



# Haier

**PRCS25EXXX**

**Side by Side  
25 cu ft  
Refrigerator  
Freezer  
with  
Convertible  
Drawer**

**This training also covers  
models**

**PRCS25PXXX and  
RRCS25XXXX**





# Haier

## PRCS25XXX

### Side by Side Convertible

### Service Training

Programs include:

Operation

Door Components

Machine Compartment

Fresh Food and Freezer  
Compartments

Control Module Components



**Model Designations  
Side by Side Convertible  
25 cu ft Refrigerator / Freezer**

**P R C S 25 E D A W**

**W: White S: Stainless B: Black V: Virtual Stainless**

**A: Production Series**

**D: Dispenser**

**E: Elite S: Supreme T: Plus**

**25: Capacity**

**S: Spill-proof shelving**

**C: Convertible Drawer**

**R: Refrigerator**

**P: Phoenix series    R: Standard series**



# MODEL FEATURES

PRCS25E\*\*\*



EXPRESS FREEZE

EXPRESS CHILL

WATER FILTER

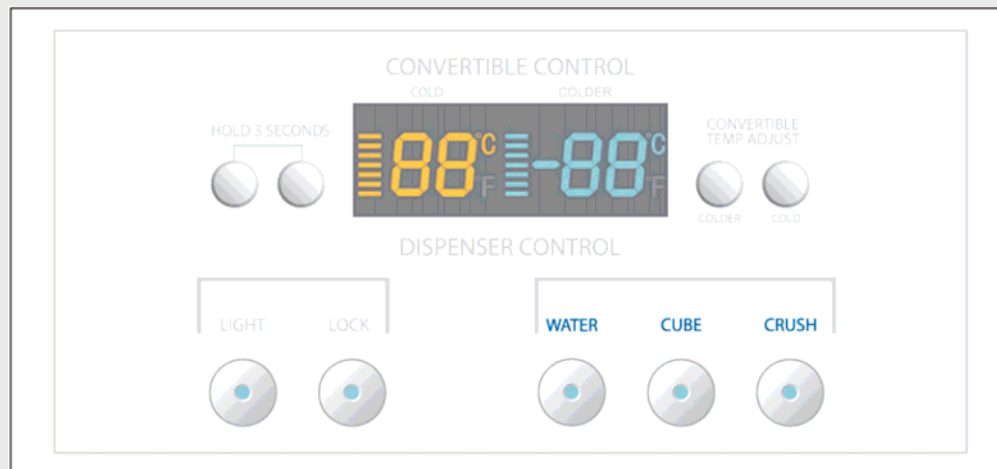
EXTRA ICE

CUBE DISPENSER

CRUSHED ICE DISPENSER

# MODEL FEATURES

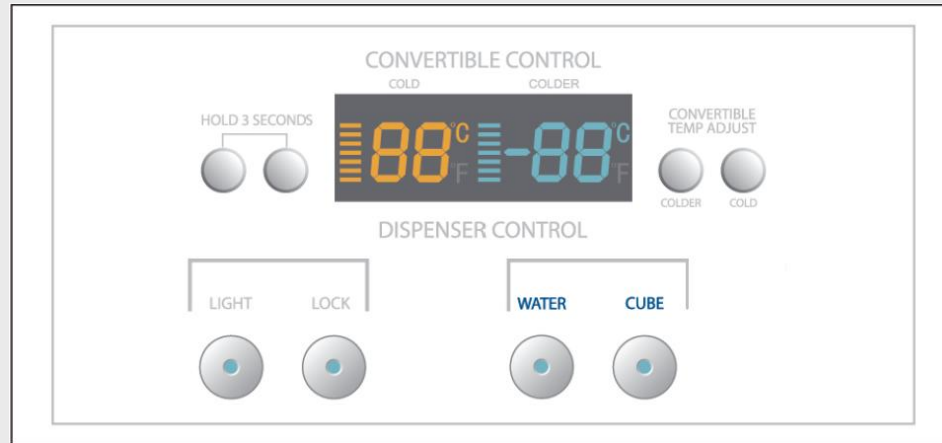
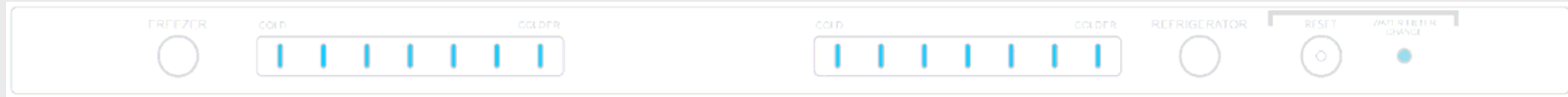
**PRCS25S\*\*\***



**WATER FILTER**  
**CUBE DISPENSER**  
**CRUSHED ICE DISPENSER**

# MODEL FEATURES

RRCS25\*\*\*\*



WATER FILTER  
CUBE DISPENSER

# CONTROLS

## Freezer – Fresh Food Compartments



**FREEZER – 7 temperature settings. -6° ~+ 8° F**

**More bars indicate colder temperatures. Press <-> to adjust.**

**EXPRESS FREEZE\*** – Increases evaporator fan speed by approximately 10%. Will reset to normal operation after 4 hours. Temperature cannot be changed when EXPRESS FREEZE is activated.

**Temperature will not drop below set temperature.**

**FAHRENHEIT / CELSIUS - F° / C° setting\***

**On dispenser control panel, in locked mode, press both WARMER and COLDER keys at the same time for 3 seconds. Chime will sound indicating mode change.**

\*Not applicable to all models

# CONTROLS

## Freezer – Fresh Food Compartments



**REFRIGERATOR – 7 Temperature settings. 34°~ 46° F**

**More bars indicate colder temperatures. Press < - > to adjust.**

**EXPRESS CHILL\* - Increases evaporator fan speed by approximately 10%. Will reset to normal operation after 4 hours. Temperature cannot be changed when EXPRESS CHILL is activated. Temperature will not drop below set temperature.**

**FILTER RESET – FILTER CHANGE – filter change indicator will activate on 6 months intervals as a reminder to change filter. After changing filter, press and hold FILTER RESET for 3 seconds to reset.**

**The icemaker and water dispenser will not function if no filter is in place.**

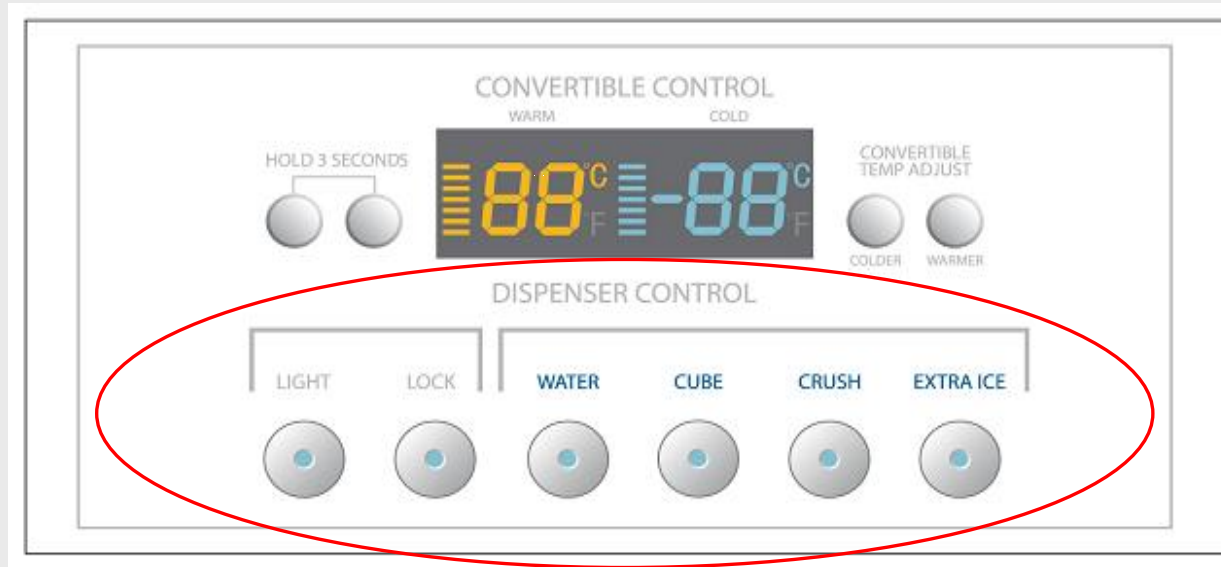
**REFRIGERATOR ON / OFF - In the non locked mode, press and hold the refrigerator temperature regulator keys <and > for 3 seconds. The refrigerator temperature display is off and the refrigerator section is turned off. Reset using the same procedure. A chime will sound.**

\*Not applicable to all models



# CONTROLS

## Convertible Drawer



**LIGHT** – activates dispenser light. Automatically turns off after 4 hours

**LOCK** – locks all dispenser functions from activation when the door paddle is depressed

**WATER** – water will be dispensed when the door paddle is depressed

**CUBE** - Ice cubes will be dispensed when the door paddle is depressed

**CRUSH** – crushed ice will be dispensed when the door paddle is depressed

**EXTRA ICE\*** – increases evaporator fan motor speed by approximately 10% to increase ice production. Cycle will reset to normal operation after 4 hours

\*Not applicable to all models

# CONTROLS

## Convertible Drawer



**WARM (gold – left side)** Indicates drawer is in **REFRIGERATOR** mode. Adjustable from 34° ~ 46° F

**COLD (blue – right side)** Indicates drawer is in **FREEZER** mode. 2 differing temperature settings

**Soft Freeze** - Adjustable from 19° F ~ 30° F

**Hard Freeze** – Indicated by SC (Super Cold) in right indicator box. (non adjustable – approx 5° F)

\*Not applicable to all models

# CONTROLS

## Convertible Drawer



### CONVERTIBLE DRAWER TEMPERATURE ADJUSTMENTS

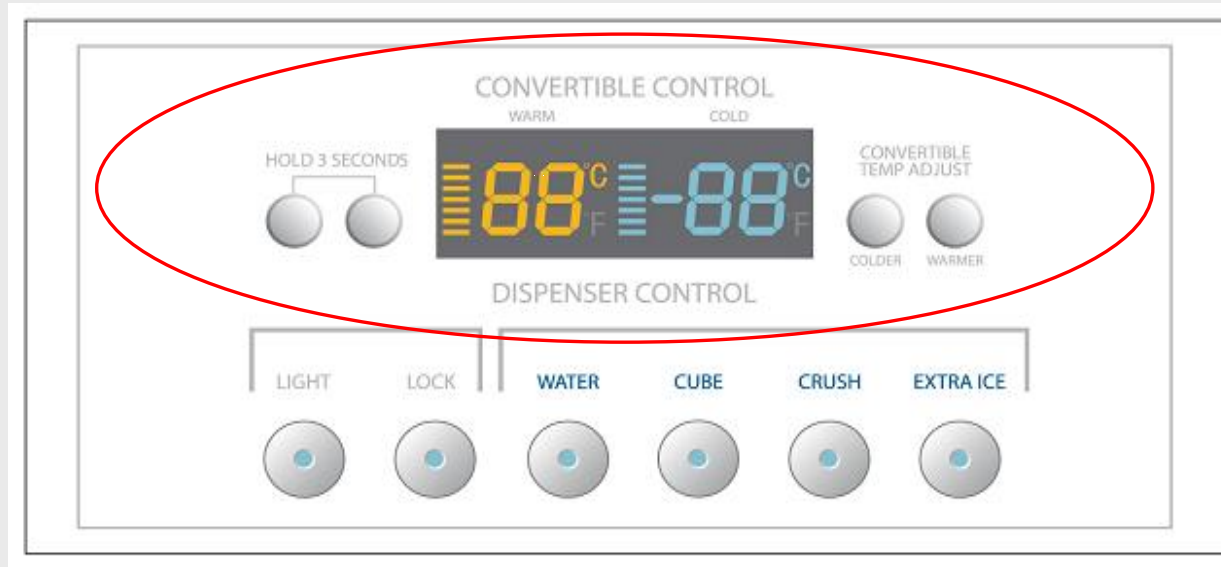
**REFRIGERATOR** - In the non-locked mode, press both **HOLD 3 SECONDS** keys and select **WARMER**. The **WARMER** indicator section is activated. Adjust temperature to desired setting

**SOFT FREEZE** - In the non-locked mode, press both **HOLD 3 SECONDS** keys and select **COLDER**. The **COLD** indicator section is activated. Adjust temperature to desired setting.

