



# HBB Retro Control Board Installation



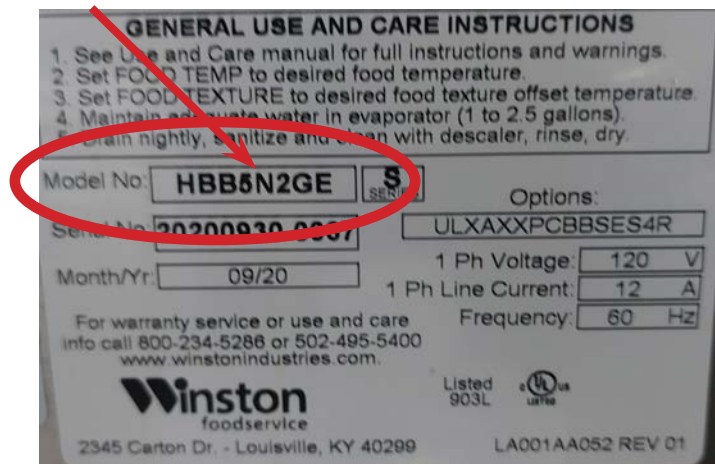
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## HA Retro Control Board Installation

**Tools Required:** Phillips Screwdriver      Hammer  
Flat-tipped Screwdriver      Needle-nosed Pliers  
3/8" Nut driver      9/16" Wrench  
3/8" Wrench      SV1142 Kit

This instruction guide covers the retro control board installation for both the HBB-D models and the HBB-N models. Pages 3-13 cover the HBB-D installation. Pages 14-24 cover the HBB-N models. The unit model number is located on the serial tag.



Both the air probe and the water probe must be replaced. The new control board will not operate correctly with the old air and water probe.

## HBB-D Retro Control Board Installation

1. Turn the drawer unit off and disconnect the unit from power. (Fig.1-2)

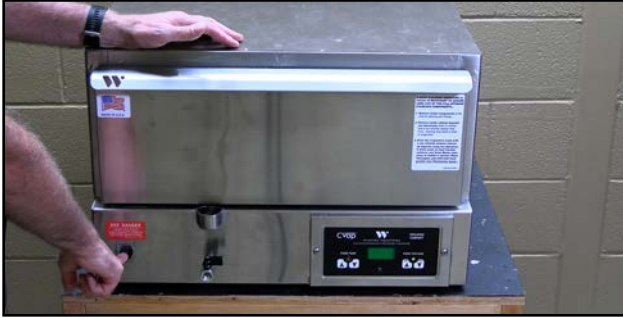


Fig.1



Fig.2

**\* Both the air and water probes must be replaced for the new control board to function.**

2. Using a Phillips screwdriver, remove the drawer back retaining screws. Remove the unit back and locate the air temperature probe. (Fig.3-4)



Fig.3

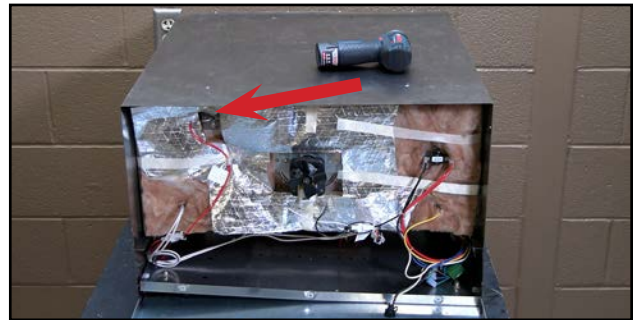


Fig.4

3. Locate the two pin molex connection and cut the zip tie off. Disconnect the two pin connection. (Fig.5-6)



Fig.5

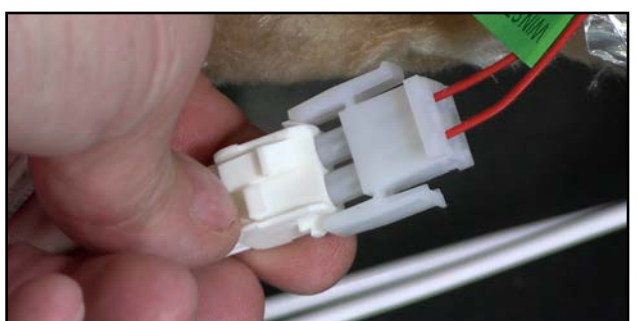


Fig.6

## HBB-D Retro Control Board Installation

4. Using a 3/8" nut driver or socket, remove the probe wire clip. Next using a 3/8" nut driver or socket, remove the air probe bracket retaining nuts. (Fig.7-8)



Fig.7



Fig.8

5. Pull retaining bracket up and off of the mounting studs. Next remove the air probe, back retainer, and orange washer. (Fig.9-10)



Fig.9



Fig.10

6. Locate the replacement air probe in the kit. Thread the mounting bracket, followed by the back bracket, and finally the orange washer. (Fig.11-12)



Fig.11



Fig.12

## HBB-D Retro Control Board Installation

7. Insert air probe into opening and rotate until probe tip inside the unit is pointing towards the left side. (Fig.13-14)

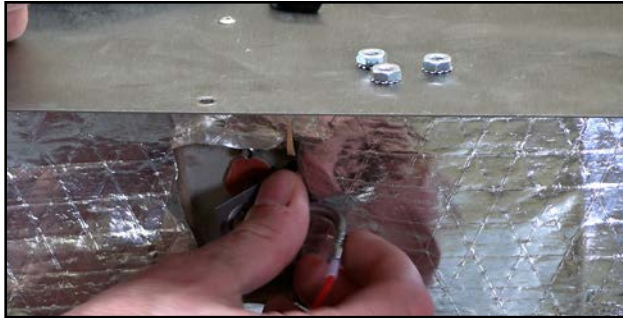


Fig.13

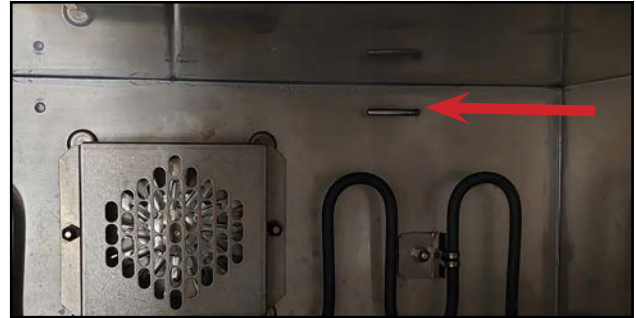


Fig.14

8. Place the mounting brackets onto the mounting studs. Start the two retaining nuts and tighten them using a 3/8" nut driver or socket. (Fig.15-16)



