UD-39

KitchenAid®

MAYTAG®

KitchenAid and Maytag 25' SXS Refrigerators

Models:

KSRJ25FXBL
KSRJ25FXMS
KSRJ25FXMT
MSD2559XEB
MSD2559XEM
MSD2559XEW

Home Appliances

Prepared by: WHIRLPOOL CONSUMER CARE

March 2010 **PART NO. W10326038**

FORWARD

The following service update information is provided to make you more knowledgeable about KitchenAid and Maytag refrigerators.

Service update information is designed for the experienced service specialist. It keeps you advised of the most recent improvements and product changes, and allows you to service these products more efficiently.

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

Whirlpool Corporation, Benton Harbor, MI 49022

TABLE OF CONTENTS

KITCHENAID AND MAYTAG 25’ SXS REFRIGERATORS

Model Number Description*

KSRJ25FXBL	25’ SXS DISPENSING
KSRJ25FXMS	25’ SXS DISPENSING
KSRJ25FXMT	25’ SXS DISPENSING
MSD2559XEB	25’ SXS DISPENSING
MSD2559XEM	25’ SXS DISPENSING
MSD2559XEW	25’ SXS DISPENSING

Dimensions	Inches
Capacity	25.400
Carton Depth	36 1/4
Carton Height	71 1/4
Carton Width	37 1/4
Cutout Depth (in)	28 7/8
Cutout Height (in)	70 1/4
Cutout Width (in)	36
Depth	33 3/4
Height	69 3/4
Width	35 1/2
Depth Closed Excluding Handles	30 15/16
Depth Closed Including Handles	33 3/4
Depth Excluding Doors	29 1/4
Depth With Door Open 90 Degree	48 7/8
Height To Top Of Cabinet	68 7/8
Height To Top Of Door Hinge	69 3/4
Width Doors Open 90 Degrees	44 1/2”
Width of Cabinet Only	35 1/2
Width with Doors Closed	35 1/2
Gross Weight	295 lbs.

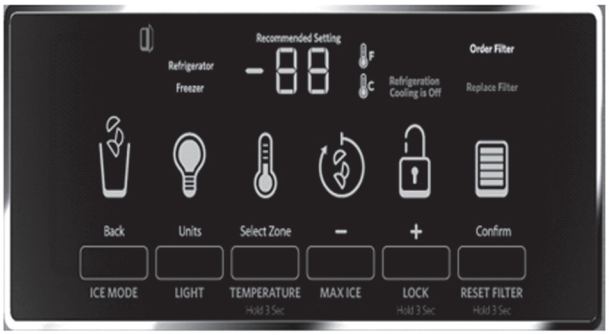
*Always refer to Service Sheet and Use and Care Manual for information specific to the refrigerator you are servicing.

Flush Dispenser with Stealth Software

Flush Dispenser (AKA Victoria) with Stealth Software.

User Interface Blue and Amber

KitchenAid



Blue

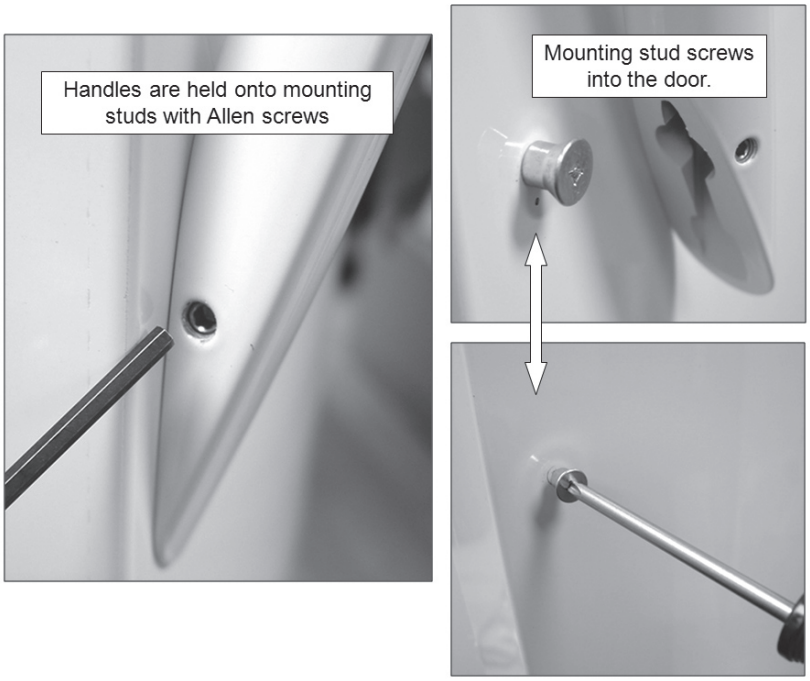
Maytag

Amber

Although the Maytag icons are slightly different and the LED color is amber the controls function the same.

*Always refer to Service Sheet and Use and Care Manual for information specific to the refrigerator you are servicing.

Attaching or Removing Handles



KitchenAid handles are held onto mounting studs with Allen screws.
Maytag handles snap off by lifting handle. The mounting studs screw into door skin.

Maytag Handle Removal: Grasp handle with two hands and lift/jerk up.

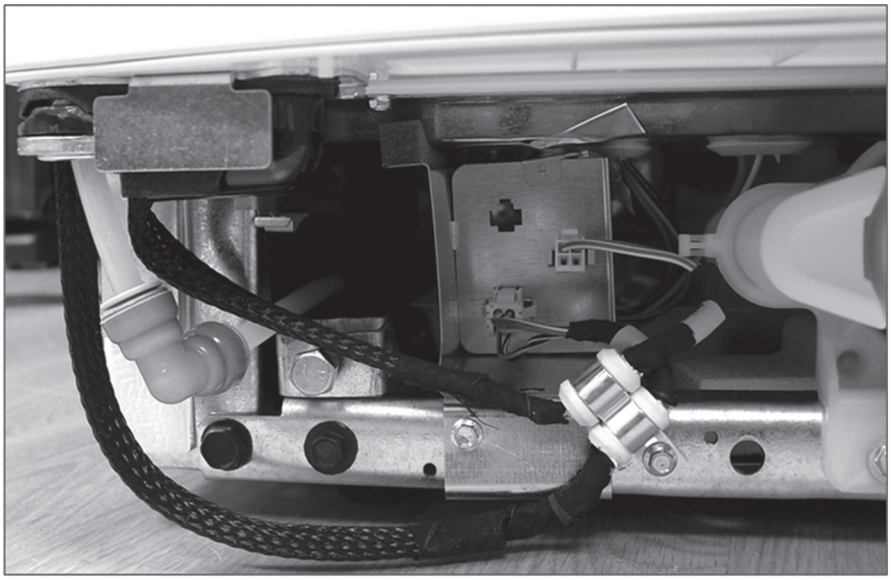
*Always refer to Service Sheet and Use and Care Manual for information specific to the refrigerator you are servicing.

Removing Freezer Door

⚠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.

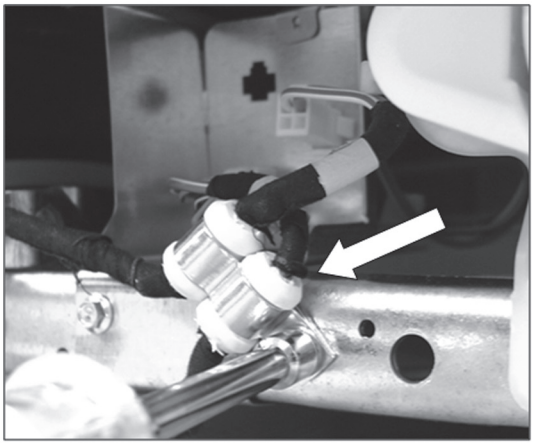
1. Unplug refrigerator or disconnect from power."



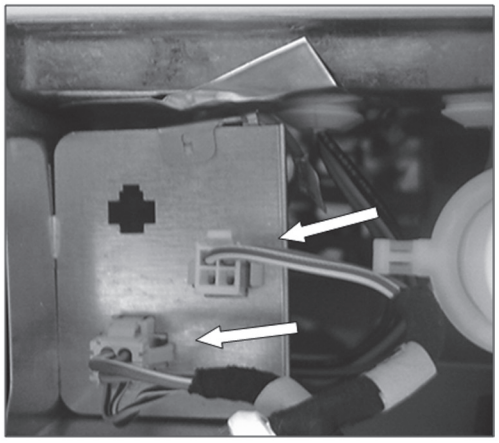
2. Disconnect wiring harnesses and water line.

*Always refer to Service Sheet and Use and Care Manual for information specific to the refrigerator you are servicing.

Removing Freezer Door (continued)

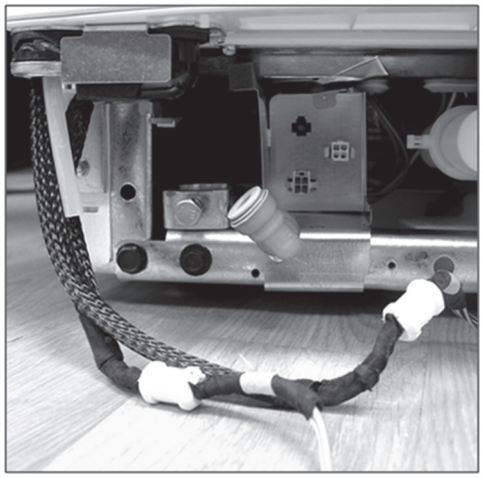


3. Remove screw and mounting bracket.

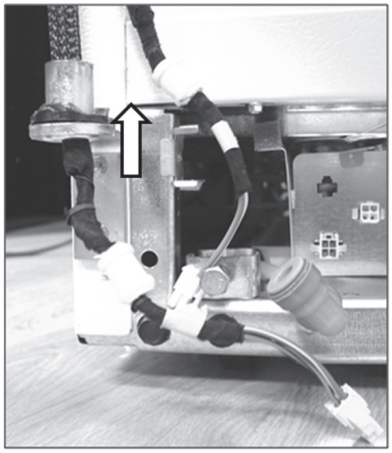


5. Disconnect harnesses.

4. Disconnect water tube.



6. Straighten and lay out the harnesses to pull through the hinge.



7. Lift off the freezer door while guiding the water tube and wire harness through the hinge.

NOTE: Only the harness that is mated with the water tube is routed through the bottom door hinge.

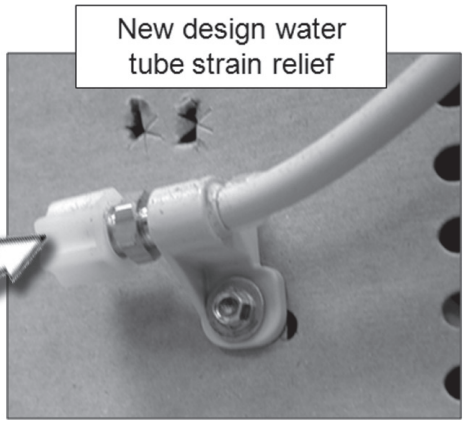
*Always refer to Service Sheet and Use and Care Manual for information specific to the refrigerator you are servicing.

Connecting Water Line

⚠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 refrigerator or disconnect power.
2. Remove and discard the cap from the gray water tube.
3. Using a compression nut and sleeve, attach the copper tube to the water inlet.
4. Once secured, tighten the compression nut. Do not over tighten.
5. Check the connection by pull ing on the copper tubing. Turn on water supply to refrigerator. Check for leaks. Tighten any nuts or connections that leak.



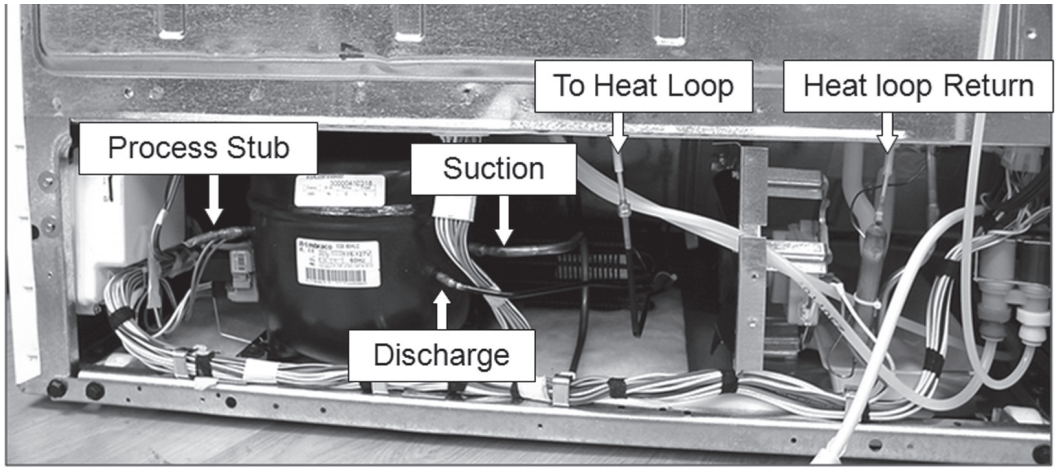
*Always refer to Service Sheet and Use and Care Manual for information specific to the refrigerator you are servicing.

Machine Compartment

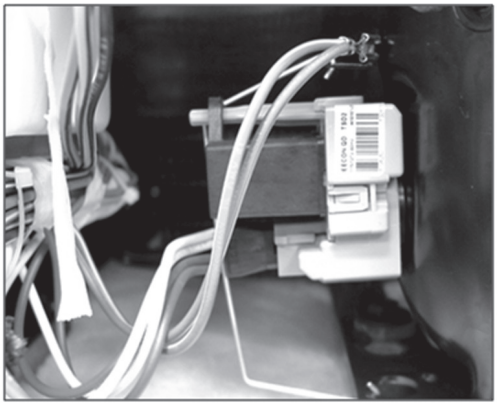
⚠WARNING

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

1. Unplug refrigerator or disconnect power.



Component and refrigeration tubing identification.

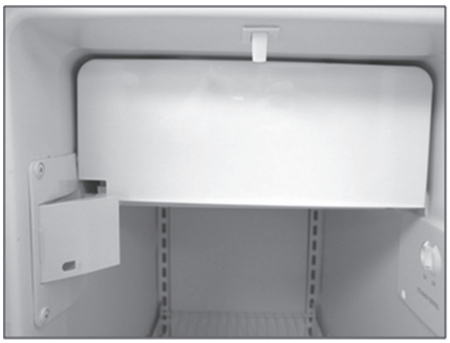


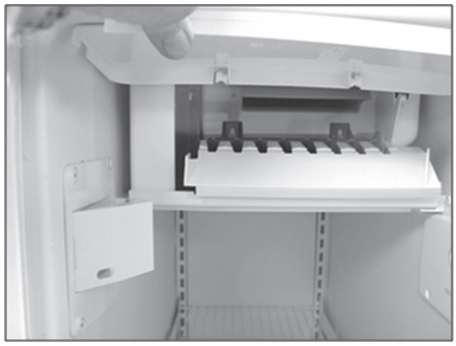
2. Plug on start module.

