Installation Instructions for KIT16582, KIT16583, KIT16584, and KIT16585

⚠ 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

Kits are used to upgrade from the ECM inducer (BLW00732) to the 3-phase inducer (BLW00879) and IFC with integral variable speed motor control (CNT07720 or CNT07991). These kits take the place of the BLW00732 replacement part, which is no longer available.

KIT16582 is used to upgrade model families *UY-R-V0, V1, V2, V3, W0, W1, W2, and W3.
KIT16583 is used to upgrade model families *DY-R-V0, V1, V2, V3, W0, W1, W2, and W3.
KIT16584 is used to upgrade model families *UX-R-V0, V1, V2, V3, W0, W1, W2, and W3.
KIT16585 is used to upgrade model families *DX-R-V0, V1, V2, V3, W0, W1, W2, and W3.
* May be "A" or "T"

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 CEN–TRAL 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.

⚠ WARNING

This product can expose you to chemicals including lead, which are known to the State of California to case cancer and birth defects or other reproductive harm. For more information go to www. P65Warn-ings.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 FOL–LOW 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 FOL–LOW 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 DUR–ING 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 RESPONSI–BILITY TO RECOGNIZE THESE HAZARDS AND PROCEED SAFELY.

⚠ CAUTION

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

⚠ CAUTION

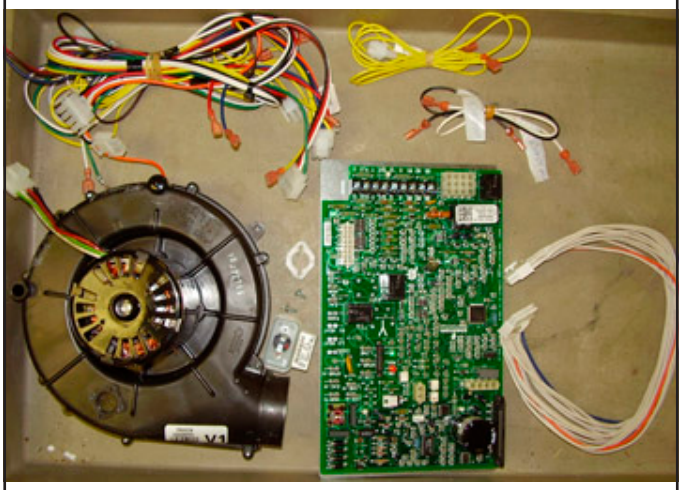
The IFC is polarity sensitive. The hot leg of the 115 VAC power must be connected to the BLACK field lead.

Upflow models: (*UY/*UX)

Components for KIT16582 (*UY)

No.	Qty.	Drawing Number	Description
1	1	D342097P01	Inducer
2	1	D343687P04	Integrated Furnace Control
3	1	D343255P01	IFC MOB Bracket
4	1	B342017P01	Inducer - Limit
5	1	D342127P10	Wire Harness
6	1	D156805P01	Igniter SiNi
7	1	A341948P02	Bracket, SiNi Igniter
8	3	N156P1506B	Screw, 8-18 AB HWH 3/8
9	1	B342140P02	Junction Box Wires
10	1	B341899P01	Transformer Wire - Black
11	1	B341899P02	Transformer Wire - Neutral
12	1	B341899P06	Door switch to IFC Wire
13	1	B341899P05	Furnace Junction Box Ground Wire
14	1	A341575P01	Inducer Limit Insulation
15	3	N154P1616B	Inducer to mounting bracket screws
16	2	N193P1306B	Inducer limit to inducer screws
17	4	D343256P01	Plastic Stand Off
18	6	C107736P07	Wire Tie
19	1	D344303P04	Wiring Diagram
20	1	18-CH66D1-5B-EN	Installation Instructions
21	1	D343215P05	Conversion Label
22	1	A340597P01	Flue stack clamp
23	4	A138030P01	Wire Tie

Components for KIT16582 (*UY)



Note: 16 Pin Connector is not in KIT16582

Figure 1

Components for KIT16584 (*UX)

No.	Qty.	Drawing Number	Description
1	1	D342097P01	Inducer
2	1	D343686P04	Integrated Furnace Control
3	1	D343255P01	IFC MOB Bracket
4	1	B342017P01	Inducer - Limit
5	1	D342127P10	Wire Harness
6	1	D156805P01	Igniter SiNi
7	1	A341948P02	Bracket, SiNi Igniter
8	3	N156P1506B	Screw, 8-18 AB HWH 3/8
9	1	D342140P02	Junction Box Wire
10	1	B341899P01	Transformer Wire - Black
11	1	B341899P02	Transformer Wire - Neutral
12	1	B341899P06	Door switch to IFC wire
13	1	B341899P05	Furnace Junction Box Ground wire
14	1	A341575P01	Inducer Limit Insulation
15	3	N154P1616B	Inducer to mounting bracket screws
16	2	N193P1306B	Inducer limit to inducer screws
17	4	D343256P01	Plastic Stand Off
18	6	C107736P07	Wire Tie
19	1	D344563P03	Wiring Diagram
20	1	18-CH66D1-5B-EN	Installation Instructions
21	1	D343215P07	Conversion Label
22	1	A340597P01	Flue stack clamp
23	4	A138030P01	Wire Tie

Components for KIT16584 (*UX)

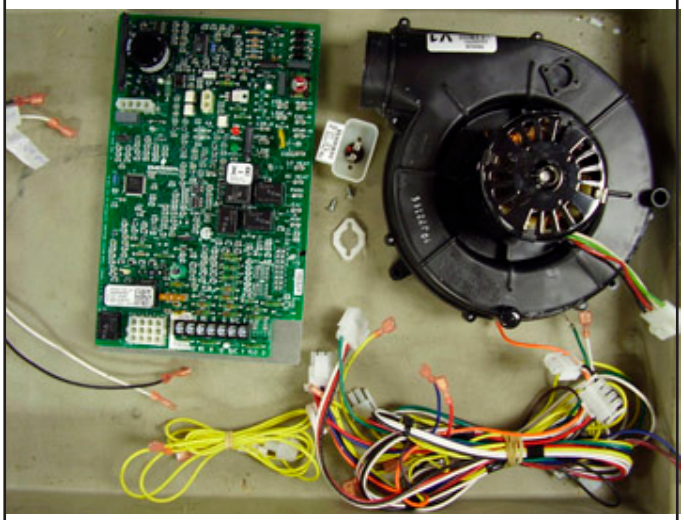


Figure 2

Upflow models: (*UY/*UX)

⚠ 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.

