



BCD-280 TROUBLESHOOTING w/R134a -Rev. 3

02/15/2022

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Negative and Chassis ground are not tied together.

Fuse size: 15 amp,

Wire size: 10g

Tools used: Philip screwdriver, standard screwdriver, needle nose pliers, Digital volt/ohm meter, piece of 10g wire.

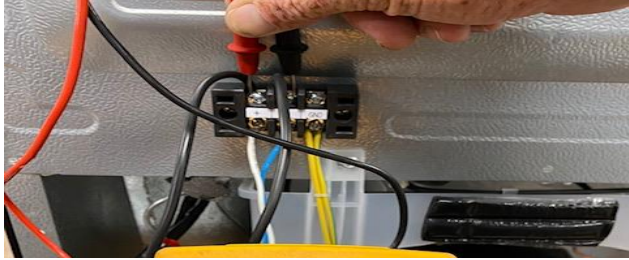
Note: When checking voltage anytime in the guide, checks should be made with the refrigerator off (no load) and refrigerator on (load) to rule out a false surface charge. Voltage could be affected by the converter charging the units batteries and will need to be considered.

Caution: before replacing any component ensure power is disconnected.



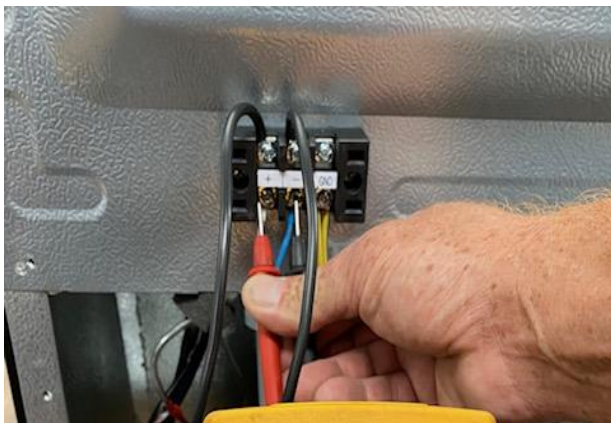
If your refrigerator will not turn on.

What is the voltage at the top of the terminal block? (12.5-13.6) White is positive and blue is negative.



If there is no voltage at the terminal block check fuse in power center.

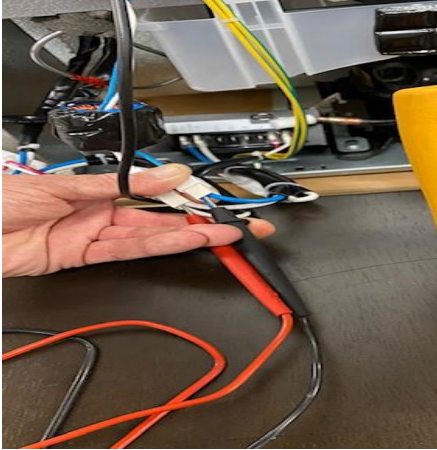
If you have proper voltage at the top of the terminal block and the refrigerator still does not power on continue to check for proper voltage at the bottom of the terminal block. Voltage should be (12.5-13.6). If there is no power check to ensure the screw terminals are securely tightened. Stripped/loose terminals or improperly stripped insulation may cause inconsistent readings.



1.



To continue checking the harness you will need to remove 4 screws securing the protective grill. If you have proper voltage continue to check the power harness by checking the white connectors to ensure they are securely plugged in and there is proper voltage at both sides of the connectors. (12.5-13.6) If not disconnect and reconnect to ensure they are properly connected.



If there is proper voltage at the connectors and still no power you will need to remove the main circuit board enclosure.

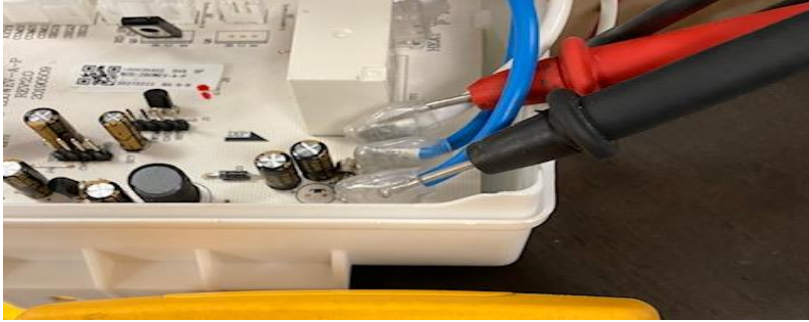


CAUTION METAL COVER IS SHARP

2.



Once the enclosure is removed you will check for voltage at the white positive and blue negative wires on the circuit board.



If there is proper voltage (12.5-13.6) and the refrigerator still doesn't power on, the main circuit board will need replaced.

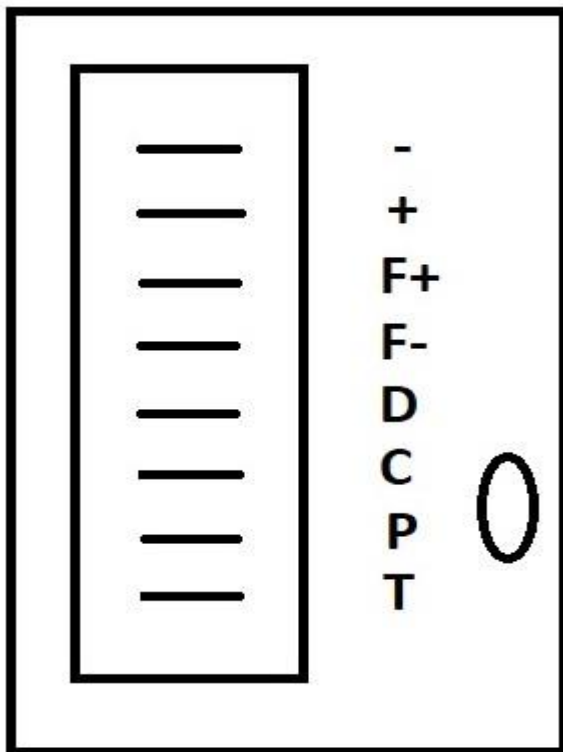
3.



Refrigerator has power but is not cooling.

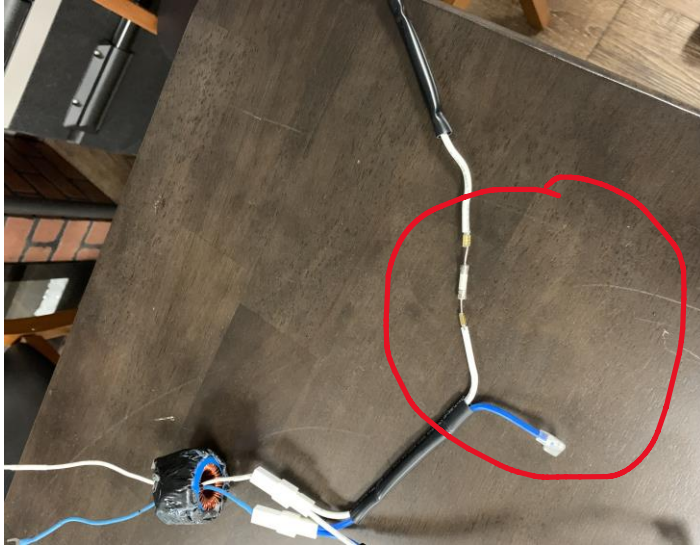
Check to see if there is proper voltage at the compressor board, (12.5-13.6).

