

KitchenAid

TECHNICAL EDUCATION

2007 DESIGN 15" & 18" AUTOMATIC ICE MAKERS



**KUIA15NRH*11
KUIA15PRL*11
KUIA15NLH*11
KUIA15PLL*11**



**KUIA18NNJ*11
KUIA18PNL*11**

Introductory Models

* Denotes Color Designation

JOB AID 4317408

FORWARD

This KitchenAid Job Aid “2007 Design 15" & 18" Automatic Ice Makers” (Part No. 4317408), provides the In-Home Service Professional with information on the installation, operation, and service of the 2007 Design 15" & 18" Automatic Ice Makers. For specific information on the model being serviced, refer to the “Use and Care Guide,” or “Tech Sheet” provided with the ice maker. The Wiring Diagram and Strip Circuits used in this Job Aid are typical and should be used for training purposes only. Always use the Wiring Diagram supplied with the product when servicing the ice maker.

GOALS AND OBJECTIVES

The goal of this Job Aid is to provide detailed information that will enable the In-Home Service Professional to properly diagnose malfunctions and repair the KitchenAid 2007 Design 15" & 18" Automatic Ice Makers.

The objectives of this Job Aid are to:

- Understand and follow proper safety precautions.
- Successfully troubleshoot and diagnose malfunctions.
- Successfully perform necessary repairs.
- Successfully return the ice maker to its proper operational status.

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

TABLE OF CONTENTS

Page

GENERAL	1-1
Ice Maker Safety	1-1
KitchenAid Model & Serial Number Designations	1-2
Model & Serial Number Label Location.....	1-3
Specifications	1-4
INSTALLATION INFORMATION	2-1
Electrical Supply Requirements	2-1
Water Supply And Drain Connections.....	2-2
THEORY OF OPERATION	3-1
Operating Systems.....	3-1
Operational Modes.....	3-5
Models With Internal Drain Pumps.....	3-8
COMPONENT ACCESS	4-1
Component Locations	4-1
Removing The Bin Thermistor, Cutter Grid, Evaporator Thermistor, & Water Distributor.....	4-2
Removing The Electronic Control Housing Components.....	4-5
Removing The Water Recirculation Pump	4-7
Removing The Reservoir Drain Pump & Water Level Sensor.....	4-8
Removing The Condenser Fan Motor.....	4-9
Removing The Evaporator	4-12
Removing The Measured Fill Water Valve	4-16
Removing The Hot Gas Valve & Solenoid	4-17
Removing The Condenser	4-18
Removing The Compressor	4-19
Removing The Internal Drain Pump.....	4-21
Removing The Ice Maker Door & Gasket (15" Models)	4-22
Removing The Ice Maker Door & Gasket (18" Models)	4-23
COMPONENT TESTING	5-1
Bin Thermistor.....	5-1
Evaporator Thermistor	5-1
Cutter Grid.....	5-2
Dual Transformer	5-2
Water Recirculation Pump	5-3
Reservoir Drain Pump.....	5-3
Water Level Sensor.....	5-4
Condenser Fan Motor	5-4
Measured Fill Water Valve	5-5
Hot Gas Valve Solenoid	5-5
Compressor, Overload Protector, & Relay	5-6

	Page
DIAGNOSTICS & TROUBLESHOOTING	6-1
Water And Its Effect On Making Ice	6-1
Troubleshooting Chart.....	6-2
Diagnostic Flow Chart For Ice Maker Control Board	6-5
WIRING DIAGRAM & STRIP CIRCUITS	7-1
Wiring Diagram	7-1
Strip Circuits.....	7-2
TECH TIPS	8-1
Cleaning The Ice Maker	8-1
Cleaning The Evaporator Plate	8-1

GENERAL ICE MAKER SAFETY

Your safety and the safety of others are very important.

We have provided many important safety messages in this manual and on the 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:

! WARNING

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

! DANGER

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.

KITCHENAID MODEL & SERIAL NUMBER DESIGNATIONS

MODEL NUMBER

MODEL NUMBER INTERNATIONAL SALES IND. OR MARKETING CHANNEL IF PRESENT	K	UI	A	15	NR	H	S	0
PRODUCT GROUP K = KITCHENAID								
PRODUCT IDENTIFICATION UI = UNDERCOUNTER ICE MAKER								
MERCHANDISING SCHEME A = ARCHITECT C = CULINARY & ARCHITECT II S = STANDARD O = OUTDOOR V = SIGNATURE SERIES								
CAPACITY / SIZE / SERIES / CONFIGURATION 15 = 15" WIDE 18 = 18" WIDE								
FEATURES PR = PUMP, RIGHT HAND DOOR SWING PL = PUMP, LEFT HAND DOOR SWING PN = PUMP, NON-REVERSIBLE DOOR SWING NR = NON-PUMP, RIGHT HAND DOOR SWING NL = NON-PUMP, LEFT HAND DOOR SWING NN = NON-PUMP, NON-REVERSIBLE DOOR SWING								
YEAR OF INTRODUCTION H = 1999, J = 2000, K = 2001, L = 2002, S = 2006, T = 2007								
COLOR CODE B = BLACK, W = WHITE, S = STAINLESS T = BISCUIT, M = METEORITE								
ENGINEERING CHANGE (NUMERIC)								

SERIAL NUMBER

SERIAL NUMBER	E	T	04	54321
DIVISION RESPONSIBILITY E = EVANSVILLE, IN				
YEAR OF PRODUCTION T = 2006, U = 2007				
WEEK OF PRODUCTION 04 = 4th WEEK				
PRODUCT SEQUENCE NUMBER				

MODEL & SERIAL NUMBER LABEL LOCATION

The Model/Serial Number label location is shown below.



SPECIFICATIONS

AC Power Supply97 to 127 VAC (rated 115VAC), 60 Hz
 Amperage 6.5 Amps (max)
 Minimum Circuit Capacity15 Amps
 Ice Production per 24 hours (Approximate)

Ambient Temperature	Water Temperature 60·F (15·C)
70·°F (21°C)	46 lbs (21 kg)
80·°F (27°C)	47 lbs (21 kg)
90·°F (32°C)	40 lbs (18 kg)
100·°F (38°C)	40 lbs (18 kg)
110·°F (43°C)	38 lbs (17 kg)

Ice Shape 3/4" x 3/4" Square
 Ice Thickness @ Normal Setting (Approximate)0.32" (8.1 mm)
 Ice Thickness @ Thin Setting (Approximate)0.28" (7.0 mm)
 Ice Thickness @ Thick Setting (Approximate)..... 0.39" (9.9 mm)
 15 Inch Storage Capacity (Approximate).....25 lbs. (11.3 kg)
 18 Inch Storage Capacity (Approximate).....35 lbs. (15.9 kg)
 Exterior Dimensions (W x D x H) . . . 15" or 18" x 24" x 34" (381 or 457.2 x 609.6 x 863.6 mm)
 Exterior Finish Stainless Steel or Painted Steel
 Net Weight. 15" = 94 lbs. (42.6 kg) 18" = 123 lbs. (55.8 kg)
 Cube Thickness Control Water Level Sensor & Control Board Setting
 Harvest ControlThermistor under Evaporator
 Bin Ice Level ControlThermistor on side of Bin
 Refrigerant. R134a
 Ambient Temperature 55 to 100·F
 Water Pressure 20 to 120 psig
 Water Consumption (Dependent On Water Pressure) 6 to 10 gallons per 4 hours

INSTALLATION INFORMATION

ELECTRICAL SUPPLY REQUIREMENTS

WARNING



Electrical Shock Hazard

Plug into a grounded 3 prong outlet.

Do not remove ground prong.

Do not use an adapter.

Do not use an extension cord.

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

Before you move the ice maker into its final location, it is important to make sure you have the proper electrical connection:

- A 115 Volt, 60 Hz, AC only 15- or 20-amp electrical supply, properly grounded in accordance with the National Electrical Code and local codes and ordinances, is required.
- It is recommended that a separate circuit, serving only the ice maker, be provided. Use a receptacle which cannot be turned off by a switch or pull chain.

IMPORTANT: If this product is connected to a GFCI (Ground Fault Circuit Interrupter) protected outlet, nuisance tripping of the power supply may occur, resulting in the loss of cooling. Ice quality may be affected. If nuisance tripping has occurred, and if the condition of the ice appears poor, dispose of it.

Recommended Grounding Method

For personal safety, this appliance must be grounded. This appliance is equipped with a power supply cord having a 3-prong grounding plug. To minimize possible shock hazard, the cord must be plugged into a mating, 3-prong, grounding-type wall receptacle, grounded in accordance with the National Electrical Code and local codes and ordinances. If a mating wall receptacle is not available, it is the personal responsibility of the customer to have a properly grounded, 3-prong wall receptacle installed by a qualified electrician.

WATER SUPPLY AND DRAIN CONNECTIONS

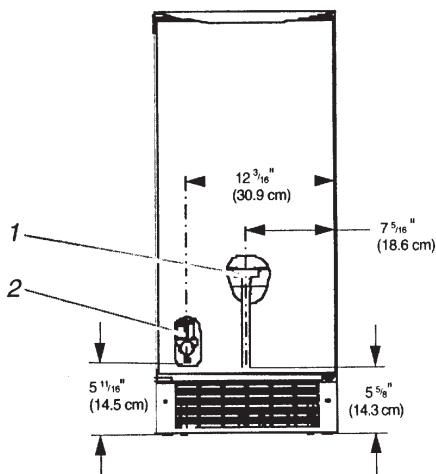
CONNECTING THE WATER LINE

1. Turn off the main water supply.
2. Turn on the nearest faucet and allow it to run long enough to clear line of water.
3. Find a 1/2" (12.70 mm) to 1-1/4" (3.18 cm) vertical cold water pipe near the ice maker.

NOTE: A horizontal pipe will work, but drill on the top side of the pipe, not the bottom. This will keep water away from the drill motor, and also keeps normal sediment from collecting in the valve.

4. Using a grounded drill, a 1/4" (6.35 mm) hole in the cold water pipe you have selected.
5. Fasten a shutoff valve to the cold water pipe with a pipe clamp. Make sure that the outlet end is firmly in the 1/4" (6.35 mm) drilled hole, and that the washer is under the pipe clamp.

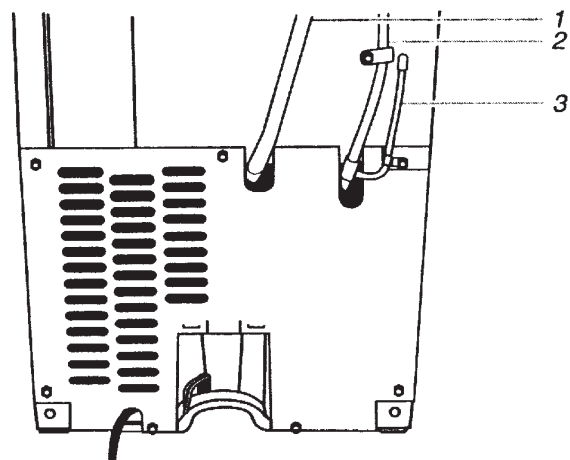
IMPORTANT: Do not use a piercing-type, or a 3/16" (4.76 mm) saddle-type valve. These can reduce water flow and easily become clogged.



1. Water Pan Drain
2. Water Valve

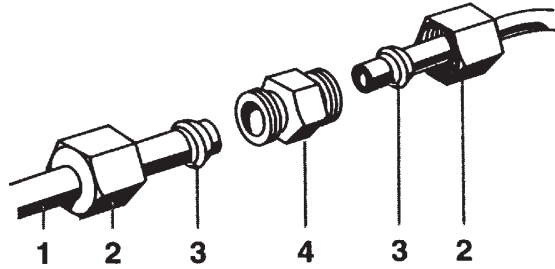
6. Tighten the packing nut.
7. Tighten the pipe clamp screws carefully and evenly so that the washer makes a watertight seal. Do not overtighten the pipe clamp. If the water line is soft copper tubing, you could crush it.

8. Use 1/4" (6.35 mm) O.D. copper tubing for the cold water supply and:
 - a) Measure from the connection at the back of the ice maker to the cold water pipe.
 - b) Add an extra 36" (91.4 cm) to ensure that you have the proper length. Make sure both ends of the copper tubing are cut square.
 - c) Slip a compression sleeve and compression nut over the ends of the copper tubing.
 - d) Insert the end of tubing into the water shutoff outlet as far as it will go, and screw the compression nut onto the outlet. Tighten the compression nut with an adjustable wrench, but do not overtighten it.
9. Place the free end of the copper tubing into a container or sink, and turn on the main water supply. Flush the tubing until water is clear, and then turn off the shutoff valve on the water pipe. **NOTE:** Always drain the water line before making the final connection to the inlet of the water valve to avoid a possible water valve malfunction.
10. Bend the copper tubing to meet the water line inlet, located on the back of the ice maker cabinet, as shown below.



1. Drain Hose (Drain Pump models only)
2. Vent Hose (Drain Pump models only)
3. Water Supply Line

- Thread the nut onto the coupling at the end of the copper tubing. Tighten the nut by hand. Then tighten it with a wrench two more turns. Do not overtighten.



- Line to ice maker
- Nut (purchased)
- Ferrule (purchased)
- Coupling (purchased)

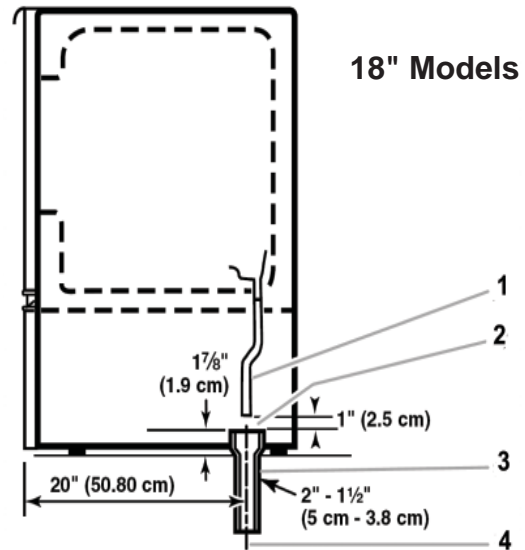
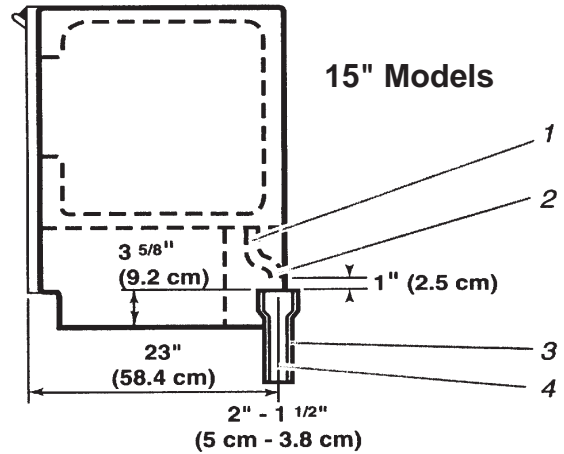
CONNECTING THE DRAIN

Gravity Drain System

Connect the ice maker drain to your drain in accordance with all state and local codes and ordinances. If the ice maker is provided with a gravity drain system, use the following guidelines when installing the drain lines. This will avoid water from flowing back into the ice maker storage bin and potentially flowing onto the floor, causing water damage.

- Drain lines must have a minimum of 5/8" (15.88 mm) inside diameter.
- Drain lines must have a 1" drop per 48" (2.54 cm drop per 122 cm) of run, or 1/4" drop per 12" (6.35 mm per 30.48 cm) and not have any low points where water can settle.
- The floor drains must be large enough to accommodate drainage from all drains.
- The ideal installation has a standpipe with a 1-1/2" (3.81 cm) to 2" (5.08 cm) PVC drain reducer installed directly below the outlet of the drain tube, as shown. You must maintain a 1" (2.54 cm) air gap between the drain hose and the standpipe.
- It may be desirable to insulate the drain line up to the drain inlet.

SIDE VIEW



- Drain Hose
- 1" (2.54 cm) Air Gap
- PVC Drain Reducer
- Center of drain should be 20" (50.8 cm) back on 15" models from front of door and 23" (58.4cm) back on 18" models from front of door, with or without the 3/4" (1.91 cm) panel on the door.

Drain Pump System (On Some Models)

Connect the ice maker drain to your drain in accordance with the International Plumbing Code and any local codes and ordinances.

NOTE: If the drain hose becomes twisted and water cannot drain, the ice maker will not operate.

Connecting the Drain

After ensuring that the drain system is adequate, follow these steps to properly place the ice maker:

⚠ WARNING



Electrical Shock Hazard

Plug into a grounded 3 prong outlet.

Do not remove ground prong.

Do not use an adapter.

Do not use an extension cord.

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

1. Plug in ice maker or reconnect power.

⚠ WARNING

Excessive Weight Hazard

Use two or more people to move and install ice maker.

Failure to do so can result in back or other injury.

2. **Style 1** - For gravity drain system, push the ice maker into position so that the ice maker drain tube is positioned over the PVC drain reducer. **Style 2** - For drain pump system connect the drain pump outlet hose to the drain. See “Drain Pump System” earlier in this section.
3. Recheck the ice maker to be sure that it is level.
4. If it is required by your local sanitation code, seal the cabinet to the floor with an approved caulking compound after all water and electrical connections have been made.

THEORY OF OPERATION

OPERATING SYSTEMS

There are three operating systems in the ice maker:

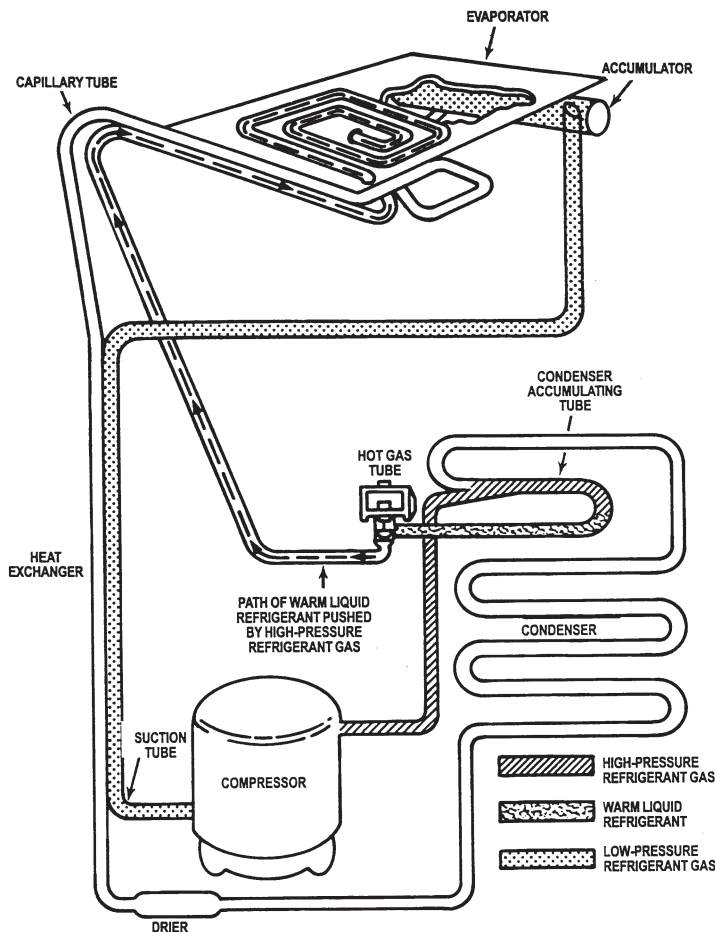
- Refrigeration System
- Water System
- Electrical System

REFRIGERATION SYSTEM

The refrigeration system in the ice maker is very similar to the system used in other refrigeration appliances. The refrigerant used in this unit is R134a.

There are two very important additions to the refrigeration system in the ice maker: the Hot Gas Valve, and the Condenser Accumulator Tube. The components operate as follows:

- Hot Gas Valve - Allows high pressure refrigerant gas to bypass the condenser and flow through the condenser accumulator tube.
- Condenser Accumulator Tube - Hot gas pushes liquid refrigerant through the accumulator tube into the evaporator, helping to evenly heat the evaporator plate so that the ice slab releases quickly and evenly.



WATER SYSTEM

The water system provides:

- Fresh water for ice production
- Water recirculation as ice is produced
- Water removal after ice is produced

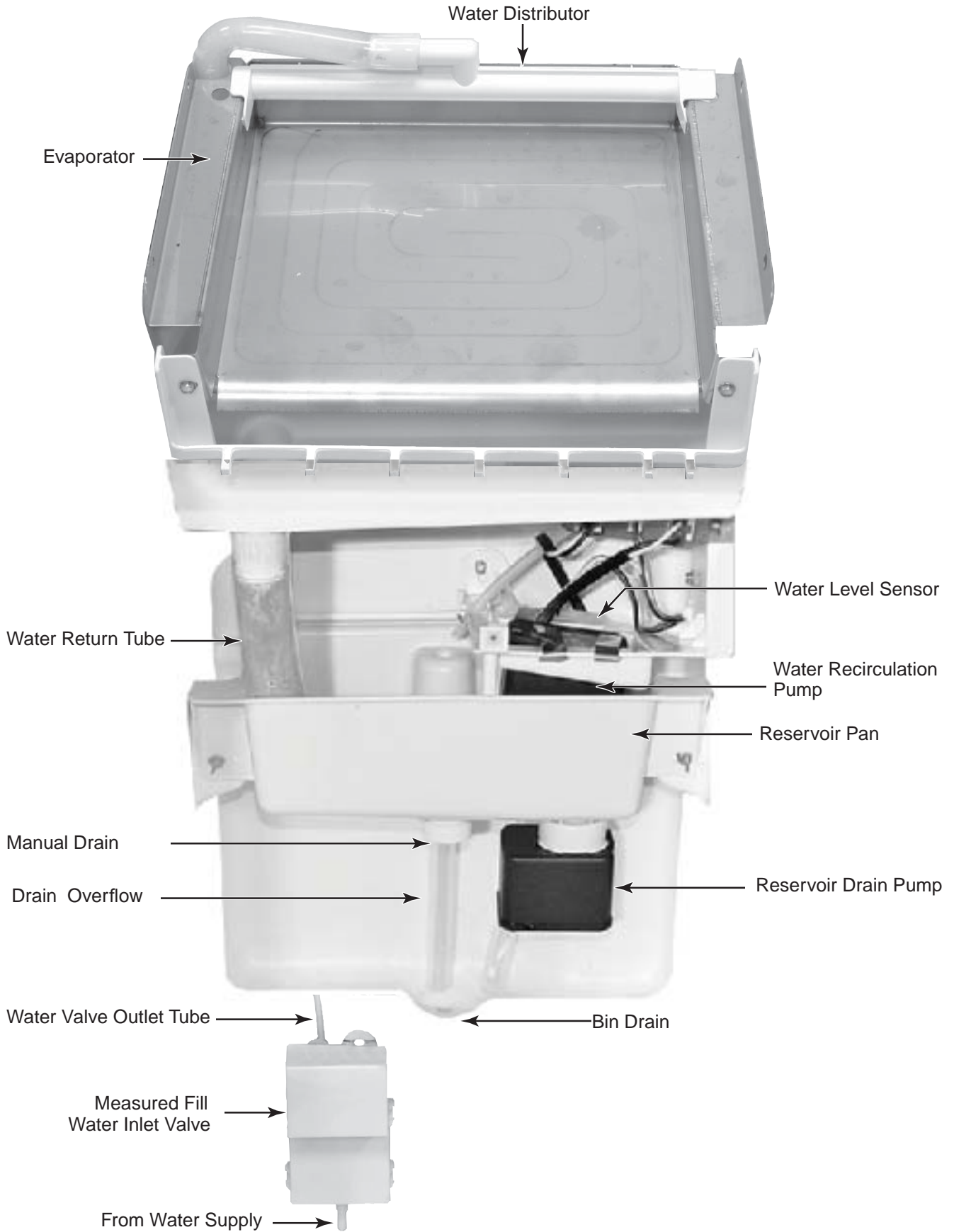
The water system circulates water to freeze into ice on the evaporator during the freeze cycle. During the harvest cycle, it drains away minerals and contaminants. During the clean cycle, cleaning solution is circulated to clean the system of minerals and contaminants.

The hardness of the water supplied to the ice maker will affect the quality of the ice that is produced. It may also affect the operation of the water system.

A water softener, or poly phosphate feeder, will not cure all of the problems associated with hard water, but they can be used to reduce scale buildup in the ice maker. **NOTE:** Some poly phosphate feeders will cause a slime buildup in the water system when the water supply has a low mineral content.