Removing the existing inducer

1. Remove power from the furnace before beginning work.
2. Remove the front furnace panels.
3. Remove the blower door latching plate if present. See Figure 4.
4. Cut and remove all wire ties.
5. Disconnect the 12-pin wire harness connector at the inducer motor and the 2-pin wire connector to the inducer limit switch.
6. Remove the condensate outlet from the existing inducer.
7. Remove the inducer from the furnace by loosening the clamp on the connection to the flue pipe and removing the three screws holding the inducer to the inducer mounting bracket.
8. Remove the clamp from the inducer and save. Discard the inducer.
9. Remove any remaining RTV from the inducer transition.

Install the new inducer

1. Attach the new inducer limit switch to the inducer capturing the gasket. Use the Phillips head screws provided. See Figure 16.
2. Run a bead of high temperature RTV around the channel on the back of the inducer housing, where the inducer will seal to the secondary heat exchanger outlet. See Figure 5.
3. Install the clamp removed from the outlet of the old inducer on the outlet of the new inducer.
4. Install the inducer being careful to not disturb the RTV. The outlet of the inducer fits over the flue pipe.
5. Assure that the channel in the back of the inducer fits securely on the plastic transition from the secondary heat exchanger.
6. Connect the inducer to the inducer mounting bracket with three screws provided.
7. Tighten up the clamp on the outlet of the inducer.
8. Attach condensate drain hose to the inducer.

Figure 3

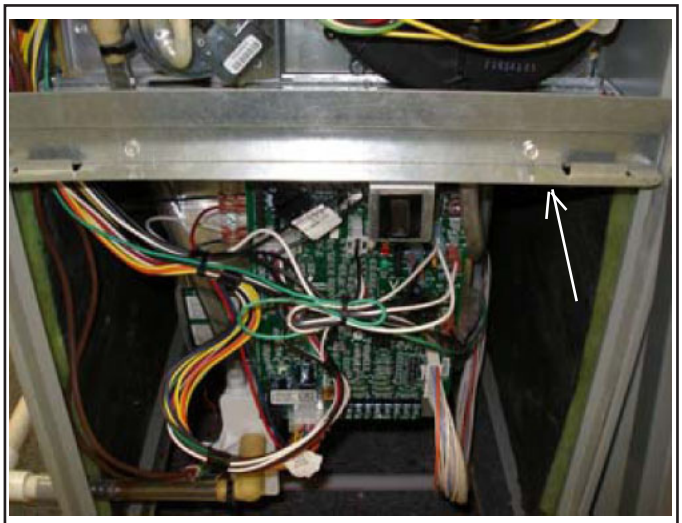


Figure 4

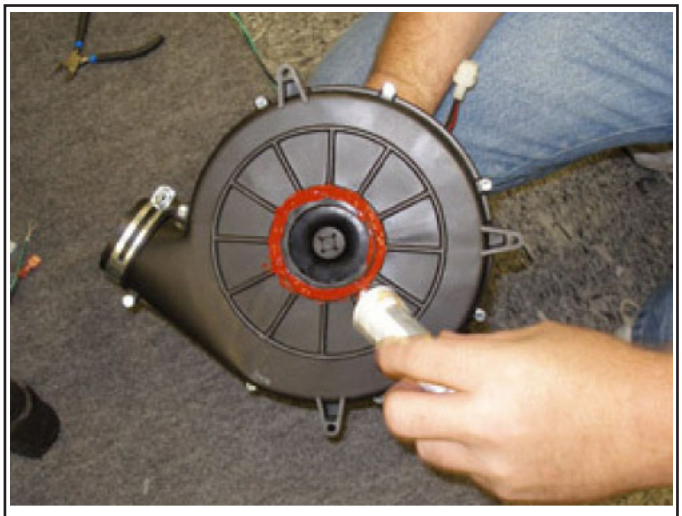


Figure 5

Remove the existing IFC and Wiring

1. Disconnect all wires and connectors from the IFC.
2. Disconnect wiring to door switch.
3. Disconnect the thermostat connections to the low voltage terminal board on the IFC. It may be helpful to label these wires to allow easy re-assembly to the new IFC.
4. Disconnect the low voltage and high voltage wires to the transformer.
5. Remove the IFC and IFC mounting bracket from the IFC platform by removing the 2 screws at the top of the IFC platform. See Figure 20. Discard the IFC and IFC mounting bracket.
6. Remove burner cover, cut the wire ties on manifold pipe, disconnect wiring to ignitor, and flame sensor. Remove the grounding wire on burner support. Save the screw.
7. Remove the igniter and the igniter bracket.
8. Remove wiring to flame rollout switch, primary limit, both pressure switches. Remove grounding screw from pressure switch mounting plate. Save the screw. Disconnect wire harness connector on gas valve.
9. Remove junction box cover and disconnect line and neutral wiring. Remove wire strain relief. Remove the wiring from the grommet in the combustion chamber. Remove wiring grommet in blower deck. Remove wiring through blower deck. See Figure 7.
10. Save the grommet and strain relief.

Install the new IFC and Wiring

1. Attach the new IFC to the IFC mounting plate and the mounting plate to the IFC platform using the supplied plastic standoffs.
2. Locate new line voltage wiring bundle B342140P02. Route all four wires (two black and two white) through blower deck opening into line voltage junction box. Connect line, neutral, and ground wires to incoming power in junction box. Connect black wire with 90 degree connector on door switch. Connect white wire labeled 1 to LINE-N on new IFC. Connect black wire labeled HUM3 to HUM terminal on new IFC. Connect black wire labeled EAC2 to EAC terminal on new IFC.
3. Locate and connect single black wire labeled 1 to open terminal on door switch and LINE terminal on new IFC.
4. Connect black wire labeled 4 from line voltage side of transformer to terminal XFMR-H on new IFC and to transformer 115V.
5. Connect white wire labeled 4 from line voltage side of transformer to terminal XFMR-N on new IFC and to transformer 1/4" C terminal.
6. (On *UY models) If line choke is present, connect the black lead with 1/4" flag on the choke to CIR-H terminal of the new IFC. Connect the white wire from the 5-pin connector of the variable speed indoor blower to the CIR-N terminal of the new IFC. If choke is not present, on the 5-pin connector of variable speed indoor blower motor, connect the black lead to CIR-H and the white lead to CIR-N. Route the green ground lead from the 5-pin connector through the blower deck to the pressure switch grounding screw. Connect the 16-pin harness to the new IFC. (On *UX models) Connect the 4 speed tap wires from the indoor blower motor to the COOL, HI HEAT, LO HEAT, and PARK terminals on the new IFC. Connect the white wire from the blower motor to the CIR-N terminal of the new IFC.

