer must be satisfied, and the Ice Tray temperature must read 3°F (-16°C) before the Ice is ready for Harvest. Opening of the Freezer Door during freezing will pause and add time to the freeze timer. The Freezer IM is mounted to the top of the FC liner and has a different part number. There is no Ice Bucket Switch associated with the Freezer IM.

Ice Dispenser

The refrigerator is capable of dispensing cubed or crushed ice from the In-Door Dispenser.

Ice is requested through the Dispenser UI. To dispense ice, the Ice Door is opened, and the Auger Motor turns in one direction for cubed ice, and the other direction for crushed ice.

Ice Door Motor

The Ice Door Motor opens to allow ice to be dispensed. It closes 10 seconds after the Ice Paddle is released to prevent loss of cold air.

The Ice Door motor operates on 12.7 VDC supplied from the Dispenser UI, J5-1.

Ice Dispensing Auger Motor

The Ice Dispensing Auger Motor can operate bidirectionally. It rotates one direction for cubed ice, and the other direction for crushed ice.

The Auger Motor operates on 130 VDC supplied from the GF2 board, P3-7.

For Service Technician Use Only
Defrost and Moisture Control

Operation

The defrost system is designed to remove ice build-up from the Refrigerator Compartment (RC) and Freezer Compartment (FC) evaporators when required. FC defrost is accomplished using a heater, while RC defrost is accomplished using the relatively warm air of the RC. The moisture control system uses heaters to warm areas susceptible to condensation.

Freezer Compartment Defrost

The FC Evaporator is defrosted as necessary to remove frost or ice buildup. Defrost is accomplished with a 115 VAC, 470 W heater.

An Adaptive Defrost Control (ADC) routine determines when a defrost cycle is needed. ADC monitors Compressor operation, and the number of times the FC door is opened are the primary inputs to the ADC routine.

Normal Operation

During defrost, 115 VAC power is applied to the heater from GF2 board P2-7. The FC Evaporator Thermistor monitors the temperature during defrost. When the FC Evaporator Thermistor reads 50°F (10°C), defrost is ended by removing the 115 VAC power from GF2 board P2-7.

Backup Operation

There are two thermal fuses wired in series with the defrost heater. The thermal fuses are designed to interrupt the defrost cycle if the normal method does not function properly. The thermal fuses open at 183°F (84°C), interrupting power to the heater.

Refrigerator Compartment Defrost

The RC Evaporator is defrosted at the end of each RC cooling cycle. The RC Evaporator Fan runs for a period of time after the completion of RC cooling. This defrosts the evaporator using the relatively warmer air of the RC.

The fan runs until the temperature differential between the RC Evaporator Thermistor and the RC Air Thermistor is less than 1°F (-17°C). The fan will run for a maximum of 10 minutes, after which it shuts off, regardless of the temperature differential between the thermistors.

Refrigerator Compartment Defrost 2018 models

The RC Evaporator is defrosted as necessary to remove frost or ice buildup. Defrost is accomplished with a 115 VAC, 470 W heater. An Adaptive Defrost Control (ADC) routine determines when a defrost cycle is needed. ADC monitors Compressor operation, and the number of times the FC door is opened are the primary inputs to the ADC routine.

Normal Operation

During defrost, 115 VAC power is applied to the heater from GF2 board P2-5. The FC Evaporator Thermistor monitors the temperature during defrost. When the RC Evaporator Thermistor reads 50°F (10°C), defrost is ended by removing the 115 VAC power from GF2 board P2-5.

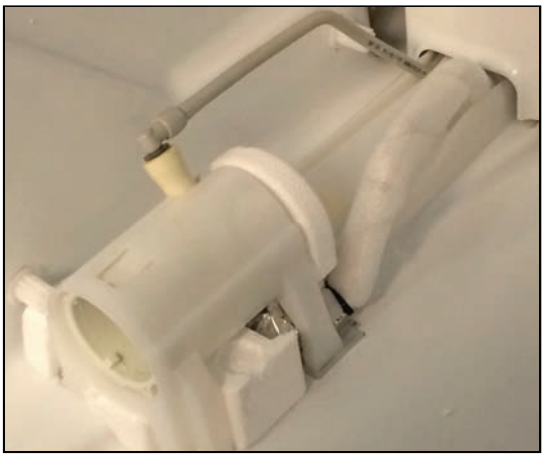
Backup Operation

There is one thermal fuses wired in series with the defrost heater. The thermal fuse are designed to interrupt the defrost cycle if the normal method does not function properly. The thermal fuses open at 183°F (84°C), interrupting power to the heater.

Heater	Voltage	Voltage Source	Watts	Resistance
Filter	115 VAC	GF2 board P2-6	3	4800
IB Duct (Cabinet)	115 VAC	GF2 board P2-6	5.5	2375
Dispenser	12.7 VDC	Dispenser UI J8-1	1.5	108
IB Duct (Door)	12.7 VDC	Dispenser UI J8-1	1.5	108
Mullion	14 VDC	Door UI J2-3	11.5	17

Moisture Control

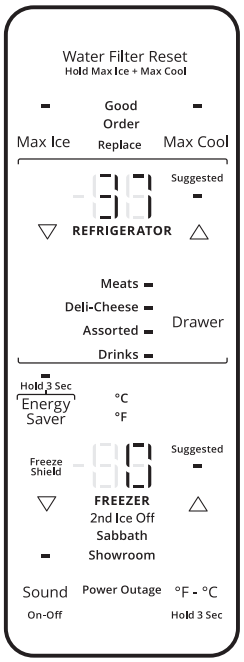
The refrigerator has heaters in necessary locations to prevent condensation. The heaters can be operated in one of two activation modes. The default mode is for the heaters to cycle in response to measured humidity. Humidity is measured by a sensor located on the Main control.



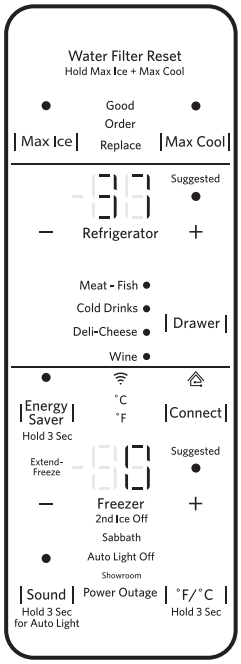


For Service Technician Use Only
Control Panel

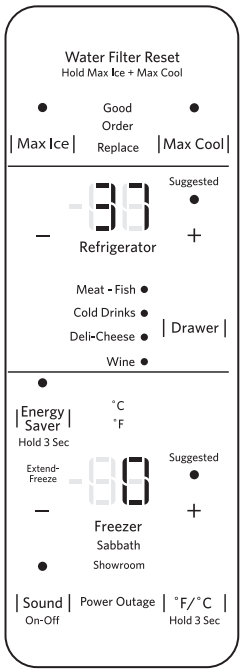
Whirlpool® Counter-Depth French Door Refrigerator



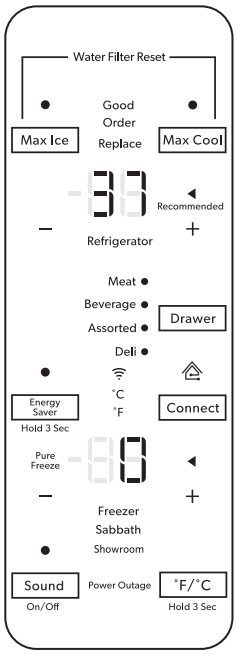
KitchenAid® Smart Counter-Depth French Door Refrigerator



KitchenAid® Counter-Depth French Door Refrigerator

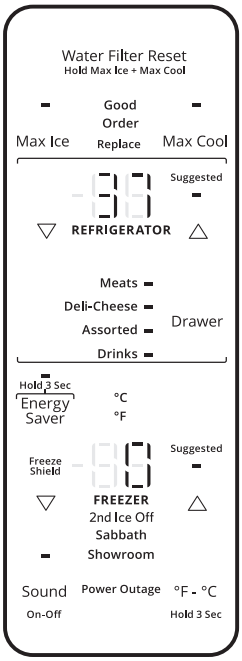


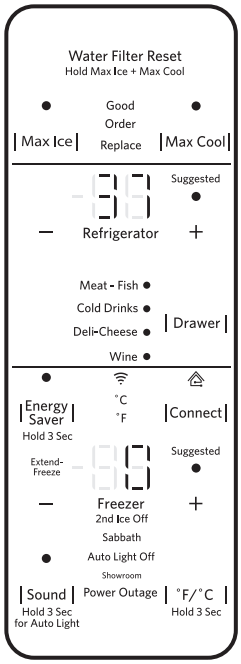
JennAir® Counter-Depth French Door Refrigerator



For Service Technician Use Only
Diagnostics

Accessing Service Mode





- Keep both "—" and "—" buttons pressed for 3 seconds or [▼] and [▼] buttons.
- Countdown will display and a chime will play upon entry into Service mode.

To Enter Service Diagnostics Mode:

Service mode requirement	Button on Main UI
Enter Service Key Combination	"—" and "—" temperature buttons pressed for 3 seconds
Enter Key for Navigation	"Drawer" button
Increment Key for Navigation	"+" button on the upper 7 segment display
Decrement Key for Navigation	"-" button on the upper 7 segment display
Back Key for Navigation	"Max Cool" button
Degree C LED Indicator	"°C" indicator
Degree F LED Indicator	"°F" indicator

To Exit Service Diagnostics Mode:

To Exit Service diagnostics, use "Max Cool" Key to back out of functional test. Press and hold "-" and "-" temperature buttons simultaneously for 3 seconds.

NOTE: If a test or mode runs over "99" on the display, the User Interface will flash digit 1 for one second, and then display digit 2.

The number will display. i.e. "100" will display "1" first for one second, then display "00". "101" will display "1" first for one second, and then display "01", etc.

Service Tests

Service Test - 00 Exit Service Mode:

- This step is an alternative method to exit service mode and return to Normal Operation.

Service Test - 01 RC Thermistor

- Read RC compartment Temperature. SH indicates "shorted" thermistor, OP indicated "open" thermistor.

Service Test - 02 FC Thermistor

- Read FC compartment Temperature. SH indicates "shorted" thermistor, OP indicates "open" thermistor.

Service Test - 03 RC Evaporator Thermistor

- Read Refrigerator Evaporator Temperature. SH indicates "shorted" thermistor, OP indicates "open" thermistor.

Service Test - 04 First FC Evaporator Thermistor

- Read Freezer Evaporator Temperature. SH indicates "shorted" thermistor, OP indicates "open" thermistor.

Service Test - 05 Pantry Thermistor

- Read Pantry compartment Temperature. SH indicates "shorted" thermistor, OP indicates "open" thermistor.

Service Test - 14 Door Ice Box Thermistor

- Read RC compartment Temperature. SH indicates "shorted" thermistor, OP indicates "open" thermistor.

Service Test - 16 Door Ice Maker Tray Thermistor

- Read Icemaker Tray C Temperature. SH indicates "shorted" thermistor, OP indicates "open" thermistor.

Service Test - 17 Freezer Ice Maker Tray Thermistor

- Read Freezer Icemaker Tray Temperature. SH indicates "shorted" thermistor, OP indicates "open" thermistor.

Service Test - 18 Second FC Evaporator Thermistor

- Read Freezer Evaporator Temperature. SH indicates "shorted" thermistor, OP indicates "open" thermistor.

Service Test - 23 RC Maximum Temperature; Service Test - 24 FC Maximum Temperature; Service Test - 25 Pantry Maximum Temperature; Service Test - 26 Ice Box Maximum Temperature

- Maximum temperature reached during the last 6 hours of operation. Temperature is saved every hour, keeping the last 6 hours for analysis. The maximum is displayed on the UI screen from the last six saved values.

Service Test - 28 RC Average Temperature; Service Test - 29 FC Average Temperature; Service Test - 30 Pantry Average Temperature; Service Test - 31 Ice Box Average Temperature

- Average temperature during the last 6 hours of operation. Average is calculated using a running average filter.

Service Test - 33 RC Minimum Temperature; Service Test - 34 FC Minimum Temperature; Service Test - 35 Pantry Minimum Temperature; Service Test - 36 Ice Box Minimum Temperature

- Minimum temperature reached during the last 6 hours of operation. Temperature is saved every hour, keeping the last 6 hours for analysis. The minimum is displayed on the UI screen from the last 6 saved values.

Service Test - 38 Compressor Speed Change without Ramp

- Control the compressor speed. When entering service test, the compressor goes off if it was previously on.
- Change the compressor duty cycle between 0 and the maximum compressor speed by pressing "+" to increment and "-" to decrease the speed.
- For Linear Compressors there is a compressor protection against shutting the compressor off for 2½ minutes after changing to the ON state. Therefore the compressor will run for 2½ minutes after changing the speed.

For Service Technician Use Only

Service Test - 39 Compressor Speed Change with Ramp

- Control the Compressor Speed. When entering service test the compressor goes off if it was previously on.
- Select the power from 0 to 160 W by pressing "-" or "+." After pressing "Enter" the compressor will ramp up to the selected power.
- After changing the power button to 0 W, the compressor will shut off after 2½ minutes.

Service Test - 40 Compressor and Compartment Freezing Cooling Test

- When entering the service test, compressor runs at max power.
- There will be a delay of 3 seconds before start of routine "01".

  "01" – Dual Evap Valve will be open for both compartments for 4 mins.

  "02" – Will close both RC and FC Dual Evap Valve (1 min.)

  "03" – Compressor turns on (1 min.)

  "04" – Compressor keeps on, Dual Evap Valve will be in RC position and RC Fan ON. (2 min.)

  "05" – Compressor keeps on, Dual Evap Valve will be in FC position and FC Fan ON. (Run until technician presses BACK or Increment/ Decrement key)

Service Test - 42 Main Pantry Air Baffle State

- When entering service test, the damper continuously turns, showing the state in the numeric display.
- Possible position readings: "00" – Air baffle in open position, "02" – Air baffle in closed position.

Service Test - 44 RC Compartment Lighting

- When entering service test, the Refrigerator Compartment Lights turn On. The display shows "ON."
- When leaving service test the Refrigerator Compartment lights turn off.

Service Test - 45 FC Compartment Lighting

- When entering service test, the Freezer Compartment Lights turn on. The display shows "ON."
- When leaving service test, the Freezer Compartment Lights turn off.

Service Test - 47 Pantry, Air Filter, and Door in Door Lighting

- When entering service test, the Pantry, Air Filter, and Crisper Lights turn on. The display shows "ON."
- When leaving service test, the Pantry, Air Filter, and Crisper Lights turn Off.

Service Test - 56 FC Fan Test

- When entering service test, the Freezer Fan turns on. The display shows "ON."
- When leaving service test, the Freezer Fan turns off.

Service Test - 57 RC Fan Test

- When entering service test, the Refrigerator Fan turns on. The display shows "ON."
- When leaving service test, the Refrigerator Fan turns off.