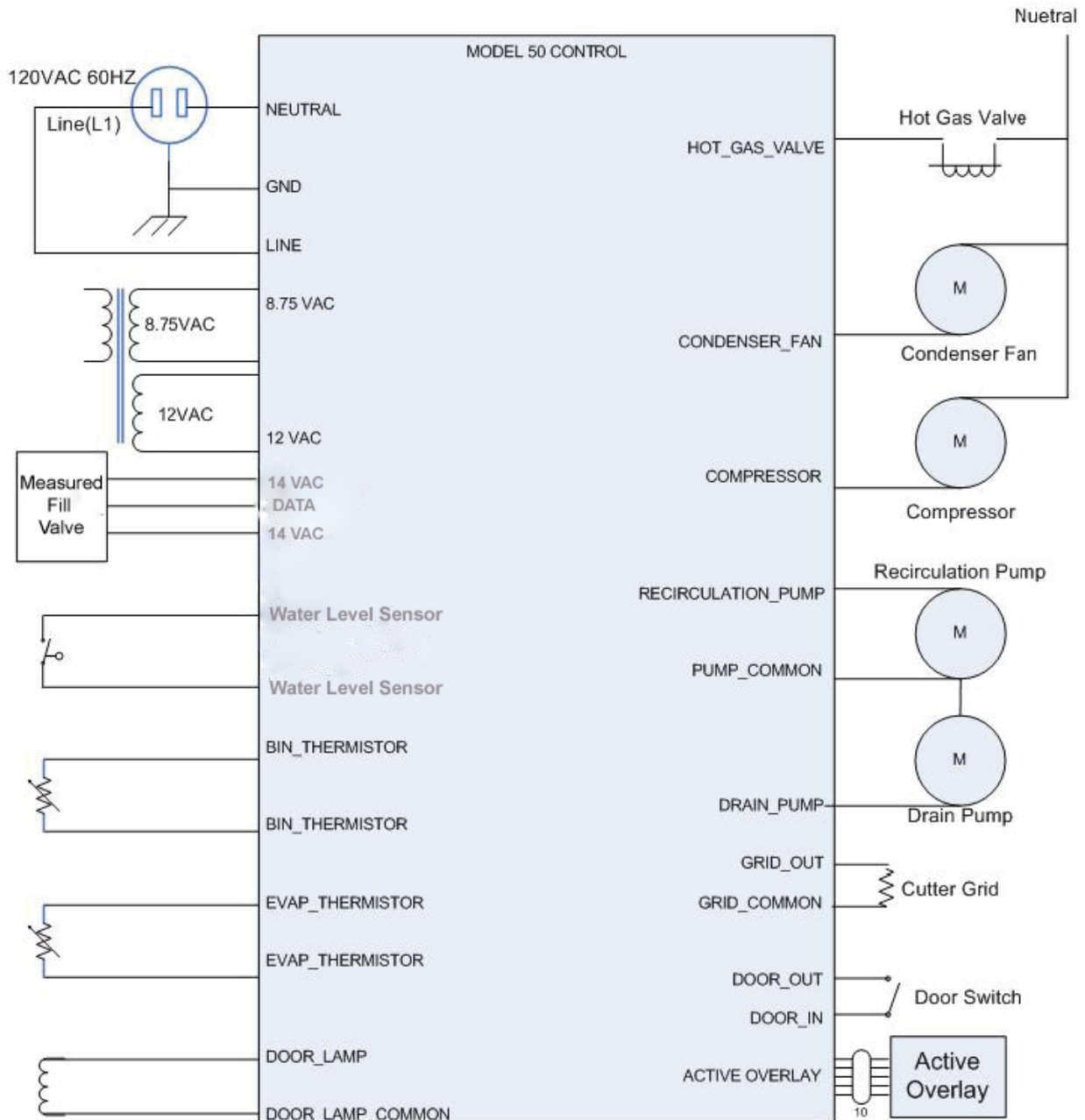
The ice maker's water system is shown on next page.

WATER SYSTEM COMPONENT LOCATIONS



ELECTRICAL SYSTEM

The ice maker's electrical system provides power for the refrigeration and water systems, and controls the operation of each component.



OPERATIONAL MODES

There are four main operational modes for the ice maker (more detailed operation is found in the flow chart on page 6-5):

- Freeze
- Harvest
- Clean
- Service (Diagnostics)

ICE MAKING CYCLE

In addition, there are three possible “Off” cycles for the ice maker. They occur when:

1. The bin is full of ice and the LED is illuminated “ON/OFF” (Idle mode).
2. The “On/OFF” control switch has been held for three seconds. The ON/OFF LED will go out.
3. The Holiday Mode.

Electrical System

Line Voltage is supplied to the electrical control switches and the primary side of the step-down dual transformer. The dual transformer reduces 120 VAC to 8.75 VAC for the cutter grid and the bin light and 12 VAC for the drain and recirculating pumps. The electronic control board directs 12 VAC to the water recirculating and reservoir drain pumps, and 120 VAC to the hot gas solenoid, condenser fan motor, and compressor. The measured fill water valve will always have 120 VAC on the BK and WH wires and 14 VDC on the OR/WH and BK/RD wires. An evaporator thermistor supplies temperature information to the electronic control to determine when to terminate the harvest cycle.

Refrigeration System

The hot gas refrigerant, under high pressure, is forced through the condenser, where it changes into a liquid, and flows through the drier and capillary tube into the evaporator. Under low pressure in the evaporator, the liquid refrigerant absorbs heat from the water flowing over the evaporator as the refrigerant evaporates into a gas. As a low pressure gas, the refrigerant flows back through the suction line of the heat exchanger, to the compressor.

During the Freeze mode, some of the hot gas that is in the condenser accumulating tube, condenses to a liquid, and remains in the accumulating tube.

During the later stages of the Freeze mode, as the ice slab forms on the evaporator freezing plate, some of the refrigerant passing through the evaporator will not evaporate into a gas, but will remain a liquid. This liquid refrigerant will settle in the accumulator, while the refrigerant vapor is sucked off through the suction tube at the top of the accumulator. This accumulated liquid refrigerant will eventually be directed to the evaporator to quickly warm the evaporator plate during the Harvest mode.

NOTE: It is very important that the accumulator is not tilted out of a horizontal position. If moved, it could cause compressor failure.

Water System

The water recirculating pump moves the water from the reservoir pan up to the distributor, where it flows out over the evaporator freezing plate.

Water that does not freeze on the evaporator plate runs off the front edge, and falls back into the reservoir, where it is recirculated back to the water distributor.

As the ice slab forms, the minerals in the water are on the surface of the ice. The water flowing over the top of the ice slab washes these minerals back into the water reservoir pan. The water continues to recirculate until the water level in the reservoir drops to the bottom of the water level sensor. When the water level in the reservoir drops below the sensor, the control terminates the freeze mode and initiates the harvest mode.

The control signals the measured fill valve to fill to the selected water level setting. The measured fill valve uses a flow meter to accurately fill to the correct volume. Thin Ice uses 32 ounces (954cc), Normal Ice 37 ounces (1106cc), and Thick Ice 42.5 ounces (1258cc).

HARVEST MODE

Electrical System

When the water level in the reservoir drops below the water level sensor it signals the electronic control to terminate power to the condenser fan, and then the water recirculating pump. The reservoir drain pump is activated to fully drain the reservoir. Power is then supplied to the hot gas valve and a fill request is sent to the measured fill valve. The fill valve fills to the requested volume while the hot gas valve is energized for the balance of the harvest mode.

If the evaporator thermistor is unplugged, the evaporator defaults to a timed 4 minute harvest.

If the water level sensor is disconnected or open, the control defaults to 25 minutes of freeze time. The cleaning indicator LED feature will not function if the water level sensor is disconnected.

Refrigeration System

The hot gas valve opens, allowing high pressure refrigerant gas to bypass the condenser, and flow through the condenser accumulating tube. The hot gas pushes the liquid refrigerant that has accumulated in the accumulator tube up into the evaporator. The hot liquid refrigerant evenly heats the evaporator plate so that the ice slab releases quickly and evenly.

The ice slab, when released, slides off of the evaporator plate onto the cutter grid.

Water System

The electronic control board sends a signal to the water valve. The signal tells the water valve how much water to be filled, allowing water to flow into the water reservoir pan. The water fill volume is determined by the ice thickness setting.

As a result of the hot gas flow and the ice sliding off the evaporator plate, the evaporator temperature begins to rise. When the evaporator thermistor reaches the set temperature (52°F), the unit switches to the Freeze mode. This cycling between Freeze and Harvest, continues until the ice bin is full.

The electronic control board operates the various components and systems in the ice maker for each of the Freeze and Harvest modes.

CLEAN MODE

Electrical System

The electronic control board operates the various components and systems during the Clean mode.

For the order of the components cycled, see the flow chart on page 6-13.

Water System

When the service control switch is in the “Clean” position, the water recirculating pump circulates the cleaning solution that has been added to the reservoir, up to the water distributor, across the evaporator, and back into the reservoir, where it is recirculated. The compressor and hot gas valve operate to heat the evaporator.

DIAGNOSTIC MODE

1. Do not continue with the diagnosis of the ice maker if a fuse is blown, a circuit breaker is tripped, or if there is less than a 120 volt power supply at the wall outlet.
2. All units that have failed during the first few days of use should be checked for loose connections or miswiring.

Entering and Navigating — Manual Diagnostics

- Turn the product on. Within 10 seconds of Power On, press and hold the On and the Clean buttons. Release both buttons when all user interface LEDs begin to flash.
- Within 5 seconds of all LEDs flashing, push any other button on the user interface. This begins manual diagnostics.
- If no button is pressed within 5 seconds, the product goes into the automatic diagnostic mode used at the assembly plant. Each component is cycled for 5 seconds.
- The Service button (or Off button on some models) is used to advance through each step.
- To exit manual diagnostics, press the Power button (or On button on some models)

Diagnostic Chart

After pressing any button to enter manual diagnostics all LEDs will illuminate for 5 seconds. The controls will then automatically move to the first component.

Order	Component	On/Off LED (On for some models)	Service LED (Off for some models)	Clean LED	Feature Light (for some models)
1	Entry into Test Mode	ON	ON	ON	ON
2	Bin Thermistor	ON Solid--OK 2 blinks--Open 4 blinks--Short	OFF	OFF	OFF
3	Evaporator Thermistor	OFF	OFF	ON Solid--OK 2 blinks--Open 4 blinks--Short	OFF
4a	Water Valve 4 min time out Service button press will advance to step 6	OFF	ON Solid--reservoir full Blinking--reservoir empty	ON	OFF
4b	Water Level Sensor	OFF	ON Solid--reservoir full Blinking--reservoir empty	ON	OFF
5	Recirculation Pump	ON	ON	ON	OFF
6	Reservoir Drain Pump	ON	OFF	OFF	OFF
7	Compressor and Condenser Fan Motor	ON Solid while cooling	Blinking when evap thermistor reaches 4.5°F; full frost pattern should be visible	ON	OFF
8	Compressor and Hot Gas Valve	ON Solid while heating	ON Solid while heating Blinking when evap thermistor reaches 52°F	ON Solid while heating	OFF
9	Twice Ice	OFF	OFF	ON Solid--No delay Blinking--10 min delay between cycles Press Clean button to cycle between settings	OFF
10	Ice Thickness	OFF	2 Blinks--Thin 4 Blinks--Normal 6 Blinks--Thick Press Clean button to cycle between settings	OFF	OFF

ERROR DISPLAYS

These errors will occur at any time during normal operation if a thermistor fails.

2 Blinks — Service Light is blinking twice in repeating intervals – This signifies a bin thermistor failure. Check that the bin thermistor is plugged in to the control box. Check that the bin thermistor is not open or shorted. Replace the thermistor if it is open or shorted.

3 Blinks — Service Light is blinking three times in repeating intervals – This signifies a harvest failure. Check that the evaporator thermistor is connected to the sealed system tubing. If the thermistor is plugged in, ensure that it is fully connected to the control box. (The ice maker will operate on a timed cycle if the evaporator thermistor is unplugged.) Check the resistance of the thermistor. If the thermistor checks good, then look for a frost pattern on the evaporator plate. The unit may be low on refrigerant.

HOLIDAY MODE

The Holiday Mode feature is designed for the traveler or for those whose religious observances require turning off the lights and the ice maker. By selecting this feature, ice production and the interior lights will be disabled. Press and hold the Holiday Mode button to turn on the Holiday Mode feature. Press and hold the button again to turn off the feature.

The Holiday mode LED is lite constantly in this mode.

MODELS WITH INTERNAL DRAIN PUMPS

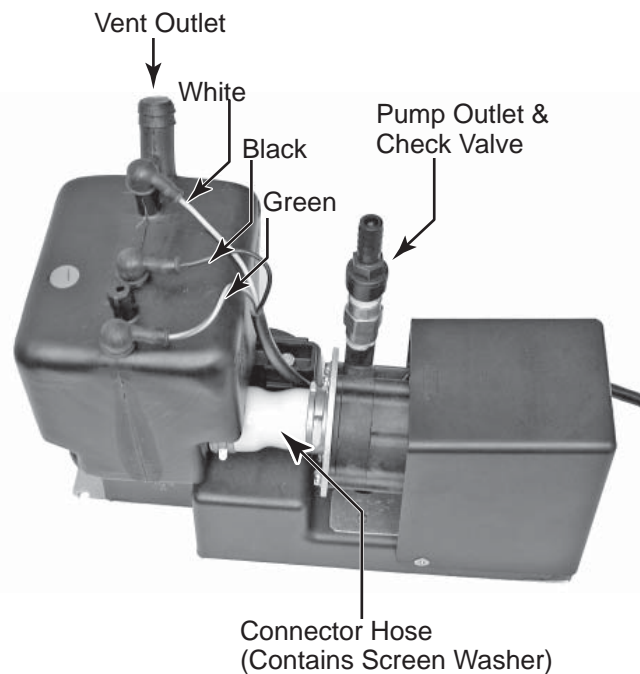
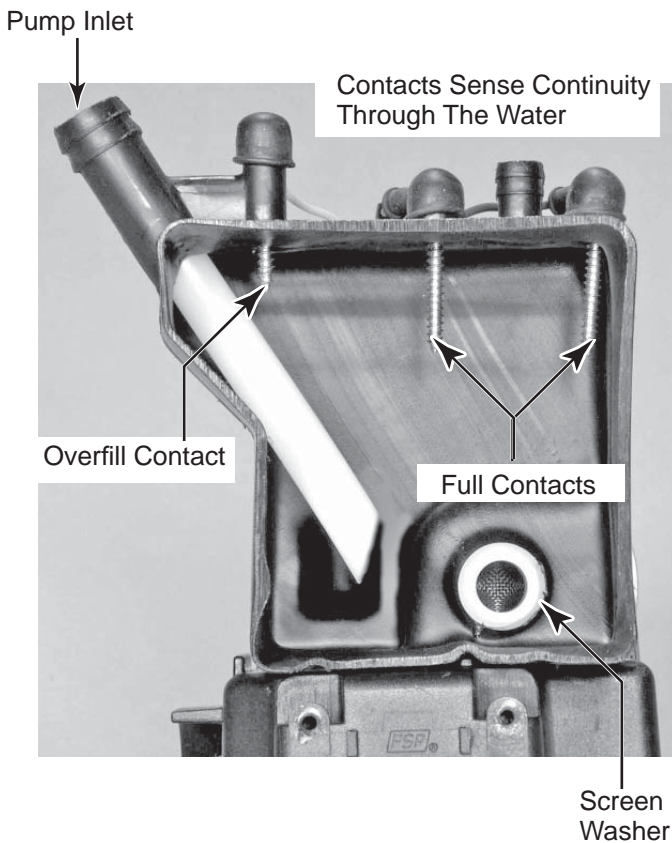
The power cord on the internal drain pump is connected to a 120 VAC wall outlet. The ice maker is then connected to the 120 VAC outlet on the drain pump. If the drain pump fails, or if the drain becomes blocked, power is shut off to the 120 VAC outlet on the drain pump.

When the unit is first plugged in, the drain pump will run for 20 seconds. The power can be disconnected and reconnected to verify that the pump is operating properly.

Water from the ice maker reservoir, or melting ice from the bin, drains down the bin drain tube

into the pump inlet, and then into the drain pump chamber. As the water level rises, it bridges the “full” contacts, and the pump starts to run. The pump discharges the water through the outlet and the check valve. When the “full” connection is removed, the pump runs for an additional 12 seconds to empty the tank.

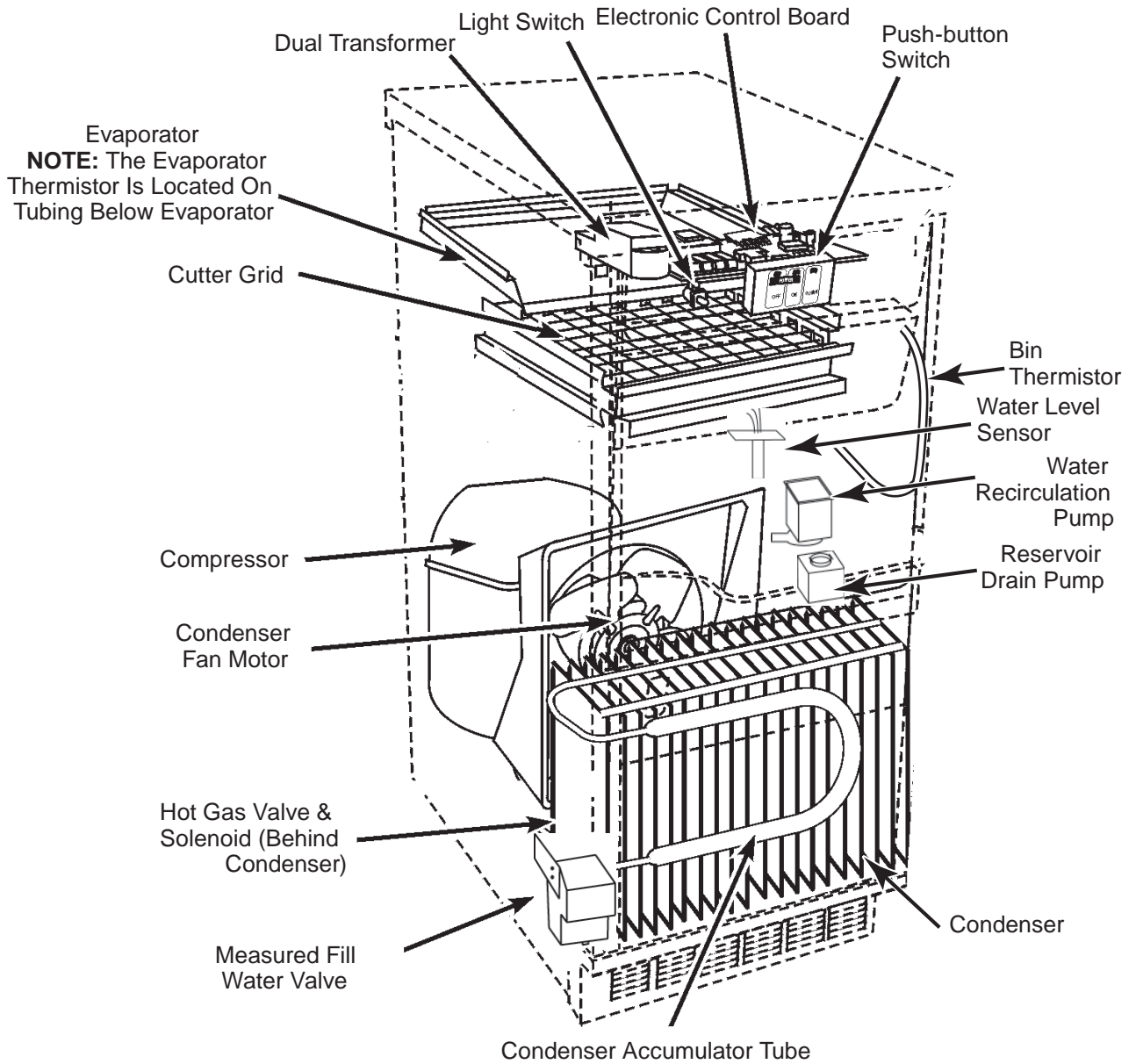
If the water level in the drain pump continues to rise, due to a slow or blocked drain, or a blocked vent hose, and touches the “overflow” contact, power will be turned off to the drain pump’s 120 VAC outlet, causing the ice maker to turn off.



COMPONENT ACCESS

This section instructs you on how to service each component inside the 2007 Design 15" & 18" Automatic Ice Makers. The components and their locations are shown below.

COMPONENT LOCATIONS



REMOVING THE BIN THERMISTOR, CUTTER GRID, EVAPORATOR THERMISTOR, & WATER DISTRIBUTOR

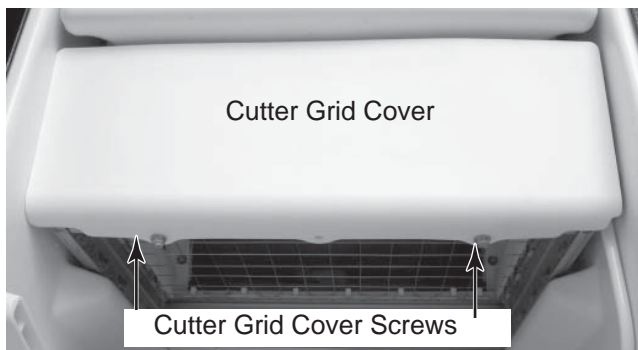
⚠️ WARNING



Electrical Shock Hazard

Plug into a grounded 3 prong outlet.
 Do not remove ground prong.
 Do not use an adapter.
 Do not use an extension cord.
 Failure to follow these instructions can result in death, fire, or electrical shock.

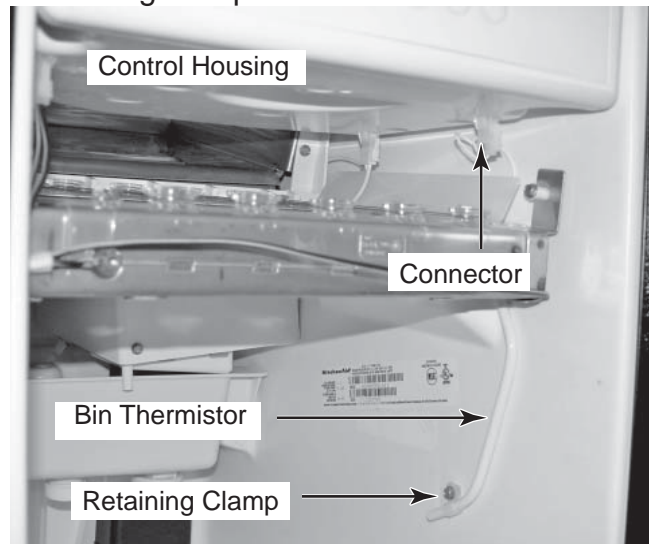
1. Unplug ice maker or disconnect power.
2. Open the ice maker door.
3. Cover or remove the ice from the storage bin.
4. Place a cloth in the drain hole to avoid hardware from falling inside.
5. Remove the two hex-head screws from the cutter grid cover and remove the cover.



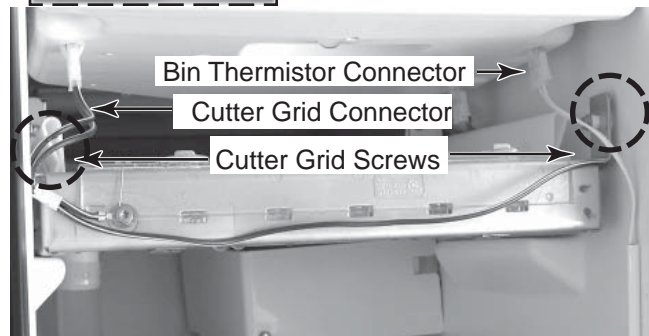
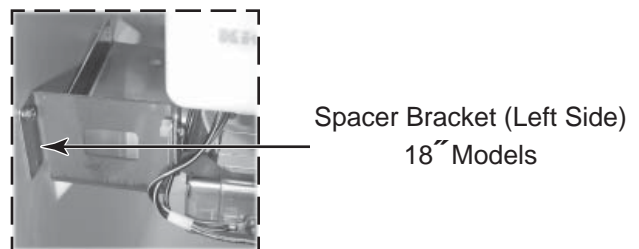
Cutter Grid Cover



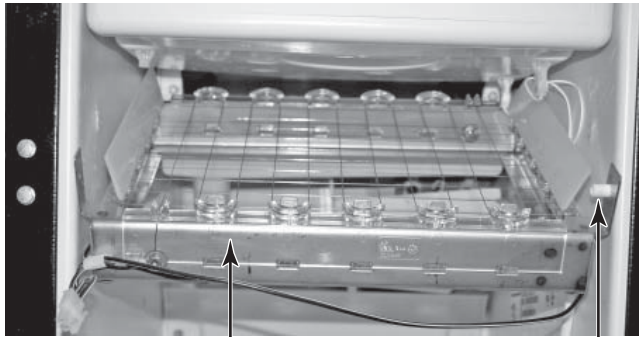
6. To remove the bin thermistor:
 - a) Disconnect the bin thermistor connector from the bottom of the control housing.
 - b) Pull the bin thermistor out of the retaining clamp and remove it.