Fig.15



Fig.16

9. Thread probe wire into retaining clip and attach using a 3/8" nut driver. Reconnect the two pin molex connection and zip tie. Replace the unit back. (Fig.17-18)



Fig.17

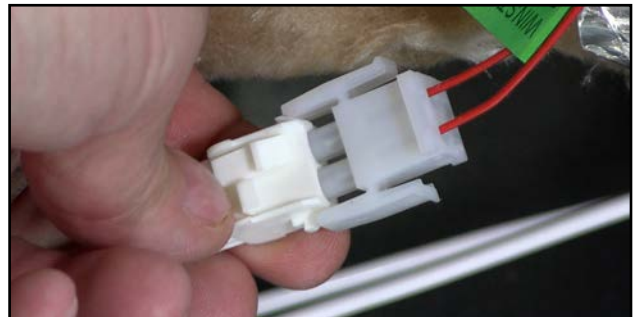


Fig.18

## HBB-D Retro Control Board Installation

### Water Probe Replacement

10. Drain the water from the unit. Set the unit on it's side and remove the three bottom side screws on each side.(Fig.19-20)



Fig.19

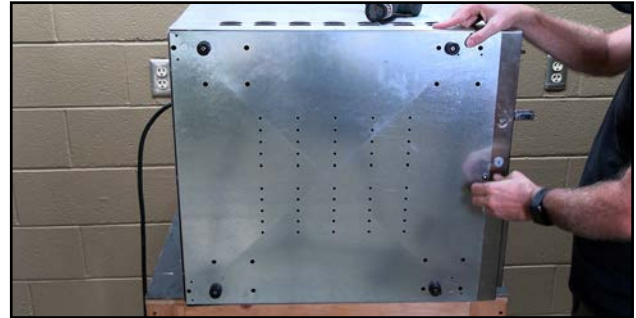


Fig.20

11. Remove the bottom front screw and then remove the unit bottom.(Fig.21-22)

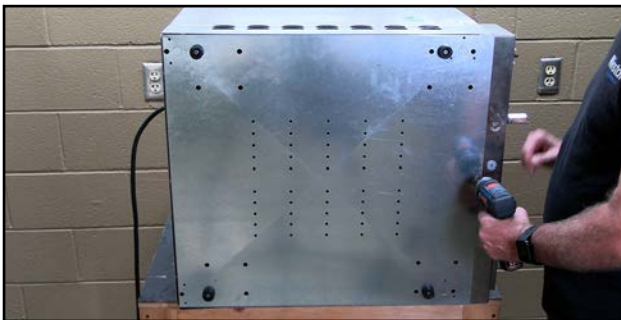


Fig.21

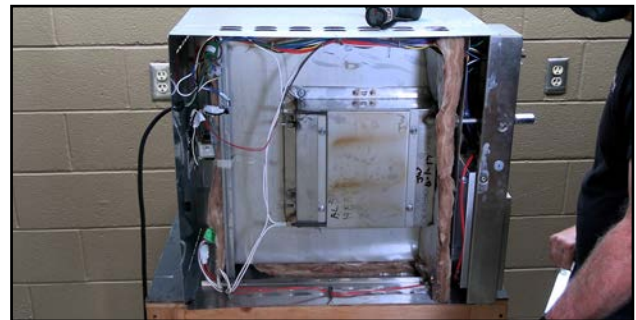


Fig.22

12. Locate the water probe connection. Cut off the zip tie, and disconnect the probe wire. (Fig.23-24)

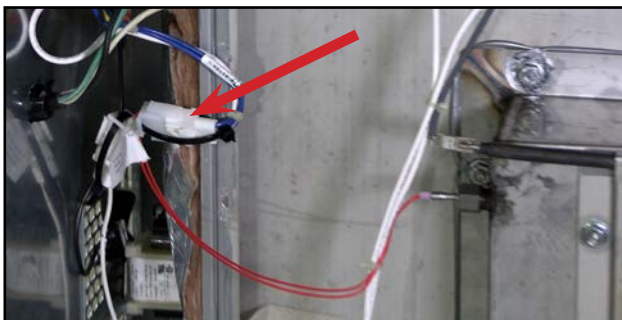


Fig.23

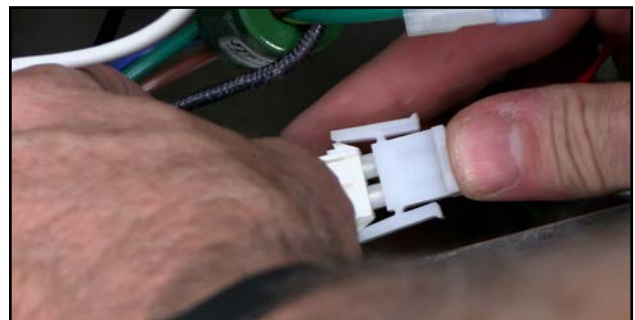


Fig.24

## HBB-D Retro Control Board Installation

13. Locate the water probe compression nut. Using a 9/16" wrench loosen and remove the water probe compression nut. (Fig.25-26)