**HARD FREEZE** - In the locked mode, press both **HOLD 3 SECONDS** keys and select **COLDER**. Indicator will display **SC**

# CONTROLS

## Convertible Drawer



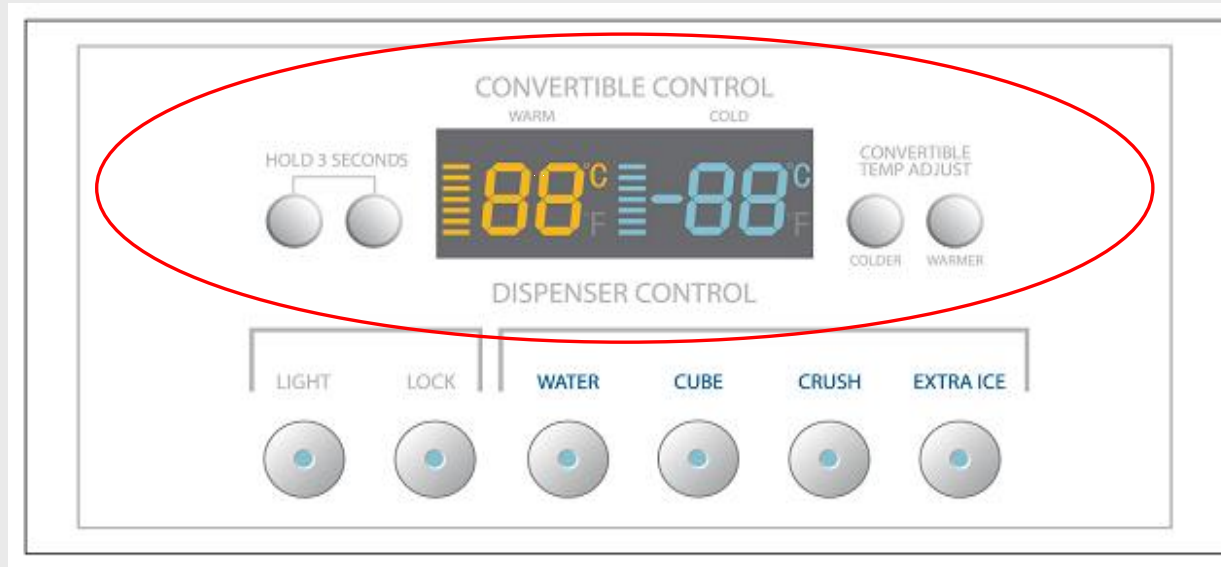
### CONVERTIBLE DRAWER OPTIONAL SETTINGS

**EXPRESS CHILL\*** in Convertible compartment\* – in locked mode, press and hold the left HOLD 3 SECONDS button for 3 seconds. Increases evaporator fan speed by approximately 10%. Will reset to normal operation after 4 hours. Temperature cannot be changed when EXPRESS CHILL is activated. Temperature will not drop below set temperature.

**EXPRESS FREEZE\*** in Convertible compartment\* – in locked mode, press and hold the *left* HOLD 3 SECONDS button for 3 seconds. Increases evaporator fan speed by approximately 10%. Will reset to normal operation after 4 hours. Temperature cannot be changed when EXPRESS FREEZE is activated. Temperature will not drop below set temperature.

# CONTROLS

## Convertible Drawer



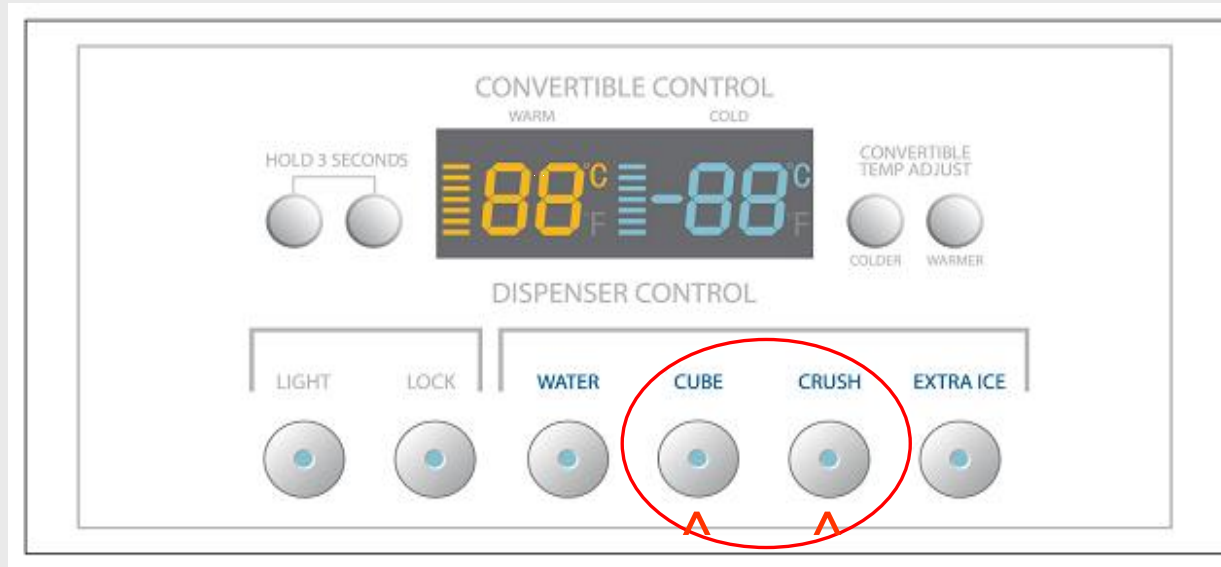
### CONVERTIBLE DRAWER OPTIONAL SETTINGS

**SABBATH Mode** – in locked mode press and hold the **LIGHT** button for 3 seconds. Interior lights and dispenser functions will not operate in this mode. Reset using the same procedure.

**CONVERTIBLE DRAWER ON / OFF** - In the locked mode, press and hold the *right* **HOLD 3 SECONDS** key for 3 seconds. The convertible drawer temperature display is off and the convertible drawer section is turned off. Reset using the same procedure. A chime will sound.

# CONTROLS

## Convertible Drawer



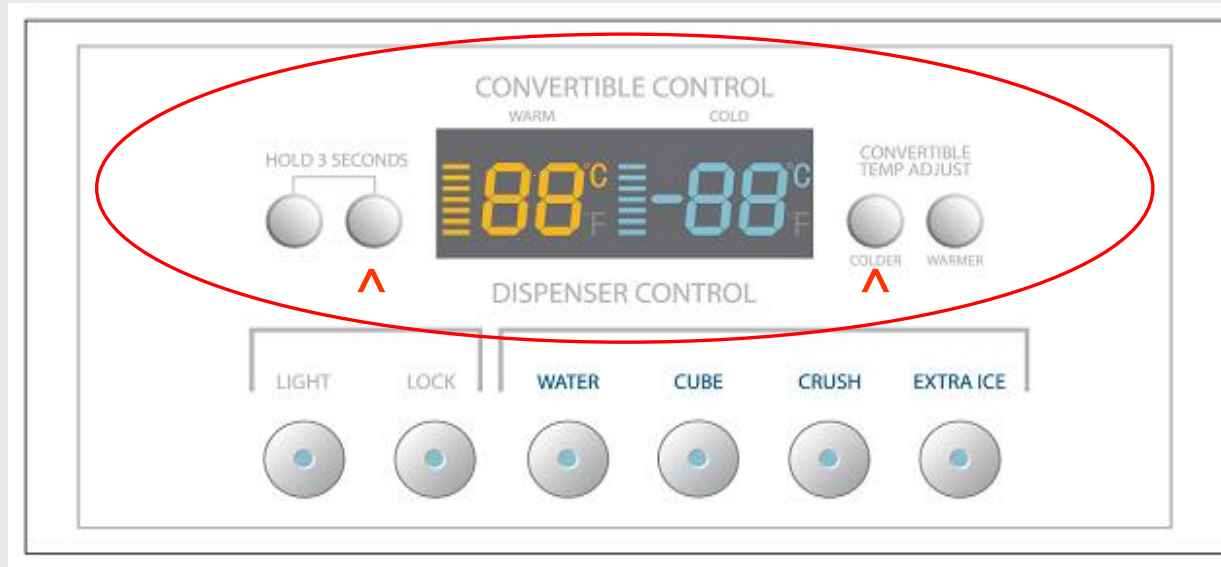
### ADDITIONAL CONTROLS

#### ICEMAKER

**ICEMAKER OFF / ON** – the icemaker function can be turned OFF or ON through this setting. In locked mode, press both CUBE and CRUSH at the same time for 3 seconds. Reset using the same procedure. The icemaker will not function if no water filter is in place. This does not disable the dispenser functions.

# CONTROLS

## Convertible Drawer



### ADDITIONAL CONTROLS

#### Icemaker Water Fill Level

In the lock mode, press and hold for 3 seconds the right key of HOLD 3 SECONDS and the left key of the CONVERTIBLE TEMPERATURE.

The chime will sound once. The display will show the fill time in seconds. The default is 4.5 seconds. Display will show 45. Adjust from 3.0 to 7.0 seconds.

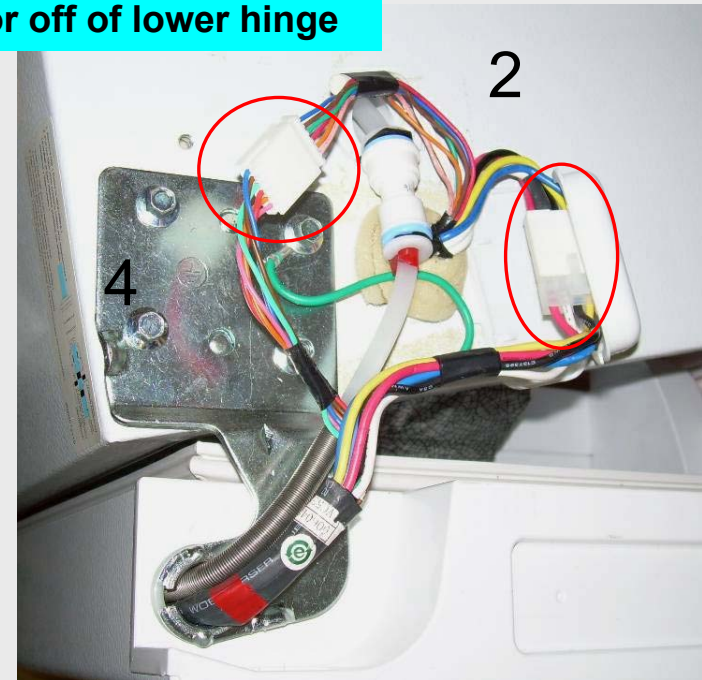
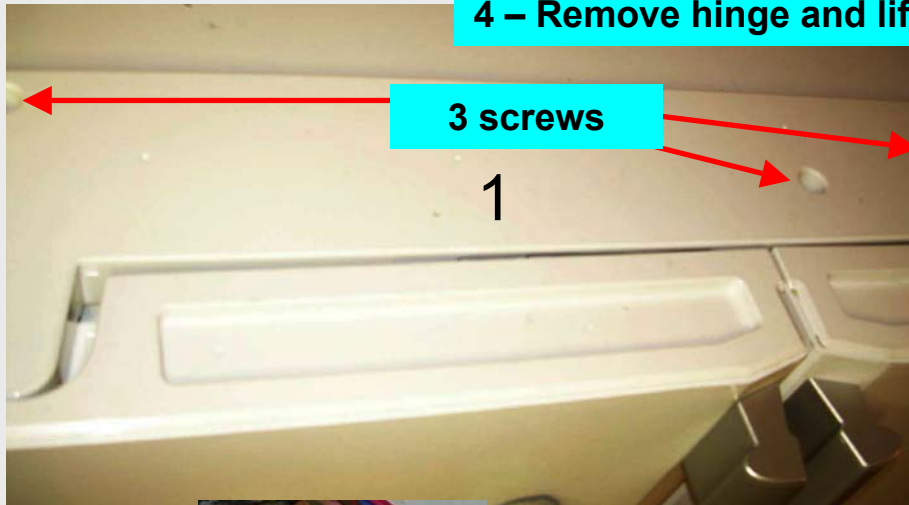
#### CAUTION

Always recheck fill level after making an adjustment.