You will check it at the positive white wire and negative blue wire.

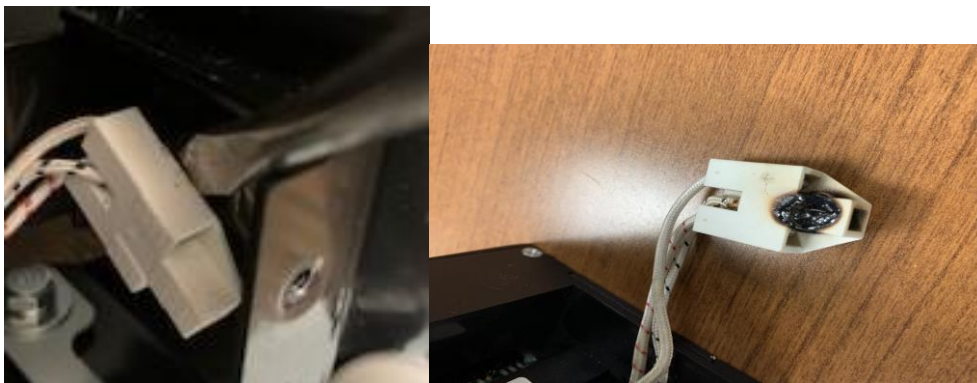




If the voltage is not correct check voltage on both sides of the slow burn fuse in the choke coil power harness. It is in the white wire that is connected to the positive terminal on the compressor board. Voltage should be the same on both sides.



If there is proper voltage, remove the lower white wire on the compressor board which is the T terminal and use a piece of 10g wire and jump the T terminal to the negative terminal on the terminal block. If the compressor comes on replace the main circuit board. If it does not cycle on replace the compressor board by removing the single attaching screw and pivoting the board away from the compressor exposing the white 3-pin connector. Use a flat blade screwdriver and gently pry it off of the compressor. If 3 – pin connector is burnt replace compressor board.



5.



Compressor is running but the freezer is not getting cold.

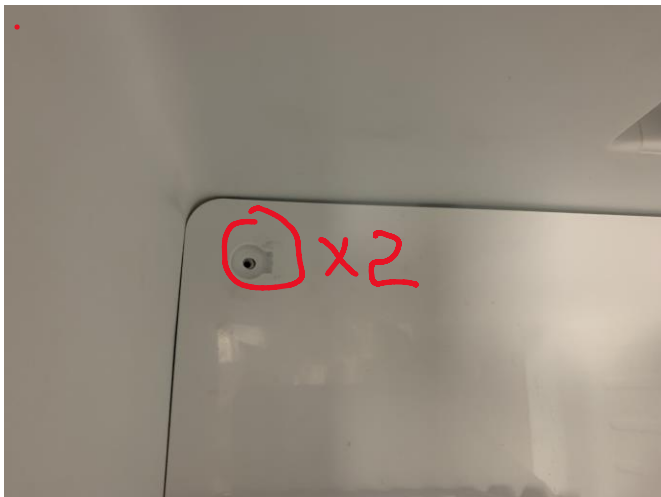
Check the current draw when the compressor is running. It should be between 4 and 6 amps at 12.5-13.6 volts. This can be checked on the incoming power or negative wire.



If it is lower, check for any signs of oily substance on the copper lines which could indicate a possible refrigerant leak.



Freezer is getting cold but the refrigerator compartment is warm.
Check the operation of the freezer fan by removing the 2 screw covers and screws from the fan assembly.



7.



Gently pull the fan assembly towards you until you can see if the black plug is connected.



If it is plugged in, check for voltage at the red and black wires. You should have 12-12.5volts. If voltage is present and fan is not working then replace fan assembly. If voltage is not present then replace the main circuit board.



Freezer is freezing up

Check to ensure the door seals are sealing properly. Put a flashlight in the compartments and look for any light around the seals. If light is seen you can try and adjust the door. The seals can also be replaced if the adjustment did not solve the issue.



Check to see if the freezer fan is operational. Adjust the temperature knob in the freezer to the cold setting to allow more air flow into the refrigerator.

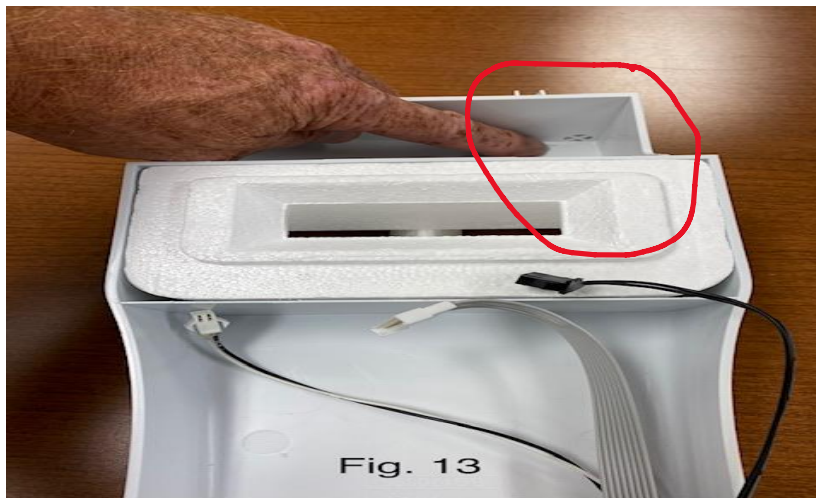


Water leaking in refrigerator compartment.

Check to see if the drain tube and or the wind channel drip tray is block.
You will need to remove the single Philips screw holding it in place.



10.

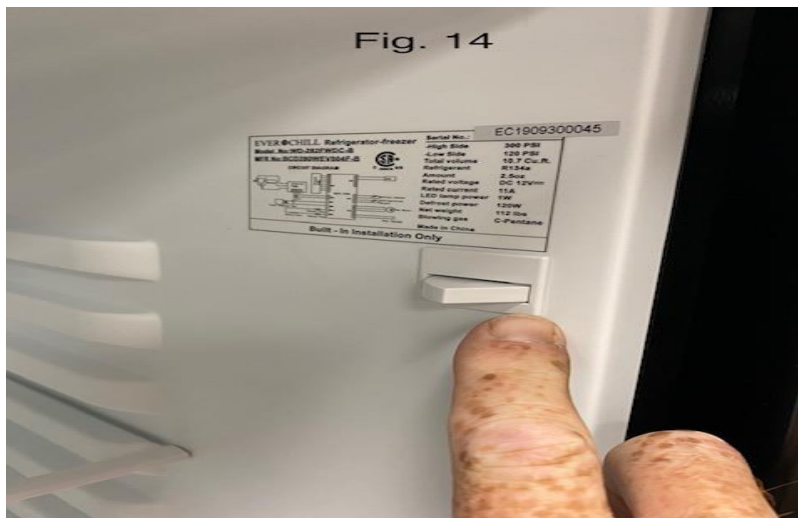


You can check the drain tube for blockage by running a length of 10g wire to try and unclog the tube. If it is iced up let it sit for 24 hours unplugged to thaw out.



Refrigerator is cold but the light does not function

Check the operation of the door switch. When the door is open the light should come on. If light does not come on replace led light by removing the temperature control assembly(wind channel) to access the light.



