

KIT17922

⚠ WARNING: HAZARDOUS VOLTAGE - DISCONNECT POWER BEFORE SERVICING

ALL phases of this installation must comply with NATIONAL, STATE AND LOCAL CODES

IMPORTANT— This Document is **customer property** and is to remain with this unit. Please return to service information pack upon completion of work.

Applications

Kit is used to convert and upflow 3 stage furnace to a modulating furnace.

See Table 1 for a model list of 3 stage furnaces that may be converted using KIT17922.

Table 1. 3 Stage Furnace models	
AUH3B060ACV3V	TUH3B060ACV3V
AUH3B080ACV3V	TUH3B080ACV3V
AUH3C100ACV4V	TUH3C100ACV4V
AUH3D120ACV5V	TUH3D120ACV5V

Safety Section

Safety signal words are used to designate a degree or level of seriousness associated with a particular hazard. The signal words for safety markings are **WARNING**, and **CAUTION**.

- a. **WARNING** indicates a potentially hazardous situation which, if not avoided, could result in death or serious personal injury.
- b. **CAUTION** indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It is also used to alert against unsafe practices and hazards involving only property damage.

⚠ WARNING

SAFETY HAZARD
THIS INFORMATION IS INTENDED FOR USE BY INDIVIDUALS POSSESSING ADEQUATE BACKGROUNDS OF ELECTRICAL AND MECHANICAL EXPERIENCE. ANY ATTEMPT TO REPAIR A CENTRAL AIR CONDITIONING PRODUCT MAY RESULT IN PERSONAL INJURY AND OR PROPERTY DAMAGE. THE MANUFACTURER OR SELLER CANNOT BE RESPONSIBLE FOR THE INTERPRETATION OF THIS INFORMATION, NOR CAN IT ASSUME ANY LIABILITY IN CONNECTION WITH ITS USE.

⚠ WARNING

FIRE OR EXPLOSION HAZARD
FAILURE TO FOLLOW THE SAFETY WARNINGS EXACTLY COULD RESULT IN SERIOUS INJURY, DEATH OR PROPERTY DAMAGE.
IMPROPER SERVICING COULD RESULT IN DANGEROUS OPERATION, SERIOUS INJURY, DEATH, OR PROPERTY DAMAGE.

⚠ CAUTION

The IFC is polarity sensitive. The hot leg of the 115 VAC power must be connected to the BLACK field lead.

⚠ WARNING

This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects of other reproductive harm. For more information go to www.p65Warnings.ca.gov.

⚠ WARNING

THE CABINET MUST HAVE AN UNINTERRUPTED OR UNBROKEN GROUND ACCORDING TO NATIONAL ELECTRICAL CODE, ANSI/NFPA 70 - "LATEST EDITION" AND CANADIAN ELECTRICAL CODE C22.1 OR LOCAL CODES TO MINIMIZE PERSONAL INJURY IF AN ELECTRICAL FAULT SHOULD OCCUR. FAILURE TO FOLLOW THIS WARNING COULD RESULT IN SERIOUS PERSONAL INJURY, PROPERTY DAMAGE, OR DEATH.

⚠ WARNING

ELECTRIC SHOCK HAZARD
DISCONNECT POWER TO THE UNIT BEFORE REMOVING THE BLOWER DOOR. ALLOW A MINIMUM OF 10 SECONDS FOR IFC POWER SUPPLY TO DISCHARGE TO 0 VOLTS. FAILURE TO FOLLOW THIS WARNING COULD RESULT IN PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.

⚠ WARNING

SAFETY HAZARD
BODILY INJURY CAN RESULT FROM HIGH VOLTAGE ELECTRICAL COMPONENTS, FAST MOVING FANS, AND COMBUSTIBLE GAS. FOR PROTECTION FROM THESE INHERENT HAZARDS DURING INSTALLATION AND SERVICING, THE ELECTRICAL SUPPLY MUST BE DISCONNECTED AND THE MAIN GAS VALVE MUST BE TURNED OFF. IF OPERATING CHECKS MUST BE PERFORMED WITH THE UNIT OPERATING, IT IS THE TECHNICIANS RESPONSIBILITY TO RECOGNIZE THESE HAZARDS AND PROCEED SAFELY.

⚠ WARNING

Sharp Edge Hazard. Be careful of sharp edges on equipment or any cuts made on sheet metal while installing or servicing. Personal injury may result.

Installer's Guide

Kit 17922

Components for KIT17922 (Upflow)

No.	Qty.	Drawing Number	Description
1	1	D156805P01	Igniter SiNi
2	1	D343379P02	Harness-Wire, UF, 15 Pin
3	1	D158118P01	PCB Assembly, XC95m
4	1	B330748P10	Switch, Flame Rollout
5	1	D344938P02	Harness, wiring, UF 90-3 St
6	1	18-CH88D1-1	Installation Instructions
7	1	D343630G04	Label Asm-Blower Door UF
8	3	N156P1506B	Screw, 8-18 AB HWH 3/8
9	4	A138030P01	Wire Tie
10	1	A341948P02	Bracket, SiNi Igniter
11	1	D343626G38	Personality Module Asm *UHMB060
12	1	D343626G39	Personality Module Asm *UHMB080
13	1	D343626G28	Personality Module Asm *UHMC100
14	1	D343626G27	Personality Module Asm *UHMD120
15	1	D345730P01	Mnemonic label

* May be "A" or "T"

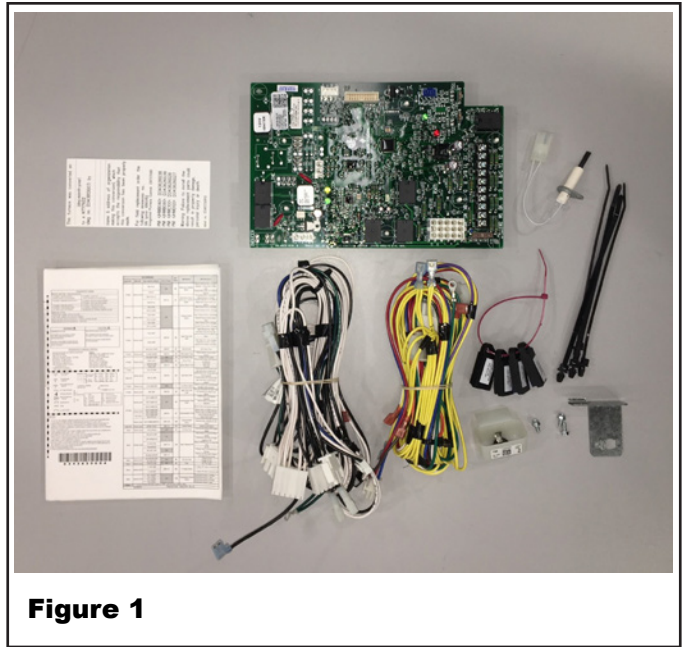


Figure 1

Preparing furnace for new kit

Step 1. Verify furnace model is in Table 1 and may be converted.

⚠ WARNING

ELECTRIC SHOCK HAZARD

Disconnect power to the unit before removing the blower door. Allow a minimum of 10 seconds for IFC power supply to discharge to 0 volts. Failure to follow this warning could result in property damage, personal injury or death.

Step 2. Turn off all power to the furnace.

Step 3. Remove the blower and burner door panels.

Step 4. Remove the cover on the junction box.

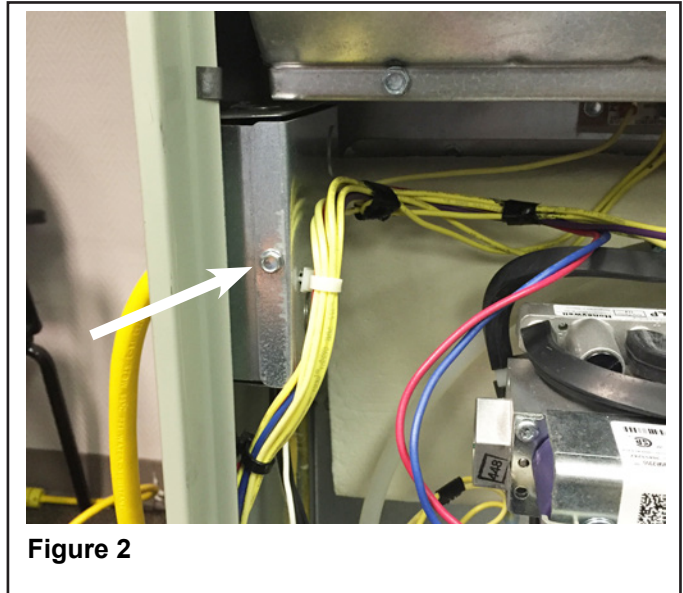


Figure 2

Step 5. Inside the junction box, disconnect the black wires (EAC, HUM, and LINE) and the white wire (Neutral).

Step 6. Remove the grommet at the bottom of the junction box and pull all wires through the junction box. Save the grommet for later reinstallation.

