



SERVICE MANUAL

Whirlpool®, Maytag®, Amana®, & IKEA®
Refrigerators



FORWARD

This Whirlpool Service Manual (Part No. W11296289), provides the In-Home Service Professional with service information for the "Whirlpool[®], Maytag[®], Amana[®], and IKEA[®] Refrigerators."

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 "Whirlpool[®], Maytag[®], Amana[®], and IKEA[®] Refrigerators."

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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Whirlpool®, Maytag®, Amana®, & IKEA® Refrigerators

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Section 1: General Information

This section provides general safety, parts, and information for the "Whirlpool[®], Maytag[®], Amana[®], and IKEA[®] Refrigerators."

- Refrigerator Safety
- Product Specifications
- Product Feature
 - Control Panel
- Model & Serial Label
 - Location
 - Model Nomenclature
- Tech Sheet Location

Refrigerator Safety

Your safety and the safety of others are very important.

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



This is the safety alert symbol.

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

All safety messages will follow the safety alert symbol and either the word "DANGER" or "WARNING."

These words mean:

⚠ DANGER

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

⚠ WARNING

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

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

IMPORTANT SAFETY INSTRUCTIONS

WARNING: To reduce the risk of fire, electric shock, or injury when using your refrigerator, follow these basic precautions:

- Plug into a grounded 3-prong outlet.
- Connect to a potable water supply only.
- Do not remove ground prong.
- Do not use an adapter.
- Do not use an extension cord.
- Disconnect power before servicing.
- Replace all parts and panels before operating.
- Remove doors from your old refrigerator.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory, or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.
- Remove doors from your old refrigerator.
- Use nonflammable cleaner.
- Keep flammable materials and vapors, such as gasoline, away from refrigerator.
- Use two or more people to move and install refrigerator.
- Disconnect power before installing ice maker (on ice-maker kit ready models only).
- Use a sturdy glass when dispensing ice (on some models).
- Do not hit the refrigerator glass doors (on some models).
- Children should be supervised to ensure that they do not play with the appliance.

SAVE THESE INSTRUCTIONS

Product Specifications

Amana® 36" Side by Side Refrigerator with Dual Pad External Ice and Water Dispenser

Storage Volume and Shelf Area	
Freezer Volume (Cu Ft)	9.11
Refrigerator Volume (Cu Ft)	55.45
Total Volume (Cu Ft)	64.5
Dimensions	
Capacity (FT3, Cu Ft)	64.57
Cabinet Width (IN, inches)	35 1/8
Cabinet Depth (IN, inches)	22 1/8
Cabinet Height (IN, inches)	68 1/8
Cabinet Width (IN, inches)	36
Depth Closed Excluding Handles (IN, inches)	35 1/8
Depth Closed Including Handles (IN, inches)	34 1/8
Depth Excluding Doors (IN, inches)	28
Depth With Door Open 90 Degree (IN, inches)	45 1/8
Depth (IN, inches)	34 1/8
Height to Top of Cabinet (IN, inches)	68 1/8
Height to Top of Door Hinge (IN, inches)	68 1/8
Height (IN, inches)	69 1/8
Width (IN, inches)	35 1/8
Dispenser	
Type of Refrigerator	Side by Side
Details	
Advance Foam Insulation	Yes
Cooling Type	Single Evaporator
Exterior	
Base Grille Color	Black/White
Cabinet Color	Black/White
Cabinet Finish	Textured
Door Color	Black/Stainless Steel/White
Door Finish	Smooth
Door Style	Contour
Door Swing	Yes
Handle Color	Black/Stainless Steel/White
Handle Material	Metal
Handle Type	Reach Through Handle
Hidden Hinge	Yes
Number of Doors	2
Levels	3 Black
Wheels	4-Natural

GENERAL INFORMATION

General	
Automatic Defrost	Yes
Location of Controls	Exterior Dispenser
Temperature Range	-3/-5 F/-23/-43 C
Type of Control	Electronic Touch
Water Filter Indicator/Reset	Yes
Connected Appliances	No
Refrigerator Compartment	
Number of Interior Shelves	4
Conventional Shelves	1 Fixed Full-Width Glass 3 Adjustable Full-Width Glass
Spill-Proof Glass Shelves	No
Shelf Supports	Molded
Humidity-Controlled Drawers	1 Full-Width
Non-Climate Control Drawers	1 Full-Width
Temperature-Controlled Drawers	No
Door Bins	1 Bairy 1 Fixed Full-Width 3 Adjustable Gallon
Supplementary Containers	No
Lighting	Incandescent
Inner Finish	White Opalesc
Freezer Compartment	
Door Type	Swing
Shelves	3 Fixed Full-Width Wire
Freezer Number of Shelves	3
Freezer Drawer/Basket	1 Full-Width Lower Flexpo
Door Bins	1 Fixed Partial 3 Fixed Full-Width
Light	Incandescent
Dispenser	
Dispenser Type	Exterior Ice and Water
Dispenser Options	Filtered Water Measured/Metered Fill
Types of Ice	Crushed/Cubed
Dispenser Pad Color	Black
Ice Maker	
Ice Maker	Factory Installed
Ice Maker Location	Freezer
Electrical	
Amper	7.3
Hz	60
Volts	115

Whirlpool® 36" Wide Side by Side Refrigerator - 25 Cu Ft

Capacity and Shelf Area	
Freezer Volume (Cu Ft)	9.11
Refrigerator Volume (Cu Ft)	13.46
Total Volume (Cu Ft)	24.6
Dimensions	
Capacity (FT3, Cu Ft)	24.37
Cabinet Width (IN, inches)	35 ⁷ / ₈
Depth Closed Excluding Handles (IN, inches)	30 ¹ / ₂
Depth Closed Including Handles (IN, inches)	33 ¹ / ₂
Depth Excluding Doors (IN, inches)	28
Depth With Door Open 90 Degree (IN, inches)	45 ⁵ / ₈
Depth (IN, inches)	33 ¹ / ₂
Height to Top of Cabinet (IN, inches)	68 ¹ / ₂
Height to Top of Door Hinge (IN, inches)	68 ¹ / ₂
Height (IN, inches)	69 ¹ / ₈
Width (IN, inches)	35 ⁷ / ₈
Description	
Type of Refrigerator	Side by Side
Details	
Advance Foam Insulation	NA
Cooling Type	Single Evaporator
Exterior	
Base Grille Color	White/Black/Grey/Black
Cabinet Color	White/Black/Grey/Black
Cabinet Finish	Textured
Door Color	White/Black/Stainless Steel/Sunset Bronze/Fingerprint Resistant Stainless Steel/Black
Door Finish	Smooth
Door Style	Contour
Door Swing	NA
Handle Color	White/Black/Stainless Steel/Black/Fingerprint Resistant Stainless Steel
Handle Material	Stainless Steel
Handle Type	Reach Through Handle
Hidden Hinge	Yes
Number of Doors	2
Controls	
Automatic Defrost	Yes
Location of Controls	Interior Up Front/Interior/Exterior Dispenser
Type of Control	Electronic Touch/Tap Touch
Water Filter Indicator/Reset	Yes
Connected Appliances	No

GENERAL INFORMATION

Refrigerator Compartment	
Number of Interior Shelves	4
Conventional Shelves	1 Fixed Full-Width Glass 3 Adjustable Full-Width Glass
Shelf Supports	Molded
Humidity-Controlled Drawers	1 Full-Width
Non-Climate Control Drawers	1 Full-Width
Temperature-Controlled Drawers	No
Door Bins	1 Dairy 1 Fixed Full-Width 3 Adjustable Gallon
Supplementary Containers	No/Can Caddy Bin Utility Compartment
Lighting	LED
Freezer Compartment	
Door Type	Swing
Shelves	1 Fixed Full-Width Plastic 4 Fixed Full-Width Wire or 3 Fixed Full-Width Glass
Freezer Number of Shelves	3 or 4 or 5
Freezer Drawer/Basket	1 Full-Width Liner/Elastic
Door Bins	4 Fixed Full-Width or 1 Fixed Partial 3 Fixed Full-Width
Light	LED
Dispenser	
Dispenser Type	No Dispenser/Exterior Ice and Water
Dispenser Options	Filtered Water Ice Dispenser Lock Night Light
Types of Ice	Crushed/Cubed
Ice Maker	
Ice Maker	Optional/Factory Installed
Ice Maker Kit Part Number	ECCMPSS
Ice Maker Location	Freezer
Electrical	
Hz	60