7. To remove the cutter grid:
 - a) Disconnect the cutter grid and bin thermistor connectors from the bottom of the control housing.
 - b) Remove the two hex-head screws from both sides of the cutter grid. The longer screw and white spacer are on the right side.



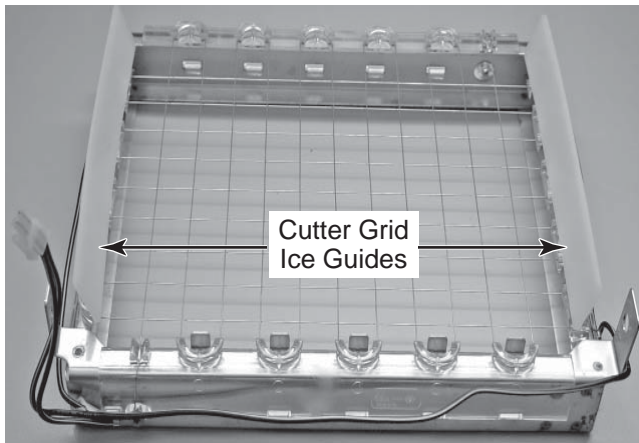
- c) Slide the cutter grid forward and out of the unit and place it on a work surface. Be careful not to scratch the ice maker liner.
- d) Remove the spacer from the right cutter grid bracket tab.



Cutter Grid

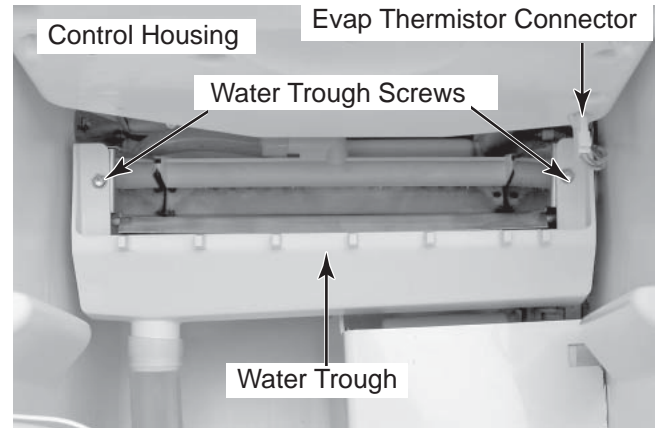
Spacer

- e) Unsnap the two ice guides from the cutter grid tabs. There should be a slight outward tilt after the guides are installed. Bend the metal tabs outward if necessary.

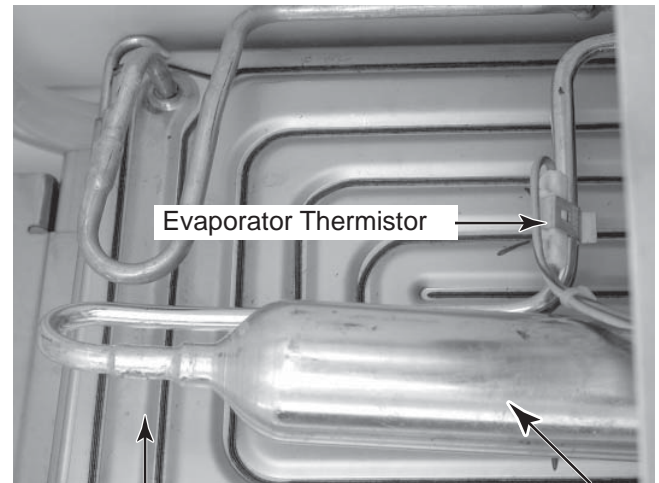


Cutter Grid
Ice Guides

8. **To remove the evaporator thermistor:**
 - a) Remove the cutter grid from the unit (see step 7 on page 4-2 for the procedure).
 - b) Disconnect the evaporator thermistor connector from the bottom of the control housing.
 - c) Remove the two hex-head mounting screws from the water trough and pull the trough from the unit.



- d) Reach behind the accumulator, and unclip the evaporator thermistor from the evaporator tubing and remove it.



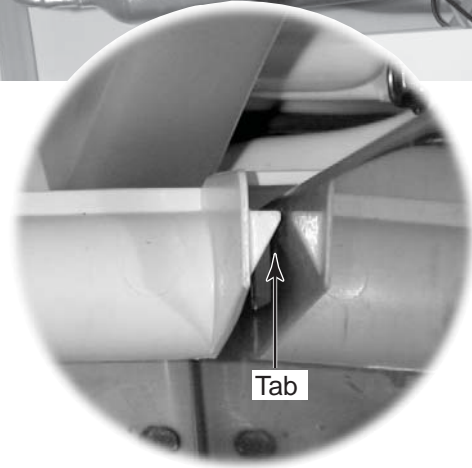
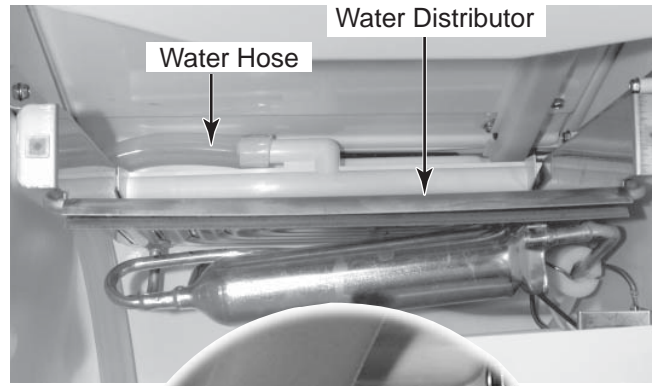
Bottom Of The Evaporator

Accumulator

Continued on the next page.

9. **To remove the water distributor:**

- a) Remove the cutter grid from the unit (see step 7 on page 4-2 for the procedure).
- b) Pull out on the left and right water distributor retainers, and remove the tabs from the slots in the evaporator. Pull the distributor forward and remove the water hose.



Water Distributor

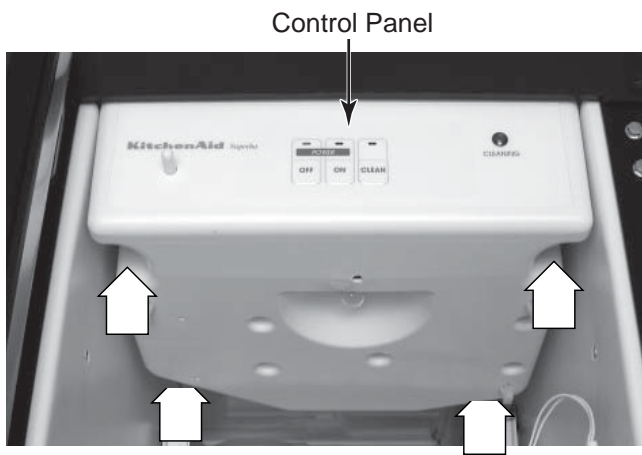
REMOVING THE ELECTRONIC CONTROL HOUSING COMPONENTS

⚠ 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.

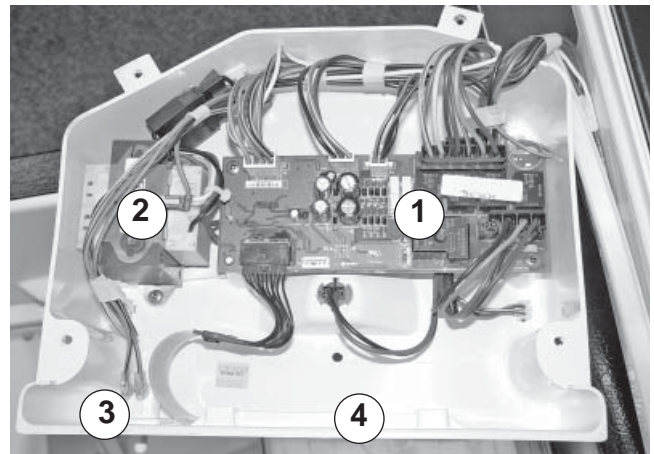
1. Unplug ice maker or disconnect power.
2. Open the ice maker door.
3. Cover or remove the ice from the storage bin.
4. Remove the cutter grid cover and the cutter grid (see page 4-2 for the procedures).
5. Disconnect the remaining two connectors (bin and evaporator thermistors) from the bottom of the control housing.
6. Remove the four hex-head screws from the control housing and lower the housing so that you can access the components.



4 Control Housing Screws

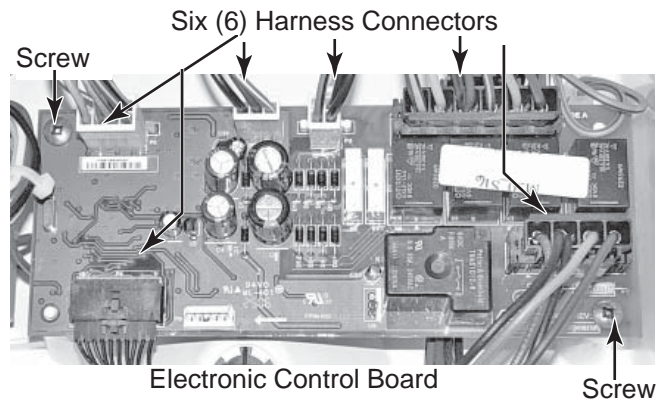
NOTE: The control housing components consist of:

- (1) Electronic control board
- (2) Dual transformer
- (3) Light switch
- (4) Push-button switch assembly



7. To remove the electronic control board:

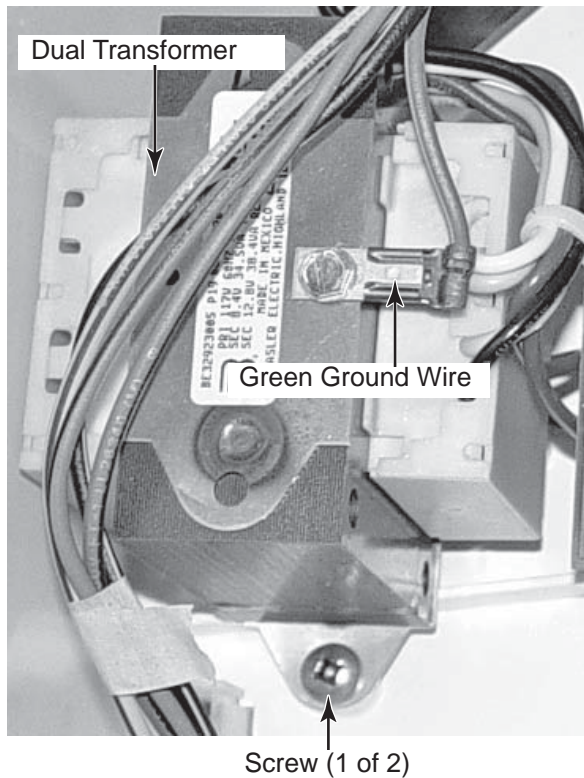
- a) Disconnect the six harness connectors from the board terminals.
- b) Remove the two mounting screws.



Continued on the next page.

8. **To remove the dual transformer:**
- Disconnect the six pin wire connector from harness.
 - Remove the two mounting screws from the transformer bracket.
 - Disconnect the green ground wire from its terminal.

NOTE: Reconnect the green ground wire when installing new dual transformer.



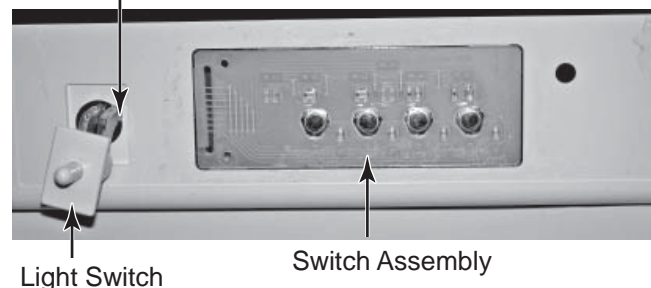
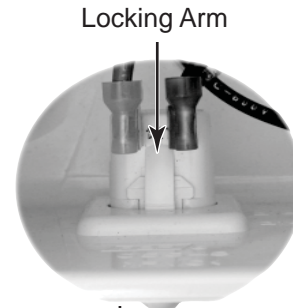
NOTE: If the switch assembly or light switch is replaced, the replacement part and decorative overlay must be ordered using the model number of the ice maker. The service replacement switch is not supplied with a decorative overlay.

9. **To remove the light switch or push-button switch assembly:**

- Peel off the decorative overlay from the front of the control housing.



- Disconnect the molex plug from switch assembly. Press the back of switch assembly and push the switch assembly out of the housing.



⚠ WARNING

Electrical Shock Hazard

Connect green ground wire to ground terminal.

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

REMOVING THE WATER RECIRCULATION PUMP

⚠ WARNING



Electrical Shock Hazard

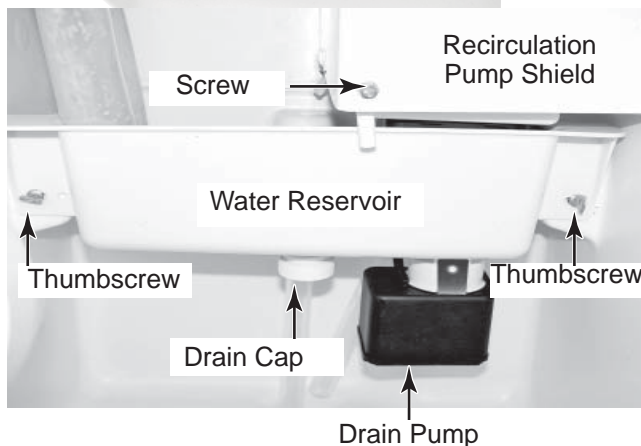
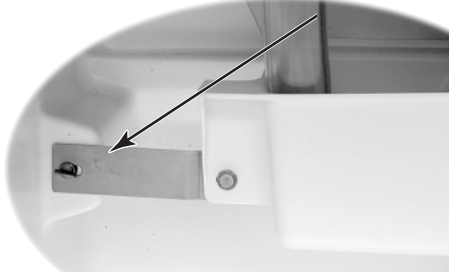
Disconnect power before servicing.

Replace all parts and panels before operating.

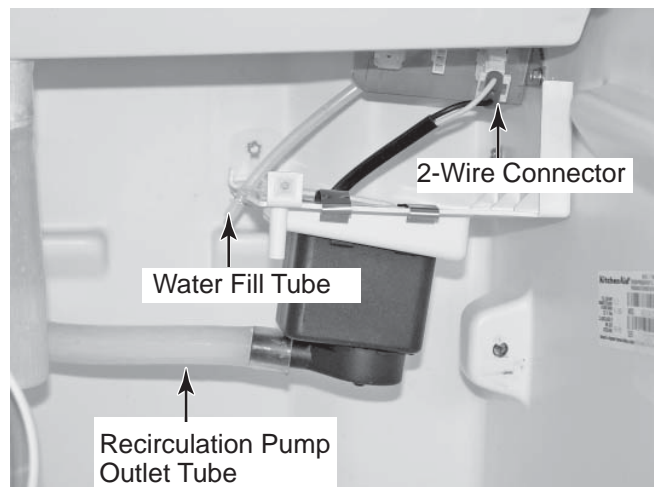
Failure to do so can result in death or electrical shock.

1. Unplug ice maker or disconnect power.
2. Open the ice maker door.
3. Remove the ice from the storage bin.
4. Unscrew the drain cap from the reservoir, drain the water, and replace the cap tightly.
5. Place a cloth in the drain hole to avoid hardware from falling inside.

Spacer Bracket (Left Side) 18" Models



6. Remove the hex-head screw from the water recirculation pump shield and remove the shield (see the lower left photo).
7. Disconnect the water fill tube from the pump mounting bracket.
8. Disconnect the two wire recirculation and drain pump connectors from the harness block.
9. Remove the two thumbscrews from the reservoir and remove the reservoir from the ice maker.
10. Remove the recirculation pump outlet tube.
11. Remove three hex-headed screws from the pump mounting bracket and remove pump assembly.
12. Separate the recirculation pump from the bracket.



REMOVING THE RESERVOIR DRAIN PUMP & WATER LEVEL SENSOR

⚠ WARNING



Electrical Shock Hazard

Disconnect power before servicing.

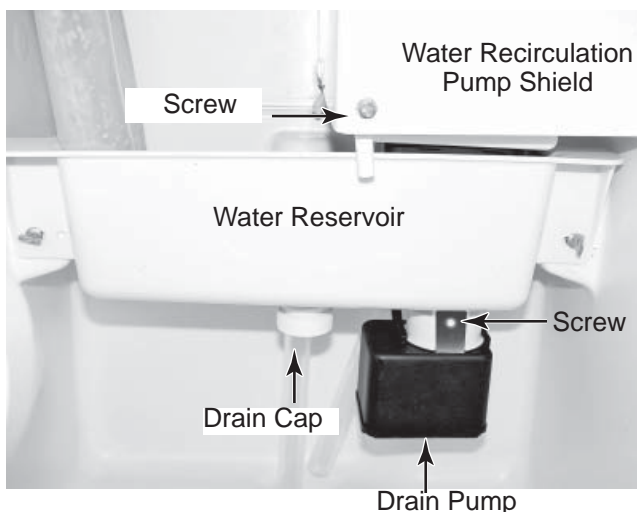
Replace all parts and panels before operating.

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

1. Unplug ice maker or disconnect power.
2. Open the ice maker door.
3. Unscrew the drain cap from the reservoir, drain the water, and replace the cap tightly.
4. Remove the recirculating pump cover hex-head screw.
5. **To remove reservoir drain pump:**
 - a) Disconnect the reservoir drain pump electrical connection.
 - b) Remove the pump retaining screw and bracket.
 - c) Rotate the pump 1/4 turn and pull it down and out of reservoir.

6. **To remove the water level sensor:**

- a) Disconnect the water level sensor electrical connection.
- b) Remove the retaining clips, if present.
- c) Pull the sensor up and out of the bracket.



REMOVING THE CONDENSER FAN MOTOR

⚠ WARNING



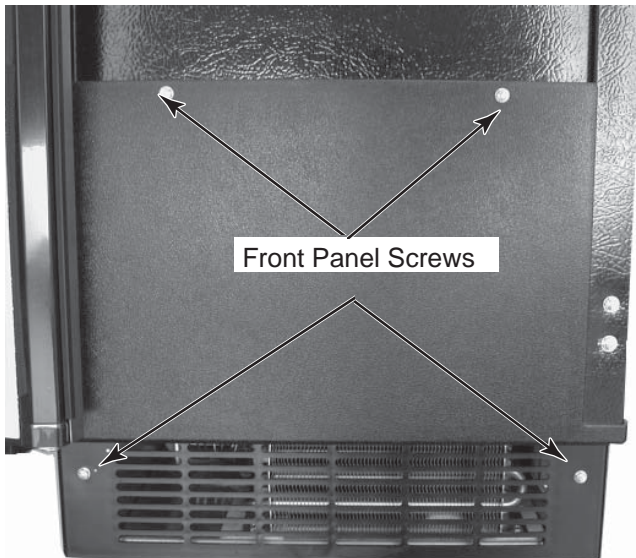
Electrical Shock Hazard

Disconnect power before servicing.

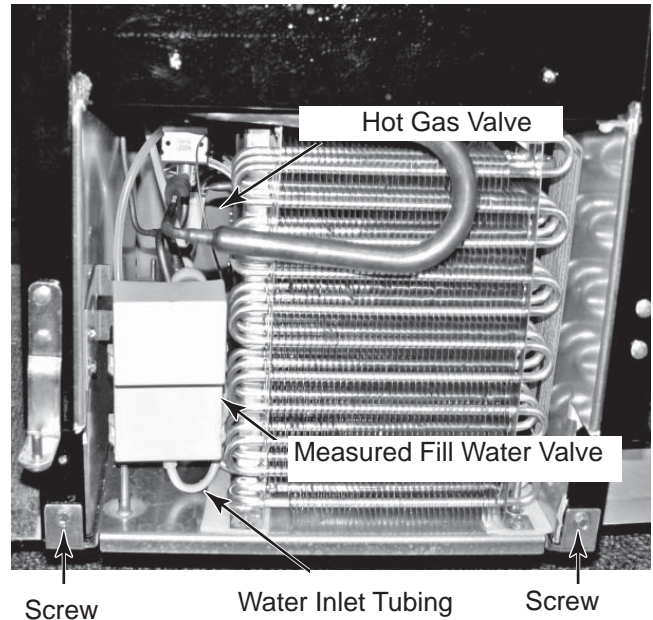
Replace all parts and panels before operating.

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

1. Unplug ice maker or disconnect power.
2. Open the ice maker door.
3. Remove the ice from the storage bin.
4. Disconnect the water and drain lines from the ice maker and remove the unit from its installation.
5. Remove the four hex-head screws from the front panel and remove the panel.

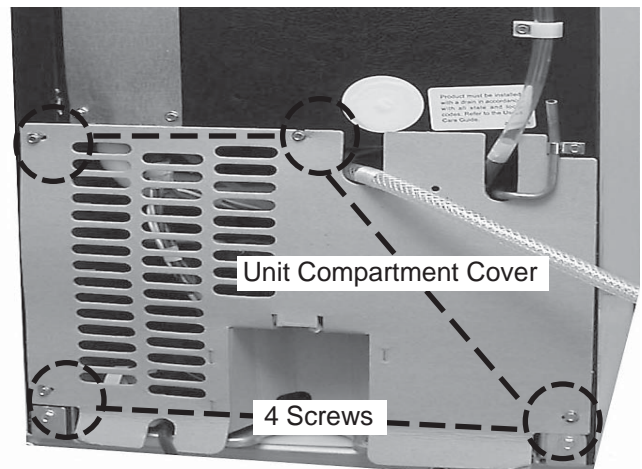


6. Remove the two 5/16" screws from the front of the cabinet.
7. Remove two hex-head screws from the measured fill water valve bracket.
8. Allow the valve to drop down out of the way.



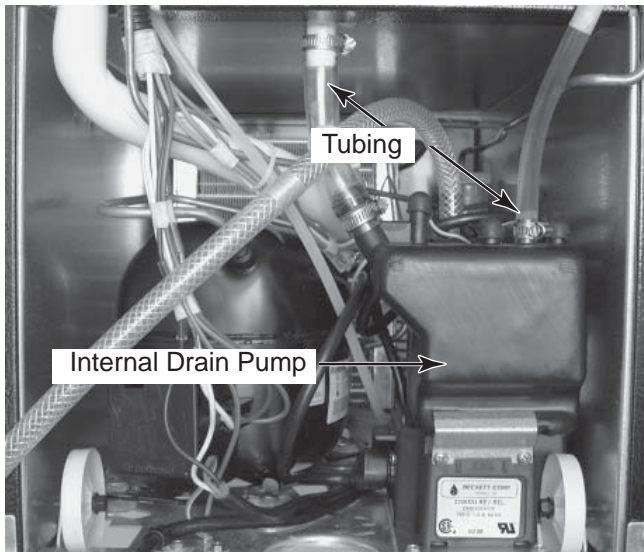
NOTE: If the unit you are servicing is equipped with an internal drain pump, perform steps 9 and 10. If the unit does not have an internal pump, skip those steps, and proceed to step 11 on the next page.

9. From the back of the unit, remove the four screws from the unit compartment cover and remove the cover.

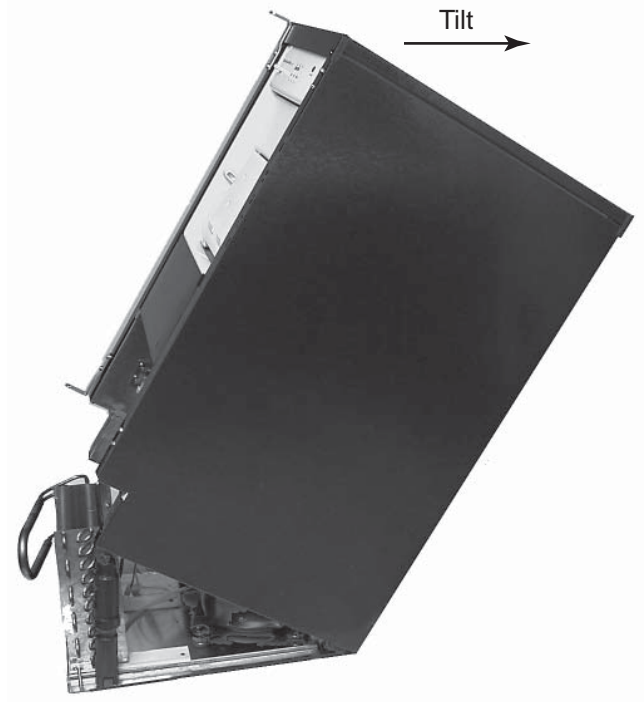


Continued on the next page.