Figure 6

Figure 7

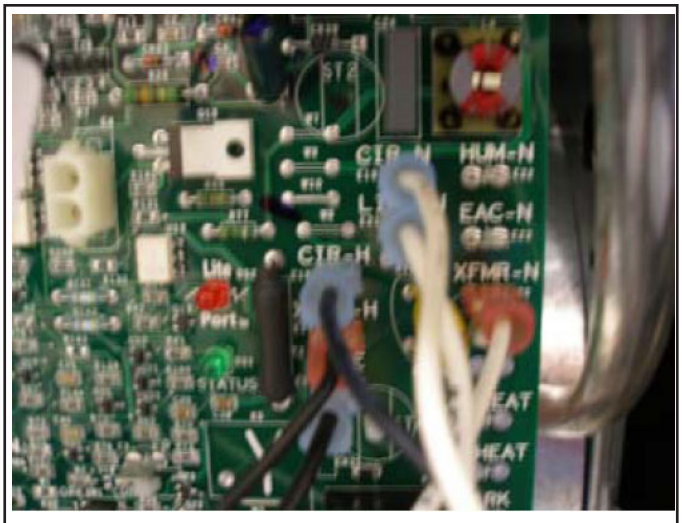


Figure 8

7. Locate low voltage wiring bundle. Route bundle with twelve pin connector through blower deck into blower compartment. Connect twelve pin connector to new IFC, connect red and blue wires from bundle to low voltage transformer 3/16" terminals 24 and C. Connect four pin connector from inducer motor to new IFC, connect two pin connector from ignitor to new IFC, connect white wire from flame sensor to FP terminal on new IFC. Connect 12-pin connector to the new IFC.
8. Note: PS2 has the highest negative pressure label. Connect 4 pin wire connector plug to inducer motor, connect yellow wire labeled 6 with 90 degree double connector to PS2 terminal, from the double terminal connect other yellow wire labeled 7 to PS1, connect brown wire to PS2, connect orange wire to PS1, connect yellow wires labeled 1 and 4 to inducer housing limit switch, connect green wire to other green wire on pressure switch grounding plate. See Figure 9.
9. Connect three pin wire connector plug to gas valve, connect two 90 degree yellow wires labeled 4 and 2 to rollout switch,
10. Connect two yellow wires, one labeled 2 and yellow wire with no label to the primary limit terminal. See figure 10.
11. Install the new igniter to the igniter bracket using the screw provided in the kit.
12. Install the igniter assembly to the burner bracket using the screws provided in the kit.
13. Route four wire bundle with two wire connector plug, ignitor flame sensor wire, and ground from the wiring harness behind the junction box and through the burner compartment grommet. Connect two pin wire connector plug to the ignitor. Connect white wire to flame sensor. Connect ground wire to the grounding screw on the burner support. See Figure 11.
14. Secure wires to the manifold pipe using wire ties provided.
15. Reinstall burner box cover with screws removed earlier.
16. Reinstall junction box cover with screws removed earlier.
17. Snap wire bundle retainer clip on wire harness into the hole located on the junction box cover.
18. Insert wiring harness grommet into blower deck.
19. Reattach blower door latching plate if present.
20. Reconnect thermostat wiring to low voltage terminals on IFC.
21. Using the included wiring diagram, verify that wiring is correct.
22. Go to the IFC Setup section to finish the setup procedure.

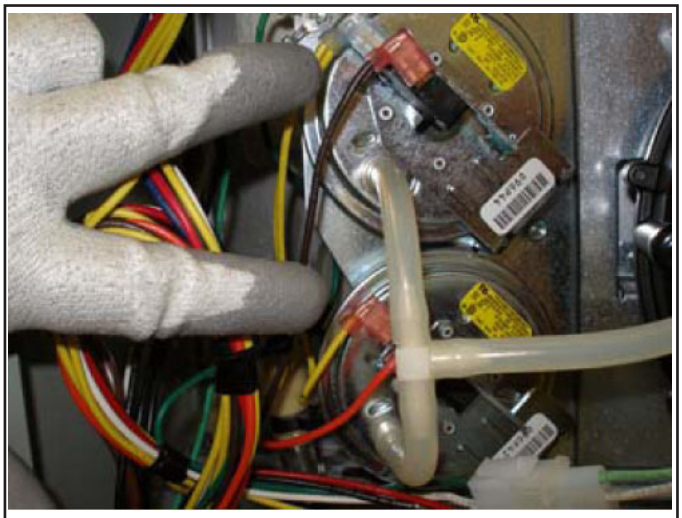


Figure 9

Figure 10

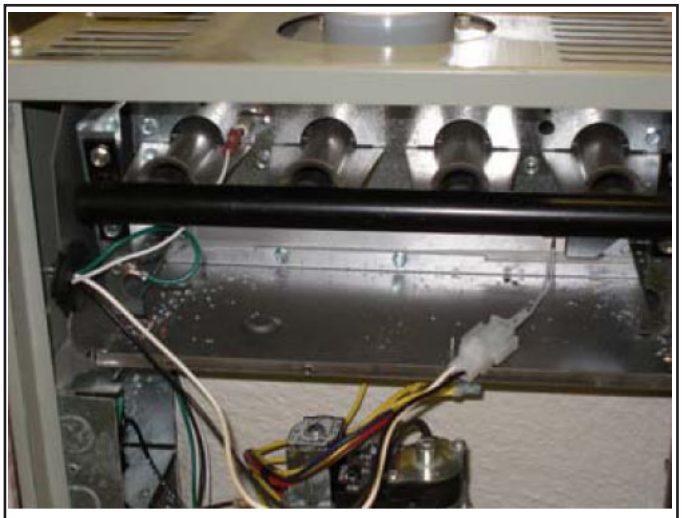


Figure 11

Downflow models: (*DY/*DX)

Components for KIT16583 (*DY)

No.	Qty.	Drawing Number	Description
1	1	D342097P01	Inducer
2	1	D343687P04	Integrated Furnace Control
3	1	D343255P01	IFC MOB Bracket
4	1	B342017P02	Inducer - Limit
5	1	D342127P12	Wire Harness
6	1	B341734P02	Wire Harness16 pin vs mtr
7	1	B341900P06	Wire Harness 2 pin DF L
8	1	B341898P07	Junction Box Wire
9	1	B341899P01	Transformer Wire - Black
10	1	B341899P02	Transformer Wire - Neutral
11	1	B341899P05	Furnace Junction Box Ground wire
12	1	D156805P01	Igniter SiNi
13	1	A341948P02	Bracket, SiNi Igniter
14	3	N156P1506B	Screw, 8-18 AB HWH 3/8
15	1	A341575P01	Inducer Limit Insulation
16	3	N154P1616B	Inducer to mounting bracket screws
17	2	N193P1306B	Inducer limit to inducer screws
18	4	D343256P01	Plastic Stand Off
19	6	C107736P07	Wire Tie
20	1	D344304P04	Wiring Diagram
21	1	18-CH66D1-5B-EN	Installation Instructions
22	1	D343215P06	Conversion Label
23	1	B341728P05	Wire Harness 5 Pin VS Motor
24	1	A340597P01	Flue stack clamp
25	4	A138030P01	Wire Tie