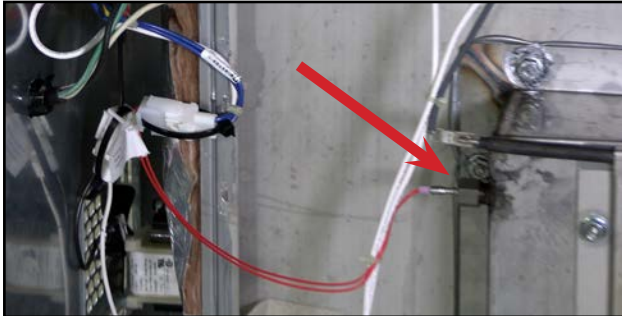


Fig.25

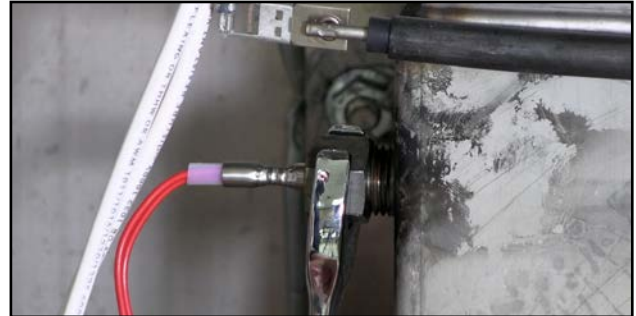


Fig.26

14. Gently tap the water probe with a hammer, then ,using pliers pull the water probe out of the water pan.(Fig.27-28)



Fig.27



Fig.28

15. Locate the new water probe in the kit and thread on the compression nut and ferrule. The ferrule needs to be 2-1/4" from the probe tip.(Fig.29-30)



Fig.29

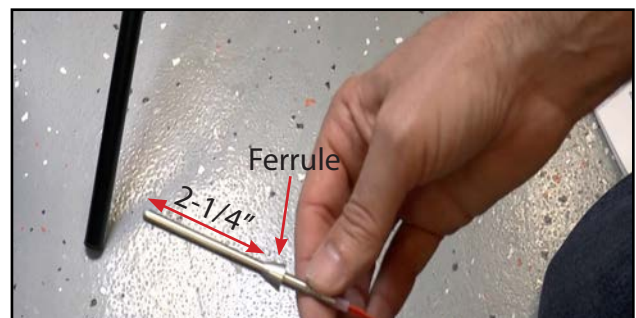


Fig.30

## HBB-D Retro Control Board Installation

16. Insert the water probe into the probe opening. Thread the compression nut on and tighten the compression nut using a 9/16" wrench. Tighten the compression nut until the probe will no longer slide in or out. Reconnect the two pin molex connection.(Fig.31-32)



Fig.31



Fig.32

### Relay Panel Installation

17. Locate the rear cross beam inside the unit. Locate the relay panel, two 10-32 x .50 screws, and two 10-32 nuts in the kit. (Fig.33-34)

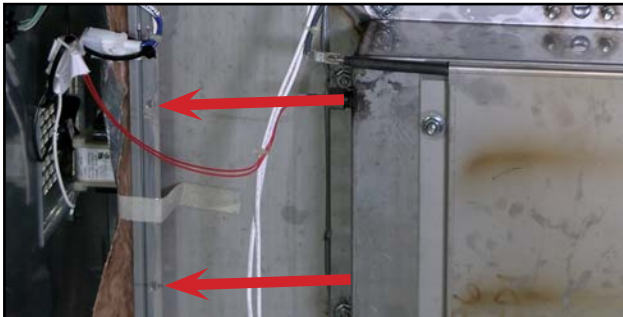


Fig.33

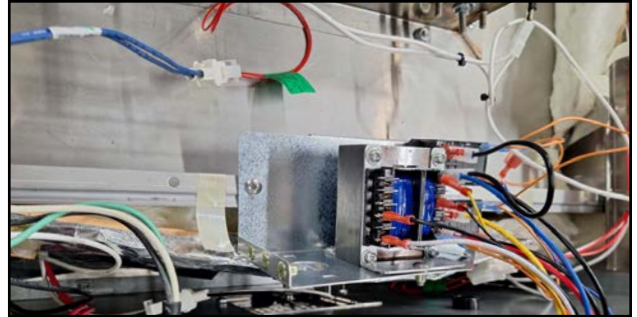


Fig.34

18. Using the screw and nuts, a Phillips screwdriver, and a 3/8" wrench, mount the relay bracket to the rear center support as shown (Fig.35-36)

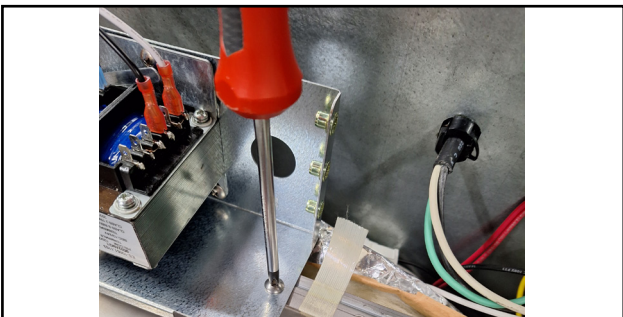


Fig.35

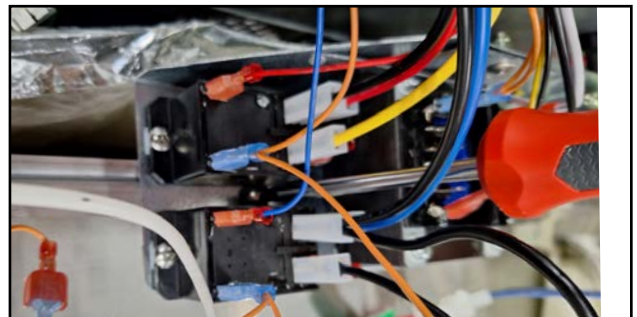


Fig.36



## HBB-D Retro Control Board Installation

### Relay Wires Connections

19. Using a Phillips screwdriver remove the control board screws. Disconnect the 6-pin and 9-pin molex connections and remove the control board. (Fig.37-38)