Whirlpool® 33" Wide Side by Side Refrigerator - 22 Cu Ft

APAM Volumes and Shelf Area	
Freezer Volume (Cu Ft)	7.07
Refrigerator Volume (Cu Ft)	14.85
Total Volume (Cu Ft)	21.9
Dimensions	
Capacity (F73, Cu Ft)	21.72
Cabinet Width (IN, inches)	32 ¹ / ₄
Depth Closed Excluding Handles (IN, inches)	31 ¹ / ₄
Depth Closed Including Handles (IN, inches)	35 ¹ / ₄
Depth Excluding Doors (IN, inches)	28
Depth With Door Open 90 Degree (IN, inches)	48 ¹ / ₄
Depth (IN, inches)	35 ¹ / ₄
Height to Top of Cabinet (IN, inches)	65 ¹ / ₄
Height to Top of Door Hinge (IN, inches)	65 ¹ / ₄
Height (IN, inches)	65 ¹ / ₄
Width (IN, inches)	32 ¹ / ₄
Configuration	
Type of Refrigerator	Side by Side
Details	
Advance Foam Insulation	NA
Cooling Type	Single Evaporator
Features	
Base Grille Color	White/Black/Grey
Cabinet Color	White/Black/Grey
Cabinet Finish	Textured
Door Color	White/Black/Stainless Steel
Door Finish	Smooth
Door Style	Contour
Door Swing	NA
Handle Color	White/Black/Stainless Steel
Handle Material	Metal
Handle Type	Reach Through Handle
Hidden Hinge	Yes
Number of Doors	2
Controls	
Automatic Defrost	Yes
Location of Controls	Interior
Type of Control	Electronic Touch
Connected Appliances	No

GENERAL INFORMATION

Refrigerator Compartment	
Number of Interior Shelves	2
Conventional Shelves	1 Fixed Full-Width Glass 3 Adjustable Full-Width Glass
Shelf Supports	Molded
Humidity-Controlled Drawers	1 Full-Width
Non-Climate Control Drawers	1 Full-Width
Temperature-Controlled Drawers	No
Door Bins	1 Dairy 1 Fixed Full-Width 3 Adjustable Gallon
Supplementary Containers	No
Lighting	LED
Linear Finish	White Opaque
Freezer Compartment	
Door Type	Swing
Shelves	4 Fixed Full-Width Wire
Freezer Number of Shelves	4
Freezer Drawer/Basket	1 Full-Width Cover Plastic
Door Bins	4 Fixed Full-Width
Light	LED
Dispenser	
Dispenser Type	No Dispenser
Ice Maker	
Ice Maker	Optional
Ice Maker Location	Freezer
Ice Maker Kit Part Number	ECIMFSS
Electrical	
Amps	7.2
Hz	60
Volts	110

Whirlpool® 33" Wide Side by Side Refrigerator - 21 Cu Ft

AHAM Volumes and Shelf Area	
Freezer Volume (Cu Ft)	8.77
Refrigerator Volume (Cu Ft)	14.63
Total Volume (Cu Ft)	21.4
Dimensions	
Capacity (FRT, Cu Ft)	21.4
Cabinet Width (IN, inches)	32 7/8
Depth Closed Excluding Handles (IN, inches)	31 1/8
Depth Closed Including Handles (IN, inches)	33 1/8
Depth Excluding Doors (IN, inches)	28
Depth With Door Open 90 Degree (IN, inches)	49 1/8
Depth (IN, inches)	33 1/8
Height to Top of Cabinet (IN, inches)	65 1/8
Height to Top of Door Hinge (IN, inches)	66 7/8
Height (IN, inches)	66 7/8
Width (IN, inches)	32 7/8
Description	
Type of Refrigerator	Side by Side
Details	
Advance Foam Insulation	NA
Cooling Type	Single Evaporator
Extras	
Base Grille Color	White/Black/Grey/Black
Cabinet Color	White/Black/Grey/Black
Cabinet Finish	Textured/Smooth
Door Color	White/Black/Stainless Steel/Fingerprint Resistant Stainless Steel/Black
Door Finish	Smooth
Door Style	Contour
Door Swing	NA
Handle Color	White/Black/Stainless Steel/Smooth/Print Resist Stainless Steel
Handle Type	Reach Through Handle
Hidden Hinge	Yes
Number of Doors	2
Controls	
Automatic Defrost	Yes
Location of Controls	Exterior Dispenser/Interior Ice Froze
Temperature Range	31-45-FC 53/45-FC
Type of Control	Electronic Touch
Water Filter Indication/Filter	Yes
Connected Appliances	No

GENERAL INFORMATION

Refrigerator Compartment	
Number of Interior Shelves	4
Conventional Shelves	1 Fixed Full-Width Glass 3 Adjustable Full-Width Glass
Shelf Supports	Molded
Humidity-Controlled Drawers	1 Full-Width
Non-Climatic Control Drawers	1 Full-Width
Temperature-Controlled Drawers	No
Door Bins	1 Dairy 1 Fixed Full-Width 3 Adjustable Gallon
Supplementary Containers	No Can Caddy Bin Linley Compartment
Lighting	LED
Freezer Compartment	
Door Type	Swing
Shelves	3 Adjustable Full-Width Glass or 3 Fixed Full-Width Wire
Freezer Number of Shelves	3
Freezer Drawer/Basket	1 Full-Width Lower Plastic
Door Bins	3 Fixed Full-Width
Light	LED
Dispenser	
Dispenser Type	Exterior Ice and Water
Dispenser Options	Filtered Water/Ice Dispenser Lock Measured/Measured Fill Night Lights
Types of Ice	Crushed/Cubed
Ice Maker	
Ice Maker	Factory Installed
Ice Maker Location	Freezer
Weight	
kg	60

Product Features

CONTROL PANEL



Refrigerator Control:

- Press Refrigerator Temp to view the current set point for the refrigerator.
- Press Refrigerator Temp again to adjust the set point. The setting will increase by 1 bar with each press of the button, returning to 1 bar after reaching 5 bar.
After 2 minutes of inactivity, any changes will be saved and the display will return to the home screen.

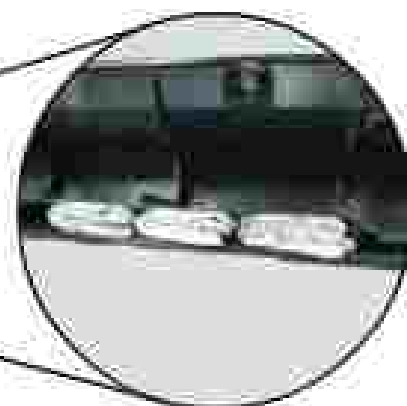
Freezer Control:

- Press Freezer Temp to view the current set point for the freezer.
- Press Freezer Temp again to adjust the set point. The setting will increase by 1 bar with each press of the button, returning to 1 bar after reaching 5 bar.
After 2 minutes of inactivity, any changes will be saved and the display will return to the home screen.

Model & Serial Number Location



Tech Sheet Location



Model Nomenclature

MODEL NUMBER

INTERNATIONAL SALES OR
MARKETING CHANNEL

W

R

S

3

1

S

S

N

H

B

Brand

W = Whirlpool

Platform

R = Freestanding Refrigeration

S = Specialty Refrigeration

U = Undercounter Refrigeration

Z = Freestanding Freezer

Sub Platform/Type

T = Top Freezer

S = Side by Side

B = Bottom Freezer

F = French Door

X = FD Double Drawer

M = All Freezer

V = Vertical Pantry

Series

1 = OPP

3 = Low Line

5 = Mid Line

7 = High (GOLD)

9 = Hero (GOLD)

Feature Level/Key Feature

Feature Level (0-6) OR Derivative (Top Mount)

Feature Level/Key Feature

0 = 10 OR 20 OR 30 Cu Ft

1 = 11 OR 21 Cu Ft

2 = 12 OR 22 Cu Ft

3 = 13 OR 23 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

C = Counter Depth

F = Flat

S = Smooth Contour

T = Textured

X = Light Texture, Contour

O = Overlay

K = Trim Kit

B = Beveled Edge

I = In-Door Ice

N = Non-Dispense

W = Internal Water

D = Dispense Ice & Water

S = Shaved Ice

C = Crushed Ice

F = Field Install Ice Maker, No Water

YEAR OF MARKET INTRODUCTION

F = 2016

G = 2017

H = 2018

J = 2019

COLOR

W = White

T = Boique/Blocuit

B = Black

S = Black On Stainless

Section 2: Diagnostics

This section provides diagnostic mode and sales mode information for the Whirlpool®, Maytag®, Amana®, and IKEA® Refrigerators.

- Safety
- Diagnostic Mode
- Sales Mode

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 ground connection point or unpainted metal in the appliance.