12.



Fan is making noise.

Remove fan assembly from freezer compartment and check the routing of the wires. Reinstall wires in clips under the foil insulation.



Incorrect



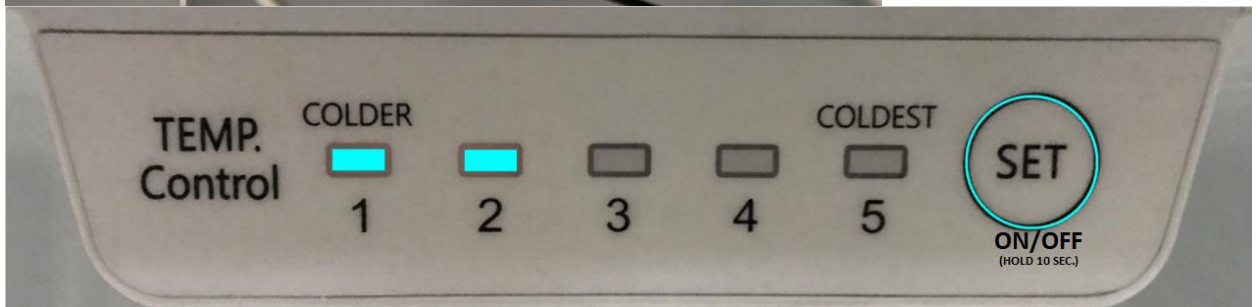
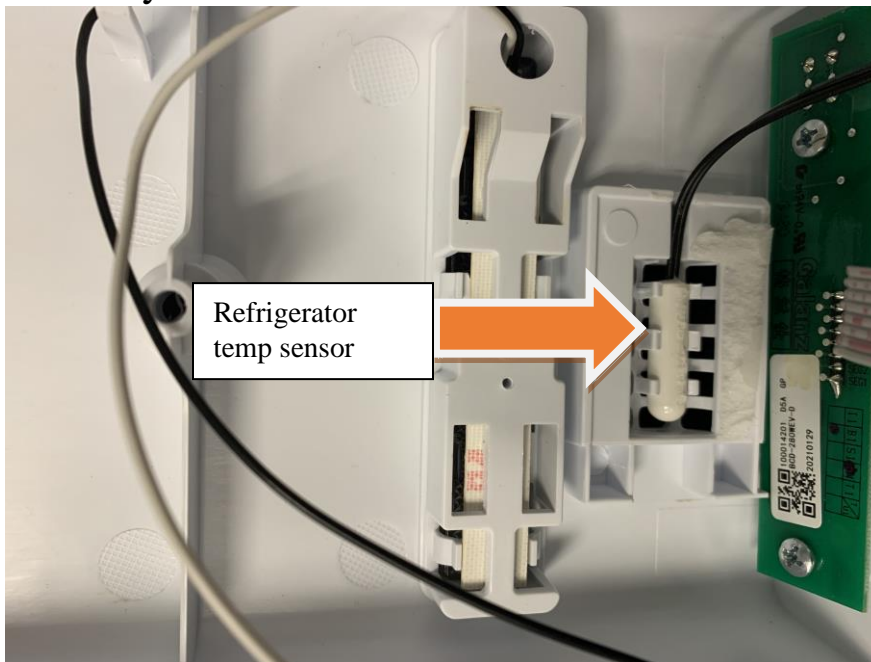
Correct

13.



Flashing lights on the temp control panel indicate the following.

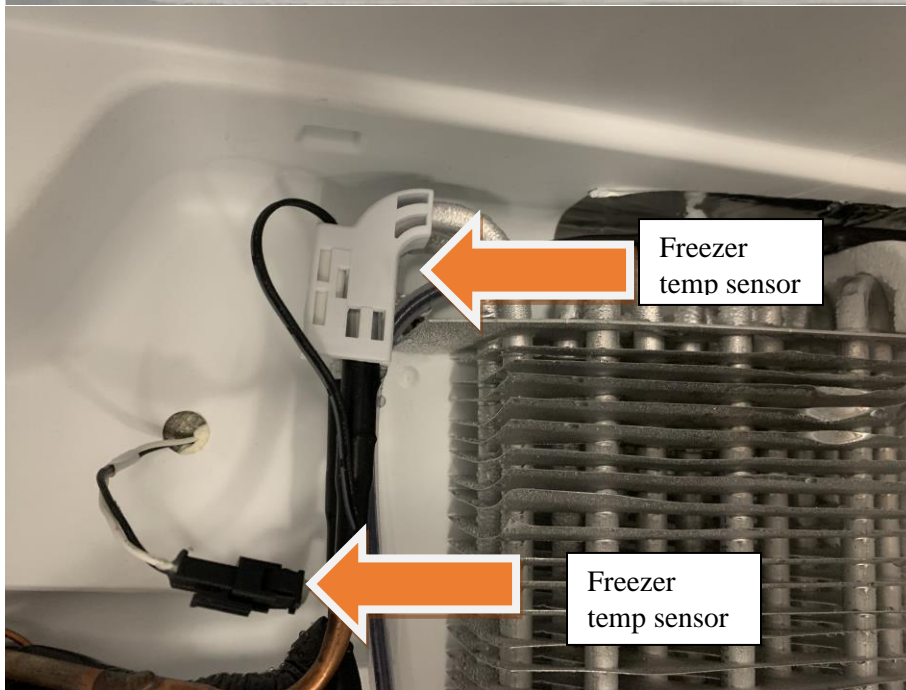
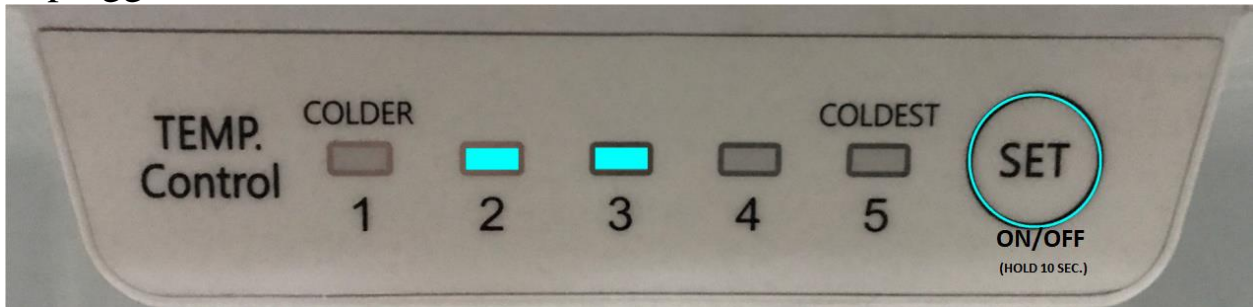
1 & 2 indicate the refrigerator temp sensor is not reading correctly or is not plugged in. Check CN2 on main circuit board. If it is plugged in replace refrigerator temp sensor in the wind channel assembly.



14.