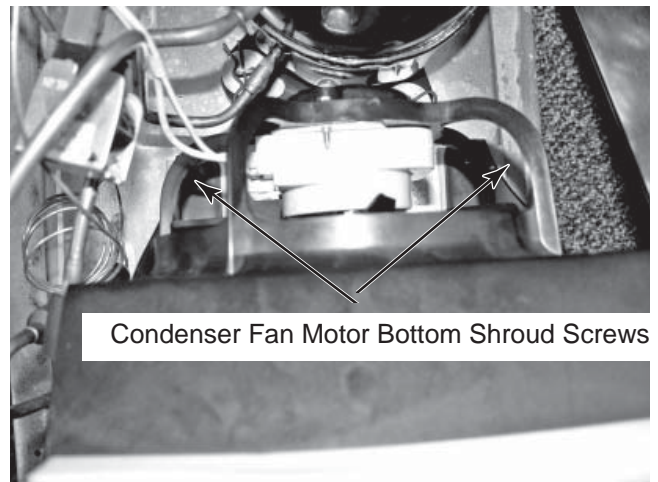
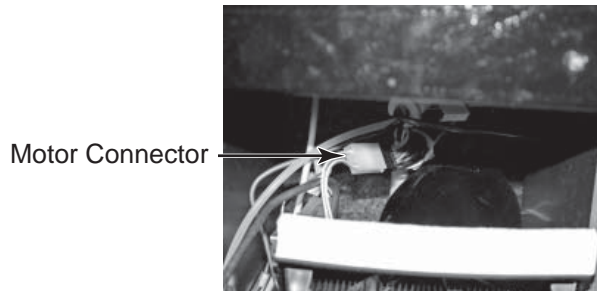
10. Disconnect the inlet tube and the vent tube from the internal drain pump.



11. Tilt the front of the cabinet up until you can access the two side screws on the condenser fan motor shroud, and secure the cabinet so that it cannot tip forward or backward.

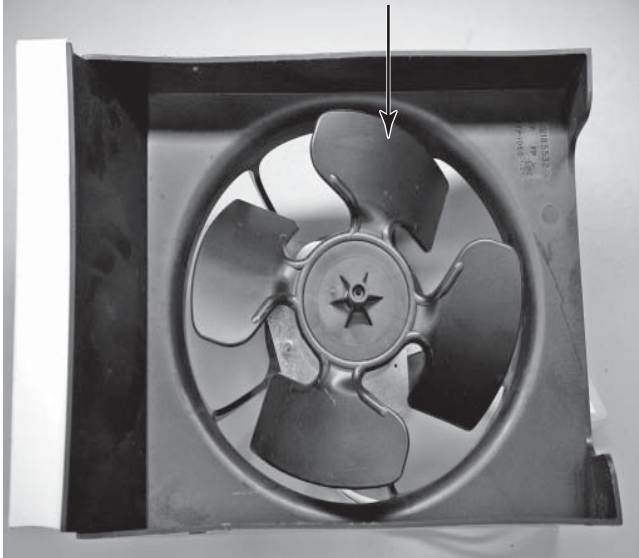


12. Disconnect the wire connector from the condenser fan motor.
13. Remove the four screws (two bottom and two side) from the condenser fan motor shroud. Slide the shroud assembly back towards the compressor, and then lift and remove the assembly from the unit.



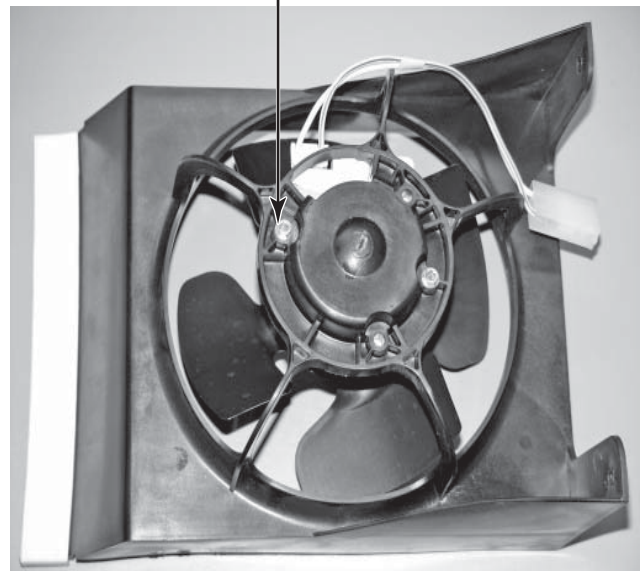
14. Remove condenser fan motor blade by pulling the fan blade straight off the shaft. **NOTE:** Make sure when reinstalling the fan blade that the blade is seated completely on motor shaft.

Condenser Fan Blade



15. Remove the two hex-head screws from the condenser fan motor and remove it from the shroud.

Condenser Fan Motor Screw (1 of 2)



REMOVING THE EVAPORATOR

! 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. Unplug ice maker or disconnect power.
2. Open the ice maker door.
3. Remove the ice from the storage bin.
4. Remove the cutter grid and the evaporator thermistor from the unit (see pages 4-2 and 4-3 for the procedures).
5. Disconnect the bin thermistor connector from the bottom of the control housing (see page 4-2).
6. Remove the top door screw from the ice maker door, and pull the door off the bottom hinge.



7. Remove the two 5/16" hex-head screws from the top hinge and remove the hinge.

Hinge Screws

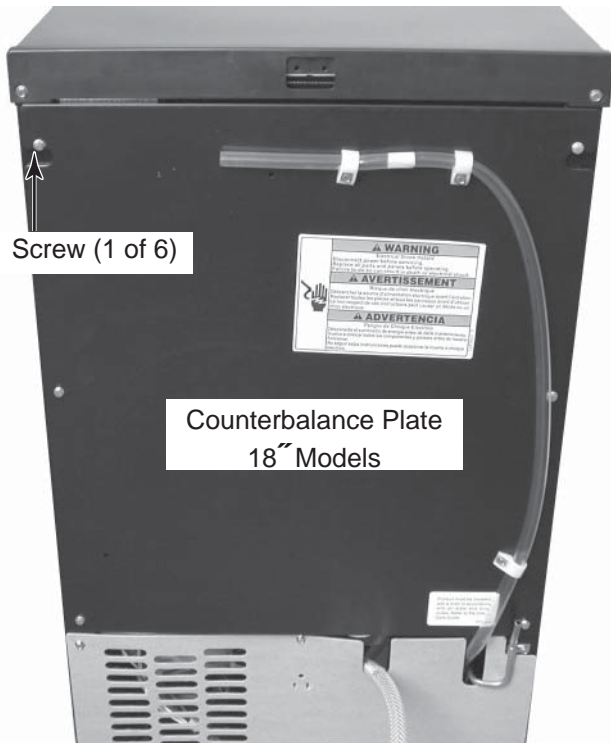


8. Remove the two front and two rear screws from the cabinet top.

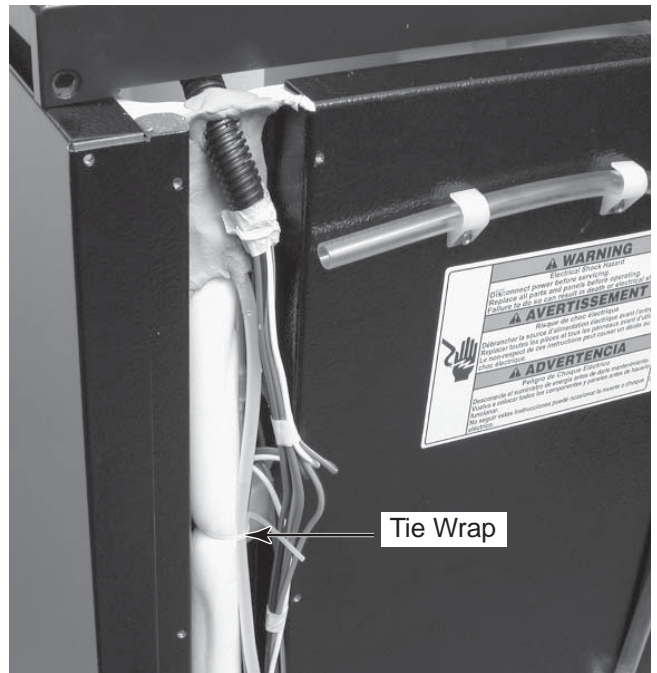


9. Lift the cabinet top and position it forward on top of the unit.

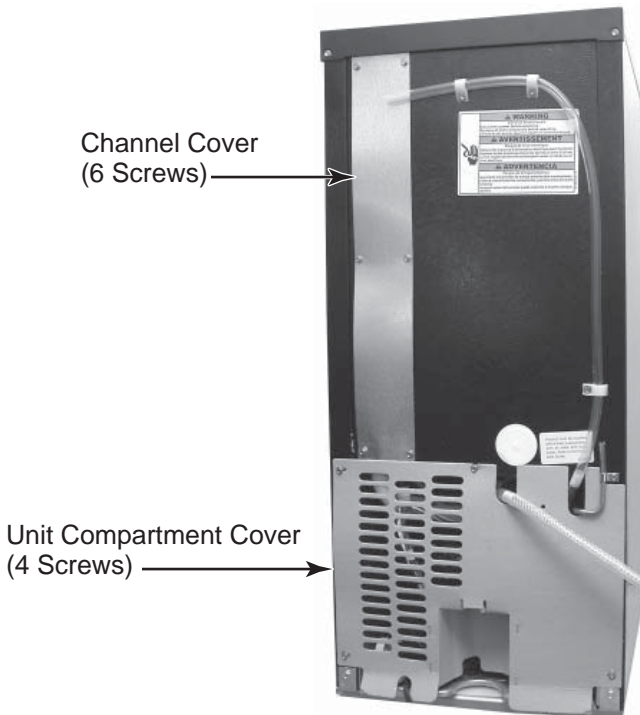
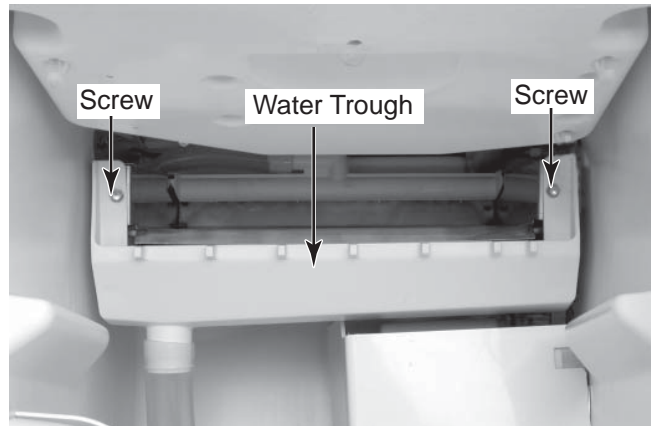
10. **18" Models Only:** Remove the six screws from the counterbalance plate and remove the plate from the rear of the unit.
11. From the rear of the unit, remove the six hex-head screws from the channel cover and remove the cover.
12. Remove the four screws from the unit compartment cover and remove the cover.



13. Cut the tie wrap from around the tubing and wire harness inside the channel.



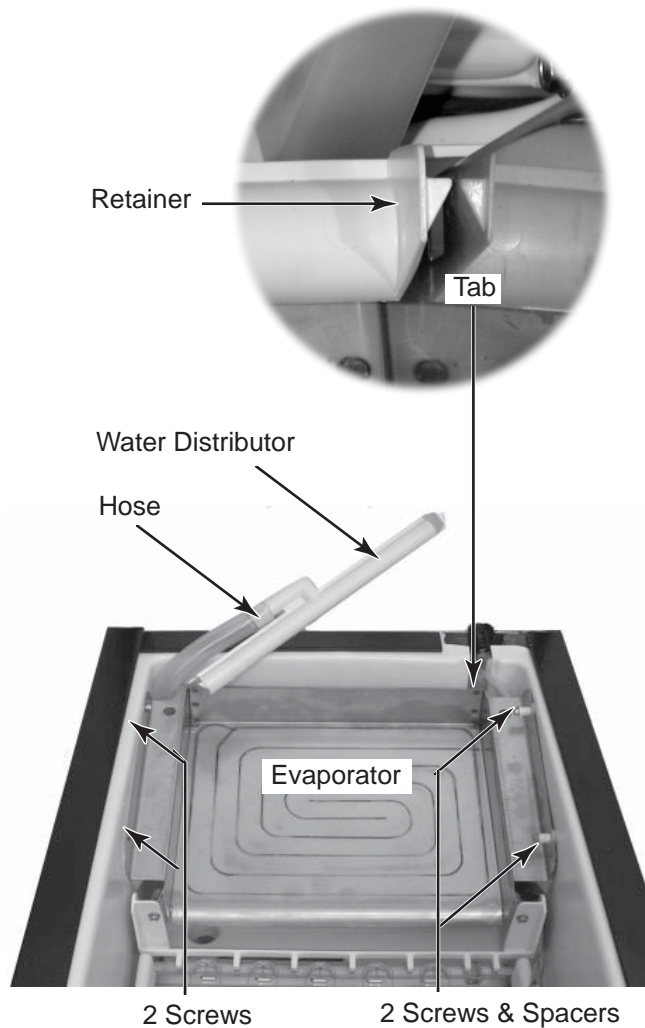
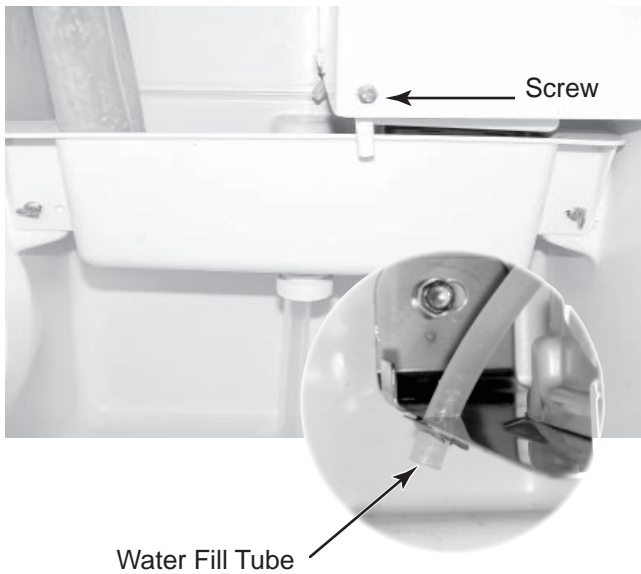
14. Remove the two screws from the reservoir water trough and remove the trough.



Continued on the next page.

15. Remove the hex-head screw from the water recirculation pump shield and remove the shield.
16. Remove the water fill tube from the notch in the water recirculation pump bracket, and pull the free end of the water line up, out of the unit.

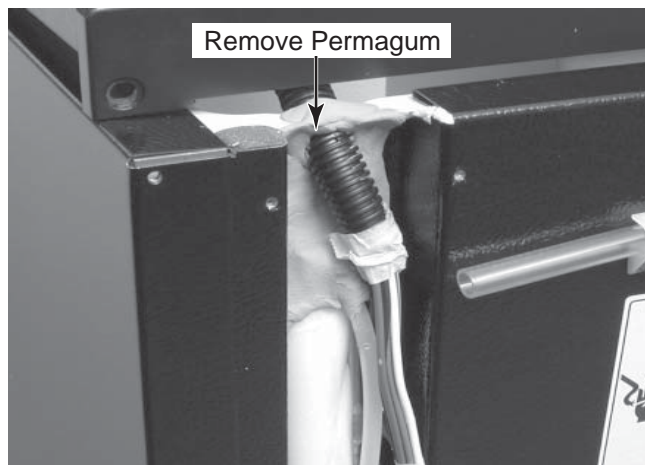
Water Recirculation Pump Shield



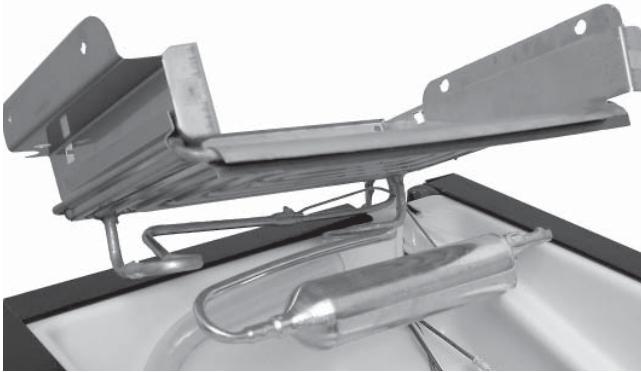
Refer to the photos at the top of the next column.

17. Pull out on the left and right water distributor retainers and remove the tabs from the slots in the evaporator, disconnect it from the hose, and remove it.
18. Remove the four screws from the evaporator, then carefully lift the evaporator just high enough to remove the two right spacers.

19. Remove the Permagem from the liner channel.



20. Lift the cabinet top off the unit and stand it on the floor near the rear of the unit.
21. Lift the evaporator and its connecting tubing high enough from the unit to access the tubing underneath.



22. Access the sealed system and discharge the refrigerant into an approved recovery system.

IMPORTANT: Refrigerant lines must be connected by a licensed, EPA certified refrigerant technician in accordance with established procedures.

23. Unbraid (and cut) the evaporator from the tubing at the following locations:
 - Suction line at the compressor.
 - Hot gas line at the hot gas valve.
 - Cut capillary tube at the drier filter.



Drier Filter Capillary Tube

REASSEMBLY NOTES:

- When installing the new evaporator, use a generous amount of thermal heat trap paste between the hot gas valve, and the evaporator tubing joint to protect the hot gas valve when brazing.
- Be sure to reinstall the Permagem in the liner channel of the cabinet around the wire sheath and tubing, so that there are no air leaks after the cabinet top is installed (see the photo in step 19 on page 4-14).



REMOVING THE MEASURED FILL WATER VALVE

⚠ WARNING

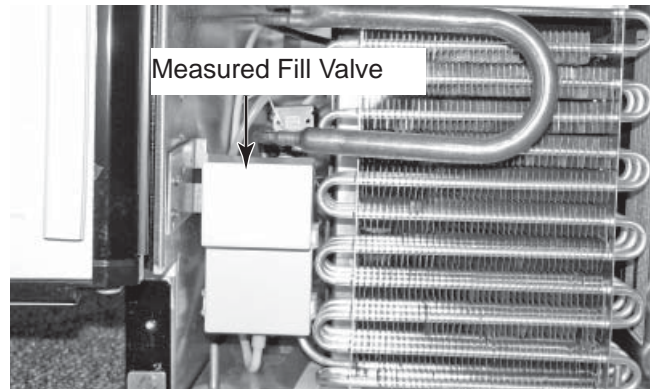
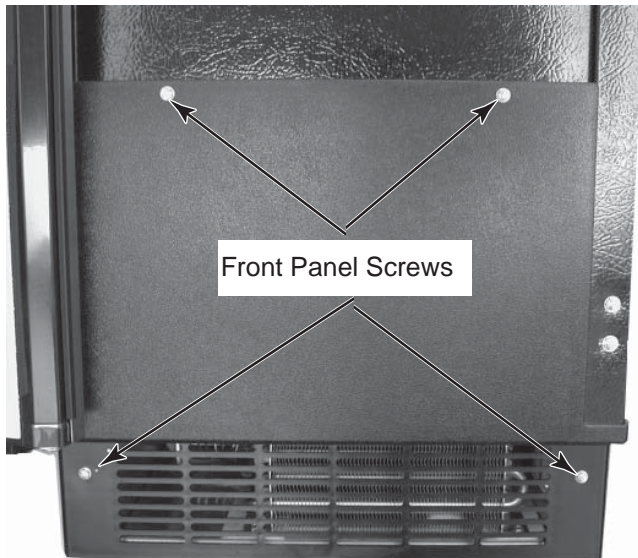


Electrical Shock Hazard

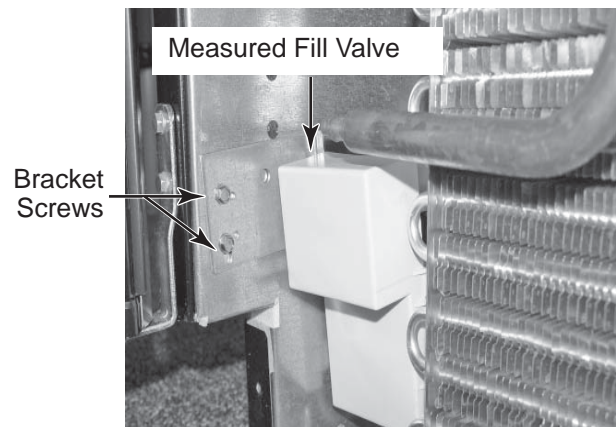
**Disconnect power before servicing.
Replace all parts and panels before
operating.**

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

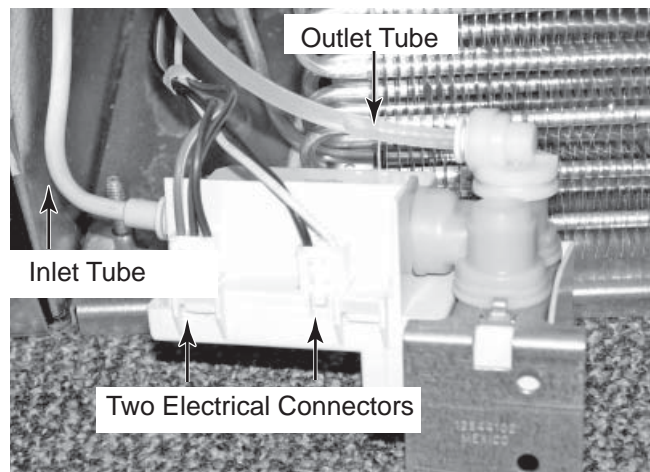
1. Unplug ice maker or disconnect power.
2. Turn water supply off to ice maker.
3. Open the ice maker door.
4. Remove the four hex-head screws from the front panel and remove the panel.



5. Remove the two hex-head screws from the measured fill water valve bracket.
6. Place a pan or towel under the valve to catch water.
7. Disconnect the water inlet and outlet tubing from the quick disconnect fittings on the measured fill water valve.



8. Disconnect the two electrical connectors from the valve.



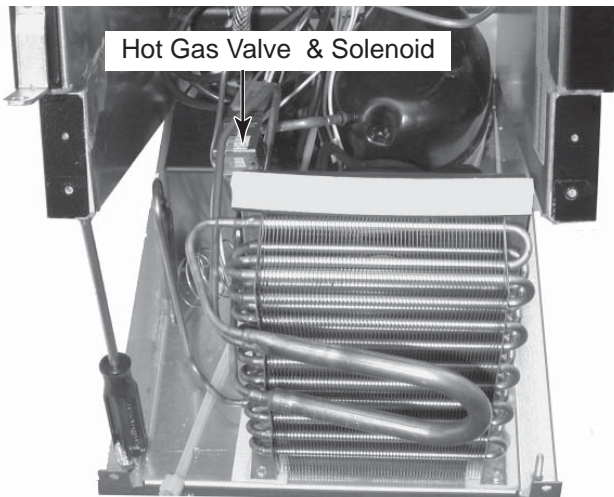
REMOVING THE HOT GAS VALVE & SOLENOID

⚠ WARNING



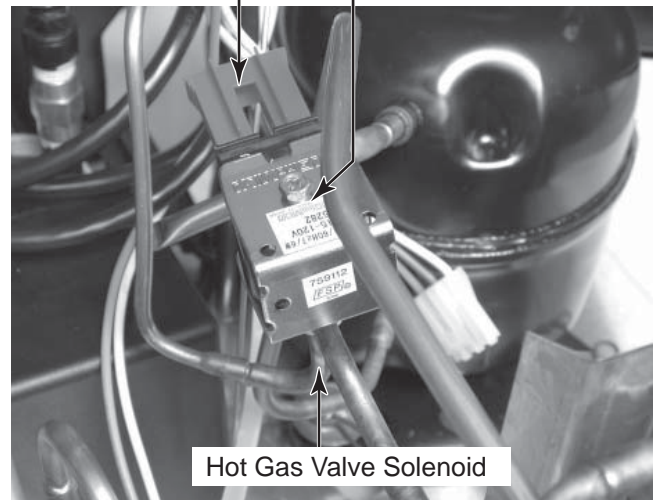
Electrical Shock Hazard
Disconnect power before servicing.
Replace all parts and panels before operating.
Failure to do so can result in death or electrical shock.