—OR—

Touch your finger repeatedly to a ground connection point or unpainted metal in the appliance.

- Before removing the part from its package, touch the antistatic bag to a 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

Diagnostics Mode

Service Information

1. Compressor suction and process studs may not be interchangeable.
2. Refrigerant charge must be applied to high side only.
3. Ice maker and water valve not original equipment on all models.
4. NOTE: ice maker cycle must be initiated electrically. Do not try to manually start the cycle.
5. Part number can be found on the component.

*Normal operating conditions are elevated when the air and temperature controls are at the mid-setting freezer section B to +5°F and unit is cycling.

NOTE: Watt and pressure readings will vary and are influenced by the existing condition of the appliance such as the load-up evaporator, condition of the condenser, defrost cycle, pull-down time and customer use.

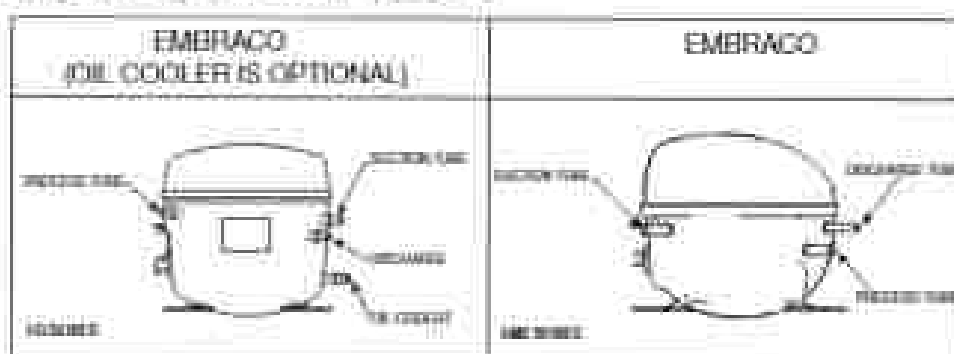
Serviceable Electrical Parts Matrix (Components By Cu Ft Size)					
Serviceable Parts	21 Cu Ft	22 Cu Ft	25 Cu Ft	Wattage	Resistance (Ω)
	115 - 127 VAC				
Compressor	EQX60HLC			100	
	W11045554				
Run Windings	-				1 - 5
Start Device, Overload	See Note				
Run Capacitor (If Equipped)	See Note				
Electric Air Baffle Assembly	See Note			12 V DC	
Thermistor	See Note				2.7 kΩ at 25°C
User Interface Control	See Note				
Main Control	See Note				
Defrost Heater	See Note			550 - 650	
Evaporator Fan Motor	See Note			2 - 9	
Condenser Fan Motor	See Note			3 - 12	

Serviceable Electrical Parts Matrix					
Serviceable Parts	EQX60HLC	WATTAGE: 115 - 127 VAC	EM2Y60HLP	WATTAGE: 115 - 127 VAC	Resistance (Ω)
Compressor	W11045554	100	W11181083	100	
Run Windings	-		-		1 - 5
Start Device, Overload	See Note		See Note		
Run Capacitor (If Equipped)	See Note		See Note		
Electric Air Baffle Assembly	See Note	12 V DC	See Note	12 V DC	
Thermistor	See Note		See Note		2.7 kΩ at 25°C
User Interface Control	See Note		See Note		
Main Control	See Note		See Note		
Defrost Heater	See Note	550 - 650	See Note	550 - 650	
Evaporator Fan Motor	See Note	2 - 9	See Note	2 - 9	
Condenser Fan Motor	See Note	3 - 12	See Note	3 - 12	

For Service Technician Use Only

Performance Data * (Normal Operating Conditions)			
Amb	Watts	System Pressure (PSIG)	
		High Side	Low Side
EG Series			
70°	140 +/- 20	95 +/- 20	-1 To 3
30°	150 +/- 20	135 +/- 20	-4 To 3
110°	170 +/- 20	185 +/- 20	-2 To 4
EMS Series			
70°	120 +/- 20	110 +/- 20	-8 To 3
30°	130 +/- 20	160 +/- 20	-4 To 3
110°	140 +/- 20	220 +/- 20	-2 To 4

Compressor Options - Refer To Applicable Design
(Oil cooler not present on all compressors)



Service Key Assignment



During the first five minutes after a power on, put setting temperature at the minimum position for both RC and FC.

Afterward, hold "FREEZER TEMP" and "ICE TYPE" keys for 3 seconds to enter service mode.

After entering service mode, all LEDs will turn on to verify all LEDs can turn on.

To proceed to service steps, a user shall press all 5 keys individually from left to right to turn off all LEDs and validate touch function.

NOTE: For smooth operation of user interface key activation, wait at least 1 second between each press, to let the system toggle between service steps.

KEYS	DESCRIPTION
SW2 = Light Key	Increment Key: Advance to next step
SW4 = Lock Key	Decrement Key: Go back to the previous step
SW5 = RC Temp Key	Change Setting Key: Turn ON/OFF load, PAUSE/RUN specific test

NOTE: For ID model with twist tray ice maker, upon entry into service, an ice maker is enabled and a homing operation is performed, this is to avoid of any other load interference when SANYO IM is performing the Homing operation.

The LEDs on the FREEZER TEMP section will show the step number while the LEDs above REFRIGERATION TEMP section will show the feedback. Steps 29 to 35 apply only for models with twist tray maker in the door (ID).

For Service Technician Use Only

Step	Step Code	Component	Action	Feedback
1	LED1 LED2 LED3 LED4 LED5	FC Sensor	Entry: Display step number & start sensor check. Do: Read the current temperature of the FC thermistor and compare the value. Exit: Stop sensor readings.	Open sensor display: LED6 LED7 LED8 LED9 LED10 Short sensor display: LED4 LED7 LED8 LED9 LED10 Pass test display: LED6 LED7 LED8 LED9 LED10 Sensor status blank until gets a valid reading. LED6 LED7 LED8 LED9 LED10
2	OFF	NONE	OFF	OFF
3	LED1 LED2 LED3 LED4 LED5	FC Sensor Step Code	Entry: Display step number & start sensor check. Do: Read the current temperature of the FC thermistor and compare the value. Exit: Stop sensor readings.	Open sensor display: LED6 LED7 LED8 LED9 LED10 Short sensor display: LED4 LED7 LED8 LED9 LED10 Pass test display: LED6 LED7 LED8 LED9 LED10 Sensor status blank until gets a valid reading. LED6 LED7 LED8 LED9 LED10
4	OFF	NONE	OFF	OFF
5	LED1 LED2 LED3 LED4 LED5	Defrost Sensor	Entry: Display step number & start sensor check. Do: Read the current temperature of the Defrost thermistor and compare the value. Exit: Stop sensor readings.	Open sensor display: LED6 LED7 LED8 LED9 LED10 Short sensor display: LED4 LED7 LED8 LED9 LED10 Pass test display: LED6 LED7 LED8 LED9 LED10 Sensor status blank until gets a valid reading. LED6 LED7 LED8 LED9 LED10
6	OFF	NONE	OFF	OFF
7	LED1 LED2 LED3 LED4 LED5	Compressor & Cond Fan	Entry: Display step number & turn ON the Cond fan. Do: Service user to monitor load. Exit: Load off.	N/A
8	OFF	NONE	OFF	OFF

For Service Technician Use Only

Step	Step Code	Component	Action	Feedback
9	LED1 LED2 LED3 LED4 LED5	Damper Open	Entry: Display step number & open damper. Do: Service user to monitor the damper position. Exit: Damper closed.	N/A
10	OFF	Damper close	OFF	OFF
11	LED1 LED2 LED3 LED4 LED5	Damper heater ON	Entry: Display step number & turn on damper heater. Do: Service user to monitor the damper heater. Exit: Load off.	N/A
12	OFF	NONE	OFF	OFF
13	LED1 LED2 LED3 LED4 LED5	Defrost Heater ON	Entry: Display step number & turn on the heater. Do: Service user to monitor the load. Exit: Load off.	N/A
14	OFF	NONE	OFF	OFF
15	LED1 LED2 LED3 LED4 LED5	Evaporator Fan ON	Entry: Display step number & turn on the EAFP fan. Do: Service user to monitor the load. Exit: Load off.	N/A
16	OFF	NONE	OFF	OFF
17	LED1 LED2 LED3 LED4 LED5	Dispenser light ON	Entry: Display step number & turn on the dispenser lights. Do: Service user to monitor the load. Exit: Load off.	N/A
18	OFF	NONE	OFF	OFF
19	LED1 LED2 LED3 LED4 LED5	Water Dispenser Valve	Entry: Display step number. Do: Press the water paddle to activate valve and monitor load. Exit: Load off.	NOTE: Water valve will remain on after paddle release, to exit press key SW2 (Light)
20	OFF	NONE	OFF	OFF
21	LED1 LED2 LED3 LED4 LED5	RC door switch input	Entry: Display step number. Do: Lights will have to be verified on the product. Exit: N/A.	Door Open: Internal RC lights ON. Door Closed: Internal RC lights OFF.
22	OFF	NONE	OFF	OFF
23	LED1 LED2 LED3 LED4 LED5	FC door switch input	Entry: Display step number. Do: Lights will have to be verified on the product. Exit: N/A.	Door Open: Internal FC lights ON. Door Closed: Internal FC lights OFF.
24	OFF	NONE	OFF	OFF
25	LED1 LED2 LED3 LED4 LED5	Ice Paddle	Entry: Display step number. Do: User to press ice paddle. Service user to monitor the display feedback. Exit: N/A.	Paddle Pressed: LED6 LED7 LED8 LED9 LED10 NOTE: If water is dispensed in this step.
26	OFF	NONE	OFF	OFF