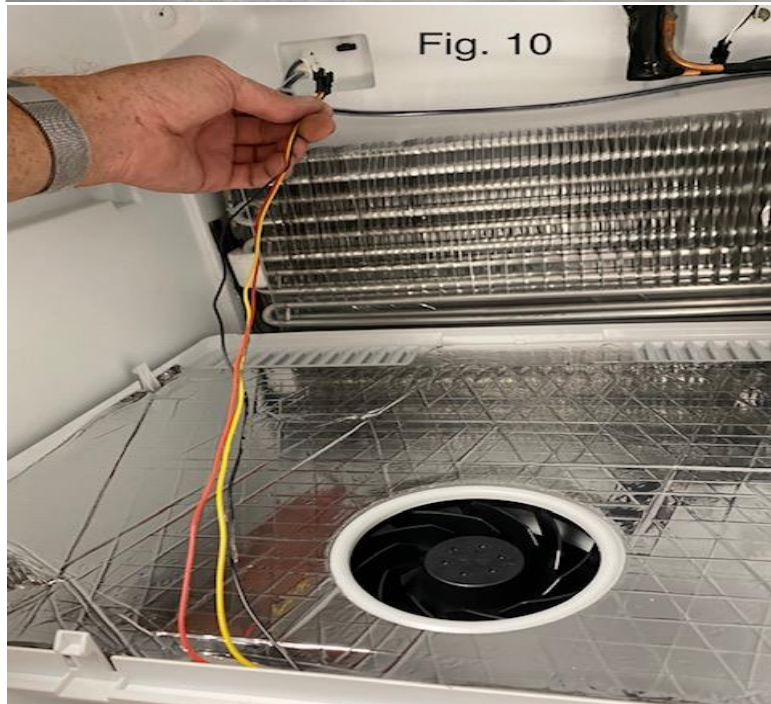
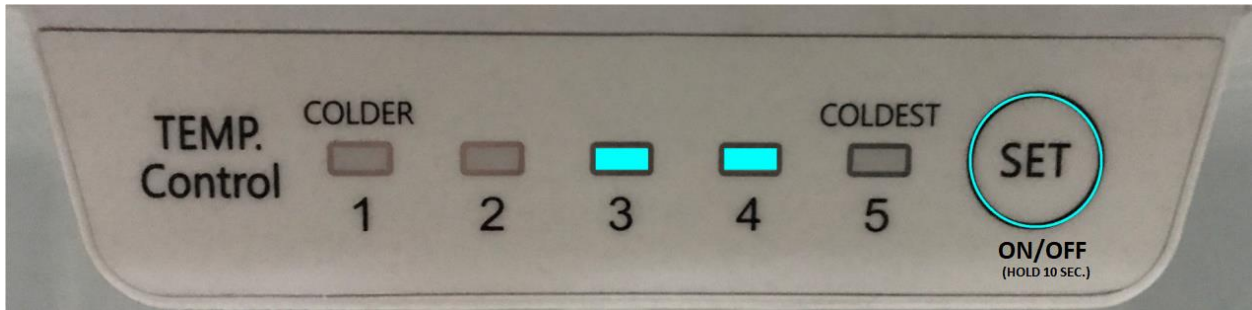
2 & 3 indicates defrost temp sensor is not reading correctly or is unplugged.



15.

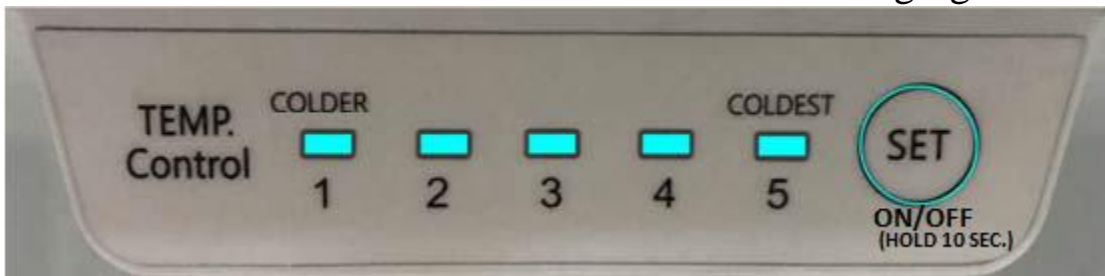


3 & 4 indicates freezer fan fault, check fan for power. Check red and black for 12 volts.



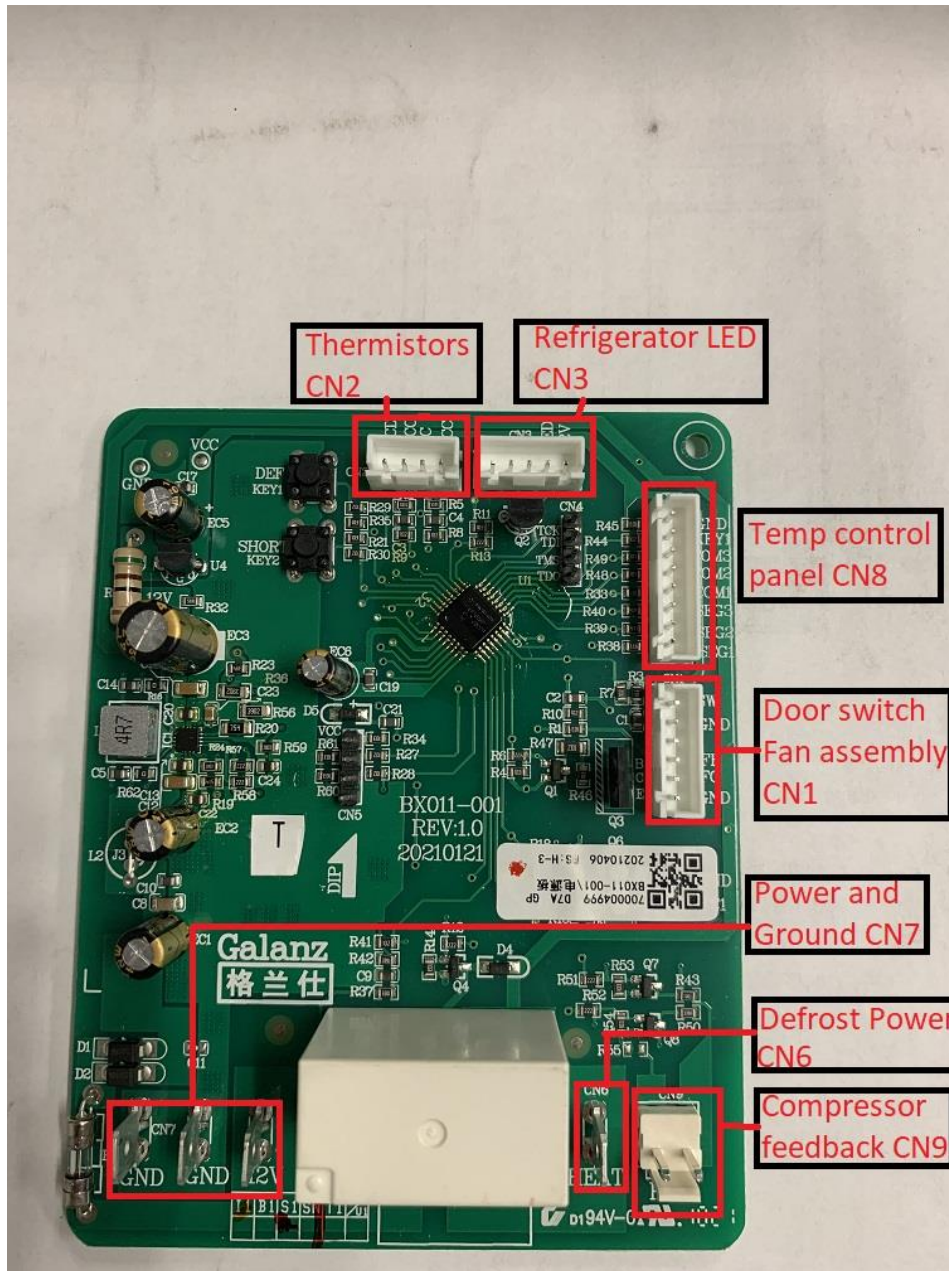


If all lights are flashing it indicates under/over voltage has occurred. Remove fuse from power center and let it set for 10 minutes and then reinstall fuse and check for flashing lights.