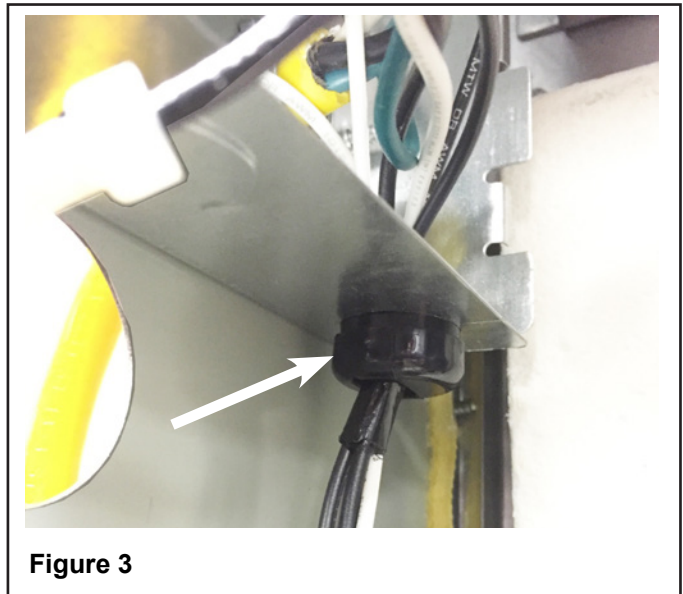


Figure 3

Step 7. Remove the 3 screws holding door bracket.

Remove and retain the door bracket and screws for later reinstallation.

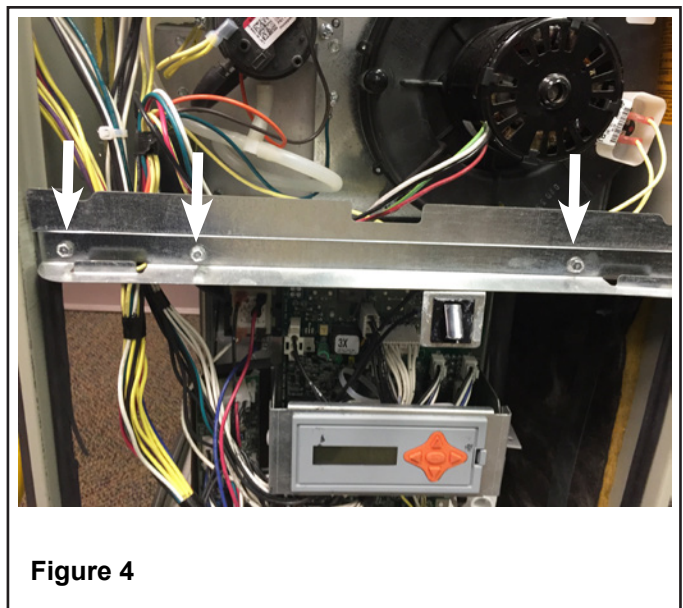


Figure 4

Installer's Guide

Step 8. Remove the screws securing the burner box cover. Remove and retain the burner box cover and screws for later reinstallation.

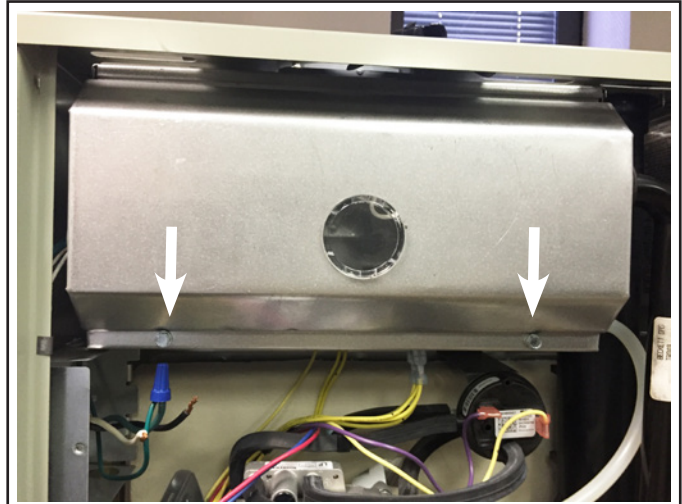


Figure 5

Step 9. Cut the wire ties holding the igniter/flame sensor wires onto the burner manifold.

Step 10. Disconnect the igniter and flame sensor wires.

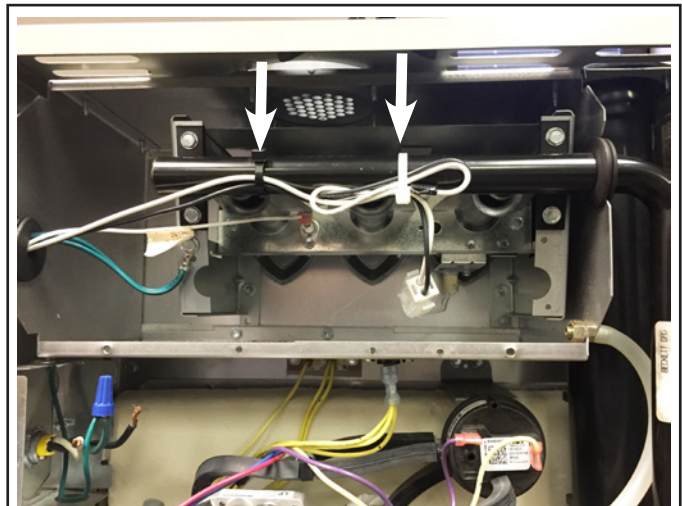


Figure 6

Step 11. Remove the two 1/4" hex head screws holding the igniter assembly and retain for later reinstallation. Remove the igniter and bracket assembly and discard.

Step 12. Install the new 120 Volt igniter and bracket assembly using the screws from the previous step.

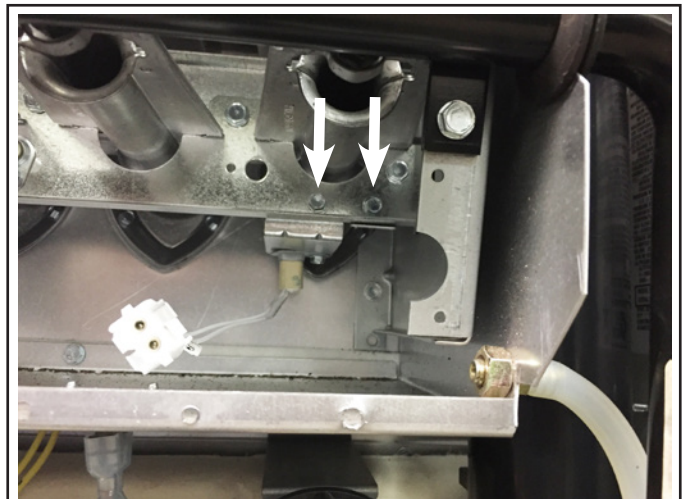


Figure 7

Step 13. Remove the ground wire from the burner support.
See Figure 8.

Step 14. Remove the igniter, ground, and flame sensor wires from the grommet and cabinet retaining clips.

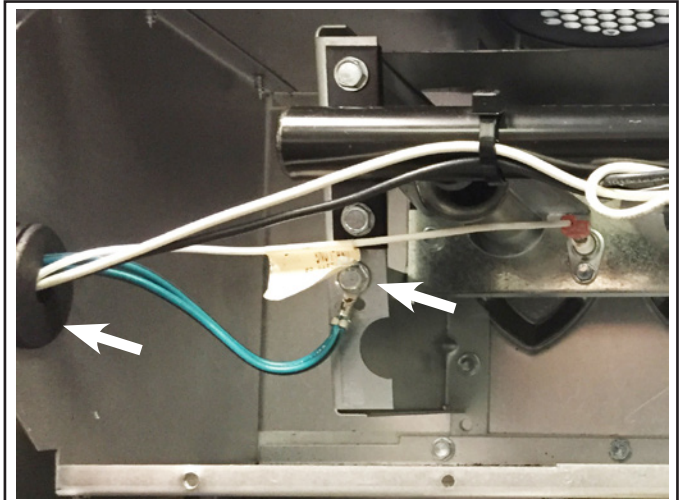
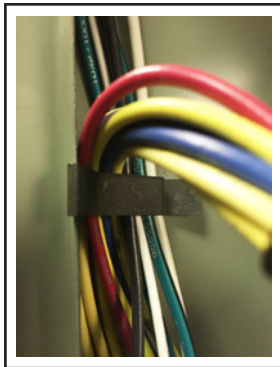


Figure 8

Step 15. Unplug the draft inducer wire connector.

Step 16. Disconnect the wires from the draft inducer limit switch.

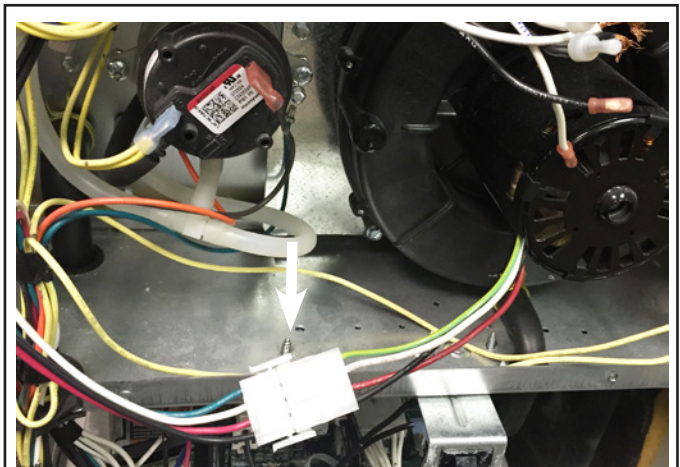
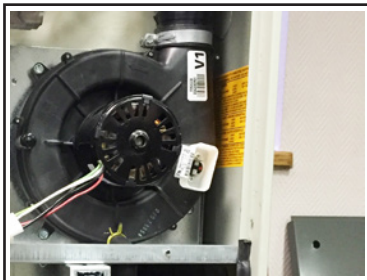


Figure 9

Step 17. Remove wires from the primary limit switch.