Components for KIT16583 (*DY)

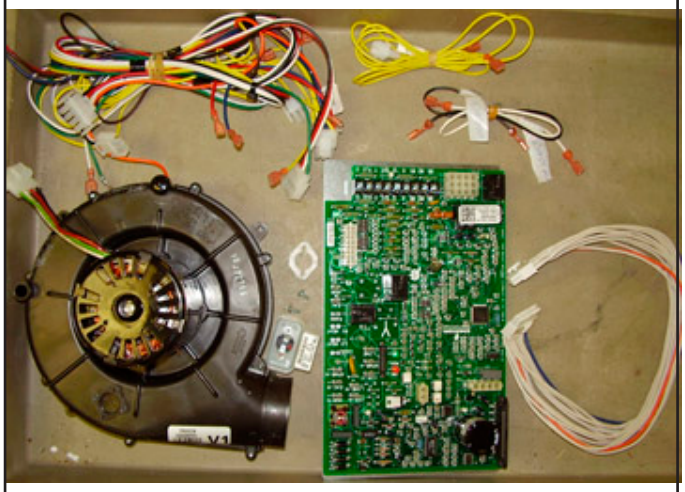


Figure 12

Components for KIT16585 (*DX)

No.	Qty.	Drawing Number	Description
1	1	D342097P01	Inducer
2	1	D343686P04	Integrated Furnace Control
3	1	D343255P01	IFC MOB Bracket
4	1	B342017P02	Inducer - Limit
5	1	D342127P12	Wire Harness DF 90 2 Stg
6	1	B341900P06	Wire Harness 2 pin DF L
7	1	B341898P07	Junction Box Wire
8	1	B341899P01	Transformer Wire - Black
9	1	B341899P02	Transformer Wire - Neutral
10	1	B341899P05	Furnace Junction Box Ground wire
11	1	D156805P01	Igniter SiNi
12	1	A341948P02	Bracket, SiNi Igniter
13	3	N156P1506B	Screw, 8-18 AB HWH 3/8
14	1	A341575P01	Inducer Limit Insulation
15	3	N154P1616B	Inducer to mounting bracket screws
16	2	N193P1306B	Inducer limit to inducer screws
17	4	D343256P01	Plastic Stand Off
18	6	C107736P07	Wire Tie
19	1	D344564P03	Wiring Diagram
20	1	18-CH66D1-5B-EN	Installation Instructions
21	1	D343215P08	Conversion Label
22	1	A340597P01	Flue stack clamp
23	4	A138030P01	Wire Tie

Components for KIT16585 (*DX)

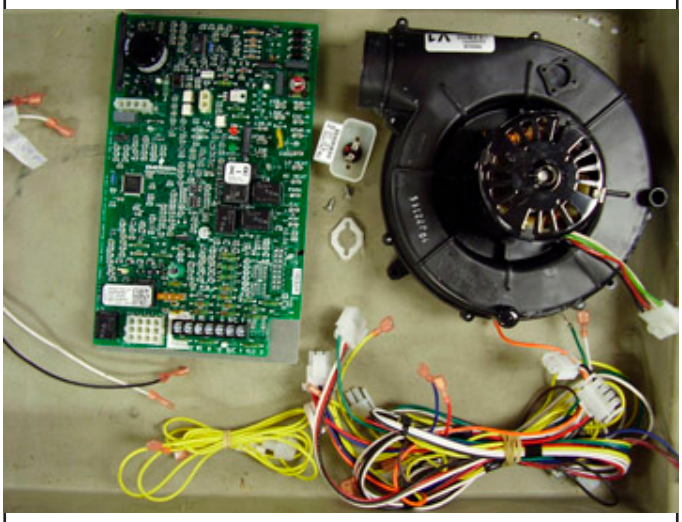


Figure 13

Downflow models: (*DY/*DX)

⚠ 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 FOL–LOW THIS WARNING COULD RESULT IN PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.

Removing the existing inducer

1. Remove power from the furnace before beginning work.
2. Remove the front furnace panels.
3. Cut and remove all wire ties.
4. Disconnect 12 pin harness from the inducer motor and 2 pin connector to inducer housing limit switch.
5. Loosen hose clamp between inducer housing and transition pipe.
6. Remove inducer condensate hose from inducer housing.
7. Remove 3 inducer housing mounting screws.
8. Remove the inducer assembly by rotating inducer clockwise and pulling out. Save the hose clamp and mounting screws.
9. Remove any remaining RTV from the inducer transition.

Install the new inducer

1. Attach the new inducer limit to the new inducer housing with the two Phillips head screws with the gasket between inducer housing and limit switch. See Figure 16.
2. Run a bead of high temperature RTV silicone in the channel of the inlet air side of the inducer housing. (The channel is approximately 2.5" in diameter) See Figure 17.
3. Install hose clamp on outlet of new inducer.
4. Install new inducer on the receptacle and install the three mounting screws.
5. Tighten hose clamp and re-attach inducer condensate hose to the new inducer housing. See Figure 14.