*Always refer to Service Sheet and Use and Care Manual for information specific to the refrigerator you are servicing.

Freezer Compartment -FC

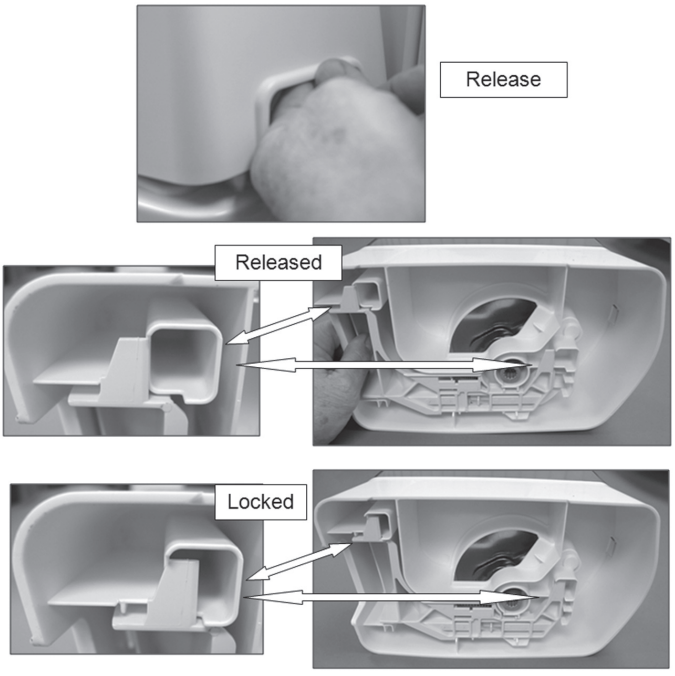
Accelerator has a new small cube icemaker and a special water valve with a 65cc flow rate.





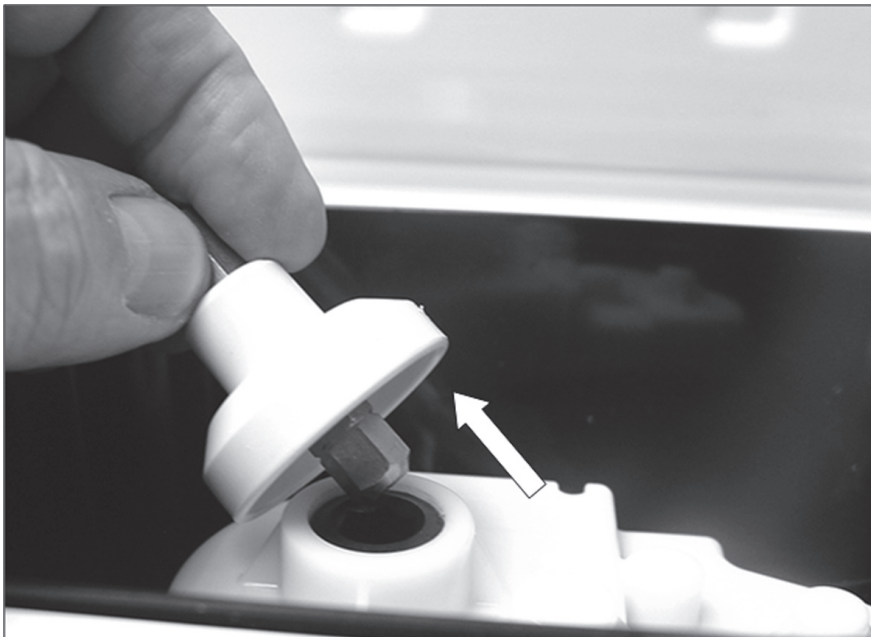
New Ice Bin Release

The ice bin incorporates a new release. The new design includes a double latch system for a better engagement.



*Always refer to Service Sheet and Use and Care Manual for information specific to the refrigerator you are servicing.

Auger Motor Coupling



Auger motor coupling lifts off motor.

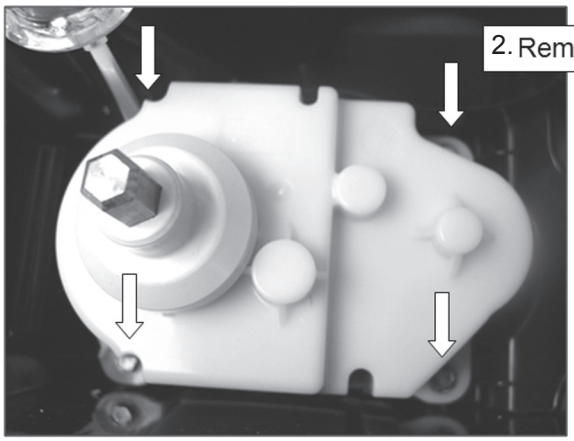
*Always refer to Service Sheet and Use and Care Manual for information specific to the refrigerator you are servicing.

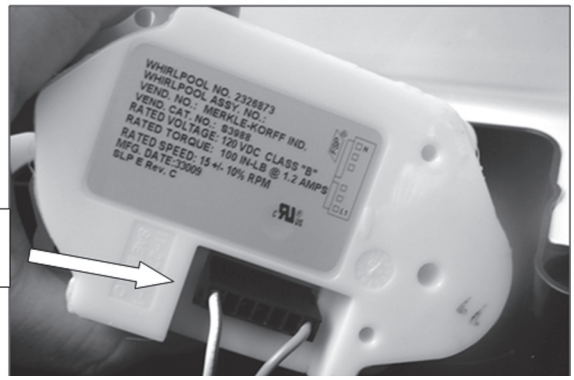
Removing Auger Motor

⚠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 refrigerator or disconnect power.





3. Lift out motor and disconnect wire harness

Harness is only long enough to allow the motor to be lifted high enough to disconnect. When installing make sure the harness connection is tight.

*Always refer to Service Sheet and Use and Care Manual for information specific to the refrigerator you are servicing.

Flush Mount Dispenser

“Victoria”

The new flush design dispenser will migrate across the refrigeration line in 2010.

*Always refer to Service Sheet and Use and Care Manual for information specific to the refrigerator you are servicing.

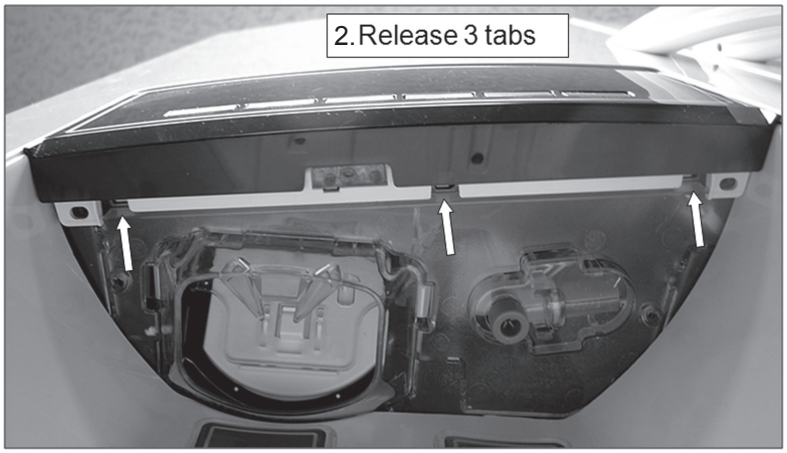
Flush Mount Dispenser (continued)

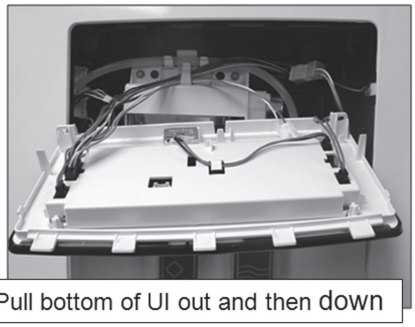
Removing User Interface

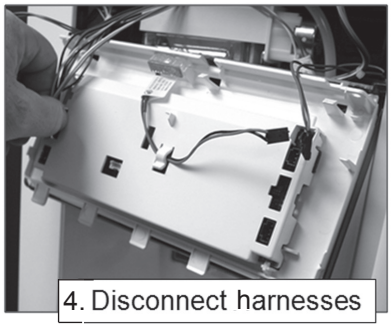
⚠WARNING

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 refrigerator or disconnect power.

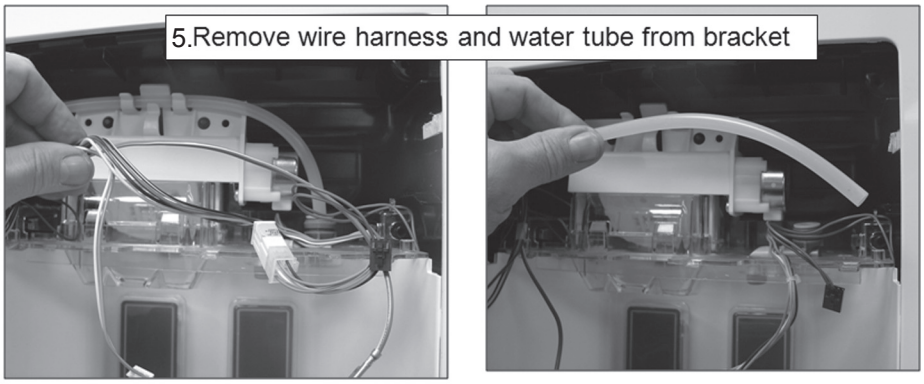


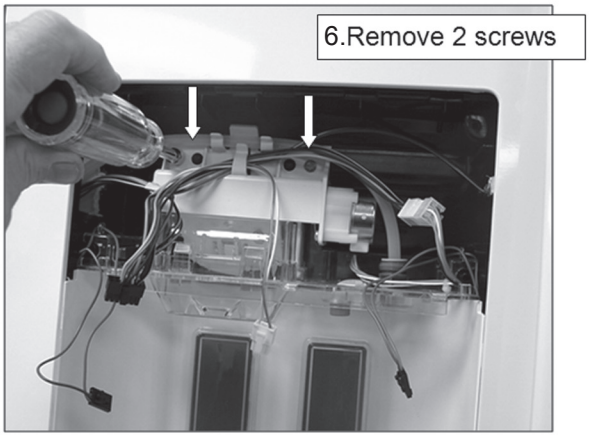




*Always refer to Service Sheet and Use and Care Manual for information specific to the refrigerator you are servicing.

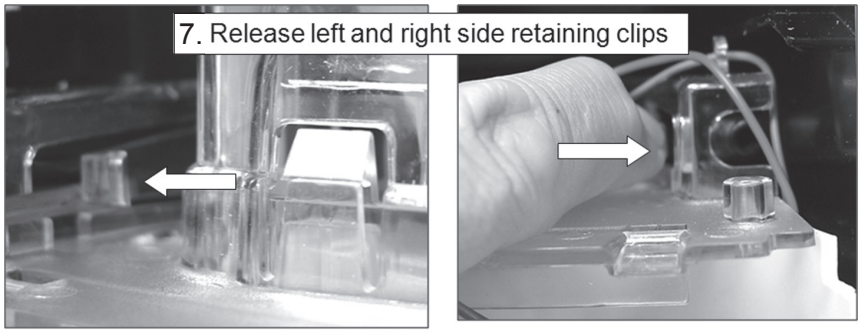
Flush Mount Dispenser (continued)

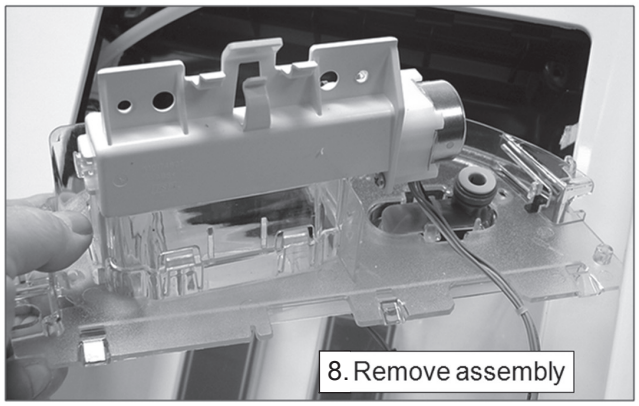




Removing Dispenser Assembly

The false wall should be slid upward to help disengage the tabs on the left and right sides.



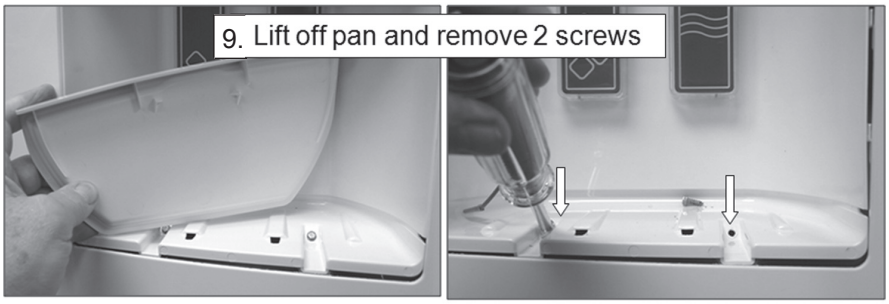


*Always refer to Service Sheet and Use and Care Manual for information specific to the refrigerator you are servicing.