# DOORS

## Freezer Door Removal

- 1 - Remove upper control panel
- 2 - Disconnect electrical connections
- 3 - Disconnect water line
- 4 - Remove hinge and lift door off of lower hinge



- Remove black retainer clip from one end of connector  
Push inward on white collar and tubing holding collar in  
Pull tubing out  
Replace by pushing tube fully in then replacing clip



# DOORS

## Doors – Handle Removal

Handles are held in place with a keyhole slot mounting plate over a screw in the door panel

If handles are loose, replace mounting plates



# DOORS

## Door Alignment / Cabinet Leveling



**Leveling legs must be firmly against the floor in order to properly align the doors.**

**Door hinges are not adjustable.**



**Door height is adjusted by adding shims under each door.**

**Raise the door and insert shims as needed**

**Shims are supplied in the owners installation packet**

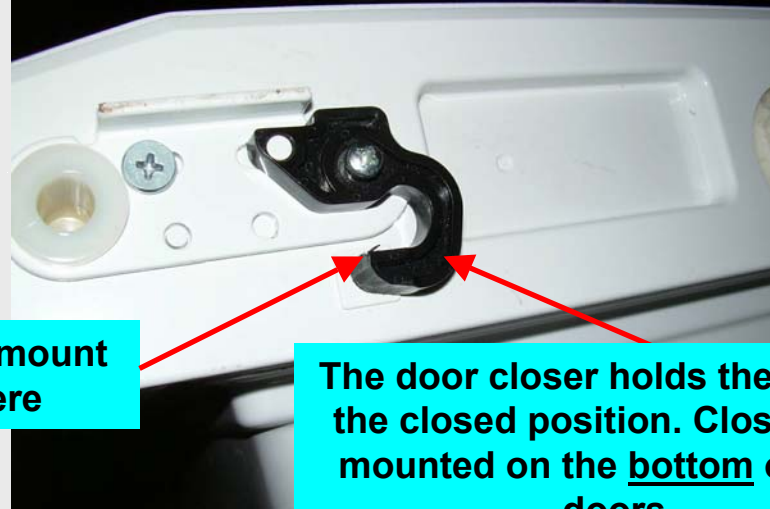


# DOORS

## Door Closer



Door closers can be added to models produced with no closer



Apply a small amount of grease here

The door closer holds the door in the closed position. Closers are mounted on the bottom of both doors



Bottom door hinges have door closer cam

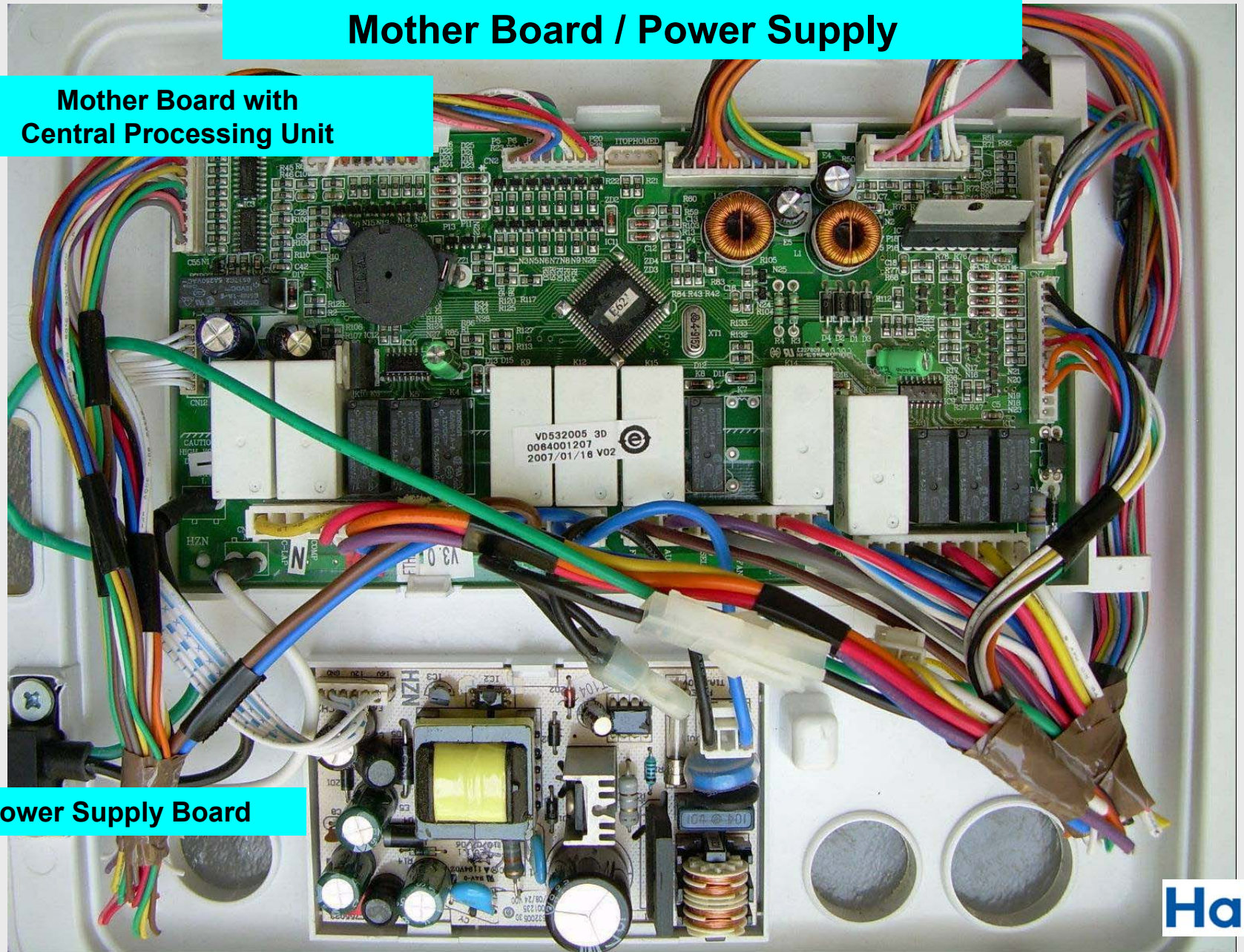


# CONTROL BOARDS

## Mother Board / Power Supply

Mother Board with  
Central Processing Unit

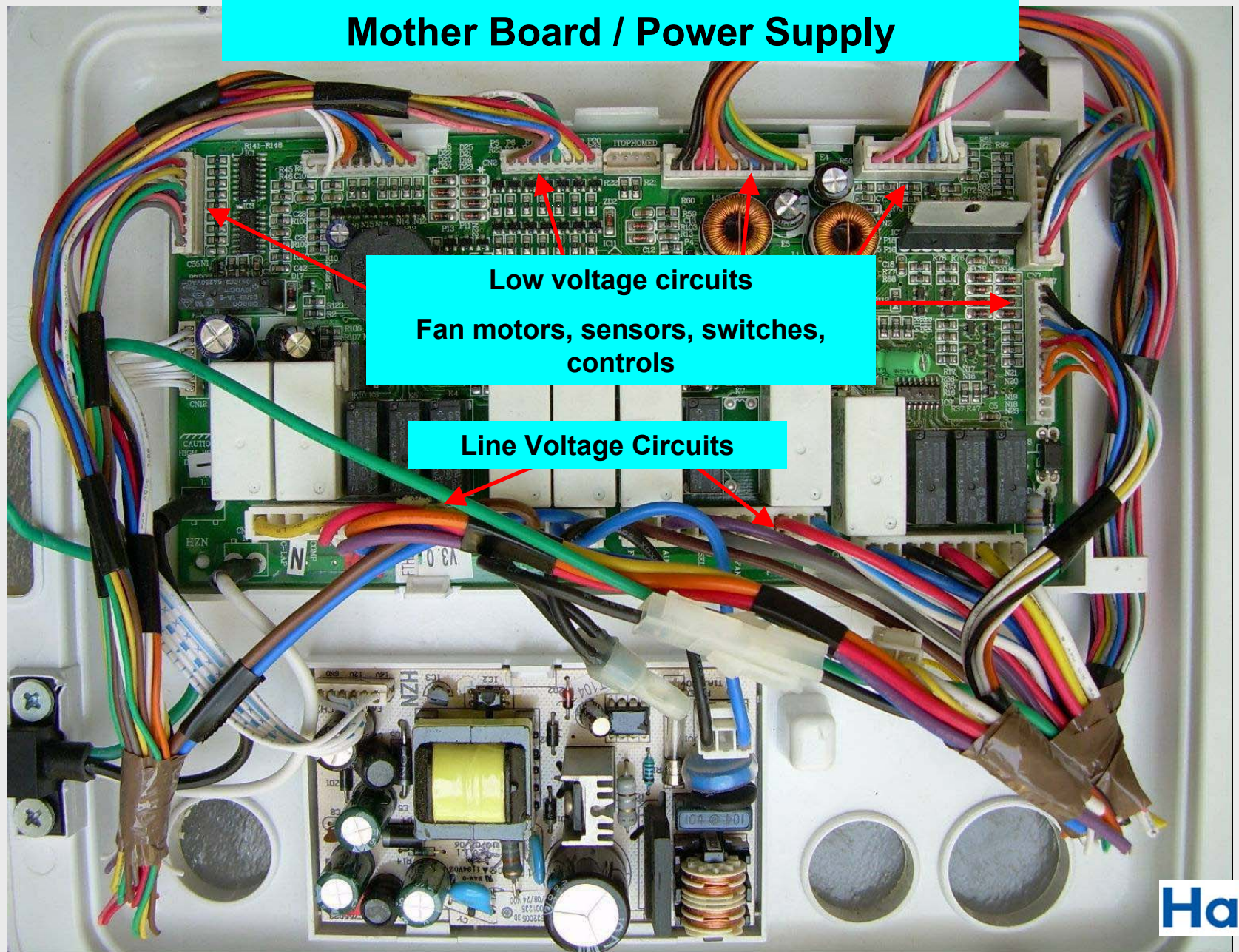
Power Supply Board





# CONTROL BOARDS

## Mother Board / Power Supply



**Low voltage circuits**  
Fan motors, sensors, switches,  
controls

**Line Voltage Circuits**

# CONTROL BOARDS

## Mother Board Line Voltage Connectors

Line Voltage Circuits

Examples



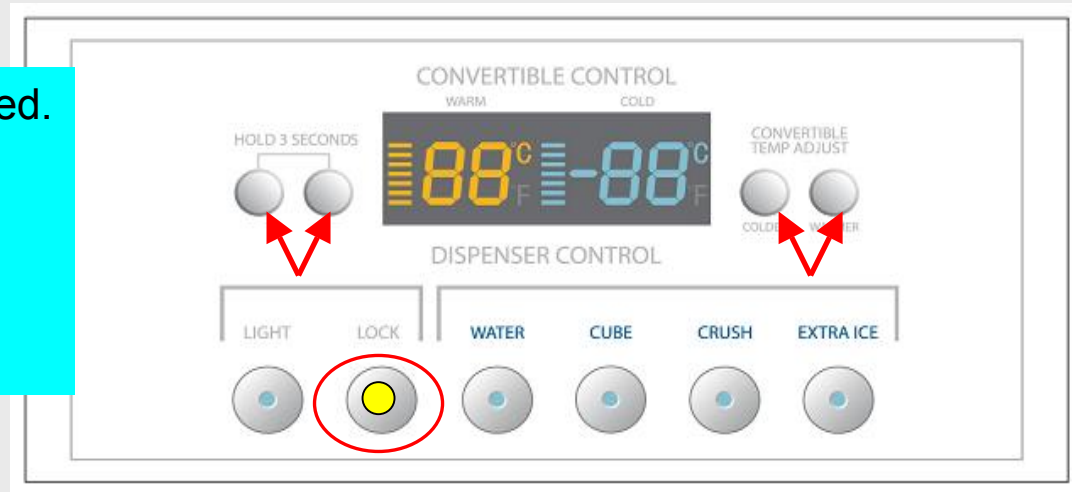
Auger Motor

Defrost Line / Neutral



# Failure Codes

Error codes are not normally not indicated.  
In the locked mode, by pressing  
**HOLD 3 SECONDS** and  
**convertible temp adjust**  
simultaneously for 3 seconds will  
display error codes



Error description	Code	Location
Refrigerator sensor error	F1	Door temperature display
Ambient temp sensor error	F3	Door temperature display
Freezer sensor error	F2	Door temperature display
Ice maker sensor	F6	Door temperature display
Defrost sensor error	F5	Door temperature display
Defrost error	Ed	Door temperature display
convertible room sensor error	F4	Door temperature display
Freezer fan error - operating below 300 rpm	E1	Door temperature display
Condenser fan error operating below 300 rpm	E2	Door temperature display

# DISPENSER

## Dispenser Service



**Remove screws (4)**

**Push in on sides of dispenser frame or use a putty knife to release clips under edge of frame to release clips then pull outward**