Figure 15

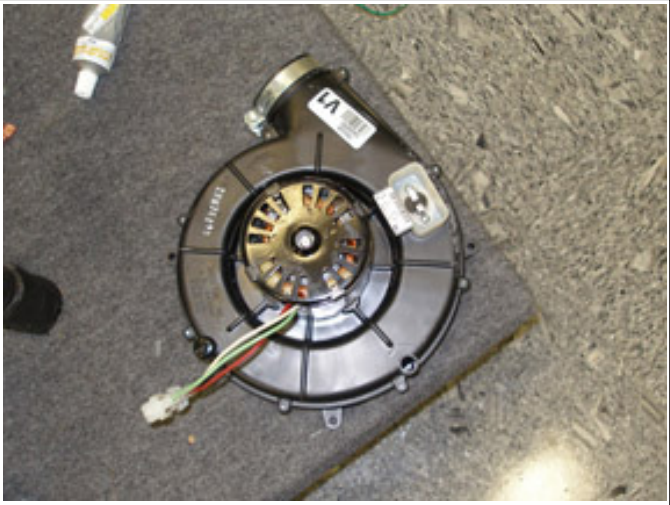


Figure 16

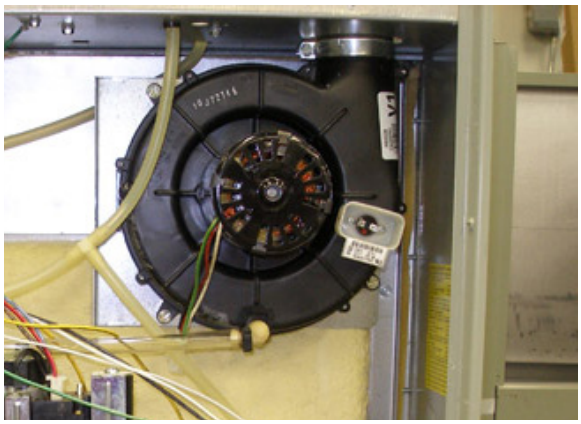


Figure 14

Figure 17

Removing the IFC, Igniter, and Wiring

1. Remove burner box cover. See Figure 18.
2. Cut the wire ties on the manifold pipe.
3. Disconnect ignitor wires, flame sensor wire and ground terminal on the burner support. Remove these wires from the burner box grommet.
4. Remove the igniter and the igniter bracket.
5. Disconnect the gas valve wires.
6. Disconnect #1 labeled yellow wire from primary limit switch and #3 yellow wire from the roll-out switch.
7. Remove furnace junction box cover and remove the HUM and EAC wires from the junction box.
8. Remove the blower deck wire grommet and pull the disconnected wires through the blower deck. See Figure 19.
9. Remove all high and low voltage wires from the existing IFC.
10. Remove wires from the transformer.
11. Remove all wires from both pressure switches.
12. **Remove the IFC and IFC mounting plate by removing two screws located at the top of the mounting plate.** See Figure 20. Discard the IFC and mounting plate. Retain the screws.
13. Remove the screws from the top panel that hold the IFC platform. Remove the platform and retain for later use.

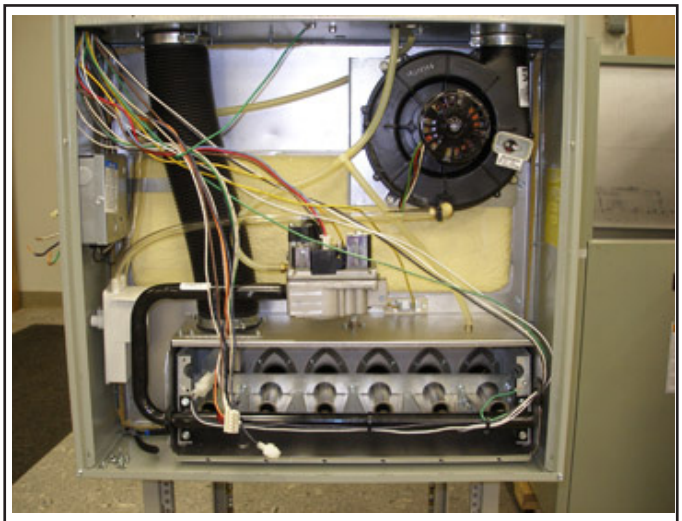


Figure 18

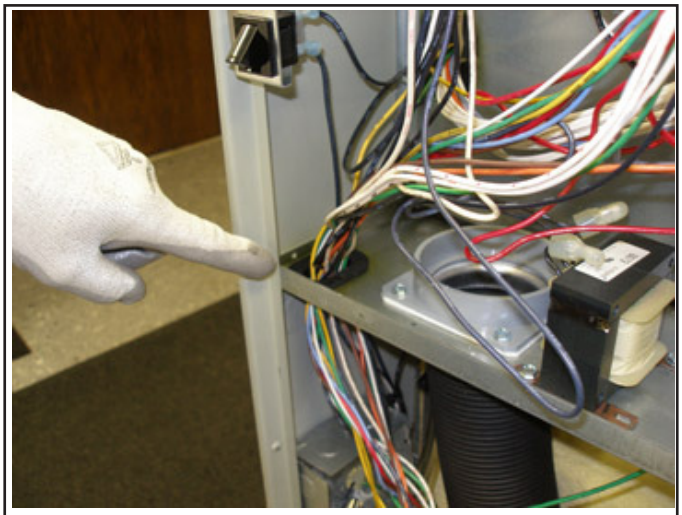


Figure 19

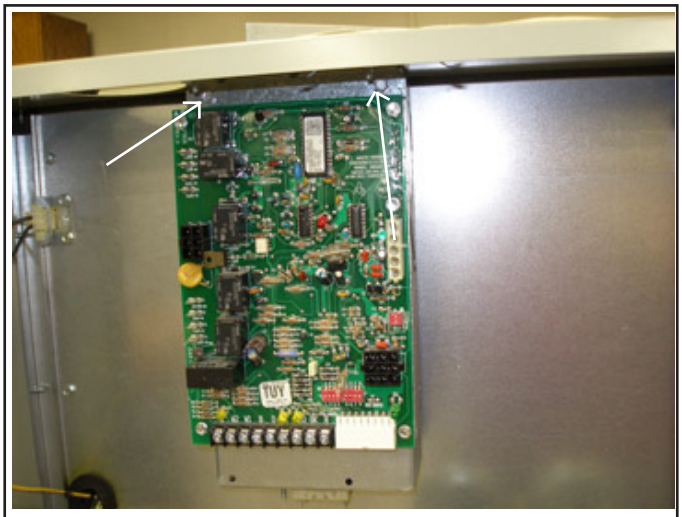


Figure 20

14. Remove inlet air pipe & exhaust vent pipe from furnace.
15. Remove inner blower door. See Figure 21.
16. Remove yellow #5 and yellow #3 wires from reverse flow switch. See Figure 22.
17. (For *DY models only) Remove the 16 pin and 5 pin wire harnesses from the variable speed blower motor and discard.

    NOTE: The *DX models use existing indoor motor leads for speeds and neutral.
18. (For *DY models with line choke) Locate the line choke in the control compartment (Figure 21). Cut the black lead at the bell cap of the line choke which is rotated to the Variable Speed indoor blower motor.

Figure 21

Figure 22

Installing the new IFC, Igniter, and Wiring

1. Locate wiring harness B341900P06 (2 yellow wires with ¼" terminals on one end & 2 pin female connector on the other). Connect the ¼" terminals to the reverse flow switch. Thread the 2 pin connector back into the IFC compartment.
2. (*DY models) Install (B341734P02) 16 pin connector and 5 pin wire harness (B341728P05) to the variable speed indoor blower motor and thread through the grommet in the inner blower door.
   (*DX models) Thread the four speed taps and white neutral leads of the inner blower motor through the grommet in the inner blower door.
3. Replace inner blower door.
4. Replace inlet & vent pipes.
5. Install the IFC with adapter plate and four plastic standoffs to the control platform. Reinstall the IFC platform.
6. Attach 17" black wire with ¼" connectors on both ends to the primary side of transformer and to the XFMR-H terminal of the IFC.
7. Attach 17" white wire with ¼" connectors on both ends to the primary side of transformer and to the XFMR-N terminal of the IFC.