For Service Technician Use Only

Step	Step Code	Component	Action	Feedback
27	☒ LED3 ☐ LED5 ☐ LED9 ☒ LED4 ☐ LED8	Water Paddle	Entry: Display step number. Do: User to press water paddle. Service user to monitor the display feedback. Exit: N/A.	Paddle Pressed: ☒ LED6 ☐ LED7 ☐ LED8 ☐ LED9 ☐ LED10 NOTE: No water is dispensed in this step.
28	OFF	NONE	OFF	OFF
29	☒ LED1 ☐ LED2 ☒ LED3 ☐ LED4 ☐ LED5	Ice harvest		IC Feedback Information 1. Blank = Unit/Get a valid reading ☐ LED6 ☐ LED7 ☐ LED8 ☐ LED9 ☐ LED10 2. IM harvest cycle is ON ☒ LED6 ☐ LED7 ☐ LED8 ☐ LED9 ☐ LED10 3. IM harvest cycle is OFF ☒ LED4 ☒ LED7 ☐ LED8 ☐ LED9 ☐ LED10 4. Ice bucket full detected ☒ LED4 ☒ LED7 ☒ LED8 ☐ LED9 ☐ LED10 5. Ice bucket not full ☒ LED6 ☒ LED7 ☒ LED8 ☒ LED9 ☐ LED10 6. Switch faulty or motor (Timeout = 20 seconds) ☒ LED6 ☒ LED7 ☒ LED8 ☒ LED9 ☒ LED10
30	OFF	NONE	OFF	OFF
31	☒ LED3 ☒ LED5 ☐ LED9 ☒ LED4 ☐ LED8	Ice-maker water fill test	Entry: Display step number. Upon entry to this step, there will be a 3 seconds delay and then the ice tray will be moved to the home position. Do: After the tray has reached home position, the "CHANGE SETTING KEY" will start an ice maker fill (only 100 ml +/- 10). Service user to monitor the display feedback. Exit: Clear feedback information. NOTE: At step entry, the water fill cycle default to OFF. Prior entry of this run step 29, make sure the ice tray is empty. Before proceeding with water fill, otherwise, double fill will occur. Make sure to proceed with step 29 after water fill test to leave tray empty when finishing service. Ice bucket must be in place to run this test.	IC Feedback Information 1. Configuration to start ☐ LED4 ☐ LED7 ☐ LED8 ☐ LED9 ☐ LED10 2. Ice tray moving to the home position ☒ LED6 ☐ LED7 ☐ LED8 ☐ LED9 ☐ LED10 3. Water fill OFF ☒ LED6 ☒ LED7 ☐ LED8 ☐ LED9 ☐ LED10 4. Water fill ON ☒ LED6 ☒ LED7 ☒ LED8 ☐ LED9 ☐ LED10
32	OFF	NONE	OFF	OFF

For Service Technician Use Only

Step	Step Code	Component	Action	Feedback
33	LED1 LED2 LED3 LED4 LED5	SANYO Ice maker - ice tray thermometer	Entry: Display step number. On: Read the current temperature of the ice maker tray thermometer and compare this value. This information shall be dynamically updated every second. Service user to monitor the display feedback. Exit: Clear feedback information. NOTE: For models without twist tray ice maker, the feedback will read as open.	Open sensor display LED6 LED7 LED8 LED9 LED10 Short sensor display LED6 LED7 LED8 LED9 LED10 Fast test display LED6 LED7 LED8 LED9 LED10 Sensor status blank until gets a valid reading: LED6 LED7 LED8 LED9 LED10
34	OFF	NONE	OFF	OFF
35	LED1 LED2 LED3 LED4 LED5	Service completed	Last step in service	N/A

Service Mode Steps For Athena Control

During the first 30 seconds after power up the product, press TEMP setting button, until it is located min position, then hold the refrigerator door switch to simulate the door is closed, and at the same time hold press refrigerator TEMP button for 3 seconds until the board enters service mode.

System Action

Into service state mode, all temperature LEDs turn on for and turn OFF after 10 seconds.

A user must use the SW1 button to advance steps into service mode. User shall wait 3 seconds between each keypress to allow the system stabilization.

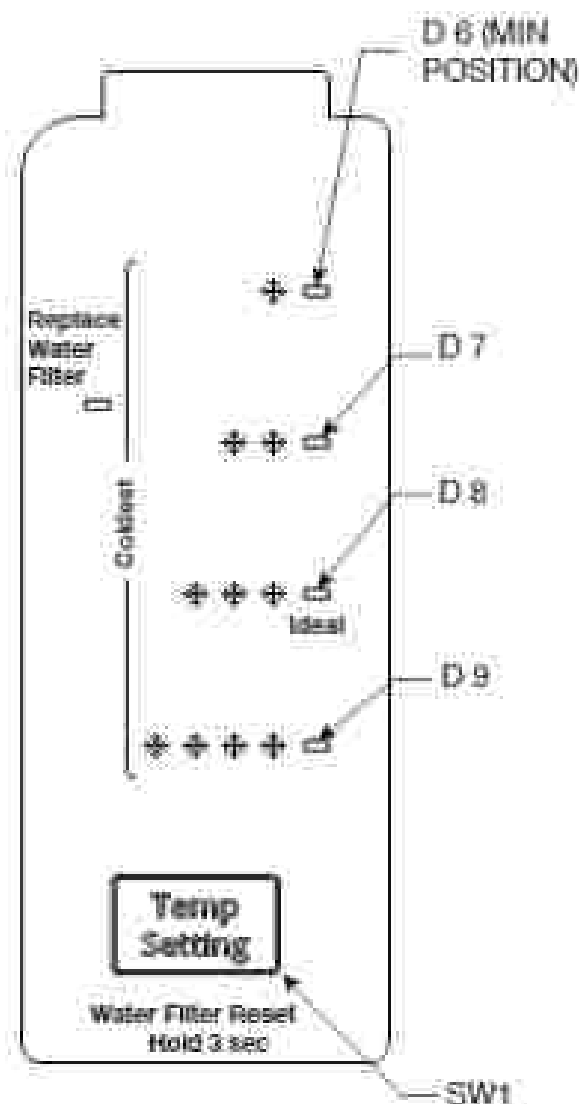
All sensors will be tested without required action from service personnel. This action is taken after the heater ON.

After last step press SW1 to exit service mode, user interface will reset to the last mode and start the power-up state.

Switch Press	Display Information				Load
	D 6	D 8	D 7	D 9	
0	□	□	□	□	Start condition
1	□	□	■	□	Compressor On
2	□	□	□	□	Compressor Off
3	□	■	□	□	Heater On
4	□	□	□	□	Heater Off
5	■	□	□	□	Not Used
6	□	□	□	□	Display Full Message
7	□	■	□	□	Return To Normal OP (Default To Med)

The full information is shown below with the LEDs turned ON, this will appear in step 5 from the above table.

NOTE: If step 6 shows all LEDs blank means that board drivers and sensors are working correctly.