17.

Main circuit board layout





BCD-280 Troubleshooting w/R600a REV-3

02/15/2022

If your refrigerator will not turn on.

1. What is the voltage at the top of the terminal block?_____
2. What is the voltage at the bottom of the terminal block?_____
3. What is the voltage at the white connectors?_____
4. What is the voltage at the white and blue wires on the main circuit board?_____

Refrigerator has power but is not cooling

1. What is the voltage at the white and blue wires on the compressor board?_____
2. Is the compressor running_____
3. If it is running what is the current draw?_____

Compressor is running but freezer is not getting cold

1. What is the current when the compressor is running?_____

Freezer is getting cold but the refrigerator compartment is warm

1. Is the freezer fan running?_____
2. Is there voltage at the freezer fan connection red and black wires?_____

3. Are the door seals sealing properly?_____

Water is leaking into the refrigerator compartment

1. Is the drain tube or the drip tray in the wind channel blocked?_____



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If your refrigerator will not turn on.

1. What is the voltage at the top of the terminal block?_____
2. What is the voltage at the bottom of the terminal block?_____
3. What is the voltage at the white connectors?_____
4. What is the voltage at the white and blue wires on the main circuit board?_____

Refrigerator has power but is not cooling

1. What is the voltage at the top white and blue wires on the compressor board?_____
2. Is the compressor running?_____
3. If it is what is the current draw?_____

Compressor is running but freezer is not getting cold

1. What is the current when the compressor is running?_____

Freezer is getting cold but the refrigerator compartment is warm

1. Is the freezer fan running?_____
2. Is there voltage at the freezer fan connection red and black wires?_____

3. Are the door seals sealing properly?_____

Water is leaking into the refrigerator compartment

1. Is the drain tube or the drip tray in the wind channel blocked?_____



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Fan is making noise	Pg. 13
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Lights 3 & 4	Pg. 16
All 5 lights	Pg. 17
Main circuit board lay out	Pg. 18

Negative and chassis ground are not tied together.

Fuse size: 15 amp

Wire size: 10g.

Tools used: Philip screwdriver, standard screwdriver, needle nose pliers, Digital volt/ohm meter, piece of 10g wire to use as a jumper.

Note: When checking voltage anytime in the guide, checks should be made with the refrigerator off (no load) and refrigerator on (load) to rule out a false surface charge. Voltage could be affected by the converter charging the batteries and will need to be considered.

Caution: before replacing any component ensure power is disconnected.



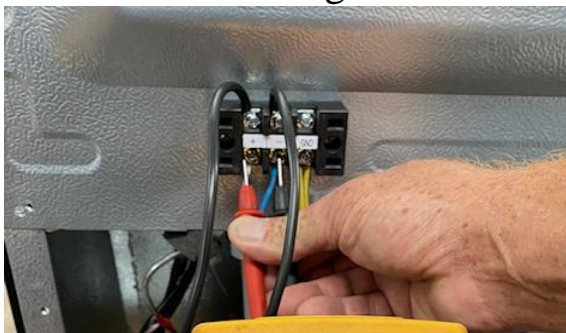
If your refrigerator will not turn on.

What is the voltage? (12.5- 13.6) at the top of the terminal block. White is positive and blue is negative, yellow with green trace is chassis ground.



If there is no voltage at the top of the terminal block check fuse in power center. Should be labeled Refrigerator and it should be the only thing on that circuit.

If you have proper voltage at the top of the terminal block and the refrigerator still does not power on continue to check for voltage at the bottom of the terminal block. Voltage should be (12.5-13.6). If there is no power check to ensure the screw terminals are securely tightened. Stripped/loose terminals or improperly stripped insulation may cause inconsistent readings.



1.



To continue checking the harness you will need to remove 4 screws securing the protective grill. If you have proper voltage continue to check the power harness by checking the 2 white connectors to ensure they are securely plugged in and there is proper voltage at both sides of the connectors. (12.5-13.6) If not disconnect and reconnect to ensure they are properly connected.



If there is proper voltage at the connectors and still no power you will need to remove the main circuit board enclosure.



CAUTION METAL COVER IS SHARP

2.



Once the enclosure is removed you will check for voltage at the white positive and blue negative wires on the circuit board.



If there is proper voltage(12.5-13.6) and the refrigerator still doesn't power on, the main circuit board will need replaced.

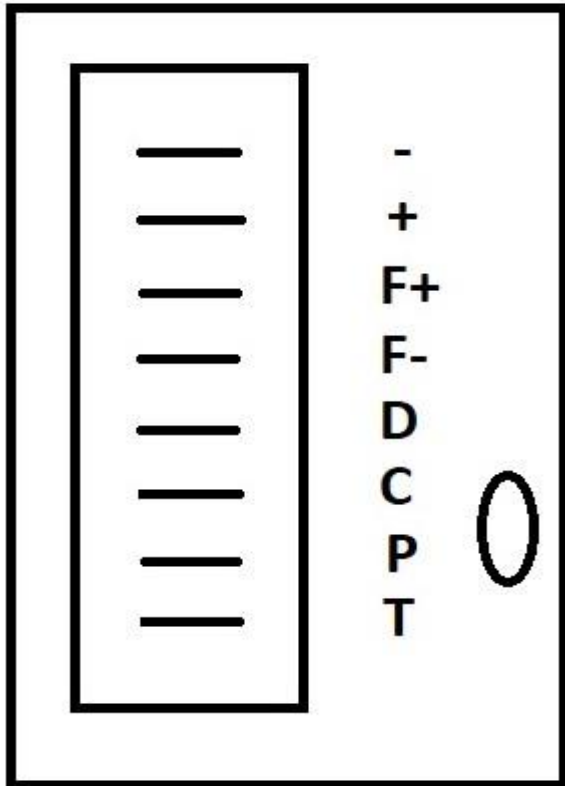
3.



Refrigerator has power but is not cooling.

Check to see if there is good voltage (12.5-13.6.) at the compressor board.

You will check it at the positive white wire and negative blue wire.



4.



If the voltage is not correct check voltage on both sides of the slow burn fuse in the choke coil power harness. It is in the white wire that is connected to the positive terminal on the compressor board. Voltage should be the same on both sides



If there is proper voltage, remove the lower white wire on the compressor board which is the T terminal and use a piece of 10g wire and jump the T-terminal to the negative terminal on the terminal block. If the compressor comes on replace the main circuit board. If it does not cycle on replace the compressor board by removing the single attaching screw and pivoting the board away from the compressor exposing the white 3-pin connector. Use a flat blade screwdriver and gently pry it off of the compressor.