Figure 23

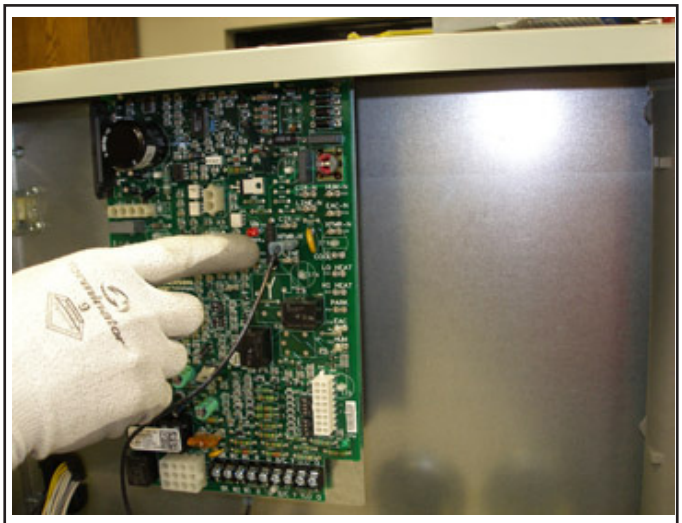


Figure 24

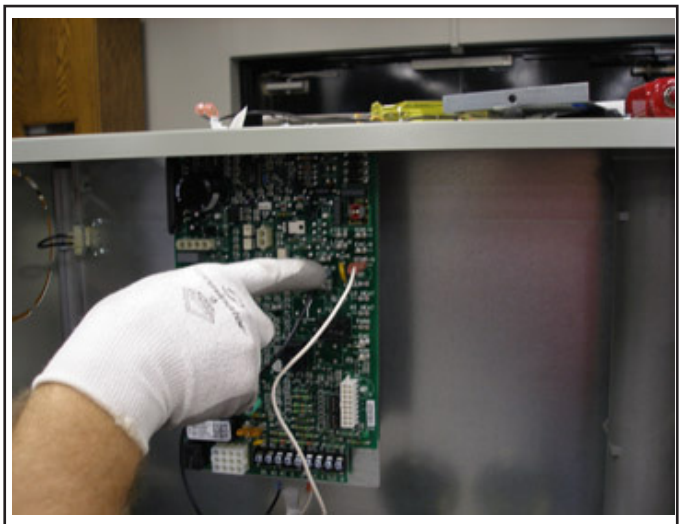


Figure 25

8. Using wiring harness labeled "D342127P11 DY-DX-R Long". Thread the end with this label from the combustion area through the blower deck into the control compartment.
9. Attach the 12–pin low voltage connector, 4-pin (red, black & white wire) inducer motor connector and 2-pin (black & white wire) ignitor connector to the IFC.
10. Attach the single white wire with ¼" connector taped to with the 2-pin ignitor & 4-pin inducer connector to the FP (flame probe) terminal on the IFC.
11. (*DY models with line chokes) On the black lead from the 5-pin high voltage lead to the indoor blower motor, cut the single motor connection off. Wire nut this lead to the black lead of the line choke.

Figure 26

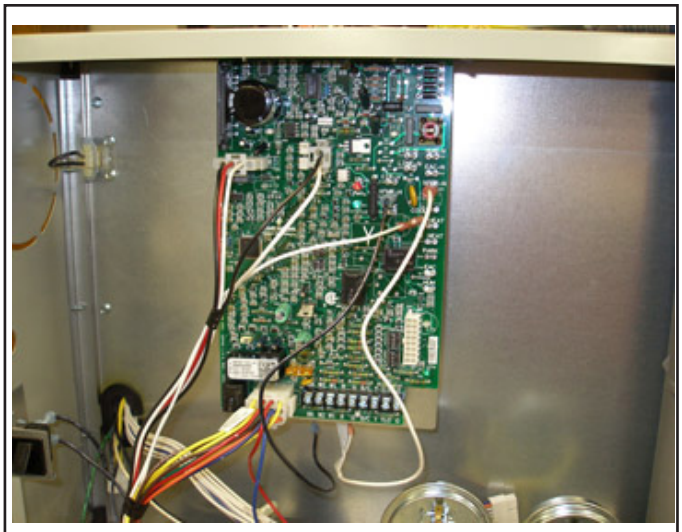


Figure 27

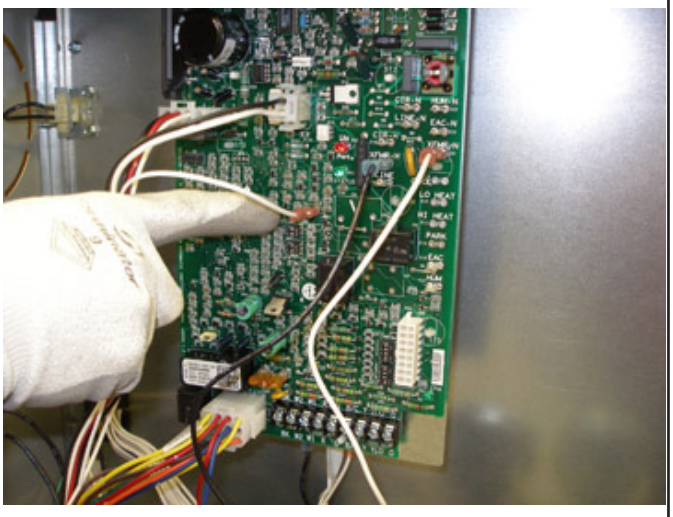


Figure 28

12. Connect the 3/16" connectors of the red & blue leads from the 12-pin low voltage connector to the 24 volt side of the transformer.
13. From the inner blower door connect black 115v wire labeled one to the LINE terminal on the IFC.
14. Connect the white lead from the furnace junction box 115 Volt power neutral to the LINE-IN terminal on the IFC.
15. (*DY models) Connect the black 115v. lead marked "8" from the 5-pin connector of the ECM indoor blower motor or line choke to the CIR-H terminal of the IFC. Connect the neutral lead from the 5 pin connector of the indoor blower motor to the CIR-N terminal of the IFC. Connect the 16 pin ECM indoor motor leads to the IFC.
16. (*DX models) Connect the neutral lead from the PSC motor to the CIR-N terminal of the IFC. Connect the black lead to Cool, Blue to Heat, Yellow and Red to the park terminals of the IFC.