Flush Mount Dispenser (continued)

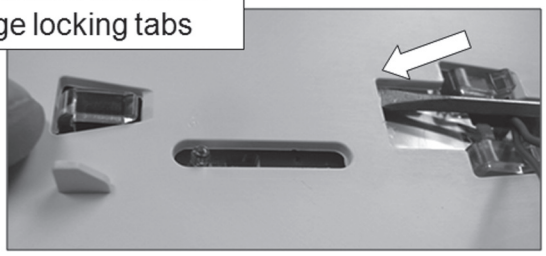
Removing Dispenser Switches

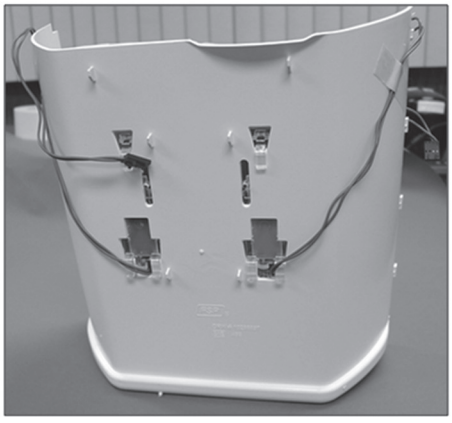
9. Lift off pan and remove 2 screws

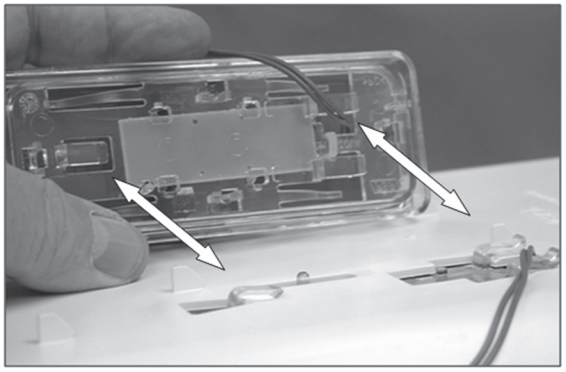


10. Disengage tabs on right and left sides of back guard and remove

11. Depress the back of the switch and slide switch to disengage locking tabs







*Always refer to Service Sheet and Use and Care Manual for information specific to the refrigerator you are servicing.

Control Assembly

⚠ DANGER

Electrical Shock Hazard

Only authorized technicians should perform diagnostic voltage measurements.

After performing voltage measurements, disconnect power before servicing.

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

⚠ WARNING

Electrical Shock Hazard

Disconnect power before servicing.

Replace all parts and panels before operating.

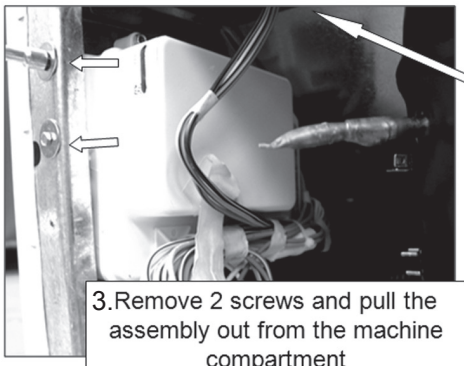
Failure to do so can result in death or electrical shock.

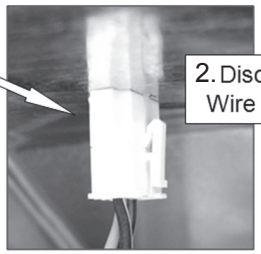
Voltage Measurement Safety Information

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

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

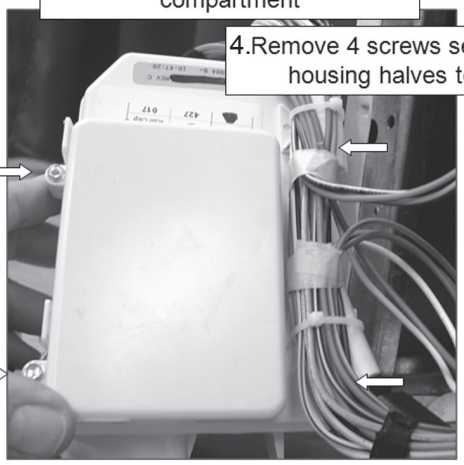
1. Unplug refrigerator or disconnect power.





2. Disconnect Wire Harness

3. Remove 2 screws and pull the assembly out from the machine compartment



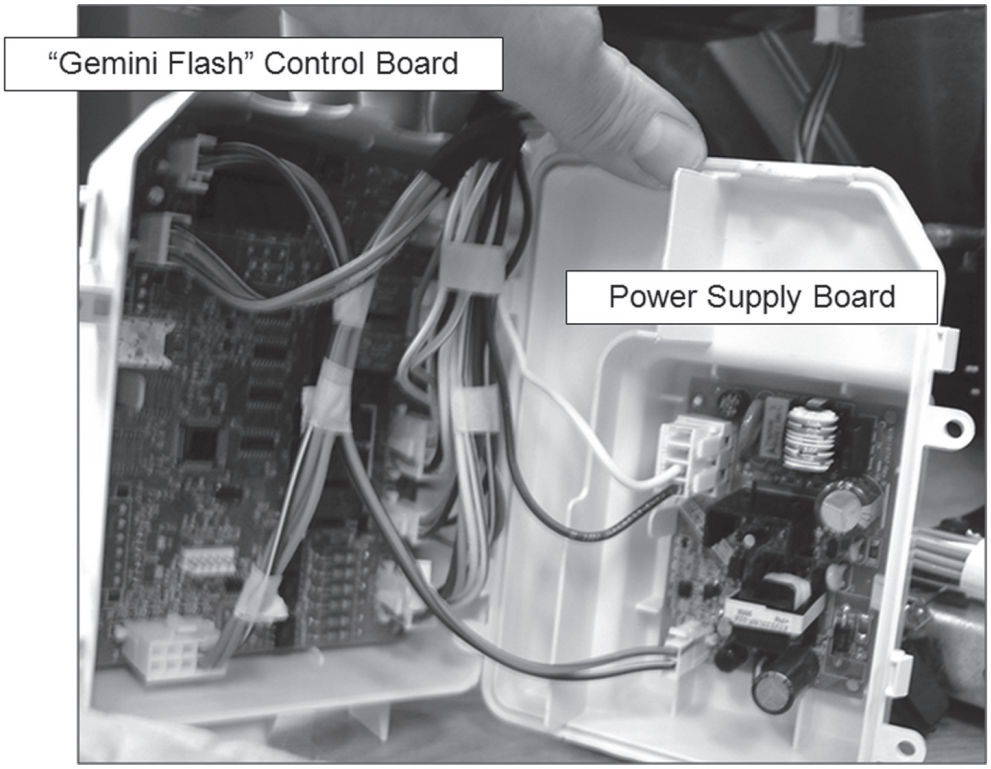
4. Remove 4 screws securing the housing halves together

5. Open the 4 latches and separate the housing.

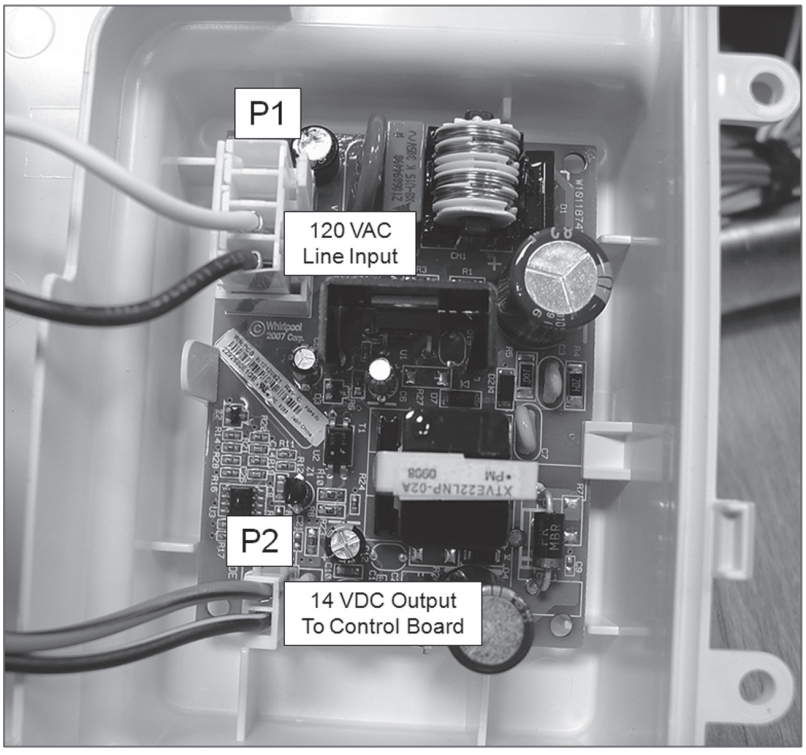
*Always refer to Service Sheet and Use and Care Manual for information specific to the refrigerator you are servicing.

Control Assembly (continued)

Control and Power Supply Boards



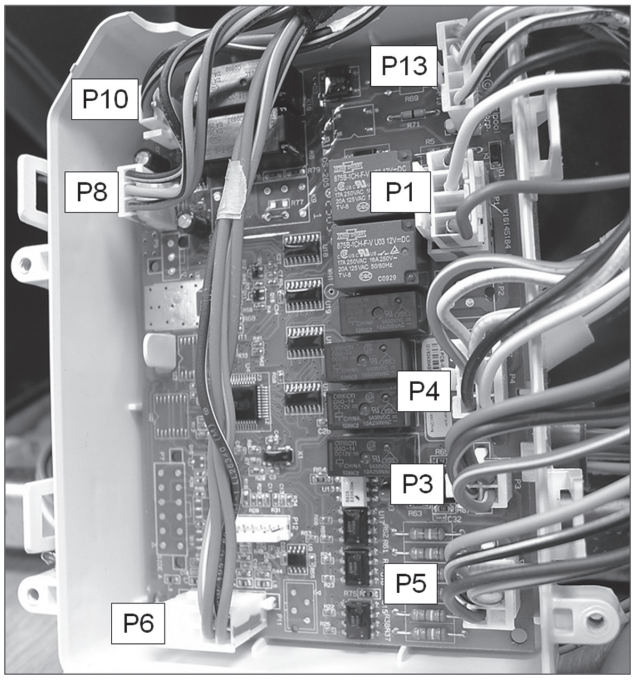
Power Supply Board



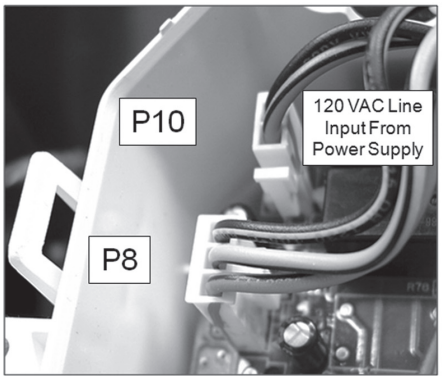
*Always refer to Service Sheet and Use and Care Manual for information specific to the refrigerator you are servicing.

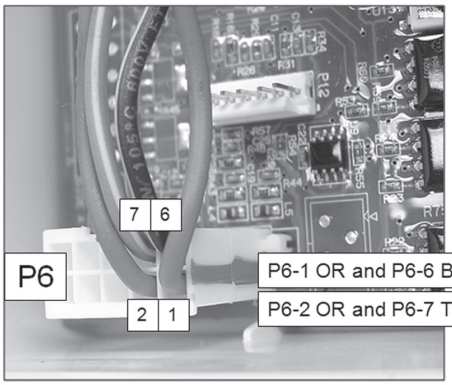
Control Assembly (continued)

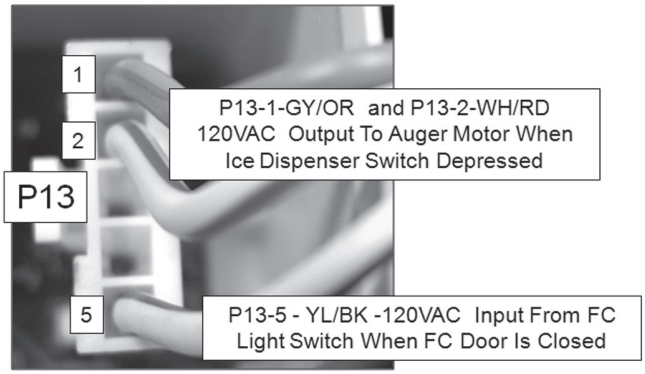
Control Board Connector Identification

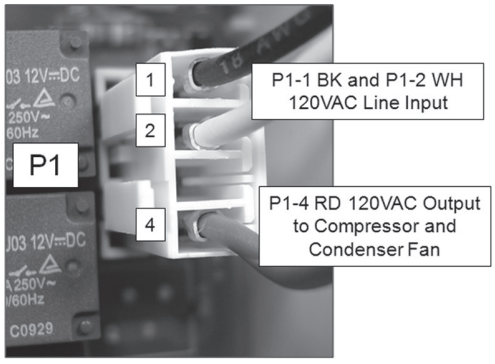


Control Board Input and Output Voltages/Signals





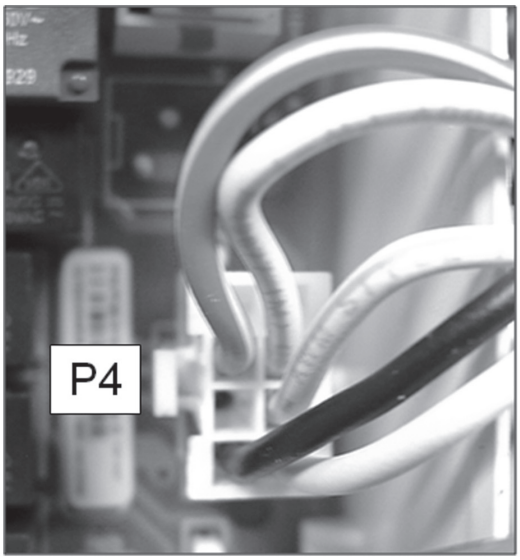


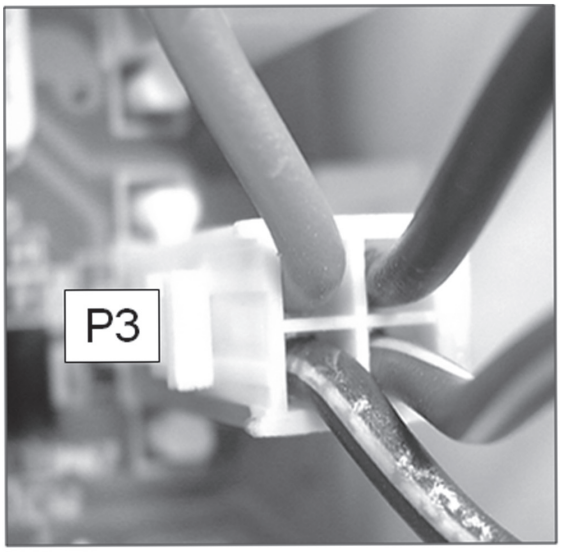


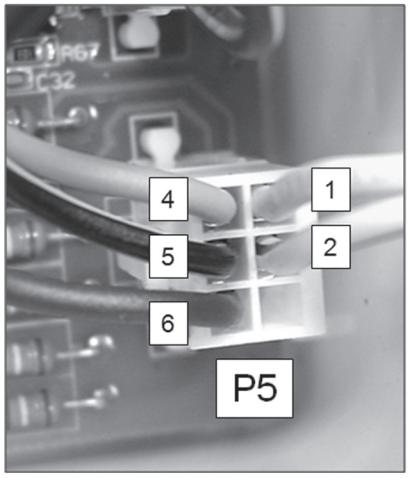
*Always refer to Service Sheet and Use and Care Manual for information specific to the refrigerator you are servicing.