**Dispenser lamp 15 watt miniature base  
Christmas tree type lamp**

**Will turn off automatically after 4 hours**

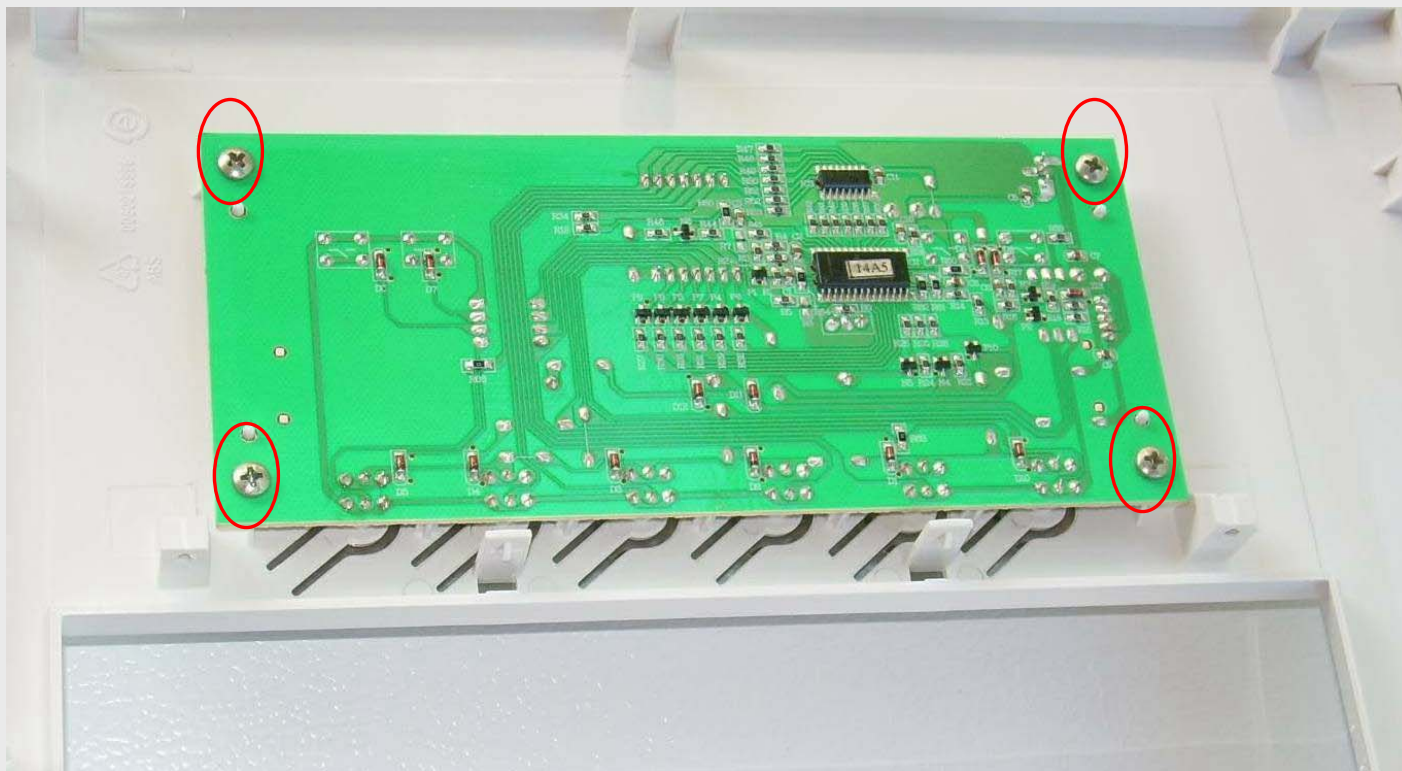


# DISPENSER

## Dispenser Service

Remove screws (4) to replace pc board

Electrical connector is multi-pin push connector



# DISPENSER

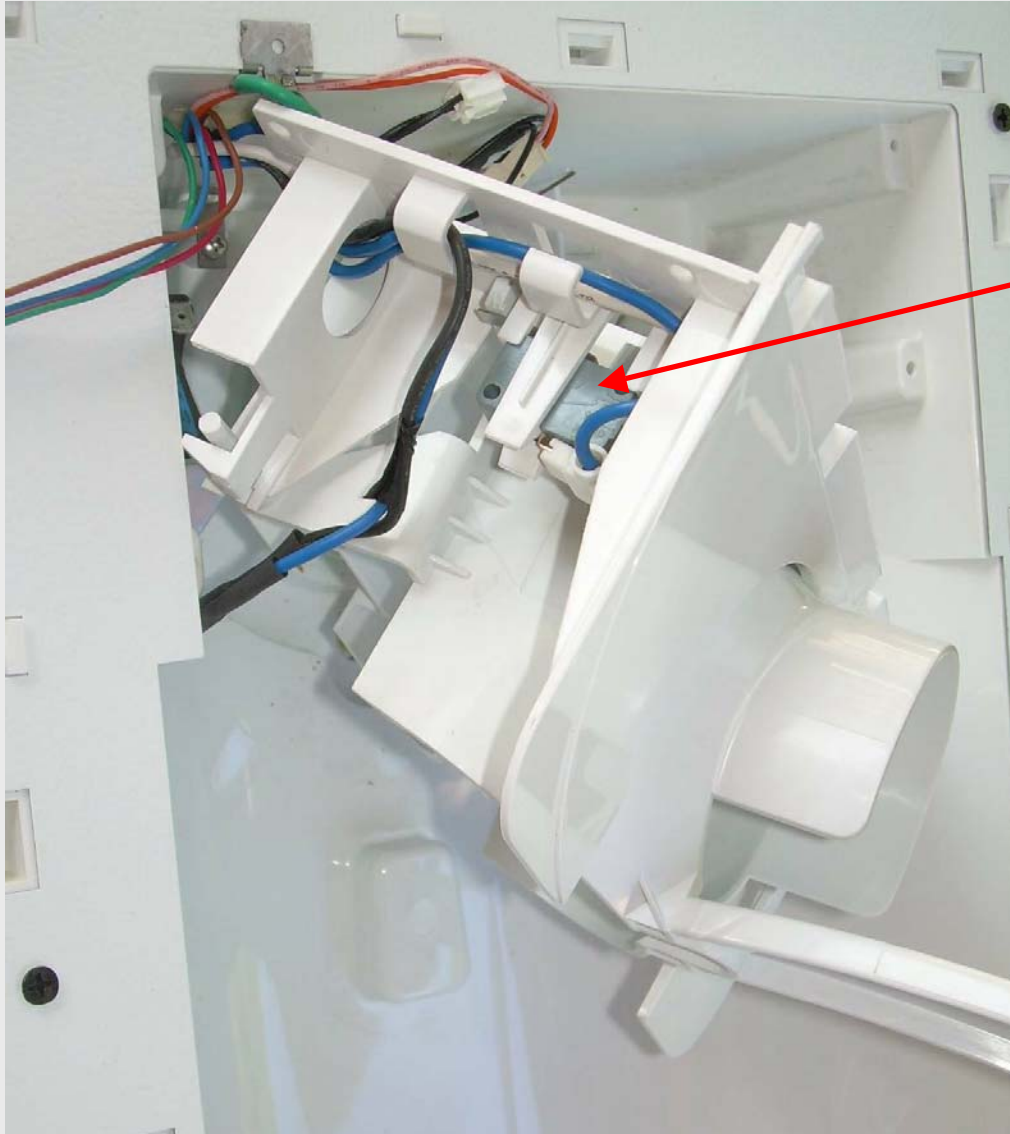
## Dispenser Service



**Remove screws (4) and pull paddle assembly outward to access paddle, dispenser door and solenoid.**

# DISPENSER

## Dispenser Service



Dispenser switch is a normally open switch  
Switch is held in with retainer clips. Spread  
the clips to remove

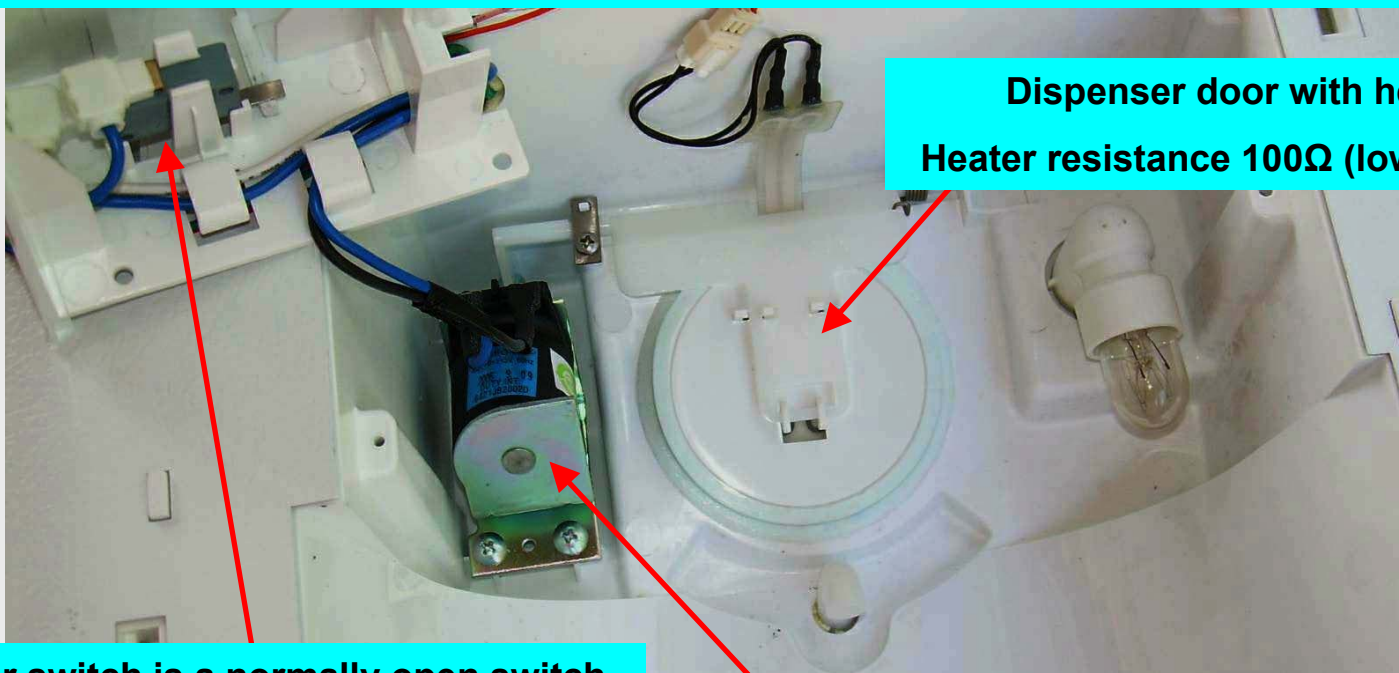
# DISPENSER

## Dispenser Service

### Dispenser Service Note

After 2 minutes of continuous ice dispensing, a 30-minute time out is initiated to protect the dispenser solenoid. Power will be restored after 30 minutes.

After an accumulative of 5 minutes of dispensing within 1 hour the dispenser will time out for 30 minutes. Power will be restored after 30 minutes.



**Dispenser door with heater**  
**Heater resistance 100 $\Omega$  (low voltage)**

**Dispenser switch is a normally open switch**  
**Switch is held in with retainer clips. Spread the clips to remove**

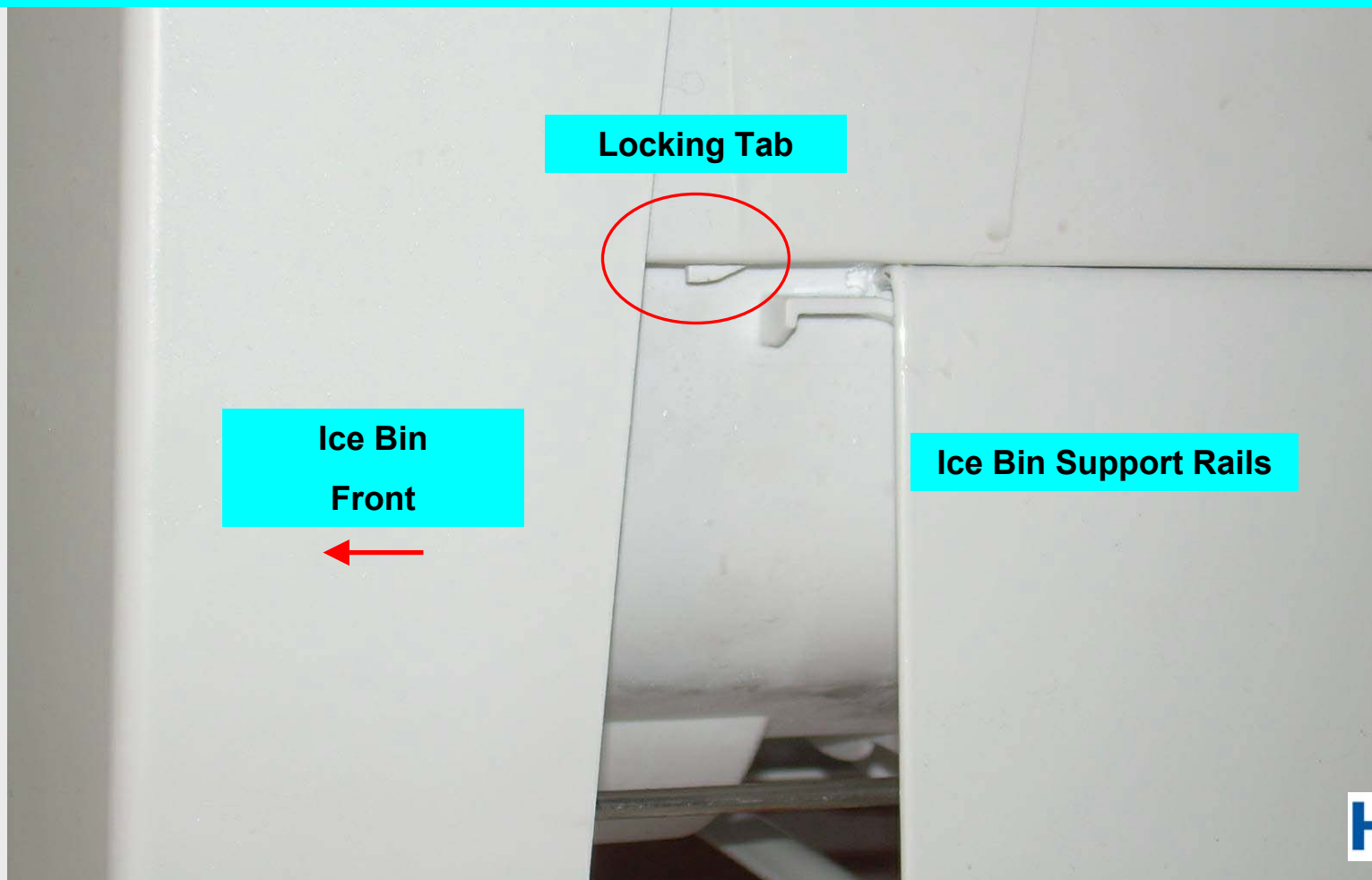
**Dispenser Solenoid**  
**Solenoid resistance 65 $\Omega$  (120V)**

# DISPENSER

## Ice Bin / Crusher

To remove the bucket raise the front corners of the bucket 1/8 to 1/4 inch, to pass a locking tab. Then, grasping the bin in the top center, pull the ice bin toward you.