Fig.37



Fig.38

20. Using a flat tipped screwdriver, depress the tabs on the 9 pin female molex connection and push the connection down and out of the controller housing. (Fig.39-40)

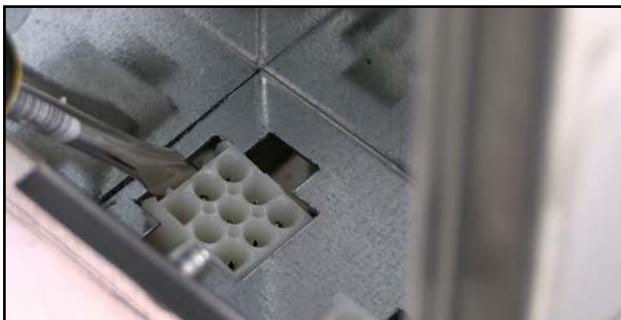


Fig.39

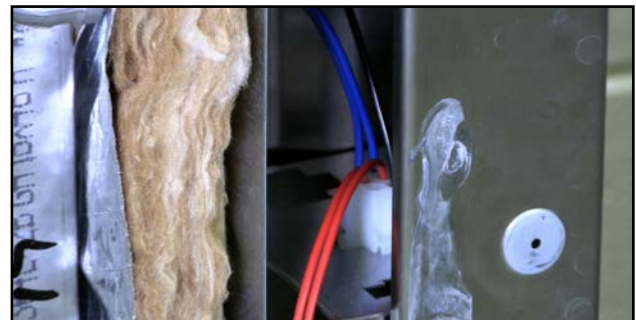


Fig.40

21. Pull back the insulation behind the control housing and then pull out the wire grommet. (Fig.41-42)

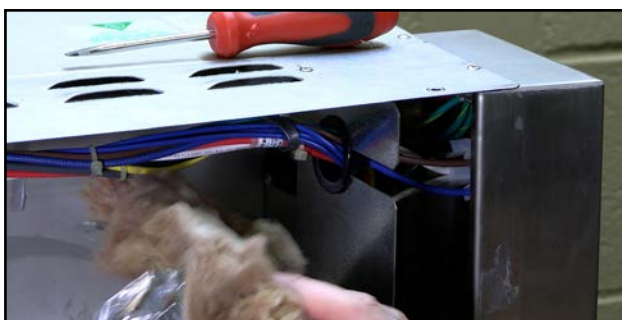


Fig.41

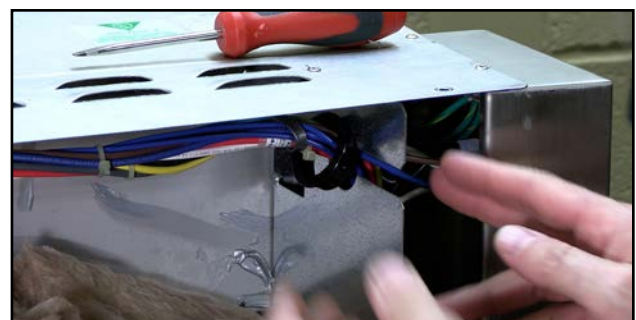


Fig.42

## HBB-D Retro Control Board Installation

22. Route the existing 9 pin mox wires back through the grommet hole and then connect to the 9 pin mox power wires (thicker) coming from the relay board. (Fig.43-44)

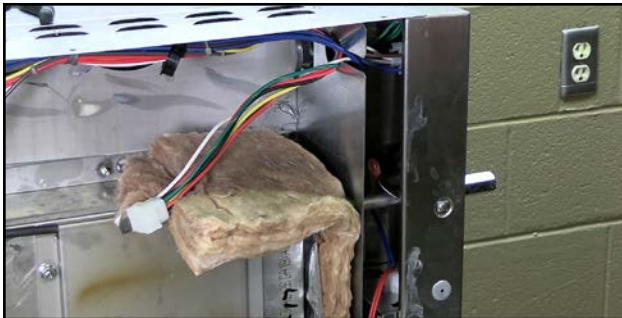


Fig.43



Fig.44

23. Route the 9 pin mox signal wires from the relay bracket up to the grommet slot. Locate the green ground terminal from the signal 9 pin mox connection.(Fig.45-46)

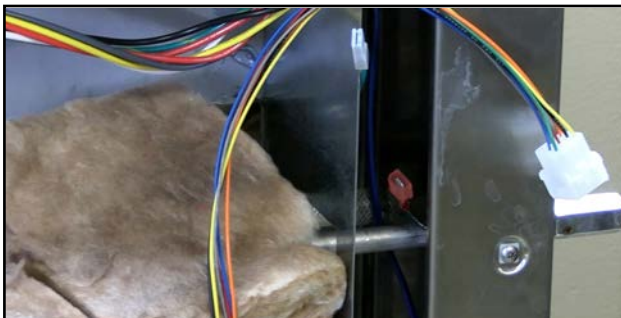


Fig.45

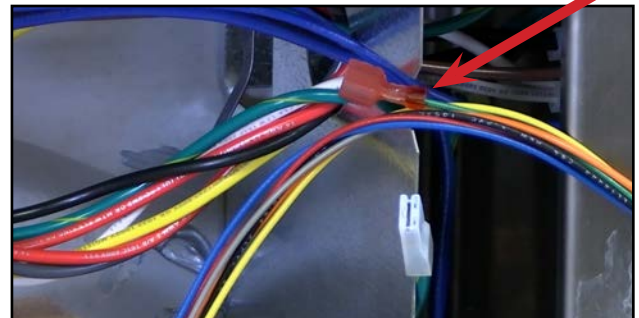


Fig.46

24. Locate the female grounding terminal coming from the unit grounding lug and connect to the male terminal coming from the 9 pin signal wire mox.(Fig.47-48)