Service Test - 58 Condenser Fan Test

- When entering service test, the Condenser Fan turns on. The display shows "ON."
- When leaving service test, the Condenser Fan turns off.

Service Test - 59 Ice Box Fan Test

- When entering service test, the Ice Box Fan turns on. The display shows "ON."
- When leaving service test, the Ice Box Fan turns off.

Service Test - 63 Vertical Mullion Heater Test

- When entering service test, the Vertical Mullion Heater turns on. The display shows "ON."
- When leaving service test, the Vertical Mullion Heater turns off.

Service Test - 64 Door Duct Heater Test

- When entering service test, the Ice Box Duct Heater turns on. The display shows "ON."
- When leaving service test, the Ice Box Duct Heater turns off.

Service Test - 65 Ice Box Duct Heater Test

- When entering service test, the Ice Box Duct Heater turns on. The display shows "ON."
- When leaving service test, the Ice Box Duct Heater turns off.

Service Test - 66 Door Ice Maker Fill Tube Heater Test

- When entering service test, the Door Ice Maker Fill Tube Heater turns on. The display shows "ON."
- When leaving service test, the Door Ice Maker Fill Tube Heater turns off.

Service Test - 67 Freezer Ice Maker Fill Tube Heater Test

- When entering service test, the Freezer Ice Maker Fill Tube Heater turns on. The display shows "ON."
- When leaving service test, the Freezer Ice Maker Fill Tube Heater turns off.

Service Test - 68 Door in Door Heater Test

- When entering service test, the Door-in-Door heater turns on. The display shows "ON."

Service Test - 70 Dispenser Heater Test

- When entering service test, the Dispenser Heater turns on. The display shows "ON."
- When leaving service test, the Dispenser Heater turns off.

Service Test - 71 Beverage Chiller Heater Test

- When entering service test, the Beverage Chiller heater turns on. The display shows "ON."

Service Test - 72 Filter Heater Test

- When entering service test, the Filter heater turns on. The display shows "ON."

Service Test - 73 Right RC Door Switch State

- "00" Identifies door open and "01" identifies door closed.

Service Test - 74 Left RC Door Switch State

- "00" Identifies door open and "01" identifies door closed.

Service Test - 75 FC Door Switch State

- "00" Identifies door open and "01" identifies door closed.

Service Test - 79 Ice Bin Switch State

- "00" Identifies bin missing, "01" identifies bin present.

For Service Technician Use Only

Service Test - 85 Vertical Mullion Heater Activation Mode

- When entering service test, the numeric display shows the current Heater Activation mode.
- “00” indicates mullion heater controlled by measured humidity.
- “01” indicates mullion heater always on.
- To advance between control mode use “+” or “-” key. Once desired setting is selected, push “Drawer” key to activate, then “Max Cool” to exit this mode.

Service Test - 87 Dispenser Heater Activation Mode

- When entering service test, the numeric display shows the current Heater Activation mode.
- “00” indicates dispenser heater controlled by measured humidity.
- “01” indicates dispenser heater always ON.
- To advance between control mode, use “+” or “-” key. Once desired setting is selected, push “Drawer” key to activate then “Max Cool” to exit this mode.

Service Test - 88 Ice Box Air Duct Heater Activation Mode

- When entering service test, the numeric display shows the current Heater Activation mode.
- “00” indicates dispenser heater controlled by cooling performance.
- “01” indicates dispenser heater always ON.
- To advance between control mode use “+” or “-” key. Once desired setting is selected, push “Drawer” key to activate then “Max Cool” to exit this mode.

Service Test - 89 Run 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 (15.5°C).
- “ON” will be displayed while the operation is executed.

Service Test - 90 Run RC 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 (15.5°C).
- “ON” will be displayed while the operation is executed.

Service Test - 91 Run a Forced Defrost

- Activates the forced defrost.
- When “ON” is selected and exiting Service mode, defrost will be executed.
- When “OFF” is selected and exiting Service mode, defrost will NOT be executed. To advance between control mode “ON” or “OFF” Use “+” or “-” key. Once desired setting is selected, push “Drawer” key to activate then “Max Cool” to exit this mode.

Service Test - 92 Turn All UI LEDs ON

- When entering service test all indicators and buttons will light up in the two UIs.
- The icons automatically turn off after 30 seconds.

Service Test - 93 UI Button and Pad/Paddle Test

- When inside service test, the numeric display shows “00” for no key press and “01” for key or pad pressing.

Service Test - 96 Water Valve General Test

- When entering service test, the Water Dispenser Valve turns on for 7 seconds.

Service Test - 97 Door Ice Maker Valve General Test

- When entering service test, the Door Ice Maker Water Valve turns on for 7 seconds.

Service Test - 98 Freezer Ice Maker Valve General Test

- When entering service test, the Door Ice Maker Water Valve turns on for 7 seconds.

Service Test - 100 Display Water Filter Gallons Remaining

- Displays the remaining gallons of water left on the water filter.

Service Test - 101 Display Water Filter Days Remaining

- Displays the remaining days left on the water filter.

Service Test - 102 Display Days since Last Water Filter Reset

- Displays the total amount of days since the last water filter reset.

Service Test - 103 Display Number of Water Filter Resets

- Displays the total amount of water filter resets that have occurred over the life of the product.

Service Test - 104 Read Humidity Measurement

- Displays measured humidity as a percentage.

Service Test - 105 Air Filter Usage

- Displays the total amount of days since the last air filter reset.

Service Test - 106 Wi-Fi Link Connection Self Test

- While the test is in progress, the display will show: “00” – Link Test in Progress.
- Following the completion of the Link Test, the display will transition to the following code designation: “01” – Not able to link with AP or WISE. “02” – Not able to link with WISE. “03” – Connected to AP and WISE.

Service Test - 108 Wi-Fi Antenna 1 Signal Strength

- Display the measured value as a percentage of possible range. The possible range to the technician is 0 to 100%.

Service Test - 110 Display Current Smart Grid Mode

- Display “0” for Smart Grid mode not active, “1” for delay ice making Smart Grid mode active, “2” for delay ice making and cooling Smart Grid mode active.

Service Test - 111 Smart Grid Mode 1 Counter

- Displays the number of times the unit has entered Smart Grid mode 1. Allowable range is from 0 to 999 instances.

Service Test - 112 Smart Grid Mode 2 Counter

- Displays the number of times the unit has entered Smart Grid mode 2. Allowable range is from 0 to 999 instances.

Service Test - 115 Control Ice Door Motor Using Ice Pads

- The display will follow the door position during this test using the following designation:
- “01” – Closed
- “02” – Opening
- “03” – Open
- “04” – Closing

Service Test - 120 Door Ice Maker Self Diagnostics

- The display shall show the following transitions as they occur.

  “00” – Stopped

  “01” – Moving Counterclockwise to Ice Break Position

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"02" – Moving Clockwise to End of Harvest Location
- If Ice Bin Is Full Jump To Step 04
- If Timeout Occurs (60 seconds) Execute Step 04

"03" – Reached End of Harvest Location

"04" – Moving Counterclockwise Back To Homing Location
- If Timeout Occurs (60 seconds) End Test

- The display shall show the error codes following the execution of the test.

"PA" – All Steps Successfully Passed

"bF" – Ice Bin Is Full

"E1" – Cannot Find Ice Break Position

"E2" – Cannot Find End of Harvest Location

"E3" – Cannot Find Home

"E4" – Multiple Failures

Service Test - 121 Freezer Ice Maker Self Diagnostics

- The display shall show the following transitions as they occur.

"00" – Stopped

"01" – Moving Counterclockwise to Ice Break Position

"02" – Moving Clockwise to End of Harvest Location
- If Ice Bin Is Full Jump To Step 04
- If Timeout Occurs (60 seconds) Execute Step 04

"03" – Reached End of Harvest Location

"04" – Moving Counterclockwise Back To Homing Location
- If Timeout Occurs (60 seconds) End Test

- The display shall show to the error codes following the execution of the test.

"PA" – All Steps Successfully Passed

"bF" – Ice Bin Is Full

"E1" – Cannot Find Ice Break Position

"E2" – Cannot Find End of Harvest Location

"E3" – Cannot Find Home

"E4" – Multiple Failures

Service Test - 126 Change Defrost Type

- Displays the current Defrost mode. (01 Default)
- Engineer will then choose between the 2 available modes. Pressing the ENTER key will save the selection.
- The display will then return to Service Test Screen where the selected duty cycle will be displayed. Available defrost modes:

"01" – Global Defrost Routine ON

"02" – Basic Mode ON (8 hour timer)

Service Test - 127 GF2 Main Control board SW Version Number – XX.YY.ZZ

- Show XX for 1 second (version format XX YY ZZ)
- Blank for 0.5s
- Show YY for 1 second (version format XX YY ZZ)
- Blank for 0.5s
- Show ZZ for 1 second (version format XX YY ZZ)
- Keep blank when complete

Service Test - 128 GF2 Main Control board Flashmap Version Number

- Show XX for 1 second (version format XX YY ZZ)
- Blank for 0.5s
- Show YY for 1 second (version format XX YY ZZ)
- Blank for 0.5s
- Show ZZ for 1 second (version format XX YY ZZ)
- Keep Blank When Complete

Service Test - 129 Door UI SW Version Number

- Show XX for 1 second (version format XX YY ZZ)
- Blank for 0.5s
- Show YY for 1 second (version format XX YY ZZ)
- Blank for 0.5s
- Show ZZ for 1 second (version format XX YY ZZ)
- Keep Blank When Complete

Service Test - 130 Door UI Flashmap Version Number

- Show XX for 1 second (version format XX YY ZZ)
- Blank for 0.5s
- Show YY for 1 second (version format XX YY ZZ)
- Blank for 0.5s
- Show ZZ for 1 second (version format XX YY ZZ)
- Keep Blank When Complete

Service Test - 132 Orion Isolated Micro SW Version Number

- Show XX for 1 second (version format XX YY ZZ)
- Blank for 0.5s
- Show YY for 1 second (version format XX YY ZZ)
- Blank for 0.5s
- Show ZZ for 1 second (version format XX YY ZZ)
- Keep Blank When Complete

Service Test - 133 Orion Isolated Flashmap Version Number

- Show XX for 1 second (version format XX YY ZZ)
- Blank for 0.5s
- Show YY for 1 second (version format XX YY ZZ)
- Blank for 0.5s
- Show ZZ for 1 second (version format XX YY ZZ)
- Keep Blank When Complete

Service Test - 134 Main UI SW Version Number

- Show XX for 1 second (version format XX YY ZZ)
- Blank for 0.5s
- Show YY for 1 second (version format XX YY ZZ)
- Blank for 0.5s
- Show ZZ for 1 second (version format XX YY ZZ)
- Keep Blank When Complete

Service Test - 135 Main UI Flashmap Version Number

- Show XX for 1 second (version format XX YY ZZ)
- Blank for 0.5s
- Show YY for 1 second (version format XX YY ZZ)
- Blank for 0.5s
- Show ZZ for 1 second (version format XX YY ZZ)
- Keep Blank When Complete

Service Test - 137 Wi-Fi SW Version Number

- Show XX for 1 second (version format XX YY ZZ)
- Blank for 0.5s
- Show YY for 1 second (version format XX YY ZZ)
- Blank for 0.5s
- Show ZZ for 1 second (version format XX YY ZZ)
- Keep Blank When Complete

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Service Test - 138 Orion Non-Isolated SW Version Number

- Show XX for 1 second (version format XX YY ZZ)
- Blank for 0.5s
- Show YY for 1 second (version format XX YY ZZ)
- Blank for 0.5s
- Show ZZ for 1 second (version format XX YY ZZ)
- Keep Blank When Complete

Service Test - 139 Orion Non-Isolated Flashmap Version Number

- Show XX for 1 second (version format XX YY ZZ)
- Blank for 0.5s
- Show YY for 1 second (version format XX YY ZZ)
- Blank for 0.5s
- Show ZZ for 1 second (version format XX YY ZZ)
- Keep Blank When Complete

Service Test - 148 Proximity Sensor State

- When entering Service Test, the numeric display shows the current Proximity Sensor Activation mode.
- “00” indicates no movement.
- “01” indicates movement of object/person.
- To advance between control mode use “+” or “-” key. Once desired setting is selected, push “Drawer” key to activate then “Max Cool” to exit this mode.

Service Test - 149 Door in Door Heater Activation Mode

- When entering Service Test, the numeric display shows the current Heater Activation mode.
- “00” indicates heater controlled by measured humidity.
- “01” indicates heater always on.
- To advance between control mode use “+” or “-” key. Once desired setting is selected, push “Drawer” key to activate then “Max Cool” to exit this mode.

Service Test - 152 Filter Heater Activation Mode

- When entering Service Test, the numeric display shows the current Heater Activation mode.
- “00” indicates heater controlled by measured humidity.
- “01” indicates heater always ON.
- To advance between control mode use “+” or “-” key. Once desired setting is selected, push “Drawer” key to activate then “Max Cool” to exit this mode.

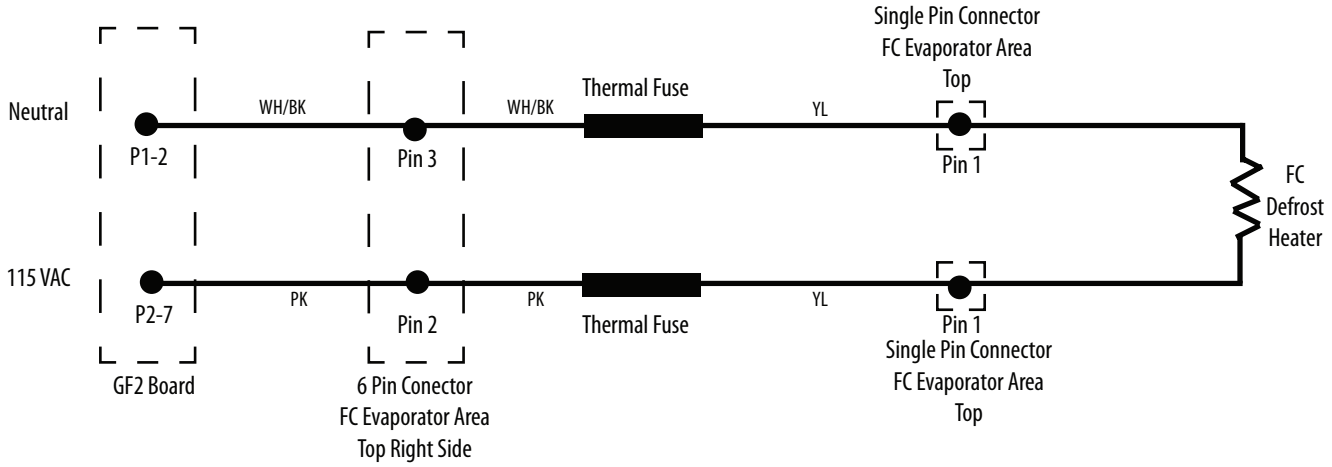
Service Test - 153 Beverage Chiller Heater Activation Mode

- When entering Service Test, the numeric display shows the current Heater Activation mode.
- “00” indicates heater controlled by measured humidity.
- “01” indicates heater always ON.
- To advance between control mode use “+” or “-” key. Once desired setting is selected, push “Drawer” key to activate then “Max Cool” to exit this mode.