For Service Technician Use Only

Display Fail Message State Table

Display Information				LEDs On (No Blinking) when Illuminated
D-3	D-8	D-7	D-6	
□	□	■	□	Main Board (Heater driver or compressor driver)
□	■	□	□	Refrigerator Sensor
■	□	□	□	Defrost Sensor
■	■	□	□	Refrigerator & Defrost Sensor
□	■	■	□	Main Board + Refrigerator Sensor
■	□	■	□	Main Board + Defrost Sensor
■	■	■	□	Multiple Failures (Sensors + Drivers)

For Display Model Only:

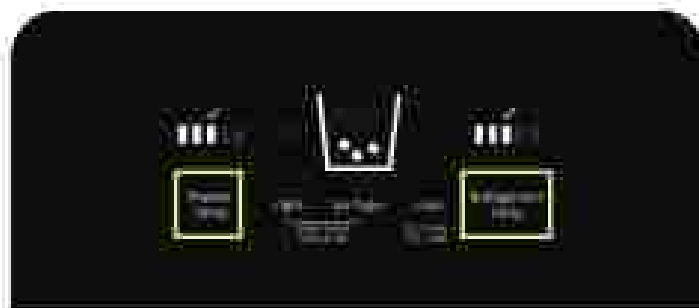
For water filter indicator reset LED test, press and hold TEMP button for 3 seconds until the water filter LED blinks to verify LED function.

For dispenser function, use the wiring diagram for reference to validate all connections and switch operation.

Sales Demo Mode

CUDA 17 ID1 & DPLUS

Water Filter Reset & Showroom Mode

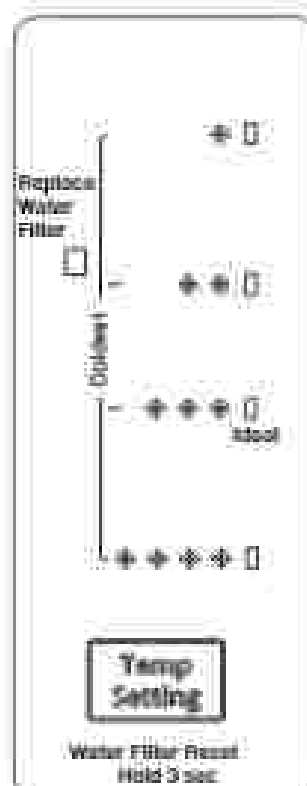


SHOWROOM Mode Use Case	System Feedback	Reference
To enter showroom mode: 1. Within 2 minutes after power-up, press and hold (FC & FC TEMP) keys for 5 seconds.	The system enters in Showroom mode. UI performs "showroom animation": • All five LEDs (FC & FC TEMP LEDs) turn on one by one from left to right and then right to left and keep cycling. (Cycling rate: 1 cycle per second). • Showroom mode does not activate sleep mode. • If there is no user action during 2 minutes of showroom mode, the animation will stop and then UI behaves (fake) as normal mode. • During the animation, if the user touches any key, the animation will stop and UI behaves as a fake normal mode. • During fake normal mode, after two minutes without user interaction, the animation will start again to indicate that UI is in showroom mode.	Fake normal mode is normal mode with all cooling loads off.
Press (FC TEMP SETTING or FC TEMP SETTING) key in the showroom mode.	The recommended temperature setting (i.e., colder) is on. Then UI behaves (fake) as normal mode if the user presses any key again, except that cooling stays off in showroom mode and no temperature setting is saved.	
Press (Udnt) key in showroom.	Behavior will be same as normal operation.	
Press (ICE TYPE) key in show room mode.	Ice-type LED changes between crush when the user presses the Ice Type key.	

For Service Technician Use Only

CUDA 17D lite & Non Disp

Water Filter Reset & Showroom Mode



Showroom Mode Use Case	System Feedback
To enter showroom mode 1. Within 3 minutes after power-up, toggle (TEMP SETTING) button till «HOLD» is on. 2. Hold DOOR SWITCH to simulate door close. 3. Press and hold (TEMP SETTING) for 3 seconds.	The system enters into Showroom mode. UI performs "showroom mode". • All four LEDs turns on one by one from top to bottom and then bottom to top and keep cycling (Cycling rate: 1 cycle per second).
Press (TEMP SETTING) button in showroom mode.	LEDs stop cycling. The recommended temperature setting (i.e. cooler) is on. Then UI behaves (fales) as normal mode if user presses (TEMP SETTING) button again, except that cooling stays off in the showroom mode and no temperature setting is saved.
User inactivity for 3 seconds	UI returns to "showroom animation".
To exit showroom mode 1. Toggle (TEMP SETTING) button till «HOLD» is on. 2. Hold DOOR SWITCH to simulate door close. 3. Press and hold (TEMP SETTING) for 3 seconds.	UI exits showroom mode and returns to normal mode with the default setting.
Power interval during showroom mode	UI returns to Normal mode after a power reset or power failure.

For Service Technician Use Only

Notes

For Service Technician Use Only

Notes

Section 3: Component Testing

This section provides the wiring diagram and component location for the Whirlpool®, Maytag®, Amana®, and IKEA® Refrigerators.

- 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.



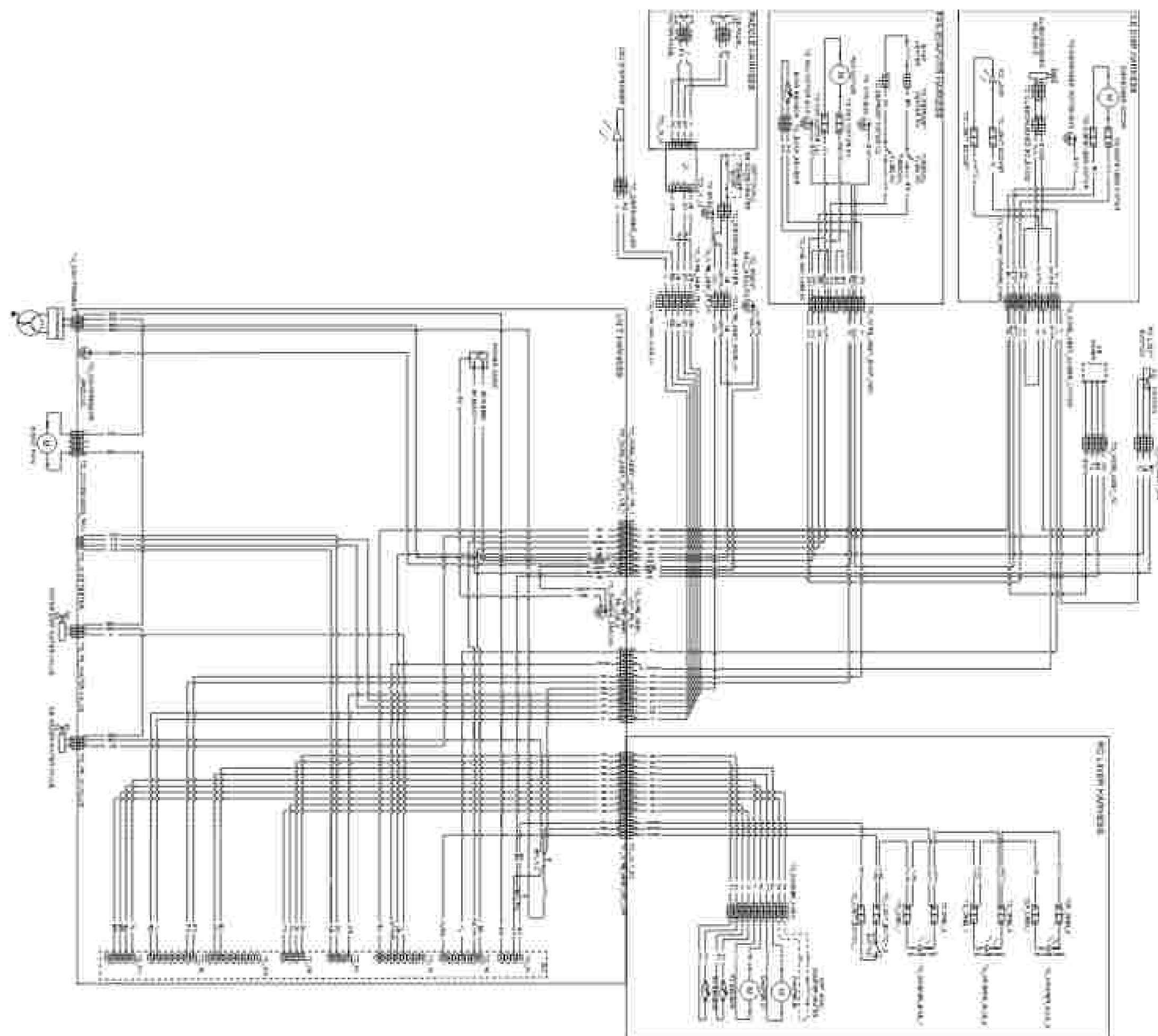
Touch your finger repeatedly to a green ground connection point or unpainted metal in the appliance.

- 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.