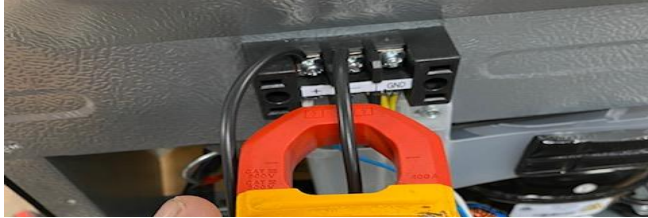
5.



Compressor is running but unit is not getting cold.

Check the current draw when the compressor is running.

It should be drawing 4 to 6 amps at 12.5-13.6 volts. This can be checked on the incoming positive or negative wire.

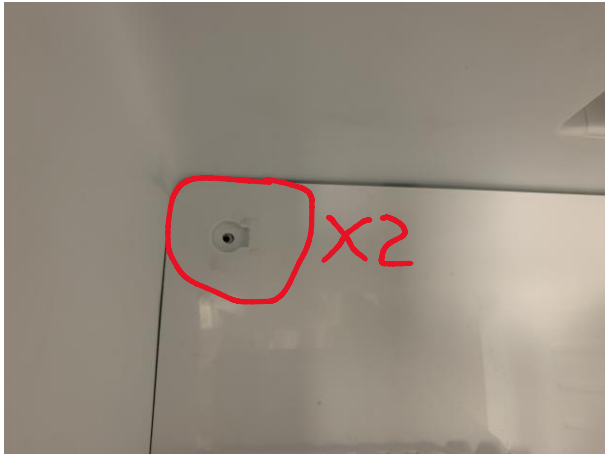


If it is lower check for any signs of an oily substance on the copper lines which could indicate a possible refrigerant leak.



Freezer is getting cold but the refrigerator compartment is warm.

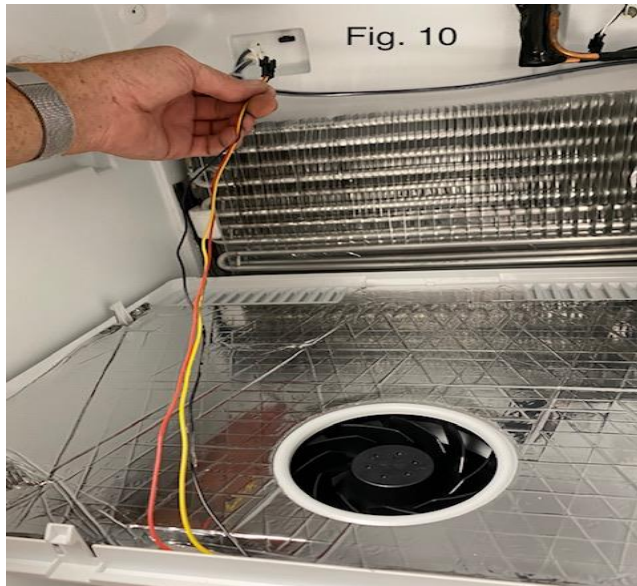
Check the operation of the freezer fan by removing the 2 screw covers and screws from the fan assembly.



7.



Gently pull the fan assembly towards you until you can see if the black plug is connected.



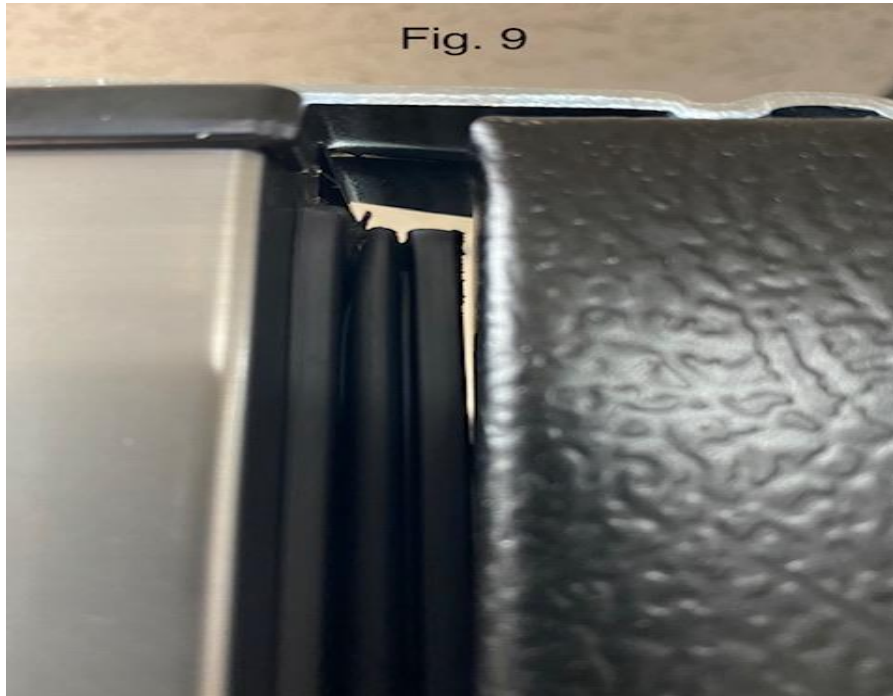
If it is plugged in, check for voltage at the red and black wires. You should have 12-12.5volts. If voltage is present and fan is not working replace fan assembly. If voltage is not present then replace main circuit board.

8.



Freezer is freezing up

Check to ensure the door seals are sealing properly. Put a flashlight in the compartments and look for any light around the seals. If light is seen you can try and adjust the door. The seals can also be replaced if the adjustment did not solve the issue.



Check that the freezer fan is operational. Adjust the temperature knob in the freezer to the cold setting to allow more air flow into the refrigerator.

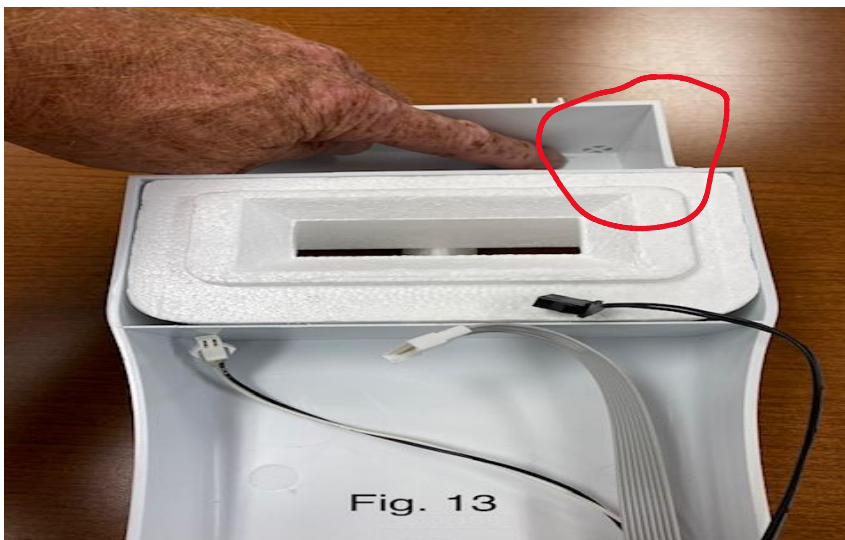


Water leaking in refrigerator compartment.

Check to see if the drain tube and or the wind channel drip tray is block.
You will need to remove the single Phillips screw holding it in place.



10.