For Service Technician Use Only

FC Defrost Troubleshooting

Diagnostics has several Service Tests to aid in troubleshooting the FC Defrost system.



Run Service Test 04 - FC Evaporator Thermistor

- Ensure none of the thermistors are Open “OP” or Shorted “SH”. Replace any faulty thermistors.

Check Heater and Thermal Fuse Resistance

- Test resistance between GF2 board, P2-7 and P1-2
- Resistance should be approximately 29 ohms.

If Circuit is Open:

- Access FC Evaporator section and check for open Defrost Heater, or Thermal Fuse(s).

If Circuit is OK:

Run Service Test 89 - Run FC Defrost Heater

- Test for 115 VAC power at GF2 board, P2-7

If 115 VAC is not present:

- Replace GF2 board

If 115 VAC is present:

Check for and repair, loose or damaged wiring or connectors.

If all functional components of FC Defrost system check fine, check for a secondary cause of the problem, such as:

- Bad FC Door Switch (Service Test 75)
- Bad FC Evaporator Fan (Service Test 56)
- Air leak into the FC

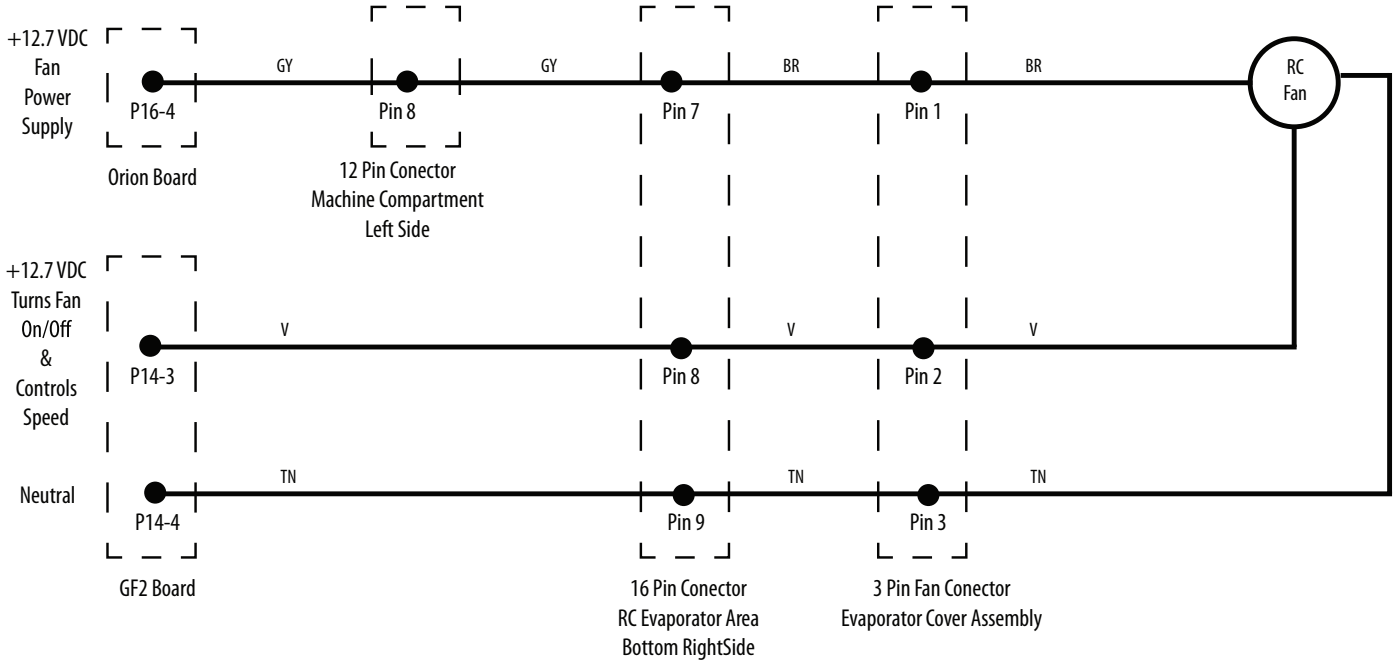
If Necessary, Run Service Test 91 -- Forced Defrost

Run Service Test 91 and select ON. Press the “Icemaker2” key to confirm your selection. A defrost cycle will begin after exiting Diagnostics.

For Service Technician Use Only

RC Defrost Troubleshooting

Diagnostics has several Service Tests to aid in troubleshooting the RC Defrost system.



Run Service Test 01 - RC Thermistor

- Ensure the thermistor is not Open “OP” or Shorted “SH”. Replace any faulty thermistors.

Run Service Test 03 - RC Evaporator Thermistor

- Ensure the thermistor is not Open “OP” or Shorted “SH”. Replace any faulty thermistors.

Run Service Test 57 – RC Fan Test

- Ensure LED Display shows “on”
- Check that the fan is operating

If fan is not operating:

- Check all wiring connectors tight (See FIGURE 6, Page 4-6).
- Check integrity of wiring between control board and fan. (Continuity or Voltage check as appropriate)

If wiring check indicates bad wiring:

- Replace wiring harness

If wiring checks OK, or if fan is still not operating:

- Replace fan.

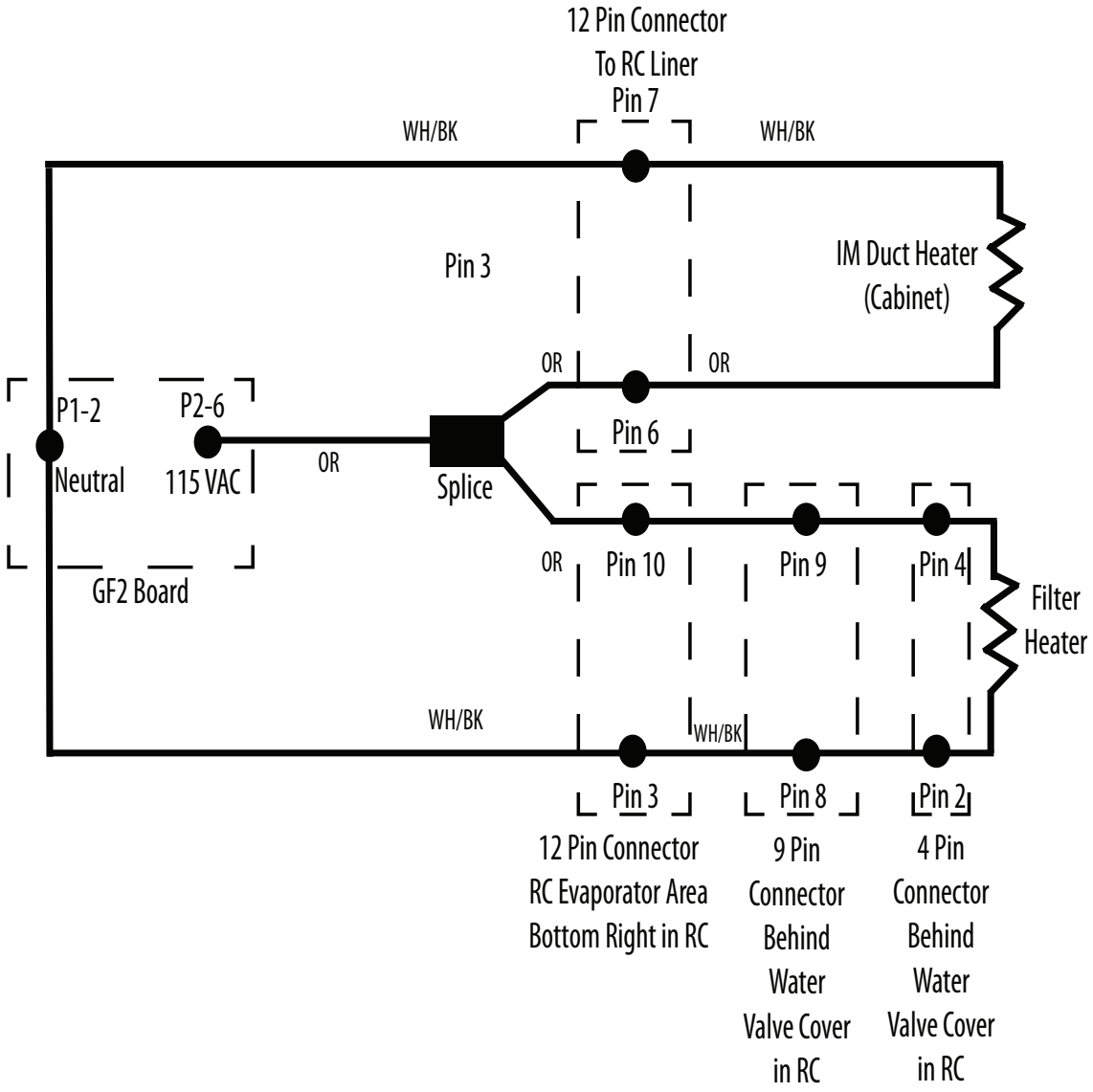
If LED Display does not show “on”:

- Replace GF2 Board.

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Moisture Control Heater Troubleshooting

Take resistance reading between GF2 P1-2 and GF2 P2-6.



- Resistance should be 1400 - 1800 ohms.
- If the Duct Heater is Open, resistance will read ≈4800 ohms.
- If the Filter Heater is Open, resistance will read ≈2400 ohms.

If resistance checks are OK:

Run Service Test 65 - Ice Box Duct Heater Test

- Ensure LED display shows “on”
- If LED display does not show “on”, replace GF2 board.

If all checks are OK and problems persist:

Run Service Test 88 - Ice Box Air Duct Heater Activation Mode

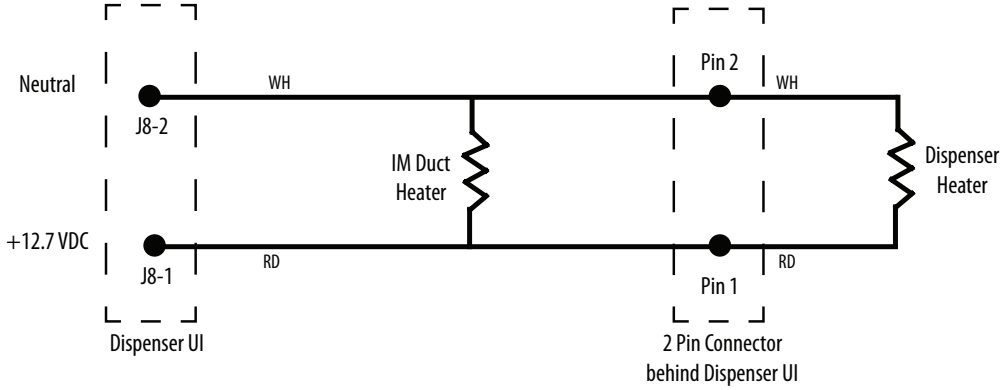
This will turn the heaters Full On.

- Use up or down arrow to change activation mode to “01”
- Press the “Icemaker2” key to confirm selection.

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Dispenser and IB Duct Heater (Door) Troubleshooting

Remove dispenser UI and locate Dispenser heater wiring connector (2 wire connector, 1 red, 1 white).



Heater Resistance Checks

- Disconnect the 2 Pin Connector (Figure 8).
- Take resistance reading on side leading to visible heater (Dispenser Heater). Reading should be ≈108 ohms.
- Take resistance reading on other side of connector (IM Duct Heater--Door). Reading should be ≈108 ohms.

Run Service Test 70 - Dispenser Heater Test

- Ensure LED display shows “on”
- If LED display does not show “on”, replace Dispenser UI.

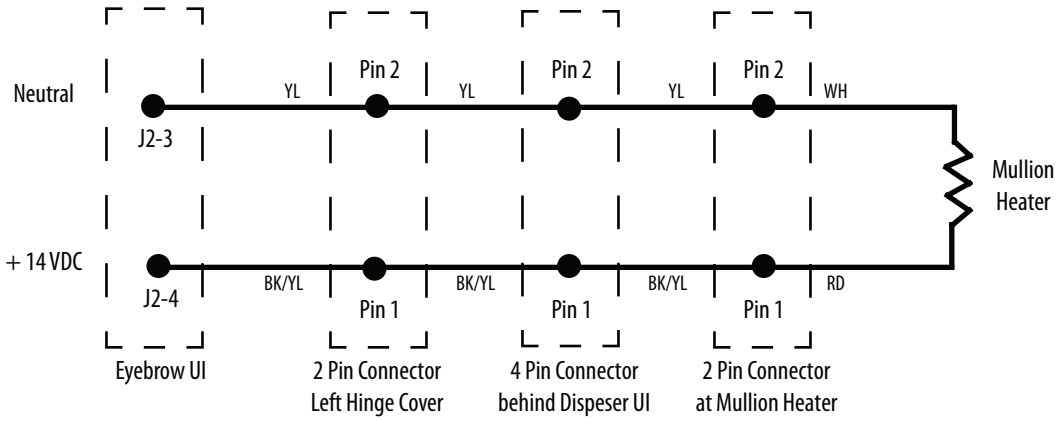
If all checks are OK and problems persist:

Run Service Test 87 - Dispenser Heater Activation Mode

- Use up or down arrow to change activation mode to “01”
- Press the “Icemaker2” key to confirm selection.

Mullion Heater

The Mullion heater resistance can be checked at multiple points. The easiest is under the left hinge cover, or at the heater itself.



Heater Resistance Checks

Check the resistance of the Mullion Heater. Reading should be ≈17 ohms.

Run Service Test 63 - Vertical Mullion Heater Test

- Ensure LED display shows “on”
- If LED display does not show “on”, replace Eyebrow UI.

If all checks are OK and problems persist:

Run Service Test 85 - Vertical Mullion Heater Activation Mode

- Use up or down arrow to change activation mode to “01”
- Press the “Icemaker2” key to confirm selection.

For Service Technician Use Only

Water Troubleshooting

Key components for the water supply and dispensing include: the isolation vavle, water valve, interconnecting wiring, water tubing, Dispenser UI, Water Paddle Switch, and interconnecting wiring.

Run Service Test 96 - Water Valve General Test

NOTE: This test also operates the Isolation Valve.

- Ensure display reads “on” for about 5 seconds, then reads “oFF”
- Check that water dispenses from the Dispenser.

If display did not read “on”

- Replace Dispenser UI.

If water dispensed, check inputs:

Run Service Test 93 - UI Button and Pad/Paddle Test

- Press Water Paddle. Ensure Display reads “1”

  If display does not read “1” ensure all wiring connectors are tight.