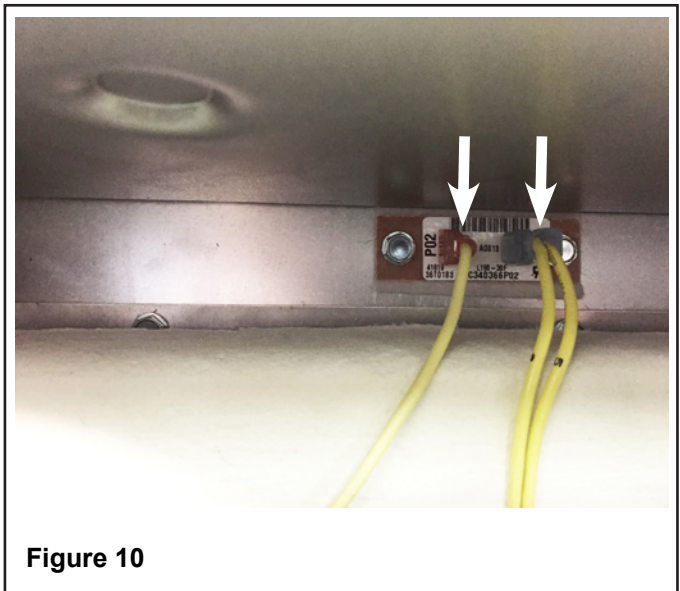
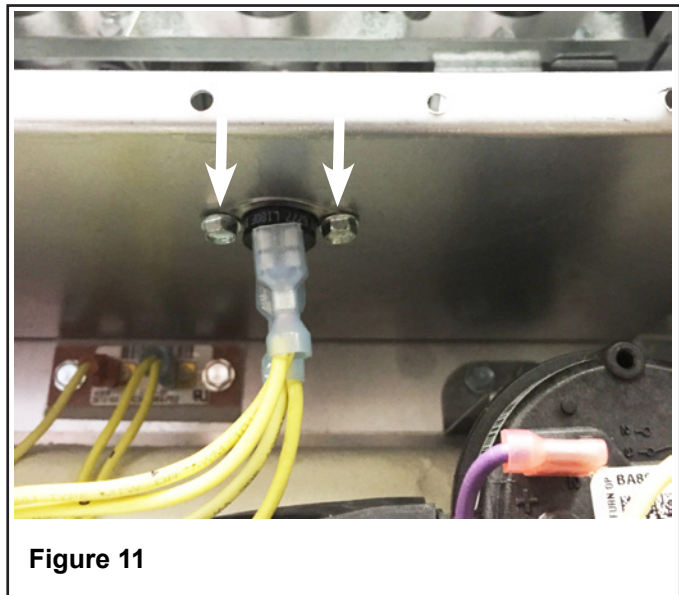


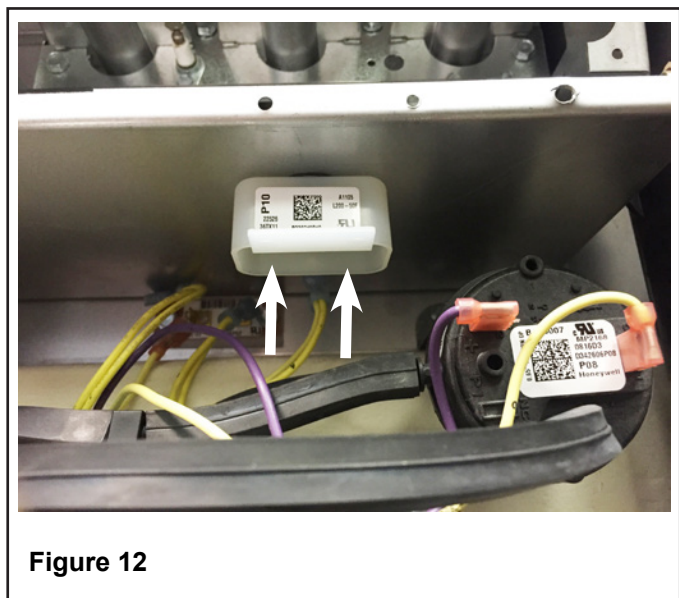
Figure 10

Installer's Guide

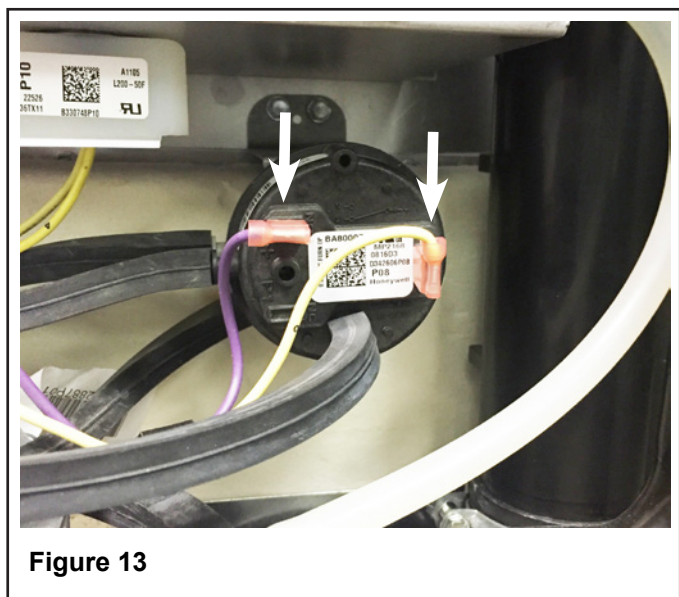
- Step 18.** Remove wires from the burner box limit switch.
- Step 19.** Remove the manual reset burner box limit switch.
Retain screws.



- Step 20.** Using the screws from the previous step, install the new auto reset burner box limit switch.



- Step 21.** Remove the wires from pressure switch 1 (PS1).



Step 22. Disconnect the wires to the gas valve.

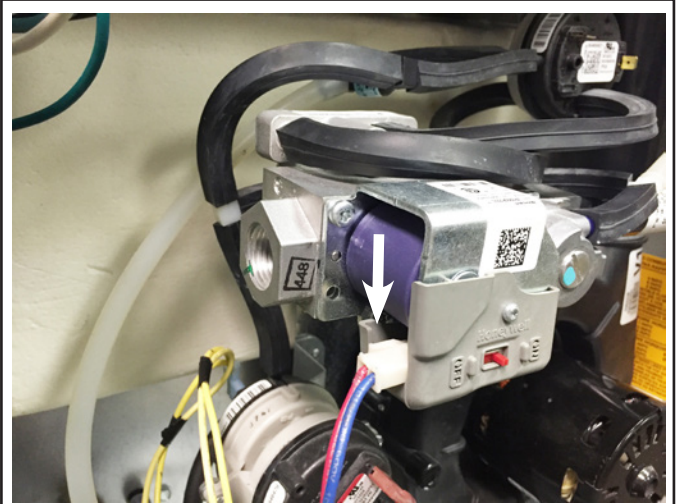


Figure 14

Step 23. Remove the harness retainer from the junction box cover.

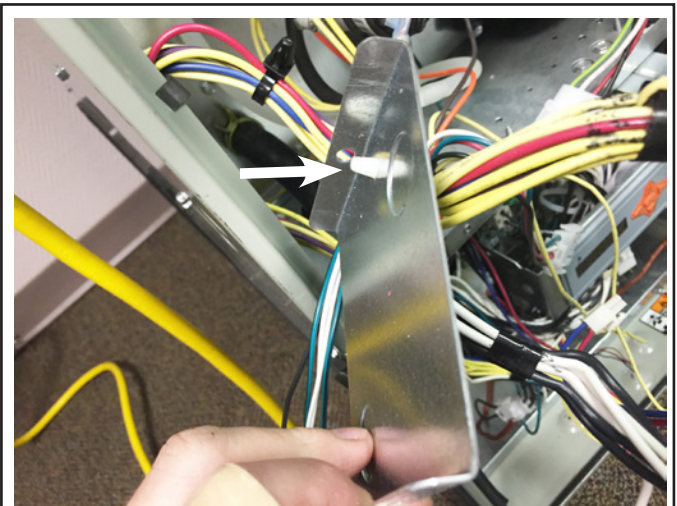


Figure 15

Step 24. Remove the wires from the double pressure switch (PS2 & PS3).



Figure 16

Installer's Guide

Step 25. Remove the ground wire from the inducer mounting plate.

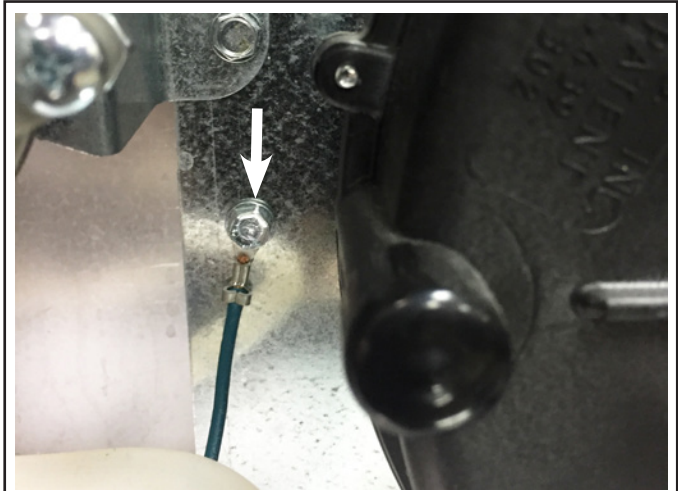


Figure 17

Step 26. Disconnect the thermostat wires from the IFC.