Wiring diagram A for models:

[illegible]Whirlpool®. Maytag®. Amana® & IKEA® Refrigeration. 33

Wiring diagram A

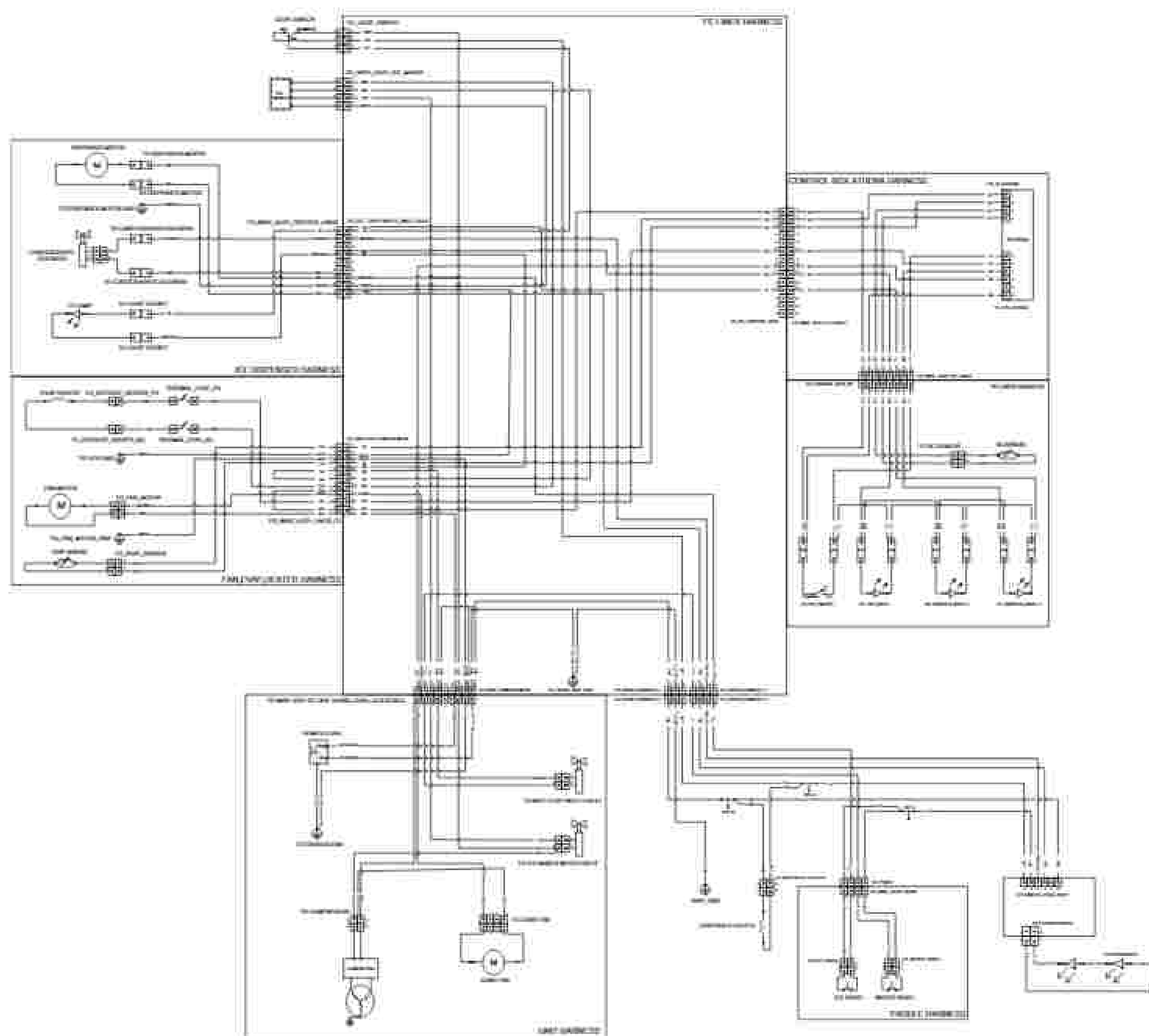


AS1Z5T5GFB AS1Z5T5GHB01 AS1Z5T5GRE AS1Z5T5GRS01 AS1Z5T5GRW AS1Z5T5GRW01 WRS3115SDHE WRS3115SDHB01
WRS3115SDHM WRS3115SDHM01 WRS3115SDHT WRS3115SDHT01 WRS3115SDHW WRS3115SDHW01 WRS3115SDHE WRS3115SDHB01
WRS3115SDHB01 WRS3115SDHM WRS3115SDHM01 WRS3115SDHM01 WRS3115SDHM02 WRS3115SDHT WRS3115SDHT01
WRS3115SDHT01 WRS3115SDHW WRS3115SDHW01 WRS3115SDHW01 WRS3115SDH2 WRS3115SDH200 WRS3115SDH201
WRS3115SDHE WRS3115SDHB01 WRS3115SDHM WRS3115SDHM01 WRS3115SDHM01 WRS3115SDHM01 WRS3115SDHT WRS3115SDHT01
WRS3115SDHW01 WRS3115SDHT WRS3115SDHT01 WRS3115SDH200 WRS3115SDH201 WRS3115SDH201 WRS3115SDHM

Whitlock¹, Murray², Adams², & IKEE³ Refrigeration 134

For Service Technician Use Only

Wiring diagram B

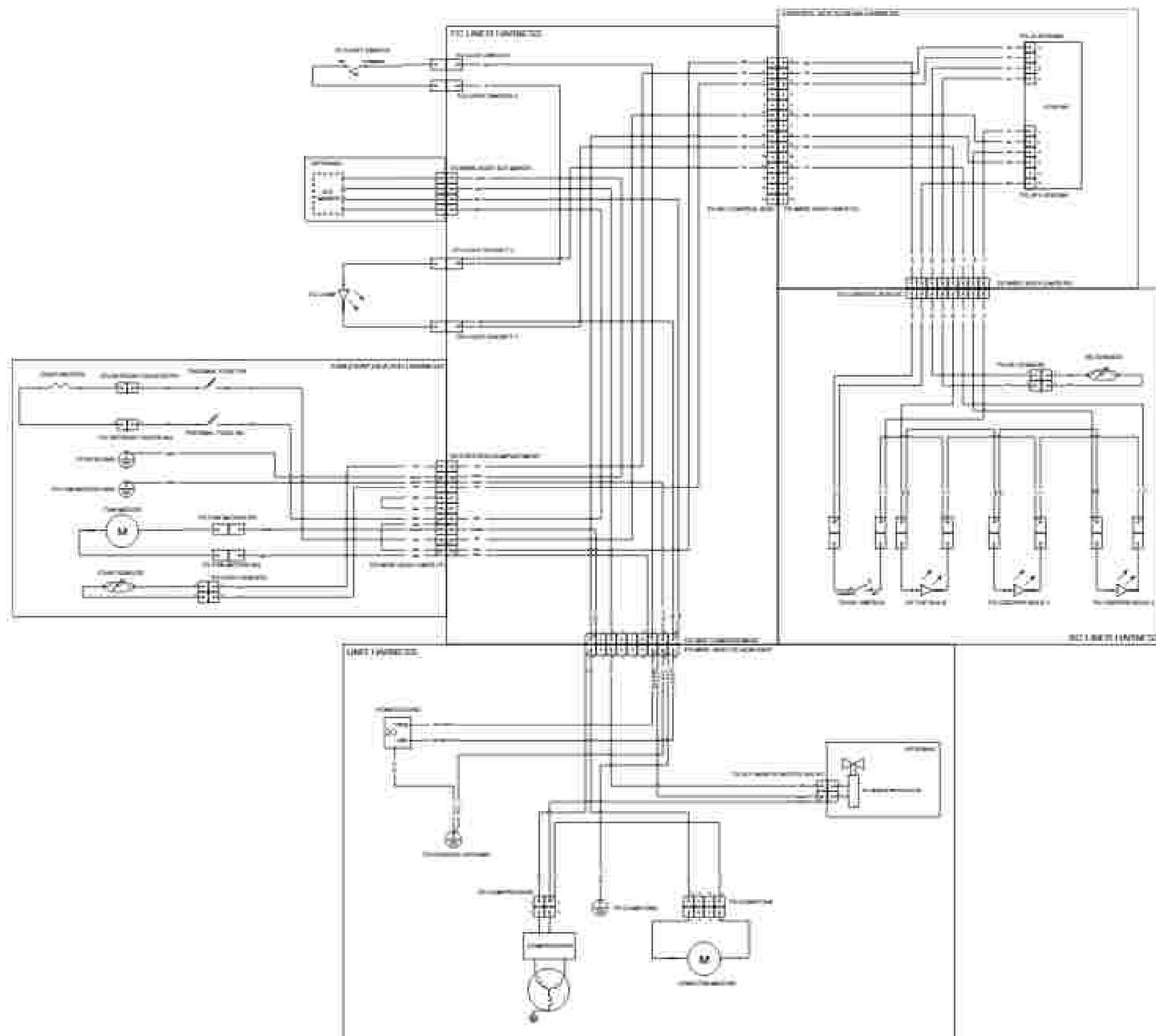


WFS3125NH01 WFS3125NH02 WFS3125NH WFS3125NH01 WFS3125NHM WFS3125NHM01 WFS3125NHM
WFS3125NHM01 WFS3125NHM WFS3125NHM01 WFS3125NHZ WFS3125NHZ01 WFS3125NHZ WFS3125NHZ00 WFS3125NHM
WFS3125NH00 WFS3125NHM01 WFS3125NHM WFS3125NH00 WFS3125NHZ WFS3125NH00 WFS3125NHM
WFS3125NH00 WFS3125NHM WFS3125NH00 WFS3125NHM WFS3125NH00 WFS3125NHZ WFS3125NH00