  If all connectors are tight, replace the Water Paddle, or switch, as appropriate.
- Press “Measured Fill” on the Dispenser UI. Ensure Display reads “1”

  If display does not read”1” while button is pressed, Ensure all wiring connectors are tight.

  If all connectors are tight, Replace the Dispenser UI.

If water did not dispense in Service Test 96:

- Check continuity of the Isolation Valve and Water Valve.
- Check all wiring connectors are tight,
- Check for blockages in water tubing.

Ice Troubleshooting

Key components for ice production and dispensing include:

Water Supply: Isolation Valve, Dispenser U, Door Ice Maker water valve, Fill Tube Heater, and Freezer Ice Maker water valve and fill tube heater (some models).

Cold Air Supply: Ice Box Thermistor, Ice Box Fan, FC Thermistor.

Ice Making Module: Ice Bucket Switch, Ice Maker including the Ice Tray Thermistor, and IM Motor, and IM Motor Switch.

Ice Dispensing: Auger Motor and Ice Door Motor.

Thermistor Checks

Run the appropriate Service Tests for the affected Ice Maker. It is best to check the thermistors first. This will provide accurate temperature conditions to troubleshoot with.

Run Service Test 14 - Door Ice Box Thermistor

Run Service Test 02 - FC Thermistor

Run Service Test 16 - Door Ice Maker Tray Thermistor

Run Service Test 17 - Freezer Ice Maker Tray Thermistor

- Ensure none of the thermistors are Open “OP” or Shorted “SH”. Replace any faulty thermistors.
- **NOTE:** To replace the Door Ice Box Thermistor or Ice Tray thermistor, replace the Ice Maker.

Cold Air Supply

If the Ice Box is not at the proper temperature, check the supply of cold air to the Ice Box.

Run Service Test 59 – Ice Box Fan Test

Ensure LED Display shows “on”

- Check that the fan is operating

If fan is not operating:

- Check all wiring connectors tight (FIGURE 17).
- Check integrity of wiring between control board and fan. (Continuity or Voltage check as appropriate)

If wiring check indicates bad wiring:

- Replace wiring harness

If wiring checks OK, or if fan is still not operating:

- Replace fan.

If LED Display does not show “on”:

- Replace GF2 board

Ice Maker Water Supply

If temperatures in the Ice Box are appropriate, check wheher or not there is ice/water in the Ice Tray. If no water is present, test the Ice Maker Water Supply. If Ice is present, proceed to the next section, Ice Maker Harvest Test.

Run Service Test 97 - Door Ice Maker Valve General Test

or

Run Service Test 98 - Freezer Ice Maker Valve General Test

Note: This test also operates the Isolation Valve.

- Ensure display reads “on” for about 5 seconds, then reads “OFF”
- Check that water is dispensed into the Ice Maker.

If display did not read “on”

- Replace Dispenser UI (Door Ice Maker).
- Replace GF2 board (Freezer Ice Maker).

If water did not fill the Ice Maker:

Run Service Test 66 - Door Ice Maker Fill Tube Heater Test

or

Run Service Test 67 - Freezer Ice Maker Fill Tube Heater Test

- Ensure the diplay shows “on”
- Leave in Test for about 15 minutes
- Re-run Service Test 97 or 98 to test the appropriate Ice Maker Fill Valve.

If Water still does not dispense:

- Perform resistance checks on Fill Tube Heater
- Perform resistance checks on Isolation and Ice Maker Fill Valves.
- Check all wiring connectors are tight.
- Check for blockages of the water tubing.

Resistance Checks

Isolation Valve

Door Ice Maker Water Valve

Door Ice Maker Fill Tube Heater

Freezer Ice Maker Water Valve

Freezer Ice Maker Fill Tube Heater

Ice Maker Module Tests

The Ice Maker Harvest Test checks the functionality of the Ice Maker motor and Motor Position Switch.

For Service Technician Use Only

Run Service Test 120 - Check Door Ice Maker Harvest

or

Run Service Test 121 - Check Freezer Ice Maker Harvest

Check the results of the test:

- If any errors are reported (“E1”, “E2”, “E3”, or “E4”), replace the Ice Maker
- If the Ice maker indicates the Ice Bin is full (“IB”) verify the Ice Bin is full. If it is not, replace the Ice Maker.

Verify the Ice Bucket Switch functions properly:

Run Service Test 79 - Ice Bin Switch State

- Verify display reads “00” with no Ice Bucket installed.
- Verify display reads “01” with the Ice Bucket installed.

If the switch does not indicate properly, replace the Ice Bin Switch.

Ice Dispensing Tests

Verify the Ice Dispensing components are functioning properly.

Run Service Test 93 - UI Button and Pad/Paddle Test

- Press Ice Paddle. Ensure Display reads “1”

  If display does not read “1” ensure all wiring connectors are tight.

  If all connectors are tight, replace the Ice Paddle, or switch, as appropriate.
- Press “Cubed Ice” on the Dispenser UI. Ensure Display momentarily reads “1”

  If display does not read”1” while button is pressed, Ensure all wiring connectors are tight.

  If all connectors are tight, Replace the Dispenser UI.
- Press “Crushed Ice” on the Dispenser UI. Ensure display momentarily reads “1”

  If display does not read”1” while button is pressed, Ensure all wiring connectors are tight.

  If all connectors are tight, Replace the Dispenser UI.

Run Service Test 115 - Control Ice Door Motor Using Ice Pads

- Press Ice Paddle. Ensure Ice Door cycles as expected.
- If door does not cycle, check all wiring connectors tight.
- If all connectors are tight, replace the Ice Door and Motor.

RC and FC LED Lighting Troubleshooting

All LED light strips are wired in parallel. If a single LED light strip is out, replace the affected LED.

If a group of LED lights are out, run the appropriate Diagnostic Service Test .

Service Test 44 - RC Compartment Lighting

- Ensure the 7 segment LED Display indicates “on”

If the 7 segment LED Display does not indicate “on”

- Replace the Eyebrow UI

If the 7 segment LED Display does indicate “on”

- Run Service Test 73/74 - Right/Left RC Door Switch State
- Manually cycle the appropriate RC Door Switch and ensure LED Display cycles between “00” and “01”.
- Check all wiring connectors tight.
- Check integrity of wiring between control board and Light. (Continuity or Voltage check as appropriate).

Service Test 45 - FC Compartment Lighting

- Ensure the 7 segment LED Display indicates “on”

If the 7 segment LED Display does not indicate “on”

- Replace the Orion board

If the 7 segment LED Display does indicate “on”

- Run Service Test 75 - FC Door Switch State
- Manually cycle the FC Door Switch and ensure LED Display cycles between “00” and “01”.
- Check all wiring connectors tight.
- Check integrity of wiring between control board and Light. (Continuity or Voltage check as appropriate).

Service Test 46 - Shelf Lighting

- Ensure the 7 segment LED Display indicates “on”

If the 7 segment LED Display does not indicate “on”

- Replace the Orion board

If the 7 segment LED Display does indicate “on”

- Check the metal portion of the shelf is firmly seated on the metal contact of the shelf support and that both are clean.
- Check all wiring connectors tight.
- Check integrity of wiring between control board and Light. (Continuity or Voltage check as appropriate)

Service Test 48 - Pantry and Air Filter Lighting

- Ensure the 7 segment LED Display indicates “on”

If the 7 segment LED Display does not indicate “on”

- Replace the Eyebrow UI

If the 7 segment LED Display does indicate “on”

- Check all wiring connectors tight.
- Check integrity of wiring between control board and Light. (Continuity or Voltage check as appropriate)

Dispenser LED Light Troubleshooting

The five dispenser LEDs are built into the Dispenser UI. If a LED needs to be replaced, replace the Dispenser UI.

Service Test 51 - Dispenser Lighting

This test will only turn on the 4 side LEDs.

- Ensure the 4 LEDs turn on.
- If the LEDs do not turn on, replace the Dispenser UI.

If there is a concern about the night light feature:

Run Service Test

The Dispenser LED lights are integrated into the Dispenser UI.

There is no Diagnostic Service Test available for the lights.

For Service Technician Use Only

Notes

For Service Technician Use Only

Notes

Section 2: Component Testing

This section provides the wiring diagram and component location for the “French-Door Bottom Mount Refrigerator.”

- Safety
- Wiring Diagram
- Component Location

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.

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.**

IMPORTANT: Electrostatic Discharge (ESD) Sensitive Electronics

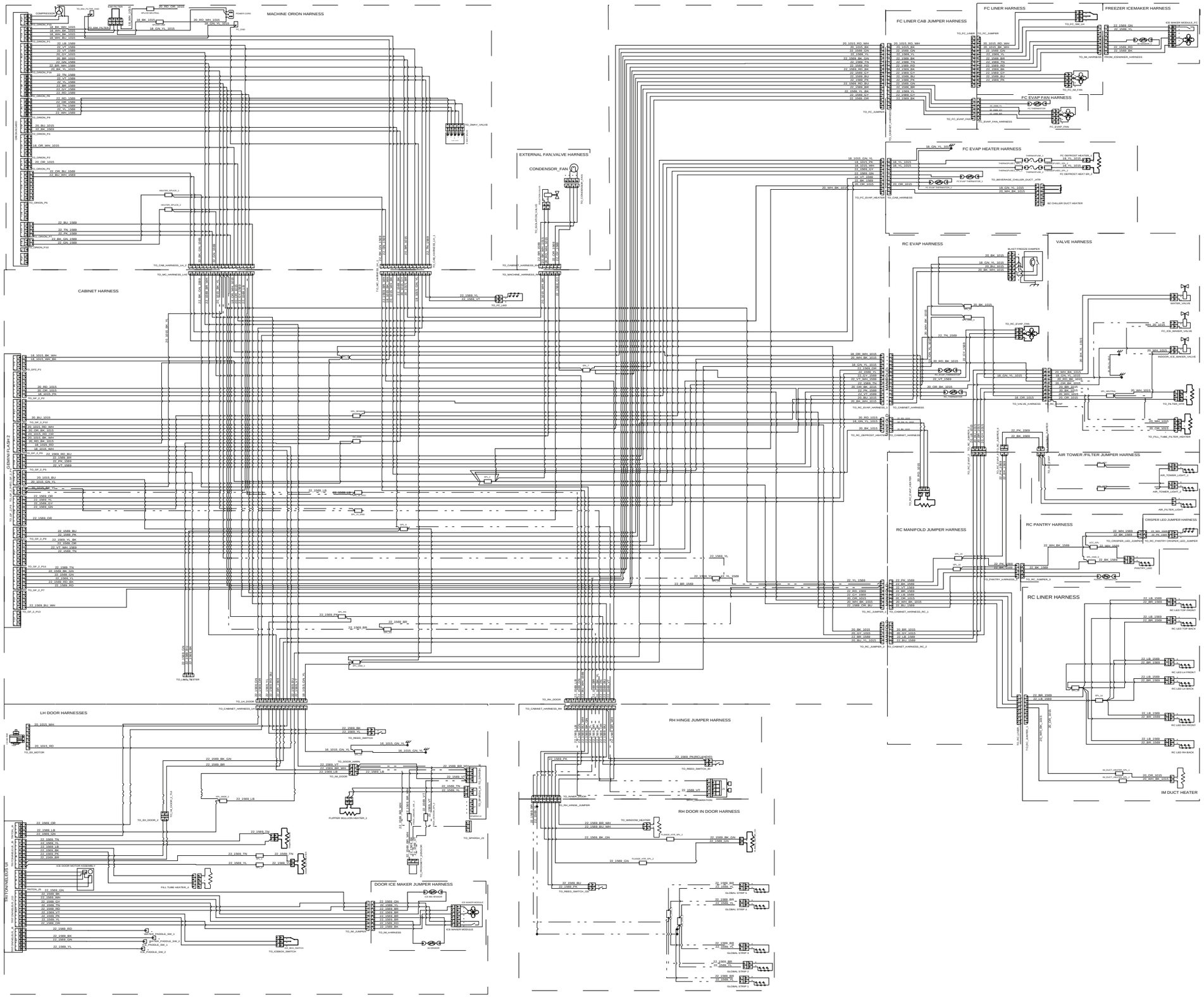
ESD problems are present everywhere. ESD may damage or weaken the electronic control assembly. The new control assembly may appear to work well after repair is finished, but failure may occur at a later date due to ESD stress.

- 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.