**DO NOT PUT YOUR FINGERS UNDER THE ICE BIN.**

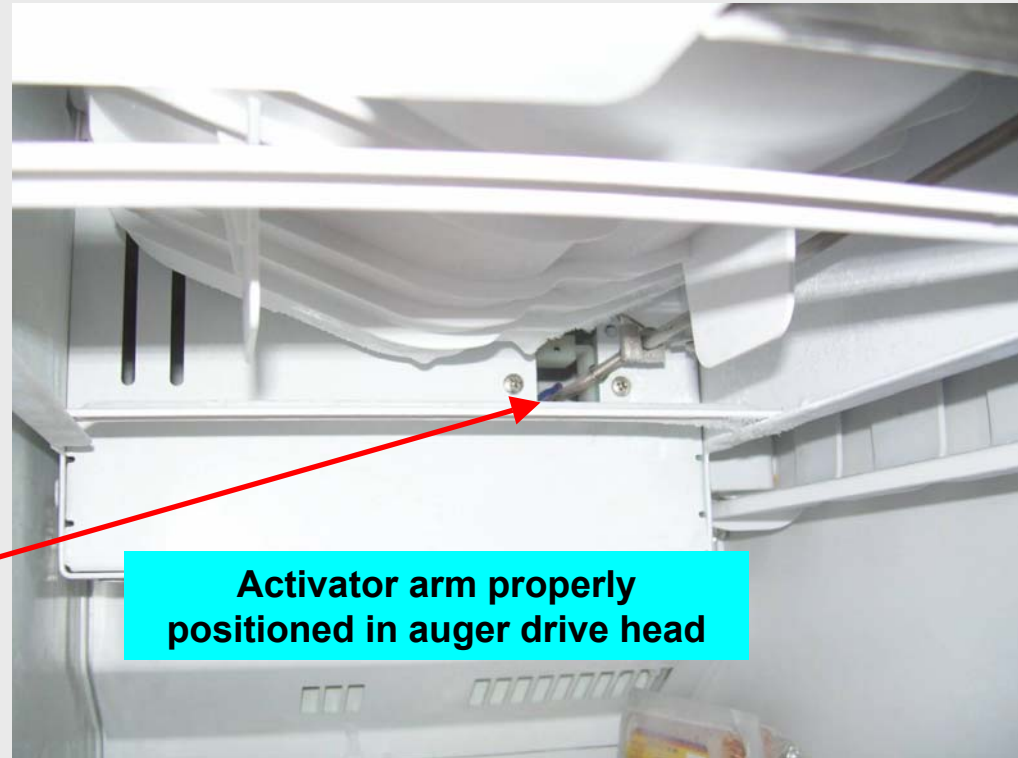




# DISPENSER

## Ice Bin / Crusher

Crusher activator arm is activated only during the CUBE dispenser mode.  
If only crushed ice is dispensed in both CUBE and CRUSHED modes, check for proper alignment of activator arm and solenoid function.



Activator arm properly  
positioned in auger drive head

# DISPENSER

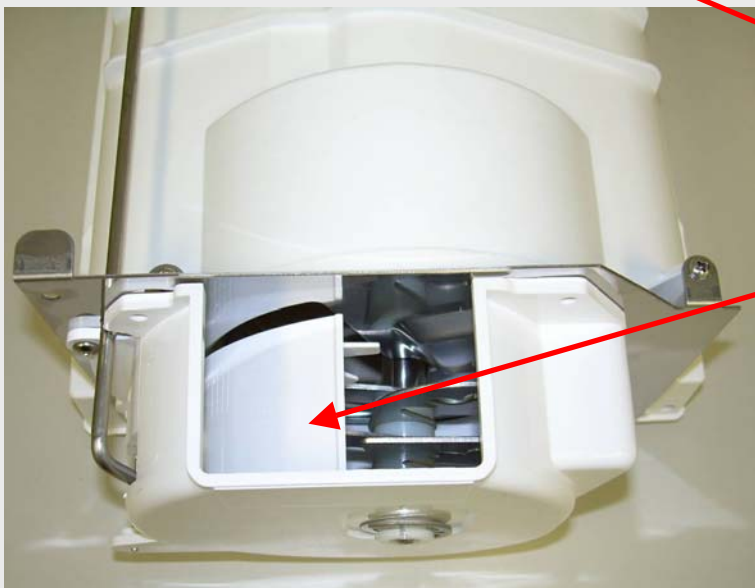
## Ice Bin / Crusher



Dispenser in "CUBE" mode

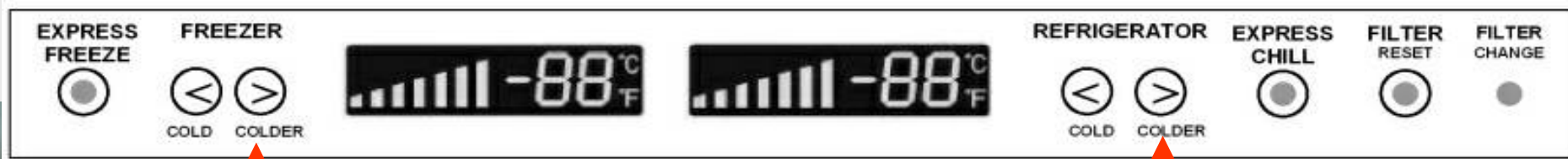
Dispenser in "CRUSH" mode

Ice Bin is replace as an assembly



# ICEMAKER

## Icemaker Operation



### Icemaker Test Mode

Press and hold at the same time, the Freezer COLD < and Refrigerator COLDER > buttons. Once the icemaker starts a harvest cycle release the buttons.

**CAUTION** – If there is water or partially frozen ice in the cube tray, the water may freeze in the dispenser bucket and jam the dispenser mechanism or flow water into the freezer compartment.





# ICEMAKER

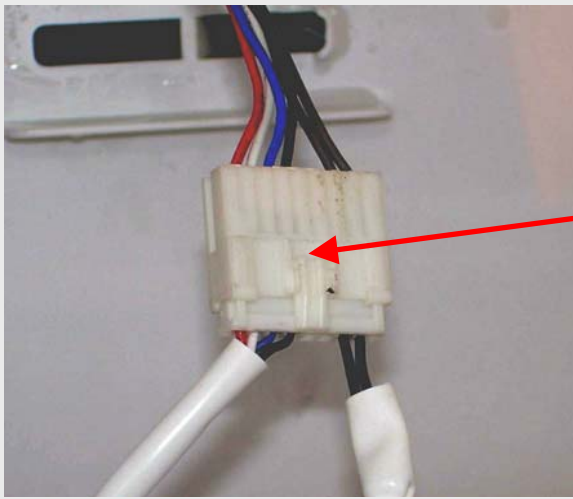
## Icemaker Head – remove / replace



**Remove screws then pull icemaker forward off of rear support.**

**Release wiring quick disconnect by pressing retainer clip pulling apart**

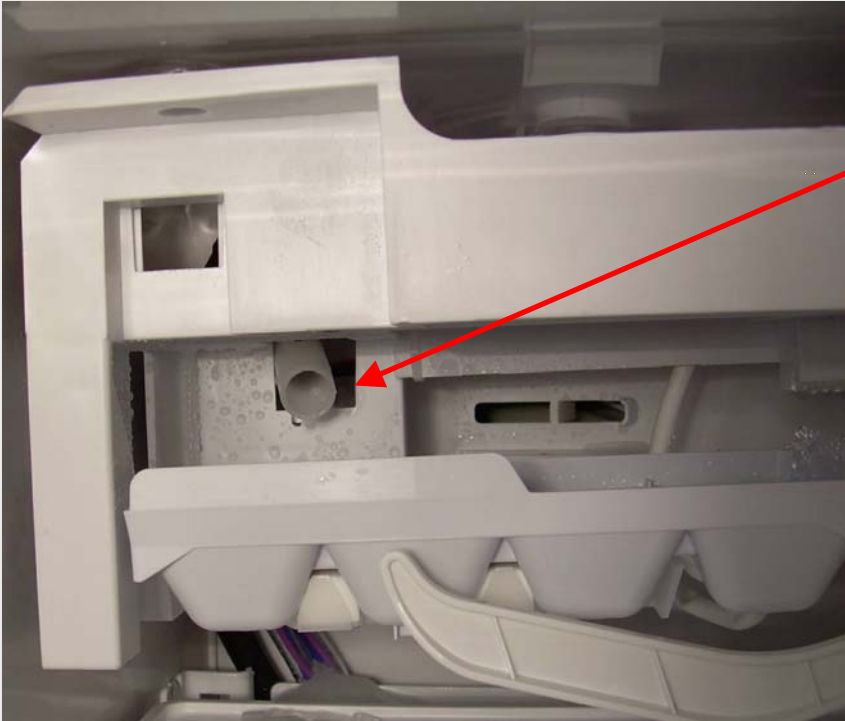
**F6 Failure Code – indicates the sensor in the icemaker has failed. Replace the entire icemaker head assembly. The icemaker will continue to make ice but at the default rate only. Default rate is 1 tray every 60 minutes.**



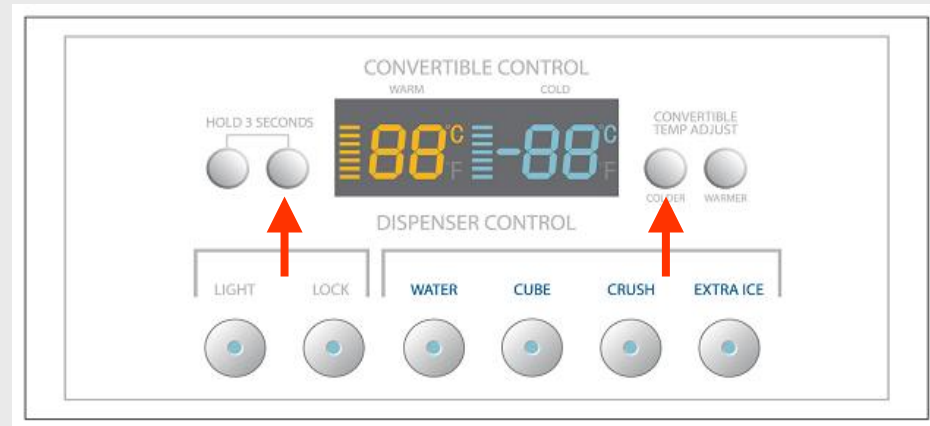
**Press and hold retainer clip**

# ICEMAKER

## Icemaker Head – replace



When installing icemaker, check alignment of fill tube. Perform icemaker test and check water fill level



### Icemaker Water Fill Level

Press and hold for 3 seconds the right key of HOLD 3 SECONDS and the left key of CONVERTIBLE TEMPERATURE.

The chime will sound once. The display will show the fill time in seconds. The default is 4.5 (45) seconds. It will adjust from 3.0 to 7.0 (30 to 70) seconds

### CAUTION

Always recheck fill level after making an adjustment.

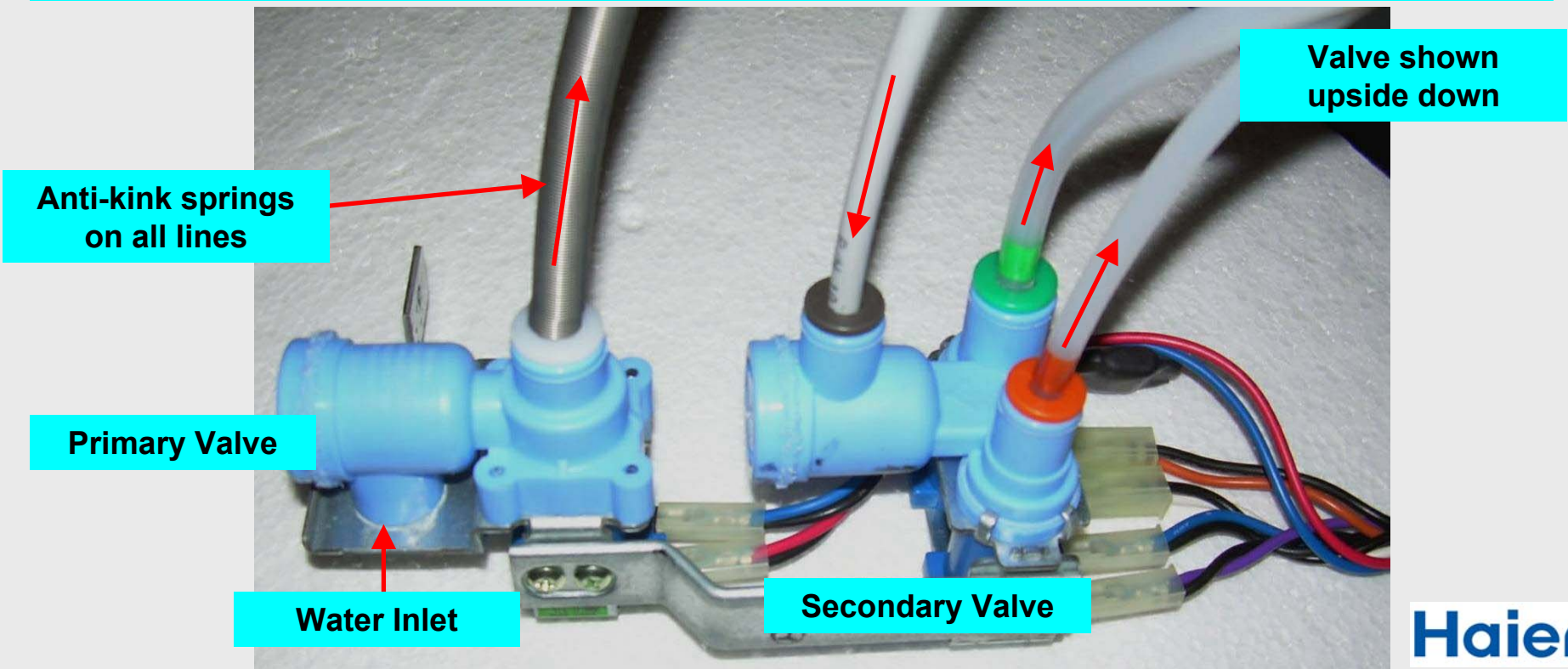
# ICEMAKER

## Water Solenoid – remove / replace

All water flows through the water filter before being routed to the icemaker or dispenser. There are 3 solenoid valves which have color coded rings. The single primary valve supplies water to the filter (white ring). The water then returns to the secondary valves (black ring). The valve feeding the dispenser is designated with a green ring. The icemaker with an orange ring.