Control Assembly (continued)

Control Board Input and Output Voltages/Signals







P5-1 – YL – FC Light Sense Circuit
120VAC Input when FC Door Open

P5-2 – YL/BK – RC Light Sense Circuit
120VAC Input when RC Door Open

P5-4 – TN –120VAC Output To Ice
Maker Water Valve For Fill

P5-5 – BK/YL – 120VAC Air Baffle

P5-6 – BR –Defrost Sense Circuit
120VAC Input during Defrost Cycle
With Defrost Bimetal Closed.

*Always refer to Service Sheet and Use and Care Manual for information specific to the refrigerator you are servicing.

Kitchenaid Stealth Control Overview and Programming Instructions

Kitchen Aid models, KSRJ25FX**, KSRL25FX**

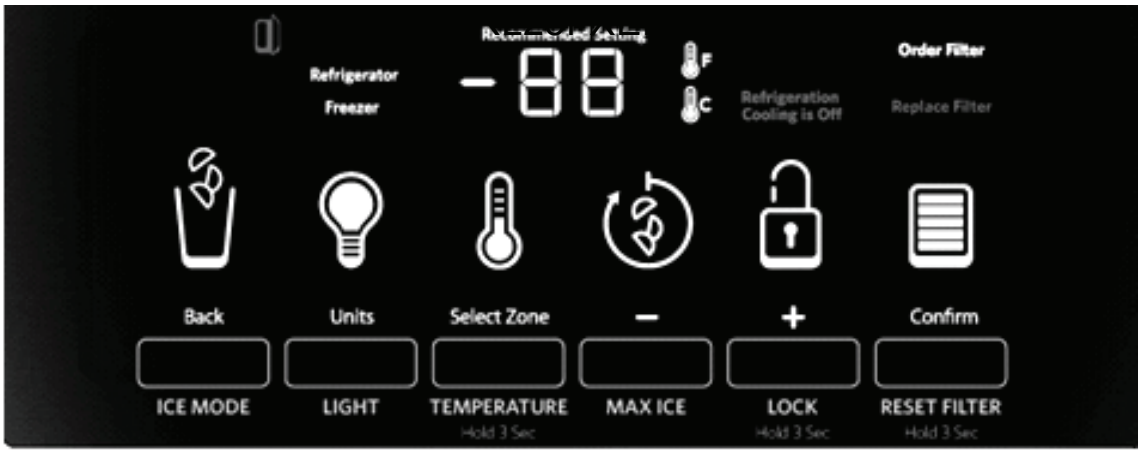


Figure 1 – KitchenAid Stealth User Interface/Blue LED's except as noted.

Maytag model, MSD2559XE* See figure 2.

Figure 2 – Maytag Stealth User Interface/Amber LED's except as noted.

Note: A KitchenAid display will be used to explain the Control Operation. There are some cosmetic differences between the KitchenAid and Maytag icons and text. The icons used on the KitchenAid display are blue. The Maytag display uses amber LED's. Although the displays are not identical, the basic operation and programming are the same. See Figures 1 and 2.

*Always refer to Service Sheet and Use and Care Manual for information specific to the refrigerator you are servicing.

KitchenAid Stealth Control Overview and Programming Instructions (continued)

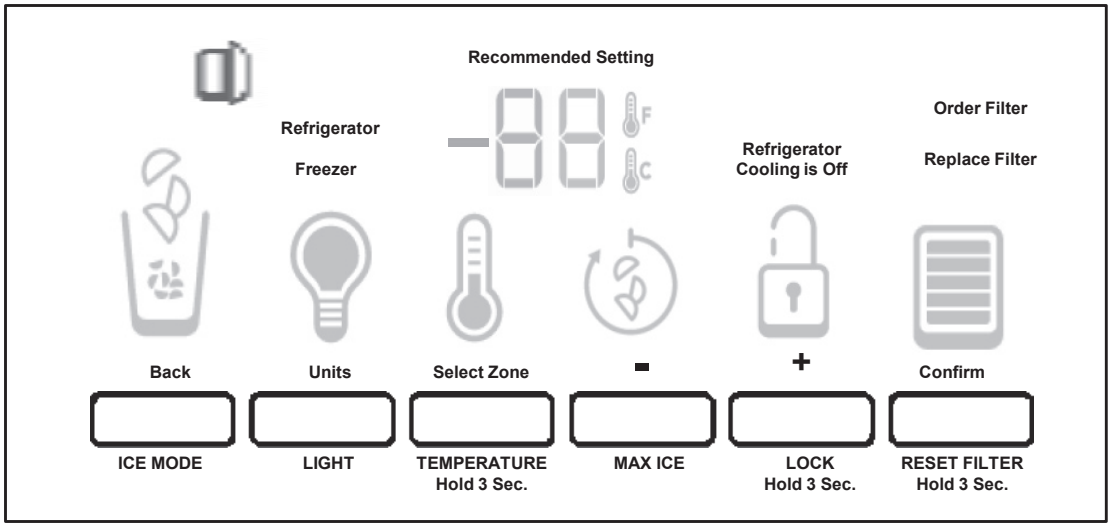


Figure 3 – KitchenAid Interface Icon Identification

Figure 3 depicts all the ICONS and Text located on the Display. Specific Icons will be displayed at different steps during programming as explained in this manual.

Sleep Mode

The display screen on the dispenser control panel will turn off automatically and enter "sleep" mode when the control buttons and dispenser levers have not been used for 2 minutes or more. See figure 4.

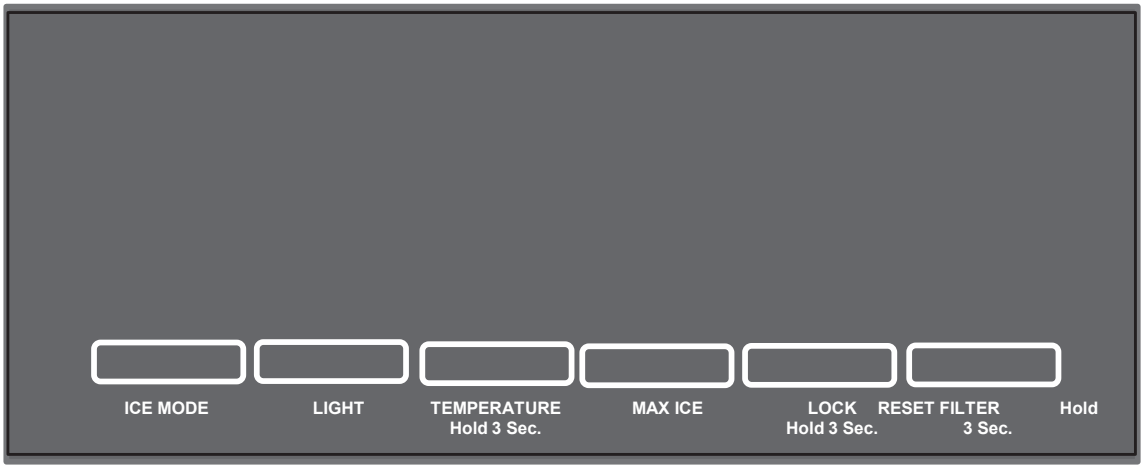


Figure 4 – Hibernate/Sleep Mode Screen

While in "sleep" mode, the display is dark

KitchenAid Stealth Control Overview and Programming Instructions (continued)

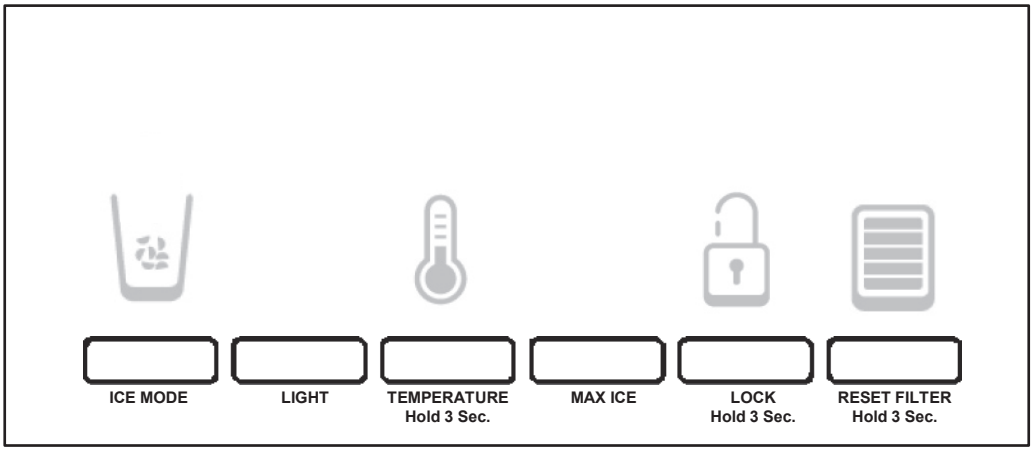


Figure 5

Pressing any control button will activate the "Normal/Home " display screen, without changing any settings. See figure 5.
After activation, changes to any settings can then be made. If no changes are made within 2 minutes, the display will re-enter "sleep" mode.

Factory Preset Temperatures
The refrigerator and freezer controls are preset at the factory. The factory recommended set points are 37°F (3°C) for the refrigerator and 0°F (-18°C) for the freezer

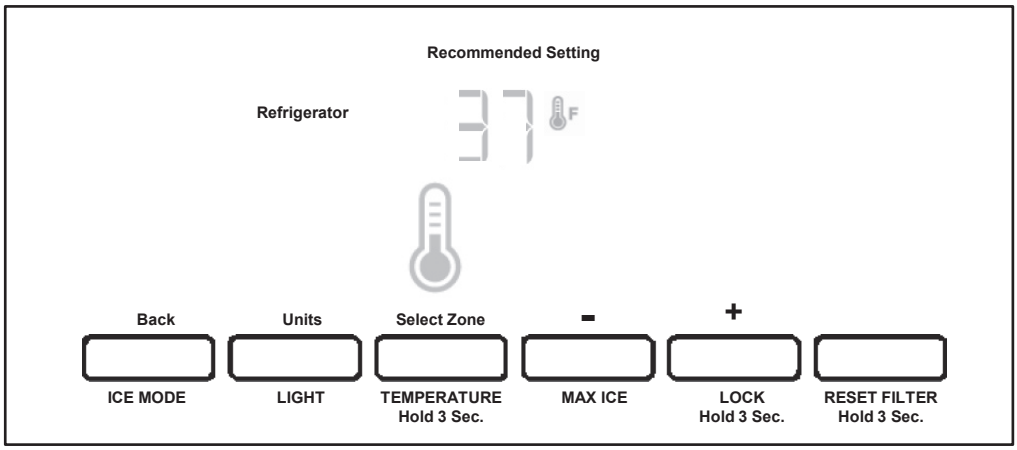


Figure 6

To View and Adjust Set Points:
Press and hold the TEMPERATURE button for 3 seconds. When adjust mode is Activated, the display screen shows the refrigerator set point and "REFRIGERATOR" appears in the display. See figure 6.

*Always refer to Service Sheet and Use and Care Manual for information specific to the refrigerator you are servicing.

KitchenAid Stealth Control Overview and Programming Instructions (continued)

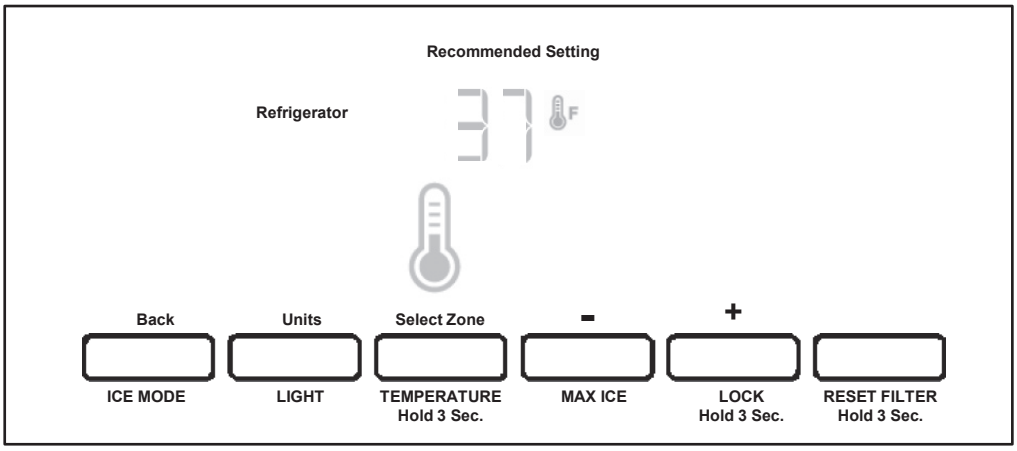


Figure 7

Adjusting Temperature Set Points:
Pressing and holding TEMPERATURE starts a 3 second countdown on the display. During the countdown using the dispenser cancels the countdown and no dispensing is permitted. The number '3' blinks 3 times and an 'invalid' tone sounds 3 times. The user has to release both the pad and the button and then press the button again to start the countdown over.
During the countdown, pressing any other button or releasing the pad cancels the countdown and the '3' blinks 3 times and the 'invalid' tone sounds 3 times. The user has to start over.
Note: The blinking and toning is synchronized so that the moment the number '3' blinks, the tone is sounded. After 3 seconds, the TEMPERATURE shows up with the CURRENT refrigerator setting. See Figure 7.
Pressing TEMPERATURE changes between the refrigerator and freezer compartments and displays the current setting. Pressing the ICE MODE pad or after 60 seconds of no activity, the display will revert back to the normal screen.

*Always refer to Service Sheet and Use and Care Manual for information specific to the refrigerator you are servicing.