Step 27. Disconnect the indoor blower wire harness (9-pin connector).

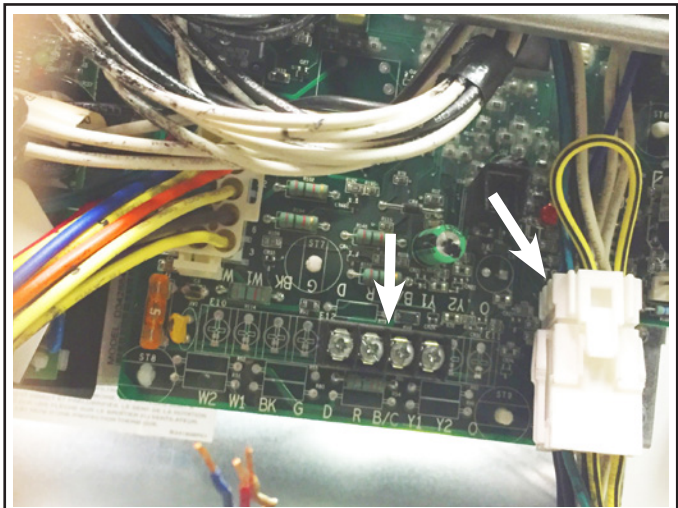


Figure 18

Step 28. Remove the LCD display.

1. Press release clip on the display assembly and remove from the bracket.
2. Disconnect the gray ribbon cable from the IFC.

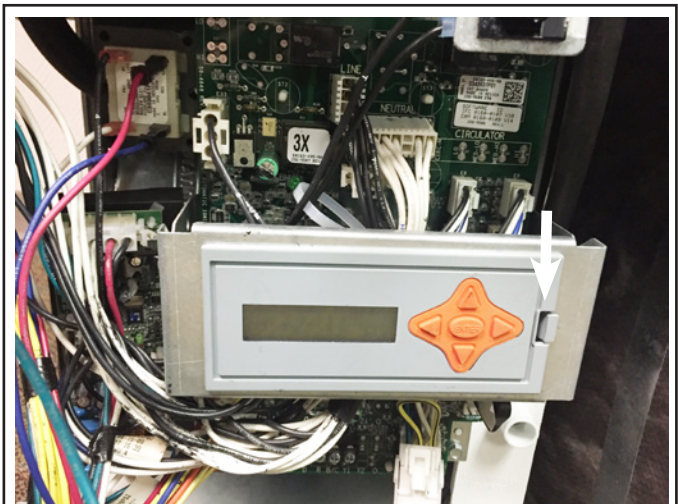


Figure 19

Step 29. Remove the two black wires from the door switch.

Step 30. Remove the following connectors from the IFC:

- 3 pin connector (E33)
- Line connector (LINE)
- Neutral connector (NEUTRAL)
- 2 pin connector (E20)
- 4 pin connector (E8)
- 4 pin connector (E9) - Communication cable
- 15 pin connector (E18)

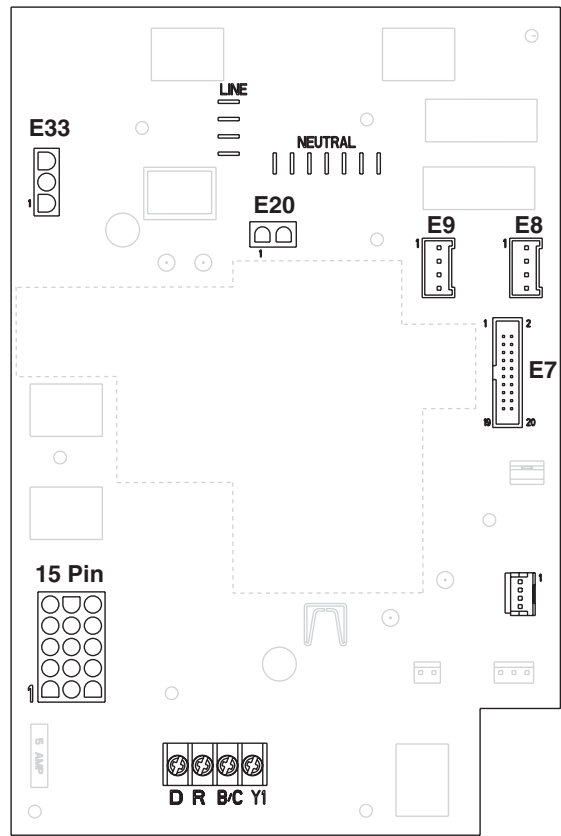
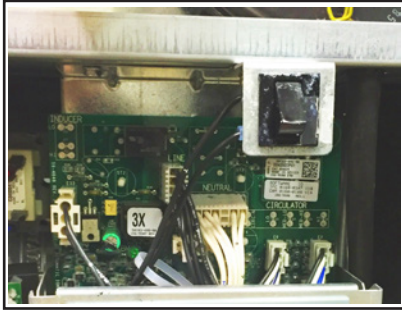


Figure 20

Step 31. Push the wire harness to the side and remove the IFC by depressing each of the standoffs to release them from the IFC board.

NOTE: The new board CNT07080 comes with standoffs installed.

Step 32. Remove extra standoffs. Either remove the old standoffs off the IFC mount bracket and use the new standoffs OR remove the new standoffs on the replacement IFC.

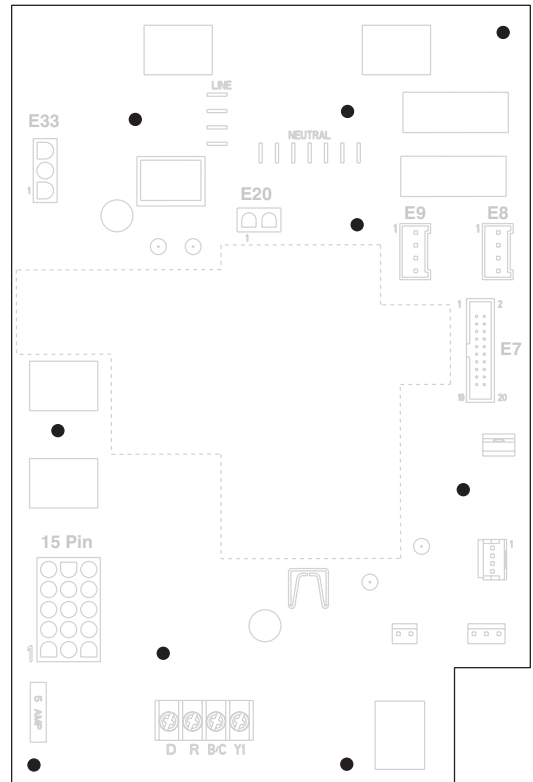
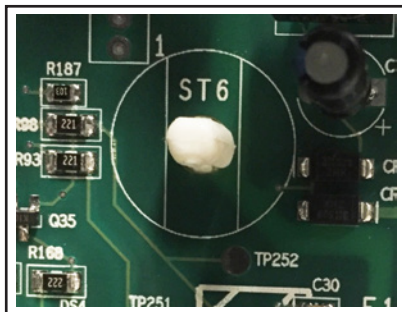


Figure 21

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Step 33. Install the new CNT07080 IFC board. Snap in place making sure the IFC board is properly seated into all the standoffs on the IFC mount bracket.

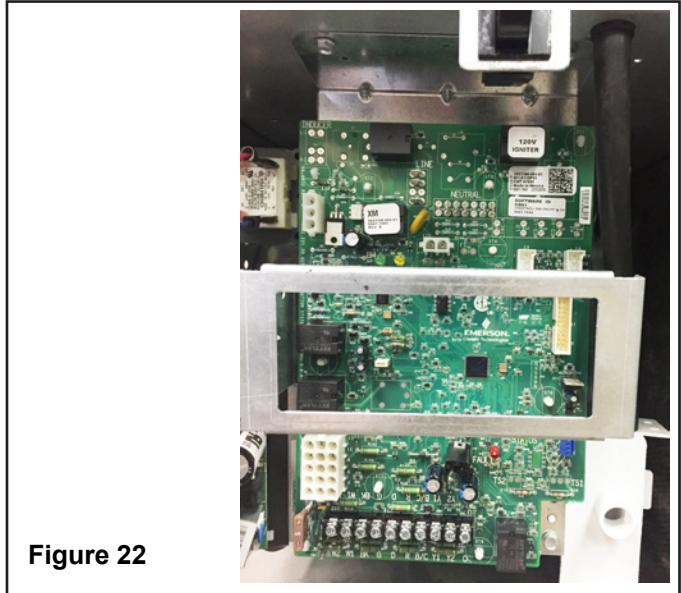


Figure 22

Step 34. Remove the voltage connection on the draft inducer board (smaller board).