Whirlpool® 3-Door® 3-Drawer® & ICEA® Refrigerator ■ 3-2

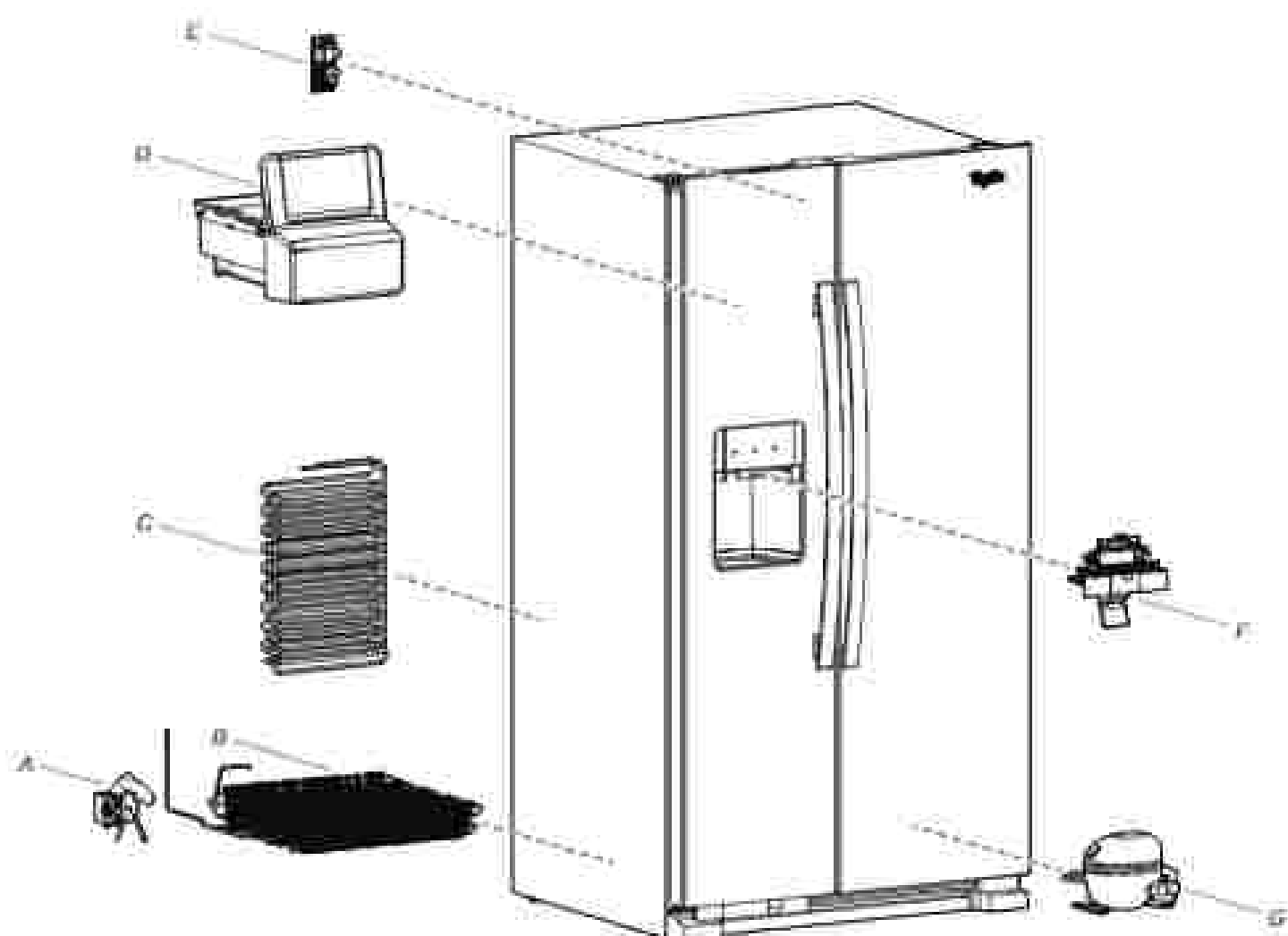
For Service Technician Use Only

Wiring diagram C



For Service Technician Use Only

Component Location



- A. Condenser Fan
- B. Condenser
- C. Freezer Evaporator
- D. Auger Ice Dispenser

- E. Control Board
- F. Front Door Dispenser Unit
- G. Compressor

For Service Technician Use Only
Notes

Section 4: Component Access

This section provides service parts access, removal, and replacement instructions for the "Whirlpool[®], Maytag[®], Amana[®], and IKEA[®] Refrigerators."

- Removing the front wheel
- Accessing the interior of the unit
- Removing the damper
- Removing the freezer shelf
- Removing the dispenser
- Accessing the freezer evaporator and components
- Accessing the dispenser area (removing UI)
- Accessing the machine compartment

Removing the Front Wheel

⚠ 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.

1. Below picture shows level screw location.



2. Below picture shows level screw.
A. Level screw



3. Below picture shows the clip and pin.
A. Clip and pin



4. Remove the leveling screw and pry up the clip and remove. Then remove the pin at this point you can remove the wheel assembly.



5. Below picture shows the wheel out of the unit.



Accessing Interior of Unit

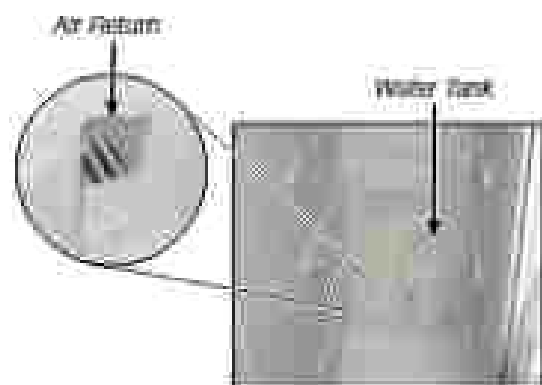
⚠ WARNING**Electrical Shock Hazard**

Disconnect power before servicing.
Replace all parts and panels before operating.
Failure to do so can result in death or electrical shock.

1. Below picture shows the interior of the unit.



2. There are some changes to the Cuda 17 compared to older Standard side by side refrigerator.
 - The return air was moved from the center of fresh food to lower left corner and it goes straight through.
 - The controls are all on the dispenser.



Removing the Damper

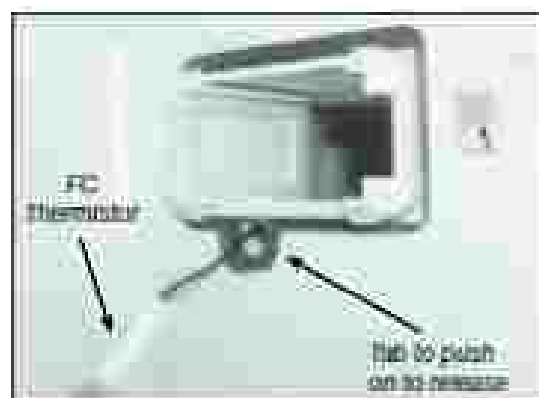
⚠ WARNING**Electrical Shock Hazard**

Disconnect power before servicing.
Replace all parts and panels before operating.
Failure to do so can result in death or electrical shock.

1. To remove damper completely first remove upper air duct in Freezer. You will have to remove M and bin. Then remove the screw at the top of the air duct and it will come off.