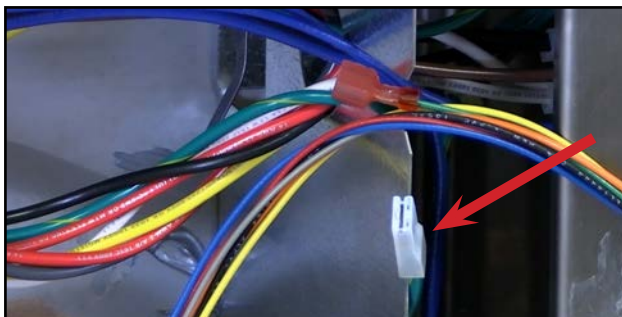


Fig.47

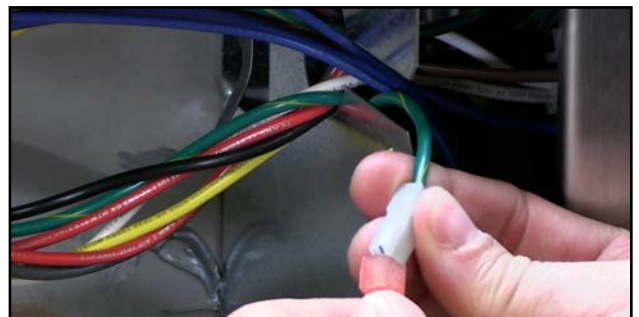


Fig.48

## HBB-D Retro Control Board Installation

25. Route all the wires through the grommet and then replace the grommet.(Fig.49-50)



Fig.49

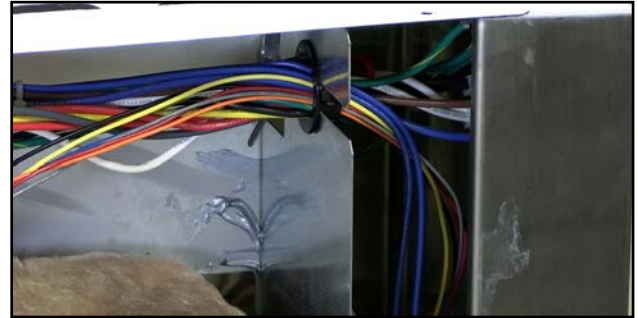


Fig.50

26. Insert the 9 pin signal mox into the control housing slot. Replace the insulation between the tank and control housing. (Fig.51-52)



Fig.51



Fig.52

27. Replace the unit bottom and set the unit upright. (Fig.53-54)

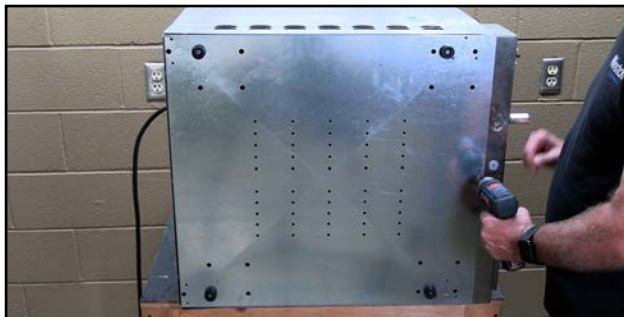


Fig.53



Fig.54

## HBB-D Retro Control Board Installation

28. Locate the new control board in the kit and connect the 6-pin molex connection and the 9-pin molex connection. (Fig.55-56)



Fig.55

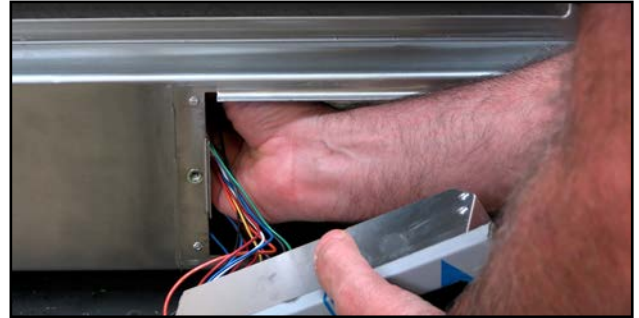


Fig.56

29. Insert the control board into the housing and secure the control board using the existing screws.(Fig.57-58)



Fig.57



Fig.58

30. Fill the evaporator pan with water and replace the drawer. (Fig.59-60)



Fig.59



Fig.60

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## HBB-D Retro Control Board Installation