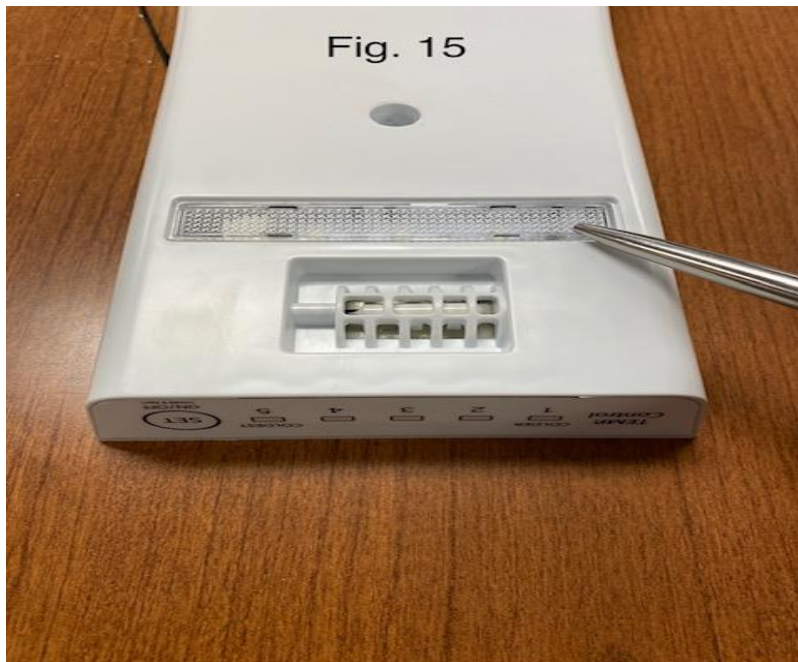
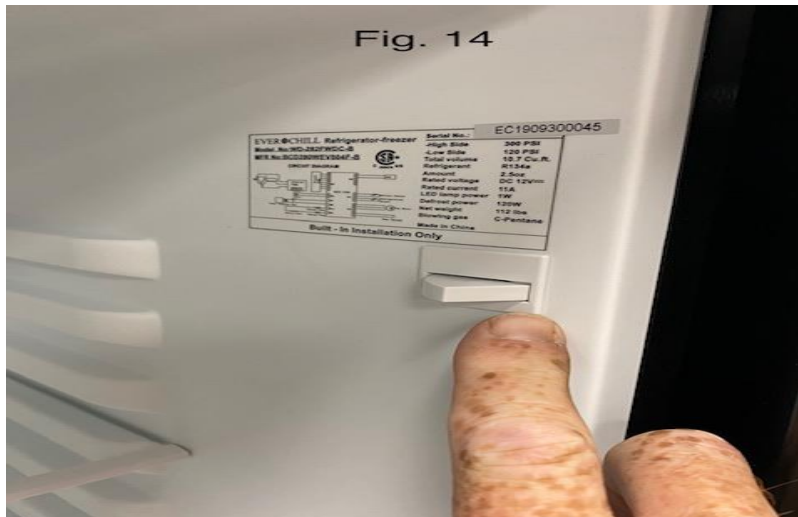
You can check the drain tube for blockage by running a length of 10g wire to try and unclog the tube. If it is iced up let it sit for 24 hours unplugged to thaw out.

11.



Refrigerator is cold but the light does not function

Check the operation of the door switch. When the door is open the light should come on. If light does not come on replace led light by removing the temperature control assembly(wind channel) to access the light.



12.



Fan is making noise.

Remove fan assembly from freezer compartment and check the routing of the wires. Reinstall wires in clips under the foil insulation.



Incorrect



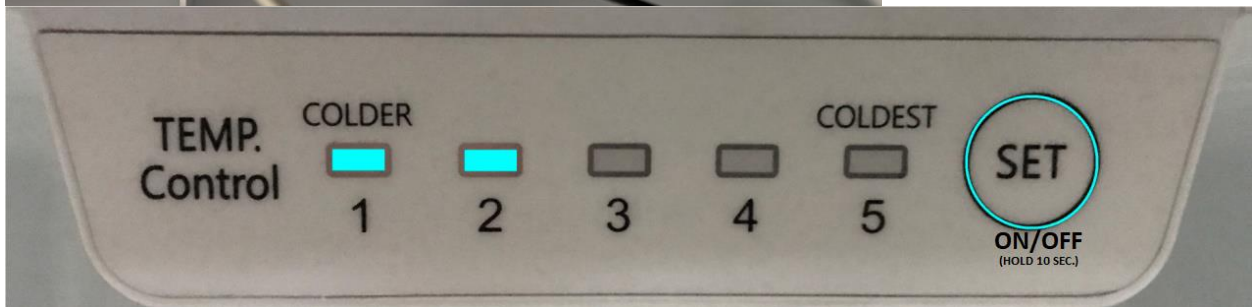
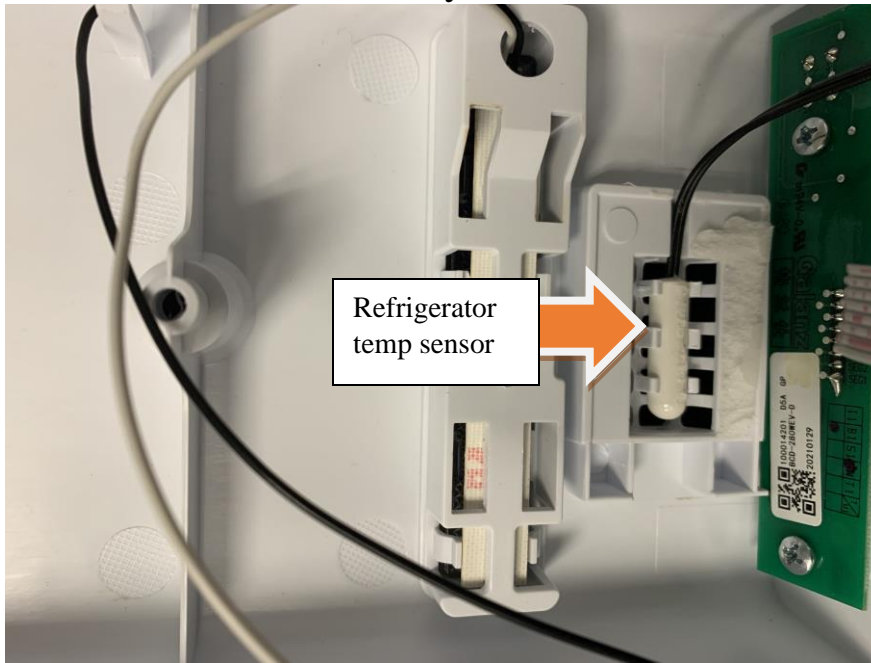
Correct

13.



Flashing lights on the temp control panel indicate the following.