KitchenAid Stealth Control Overview and Programming Instructions (continued)

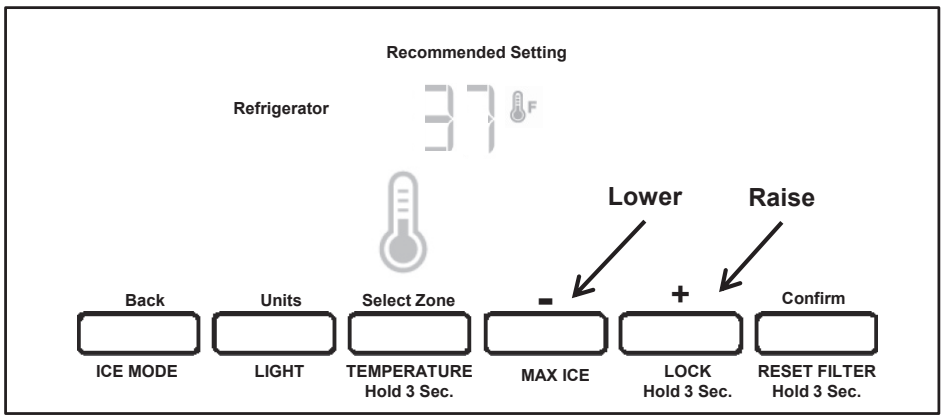


Figure 8

Adjusting Temperature Settings

Press the LOCK pad to raise the temperature set point or press the MAX ICE pad to lower the temperature set point. See figure 8.

Important: When the temperature is changed, the word " CONFIRM" above the filter reset pad illuminates and will FLASH without an audible tone constantly until user presses RESET FILTER, ICE MODE or after 60 seconds of inactivity. If the user presses TEMPERATURE to change compartments, CONFIRM still flashes if one of the temps has been changed.

NOTE: To view Celsius temperatures, press the LIGHT button when adjust mode is activated. To return the display setting to Fahrenheit, press LIGHT again.

.

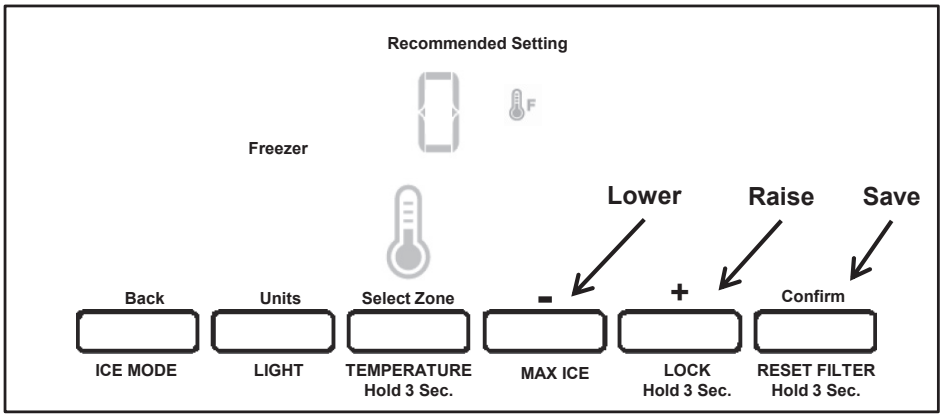


Figure 9

Freezer Temperature Setting

After viewing (and adjusting if desired) the refrigerator set point, press TEMPERATURE to change the display to show the freezer set point. When the zone has been changed, "FREEZER" appears on the display screen. Press LOCK to raise the set point, or press MAX ICE to lower the set point. When you have finished viewing (and adjusting if desired) both the refrigerator and freezer set points, press FILTER to save the settings. See figure 9.

*Always refer to Service Sheet and Use and Care Manual for information specific to the refrigerator you are servicing.

KitchenAid Stealth Control Overview and Programming Instructions (continued)

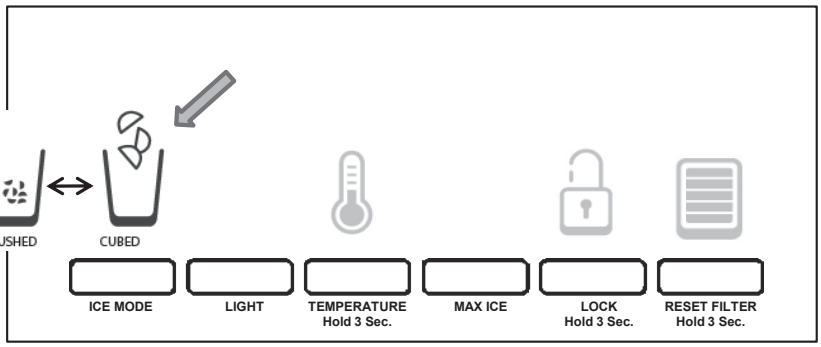


Figure 10

Ice Dispenser:
Ice dispenses from the ice maker storage bin in the freezer when the dispenser lever is pressed. The ice maker can produce both crushed and cubed ice. Before dispensing ice, select which type of ice you prefer by pressing the ICE MODE button. The display screen indicates which type of ice is selected. See figure 10.
For crushed ice, cubes are crushed before being dispensed. This may cause a slight delay when dispensing crushed ice. Noise from the ice crusher is normal, and pieces of ice may vary in size. When changing from crushed to cubed, a few ounces of crushed ice will be dispensed along with the first cubes.
NOTE: Ice may continue to dispense for up to 10 seconds after removing the glass from the lever.
The dispenser may continue to make noise for a few seconds after dispensing.

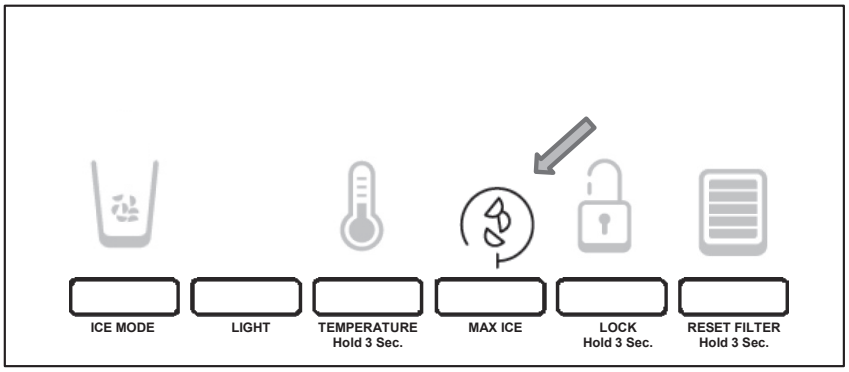


Figure 11

Max Ice:
The Max Ice feature assists with temporary periods of heavy ice use by increasing ice production over a 24-hour period.
IMPORTANT: This feature only works if the ice maker is turned on. Press MAX ICE to turn on the Max Ice feature. When the feature is on, the Max Ice icon will appear on the dispenser display screen. See figure 11.
The Max Ice setting will remain on for 24hours unless manually turned off. To manually turn off the Max Ice feature, press MAX ICE again or adjust the freezer temperature set point. The MAX ICE icon will disappear when the feature is off.
NOTE: If increased ice production is desired at all times, change the freezer set point to a lower setting. Setting the freezer to a colder temperature may make some foods, such as ice cream harder.

*Always refer to Service Sheet and Use and Care Manual for information specific to the refrigerator you are servicing.

KitchenAid Stealth Control Overview and Programming Instructions (continued)

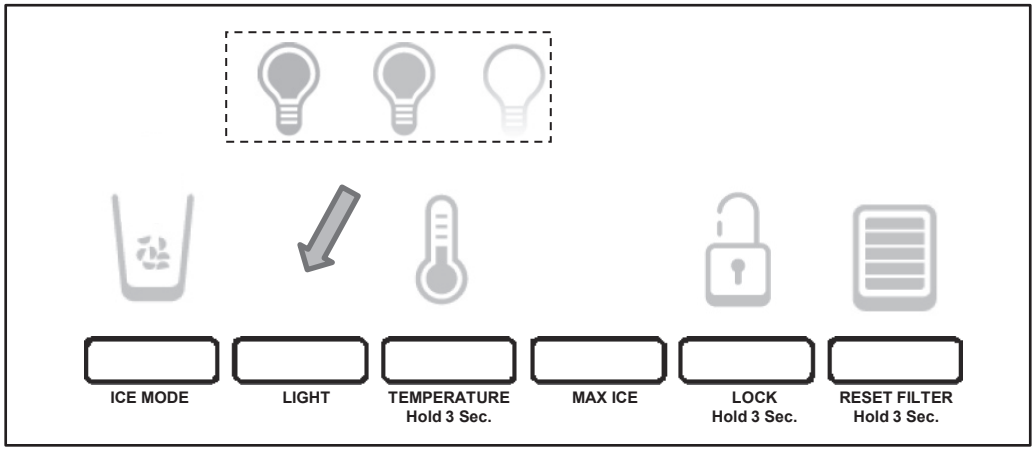


Figure 12

Dispenser Light:
When you use the dispenser, the light will automatically turn on. If you want the light to be on continuously, you may choose either ON or DIM.
The display screen indicates which mode is selected. See figure 12.
ON: Press LIGHT to turn the dispenser light on at 100%
DIM: Press LIGHT a second time to select DIM mode. The dispenser light will remain on, but at a lower 50% intensity.
OFF: Press LIGHT a third time to turn the dispenser light off
NOTE: If the setting is changed it will remain that way.

*Always refer to Service Sheet and Use and Care Manual for information specific to the refrigerator you are servicing.

KitchenAid Stealth Control Overview and Programming Instructions (continued)

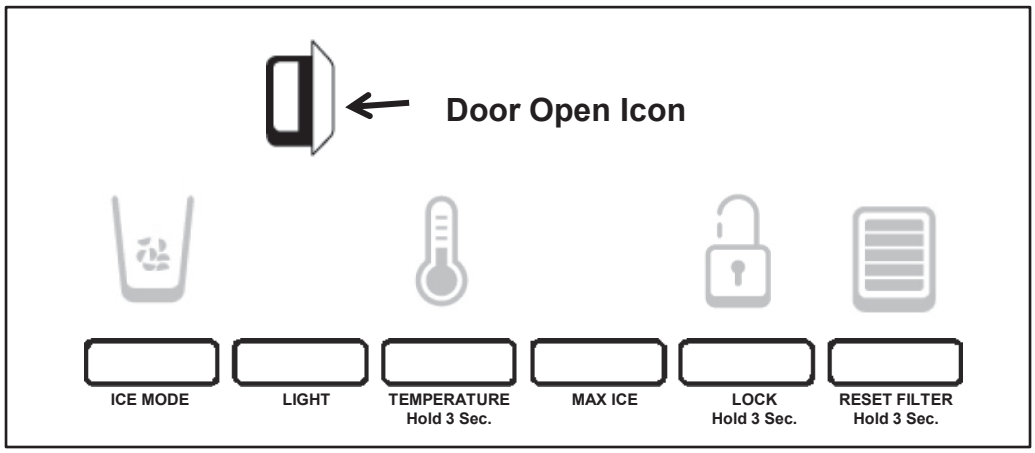


Figure 13

Door Open Alarm

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

Details:

When a door is open for 5 minutes and the cooling function is on:
The Door Open Icon and the normal screen is displayed.
The Door Open chime is sounded 3 times.
The Door Open Icon appears and blinks 7 times and then becomes constant.
If a door is left open, every 2 minutes, the Door Open chime sounds 3 times, the Door Open icon blinks 7 times and then becomes constant.
Note: since inactivity to sleep is also two minutes, the door open situation shall overwrite the sleep mode. In other words, the UI will not go to the sleep mode if it is in the Door Open mode.
When the door open alert condition is met (door open for 5 min), pressing any button on the control panel at any time will turn off the Door Open Alert Chime.
The other door open functions, flashing door open icon, and the door reset timer continue until the next door open alert occurs. This will continue until the both door are closed.

NOTE: To mute the audible alarm while keeping the doors open, such as while cleaning the inside of the refrigerator, press any button on the control panel. The alarm sound will be temporarily turned off, but the Door Open icon will still be displayed on the dispenser control panel. See figure 13.

*Always refer to Service Sheet and Use and Care Manual for information specific to the refrigerator you are servicing.

KitchenAid Stealth Control Overview and Programming Instructions (continued)

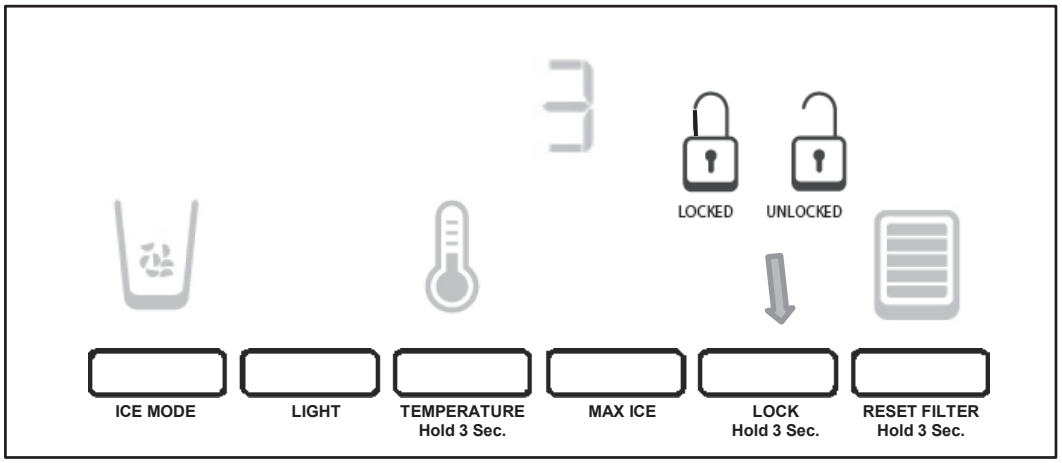


Figure 14

Dispenser Lock:
The dispenser can be turned off for easy cleaning or to avoid unintentional dispensing by small children and pets.
NOTE: The lock feature does not shut off power to the refrigerator, to the ice maker, or to the dispenser light. It simply deactivates the controls and dispenser levers.

Details
Pressing and holding LOCK starts a 3 second countdown on the display. During the countdown, using the dispenser cancels the countdown and no dispensing is permitted. During the countdown pressing any other button or releasing the Lock button cancels the countdown.
After 3 seconds, the UI is locked. (See figure 14) No function or dispensing is allowed except for cooling off. No status is displayed except for LOCK, Door Open, and Cooling Off . Pressing any button or pad (except for LOCK or the COOLING OFF key sequence) will wake up the lock screen if it has gone to sleep. The lock icon will blink three 3 times and the “invalid” tone sounds 3 times.
Pressing and holding LOCK for 3 seconds unlocks the UI and the normal screen (if cooling is not off) is displayed depicting the ice mode, light status ,lock status, or any alert icons exactly as before it was locked.