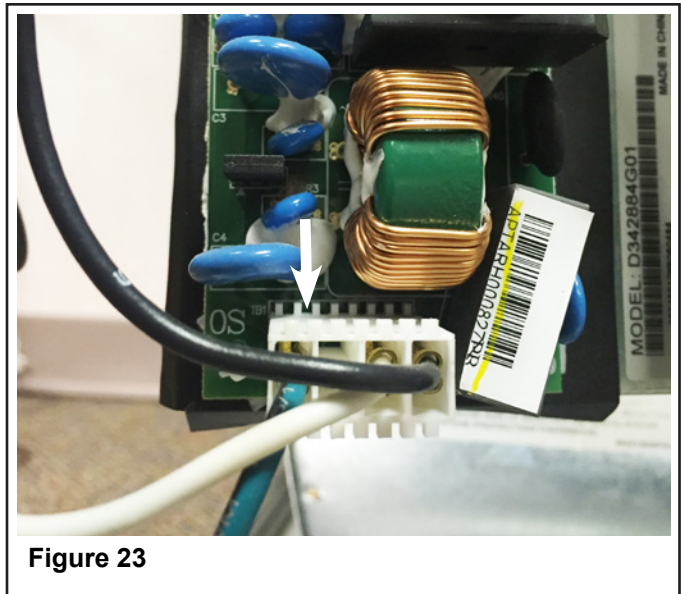


Figure 23

Step 35. Remove the draft inducer wiring harness from the draft inducer board (smaller board).

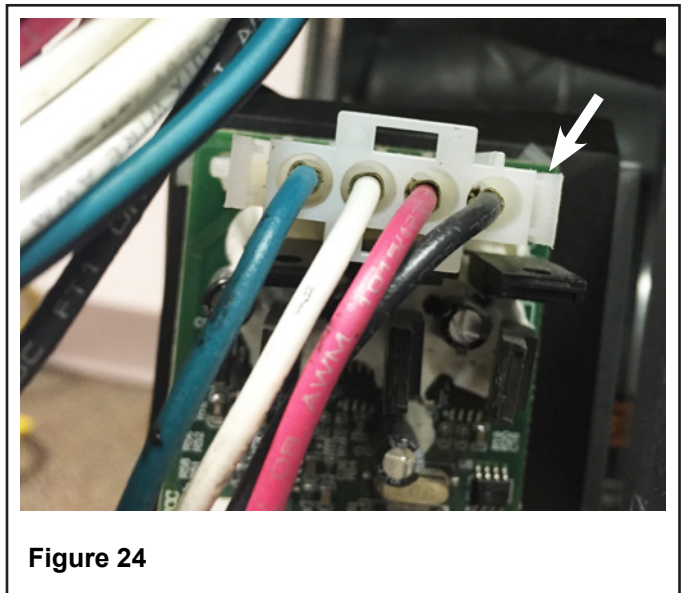


Figure 24

Step 36. Reconnect the 4 pin connector communication cable to the E9 connector on the IFC.

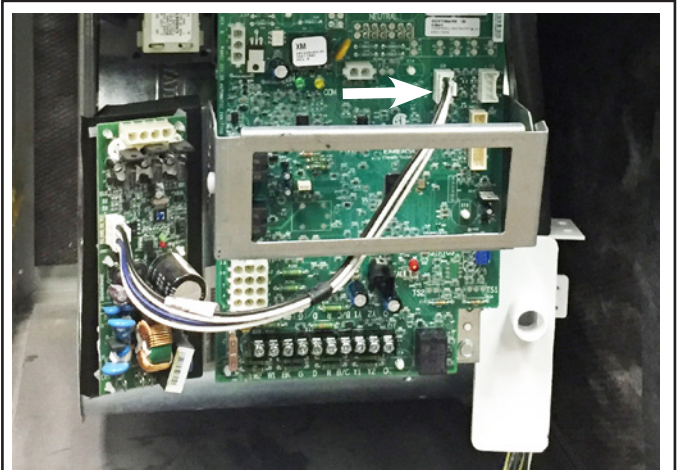


Figure 25

Step 37. Remove the four connectors from the transformer.

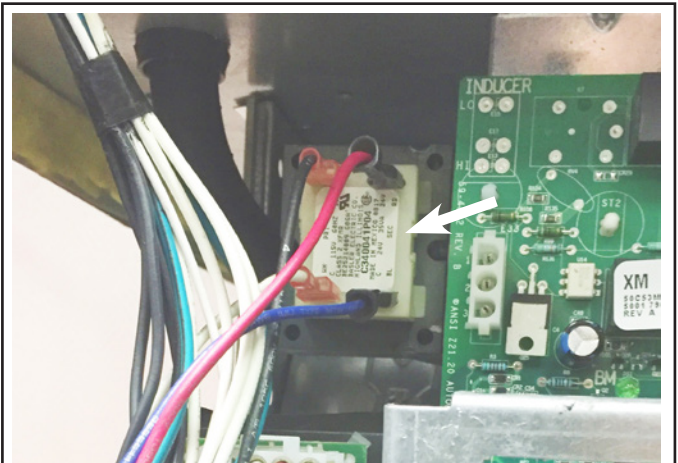


Figure 26

Step 38. Remove the low voltage and high voltage wire harnesses from the furnace.

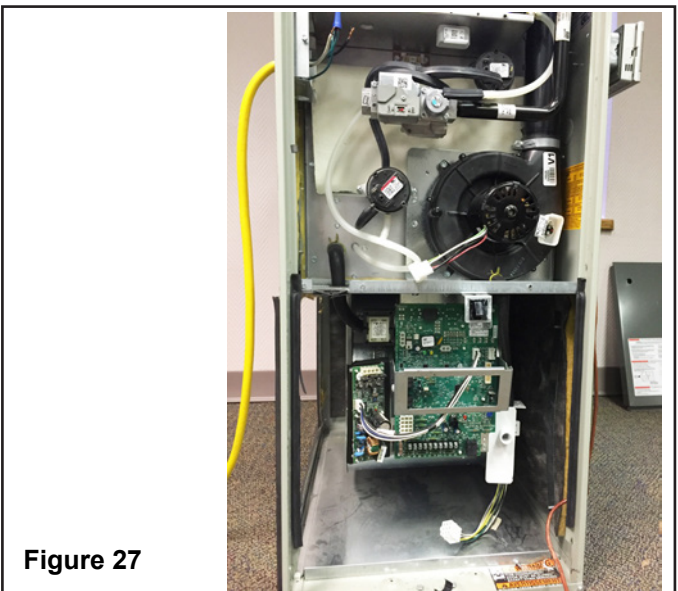
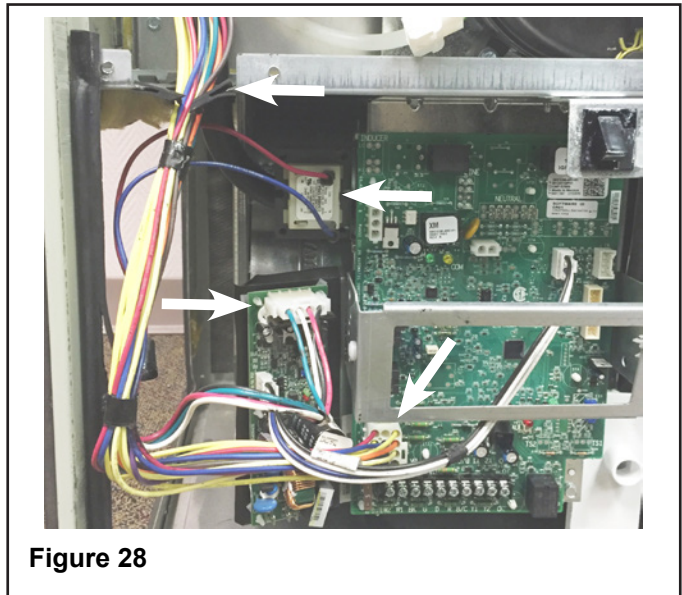


Figure 27

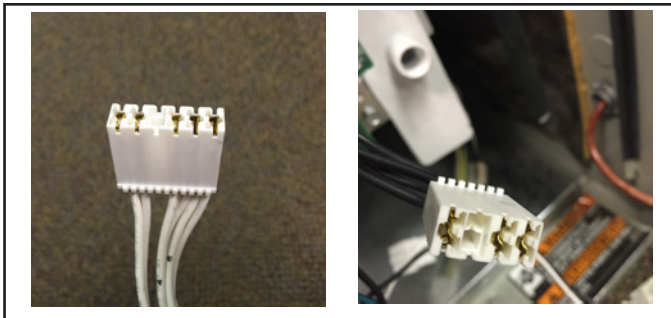
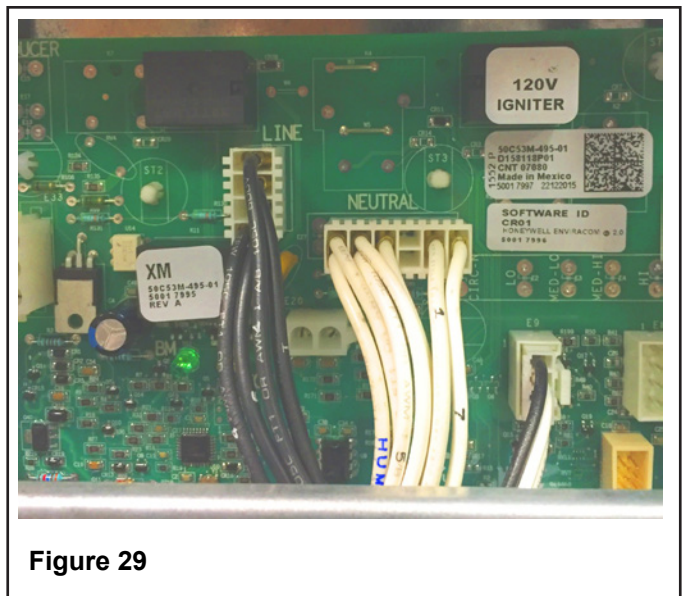
Installer's Guide