1. Unplug ice maker or disconnect power.
2. Tip the front of the cabinet back and prop it up (see steps 2 through 11 on pages 4-9 and 4-10 for the procedure).



3. **To remove the hot gas valve solenoid (see the photo at the top of the next column):**
 - a) Disconnect the 2-wire connector from the solenoid terminals.
 - b) Remove the 7mm hex-head screw from the solenoid and lift the solenoid off the hot gas valve.

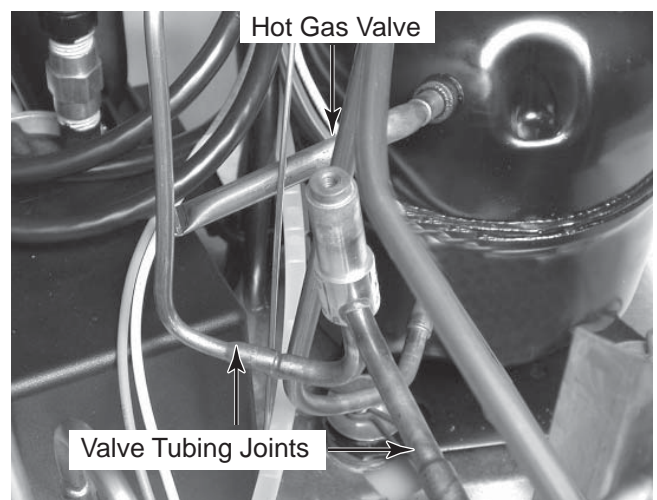
2-Wire Connector 7mm Nut



4. **To remove the hot gas valve:**
 - a) Remove the solenoid from the hot gas valve (see step 3 for the procedure).
 - b) Access the sealed system and discharge the refrigerant into an approved recovery system.

IMPORTANT: Refrigerant lines must be connected by a licensed, EPA certified refrigerant technician in accordance with established procedures.

 - c) Unbraid the hot gas valve from the tubing.



REASSEMBLY NOTE: When installing the new hot gas valve, use a generous amount of thermal heat trap paste between the valve and tubing joints to protect the valve when brazing.

REMOVING THE CONDENSER

⚠ WARNING

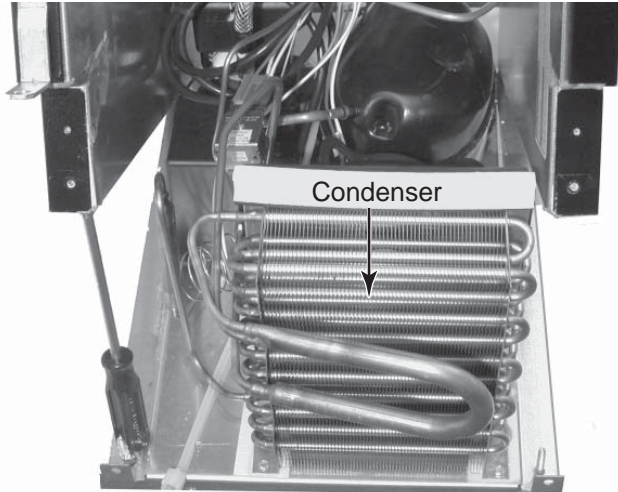


Electrical Shock Hazard

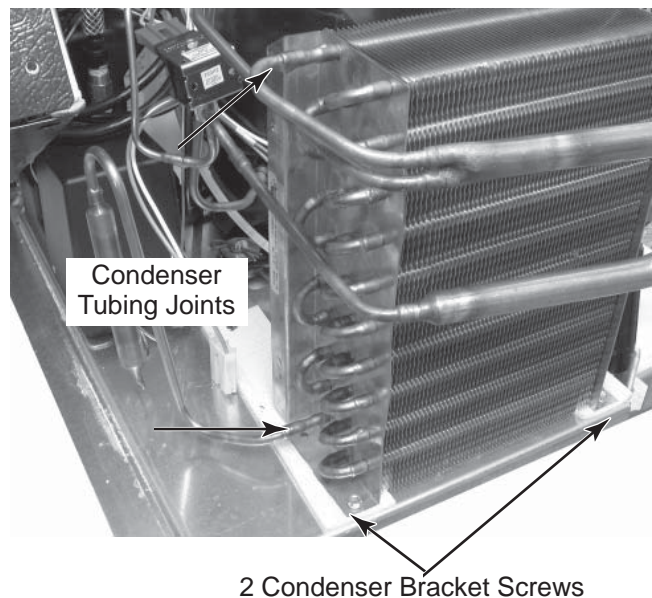
**Disconnect power before servicing.
Replace all parts and panels before
operating.**

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

1. Unplug ice maker or disconnect power.
2. Tip the front of the cabinet back and prop it up (see steps 2 through 11 on pages 4-9 and 4-10 for the procedure).



3. Remove the four condenser fan motor screws from the fan motor shroud and pull the motor assembly back away from the condenser as far as possible, but do not remove it (see step 13 on page 4-10 for the procedure).
4. Remove the two mounting screws from the condenser bracket flanges.
5. Access the sealed system and discharge the refrigerant into an approved recovery system.
IMPORTANT: Refrigerant lines must be connected by a licensed, EPA certified refrigerant technician in accordance with established procedures.
6. Unbrazed the two condenser joints from the tubing.



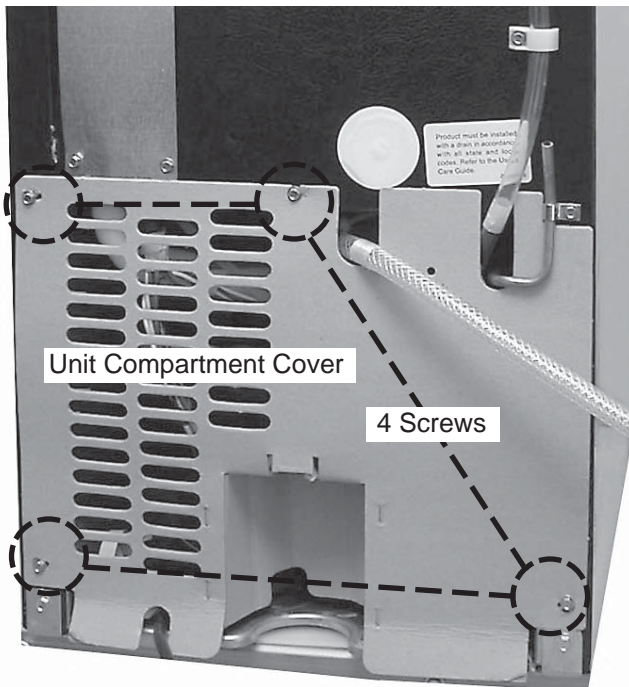
REMOVING THE COMPRESSOR

⚠ WARNING

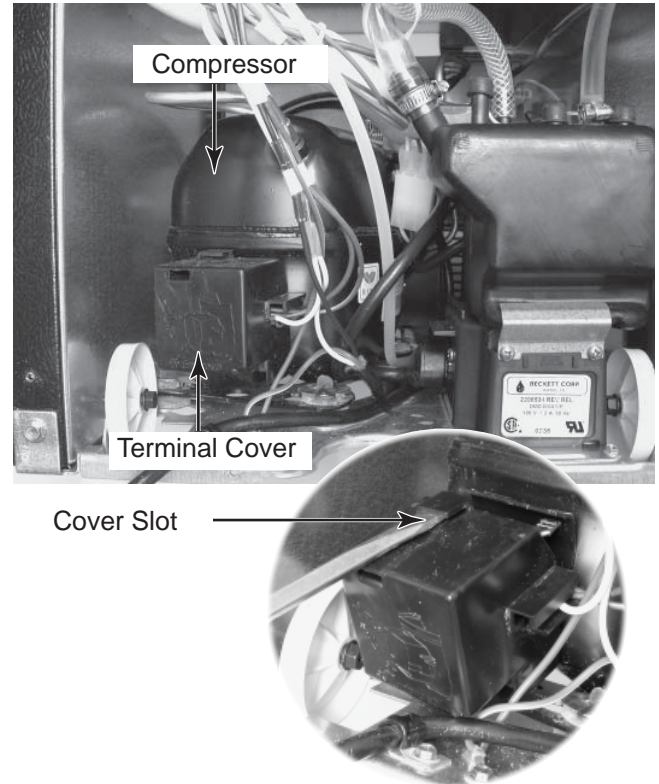


Electrical Shock Hazard
Disconnect power before servicing.
Replace all parts and panels before operating.
Failure to do so can result in death or electrical shock.

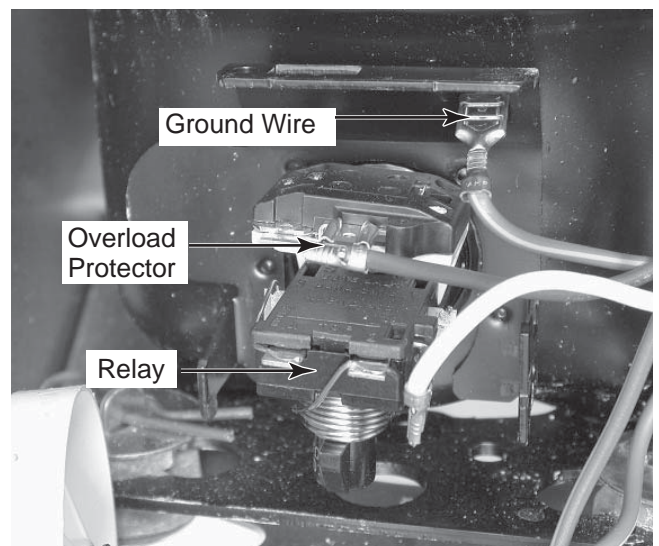
1. Unplug ice maker or disconnect power.
2. Open the ice maker door.
3. Remove the ice from the storage bin.
4. Disconnect the water and drain lines from the ice maker and remove the unit from its installation.
5. At the rear of the unit, remove the four screws from the unit compartment cover and remove the cover.



6. Remove the terminal cover using a standard screwdriver. Insert the screwdriver into the cover slot, and press down to unsnap and remove it.

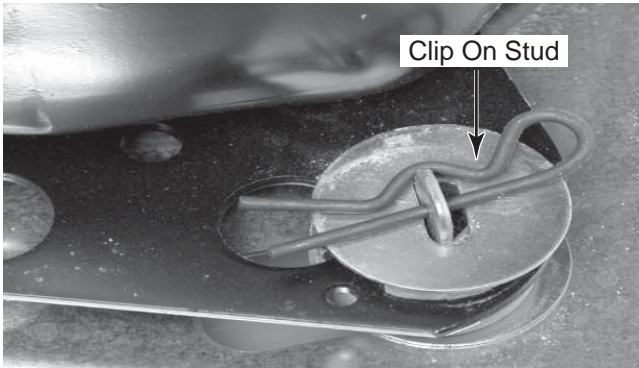


7. Remove the wires from the ground terminal, the overload protector terminal, and the relay terminal.
8. Pull the overload protector and relay from the compressor pins.

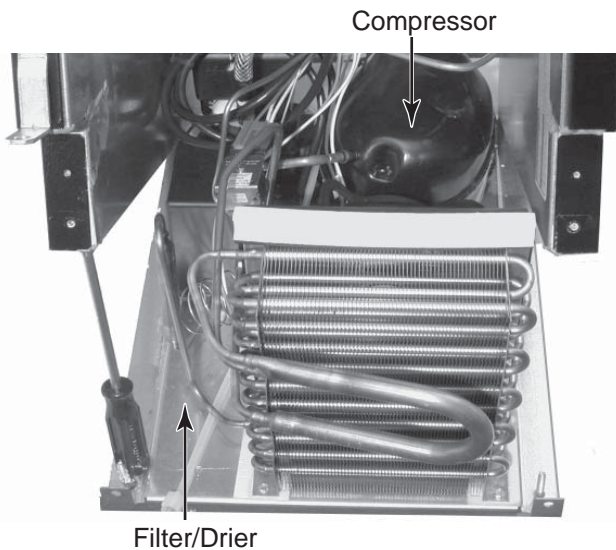


Continued on the next page.

- Pull the two clips off the rear studs of the compressor.

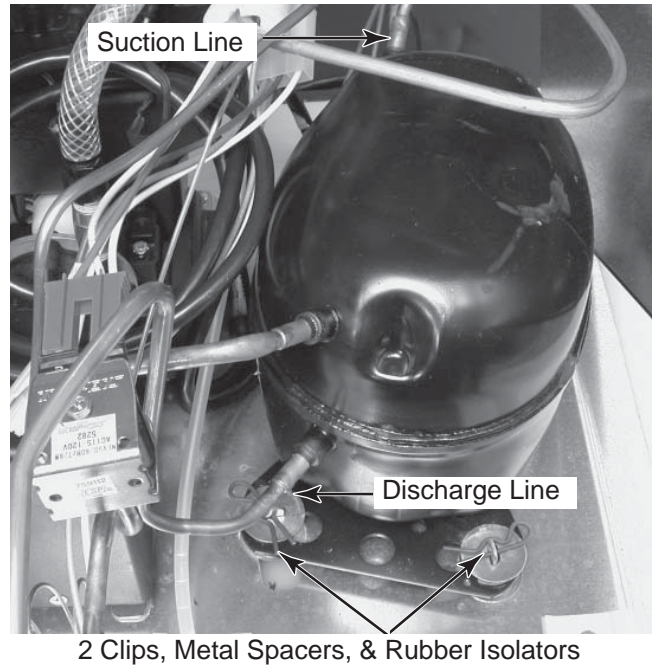


- Tip the front of the cabinet back and prop it up (see steps 5 through 11 on pages 4-9 and 4-10 for the procedure).



- Access the sealed system and discharge the refrigerant into an approved recovery system.
IMPORTANT: Refrigerant lines must be connected by a licensed, EPA certified refrigerant technician in accordance with established procedures.
- Cut the suction and discharge lines from the compressor.
- Cut the drier filter from the system (do not use a torch to remove the drier filter).
- Unbraid the compressor suction and discharge joints from the tubing.

- Pull the two clips off the front compressor mounting studs.
- Lift the compressor off the four mounting studs and remove it from the unit. Remove the four metal spacers and rubber isolators from the compressor stud locations.



⚠ WARNING



Electrical Shock Hazard

Connect green ground wire to ground terminal.

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

Perform the following steps after installing the new compressor.

- Install the overload protector and relay on the compressor pins.
- Connect the wires to the ground terminal, the overload protector terminal, and the relay terminal.

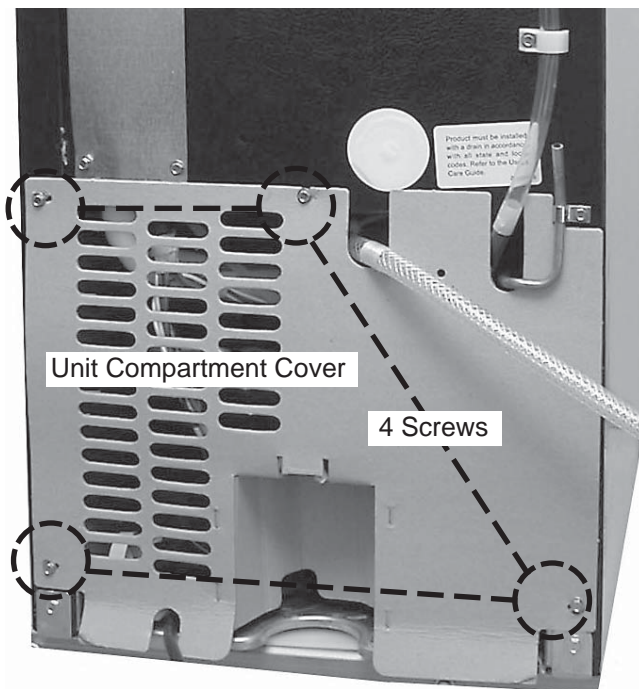
REMOVING THE INTERNAL DRAIN PUMP

⚠ WARNING

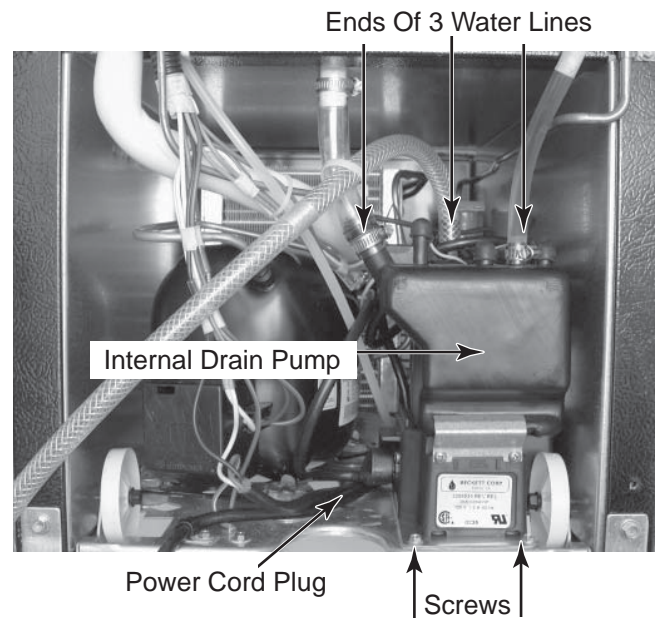


Electrical Shock Hazard
Disconnect power before servicing.
Replace all parts and panels before operating.
Failure to do so can result in death or electrical shock.

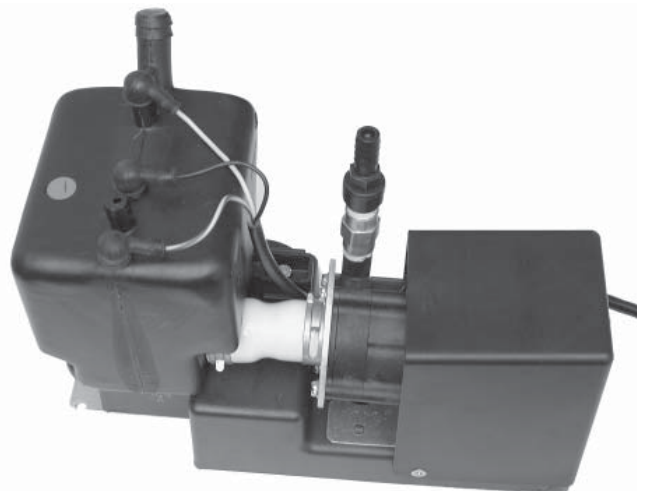
1. Unplug ice maker or disconnect power.
2. Remove the ice from the storage bin.
3. Disconnect the water and drain lines from the ice maker and remove the unit from its installation.
4. At the rear of the unit, remove the four screws from the unit compartment cover and remove the cover.



5. Loosen the clamps and pull the ends of the three water lines from the internal drain pump.
6. Disconnect the power cord plug from the internal drain pump.
7. Remove the two mounting screws from the internal drain pump.



8. Remove the internal drain pump from the unit.



REMOVING THE ICE MAKER DOOR & GASKET (15" MODELS)

1. **To remove the door,** remove the top door screw from the ice maker door, and pull the door off the bottom hinge.



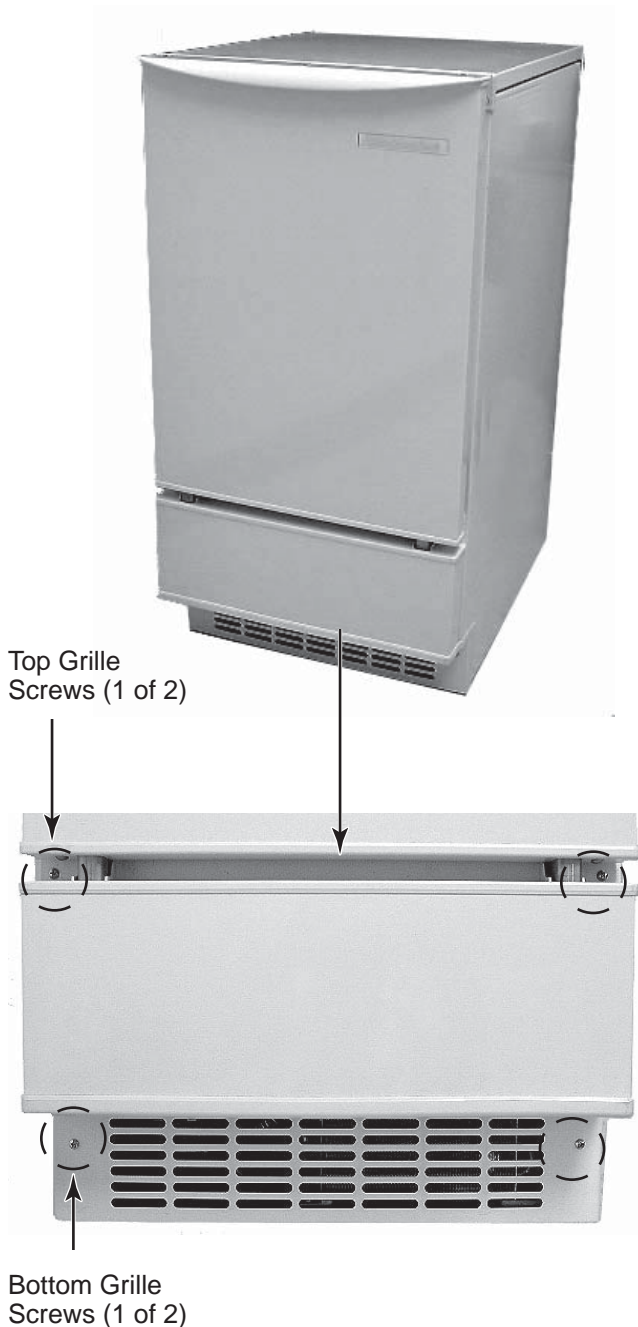
2. **To remove the door gasket:**
 - a) Open the ice maker door.
 - b) Pull the gasket out of the door track.
NOTE: Be sure to check the new gasket for a proper seal after you install it.



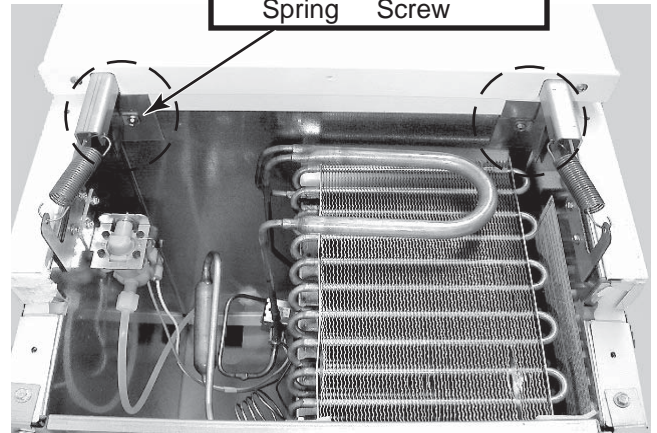
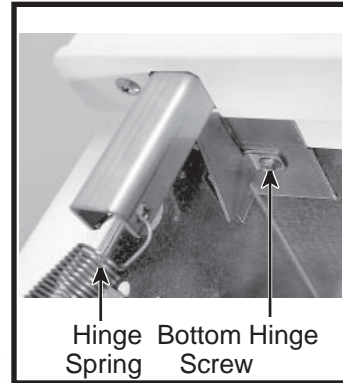
REMOVING THE ICE MAKER DOOR & GASKET (18" MODELS)

The 18" Ice Maker has a spring-loaded, drop-down door. Since the door design is somewhat unique, accessing procedures are included below. To replace the gasket perform step six only.

1. Remove the two top and two bottom screws from the grille and remove it from the front of the ice maker.



2. Remove the end of the spring from the door bracket and the screw (on some models) from the bottom of the door hinge.



3. Open the ice maker door and remove the four front hinge screws (2 per hinge) and remove the door. **NOTE:** Support the door while you remove the screws to avoid it from falling off the unit.