31. Plug the unit in. Power on the unit and verify that it is functioning correctly. (Fig.61-62)



Fig.61



Fig.62

## HBB-N Retro Control Board Installation

1. Turn the drawer unit off and disconnect the unit from power. (Fig.1-2)



Fig.1



Fig.2

**\* Both the air and water probes must be replaced for the new control board to function.**

2. Using a Phillips screwdriver, remove the air probe access panel on the unit side. (Fig.3-4)



Fig.3



Fig.4

3. Locate the two pin molex connection and disconnect the two pin connection. (Fig.5-6)

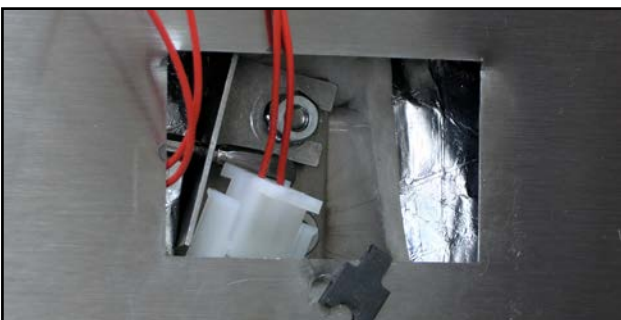


Fig.5

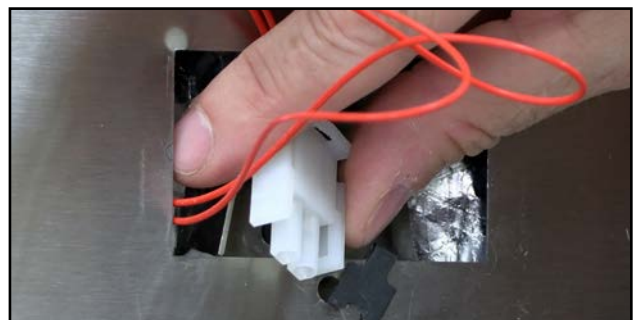


Fig.6

## HBB-N Retro Control Board Installation

4. Using a 3/8" nut driver remove the air probe bracket retaining nuts and then the retaining bracket. (Fig.7-8)

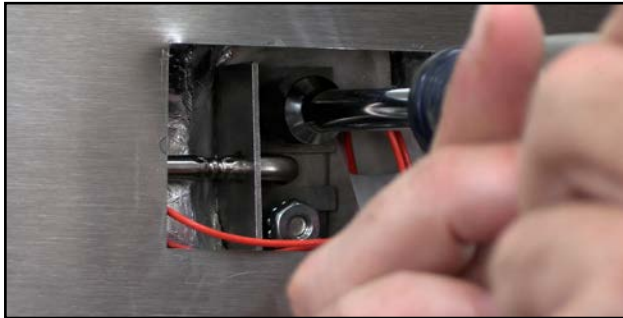


Fig.7

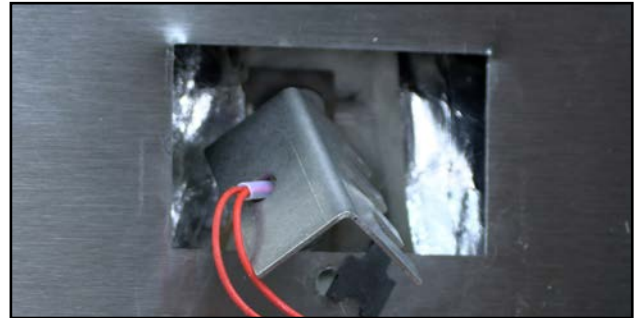


Fig.8

5. Remove the air probe, back retainer, and orange washer. (Fig.9-10)



Fig.9



Fig.10

6. Locate the replacement air probe in the kit. Thread the mounting bracket, followed by the back bracket, and finally the orange washer. (Fig.11-12)



Fig.11



Fig.12

## HBB-N Retro Control Board Installation

7. Insert air probe into opening and rotate until probe tip inside the unit is pointing towards back. (Fig.13-14)



Fig.13

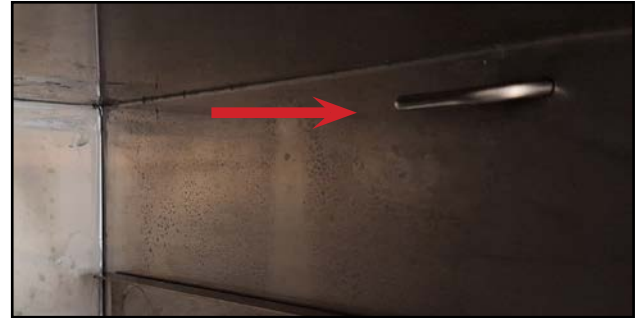


Fig.14

8. Place the mounting brackets onto the mounting studs. Start the two retaining nuts and tighten them using a 3/8" nut driver or socket. (Fig.15-16)



Fig.15



Fig.16

9. Reconnect the two pin molex connection and replace the air probe access panel. (Fig.17-18)



Fig.17



Fig.18



## HBB-N Retro Control Board Installation

### Water Probe Replacement

10. Drain the water from the unit. Remove the drawer(s).(Fig.19-20)



Fig.19



Fig.20

11. Remove the ten bottom screws and then remove the unit bottom.(Fig.21-22)



Fig.21

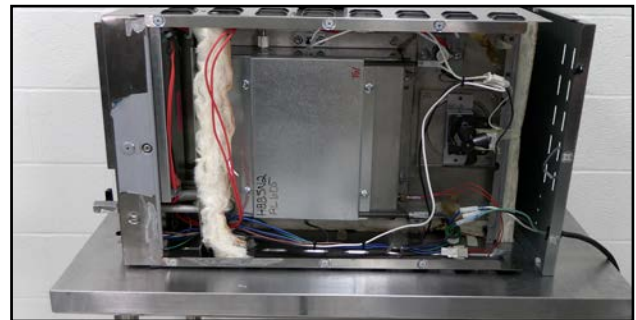


Fig.22

12. Locate the water probe connection. Cut off the zip tie, and disconnect the probe wire. (Fig.23-24)

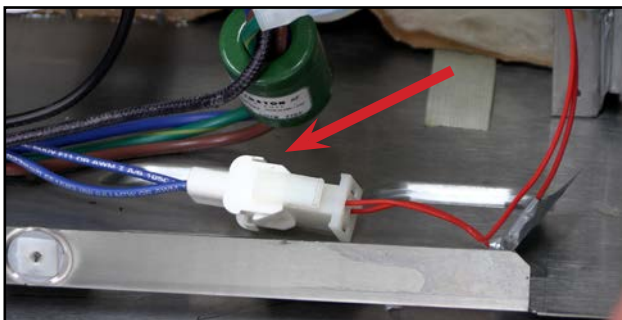


Fig.23

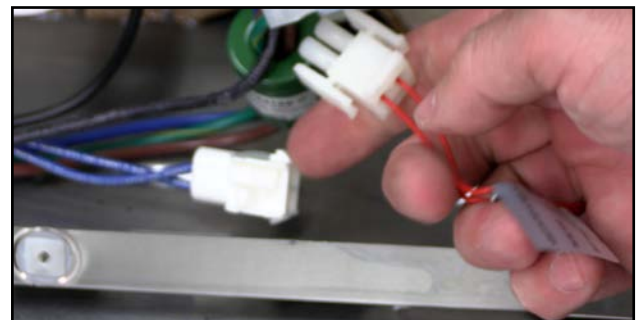


Fig.24

## HBB-N Retro Control Board Installation

13. Locate the water probe compression nut. Using a 9/16" wrench loosen and remove the water probe compression nut. (Fig.25-26)