Installing the new kit

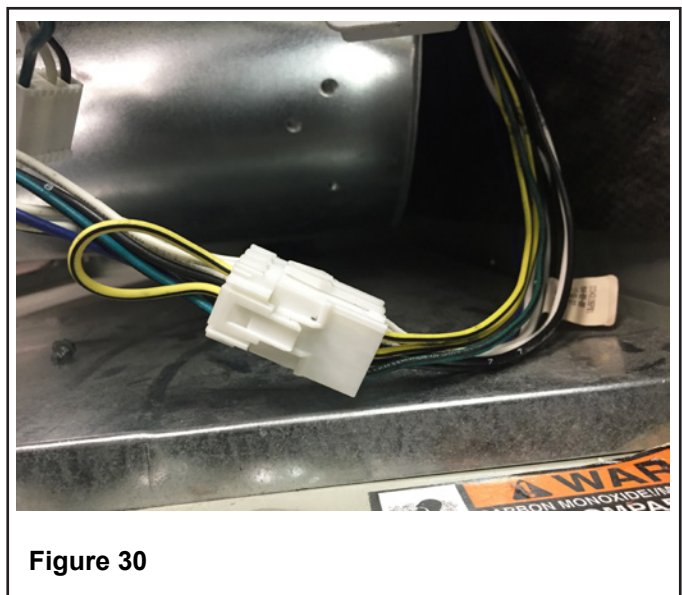
- Step 1.** Starting with low voltage harness number D343379P02, insert the 15 pin connector onto the IFC board.
- Step 2.** Plug in the draft inducer wiring harness connector onto the draft inducer board (smaller board).
- Step 3.** Locate the blue and red wires with the 3/16" female connectors and connect to the blue (BL) and red (RD) spade terminals on the transformer.
- Step 4.** Thread the rest of the low voltage wiring harness through the grommet on the blower deck.



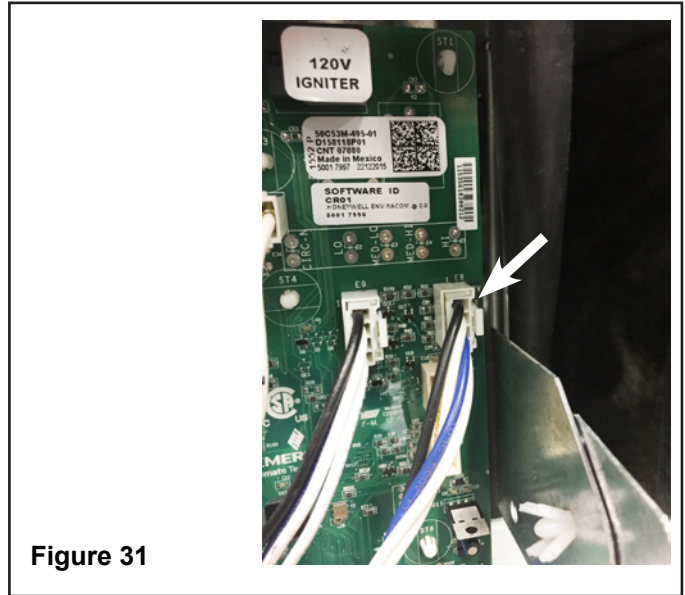
- Step 5.** Take the high voltage harness number D343565P02 and locate the IFC neutral connector. Thread under the LCD display bracket and connect to the neutral (NEUTRAL) connection on the IFC board.
- Step 6.** Locate the 4 pin connector for the line voltage and thread under the LCD display bracket. Connect to the line (LINE) connection on the IFC board.



- Step 7.** Attach the 9 pin connector to the indoor blower motor connector.

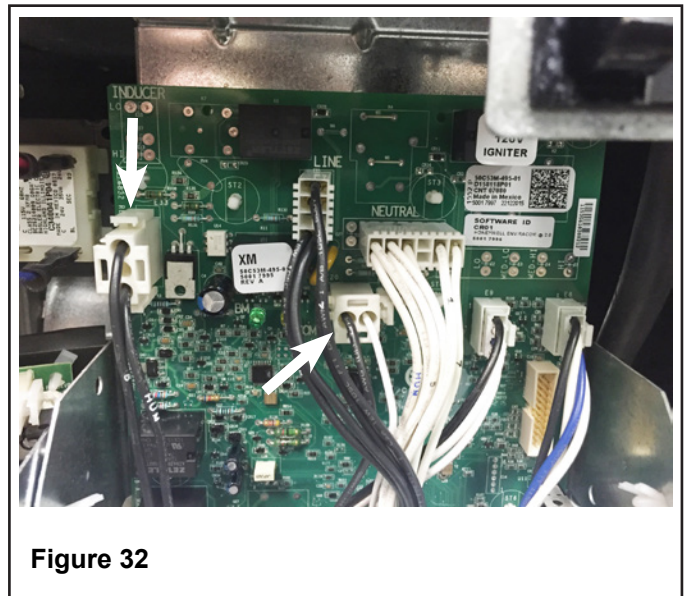
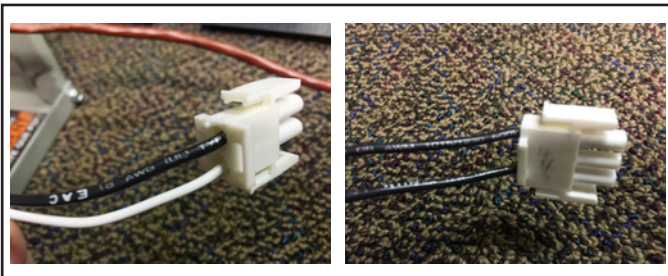


Step 8. Locate the 4 pin communication connector and thread under the LCD display bracket. Connect to E8 on the IFC board.

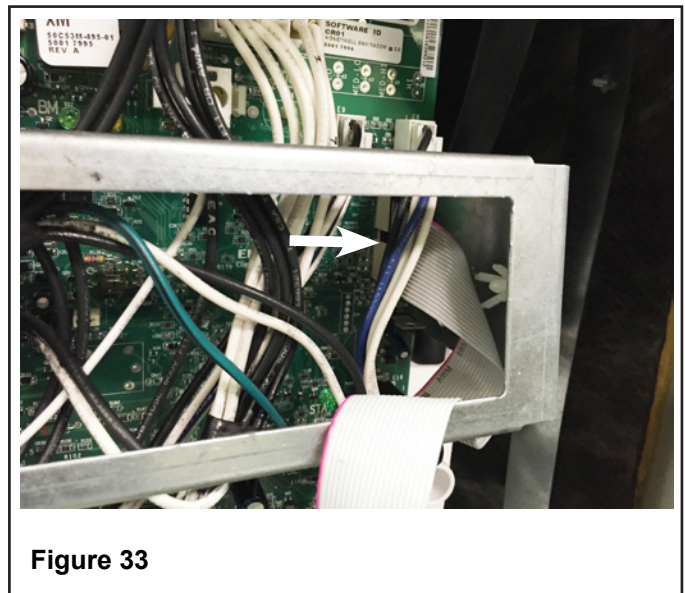


Step 9. Locate the 2 pin connector with the black wire labeled "EAC" and thread under the LCD display bracket. Connect to E20 on the IFC board.

Step 10. Locate the 3 pin connector with two black wires, one is labeled "HUM", and thread under the LCD display bracket. Connect to E33 on the IFC board.



Step 11. Route the gray ribbon cable on the back of the display assembly through the cutout on the display assembly bracket and connect onto the IFC board at E7. Snap the LCD display assembly onto the display bracket.



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Step 12. Select the appropriate personality module (PM) based on your furnace model number in the table.

Step 13. Insert the personality module onto the IFC board at E16.

Furnace model number	Personality Module (PM)
AUH3B060ACV3V, TUH3B060ACV3V	*UHMB060
AUH3B080ACV3V, TUH3B080ACV3V	*UHMB080
AUH3C100ACV4V, TUH3C100ACV4V	*UHMC100
AUH3D120ACV5V, TUH3D120ACV5V	*UHMD120

* May be "A" or "T"

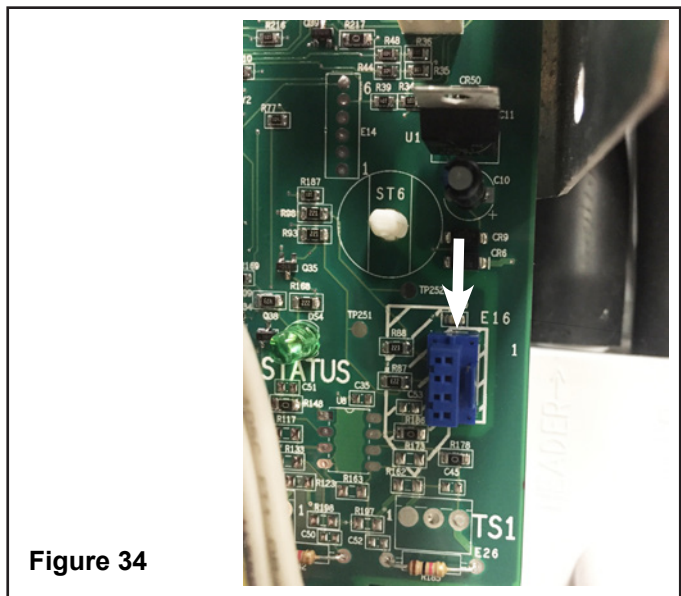


Figure 34

Step 14. Locate the 4 pin connector with a black wire labeled "6", a white wire, and a green. Connect to the draft inducer board (smaller board).