4. Remove the two screws from the bottom door cap.

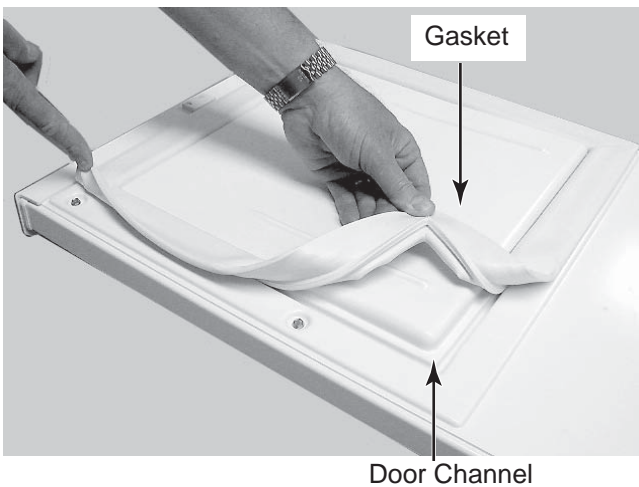


5. Remove the three screws from the door handle and the top door cap and remove the handle and cap from the door.

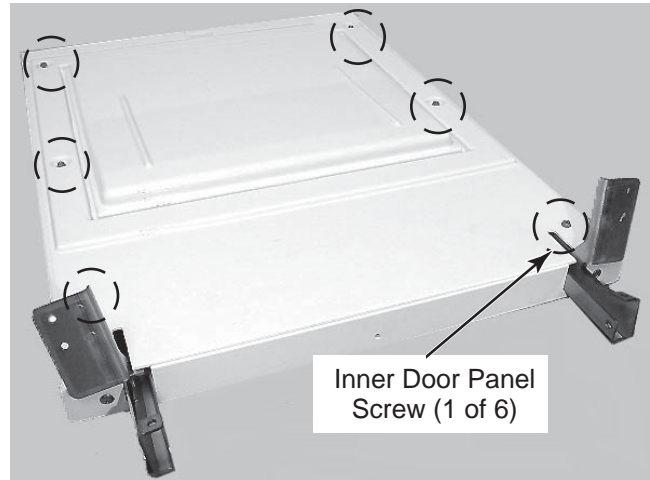
Handle & Cap Screw (1 of 3)



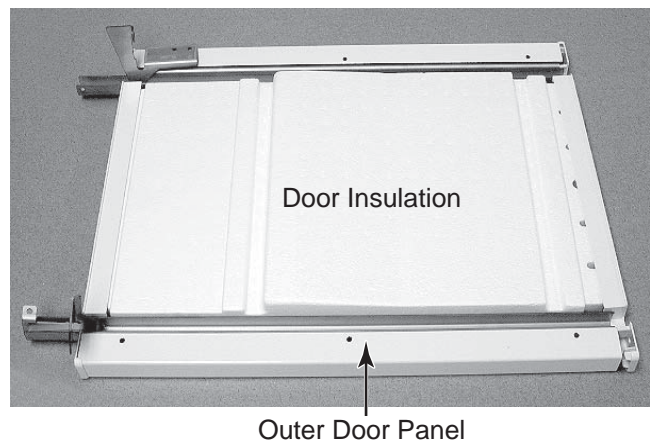
6. Peel the gasket from the grooves in the door and remove the gasket.



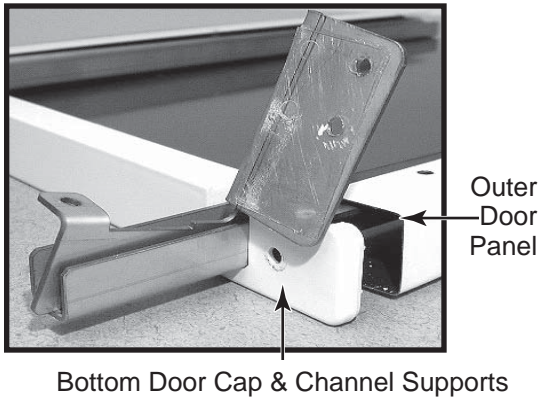
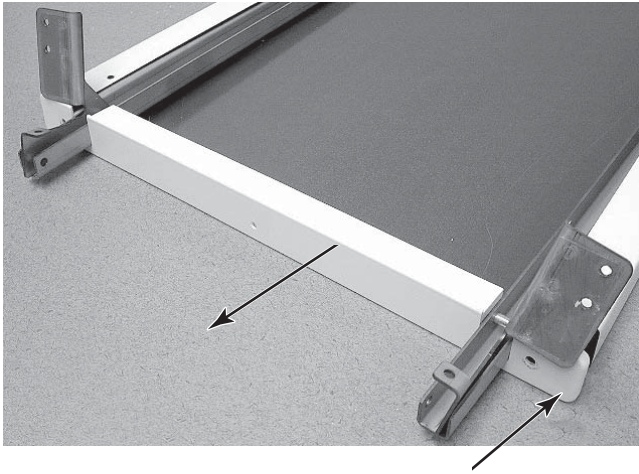
7. Remove the six screws from the inner door panel and remove the panel.



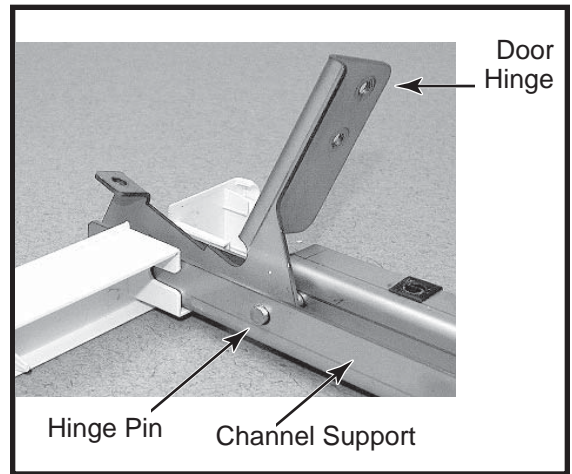
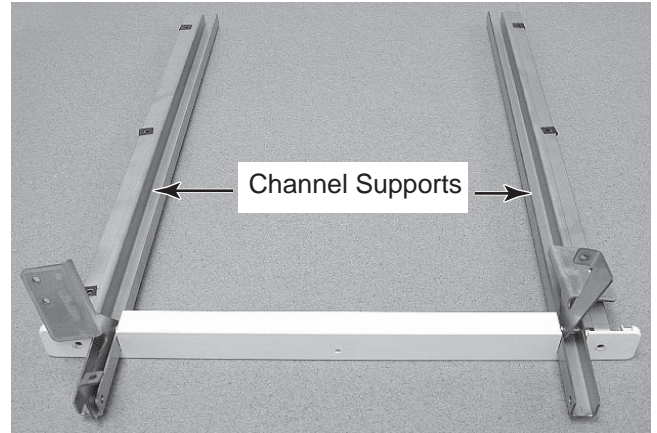
8. Slide the door insulation out of the top of the outer door panel.



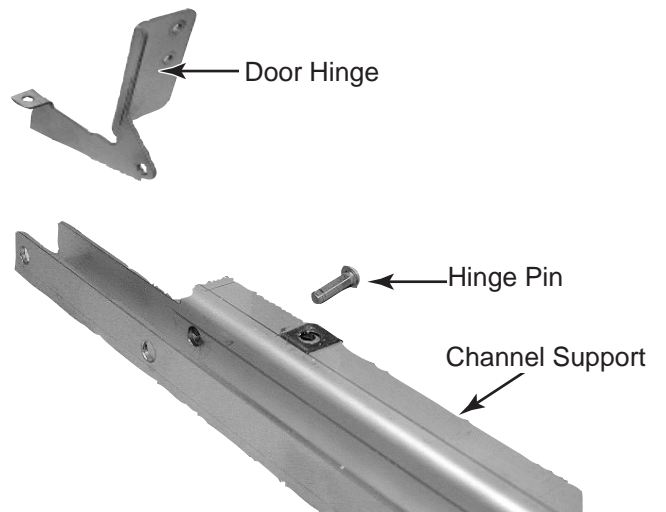
9. Slide the bottom door cap and channel supports out of the outer door panel.



10. Slide the bottom door cap off the channel supports.



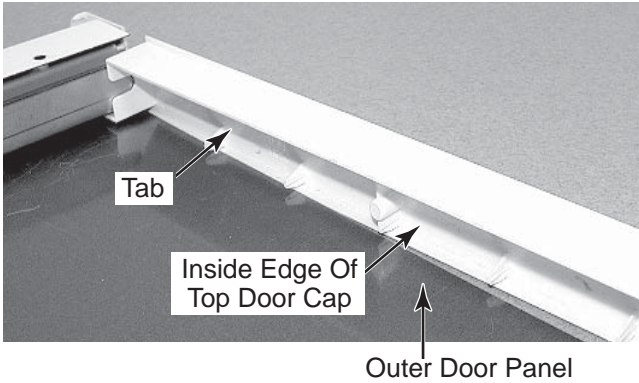
11. To remove the door hinge, pull the hinge pin out of the channel support and remove the hinge.



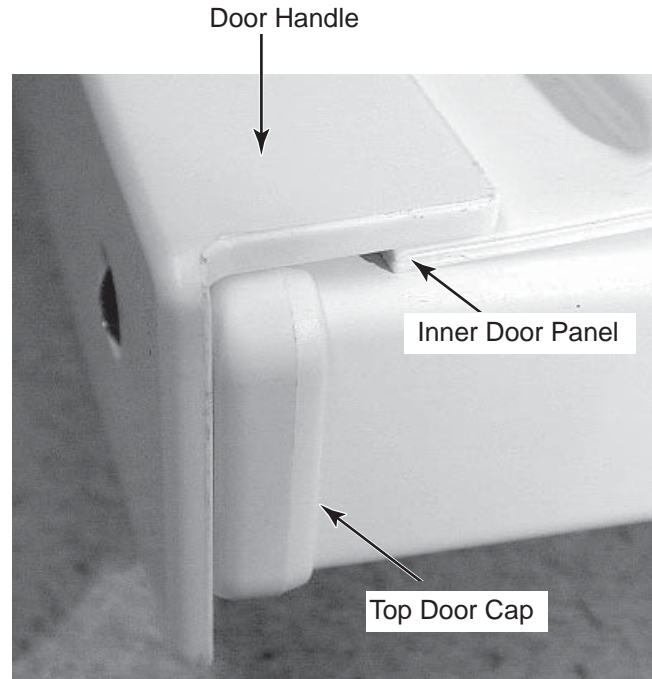
Continued on the next page.

REASSEMBLY NOTES:

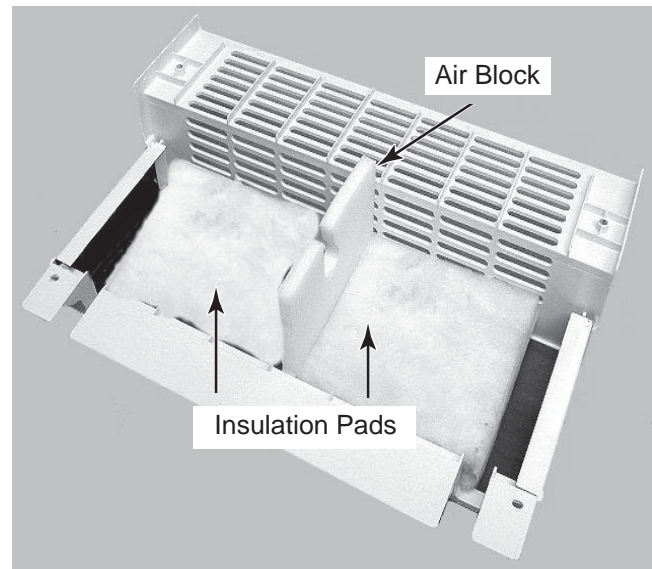
1. To reassemble the unit, reverse the disassembly procedure.
2. Slide the edge of the outer door panel between the tabs and the inside edge of the top door cap.



3. When you reinstall the inner door panel, slide the edge under the door handle, as shown below.




4. Before you reinstall the grille, position the insulation pads and the air block as shown below.



COMPONENT TESTING

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

- Control failure can be the result of corrosion on connectors. Therefore, disconnecting and reconnecting wires will be necessary throughout test procedures.
- All tests/checks should be made with a VOM or DVM having a sensitivity of 20,000 ohms-per-volt DC, or greater.
- Check all connections before replacing components, looking for broken or loose wires, failed terminals, or wires not pressed into connectors far enough.
- Resistance checks must be made with power cord unplugged from outlet, and with wiring harness or connectors disconnected.



! 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.

BIN THERMISTOR



Refer to page 4-2 for the procedure for accessing the bin thermistor.

1. Unplug ice maker or disconnect power.
2. Set the ohmmeter to the appropriate scale.
3. For the most accurate measurement, immerse the thermistor in ice water for 5 minutes, then use the 32°F/0°C reading in the chart.
4. Touch the ohmmeter test leads to the two bin thermistor connectors. The meter should indicate as shown in the following chart.

Sensor Temperature °F (C)	Resistance Ω
0 (-18)	81,715 - 99,874
10 (-12)	59,422 - 72,627
32 (0)	30,266 - 36,992
50 (10)	18,219 - 22,267
70 (21)	10,280 - 12,564
90 (32)	6,387 - 7,807

EVAPORATOR THERMISTOR



Refer to page 4-2 for the procedure for accessing the evaporator thermistor.

1. Unplug ice maker or disconnect power.
2. Set the ohmmeter to the appropriate scale.
3. For the most accurate measurement, immerse the thermistor in ice water for 5 minutes, then use the 32°F/0°C reading in the chart.
4. Touch the ohmmeter test leads to the two evaporator thermistor connectors. The meter should indicate as shown in the following chart.

Sensor Temperature °F (C)	Resistance Ω
0 (-18)	81,715 - 99,874
10 (-12)	59,422 - 72,627
32 (0)	30,266 - 36,992
50 (10)	18,219 - 22,267
70 (21)	10,280 - 12,564
90 (32)	6,387 - 7,807

⚠ WARNING



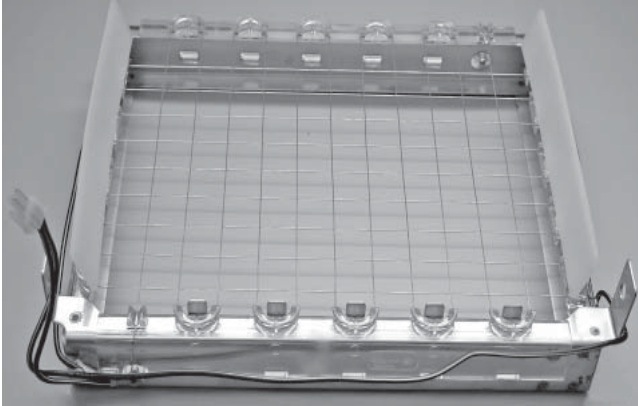
Electrical Shock Hazard

Disconnect power before servicing.

Replace all parts and panels before operating.

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

CUTTER GRID



Refer to page 4-2 for the procedure for accessing the cutter grid.

1. Unplug ice maker or disconnect power.
2. Set the ohmmeter to the appropriate scale.
3. Touch the ohmmeter test leads to the pins of the cutter grid 2-wire connector. The meter should indicate 4 to 5 ohms

DUAL TRANSFORMER



Refer to page 4-5 for the procedure for accessing the dual transformer.

1. Unplug ice maker or disconnect power.
2. Set the ohmmeter to the appropriate scale.
3. Touch the ohmmeter test leads to the primary black and white leads of the dual transformer. The meter should indicate between 3.5 and 4.5 ohms.
4. Touch the ohmmeter test leads to the secondary yellow and yellow leads of the dual transformer. The meter should indicate between 0.11 and 0.14 ohms.
5. Touch the ohmmeter test leads to the secondary red and red leads of the dual transformer. The meter should indicate between 0.14 and 0.18 ohms.

⚠ 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.**

WATER RECIRCULATION PUMP



Refer to page 4-7 for the procedure for accessing the water recirculation pump.

1. Unplug ice maker or disconnect power.
2. Set the ohmmeter to the appropriate scale.
3. Touch the ohmmeter test leads to the outside water recirculation pump wire connector pins. The meter should indicate approximately 3.6 ohms.

RESERVOIR DRAIN PUMP



Refer to page 4-8 for the procedure for accessing the reservoir drain pump.

1. Unplug ice maker or disconnect power.
2. Set the ohmmeter to the appropriate scale.
3. Touch the ohmmeter test leads to the outside reservoir drain pump wire connector pins. The meter should indicate approximately 3.6 ohms.

⚠ 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.

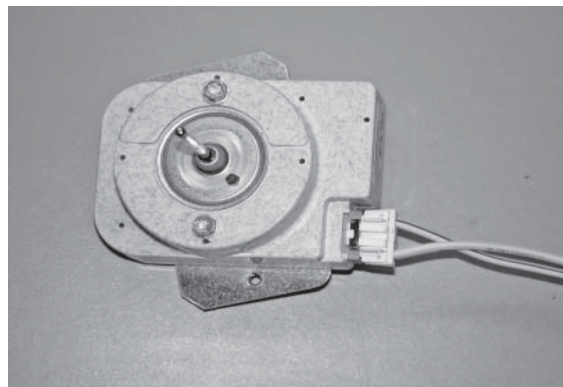
WATER LEVEL SENSOR



Refer to page 4-8 for the procedure for accessing the water level sensor.

1. Run the diagnostic tests (see page 3-7) and check for the proper operation of the water level sensor. in step 4b.
2. With the water level sensor immersed in water the Service LED should stay on solid.
3. With the water level sensor out of the water the Service LED should blink.

CONDENSER FAN MOTOR



Refer to page 4-8 for the procedure for accessing the condenser fan motor.

1. Run the diagnostic tests (see page 3-7) and check for the proper operation of the condenser fan motor in step 7.

NOTE: During operation, 120 volts will be present at the condenser fan motor electrical connector.

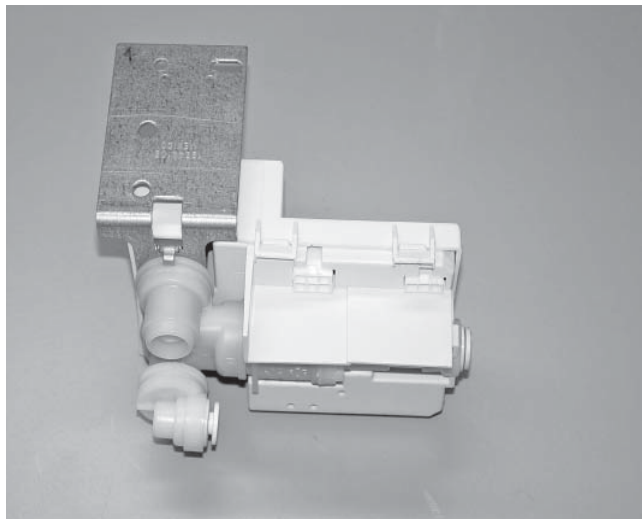
⚠ WARNING



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.**

MEASURED FILL WATER VALVE



Refer to page 4-16 for the procedure for accessing the measured fill water valve. Refer to page 3-7 for diagnostic mode.

1. Unplug ice maker or disconnect power.
2. Unsnap and remove the cover from the measured fill water valve.
3. Set the ohmmeter to the appropriate scale.
4. Touch the ohmmeter test leads to the measured fill water valve solenoid terminals. The meter should indicate between 240 and 280 ohms.

HOT GAS VALVE SOLENOID



Refer to page 4-17 for the procedure for accessing the hot gas valve solenoid.

1. Unplug ice maker or disconnect power.
2. Set the ohmmeter to the appropriate scale.
3. Touch the ohmmeter test leads to the pins of the hot gas valve solenoid 2-wire connector. The meter should indicate between 365 and 390 ohms.

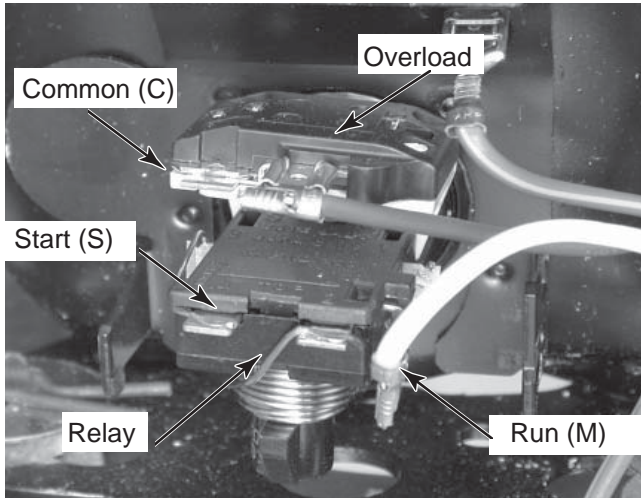
⚠ WARNING



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.

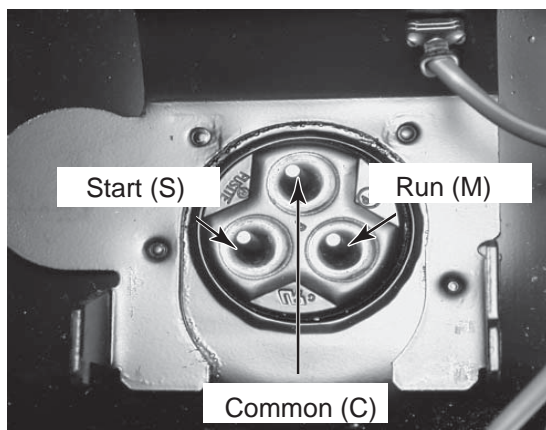
COMPRESSOR, OVERLOAD PROTECTOR, & RELAY



Refer to page 4-19 for the procedure for accessing the compressor.

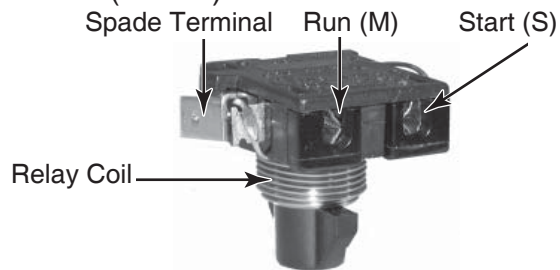
1. Unplug ice maker or disconnect power.
2. Set the ohmmeter to the appropriate scale.
3. **To test the compressor windings:**

- a) Touch one of the ohmmeter test leads to the Common (C) pin, and the other lead to the Start (S) pin. The meter should indicate between 8 and 11 ohms.

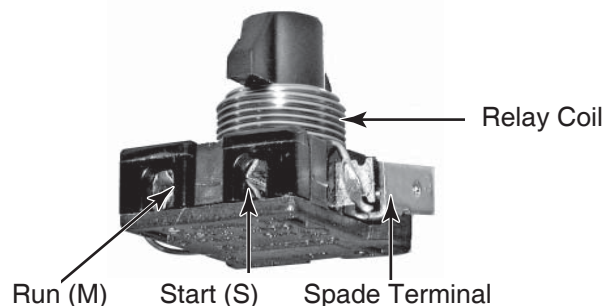


- b) Touch one of the ohmmeter test leads to the Common (C) pin, and the other lead to the Run (M) pin. The meter should indicate between 2 and 3 ohms.
4. **To test the relay:**

- a) Position the relay with the coil facing down, as shown below.
- b) Insert the tip on one of the ohmmeter test leads into the Run (M) pin socket, and touch the other ohmmeter lead to the spade terminal. The meter should indicate a closed circuit (0 ohms).
- c) Move the tip of the ohmmeter test lead from the spade terminal into the Start (S) pin socket. Leave the other ohmmeter lead at the Run (M) location. The meter should indicate an open circuit (infinite).



- d) Turn the relay over so that the coil faces up, as shown below.
- e) With the tip of the ohmmeter test leads at the Start (S) and Run (M) pin sockets, the meter should indicate a closed circuit (0 ohms).



DIAGNOSTICS & TROUBLESHOOTING

WATER AND ITS EFFECT ON MAKING ICE

Quality ice is defined as solid, clear, and free of taste or odor. All ice makers can provide this type of ice only if the water used to produce the

ice is pure, and free of mineral contamination. The following charts show some of the problems that can affect ice production.

EFFECT ON ICE QUALITY

INGREDIENT	EFFECT	CORRECTION
Algae	Objectionable Taste and Odor	Carbon Filter
Minerals: Sodium Potassium Magnesium Calcium	Cloudy Ice Slow Cutting Refreezing	<ol style="list-style-type: none"> 1. Check for water flow restriction 2. Polyphosphate feeder or water softener 3. Change water source

EFFECT ON ICE MAKER

INGREDIENT	EFFECT	CORRECTION
Iron Chlorine Manganese	Staining (Aesthetics only)	<ol style="list-style-type: none"> 1. Use only Ice Machine Cleaner P/N 4396808 2. Water softener and iron filter
Permanent Hardness Calcium or Magnesium Sulfates Chlorides Nitrates	Scale	<ol style="list-style-type: none"> 1. Abrasive cleaning 2. Polyphosphate feeder or water softener reduces or eliminates need for abrasive cleaning
Temporary Hardness Calcium or Magnesium Carbonates	Scale	<ol style="list-style-type: none"> 1. Use only Ice Machine Cleaner P/N 4396808 2. Polyphosphate feeder or water softener reduces frequency of cleaning by 50%

RECOMMENDATIONS:

Water softeners or polyphosphate feeders are not cure-alls, but do reduce and, in some cases, prevent scale buildup. Use only Ice Maker Cleaner (P/N 4396808) if there is scale buildup on evaporator plate or in water hoses.