Fig.25



Fig.26

14. Gently tap the water probe with a hammer, then, using pliers pull the water probe out of the water pan. (Fig.27-28)



Fig.27



Fig.28

15. Locate the new water probe in the kit and thread on the compression nut and ferrule. The ferrule needs to be 2-1/4" from the probe tip. (Fig.29-30)



Fig.29

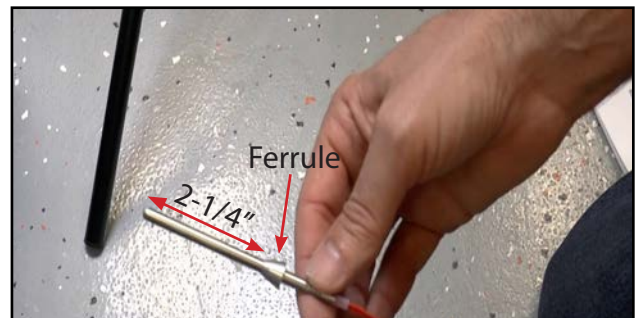


Fig.30

## HBB-N Retro Control Board Installation

16. Insert the water probe into the probe opening. Thread the compression nut on and tighten the compression nut using a 9/16" wrench. Tighten the compression nut until the probe will no longer slide in or out. Reconnect the two pin molex connection.(Fig.31-32)

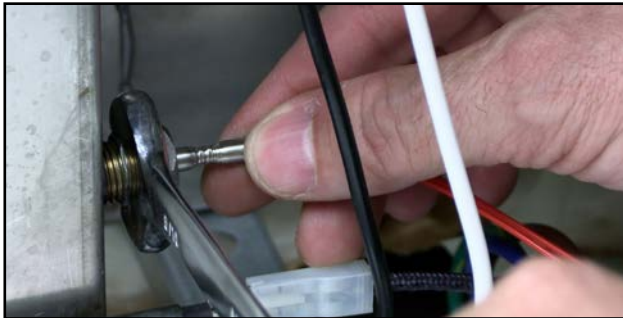


Fig.31



Fig.32

### Relay Panel Installation

17. Locate the rear empty section below the fan. Place the relay panel, in the empty section and line up the three mounting studs with the three holes in the back. (Fig.33-34)

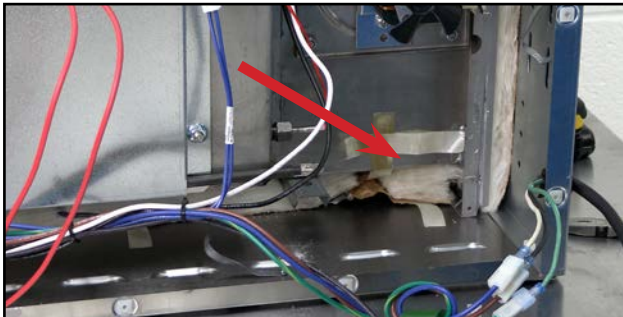


Fig.33

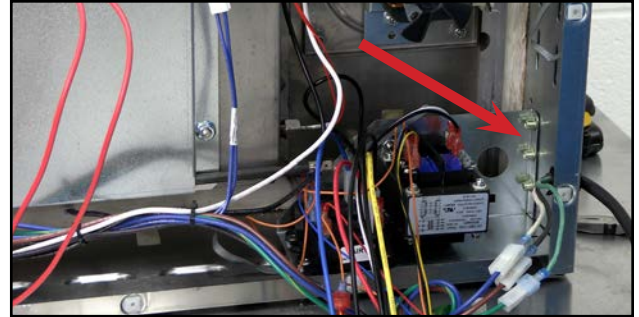


Fig.34

18. Locate the three #8x.50 phillips screws in the kit. Using a Phillips screwdriver, mount the relay bracket to the unit. (Fig.35-36)



Fig.35



Fig.36

## HBB-N Retro Control Board Installation

### Relay Wires Connections

19. Using a Phillips screwdriver remove the control board screws. Disconnect the 6-pin and 9-pin molex connections and remove the control board. (Fig.37-38)



Fig.37



Fig.38

20. Using a flat tipped screwdriver, depress the tabs on the 9 pin female molex connection and push the connection down and out of the controller housing. (Fig.39-40)



Fig.39



Fig.40

21. Pull back the insulation behind the control housing and then pull out the wire grommet. (Fig.41-42)



Fig.41

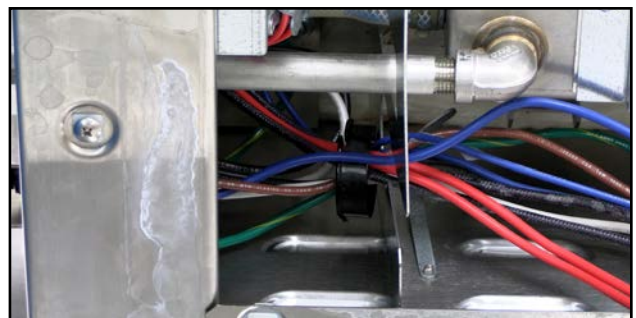


Fig.42

## HBB-N Retro Control Board Installation

22. Route the existing 9 pin mox wires back through the grommet hole and then connect to the 9 pin mox power wires (thicker) coming from the relay board. (Fig.43-44)