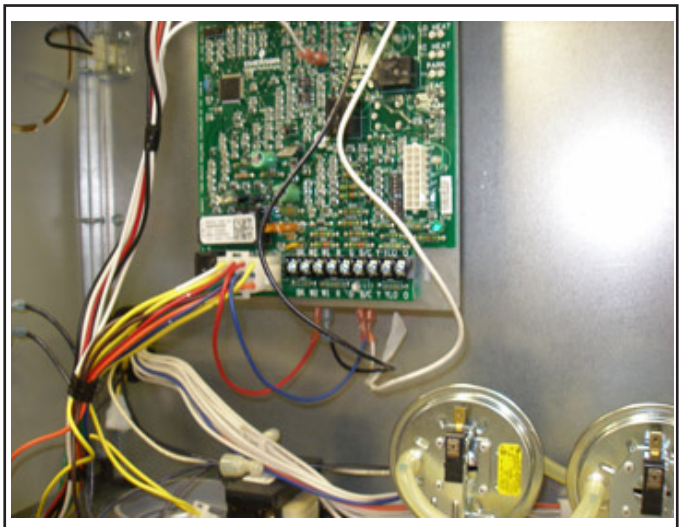


Figure 29

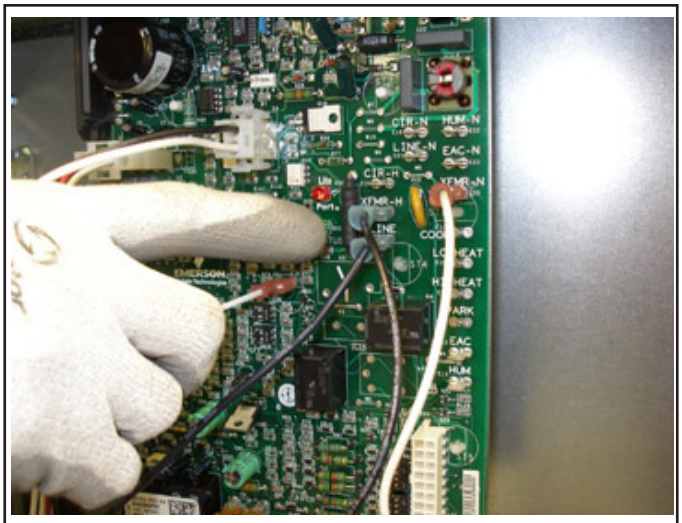


Figure 30

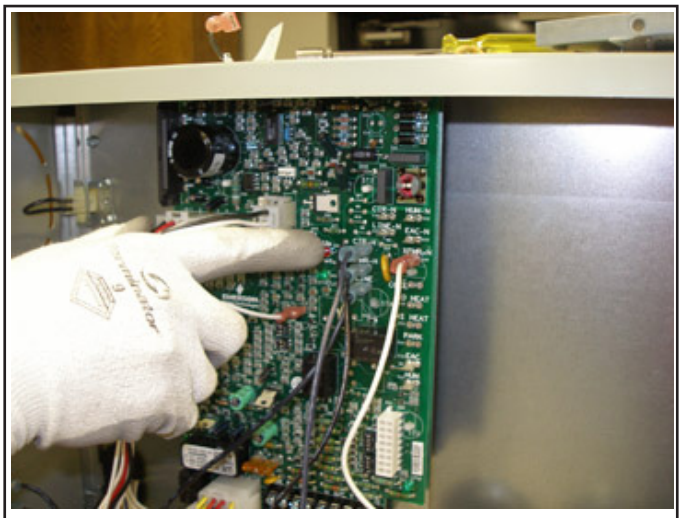


Figure 31

17. Connect the male & female 2-pin connectors with yellow wires together. (reverse flow switch leads)
18. Connect yellow #6 wire with 90 degree ¼" terminal to one side of pressure switch # 1 (low fire) switch terminals.
19. Connect yellow # 7 wire from pressure switch # 1 to one side of pressure switch # 2 (high fire) switch terminals.
20. Connect orange wire with 90 degree ¼" terminal to the other switch terminal of pressure switch # 1 (low fire)
21. Connect brown wire with 90 degree ¼" terminal to the other switch terminal of pressure switch # 2 (high fire).

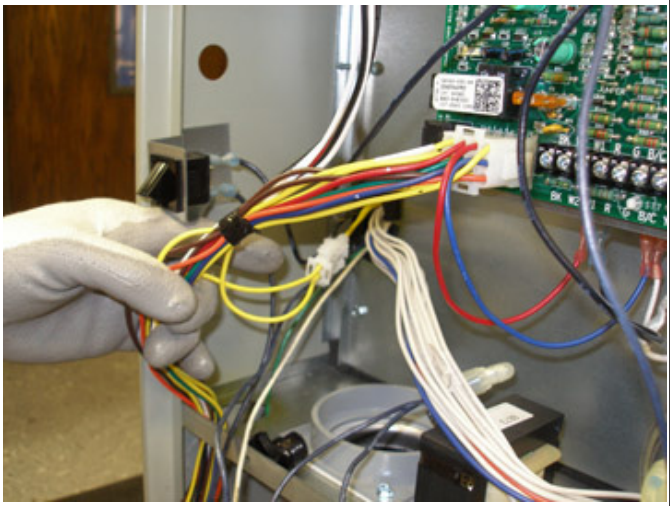


Figure 32

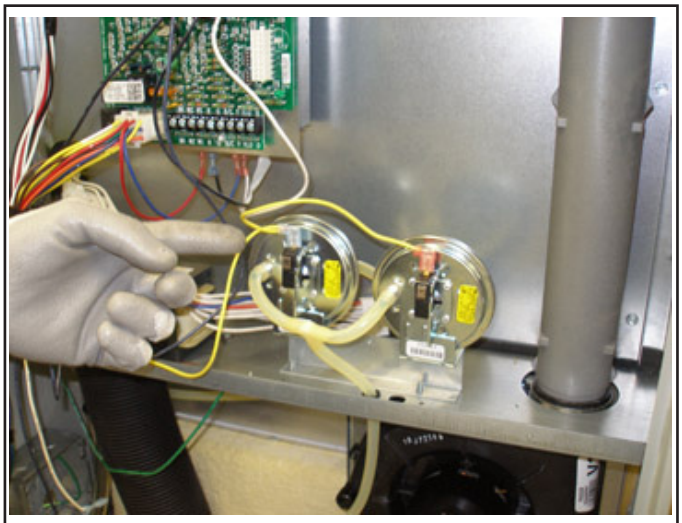


Figure 33

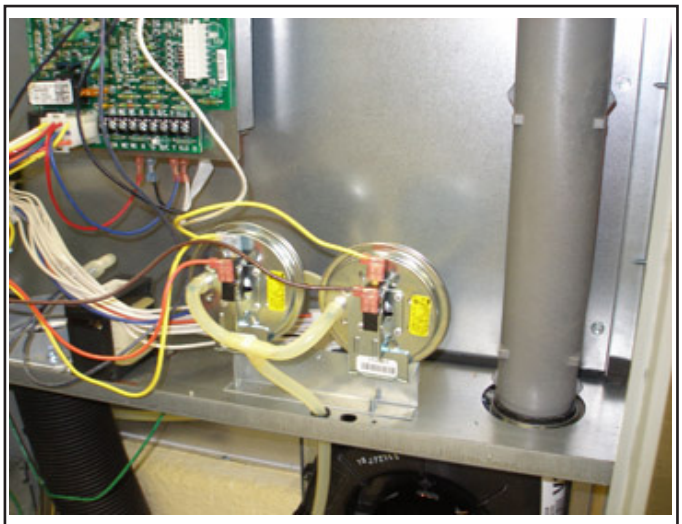


Figure 34

22. In the burner compartment, connect the 4-pin inducer connectors together.
23. Attach the green grounding lead of the 4-pin inducer connector to the grounding terminal.
24. Connect yellow #1 & #4 with the straight ¼" connector to the inducer limit switch terminal. See Figure 37.