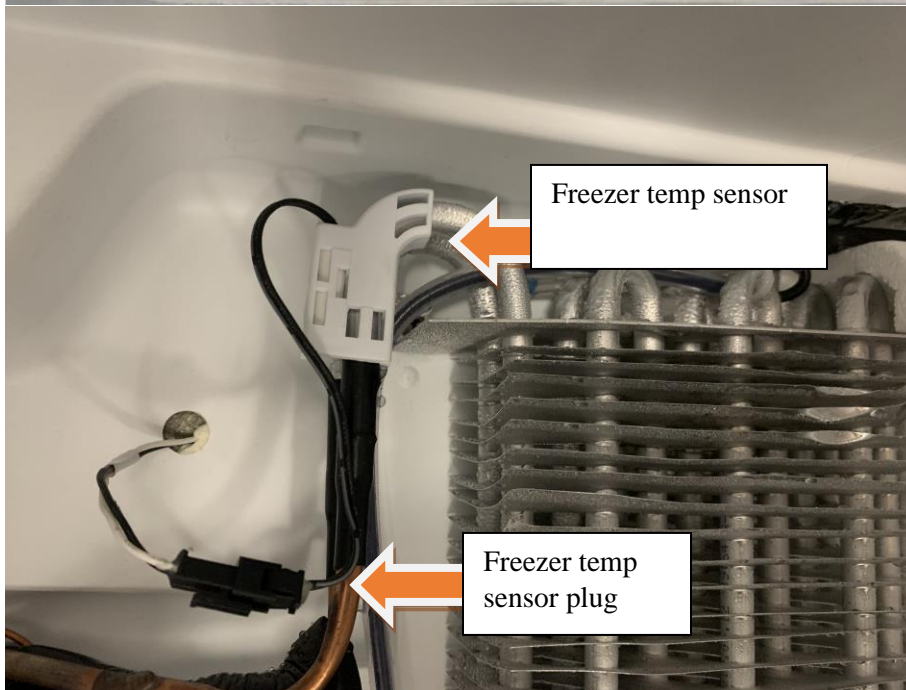
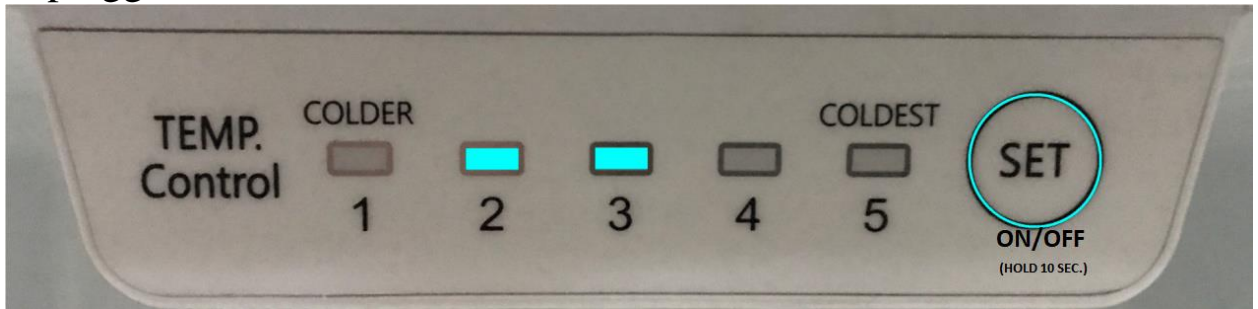
1 & 2 indicate the refrigerator temp sensor in the wind channel is not reading correctly or is not plugged in. Check CN2 on main circuit board. If it is plugged in replace refrigerator temp sensor in the wind channel assembly.



14.



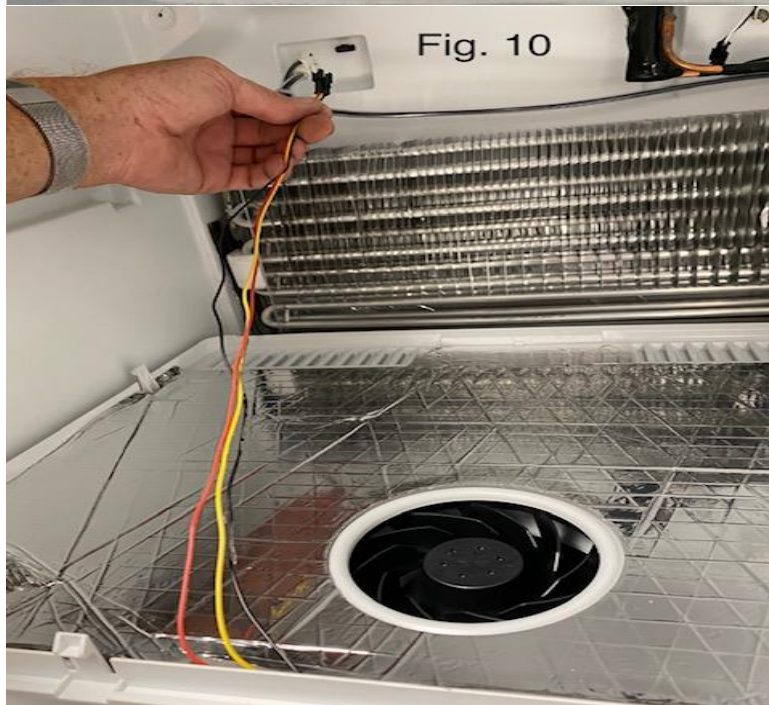
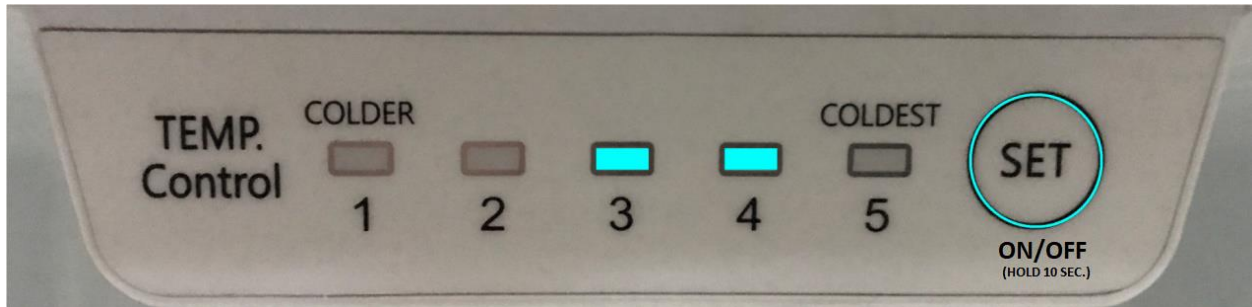
2 & 3 indicates defrost temp sensor is not reading correctly or is unplugged.



15.



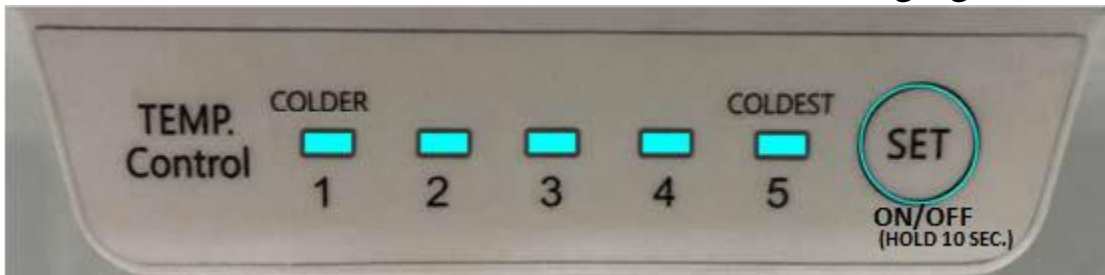
3 & 4 indicates freezer fan fault, check fan for power. Check red and black for 12 volts.



16.



If all lights are flashing it indicates under/over voltage has occurred. Remove fuse from power center and let it set for 10 minutes and then reinstall fuse and check for flashing lights.



Main circuit board layout