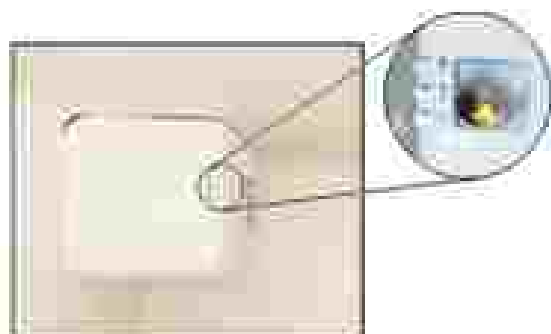


2. Once freezer cover gets off then push on the tabs in the air supply area and this will push the damper out.



COMPONENT ACCESS

3. Air damper is motor driven. To get to the damper first remove the screw in housing.



4. The cover will come off and then you can access the wiring harness.



5. The damper will come out. The damper has both PC and PC thermistor on the harness.



6. Below picture shows connections for fresh-food door.



Removing the Freezer Shelf

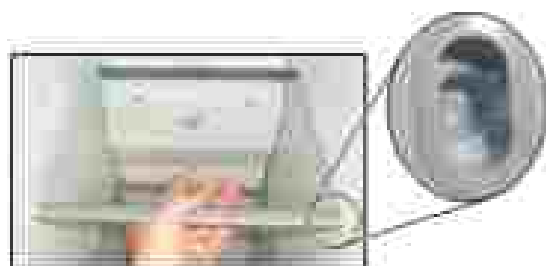
⚠ WARNING



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.

1. Pick up the right side of the shelf and slide to the right as you would normally do. The bar will go into the deep pocket of the shelf holder.



2. Now take a needle nose pliers or you can try your fingers and grab the bar on the LEFT and push the bar over to the right until the end is exposed. Do this for both front and back. **Note:** At this point, the shelf can be dropped down and removed. To put the shelf back in just reverse the process.



Accessing the Freezer Evaporator and 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.

1. After removing the shelves, remove the six 1/4" (6.4 mm) hex head screws. Lift up on the panel and pull forward to remove.



COMPONENT ACCESS

2. You will now have access to the Evaporator, Defrost heater, Defrost thermostat, Defrost drain pan, and Evaporator fan assembly.



3. Below picture shows freezer components. Defrost thermostat goes on the cap tube side.



4. The unit does have heat probe in defrost drain. This transfers the heat from the defrost heater to the drain to prevent ice build up and causing drain restrictions.
A. Heat Probe



5. Below picture shows auger motor and cube/crushed ice.
A. Auger Solenoid
B. Auger Drive Motor



Accessing the Dispenser Area (Removing UI)

⚠ 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.

1. Below picture shows the dispenser area.



2. Once sides are removed then use a screwdriver to push on all three tabs that are behind the UI to release it.

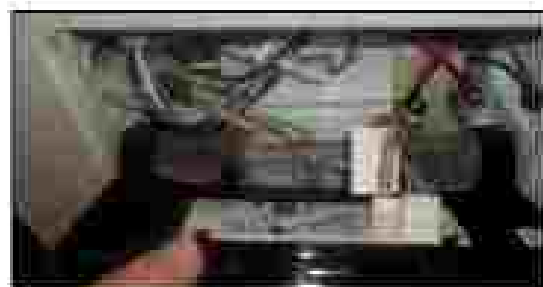


COMPONENT ACCESS

3. Remove the left side covers by removing screws to access the dispenser.



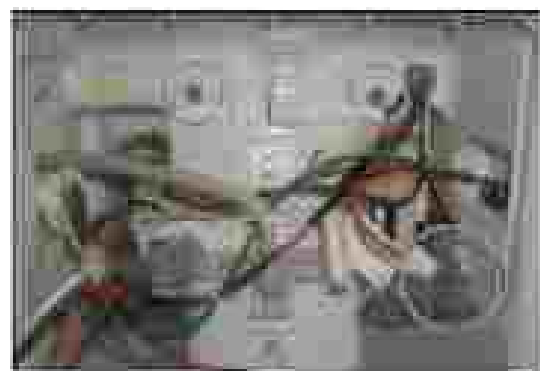
4. You now have access to the wiring for UL.



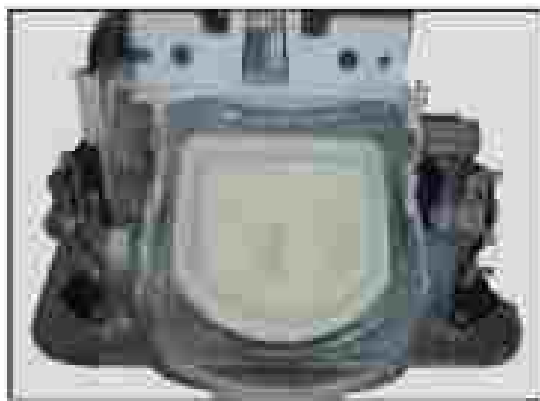
5. To remove the water line push the locking tab out. Do this from the bottom.



6. To remove ice door, remove water line for the holder. Remove the upper screws then pry tabs.



7. Below pictures show the ice chute assembly.



Accessing the Machine Compartment

⚠ WARNING



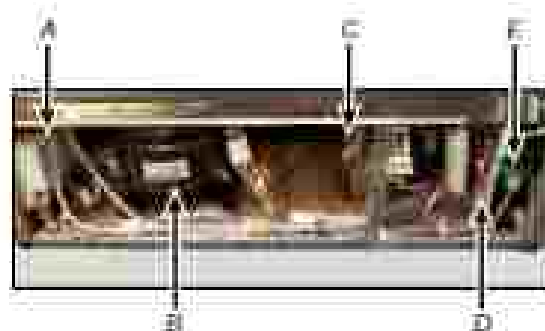
Electrical Shock Hazard
Disconnect power before servicing.
Replace all parts and panels before operating.
Failure to do so can result in death or electrical shock.

- Below picture shows the machine compartment. Remove screws from the back panel.



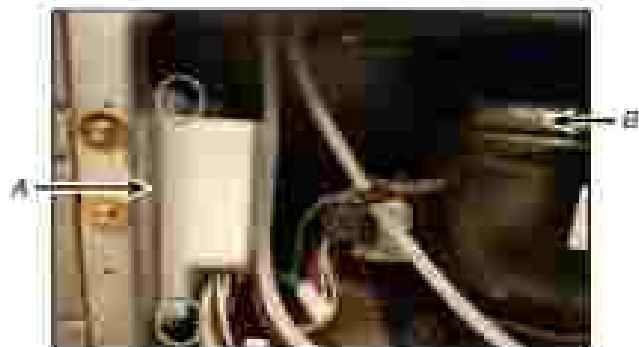
- You now have access to the following components:

A. Compressor Inverter
B. Compressor
C. Condenser Fan Motor
D. Filter Dryer
E. Dual Water Valve



- To remove the compressor inverter, remove the two 1/4" (5.4mm) hex head screws. Disconnect the wiring then pull the inverter out.

A. Compressor Inverter
B. Compressor

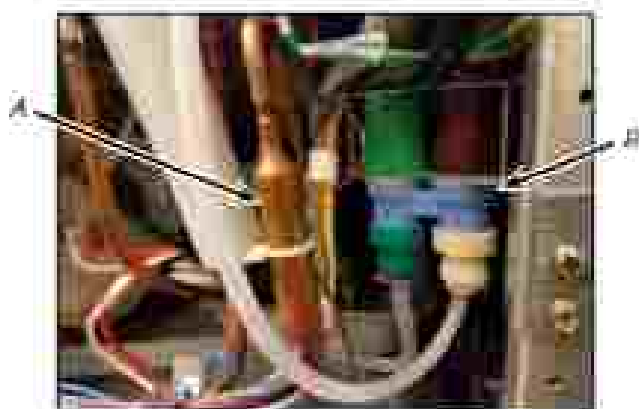


- To remove the condenser fan, remove the two 1/4" (5.4mm) hex head screws, disconnect the wiring and lift out.

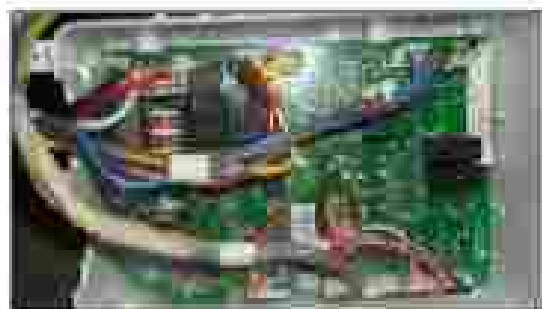


- To remove the Dual Water Valve, remove the two 1/4" (5.4mm) hex head screws, disconnect the wiring and water lines then lift out.

A. Filter Dryer
B. Dual Water Valve



6. Below picture shows high voltage board.



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

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