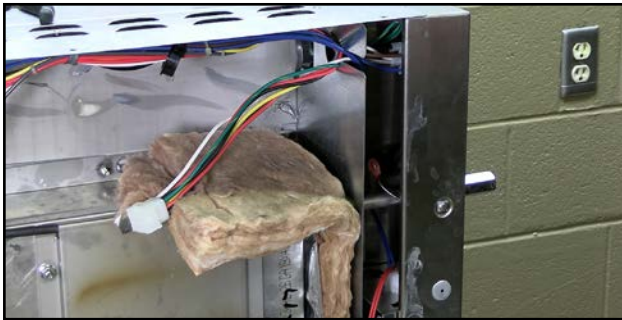


Fig.43



Fig.44

23. Route the 9 pin mox signal wires from the relay bracket up to the grommet slot. Locate the green ground terminal from the signal 9 pin mox connection.(Fig.45-46)

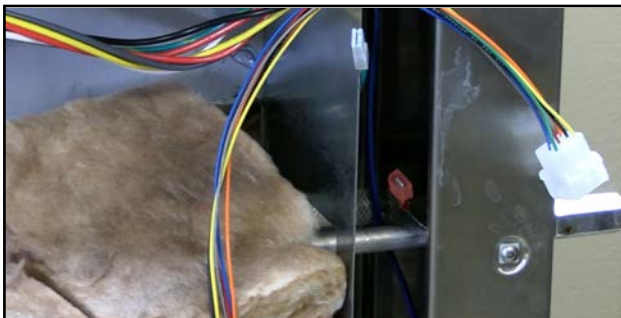


Fig.45

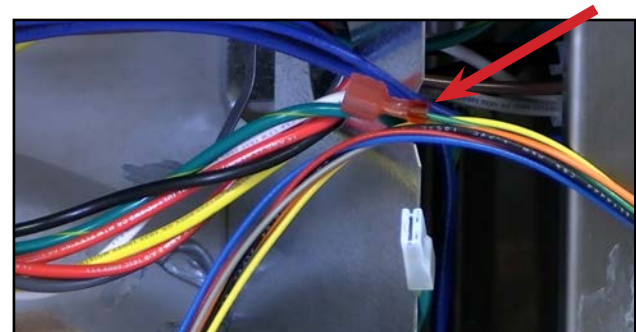


Fig.46

24. Locate the female grounding terminal coming from the unit grounding lug and connect to the male terminal coming from the 9 pin signal wire mox.(Fig.47-48)

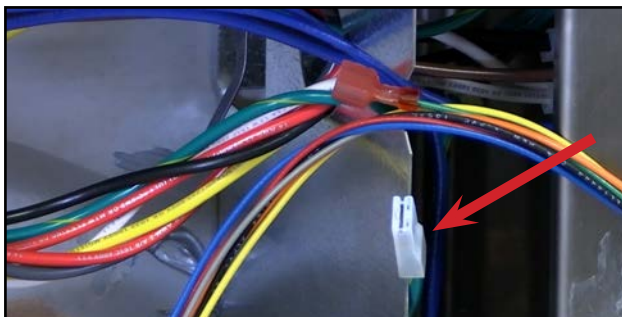


Fig.47

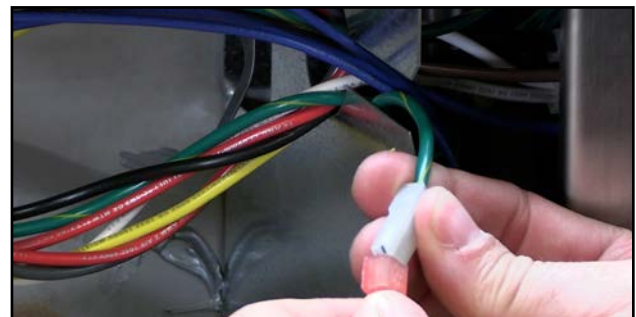


Fig.48

## HBB-N Retro Control Board Installation

25. Route all the wires through the grommet and then replace the grommet.(Fig.49-50)



Fig.49



Fig.50

26. Insert the 9 pin signal mox into the control housing slot. Replace the insulation between the tank and control housing. (Fig.51-52)



Fig.51

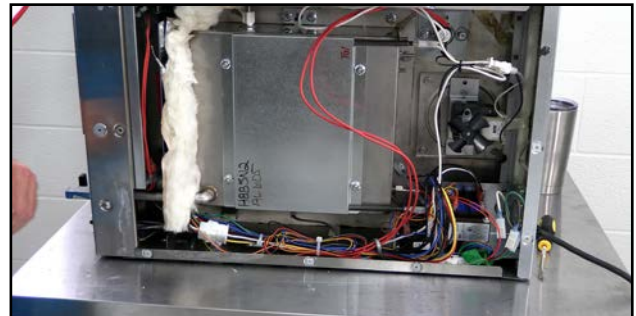


Fig.52

27. Replace the unit bottom and set the unit upright. (Fig.53-54)



Fig.53

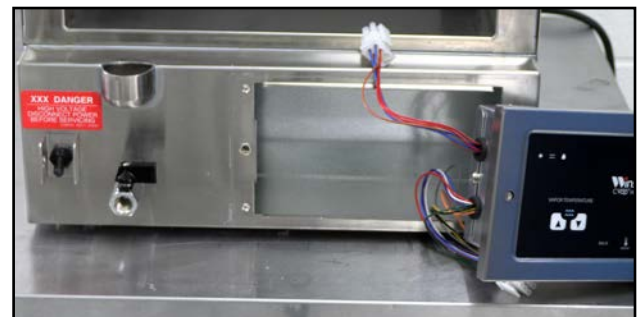


Fig.54

## HBB-N Retro Control Board Installation

28. Locate the new control board in the kit and connect the 6-pin molex connection and the 9-pin molex connection. (Fig.55-56)



Fig.55



Fig.56

29. Insert the control board into the housing and secure the control board using the existing screws.(Fig.57-58)



Fig.57



Fig.58

30. Fill the evaporator pan with water and replace the drawer. (Fig.59-60)



Fig.59



Fig.60

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## HBB-N Retro Control Board Installation

31. Plug the unit in. Power on the unit and verify that it is functioning correctly. (Fig.61-62)



Fig.61



Fig.62



**Wiring Diagrams**