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Wiring Diagram



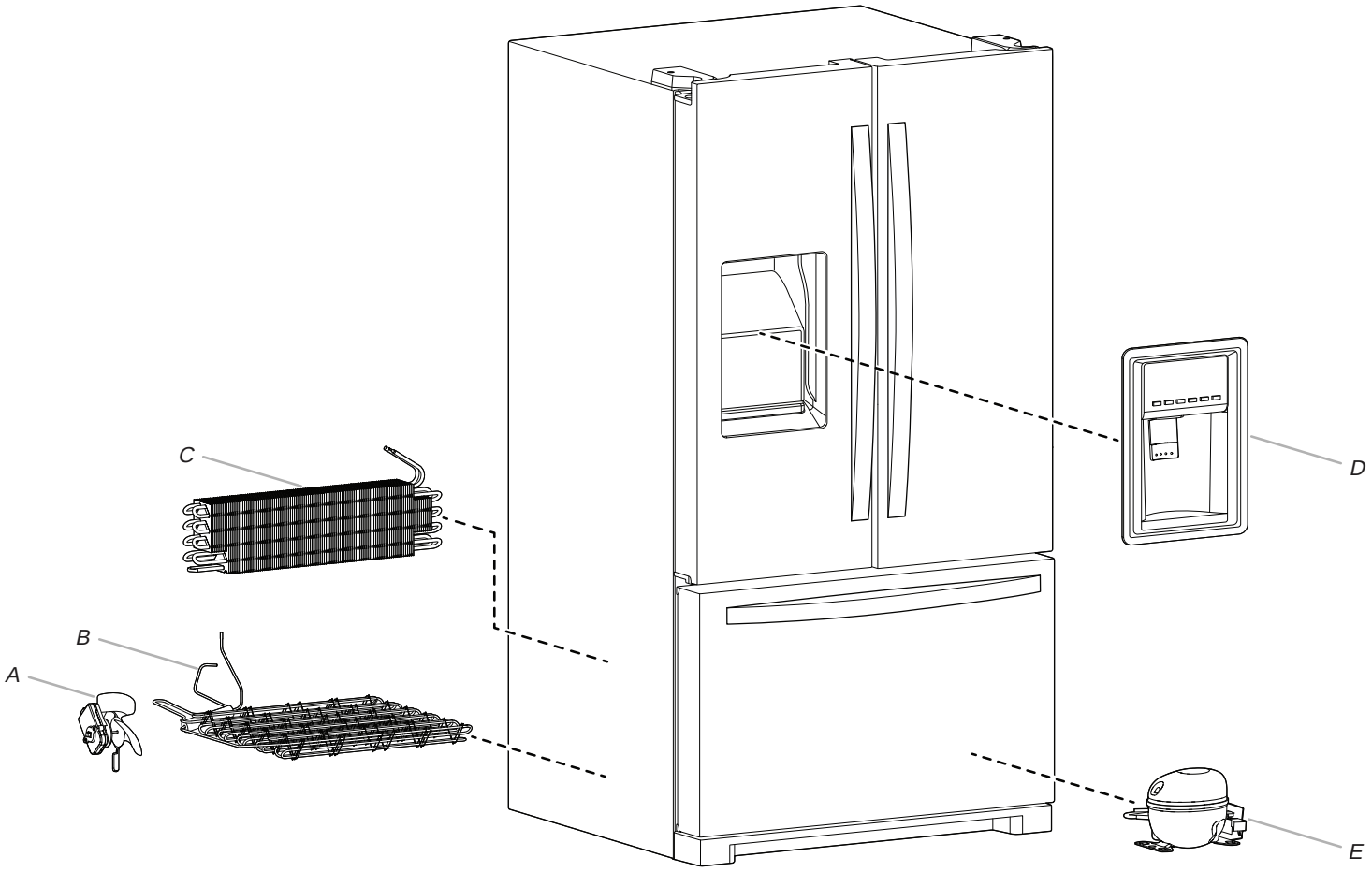
For Service Technician Use Only

Voltage Table

		FROM	TO	VOLTAGE	CONDITIONS
GF2	P1	P1-1	P1-2	115 VAC	CONSTANT 115 VAC
	P2	P2-5	P1-2		RC DEFROST HEATER OUTPUT, WITH THERMAL FUSE 115V
		P2-6	P1-2		ICE MAKER DUCT CABINET HEATER
		P2-7	P1-2		FC DEFROST HEATER OUTPUT, WITH THERMAL FUSE 115V
	P3	P3-1	P1-1		FC ICE MAKER FILL TUBE HEATER
		P3-2	P1-1		FC DOOR RV MUST BE CLOSED = 115 V, OPEN = 0 V
		P3-3	P1-2		DOOR ICE MAKER WATER VALVE
		P3-4	P1-2		ISOLATION VALVE
		P3-5	P1-2		CONSTANT 115 VAC, AC LINE INTERLOCK
		P3-7	P3-8	130 VDC	AUGER OUTPUT, LH RH DOOR CLOSED, ACTIVATE ICE PADDLE = 130-140 VDC
		P3-6	P1-2	115 VAC	FC ICE MAKER WATER VALVE
	P4	P4-1	P4-4	12.7 VDC	CONSTANT 12.7 VDC
		P4-3	COMMUNICATION		WIN DATA
	P5	P5-1	P5-2	5 VDC	FC THERMISTOR OUTPUT = 1.5-5 VDC MAXIMUM
		P5-3	P5-4	5 VDC	RC THERMISTOR OUTPUT = 1.5-5 VDC MAXIMUM
	P6	P6-1	P6-2	12.7 VDC	CONSTANT 12.7 VDC
	P7	P7-1	P7-2	5 VDC	FC ICE MAKER THERMISTOR OUTPUT = 1.5 - 5 VDC. MAXIMUM
		P7-3	P7-4	5 VDC	FC ICE MAKER SWITCH VOLTAGE = 12.7 VDC, WHEN OPEN
		P7-5	P7-6	12.7 VDC	FC ICEMAKER MOTOR
	P8	P8-1	P8-2	5 VDC	RC EVAP THERMISTOR OUTPUT = 1.5 - 5 VDC. MAXIMUM
		P8-3	P8-4	5 VDC	FC EVAP OUT THERMISTOR OUTPUT = 1.5 - 5 VDC. MAXIMUM
		P8-7	P8-8	12.7 VDC	DC CONDENSER FAN OUTPUT
	P9	P9-2	P9-3	12.7 VDC	ICE BOX FAN OUTPUT
	P12	P12-1	P1-2	115 VAC	AIR BAFFLE FEEDBACK. ACTIVATE SERVICE TEST 42
		P12-6	P1-2		AIR BAFFLE OUTPUT. ACTIVATE SERVICE TEST 42
	P13	P13-5	P8-4	5 VDC	PANTRY THERMISTOR OUTPUT = 1.5 - 5 VDC. MAXIMUM
	P14	P14-1	P14-2	12.7 VDC	FC EVAP FAN OUTPUT
		P14-3	P14-4	12.7 VDC	RC EVAP FAN OUTPUT
ORION	P1	P1-1	P1-2	115 VAC	CONSTANT 115 VAC
		P1-3	P1-4		
	P2	P2-4	P1-2		FILTER HEATER
	P3	P3-2	P1-2		BEVERAGE CHILLER DUCT HEATER
	P4	P4-1	P4-4	12.7 VDC	CONSTANT 12.7 VDC
		P4-3	COMMUNICATION		WIN DATA
	P5	P5-1	P5-2	5 VDC	FC EVAP IN THERMISTOR OUTPUT = 1.5 - 5 VDC. MAXIMUM
	P7	P7-1	P7-4		RC RIGHT DOOR, SWITCH VOLTAGE = 12.7 VDC, WHEN OPEN
		P7-3	P7-4		RC LEFT DOOR, SWITCH VOLTAGE = 12.7 VDC, WHEN OPEN
	P8	P8-1	P8-2	12.7 VDC	12.4 VDC
		P8-3	P8-4	12.7 VDC	LED OUT 12.7 VDC WHEN TURNED ON
		P8-5	P8-6	12.7 VDC	LED OUT 12.7 VDC WHEN TURNED ON
	P9	P9-1		12.7 VDC	CONSTANT 12.7 VDC
		P9-2	P9-3	12.7 VDC	PULSED 12.7 VDC
		P9-4	P9-5	12.7 VDC	PULSED 12.7 VDC
	P10	P10-1	P10-2	12.7 VDC	FLANGE HEATER/ WINDOW HEATER = 0 - 12.7 VDC (MAXIMUM)
	P15	P15-1			VARIABLE FREQUENCY AND AMPLITUDE 115 VAC
		P15-2			VARIABLE FREQUENCY AND AMPLITUDE 115 VAC
		P15-3			VARIABLE FREQUENCY AND AMPLITUDE 115 VAC

		FROM	TO	VOLTAGE	CONDITIONS
ORION	P16	P16-1	P16-8	12.7 VDC	CONSTANT 12.7 VDC
		P16-2	P16-7		
		P16-3	P16-6		
		P16-4	P16-5		
SPARSH	J2	J2-2	COMMUNICATION		WIN DATA
		J2-4	J2-1	12.7 VDC	CONSTANT 12.7 VDC
	J3	J3-2	J3-1	5 V	PROXIMITY SENSOR
	J6	J6-1	J6-2	12.7 VDC	FLIPPER MULLION HEATER OUTPUT (LEFT DOOR)
TRITON	J4	J4-1	J4-4	12.7 VDC	CONSTANT 12.7 VDC
		J4-3	COMMUNICATION		WIN DATA
	J5	J5-1			CONSTANT 12.7 VDC
		J5-2			PULSED 12.7 VDC
		J5-3			PULSED 12.7 VDC
		J5-4			PULSED 12.7 VDC
		J5-5			PULSED 12.7 VDC
	J6	J6-1	J6-3	12.7 VDC	SWITCH VOLTAGE = 12.7 VDC, WHEN OPEN
		J6-4	J6-6	12.7 VDC	SWITCH VOLTAGE = 12.7 VDC, WHEN OPEN
	J8	J8-1	J8-2		DISPENSER HEATER, PULSED = 0 - 12.7 VDC (MAXIMUM)
		J8-3	J8-4		FILL TUBE HEATER, PULSED = 0 - 12.7 VDC (MAXIMUM)
		J8-5	J8-6		WATER VALVE, PULSED = 0 - 12.7 VDC (MAXIMUM)
		J8-7	J8-8		DOOR DUCT HEATER, PULSED = 0 - 12.7 VDC (MAXIMUM)
	J10	J10-1	J10-2	3.3 VDC	ICE BOX THERMISTOR OUTPUT = 0 - 3.3 VDC. MAXIMUM
		J10-3	J10-4	3.3 VDC	DOOR ICE MAKER THERMISTOR OUTPUT = 0 - 3.3 VDC. MAXIMUM
		J10-5	J10-6	3.3 VDC	SWITCH VOLTAGE = 3.3 VDC, WHEN OPEN
		J10-7	J10-8	3.3 VDC	SWITCH VOLTAGE = 3.3 VDC, WHEN OPEN
		J10-9	J10-10	12.7 VDC	ICE MAKER MOTOR
WiFi	J1	J1-1	J1-4	12.7 VDC	CONSTANT 12.7 VDC
		J1-3	COMMUNICATION		WIN DATA

For Service Technician Use Only
Component Location



A. Condenser Fan
B. Condenser
C. Freezer Evaporator
D. Front Door Dispenser Unit
E. Compressor

For Service Technician Use Only

Notes





Click this button for Video

Section 3: Component Access

This section provides service parts access, removal, and replacement instructions for the "French-Door Bottom Mount Refrigerator."

- Machine Compartment Components
  - Orion Board
  - EMI Filter
  - Condenser Fan
  - Water Isolation Valve
  - GF2 Board
- Accessing the Refrigerator Door Parts
  - Refrigerator Doors
  - Door Mullion
  - Icemaker Assembly
  - Door Ice Maker Fill Tube and Heater
  - Ice Dispenser Motor
  - In the Door User Interface
- Accessing Refrigerator Compartment Components
  - Shelves and Drawers
  - Air Tower Cover and Air Filter LED Light
  - LED Lights (Liner)
  - Crisper Frame Assembly
  - Temperature Controlled Drawer LED Light and Thermistor
  - Water Filter Bracket and Water Filter Housing
  - Freezer Icemaker Fill Tube and Heater
  - Dual Water Valve and Freezer IM Water Valve
  - Water Reservoir
  - Evaporator Cover Assembly
- Accessing Freezer Compartment Components
  - Freezer Door
  - Top Pan Assembly
  - Bottom Pan Assembly
  - Bracket Assembly
  - Evaporator Cover Assembly
  - Icebox Fan
  - Defrost Heater
  - Defrost Heater Wire Assembly
- Dispenser User Interface (UI) and Dispenser Components
  - Dispenser User Interface (UI)
  - False Wall
  - Water Paddle
  - Water Paddle Limit Switch
  - Ice Paddle
  - Ice Paddle Limit Switch
  - Dispenser Heater
- Thermistor and Possible Frost Build-Up

Machine Compartment Components

⚠ WARNING



Electrical Shock Hazard

Disconnect power before servicing.

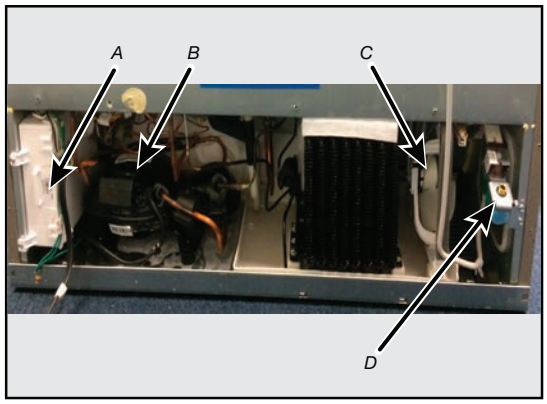
Replace all parts and panels before operating.

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

Machine Compartment Cover

1. Unplug refrigerator or disconnect power.
2. Access the machine compartment components by removing screws holding machine compartment cover on back of refrigerator.

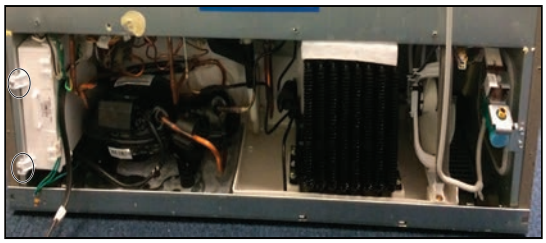
Below picture shows the components located in the machine compartment:



A. Orion Board
B. Compressor
C. Condenser Fan
D. Water Isolation Valve

Orion Board

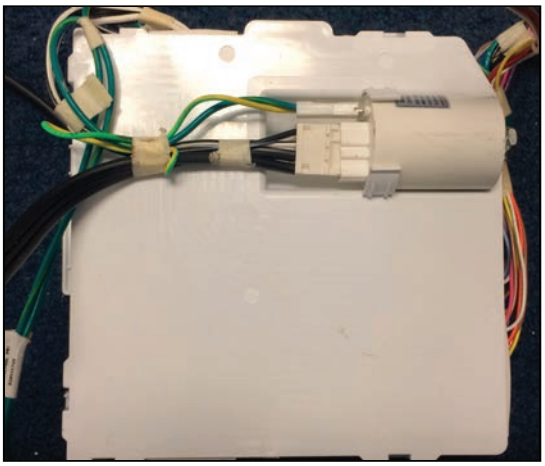
1. Unplug refrigerator or disconnect power.
2. Access the machine compartment components by removing screws holding machine compartment cover on back of refrigerator.
3. Remove the two 1/4" screws holding the Orion Board to the left rail.



4. Disconnect the three wiring connectors and remove the Orion Board.

EMI Filter

1. Unplug refrigerator or disconnect power.
2. Access the machine compartment components by removing screws holding machine compartment cover on back of refrigerator.
3. Remove the 1/4" screw at the top of the EMI filter.
4. Remove the EMI filter from the plastic clip.



5. Disconnect the wiring connectors.

Condenser Fan

1. Unplug refrigerator or disconnect power.
2. Access the machine compartment components by removing screws holding machine compartment cover on back of refrigerator.
3. Remove the single 1/4" screw at the bottom of the condenser fan bracket.
4. Disconnect the wiring connectors and slide out the fan to remove.

Water Isolation Valve

1. Unplug refrigerator or disconnect power.
2. Access the machine compartment components by removing screws holding machine compartment cover on back of refrigerator.
3. Shut off external water supply to refrigerator
4. Remove the water supply connection to the water valve.
5. Disconnect wiring connectors.
6. Disconnect the water valve outlet water tube.
7. Remove the two 1/4" screws securing the water valve to the right machine compartment rail.

GF2 Board

1. Unplug refrigerator or disconnect power.
2. Access the machine compartment components by removing screws holding machine compartment cover on back of refrigerator.
3. Remove the four 1/4" screws holding the metal cover in place.
4. Use a screw driver to release the clip holding the plastic cover in place.
5. Disconnect all eleven wiring connectors on the GF2 board.
6. Release the plastic clips and remove the GF2 board.

Accessing the Refrigerator Door Parts

⚠ 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.