*Always refer to Service Sheet and Use and Care Manual for information specific to the refrigerator you are servicing.

KitchenAid Stealth Control Overview and Programming Instructions (continued)

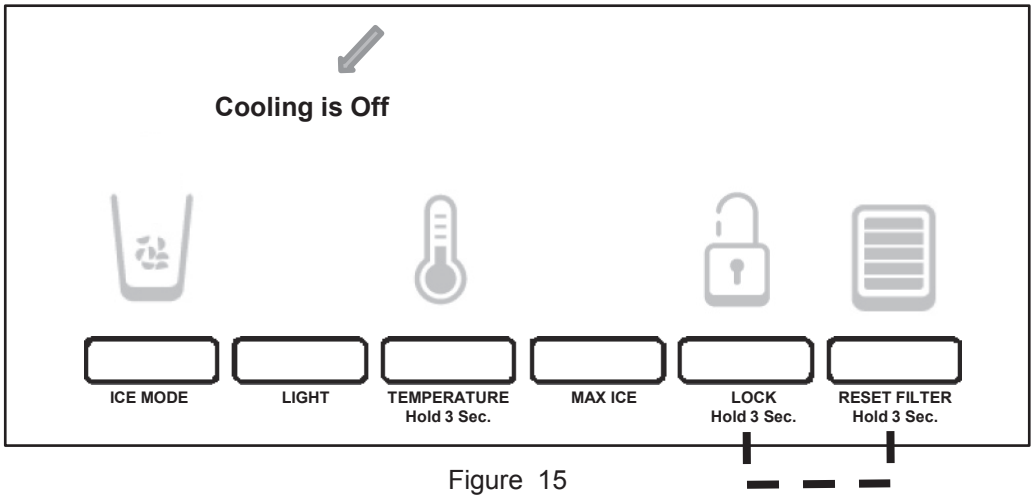


Figure 15

Cooling Off Mode

Pressing and holding both LOCK and RESET FILTER simultaneously (Figure 15) starts a 3 second countdown. During the countdown, using the dispenser cancels the countdown and no dispensing is permitted.

After 3 seconds, the 'cooling off' icon appears and flashes 7 times then remains on. All the rest of the icons and door open turn off.

Exception: if the UI is locked the user can still turn cooling off. The 'COOLING OFF' icon will be displayed along with the lock icon. The only keys available to the user are the lock key to unlock the control which returns to the standard cooling mode. When any other key is pressed, an error beep will be sound.

If the customer is in "normal mode" (not in locked mode) and the customer turns cooling off, only the cooling off icon will show. The only keys available to the customer is the cooling on/off key sequence combination. When any other keys are pressed, an error beep will sound.

The Cooling is Off screen will stay on all the time and does not go to sleep. If Cooling is Off when power is interrupted, it will remain in the Cooling is Off when power is restored.

During "COOLING OFF" (if the UI is not locked), ice and water dispensing is allowed.

Cooling On Mode

Pressing and holding LOCK and RESET FILTER again for 3 sec turns the cooling on. After cooling is turned on, the normal screen is displayed with the ice mode, light status, lock status, filter status, or any alerts icons displayed exactly as before cooling was shut off.

*Always refer to Service Sheet and Use and Care Manual for information specific to the refrigerator you are servicing.

KitchenAid Stealth Control Overview and Programming Instructions (continued)

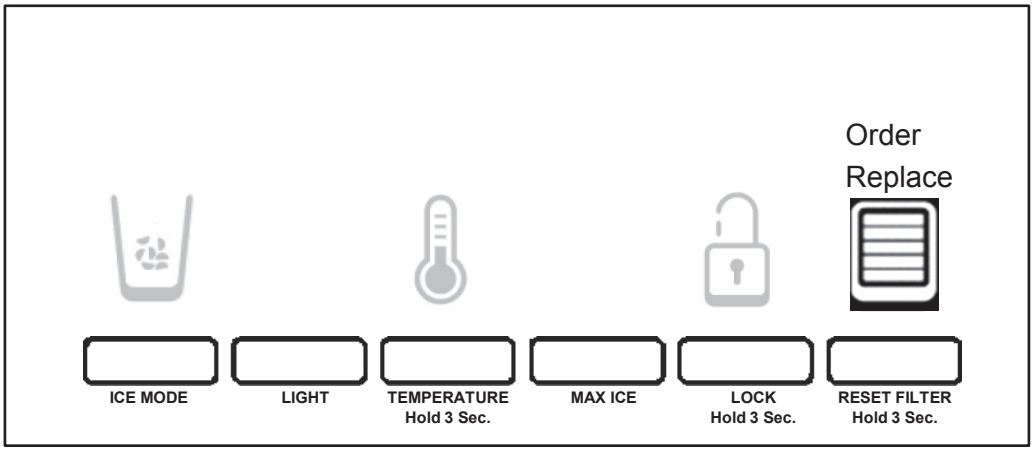


Figure 16

Water Filter Status Light:
The water filter status light will help you know when to change your water filter.
When the dispenser control panel's water filter status display changes to "ORDER," this tells you that it is almost time to change the water filter cartridge.
Replace the water filter cartridge when the water filter status display changes to "REPLACE." The filter should be replaced at least every 6 months, depending on your water quality and usage. Note: If water flow to your water dispenser or ice maker decreases noticeably, change the filter sooner.
After changing the water filter, reset the status light.

Details:
Pressing and holding RESET FILTER starts the 3 second countdown. Using the dispenser cancels the countdown and no dispensing is permitted. The number '3' blinks 3 times and the 'invalid' tone sounds 3 times and user has to release both the pad and the button and press the button again to start it over
After 3 seconds, the BLUE WATER BARS in the Icon flash and an audible tone will not sound three times. When the system is reset, the "ORDER" and "REPLACE" icons will disappear from the display screen. See figure 16.
Note: Users can reset the filter status at any stage.

*Always refer to Service Sheet and Use and Care Manual for information specific to the refrigerator you are servicing.

KitchenAid Stealth Control Overview and Programming Instructions (continued)

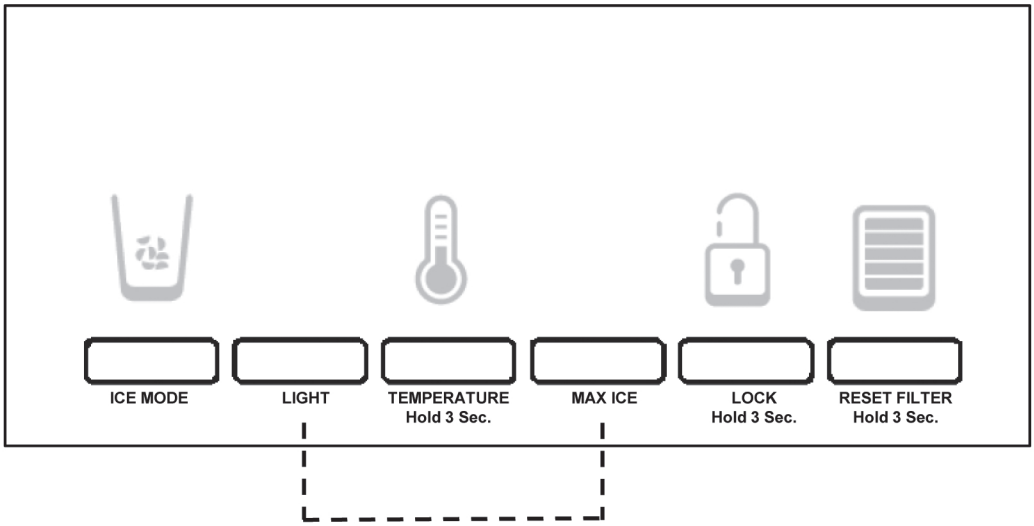


Figure 17

Showroom Mode:
Pressing and holding LIGHT and MAX ICE starts a 3 second countdown. During the countdown, pressing any other button or releasing a pad cancels the countdown.

Details:
After 3 seconds, the control enters the showroom mode and the cooling system turns off. When in the showroom mode, COOLING OFF and WFI icons stay off all the time, while the Door Open icon appears whenever door is open, however there is no door open audible alert.
No ice or water dispensing is allowed , an 'invalid' tone sounds if a pad is pressed or pressed and held.
User is not allowed to turn cooling on or off. If attempted invalid tone sounds.
Pressing ICE MODE toggles cubed and crushed,
Pressing LIGHT toggles off/on/dim ; lighting changes accordingly.
The user can enter the Temperature Setting menu, which works the same as previously described and the temperature will be stored. However, the moment the showroom mode is exited, the temp will be set back to default.
After 1 minute in a temperature screen without activity the control returns to the normal screen.
Please note that 'Cooling is Off' text will never be lit in the showroom mode
Note: The UI never goes to sleep under any circumstances.

Exiting the Showroom Mode:
Pressing and holding LIGHT and MAX ICE again for 3 sec OR unplugging and plugging in the power cord exits the showroom mode and returns to normal operation.

*Always refer to Service Sheet and Use and Care Manual for information specific to the refrigerator you are servicing.

Service Diagnostics Mode

NOTE: This is an example of the information on the Technical Data Sheet shipped with the refrigerator.

To **Enter Service Diagnostics Mode**:
Press SW1 and SW2 simultaneously for 3 seconds, see figure 1. There will be a 3,2,1 countdown on the display, see figure 2. Release both buttons when "Beep" sounds. Unit must not be in "Lockout" prior to entering the Service Diagnostic Mode. The display will show "0I" to indicate the control is in step1 of the diagnostics routine.

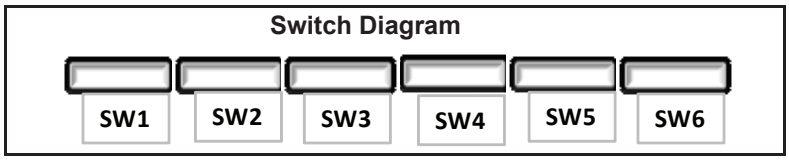


Figure 1

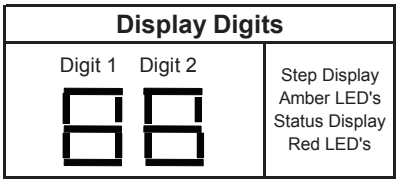


Figure 2

Cooling diagnostics are steps 1 through 7. Dispensing diagnostics are steps 8 through 30. Each step must be manually advanced.
Press **SW5** to advance to the next step in sequence.
Press **SW4** to return to the previous step. Diagnostics will begin at Step 1.

Each step is displayed as 2 digits in the dispenser display. The step results are displayed using the same 2 digits but 2 seconds after the step number is displayed. The step number is identified using Amber LED's.

In the diagnostic mode, all buttons and pad inputs are ignored and all inputs are off except as described in the actions of each step.
Note: The ice door motor cycles one minute after an ice dispense is initiated.
Service Note: If the control does not respond, disconnect the refrigerator from power for 10 second. Reconnect to power and wait 10 seconds before entering the Service Diagnostics.
To Exit Service Diagnostics Mode. Do one of the following options:
1. Press **SW1** and **SW2** simultaneously for 3 seconds.
2. Disconnect the refrigerator from power and reconnect.
3. Allow 20 minutes for the program to automatically time out.

Following the exit from the diagnostics mode, the control will resume normal operation.

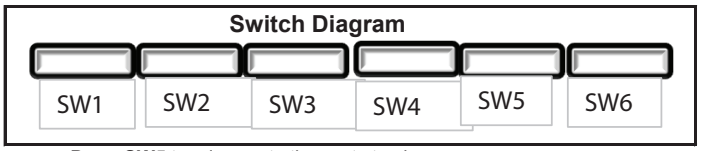
The cooling diagnostics are listed first followed by the dispensing diagnostics.

Step Number	Component Tested	Suggested Diagnostics Routine Cooling system steps 1-7 Dispensing system steps 8-30	Component Status Indicator
1	FC Thermistor	This is an internal board test. The board will check the resistance value of the Thermistor and display the results in the RC Temperature Display.	01 = Pass 02 =Open 03 = short
2	RC Thermistor	This is an internal board test. The board will check the resistance value of the Thermistor and display the results in the RC Temperature Display.	

*Always refer to Service Sheet and Use and Care Manual for information specific to the refrigerator you are servicing.

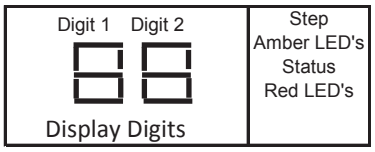
Service Diagnostics Mode (continued)

NOTE: This is an example of the information on the Technical Data Sheet shipped with the refrigerator.



Press **SW5** to advance to the next step in sequence.

Press **SW4** to return to the previous step.

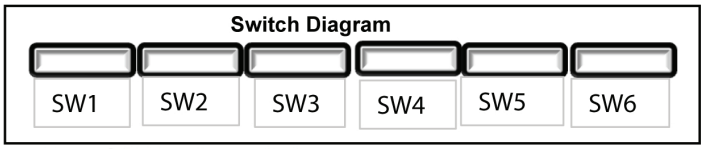


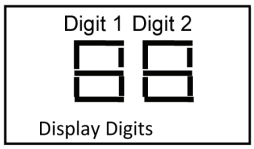
Step Number	Component Tested	Suggested Diagnostics Routine Cooling system steps 1-7 Dispensing system steps 8-30	Component Status Indicator
3	Evaporator fan motor and air baffle motor	Verify air flow from evaporator fan. Check to see if the air baffle opens and closes	01=Fan On, Air Baffle open 02=Fan On, Air Baffle closed
4	Compressor and Condenser Fan Motor	Line voltage switched to compressor and condenser fan from control board	01=ON 02=OFF
5	Does Not Apply	This step is automatically by-passed	Does Not Apply
6	Defrost heater and Bimetal	Line voltage switched to components from board, verify heater operation. If Bimetal is open, it will need to be by-passed for heater to operate.	Blank= Waiting for validation 01= Bimetal Closed 02=Bimetal Open
7	Defrost Mode	The Defrost Mode can be activated by using SW3. In the ADC Mode the refrigerator will automatically defrost after a minimum of 8 hours of compressor run time and up to maximum of 96 hours of compressor run time, depending upon product usage. In Basic Mode the product will automatically defrost after 8 hours of compressor runtime. The Defrost Mode must be set to ADC ON before exiting the Service Diagnostic Mode. Press SW5 to indicate the completion of this step and to continue with the dispenser service routine.	01=ADC ON 02= Basic Mode ON - 8 hour Timer
Important: If Bi-Metal is by-passed for testing. Do Not Overheat the Evaporator Area			
Dispensing System Steps 8-30			
8	All UI indicators	Verify that all LED indicators and UI digits turn on automatically	All indicators ON
9	UI Button/Pad Test	Displays the User Interface Buttons and Ice and Water Pads status as described in the Component Status Indicator column. Note: Do not use SW4 and SW5 as these are used only to navigate through the Service Diagnostics.	Digit 1 / Digit 2 / SW Pressed 1 / Blank / SW 1 2 / Blank / SW 2 3 / Blank / SW 3 6 / Blank / SW 6 Blank / 1 / Ice Pad Blank / 2 / Water Pad Blank / 3 / Ice and Water
10	Does Not Apply	This step is automatically by-passed	Does Not Apply
11	Dispenser Lighting	Pressing SW3 will change the dispenser light setting from OFF(0%) to ON(100%) to DIM(50%)	Blank
12	Does Not Apply	This step is automatically by-passed	Does Not Apply
13	Dispenser Housing Heater Status	Displays the Dispenser Housing Heater status on the UI display. Press SW3 to change status.	01=ON 02=OFF
14	Does Not Apply	This step is automatically by-passed	Does Not Apply
15	Does Not Apply	This step is automatically by-passed	Does Not Apply

*Always refer to Service Sheet and Use and Care Manual for information specific to the refrigerator you are servicing.