CAUTION: Some polyphosphate feeders cause slime buildup. Their use in low mineral content water should be carefully considered.

NOTE: Reverse Osmosis filters are not recommended with this unit. These filters can limit the water flow to the unit and limit its capacity to produce sufficient ice.

Water Hardness Test Kit: A Water Hardness Test Kit (P/N 4171690) is available from FSP Parts Distribution.

TROUBLESHOOTING CHART

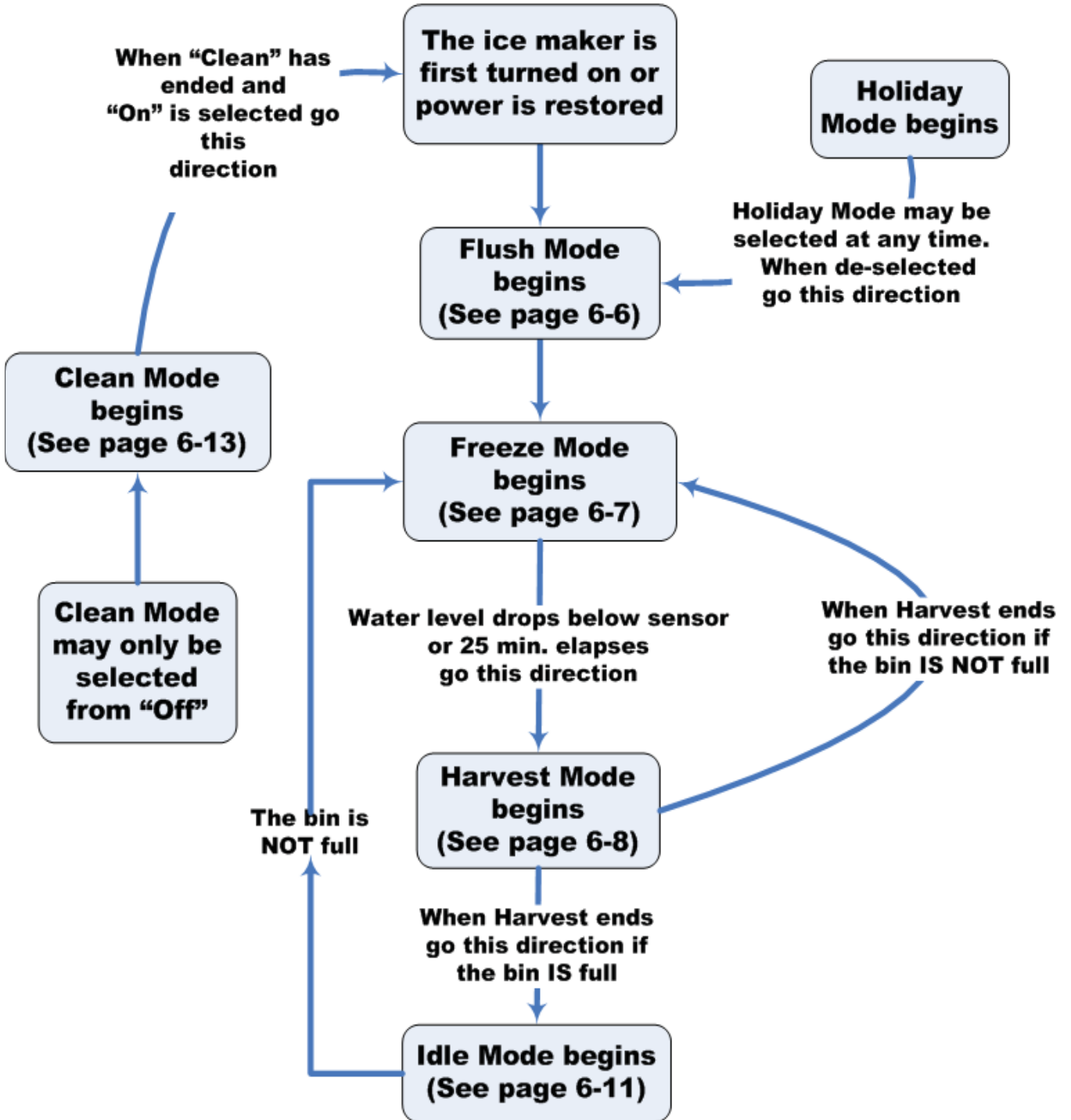
Problem	Probable Cause	Test Procedure-Action
Will not run	No power at wall outlet	Check circuit breaker/fuses
	No power at auxiliary drain pump power outlet	Check for kinked drain hose, blocked screen or blocked vent outlet or hose.
	Disconnected selector switch	Reconnect and check for proper operation.
	Loose connections at selector switch or control board	Repair connections
	No power through power cord	Check continuity of power cord and replace if open
	Room temperature below 55°F (13°C)	Bin thermistor has unit shut off Customer Instruction
	Ice touching bin thermistor	Normal operation
Will not make ice Water reservoir is empty Evaporator is cold with thin or no ice slab	Water supply turned off	Turn on water supply
	Loose or missing reservoir cap	Tighten or replace
	Water slide return tube out of reservoir	Reposition tube
	Inlet tube out of position and missing reservoir	Reposition tube
	Water inlet tube frozen near evaporator	Thaw and reposition tube
	Defective inlet water valve	Test and repair or replace
	An ice slab only partially released from evaporator and water was bridged down into the bin	Look for interference with cutter grid and clean the evaporator plate (see procedure on page 8-1)

Problem	Probable Cause	Test Procedure-Action
Will not make ice Water reservoir is empty. Evaporator is cold with 3/4" thick or larger ice slab	Slab will not release during harvest due to scale build up	Clean the evaporator plate(see procedure on page 8-1)
	Defective or disconnected hot gas	Test and repair or replace
	Defective hot gas valve	Test and repair or replace
	Room temperature over 100°F (38°C)	Customer instruction
Will not make ice Water reservoir is full Evaporator is cold with thin/partial/irregular or no ice slab	Seeping water valve Condenser is hot	Replace water valve
	Partial refrigerant leak or restriction (U shaped slab)	Check for leak/restriction and repair or replace defective component
	Blocked condenser or stalled fan motor	Clean condenser, repair or replace motor
	Tube not attached to outlet of recirculation pump	Reattach tube
	Defective recirculating pump	Repair or replace the pump motor assembly
	Partially blocked water distributor	Clean distributor and evaporator
Will not make ice Water reservoir is full Evaporator is warm	Compressor is not running	Test compressor, relay and overload
	Blocked condenser or stalled fan motor	Clean condenser, repair or replace motor
	Unit is in the startup mode	Wait 5 minutes and recheck
Poor ice production	Room temperature below 55°F (13°C)	Bin thermistor has unit shut off Customer Instruction
	Seeping water valve Condenser is hot	Replace water valve
	Slow or defective drain or drain pump causing water to back up into the bin	Repair or replace drain or drain pump

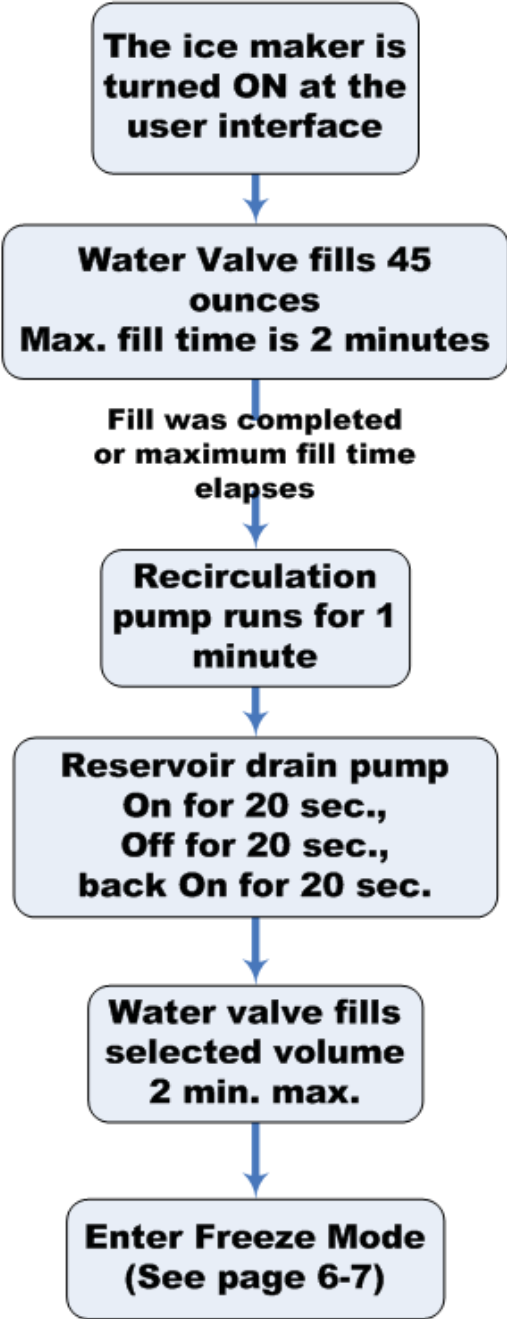
Problem	Probable Cause	Test Procedure-Action
Too much ice in bin	Defective bin thermistor	Replace
Noisy	Banging sound	The slab dropping off the plate and ice dropping from the cutter grid into an empty bin are normal sounds
	Grinding, cavitating sound	The reservoir is empty. Look for a partially released slab, interference with cutter grid etc and clean the evaporator plate, (see procedure on page 8-1)
	Grinding, cavitating sound from recirculation pump	If the reservoir is full replace the pump
	Noisy drain pump	Repair or replace
Ice freezing together in the bin	Normal	This is normal with low customer useage
Cloudy, soft, thin, or poor tasting ice	Poor water quality	See chart on page 6-1
Service LED on some models or Off LED on other models.	Open or disconnected bin thermistor or thermistor wiring	Test thermistor & wiring harness or reconnect
	Defective, loose or mispositioned evaporator thermistor	Test thermistor & wiring harness or reconnect

DIAGNOSTIC FLOW CHARTS FOR ICE MAKER CONTROL BOARD

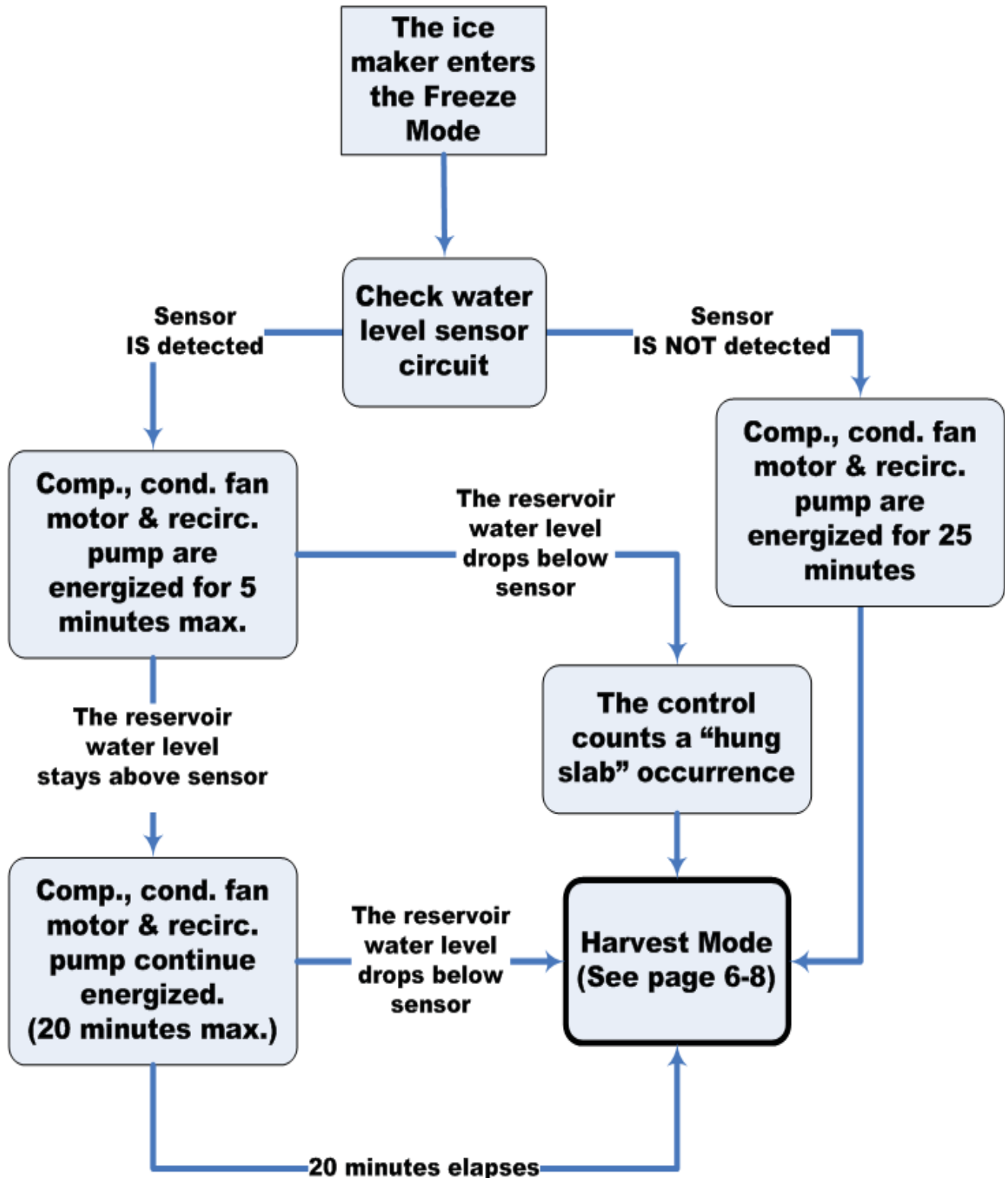
OVERVIEW



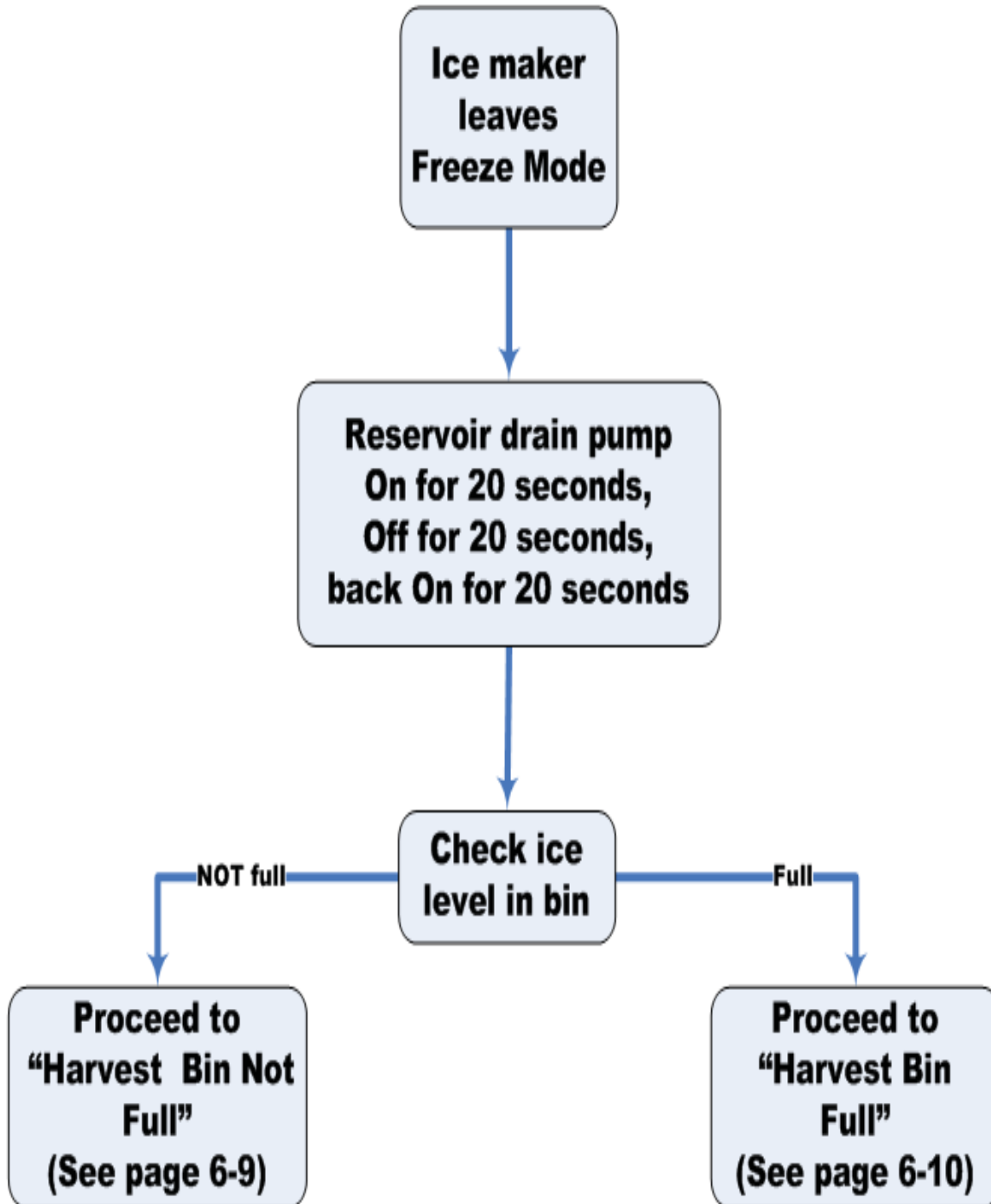
Flush Mode: (6 minutes maximum) The Flush Mode begins every time the user interface is changed to “On” from “Off”, “Clean” or “Holiday”. This will be the initial time it is turned on, or when the ice maker is turned on after the completion of the Clean or Holiday Modes, or (drain pump models only) when operation resumes after the ice maker is shut down by the drain pump.



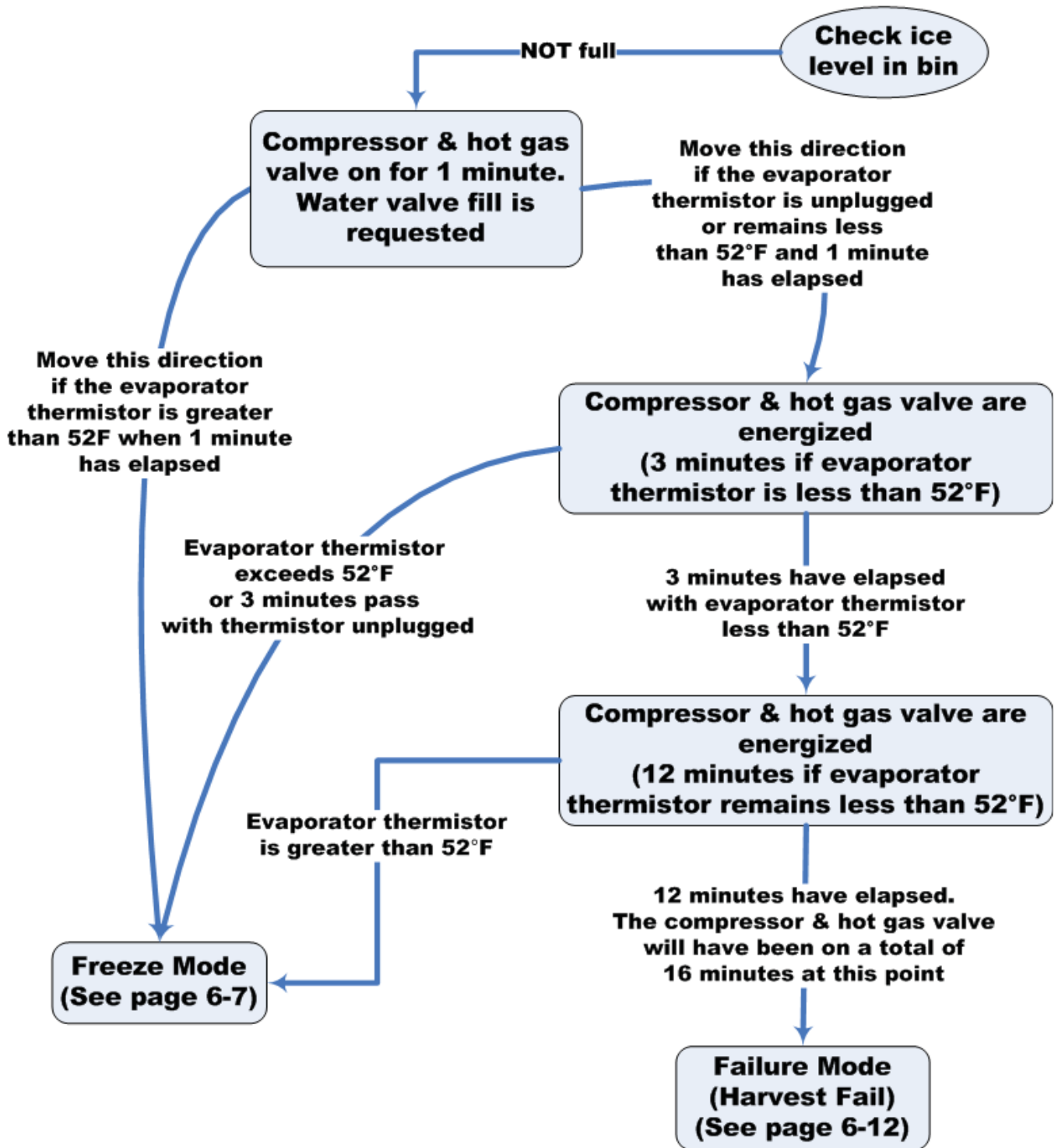
Freeze Mode: Time in this mode is dependent on the water level in the reservoir. There is no minimum time and the maximum time is 25 minutes.



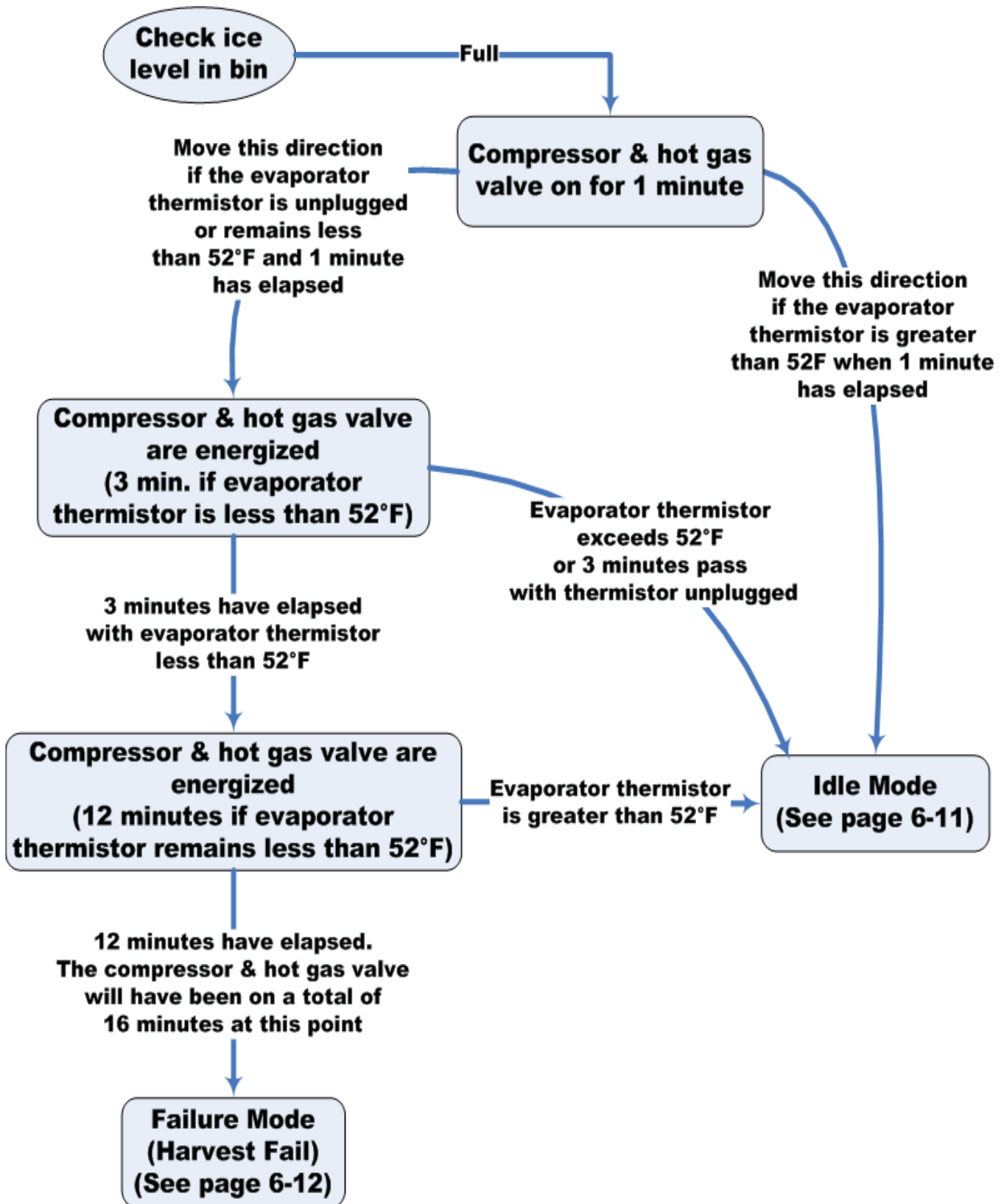
Harvest Mode: Time in this mode will be 2 to 17 minutes, dependent on the condition of the evaporator thermistor.