Refrigerator Doors

1. Using a Philips screwdriver, remove the hinge cover from the top hinge.
2. (Left Door Only) Disconnect the water dispenser tubing located on top of the door hinge. Firmly pull up on the clasp. Then,pull the tubing out of the fitting.
   NOTE: The water dispenser tubing remains attached to the left-hand refrigerator door.
3. (Left Door Only) Disconnect the wiring connectors located on the top of the door hinge.
   NOTE: Do not remove the green ground wire. It should remain attached to the door hinge.
4. Use a TORX® T25 screwdriver to remove the three screws from the top hinge.
5. Open the door to 90° to the front of the cabinet and lift the door from the bottom hinge pin.

Door Mullion

6. Place mullion in the door closed position and remove the 1/4" screw at the center of the mullion.
7. Slide the mullion up to remove from the tabs at the top and bottom hinges.
8. Disconnect the wiring connector for the mullion heater and remove the mullion.
   NOTE: When installing the mullion,ensure the wiring connector is placed behind the plastic retaining clip.



Icemaker Assembly

1. Remove the ice bucket.
2. Depress the plastic tabs on the bottom left and right sides of the Icemaker and slide out.
3. Disconnect the wiring connector and remove the Icemaker.

Door Ice Maker Fill Tube and Heater

4. Disconnect the ice maker fill tube (blue) clasp under the left hinge cap.
5. Use pliers to pull fill tube and heater from top of the ice maker housing.
   NOTE: Attach a string to the clasp end of the fill-tube to aid in fishing through the new fill tube.

Ice Dispenser Motor

1. Remove the ice bucket.
2. Remove the four Philip screws retaining the ice chute plate.
3. Remove the four 1/4" screws from the ice dispenser motor and lift out.
4. Disconnect the wiring connector and remove the ice dispenser motor.

Accessing the Refrigerator Door Parts (Continued)

In the Door User Interface

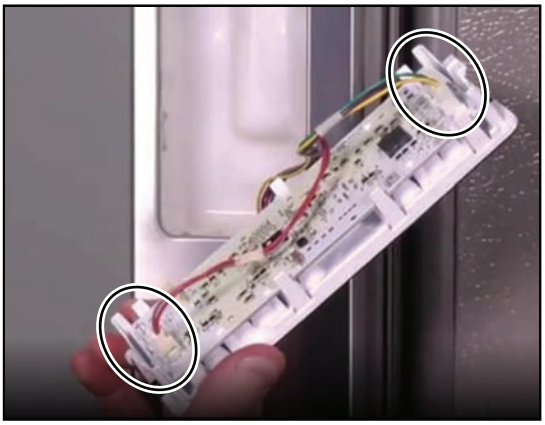
1. Open the door of refrigerator to the full extend.
2. Slide the putty knife in between UI body and housing to pray out the UI body.



3. Release the tab behind the UI body with the help of flat blade screw driver and pull the body out.



4. Disconnect the wiring harness.



Accessing Refrigerator Compartment Components

⚠ WARNING



Electrical Shock Hazard

Disconnect power before servicing.

Replace all parts and panels before operating.

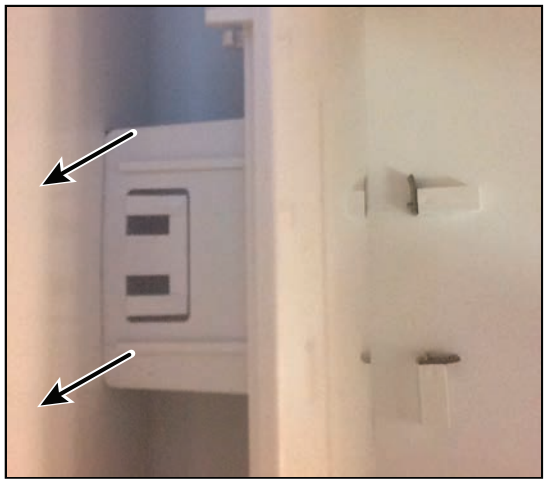
Failure to do so can result in death or electrical shock.

Shelves and Drawers

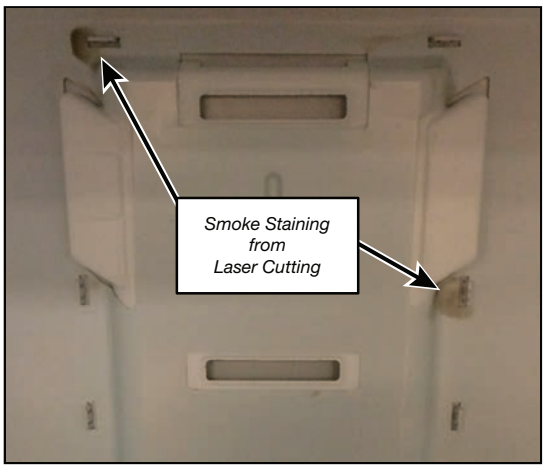
1. Lift and angle the two tuck shelves, and the full shelf to remove from the cabinet.
2. Fully extend and lift the rear rollers from the track to remove the crisper drawers and temperature controlled drawer.

Air Tower Cover and Air Filter LED Light

1. Release the ten plastic tabs holding the air cover in place, and remove the air tower cover.

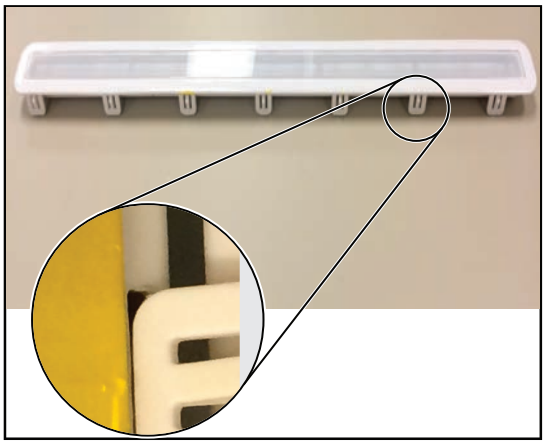


2. Disconnect the wiring connector for the air filter assembly LED lights.
3. Release the eight plastic tabs on the air filter assembly and remove.
   NOTE: Certain areas of the liner are cut with a laser during manufacturing. It is normal to see smoke staining on the liner in these areas.



LED Lights (Liner)

1. Use a putty knife to release the thirteen plastic tabs holding the LED Light in place.

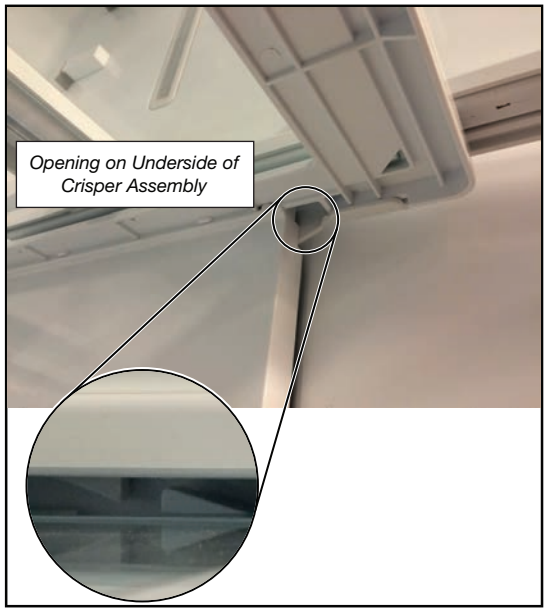


2. Slowly remove the light from the liner, disconnecting the wiring connector.
3. When installing the light, connect the wiring connector first, ensuring the LED turns on.

Accessing Refrigerator Compartment Components (Continued)

Crisper Frame Assembly

1. Complete the steps 1-5 from **"Refrigerator Door"** removal instructions.
2. Fully extend the platter shelf, depress and release the two tabs on the underside of the pantry shelf. Remove the shelf from the cabinet.

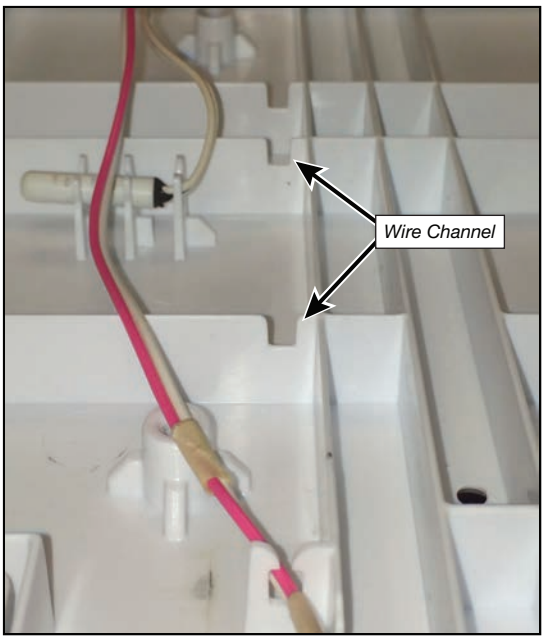


3. Lift the back of the crisper glass from the underside,slide back until the two front edges are released. Remove the crisper glass.
4. Twist counter-clockwise and remove the water filter.
5. Lift and slide the crisper assembly forward until the rear center of the assembly clears the base of the air tower cover. Continue lifting and remove the crisper frame assembly.

Temperature Controlled Drawer LED Light and Thermistor

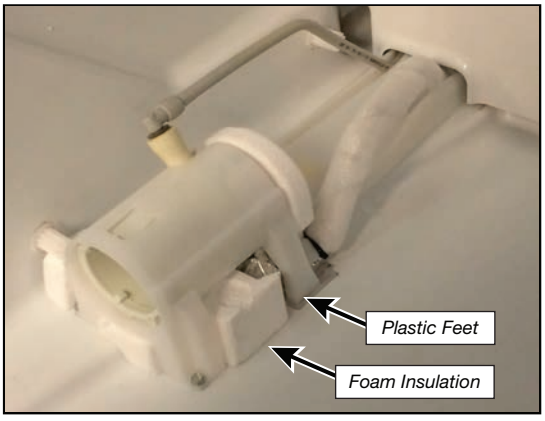
The LED Light and thermistor for the temperature controlled drawer share the same wiring harness. They are serviced as a pair.

1. Complete the steps 1-5 from **"Crisper Frame Assembly"** instructions.
2. Flip over the Crisper Frame Assembly with the front facing you.
3. Remove the three Philip screws attaching the left rail to the bottom of the drawer frame.
4. Remove the three Philip screws attaching the right rail to the top of the drawer frame.
5. Press the tab on the right side of the water filter fascia and release.
6. Release the two plastic clips holding the right rail to the top of the drawer frame, and lift off the bottom of the drawer frame.
7. Remove the six (6) Philip screws attaching the LED Light to the drawer frame.
8. Remove the four (4) Philip screws attaching the wire channel to the drawer frame.
9. Unclip the Thermistor and remove the LED Light, thermistor and associated wiring.
   NOTE: To prevent pinching of the wires,ensure the wiring is run through the plastic channel in the underside of the drawer frame during installation.



Water Filter Bracket and Water Filter Housing

1. Complete the steps 1-5 from **"Crisper Frame Assembly"** instructions.
2. Remove the two 1/4" screws at the front of the water filter bracket base.
3. Release the water inlet and outlet lines from the water filter bracket, and remove the bracket.
4. To remove the water filter housing from the bracket, release the two plastic tabs at the front top and bottom of the housing, and slide out from the back.
5. When reinstalling the water filter bracket, ensure the under filter foam insulation is in place, and the two plastic feet on the rear of the bracket are inserted into the plastic recess in the base of the refrigerator liner.



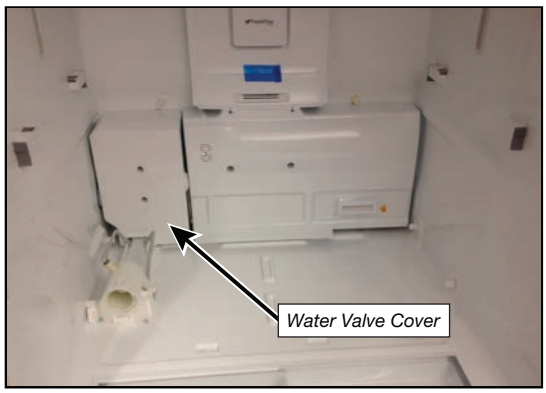
Accessing Refrigerator Compartment Components (Continued)

Freezer Icemaker Fill Tube and Heater

1. Complete the steps 1-5 from **"Water Filter Bracket and Water Filter Housing"** instructions.
2. Remove the water valve cover.
3. Remove the 1/4" screw at the front of the fill tube cover. Slide the cover forward to free the rear tabs and remove.
4. Disconnect the fill tube heater wiring connector located on the water tank housing, and remove the heater.
   NOTE: During assembly, install the fill tube cover prior to the water valve cover.

Dual Water Valve and Freezer IM Water Valve

1. Complete the steps 1-5 from **"Crisper Frame Assembly"** instructions.
2. Remove the water valve cover.



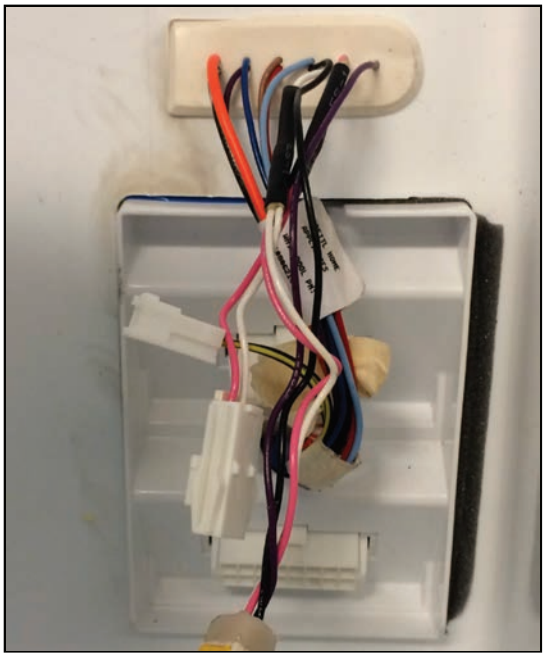
3. Disconnect the wiring connector(s).
4. Remove the ground wire from the valve solenoid frame.
5. Disconnect the water connections.

Water Reservoir

1. Complete the steps 1-5 from **"Crisper Frame Assembly"** instructions.
2. Remove the water valve cover.
3. Remove the two 1/4" screws at the top of the water tank housing.
4. Remove the wire run from the retaining clip.
5. Remove the two outlet water tubes from the dual water valve.
6. Pull the water tank Housing forward and cut the wire tires holding the water reservoir in place.
7. Remove the inlet and outlet water connections from the water reservoir and remove.