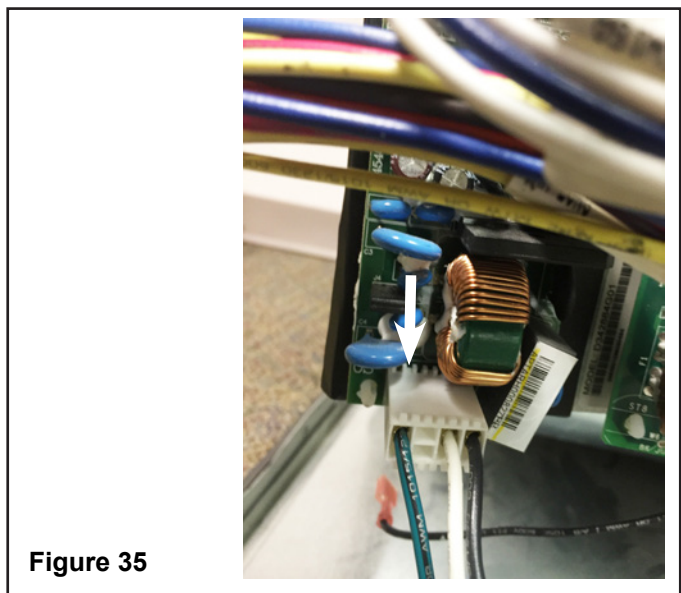
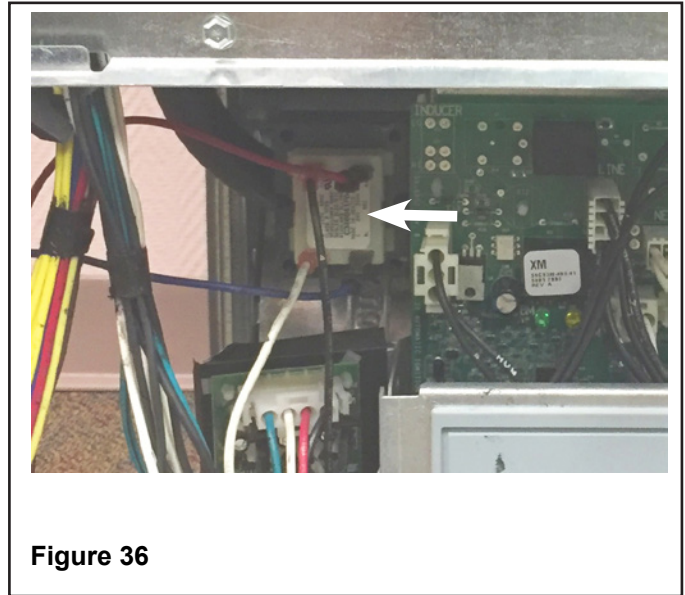


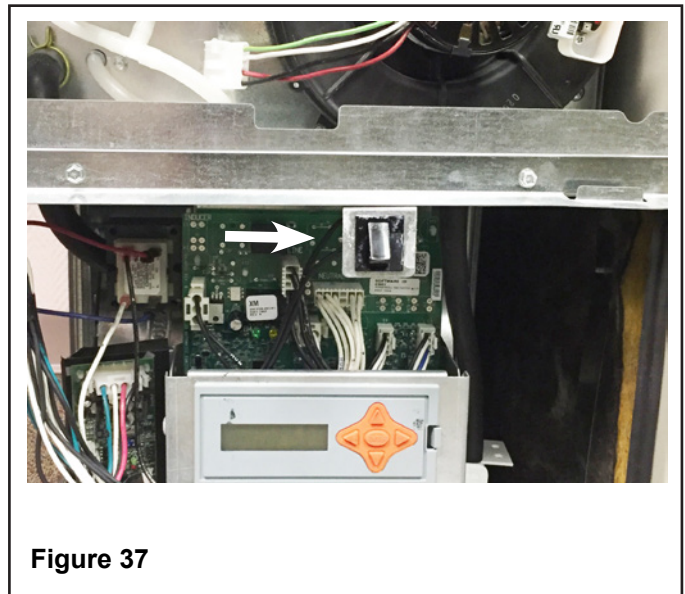
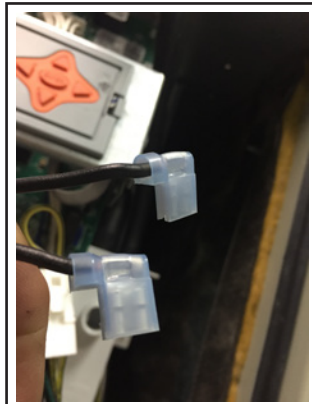
Figure 35

Step 15. Locate the black wire labeled "4" with the 1/4" female terminal and connect to the 115V terminal on the transformer.

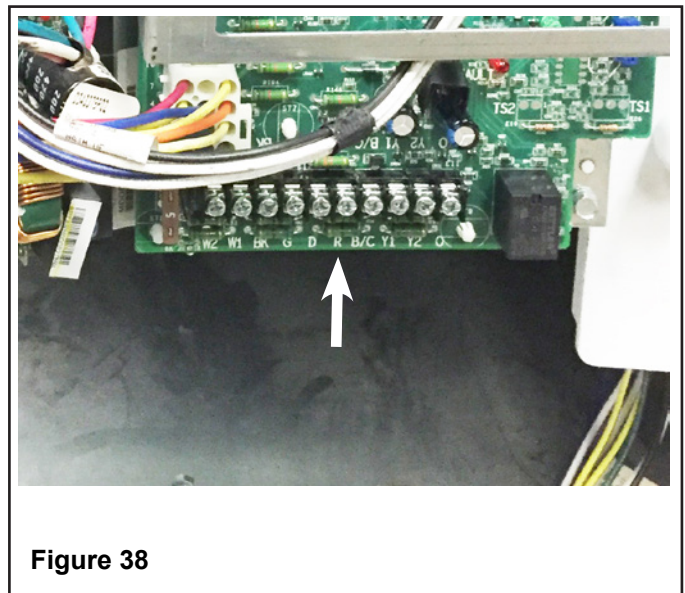
Step 16. Locate the white wire labeled "6" with the 1/4" female terminal and connect to the C terminal on the transformer.



Step 17. Locate the two black wires labeled "1" with the 90 degree 1/4" female terminals and thread under the LCD display bracket. Connect the two wires to the door switch.



Step 18. Attach the R, D, and B thermostat wires to the terminal strip on the IFC board.



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- Step 19.** Thread the rest of the high voltage harness through the grommet on the blower deck.
- Step 20.** Reinstall the door bracket using the same screws removed earlier when the bracket was removed.

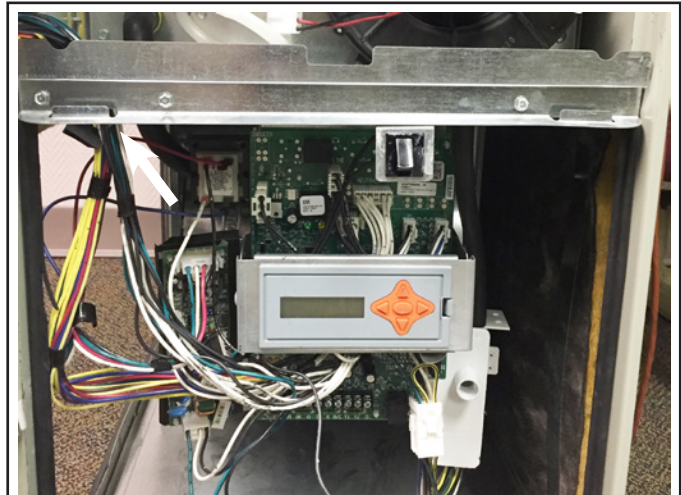


Figure 39

- Step 21.** On the low voltage harness, locate the draft inducer connector and plug into the mating connector on the draft inducer.



Figure 40

- Step 22.** On the low voltage harness, locate the yellow wires labeled "3" and "9". Connect the two wires to the inducer limit switch.