Service Diagnostics Mode (continued)

NOTE: This is an example of the information on the Technical Data Sheet shipped with the refrigerator.





Press **SW5** to advance to the next step in sequence.

Press **SW4** to return to the previous step.

Step Number	Component Tested	Suggested Diagnostics Routine Cooling system steps 1-7 Dispensing system steps 8-30	Component Status Indicator
		Dispensing System Steps 16-30	
16	RC Door Switch Input	Displays the RC Door status in real time on the UI display. Verify that the open/close status displayed is correct.	01=RC Door Open 02=RC Door Closed
17	FC Door Switch Input	Displays the FC Door status in real time on the UI display. Verify that the open/close status displayed is correct.	01=FC Door Open 02=FC Door Closed
18	Ice Door Motor	Displays the Ice Door stepper motor state on the UI display. Initiate the Ice dispense and verify that the mechanical operation of the Ice door corresponds to the component status indicator. **Note:** Ice door will delay in closing after an Ice dispense is initiated.	01=Closed 02=Opening 03=Open 04=Closing
19	Not Applicable	Not Applicable	Not Applicable
20	Water Filter Usage Rating	Displays in 2 sequential flashes the total water usage rating in gallons for the water filter on the UI display. Wait until dash is displayed which means the end of the number.	00/0 to 99/9
21	Water Filter Usage Rating	Displays in 2 sequential flashes the total time rating in days for the water filter on the UI display. Wait until dash is displayed which means the end of the number.	00/0 to 99/9
22	Water Filter Usage	Displays in 2 sequential flashes the current water filter status in gallons used since last reset on the UI display. Wait until dash is displayed which means the end of the number.	00/0 to 99/9
23	Water Filter Usage	Displays in 2 sequential flashes the current water filter status in gallons used since last reset on the UI display. Wait until dash is displayed which means the end of the number.	00/0 to 99/9
24	Water Filter Reset	Displays in 2 sequential flashes the number of times the Water filter was reset on the UI display. Wait until dash is displayed which means the end of the number.	00/0 to 99/9
25	Water Dispensing and Ice Maker fill test	Simulate an Ice Maker fill and then show the fill status. Press the Water pad to initiate water dispense	Digit 1: 0= IM Valve OFF, 1= IM Valve ON Digit 2: 0=W Valve OFF, 1=W Valve ON
26	Main Control Software Version	Displays the Software version in 3 sequential flashes on the UI. Note the readout is repeated during the step	00/00/00 To 99/99/99
27	Dispenser UI Control Software Version	Displays the Software version in 3 sequential flashes on the UI. Note the readout is repeated during the step	00/00/00 To 99/99/99
28, 29 30	Not Applicable	These steps are not used for Service Diagnostics	Not Applicable

*Always refer to Service Sheet and Use and Care Manual for information specific to the refrigerator you are servicing.

Service Sheet

NOTE: This is an example of the information on the Technical Data Sheet shipped with the refrigerator.

⚠WARNING

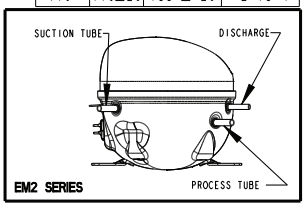
Electrical Shock Hazard
Disconnect power before servicing.
Replace all parts and panels before operating.
Failure to do so can result in death or electrical shock.

* Normal operating conditions are viewed when the air and temperature controls are at mid-sitting, freezer section 0 to -5°F and unit is cycling.

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

PERFORMANCE DATA
*(NORMAL OPERATING CONDITIONS)

AMB	WATTS	SYSTEM PRESSURE (PSIG) HIGH SIDE	SYSTEM PRESSURE (PSIG) LOW SIDE
70°	140±20	95 ± 20	-7 TO 3
90°	150±20	135 ± 20	-4 TO 3
110°	170±20	185 ± 20	-2 TO 4



SERVICE INFORMATION (W10289806C)

1. COMPRESSOR SUCTION AND PROCESS STUBS MAY NOT BE INTERCHANGED UNLESS INDICATED BY **.
2. REFRIGERANT CHARGE MUST BE APPLIED TO HIGH SIDE ONLY.
3. ICE MAKER AND WATER VALVE NOT ORIGINAL EQUIPTMENT ON ALL MODELS.
4. NOTE: ICE MAKER CYCLE MUST BE INITIATED ELECTRICALLY. DO NOT TRY TO MANUALLY START CYCLE.
5. SERVICE DEFROST BI-METALS -50°F OPEN.
6. PART NUMBER CAN BE FOUND ON THE COMPONENT.

SERVICEABLE ELECTRICAL PARTS MATRIX (COMPONENTS BY CUBIC FOOT SIZE)

SERVICEABLE PARTS	20/22 CUBIC FOOT	25, 26 AND 27 CUBIC FT		WATTAGE	RESISTANCE
	120V				
COMPRESSOR	EM2Z70	EM2Z80	EM2Y80		
	W10189229	W10183575	W10183577		
RUN WINDINGS	*				1-5
START WINDINGS	*				3-11
START DEVICE, OVERLOAD	See Note 6				
RUN CAPACITOR (IF EQUIPPED)	See Note 6				
THERMOSTAT	See Note 6				
MAIN CONTROL (Unit copartment)	See Note 6				
USER INTERFACE	See Note 6				
BAFFLE MODULE (OPT)	W10151372 / 2216112				
DEFROST TIMER (OPT)	See Note 6				
ADAPTIVE DEFROST ** (OPT)	See Note 6				
ADC/FILTER INDICATOR (OPT)	See Note 6				
DEFROST HEATER	See Note 6			550-650	27-21
DEFROST BI-METAL	See Note 6				
EVAPORATOR FAN	See Note 6			2-9	
CONDENSER FAN	See Note 6			3-12	
** PRIMARY SOURCE PART NUMBER					

ELECTRONIC CONTROL FEATURES

The dispenser user interface in this appliance controls both the product cooling and the dispensing systems. The product cooling diagnostics are first (see this page) followed by the dispensing diagnostics (see back of this page). The cooling portion of the electronic control in this appliance controls the temperatures in the refrigerator and freezer compartments independently, delays the operation of the evaporator fan, and pulses the defrost heater. The fan delay and pulsed defrost features are controlled in the following manner:

1. Evaporator Fan Delay - The electronic control delays the evaporator fan from coming on for 60 seconds after the compressor has turned on, and the evaporator fan stays on for 90 seconds after the compressor has turned off.
2. Pulsed Defrost Heat - During the defrost cycle the heater is energized continuously for the first 5 minutes. It is then cycled off for 60 seconds and on for 120 seconds. This on/off cycle is repeated until the bi-metal opens or the maximum defrost time (21 minutes) is reached.

SERVICE DIANOSTICS MODE

To **ENTER SERVICE DIAGNOSTICS Mode:** Press SW1 and SW2 simultaneously for 3 seconds. Release both buttons when you hear the CHIME indicator.
Unit must not be in Lockout prior to entering SERVICE DIAGNOSTIC MODE.
The display will show 01 to indicate the control is in step 1 of the diagnostics routine.
To **EXIT SERVICE DIAGNOSTICS Mode**, do one of the following 3 options:
1)Press SW1 and SW2 simultaneously for 3 seconds.
2) Disconnect the product from power.
3) Allow 20 minutes to pass.
Following the exit of the diagnostic mode, the controls will then resume normal operation.

SWITCH DIAGRAM

SW1 SW2 SW3 SW4 SW5 SW6

Cooling diagnostics are steps 1 through 7. Dispensing diagnostics are steps 8 through 30.
Each step must be manually advanced. Press SW5 to move to the next step in the sequence. Press SW4 to back up in the sequence to the previous step.Diagnostics will begin at Step 1.Each step is displayed in the two digits of the dispenser user interface display. The step results are displayed in the two digits on dispenser user interface display 2 seconds after the step number is displayed.An amber LED will be shown to designate that the step number is being displayed and a red LED will be shown to designate that the status of the step is being displayed.
All button and pad inputs shall be ignored and all inputs shall be off, except as described in the actions for each step.
Note: The ice door motor cycles 1 minute after an ice dispensing.

Service Tip: If the control does not respond, remove power from the entire appliance for 10 seconds. Re-apply power, wait 10 seconds, and perform the service diagnostics routine.

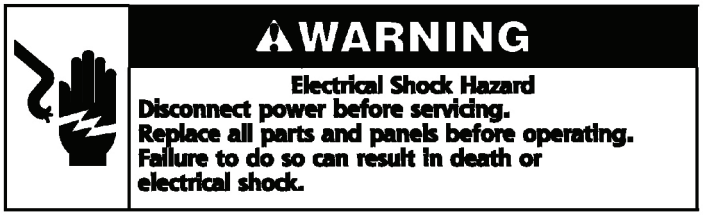
Step No.	Component Tested	Suggested Diagnostics Routine: COOLING system steps 1-7. DISPENSING system steps 8-30.	Component Status Indicator
1	FC thermistor	This is an internal board test. The board will check the resistance value of the thermistor and display the results on the RC Temp Display.	01=Pass 02=Open 03=Short
2	RC thermistor	This is an internal board test. The board will check the resistance value of the thermistor and display the results on the RC Temp Display.	
3	Evaporator fan motor and Air baffle motor	Verify air flow from the evaporator fan. Check to see if the baffle opens and closes.	01=Fan ON, Air Baffle is open 02=Fan ON, Air Baffle is closed (not available on motors without feedback)
4	Compressor/Condenser Fan Motor	Line voltage switched to components from board. Verify 120VAC between line and neutral at motor.	01=ON 02=OFF
5	N/A	N/A (This step bypassed automatically)	N/A
6	Defrost heater/Bi-metal	Line voltage switched to components from board, verify 120VAC between line and neutral at heater. Under some conditions, the Bi-metal can take a few minutes to close the circuit. Note: If Bi-metal is open, it will need to be by-passed for heater to operate. See Note below.	Blank = Untill get a valid reading 01 = Bimetal Closed 02 = Bimetal Open
7	Defrost Mode	The Defrost Mode can be set by using SW3. In ADC Mode the product will automatically defrost after a minimum of 8 hours of compressor runtime and up to maximum of 96 hours of compressor runtime, depending upon product usage. In Basic Mode the product will automatically defrost after 8 hours of compressor runtime. The Defrost Mode must be set to ADC ON before exiting the Service Diagnostic Mode. Press SW5 to indicate the completion of this step and to continue with dispenser service routine.	01 = ADC ON 02 = Basic Mode ON (8 hour timer)

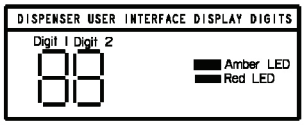
ATTENTION: IF BI-METAL IS BY-PASSED FOR TESTING (IF APPLICABLE), DO NOT OVERHEAT EVAPORATOR AREA.

*Always refer to Service Sheet and Use and Care Manual for information specific to the refrigerator you are servicing.

Service Sheet (continued)

NOTE: This is an example of the information on the Technical Data Sheet shipped with the refrigerator.

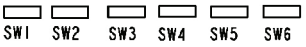




NOTE: The step number is shown first, followed by the status of the step 2 seconds after the step number is displayed. When the step number is being shown, the amber (Order Filter) LED will be on. When the status of the step is being shown, the red (Replace Filter) LED will be on.