Evaporator Cover Assembly

1. Complete the steps 1-3 from **"Air Tower Cover and Air Filter LED Light"** instructions.
1. Complete the steps 1-5 from **"Crisper Frame Assembly"** instructions.
2. Remove the water valve cover.
3. Remove the tower cover base.
4. Remove the four 1/4" screws holding the evaporator cover assembly in place and work the cover loose.
5. Compress the pinch clips on the yellow wiring plug at the bottom right of the cover and push back through the cover.
6. Unclip the thermistor from the evaporator tubing behind the top right side of the cover.
7. Disconnect the two small wiring connectors located behind the bottom left portion of the cover.
8. Disconnect the bottom wiring connector extending through the liner behind the bottom left portion of the evaporator cover.
9. Remove the blue tape holding the wiring to the rear of the cover assembly, feed the wiring through the hole on the left side of the cover and remove the evaporator cover assembly.
   NOTE: Certain areas of the liner are cut with a laser during manufacturing. It is normal to see smoke staining on the liner in these areas.



Accessing Freezer Compartment Components

⚠ 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.

Freezer Door

1. Loosen the four 1/4" screws. Lift the freezer door off the brackets and remove.

Top Pan Assembly

1. Remove the freezer door.
2. Remove either the left or right pan stop by flexing out the bracket assembly near the pan stop.
3. Slide the top pan assembly forward and remove,beginning with the side with the pan stop removed.

Bottom Pan Assembly

1. Remove the freezer door.
2. Remove the top pan assembly.
3. Lift the front of bottom pan to release the front tab and catch.
4. While holding the side rails push the bottom pan.
5. Assembly back to release the remaining tabs and remove the bottom pan.
   NOTE: During Installation, hook the back tab under the lip of the rail first, then work your way forward, hooking one tab at a time.

Bracket Assembly

1. Remove the freezer door.
2. Remove the top pan assembly.
3. Remove the bottom pan assembly.
4. Slide the bracket assembly forward.
5. Release the three tabs on either end of the rack shaft and slide out the gear collar.
6. Lift the rack shaft from the gear and pull to remove the other end from the gear collar.
7. Remove the four 1/4" screws from each bracket assembly.
8. Slide the entire bracket assembly forward to disengage from the liner posts, and remove the bracket assembly.

Freezer Ice Maker (Some Models)

1. Remove the 1/4” screw mounting the ice maker to the top liner.
2. Slide the Ice Maker forward to disengage from the plastic posts in the top of the liner.
3. Disconnect the wiring connector and remove the ice maker.

Evaporator Cover Assembly

1. Remove the freezer door.
2. Remove the top pan assembly.
3. Remove the bottom pan assembly.
4. Remove the bracket assembly.
5. Remove the freezer ice maker.
6. Remove the four corner screws on the evaporator cover.
7. Pull the evaporator cover assembly away from the back liner, disconnect the wiring connector, and remove.

Icebox Fan

1. Remove the evaporator cover assembly.
2. Disconnect the wiring connector.
3. Remove the two 1/4" screws and remove the icebox fan.

Defrost Heater

1. Disconnect the two wiring connectors, one at either end.
2. Unclip the defrost heater clips.
3. Remove the left and right air dam.
4. Remove the defrost heater.

Defrost Heater Wire Assembly

1. Remove the icebox fan to gain access to the heater wire assembly.
2. Disconnect the three wiring connectors and remove the evaporator heater wire assembly.

Dispenser User Interface (UI) and Dispenser Components

⚠ 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.

Dispenser User Interface (UI)

1. Depress the two tabs under the front of the UI.



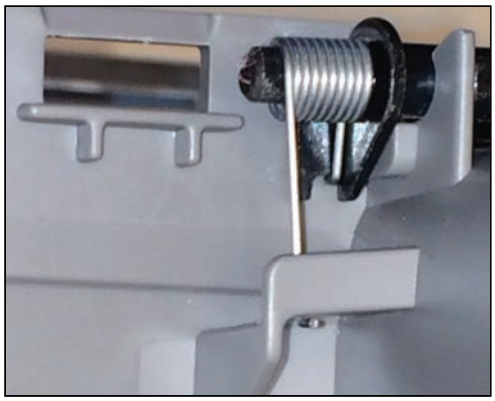
2. Remove the five wiring connectors from the UI. Remove the UI panel.

False Wall

3. Push in the drip tray fully. Lift the front edge and remove the drip tray.
4. Remove the two 1/4" screws in the dispenser tray slide.
5. Remove the two 1/4" screws in the top of the false wall.
6. Unclip the dispenser water tube from above the water paddle.
7. Slide the false wall forward and remove from the dispenser housing.

Water Paddle

8. Note the positioning of the water paddle torsion spring and remove.



9. Disengage the water paddle from the two plastic retaining clips and remove.

Water Paddle Limit Switch

10. Disconnect the wiring connector from the water paddle switch.
11. Remove the switch from the plastic clips holding it in place.

Ice Paddle

1. Remove the UI.
2. Remove the false wall.
3. Note the positioning of the ice paddle torsion spring and remove it.



4. Remove the two plastic ice paddle pins from the holes in the plastic housing and remove ice paddle.

Ice Paddle Limit Switch

1. Remove the UI.
2. Remove the False Wall.
3. Disconnect the wiring connector from the ice paddle switch.
4. Remove the switch from the plastic clips holding it in place.

Ice Door Motor Bracket

1. Remove the UI.
2. Remove the False Wall.
3. Remove the two 1/4" screws holding the ice door.
4. Motor Bracket in place, and remove.

Dispenser Heater

1. Remove the UI.
2. Remove the false wall.
3. Remove the ice door motor bracket.
4. Disconnect the wiring connector for the dispenser heater.

Thermistor and Possible Frost Build-Up

⚠ 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.

Correction: There are multiple potential causes for the concern. Therefore be sure to read and follow all instructions. Also have the Service Manual on hand for any instructions. **https://tinyurl.com/ybeuyvfy**

Diagnostic and Replacement

1. It is very important to enter the diagnostics program and confirm the control is the proper version. Proceed to test 128 to read the current version. See chart below for the appropriate software version. Control does not have to be replaced if version code correct.

KRFC604F*	**Service Step 128: 7.0.0 or higher is required**	WRF992FIF*	**Service Step 128: 7.0.0 or higher is required**
KRFC704F*	**Service Step 128: 7.0.0 or higher is required**	WRF993FIF*	**Service Step 128: 7.0.0 or higher is required**
JFFCC72EF*	**Service Step 128: 70.0 or higher is required**	WRF995FIF*	**Service Step 128: 7.0.0 or higher is required**

When you order the following part number, If the part number changes it will be substituting to the newest part.

Model	Control Board	Board Location
KRFC604F*	W11332011 Rev A	Back left of unit (middle)
KRFC704F*	W11332011 Rev A	Back left of unit (middle)
JFFCC72EF*	W11332011 Rev A	Back left of unit (middle)
WRF992FIF*	W10687089 Rev J	Back left of unit (middle)
WRF993FIF*	W10687089 Rev J	Back left of unit (middle)
WRF995FIF*	W10687089 Rev J	Back left of unit (middle)

The location of the board shown on the pictures below (GF2 high voltage board).





2. Remove the RC Evaporator cover to verify the gasket type is the correct version. The correct version should seal all of the gaps preventing any air leaks. Leaks will cause moist air to bypass the evaporator and accumulate frost. If the RC evaporator cover is not the correct version, replace using the table below.
   NOTE: Before you can remove the evaporator cover the doors need to be removed.

   Door removal and replace Video Link: **https://tinyurl.com/y8xcv9tm**

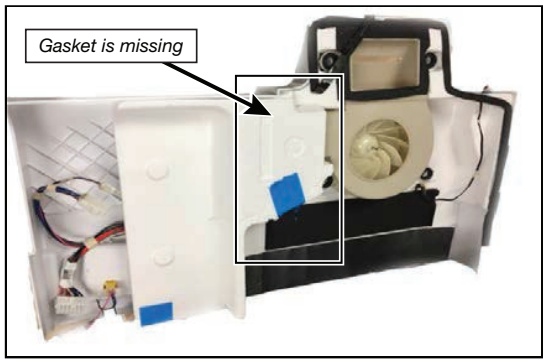
   Door removal and replace Training Pointer Link: Technical Training Pointer #: W11023170

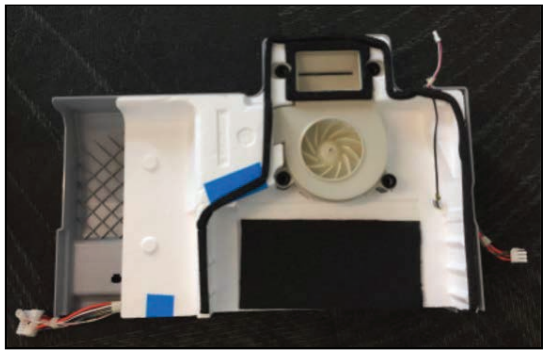
Photos of older version of thinner gasket are given below:



Before reassembly, check new evaporator cover make sure seals are not damaged or out of place. See photo below for proper seal placement.

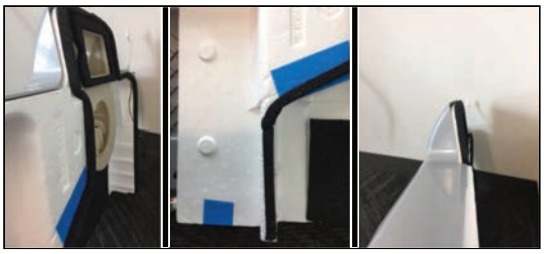
Thermistor and Possible Frost Build-Up (Continued)



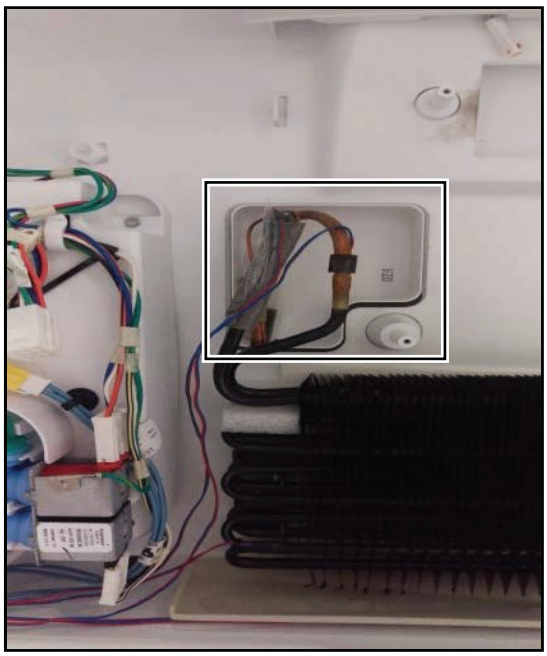


Model	Evaporator Cover Part
KRFC604FS*	W10865106
KRFC704FS*	W10815735
JFFCC72EF*	W10815734
WRF992FIF*	W10875099
WRF993FIF*	
WRF995FIF*	

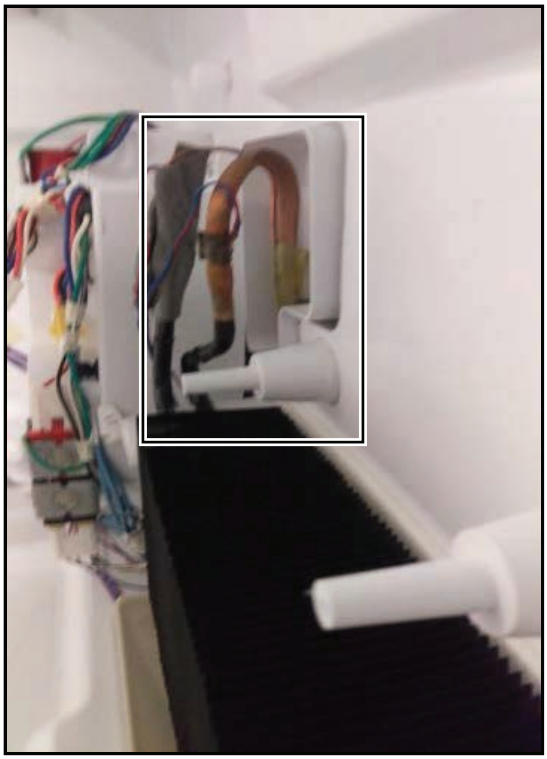
The photos below are showing the new correct gaskets installed properly.



3. Defrost the refrigerator section evaporator to ensure it is completely free of Ice and frost before installing new cover to insure proper operation. When using a heat source to defrost the refrigerator section evaporator cover, care should be exercised not to overheat the plastic surface of the cover or the polystyrene foam behind the cover. Doing so can permanently damage these components.
4. To insure proper sealing of the replacement refrigerator section evaporator cover, be sure that the refrigerant lines that connect the evaporator do not come in contact with the replacement cover.
5. If tubing was pulled out for any service access, it should be moved back to appropriate position before installing cover. Suction tube and evaporator inlet (cap tube with mastic around) must be contained entirely inside projection of back wall.



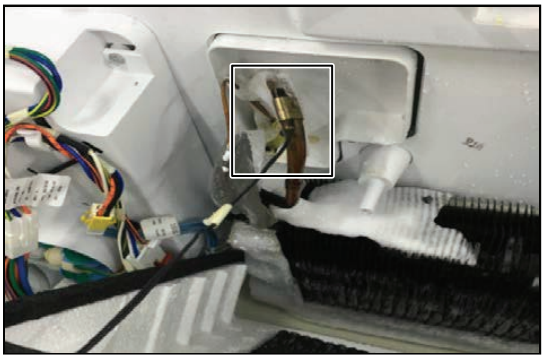
Suction tube and evaporator inlet (cap tube with mastic around) must be contained, front to back, entirely within depth of evaporator.



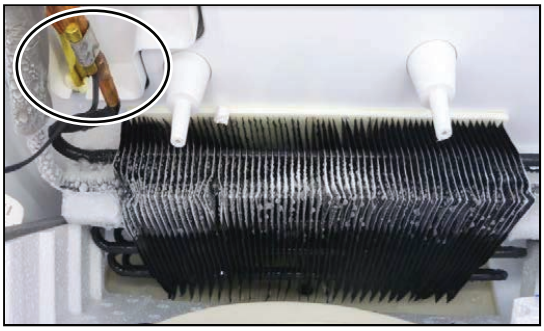
Thermistor and Possible Frost Build-Up (Continued)

6. Check the Refrigerator section evaporator thermistor for proper contact with the tubing.

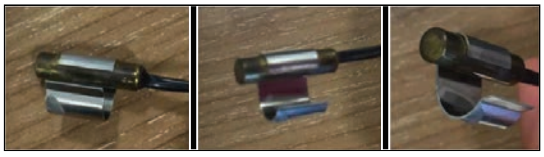
- Refrigerator section evaporator thermistor was positioned in the improper location.