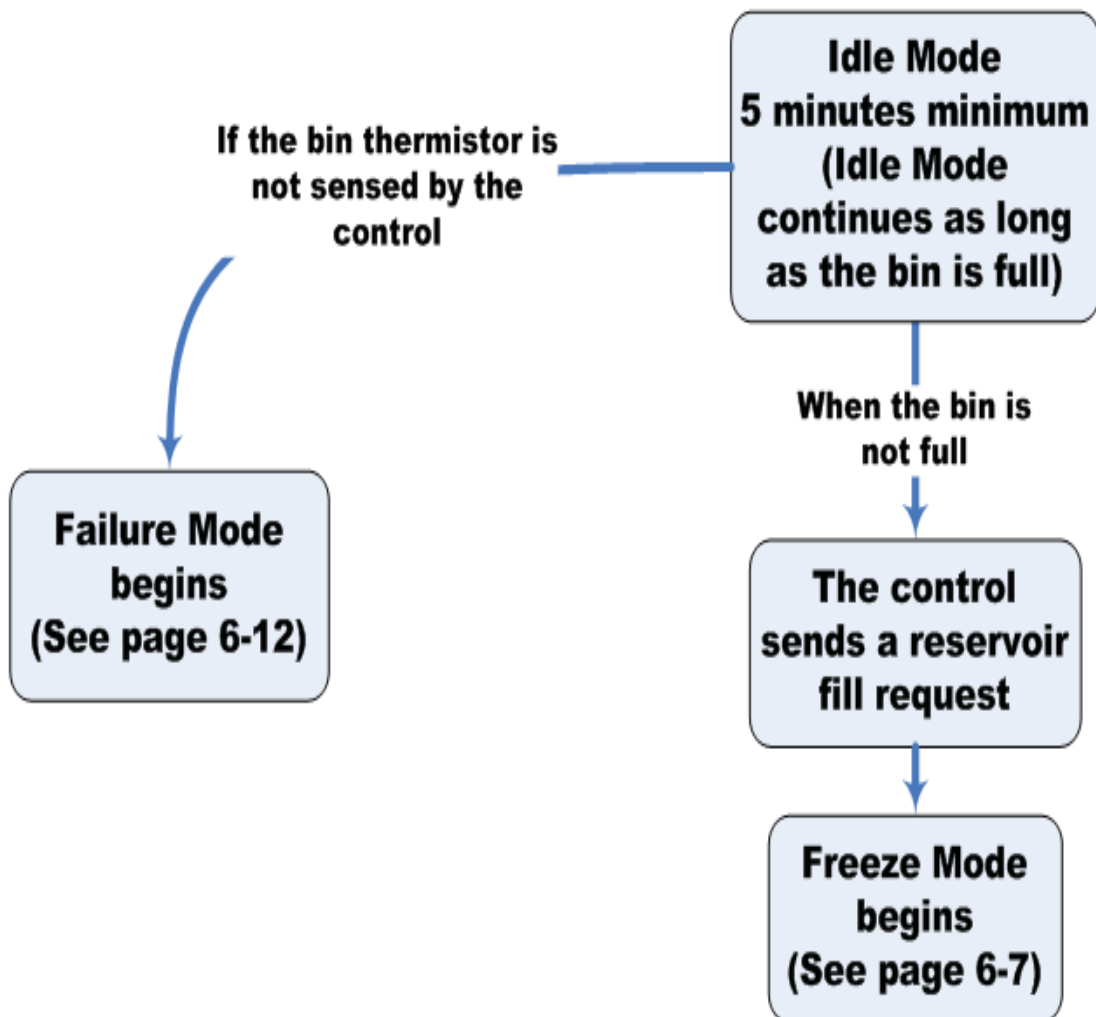
Harvest
Bin Not Full



Harvest
Bin Full

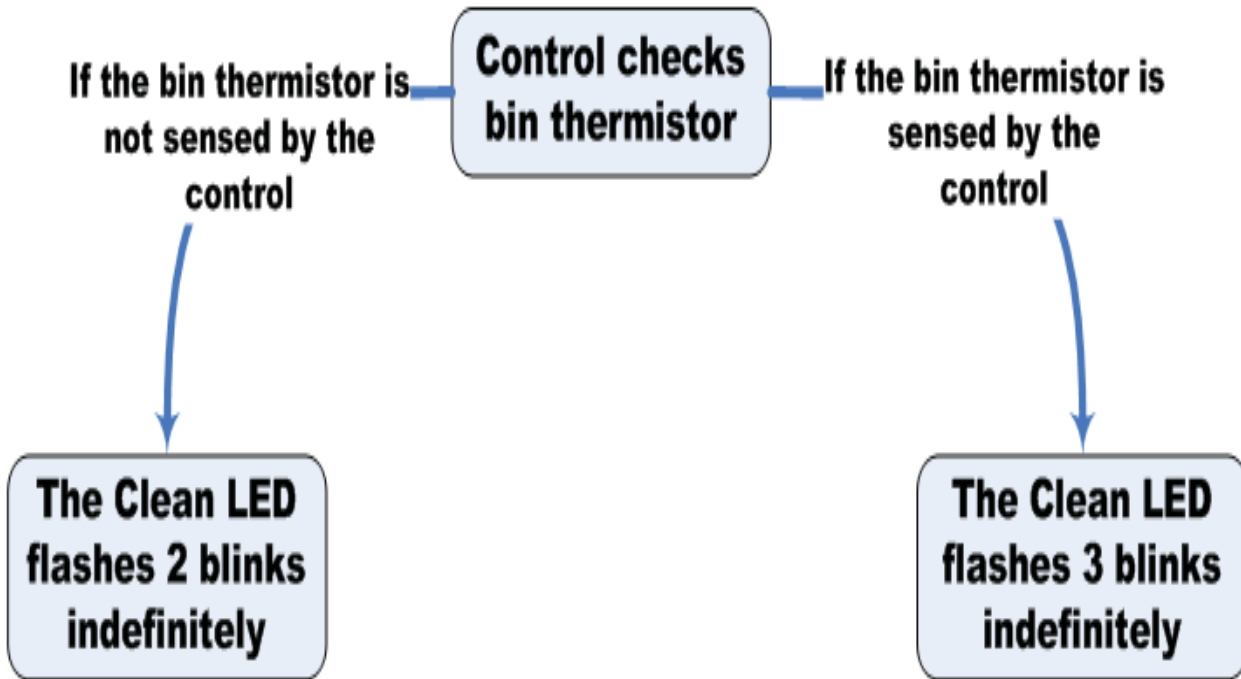


Idle Mode: Time in this mode is dependent on the temperature at the bin thermistor.



NOTE: "Bin Full" set point is 36°F. The ice maker will stay in the "Idle Mode" as long as the ice in the bin touches the bin thermistor and keeps it lower than 36°F.

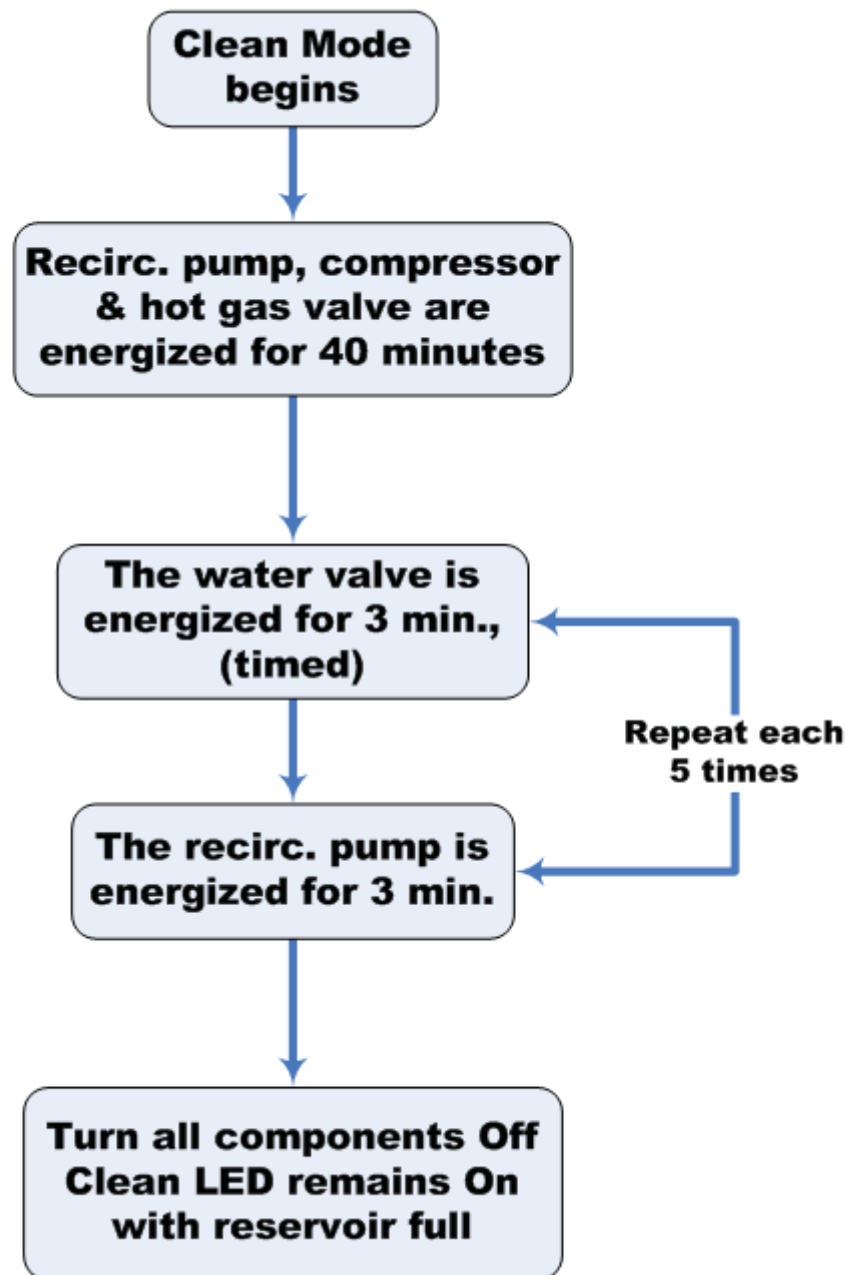
Failure Mode: This mode will last indefinitely until the failure is corrected. The Service Button, (not on all models) will reset the failure mode.



NOTE: If the Clean LED is flashing 3 blinks, look for an evaporator thermistor that has not reached 52°F. This may be due to a loose or improperly positioned thermistor, a hot gas failure, a sealed system leak or restriction.

The bin thermistor is constantly checked during the Flush, Idle, and Harvest Modes, and the end of each Freeze Mode. If the LED is flashing 2 blinks, look for a disconnected or open bin thermistor.

Clean Mode: (70 minutes) The Clean Mode may only be selected while the ice maker is turned off at the user interface.

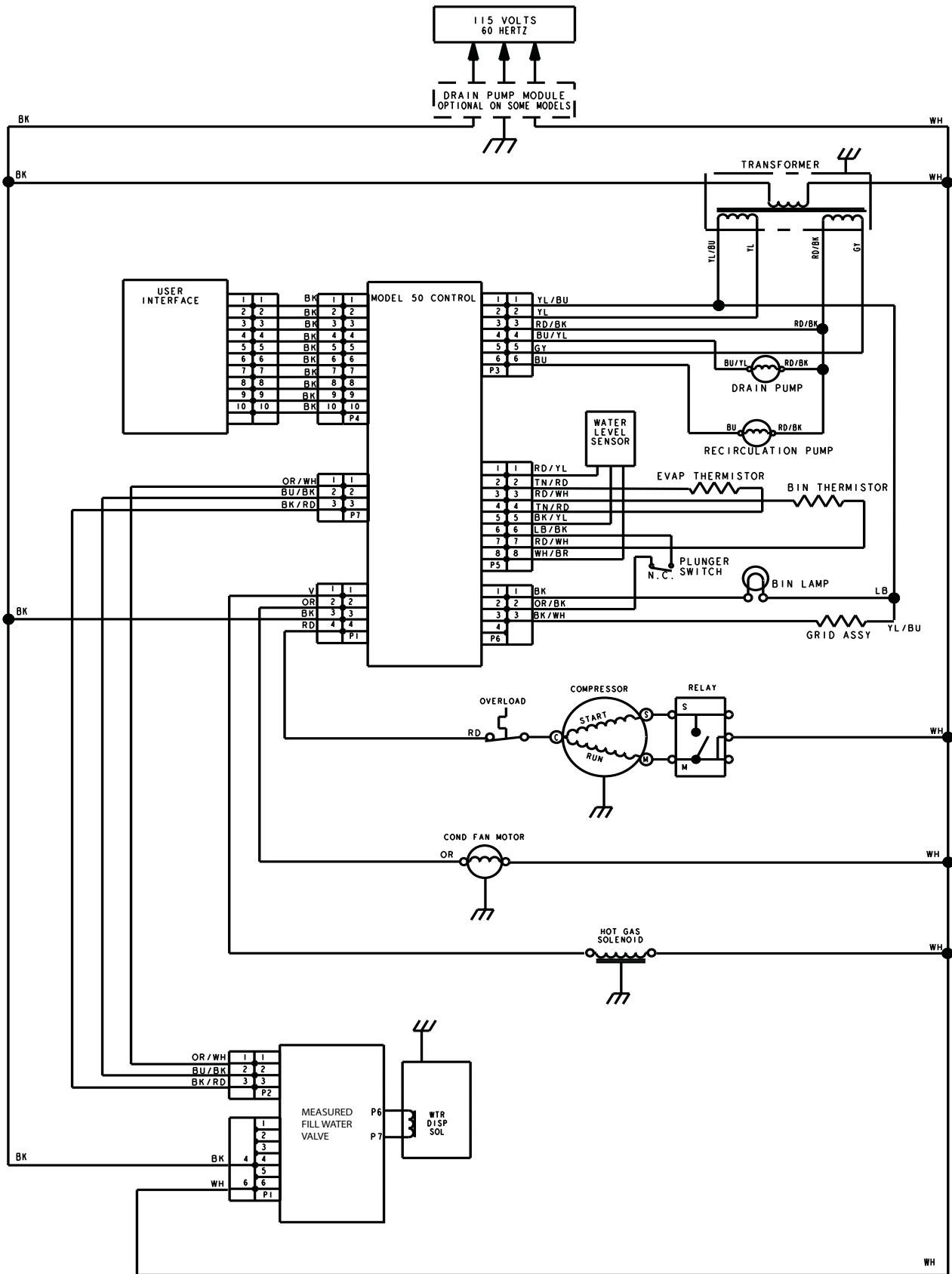


NOTE: At the end of the Clean Mode, the ice maker will stay OFF. The reservoir is to be drained by the consumer prior to restarting the ice maker.

— NOTES —

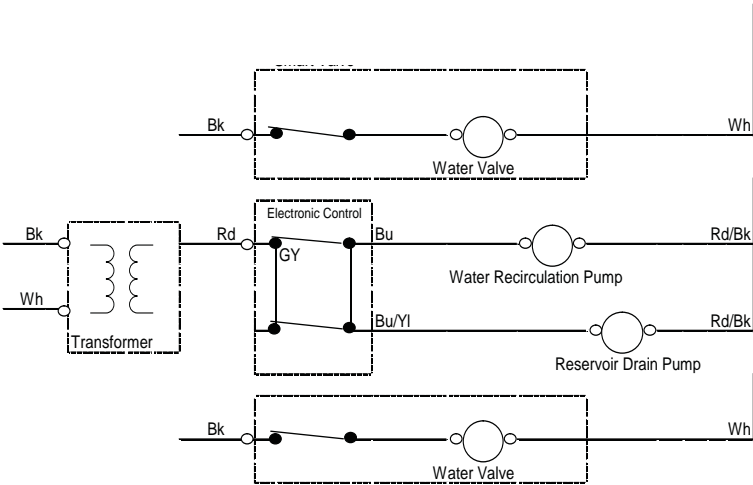
WIRING DIAGRAM & STRIP CIRCUITS

WIRING DIAGRAM

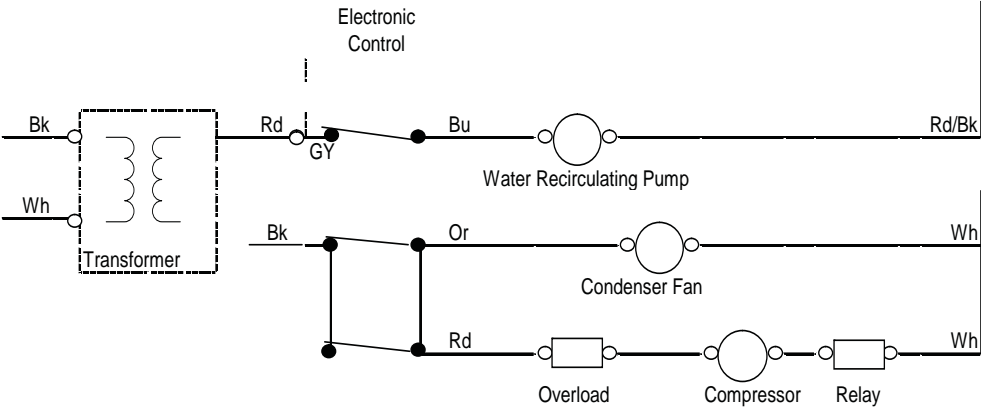


STRIP CIRCUITS

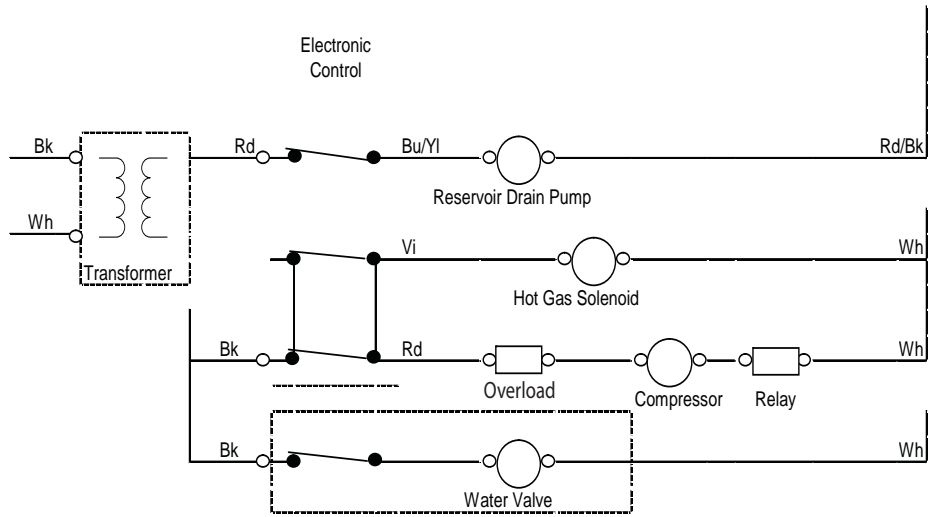
FLUSH MODE



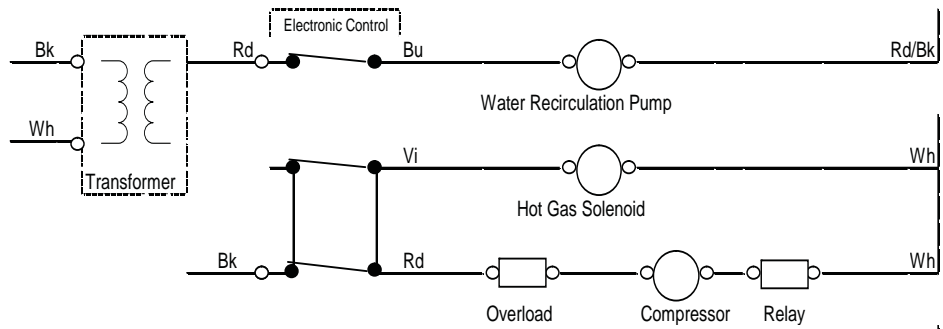
ICE MAKING MODE



HARVEST MODE



CLEAN MODE



— NOTES —

TECH TIPS

CLEANING THE ICE MAKER

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.

NOTES:

- KitchenAid recommends cleaning the ice maker at least once a year. More frequent cleaning may be required in areas that contain heavy amounts of minerals in the water supply.
- Always wear rubber gloves when handling cleaning solutions.

CLEANING THE EVAPORATOR PLATE

NOTE: Use one 16 oz (473 ml) bottle of Ice Machine Cleaner, Part Number **4396808**. For best performance, do not use any other type of ice machine cleaner in the ice maker.

1. Press and hold the OFF keypad to turn the unit off.
2. For easier access to the evaporator, remove the cutter grid (see page 4-2).
3. Remove the ice from the bin.
4. Unscrew the drain cap from the reservoir and allow the reservoir to drain completely, then reinstall the drain cap.



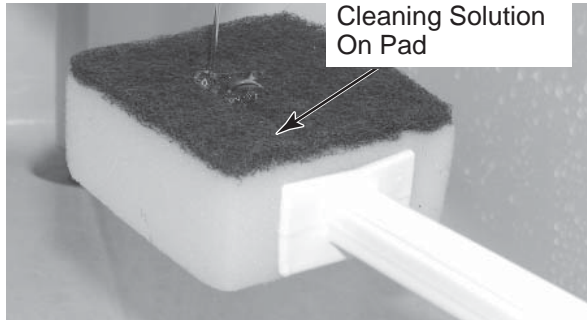
Reservoir Drain Cap

Continued on the next page.

5. Read and follow all of the handling information that was supplied with the ice machine cleaner.

IMPORTANT: Use the entire bottle to clean the unit.

6. Open the bottle and pour a small amount of cleaning solution onto the cleaning brush.
NOTE: If a brush is not available you may use a non scratching, blue Scotch-Brite™ pad.



7. Using only front-to-back motions, clean the top of the plate, the sidewalls, and the front edge of the evaporator. The front-to-back motion is important to avoid scratches that could keep the ice slab from sliding off the evaporator plate.

NOTE: More solution may be necessary if there is a large amount of scale buildup on the evaporator. The scrubbing process may take ten minutes or more, depending on the amount of scale buildup on the plate. The entire plate should feel smooth when the cleaning is finished.

Scrub Front-To-Back



8. Pour the remaining solution from the bottle into the water reservoir. Using the empty bottle, fill the reservoir with clean water to within 1/4" of the top of the overflow port.

Add Remaining Cleaner



9. Press and hold the Clean keypad. The Clean light will blink to show that the Clean cycle is in progress. When the light turns off (after approximately 70 minutes), the cleaning cycle is complete. During the cleaning cycle, the system both cleans and rinses itself.
10. After the cleaning cycle is complete, remove the drain cap from the water reservoir, and see if any cleaning solution is left in the water as it drains out. If the water is green in color from the cleaning solution, it will be necessary to run another cleaning cycle to flush the system. Be sure to replace the drain cap securely to avoid leaking.
11. When the flushing process is completed, press the ON keypad to resume ice production.

PRODUCT SPECIFICATIONS AND WARRANTY INFORMATION SOURCES

IN THE UNITED STATES:

FOR PRODUCT SPECIFICATIONS AND WARRANTY INFORMATION CALL:

FOR WHIRLPOOL PRODUCTS: 1-800-253-1301
FOR KITCHENAID PRODUCTS: 1-800-422-1230
FOR ROPER PRODUCTS: 1-800-447-6737

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:

PHONE: 1-800-851-4605

FOR TECHNICAL INFORMATION AND SERVICE POINTERS:

www.servicematters.com

IN CANADA:

FOR PRODUCT SPECIFICATIONS AND WARRANTY INFORMATION CALL:

1-800-488-4791

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**

KitchenAid®
FOR THE WAY IT'S MADE.®