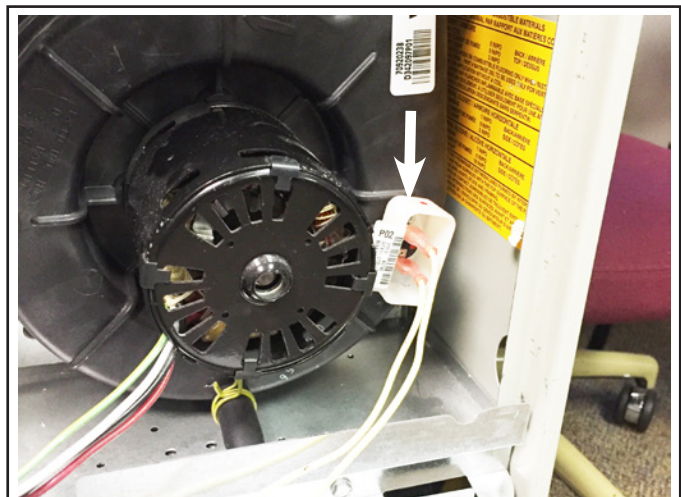


Figure 41

- Step 23.** On the low voltage harness, locate the single connector with yellow wires labeled “6” and “7”. Connect to one of the terminals on pressure switch 2 (PS2). This will be the rear stacked switch.
- Step 24.** On the low voltage harness, find the orange wire and connect to the other terminal on PS2.
- Step 25.** On the low voltage harness, locate the single connector with yellow wires labeled “7” and “2”. Connect to one of the terminals on pressure switch 3 (PS3). This will be the front stacked switch.
- Step 26.** On the low voltage harness, find the brown wire and connect to the other terminal on PS3.

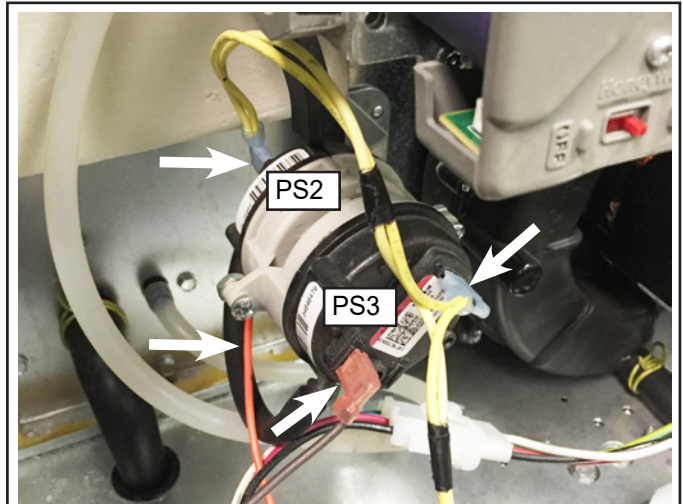


Figure 42

- Step 27.** In the same bundle on the low voltage harness, locate the single green ground wire and attach to the inducer mounting plate.

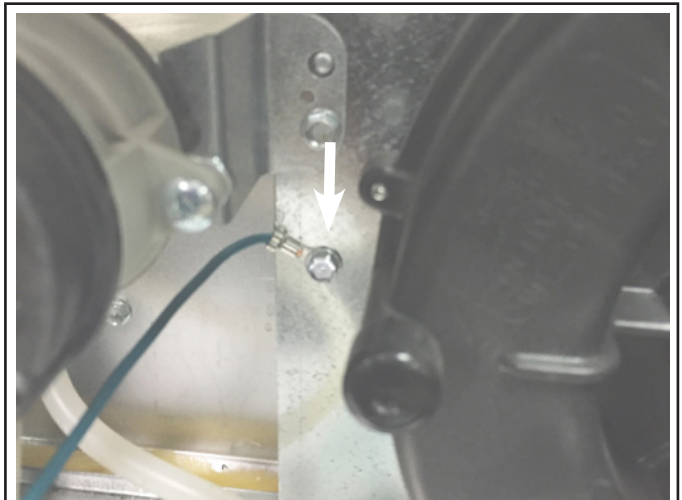


Figure 43

- Step 28.** On the low voltage wire harness, locate the wire tie with the plastic anchor and insert it into the junction box cover.
- Step 29.** Locate the red and blue wires with a connector. Attach the connector to the gas valve.

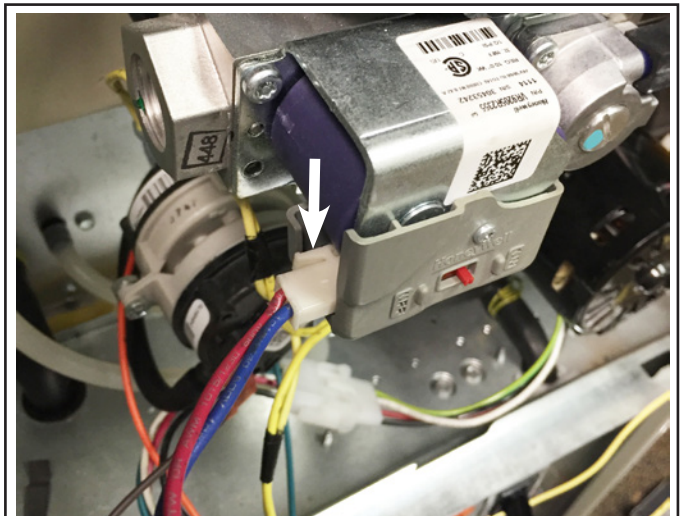


Figure 44

Installer's Guide

Step 30. On the low voltage wire harness, locate yellow wire labeled "6" and the purple wire. Connect to pressure switch 1 (PS1).



Figure 45

Step 31. On the low voltage wire harness, locate the yellow wire labeled "5" and the single yellow wire with connector. Connect to the primary limit switch.



Figure 46

Step 32. On the low voltage wire harness, locate the yellow wires labeled "1" and "8" with terminal and the yellow wires labeled "4" and "9" with terminal. Attach both terminals to the auto reset burner box switch.



Figure 47

Step 33. On the high voltage wire harness, locate the wire bundle with the igniter connector, flame sensor connector, and the 2 green ground wires attached to one eyelet terminal. Tuck behind the wire retaining clip on the furnace cabinet.

Step 34. Continue routing the bundle through the rubber burner box grommet.

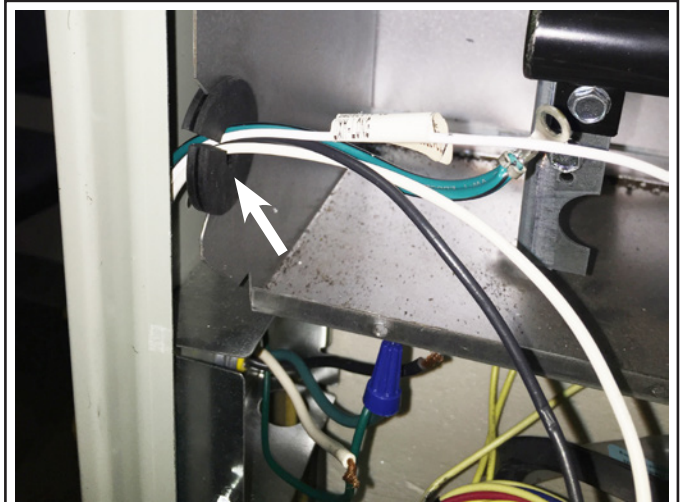
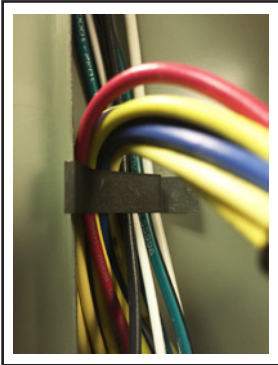


Figure 48

Step 35. Connect the igniter connector to the igniter.

Step 36. Locate the single white wire with 1/4" terminal and connect to the flame sensor terminal.

Step 37. Attach the green ground wires with eyelet to the burner box support bracket.

Step 38. Use the wire ties in the kit to secure the igniter and flame sensor wires to the gas manifold pipe.

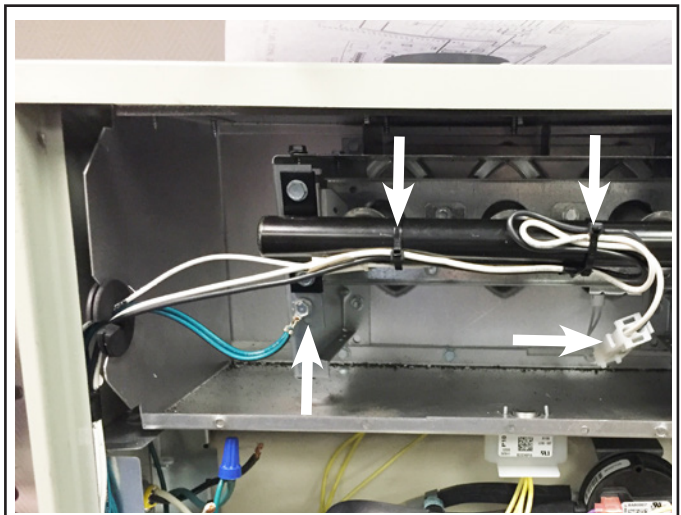


Figure 49

Step 39. Reinstall the burner box cover using the screws removed during disassembly.

Step 40. Locate the remaining high voltage wire bundle with white wire labeled "1", black wire labeled "1", black wire labeled "EAC", white wire labeled "EAC", white wire labeled "HUM", and black wire labeled "HUM". Thread through the bottom of the junction box.

Step 41. Reinstall the strain relief grommet onto the junction box.

Step 42. Connect the incoming power leads to the white wire labeled "1", the black wire labeled "1" and the green wires.

Step 43. Reinstall the junction box cover.

Step 44. Double check all connections are secure.

Step 45. Reinstall blower and burner door panels.

Step 46. Apply power and check operation per the new furnace Installer's Guide in the kit.

Step 47. Apply wiring diagram to inside of blower door.

Step 48. Apply mnemonic label to outside of blower door.

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