SERVICE INFORMATION (W10324388 B)

SWITCH DIAGRAM



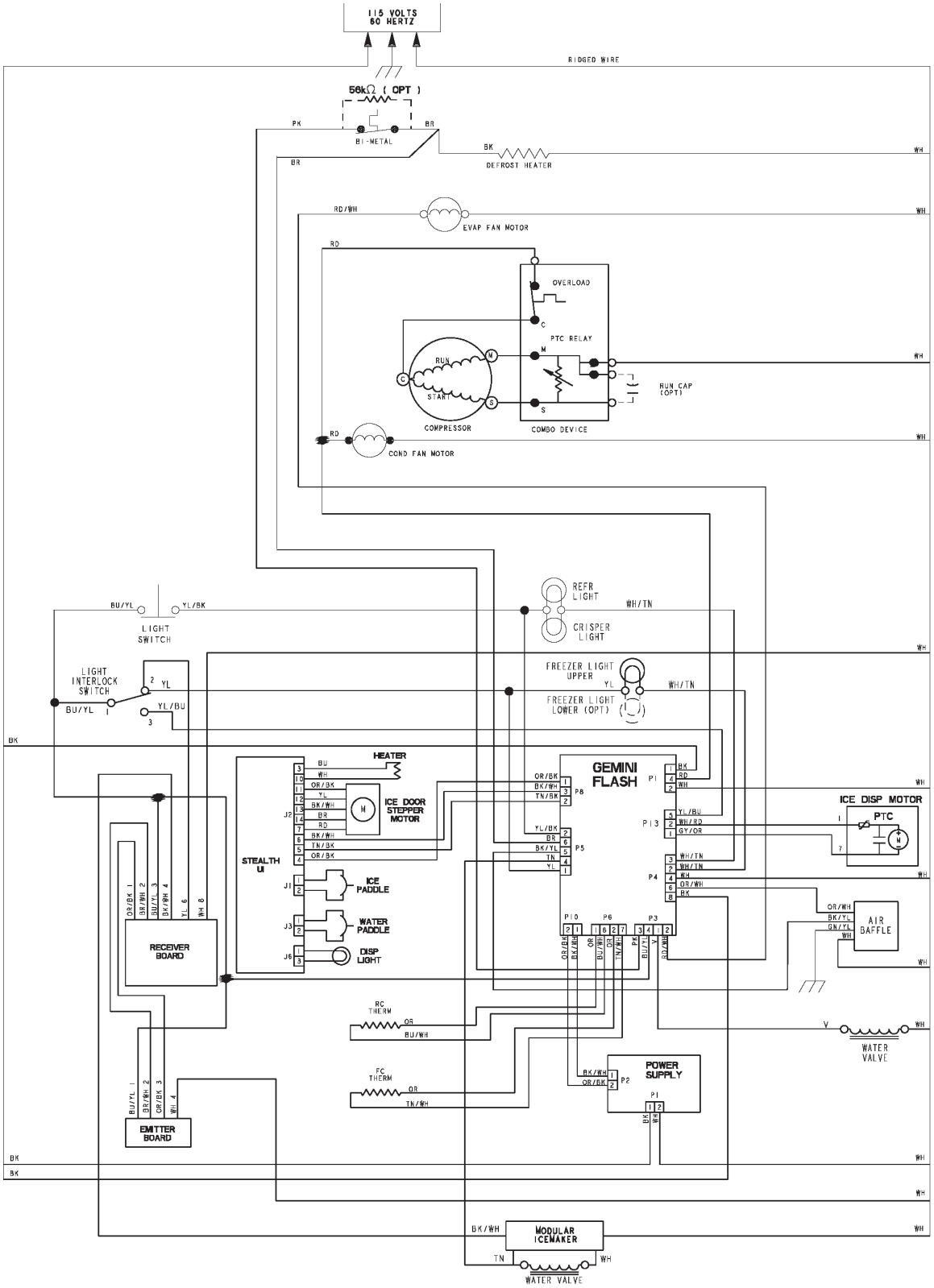
Step #	Component Tested	Suggested Diagnostics Routine: COOLING system steps 1-7. DISPENSING system steps 8-30.	Component Status Indicator
8	All UI indicators	Verify that all LED indicators and UI display digits turn on automatically.	All indicators ON
9	UI Button and Pad Test	Displays the User Interface Buttons and Ice and Water Pads status as described in the Component Status Indicator column. NOTE: Do not use SW4 and SW5 as these are used only to navigate through the Service Diagnostics.	Digit 1 Digit 2 1 0 = SW1 Pressed 2 0 = SW2 Pressed 3 0 = SW3 Pressed 6 0 = SW6 Pressed 0 1 = Ice Pad Pressed 0 2 = Water Pad Pressed 0 3 = Ice and Water Pads Pressed NOTE: SW4 and SW5 ARE USED FOR NAVIGATION AND ARE NOT DISPLAYED.
10	N/A	N/A (This step is bypassed automatically)	N/A
11	Dispenser Lighting	Pressing SW3 will change the dispenser lighting setting from OFF(0%) to ON(100%) To DIM(50%)	Blank
12	N/A	N/A (This step is bypassed automatically)	N/A
13	Dispenser Housing Heater Status	Displays the Dispenser Housing Heater status on the UI display. Press SW3 to change status.	01 = ON 02 = OFF
14	N/A	N/A (This step is bypassed automatically)	N/A
15	N/A	N/A (This step bypassed automatically)	N/A
16	RC Door Switch Input	Displays the RC Door status in realtime on the UI display. Verify that the open and close status display correctly	01 = RC Door Open 02 = RC Door Closed
17	FC Door Switch Input	Displays the FC Door status in realtime on the UI display. Verify that the open and close status display correctly.	01 = FC Door Open 02 = FC Door Closed
18	Ice Door Motor	Displays the Ice Door stepper motor state on the UI display.Initiate ice dispence and verify that the mechanical operation of the ice door coorresponds to the component status indicator.NOTE:Ice door will have a delay in closing after an ice dispence is initiated.	01=Closed.02=Opening.03=Open.04=Closing
19	Fill tube heater status	If this feature is available on the product,this step will allow the fill tube heater to be toggled on and off throught the use of SW3.	01=ON,02=OFF
20	Water Filter Usage Rating	Displays in two sequential flashes the total water usage rating in gallons for the water filter on the UI display. Wait until dash is displayed which means end of the number.	00/0- to 99/9-
21	Water Filter Time Rating	Displays in two sequential flashes the total time rating in days for the water filter on the UI display. Wait until dash is displayed which means end of the number.	00/0- to 99/9-
22	Water Filter Usage	Displays in two sequential flashes the current water filter status in gallons used since last reset on the UI display. Wait until dash is displayed which means end of the number.	00/0- to 99/9-
23	Water Filter Time	Displays in two sequential flashes the current water filter status in days since last reset on the UI display. Wait until dash is displayed which means end of the number.	00/0- to 99/9-
24	Water Filter Reset	Display in two sequential flashes the current times the Water Filter was reset on the UI display. Wait until dash is displayed which means end of the number.	00/0- to 99/9-
25	Water Dispensing and icemaker fill test.	Simulate an icemaker fill.Then the ice maker will show icemaker fill status. Press the Water Pad to initiate the water dispence.	Digit 1: 0= Icemaker valve OFF, 1 = Icemaker valve ON Digit 2: 0= Water valve OFF, 1= Water valve ON
26	Main Control Software Version	Displays in three sequential flashes the Main Control software version on the UI display. Note: This is repeated displayed during all time in this step.	00/00/00 to 99/99/99
27	Dispenser UI Control Software Version	Displays in three sequential flashes the Dispenser UI Control software version on the UI display. Note: This is repeated displayed during all time in this step.	00/00/00 to 99/99/99
28	N/A	N/A (This step bypassed automatically)	N/A
29	N/A	N/A (This step is bypassed automatically)	N/A
30	N/A	N/A (This step is bypassed automatically)	N/A

Also see JOB-AID 4322658A for detailed troubleshooting of the In-Door Ice Systems (IDI).

*Always refer to Service Sheet and Use and Care Manual for information specific to the refrigerator you are servicing.

Wiring Diagram

NOTE: This is an example of the information on the Technical Data Sheet shipped with the refrigerator.



*Always refer to Service Sheet and Use and Care Manual for information specific to the refrigerator you are servicing.

Wiring Diagram (continued)

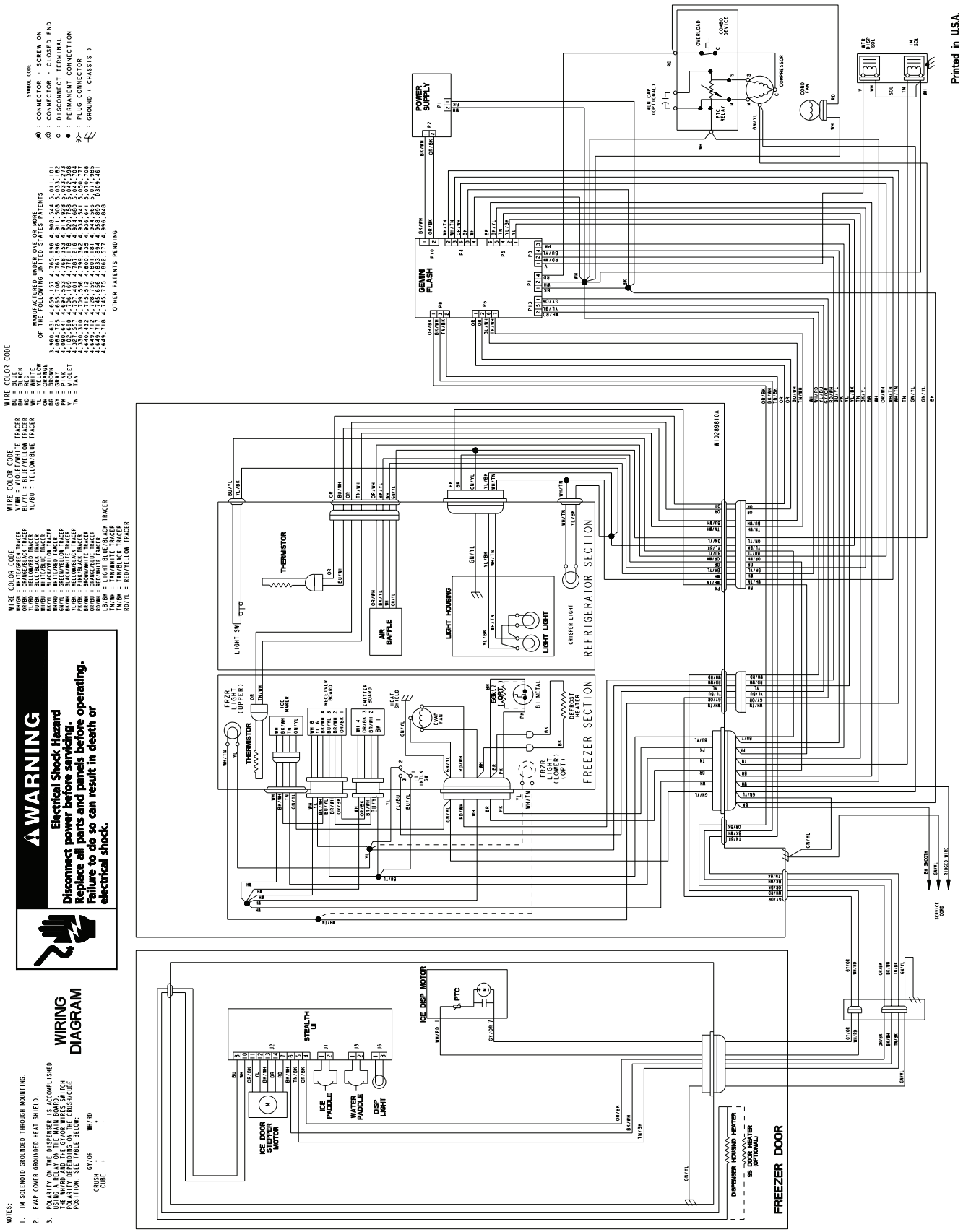
NOTE: This is an example of the information on the Technical Data Sheet shipped with the refrigerator.

VOLTAGE TEST POINTS GEMINI FLASH						
		FROM	COLOR	TO	COLOR	
POWER SUPPLY	P1	P1-1	BK	P1-2	WH	120 VAC INPUT - CONSTANT WHEN UNIT PLUGGED IN
	P2	P2-1	BK/WH	P2-2	OR/BK	14 VDC OUTPUT CONSTANT WHEN UNIT PLUGGED IN
MAIN CONTROL	P1	P1-1	BK	P1-2	WH	120 VAC INPUT - CONSTANT WHEN UNIT PLUGGED IN
		P1-2	WH	P1-4	RD	120 VAC OUTOUT TO COMPRESOR /CONDENSER FAN WHEN COOLING
	P3	P3-1	V	P1-2	WH	120 VAC OUTPUT TO WATER DISPENSER VALVE IS ACTIVE
		P3-2	RD/WH	P1-2	WH	120 VAC OUTPUT TO EVAP FAN WHEN COOLING
		P3-3	PK	P1-2	WH	120 VAC OUTPUT TO DEFROST HEATER WHEN ENERGIZED
		P3-4	BU/YL	P1-2	WH	120 VAC OUTPUT TO ICE MAKER
	P4	P4-2	WH/TN	P4-4	WH	120 VAC OUTPUT TO FC LIGHT
		P4-3	WH/TN	P4-4	WH	120 VAC OUTPUT TO RC LIGHT
		P4-4	WH	P1-1	BK	120 VAC INPUT TO FC LIGHT SWITCH
		P4-6	OR/WH	P4-4	WH	120 VAC OUTPUT TO AIR DOOR
		P4-8	BK	P4-4	WH	120 VAC INPUT TO RC LIGHT SWITCH
	P5	P5-1	YL	P1-1	BK	120 VAC INPUT FC LIGHT SWITCH FEEDBACK
		P5-2	YL/BK	P1-1	BK	120 VAC INPUT RC LIGHT SWITCH FEEDBACK
		P5-4	TN	P1-1	BK	120 VAC INPUT ICE MAKER WATER VALVE
		P5-5	BK/YL	P1-1	BK	120 VAC INPUT AIR DOOR FEEDBACK
		P5-6	BR	P1-1	BK	120 VAC INPUT BIMETAL FEEDBACK
	P6	P6-1	OR	P6-6	BU/WH	5 VDC INPUT RC THERMISTOR
		P6-2	OR	P6-7	TN/WH	5 VDC INPUT FC THERMISTOR
	P8	P8-1	OR/BK	P8-3	BK/WH	14 VDC OUTPUT USER INTERFACE
		P8-2				COMMUNICATION
	P10	P10-1	BK/WH	P10-2	OR/BK	14 VDC OUTPUT CONSTANT WHEN UNIT PLUGGED IN
	P13	P13-1	GY/OR	P13-2	WH/RD	140 VDC OUTPUT TO IDI MOTOR/NON IDI MOTOR IS ACTIVE
		P13-5	YL/BU	P1-1	BK	120 VAC INPUT DOOR SWITCH

VOLTAGE TEST POINTS STEALTH					
J1	J1-1	RD	J1-2	BU	PWM SIGNAL □ 9.3 V (IS 1/3 DUTY CYCLE OF 14 V- OPEN) / 0 V - THE ICE DISPENSER IS ACTIVE
J2	J2-1	--	--	--	N/C
	J2-3	BU	J2-10	WH	14 VDC OUTPUT TO DISPENSER HOUSING HEATER
	J2-4	OR/BK	J2-6	BK/WH	14 VDC INPUT GEMINI FLASH
	J2-5	TN/BK	COMMUNICATION (NOT TESTED)		
J3	J3-1	RD	J3-2	BU	PWM SIGNAL □ 9.3 V (IS 1/3 DUTY CYCLE OF 14 V- OPEN) / 0 V - THE ICE DISPENSER IS ACTIVE
J6	J6-1	RD	J6-3	BK	14 VDC OUTPUT DISPENSER LIGHT

*Always refer to Service Sheet and Use and Care Manual for information specific to the refrigerator you are servicing.

Wiring Diagram (continued)



*Always refer to Service Sheet and Use and Care Manual for information specific to the refrigerator you are servicing.