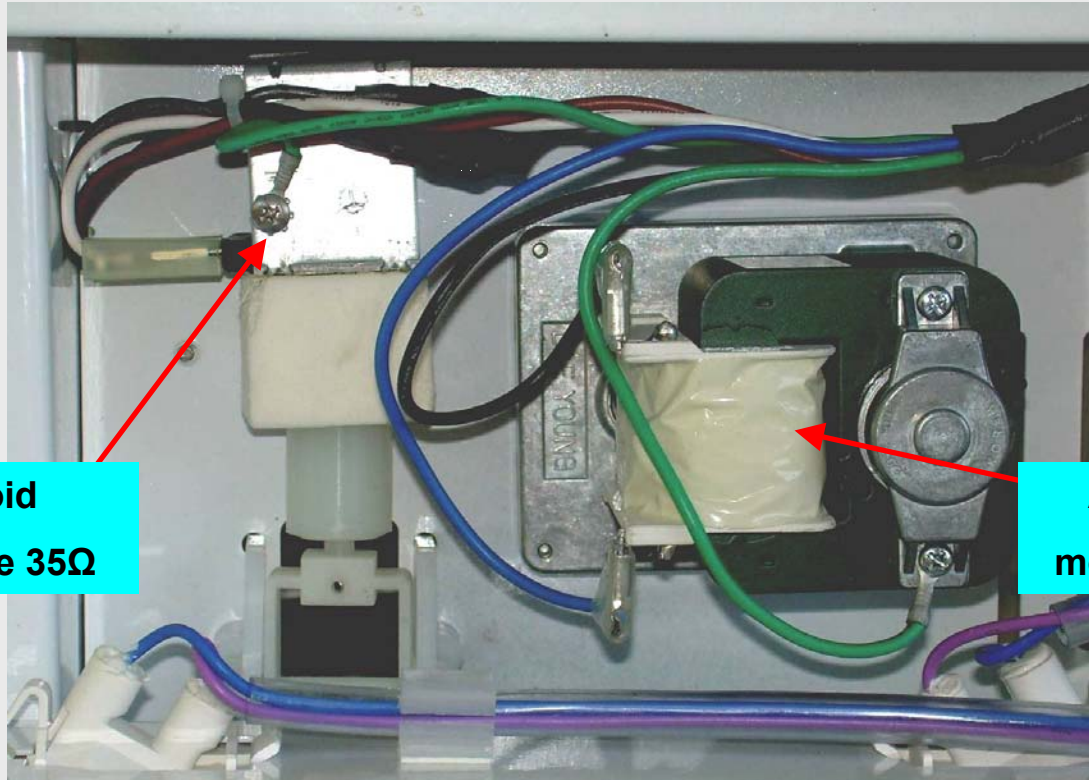
All solenoids have a resistance of approximately  $385\Omega$  and are replaced as an assembly.

To release the water line, push in on the tubing and colored fitting. Holding the fitting in, pull the line out.



# DISPENSER

## Ice Bin / Crusher



**Crusher Solenoid**  
solenoid resistance 35Ω

**Auger Drive Motor**  
motor resistance 2.7Ω

### Dispenser Service Notes

After 2 minutes of continuous ice dispensing, a 30-minute time out is initiated to protect the dispenser solenoid. Power will be restored after 30 minutes.

After an accumulative of 5 minutes of dispensing within 1 hour the dispenser will time out for 30 minutes. Power will be restored after 30 minutes.

# EVAPORATOR FAN MOTOR

## Remove / Replace



To access evaporator, remove the evaporator back panel.

Embossed arrows on panel indicate clips. Insert and gently twist a flat blade screwdriver to ease removal

### CAUTION

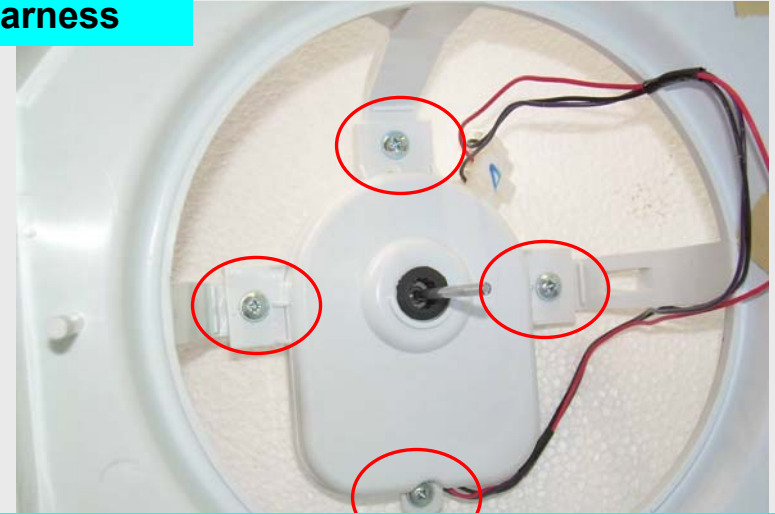
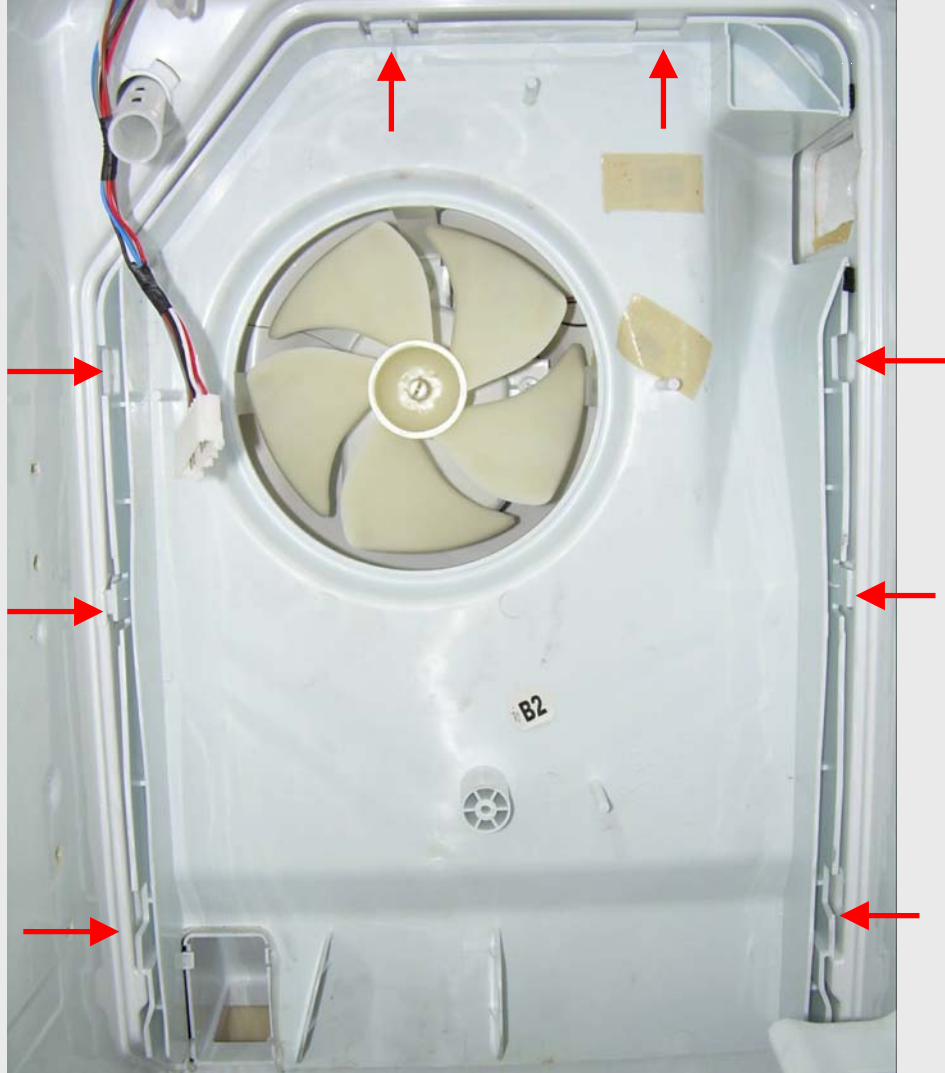
Remove center support screw which may be covered with reflective tape



# EVAPORATOR FAN MOTOR

## Remove / Replace

Use a flat blade screwdriver to release mounting clips then pull housing forward and disconnect electrical harness