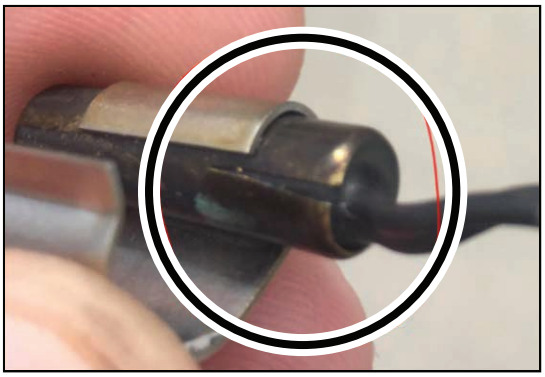
- Correct location is on the straight section of suction line, just above the connection with evaporator.



- Check the thermistor is in proper shape.

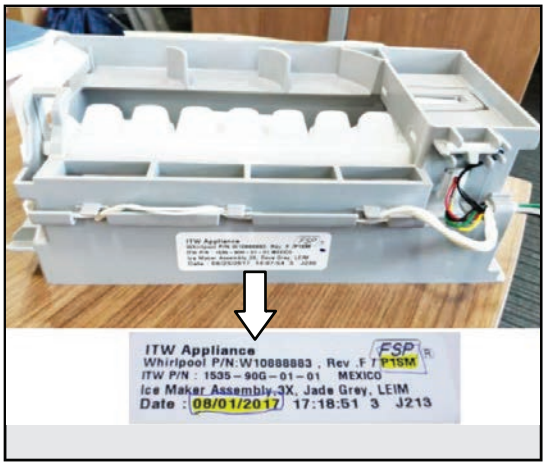


- Inspect the Thermistor for proper resistance and for damage. Thermistor in figure T is split and needs to be replaced.



7. Check the ice maker label on the ice maker for the date code and the "P1SM" tag.

- If the date code on the ice maker is prior to 06/22/2017 or the "P1SM" (tag is missing then the ice maker needs to replaced with the part numbers listed below in the table.
- When using the new ice maker ensure that the date code is after 06/22/2017 and "P1SM" tag is present as shown in.



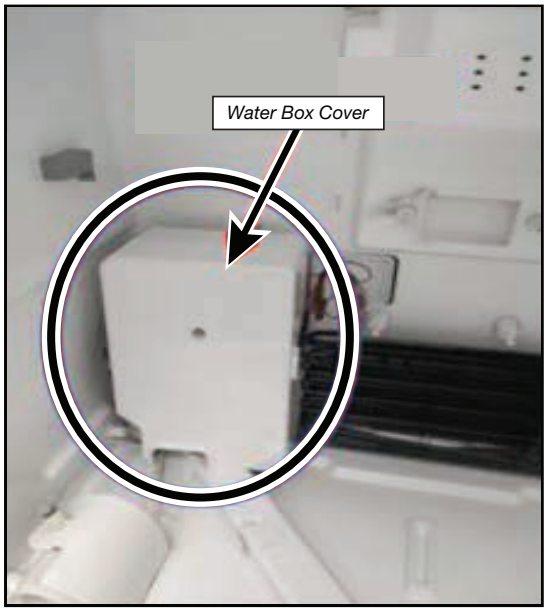
- If the Ice Maker Part# is correct, then perform Service Step#120 to ensure the ice maker is working correctly. There should be at least 1 minute gap between two consecutive checks using service step#120 otherwise you may get an error code.
- If any error code is observed and you did perform two consecutive service step#120 less than one minute apart. Then IM is faulty and you should replace ice maker as per the parts provided below in the table:

Model	Refrigerator Ice Maker	Freezer Ice Maker	Date Code
WRF992FIF*	W10888881	NA	06/22/2017
WRF993FIF*	W10888881	W10898289	06/22/2017
WRF995FIF*	W10888881	W10898289	06/22/2017
KRFC604FS*	W10888881	NA	06/22/2017
KRFC704FS*	W10888882	NA	06/22/2017
KRFC704FP*	W10888882	NA	06/22/2017
KRFC704FB*	W10888882	NA	06/22/2017
JFFCC72EF*	W10888883	NA	06/22/2017
JFFCC72EF*	W10888883	NA	06/22/2017

Thermistor and Possible Frost Build-Up (Continued)

8. For Water Valves:

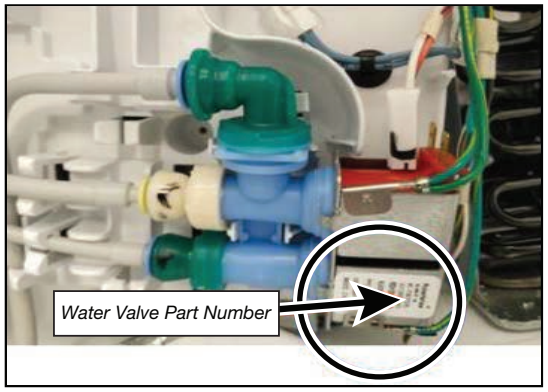
- On the unit, check the part# of the dual water valve located behind the water box cover as shown in picture below:

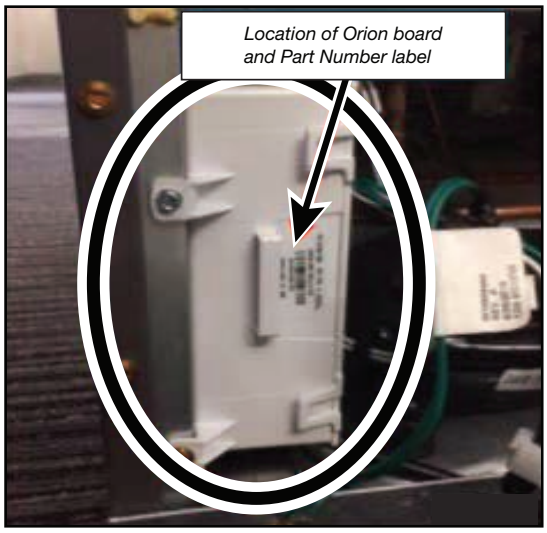


- Check the table below and identify the right part# for the correct water valve and Orion board corresponding to model# of the unit:

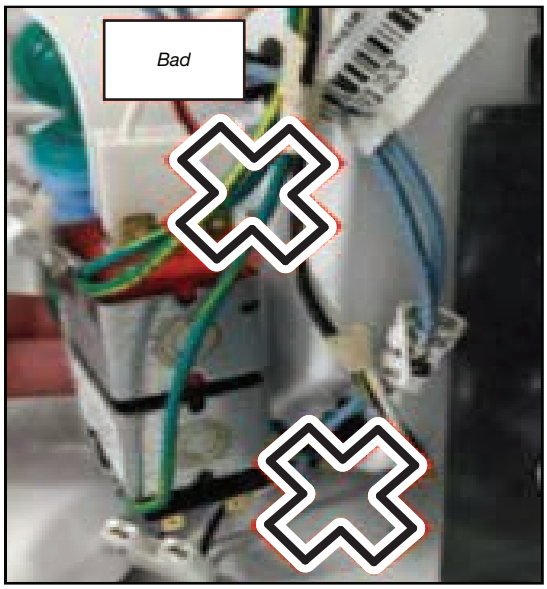
Model	Orion Board		Dual Water Valve	
	Old Board	New Board	Old Valve	New Valve
WRF992FIF*	W10873533	W10918843	W10853040	W10908836
WRF993FIF*				
WRF995FIF*	W10873534	W10918845		
KRFC604FS*	W10789117	W10918848		
KRFC704F*				
JFFCC72EF*	W10789117	W10918848		

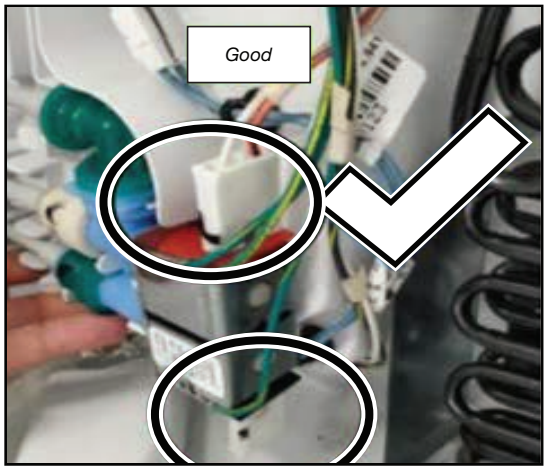
- Replace the water valve and Orion board with new part numbers.





- Ensure that all the tubes are fully inserted into the water valve. There is an O-ring inside the valve if the tube is not fully inserted pass the O-ring it may cause water leak.
- Ensure the electrical connectors are connected and not left disconnected as shown below.
- Before putting the water box cover on, dispense water by closing the left hand door and observe that there is no water leaking during the water dispensing.

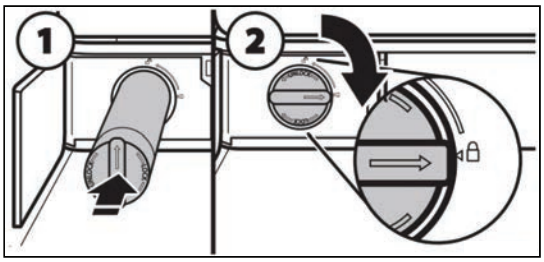




Thermistor and Possible Frost Build-Up (Continued)

9. For Water Filter Replacement / Water leak from filter area:

- Check that Filter Cap is securely attached to filter Cartridge. Ribs on Filter Cap must be aligned to grooves on Filter Cartridge to allow Filter Cap to securely “Snap” on the Filter Cartridge.
- Initial arrow position on the filter cap must point upward to push the filter into the housing.
- Push AND Rotate the filter 90 degrees clockwise.
- Verify that filter arrow indicator on filter aligns with “Lock” symbol on filter fascia.



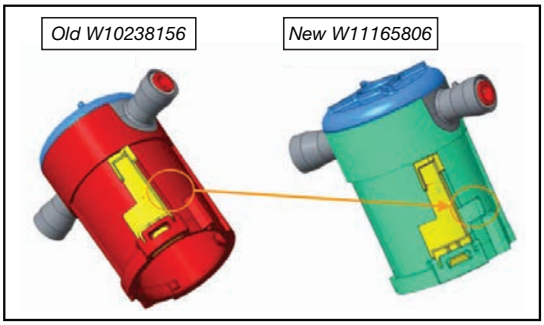
- If arrow on Filter Cap does not align with “Lock” symbol (shown in above picture) then continue rotating filter past the resistance point to the final 90 degree installed position.

If Filter Cap continues to rotate on the Filter Cartridge replace with new Filter Cap.

NOTE: Filter Replacement Instructions and Cap installation video link: **https://tinyurl.com/y8low83f**

10. Filter housing replacement:
For Water leak from filter area / Water Filter Replacement and Water filter housing replacement.

1. With pantry system removed, remove 2 screws holding filter bracket in place.
2. Remove filter housing from filter bracket.
3. Remove Heater from filter housing.
4. Disconnect the inlet and outlet tubing at the push to connect fittings.
5. Reinstall tubing to new housing.
6. Re-attach heater to housing.
7. Re-install housing into bracket.
8. Secure bracket feet into back mounting holes and then with 2 screws removed in step 1.



- **Replace and Install the Water Filter Process**

1. The water filter should be replaced every 6 months based on a flow rate of 0.50 gpm—0.60 gpm that filters 200 gallons of water.
2. To order a replacement filter, contact us. See “Accessories” section in the User Guide for information on ordering.

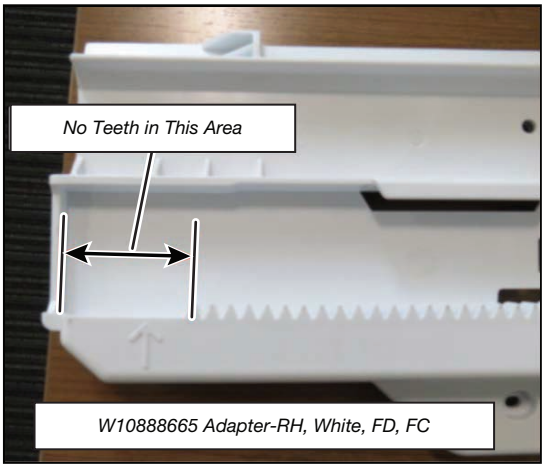
NOTE: If the filter is not installed correctly, water may dispense at a lower flow rate and there will be slower ice production. Improper filter installation may also cause the water filter housing to leak.

3. Push the water filter door to open, located bottom left of refrigerator compartment.
4. Twist the water filter and turn 90° counterclockwise to unlock.
5. Pull the filter out of the housing.
6. Remove the water filter cap from the water filter.
7. Install the water filter cap onto the new filter. Be sure to align the arrows so the groves in filter align with ribs in filter cap. Insert the filter into the housing.
8. Twist the water filter and turn 90° clockwise until it locks into place and that arrows are aligned.
9. Push the water filter door closed.

Thermistor and Possible Frost Build-Up (Continued)

10. If you see frost build-up on the freezer drawer check for freezer door alignment. Also check the right side rail bracket assembly for the gap in the gears at the rear. If you do not see the Gap shown in replace it with the part number included in. After replacing the right side rail bracket re-check the door alignment to the cabinet. When the drawer is fully closed, the teeth on the gear are positioned in the void in the adapter, see . When the drawer is opened there is a slight delay before the gear teeth engage the teeth on the adapter. If the drawer is opened off center the left side of the drawer may engage before the right side giving the impression that drawer is loose or crooked.





Model	RH Side Adapter	Shim Bracket
WRF992FIF*	W10682494 Rev G	W10882906
WRF993FIF*	W10682494 Rev G	W10882906
WRF995FIF*	W10682494 Rev G	W10882906

NOTE: For models built prior to 2/28/2017 with frost in freezer. Replace the right side drawer rail bracket assembly with part number W10888665, right side adapter modified by removing teeth in rear, producing a better cabinet to door dimension leading to improved sealing.

Notes

PRODUCT SPECIFICATIONS &WARRANTY INFORMATION SOURCES

IN THE UNITED STATES:

FOR PRODUCT SPECIFICATIONS AND WARRANTY INFORMATION CALL:

FOR WHIRLPOOL PRODUCTS: 1-800-253-1301

FOR TECHNICAL ASSISTANCE WHILE AT THE CUSTOMER'S HOME CALL:

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

HAVE YOUR STORE NUMBER READY TO IDENTIFY YOU AS AN AUTHORIZED IN-HOME SERVICE PROFESSIONAL

FOR LITERATURE ORDERS (CUSTOMER EXPERIENCE CENTER):

PHONE: 1-800-851-4605

FOR TECHNICAL INFORMATION AND SERVICE POINTERS:

www.servicematters.com

IN CANADA:

FOR PRODUCT SPECIFICATIONS AND WARRANTY INFORMATION CALL

1-800-461-5681

FOR TECHNICAL ASSISTANCE WHILE AT THE CUSTOMER'S HOME CALL:

THE TECHNICAL ASSISTANCE LINE: 1-800-488-4791

HAVE YOUR STORE NUMBER READY TO IDENTIFY YOU AS AN AUTHORIZED IN-HOME SERVICE PROFESSIONAL