Remove Screws and cover to access motor  
Do not cut or splice wiring harness

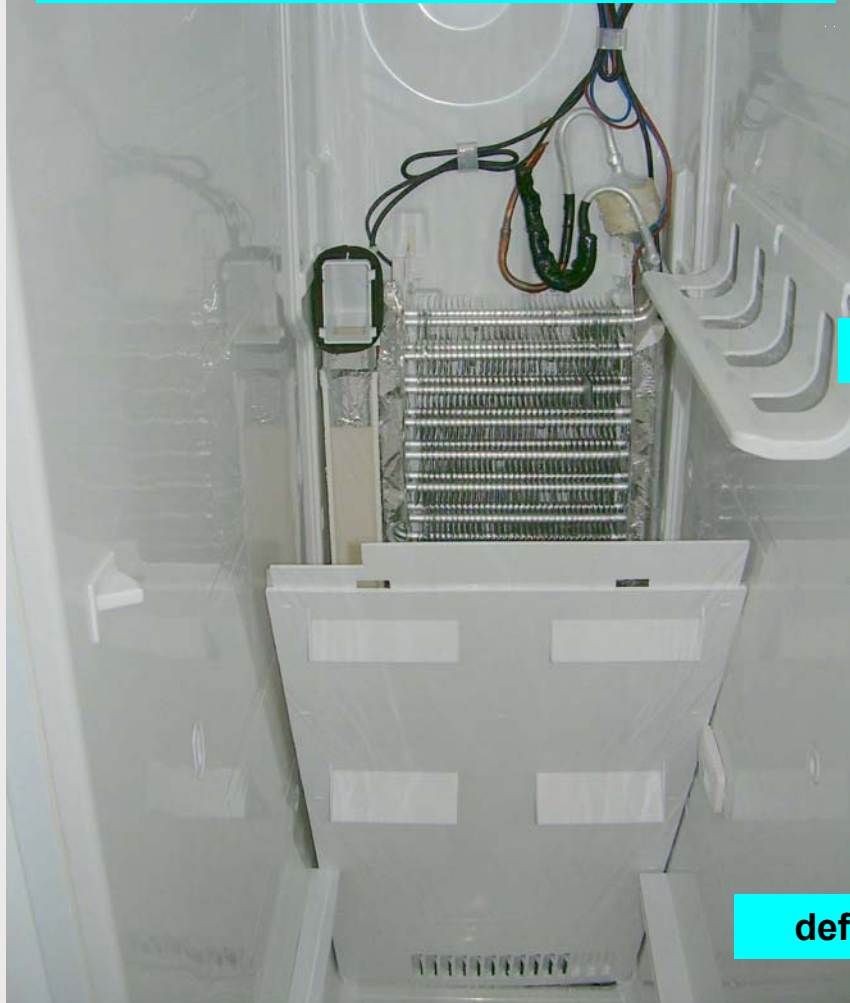


# EVAPORATOR

## Evaporator Access

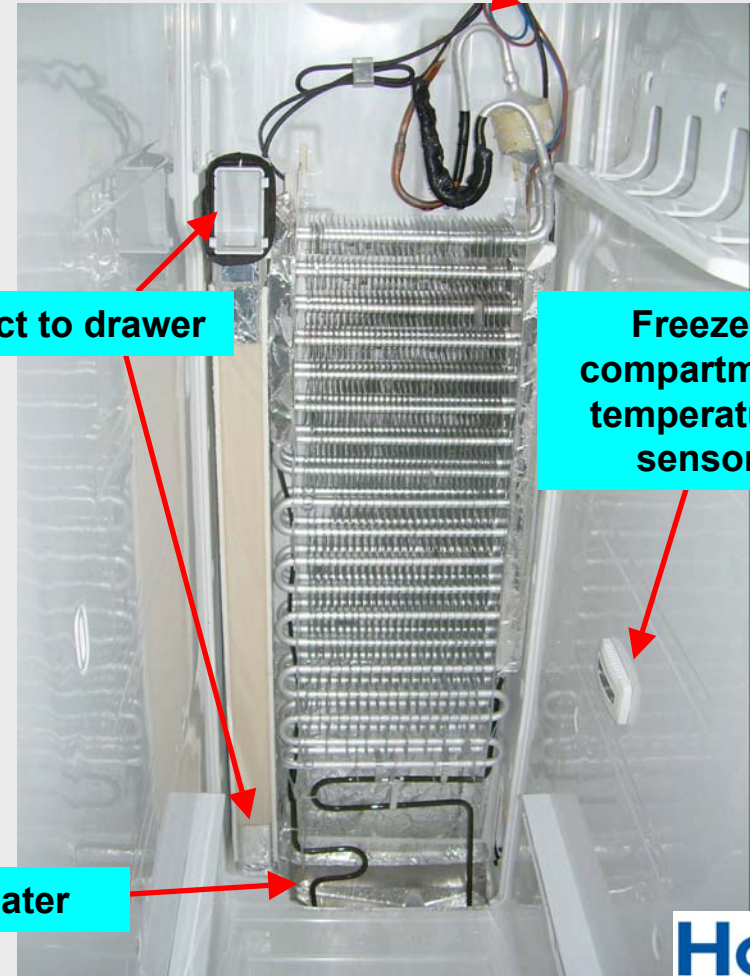
After removing evaporator fan housing, pull lower cover out and upward to access evaporator components

Terminal block for defrost components.  
Heater – approximately 47 $\Omega$



air duct to drawer

defrost heater



Freezer  
compartment  
temperature  
sensor



# EVAPORATOR

## Evaporator Components

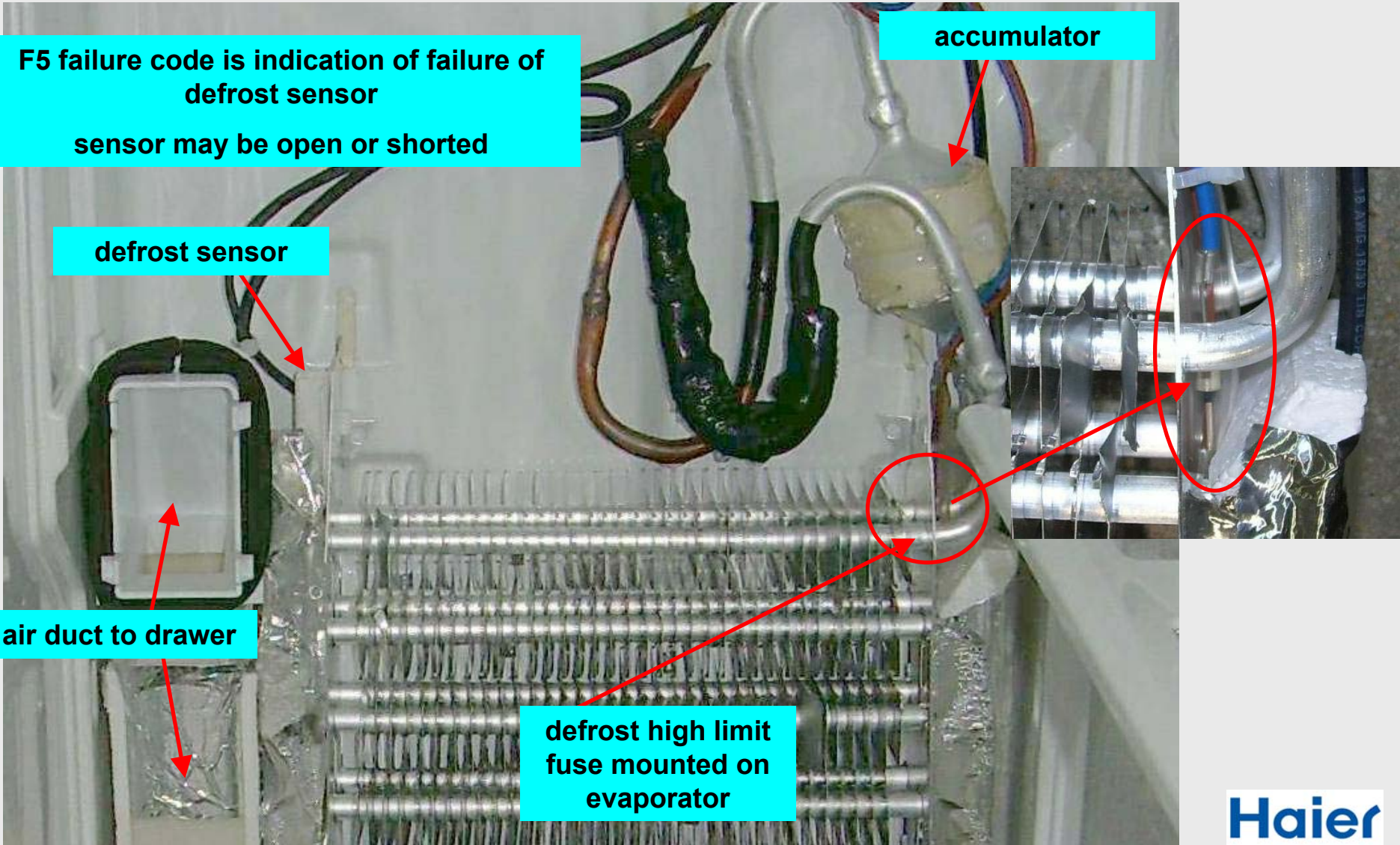
F5 failure code is indication of failure of defrost sensor  
sensor may be open or shorted

accumulator

defrost sensor

air duct to drawer

defrost high limit  
fuse mounted on  
evaporator





# EVAPORATOR

## Evaporator Components

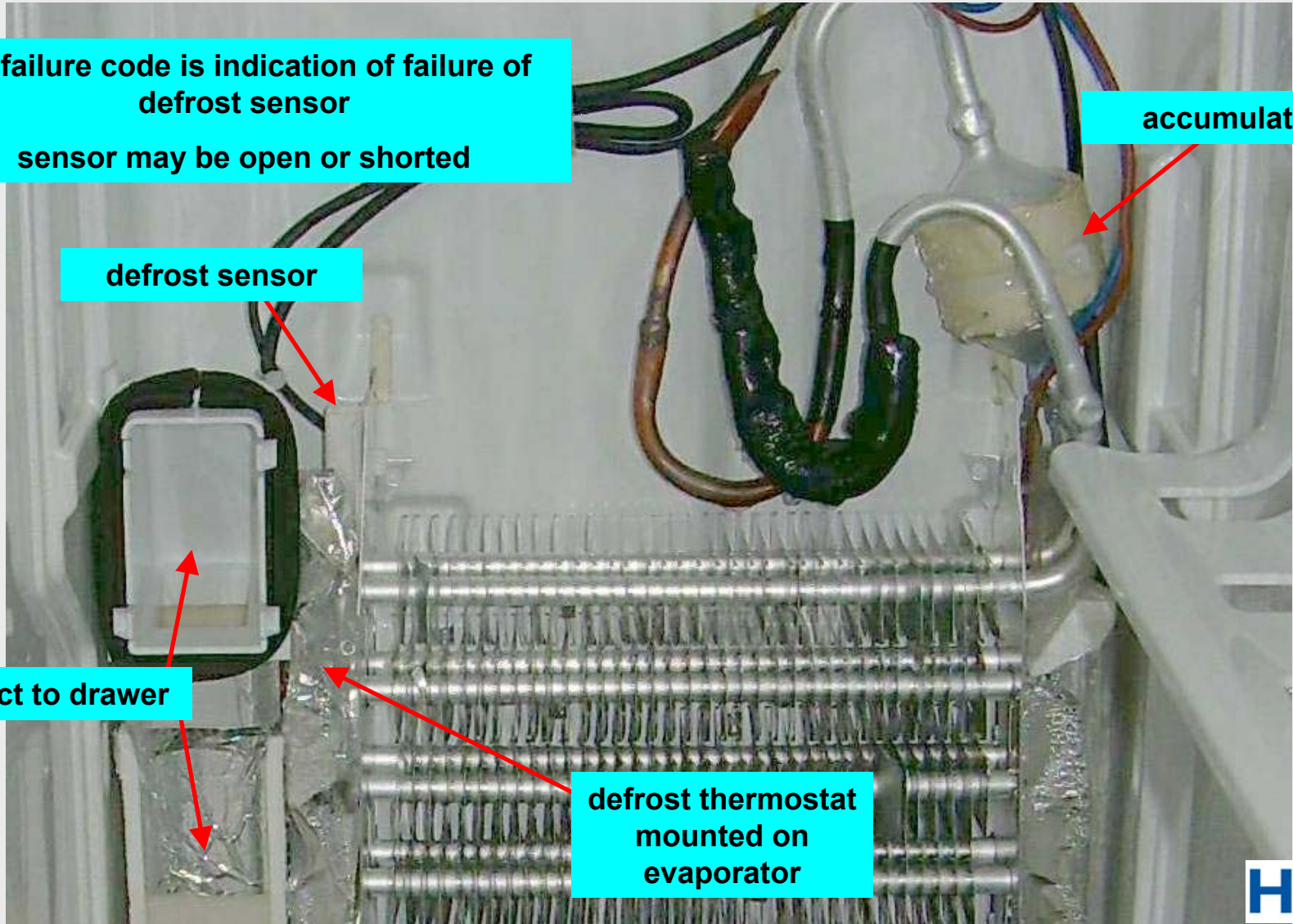
F5 failure code is indication of failure of defrost sensor  
sensor may be open or shorted

defrost sensor

accumulator

air duct to drawer

defrost thermostat  
mounted on  
evaporator



# EVAPORATOR

## Defrost Cycle

The defrost process resets every time power is disconnected to the refrigerator. The cycle is controlled through the microprocessor on the motherboard.

After the first 4 hours of compressor run time, the refrigerator will start a defrost cycle. When the temperature of defrost sensor reaches 7°C / 45°F, the refrigerator will exit the defrost status. In the defrost status, the compressor is off and the dampers of fresh food compartment and convertible compartment are closed. The defrost cycle ends after the heater has been off for an additional 7 minutes.

At the end of the defrost cycle, the compressor will restart. After 5 minutes the evaporator fan motor will restart, recirculating air within the freezer compartment only. After an additional 3 minutes the Fresh Food and Drawer dampers will open.

If there is a failure within the defrost circuit (heater, thermal fuse, sensor) the refrigerator will not enter into the defrost mode.

If defrost heating works for 120 minutes and the temperature of the defrost sensor will not reach 7°C / 45°F, the defrost heating will be turned off and **ED** will be displayed on the door display.

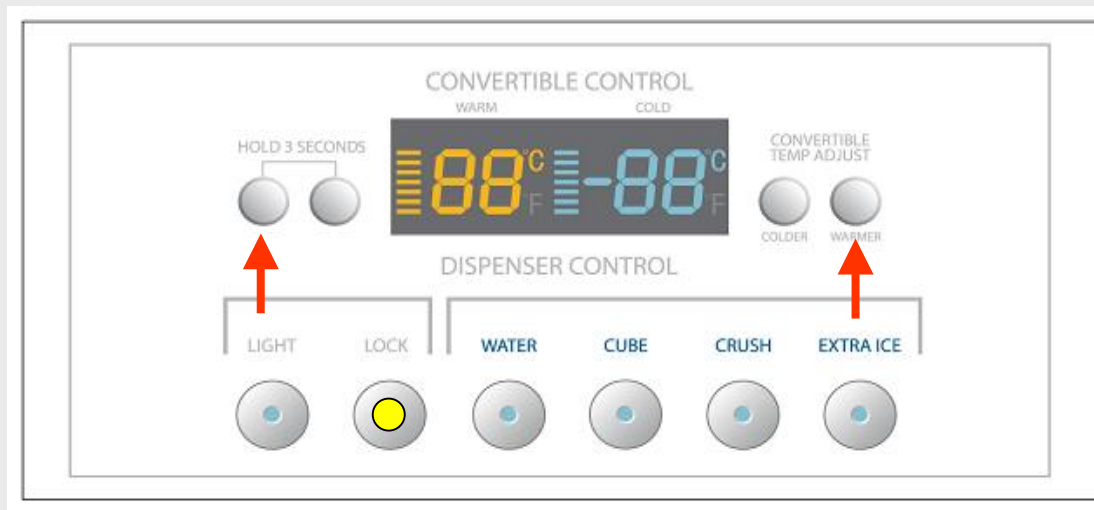


Display "ED"

# EVAPORATOR

## Manually Start a Defrost Cycle

To start a manual defrost cycle  
In lock status, press **“HOLD 3 SECONDS”** left key  
and **“convertible temp adjust”** warm key for 3 seconds,.  
T2 will be displayed on the door control panel.



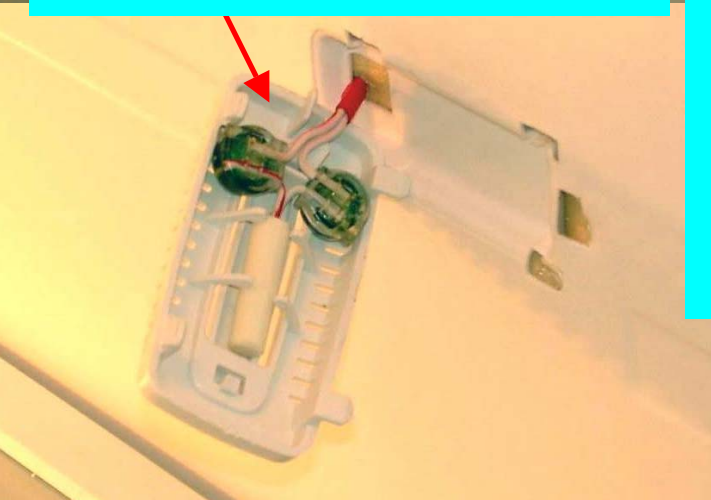
# THERMAL SENSORS

remove / replace

Sensor as mounted in Fresh Food,  
Freezer and Convertible  
Compartments

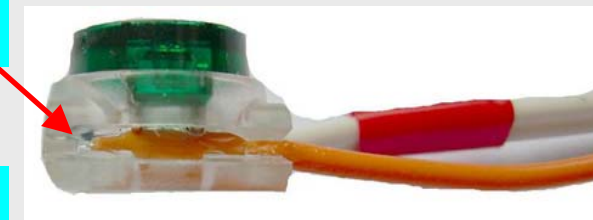
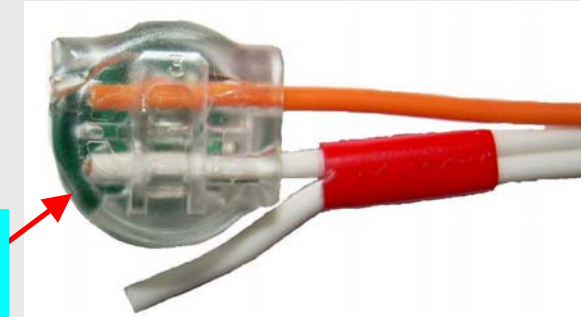


Arrange connectors and sensor  
in cover and replace cover to  
cabinet wall



**DO NOT STRIP INSULATION**

Insert one end of replacement  
sensor wiring and one end of  
harness into connector



Squeeze connector with pliers to  
complete connection

Button should be fully  
depressed

A small amount of sealant will  
leak out around wires making  
connection moisture resistant





# COMPRESSOR COMPARTMENT

## components

Joint for heater loops around freezer and drawer mullions

Control circuit input from mother board to inverter

3 phase variable speed compressor

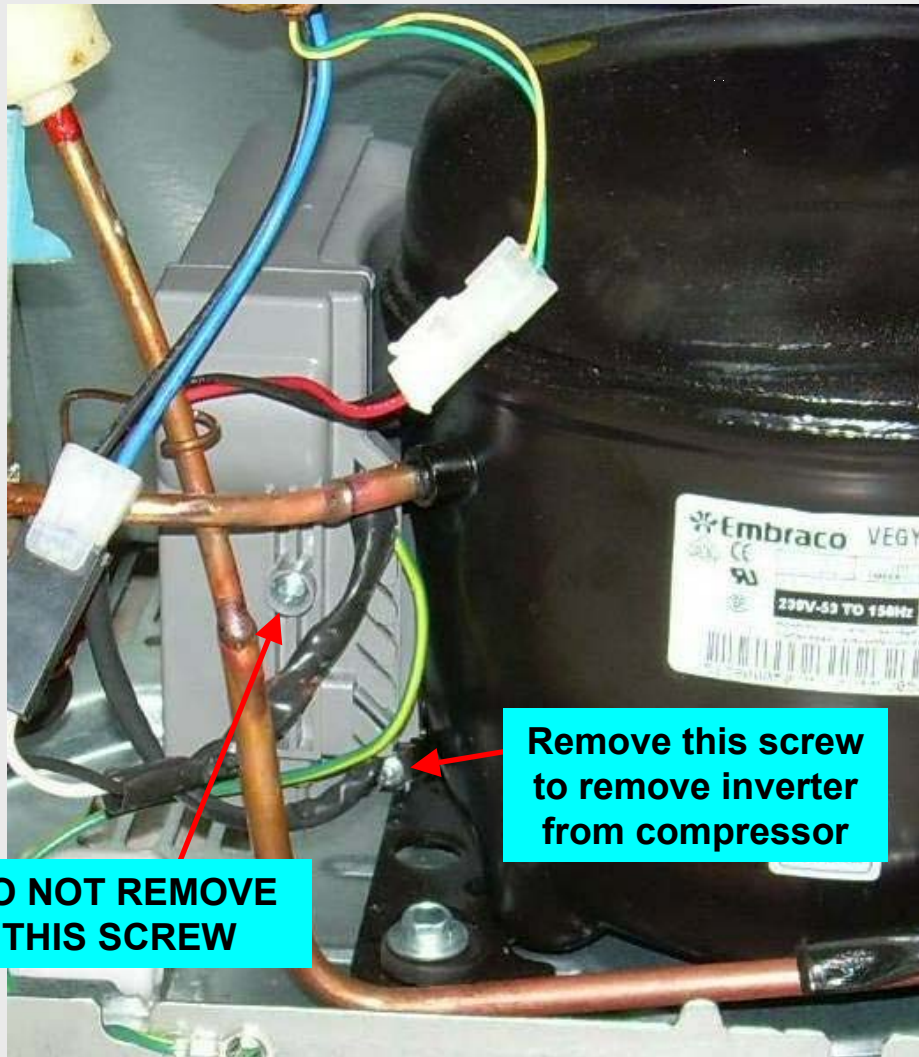
Condenser outlet to heater loops

115vac feed to compressor from motherboard

Compressor Inverter / Control

# COMPRESSOR COMPARTMENT

## Inverter Removal



To remove inverter remove 1 screw and pull inverter box upward and to the left





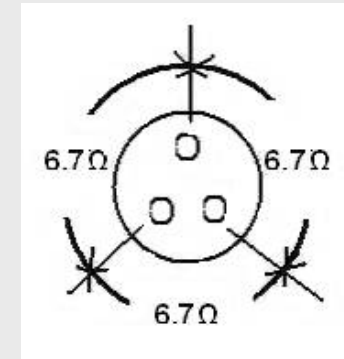
# COMPRESSOR

## Electrical Diagnostics

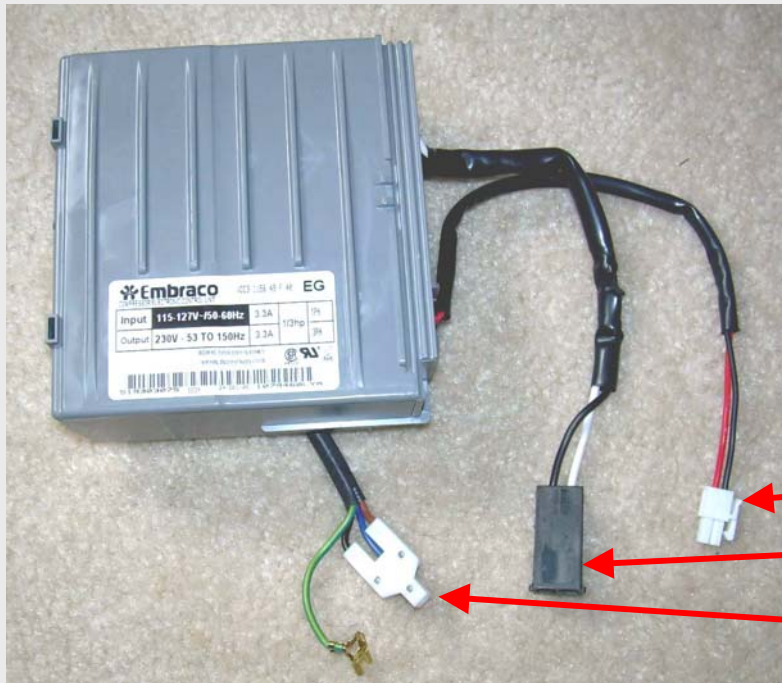
The compressor is a variable-speed motor controlled through a low voltage signal to the inverter.

**There is no output test to the compressor.**

Compressor winding test – approx  $6.7\Omega$  between all windings



**DO NOT ATTEMPT TO START  
COMPRESSOR WITH DIRECT  
POWER CONNECTION  
COMPRESSOR WILL BE DAMAGED**



**2.5 – 3.5 vdc red to black**

**115vac black to white**

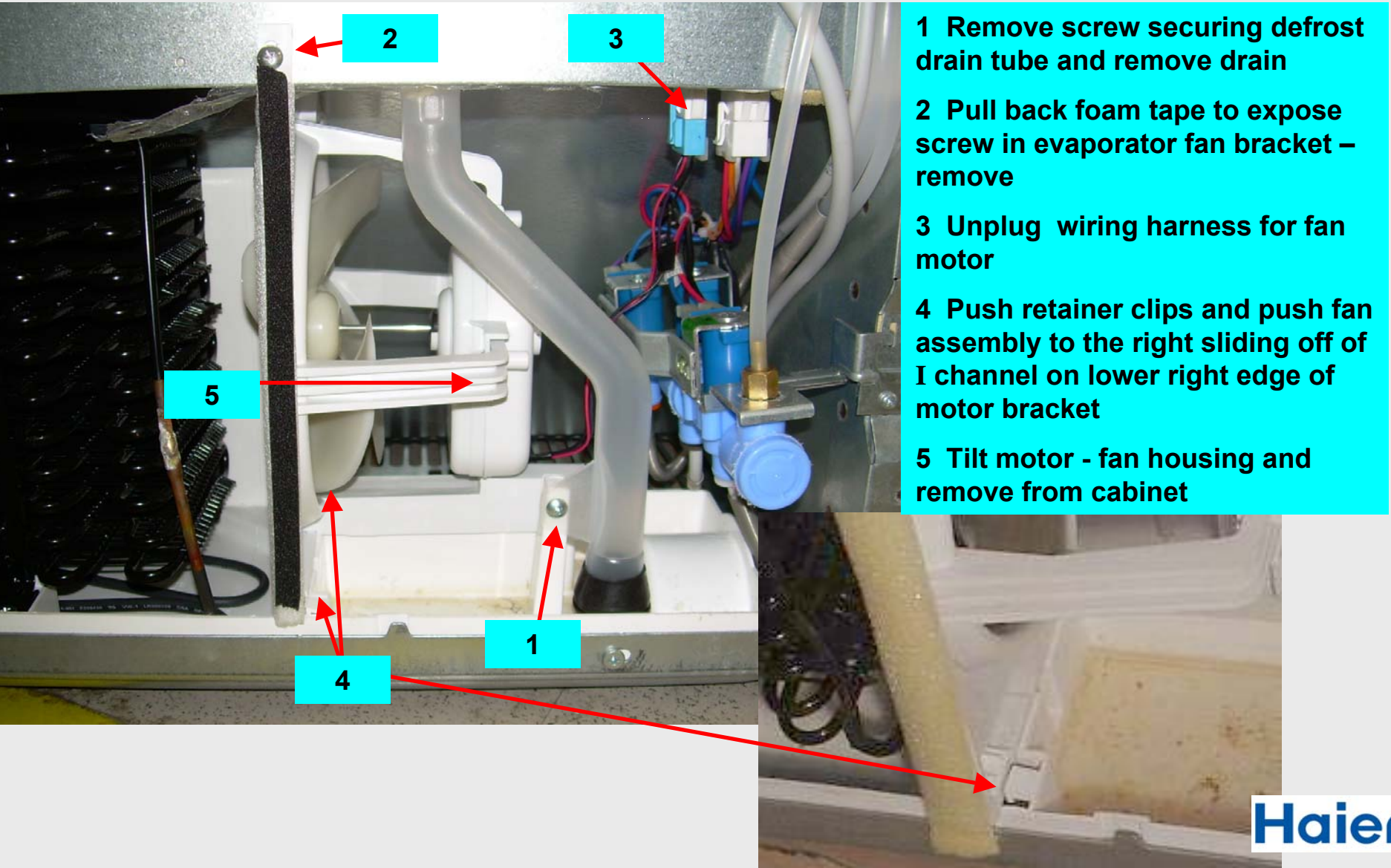
**NO TEST POINTS**

No power applied until  
compressor load is sensed



# CONDENSER FAN MOTOR

remove / replace



# THANK YOU



<http://service.haieramerica.com>