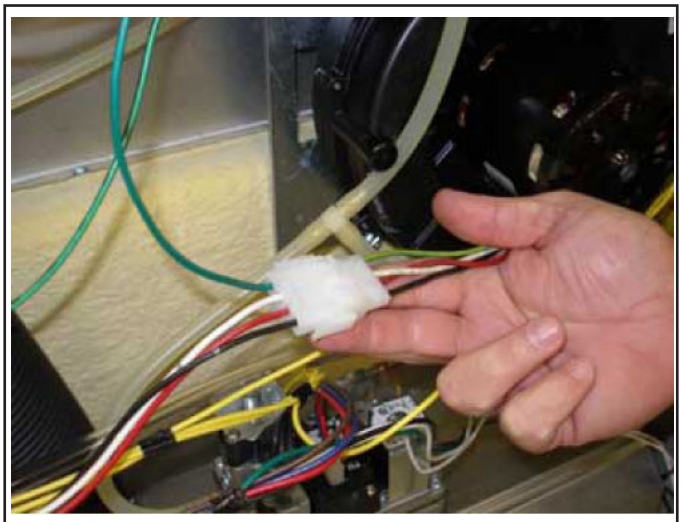


Figure 35

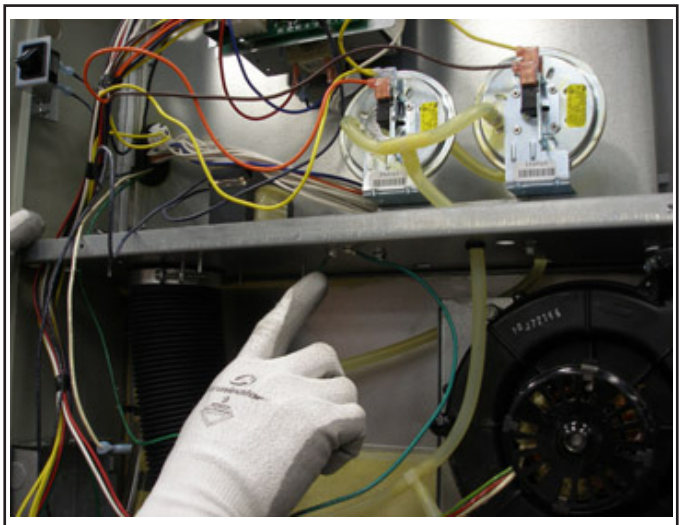


Figure 36

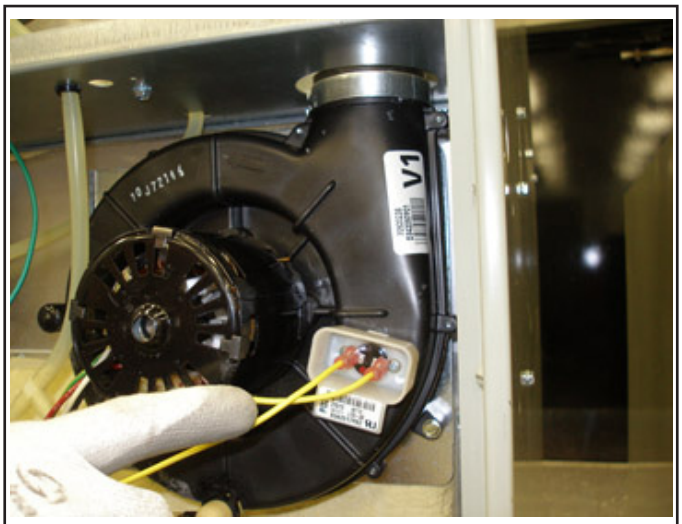


Figure 37

25. Connect yellow #4 & #5 connected to the 90 degree connector to the limit on the burner box (roll-out switch). See Figure 38.
26. Connect yellow # 8 with ¼" connector to the terminal of the high – limit switch.
27. Connect the 3-pin (brown, red & blue wires) gas valve connector to the gas valve terminals. See Figure 39.
28. Route the remaining four wires (single white flame sensor wire, 2-pin black & white ignitor wires and green grounding wire) through the burner box wire grommet. See figure 40.
29. Install the new igniter to the igniter bracket using the screw provided in the kit.
30. Install the igniter assembly to the burner bracket using the screws provided in the kit.
31. Connect the flame sensor ¼"wire connector to the flame sensor. Connect the ignitor connectors together. Fasten the grounding eye-ring under the ¼" head screw.
32. Wire tie the wires to the manifold pipe.
33. Install the burner box cover.
34. Route the 115v. black and neutral white wire with strain relief into the junction box and reconnect to power leads.
35. Install junction box cover and snap strain relief wire tie to the cover.
36. Install wire grommet into the blower deck.
37. (*DY models) Go to the IFC Setup section to set up the dip switches and finish the setup procedure.
38. Restore power and check out the furnace operation.

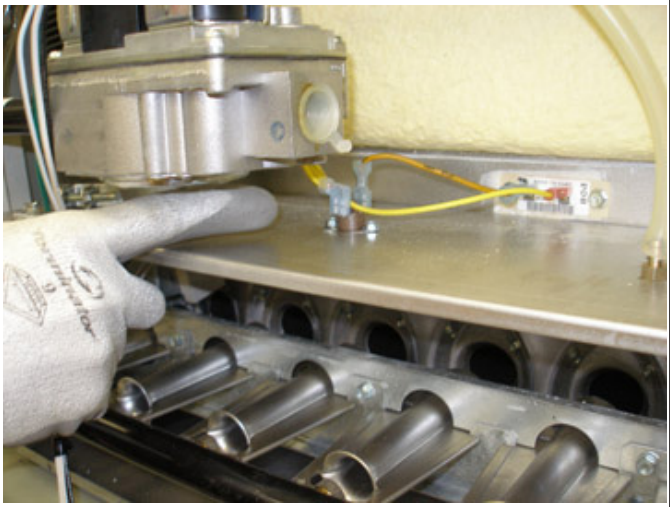


Figure 38

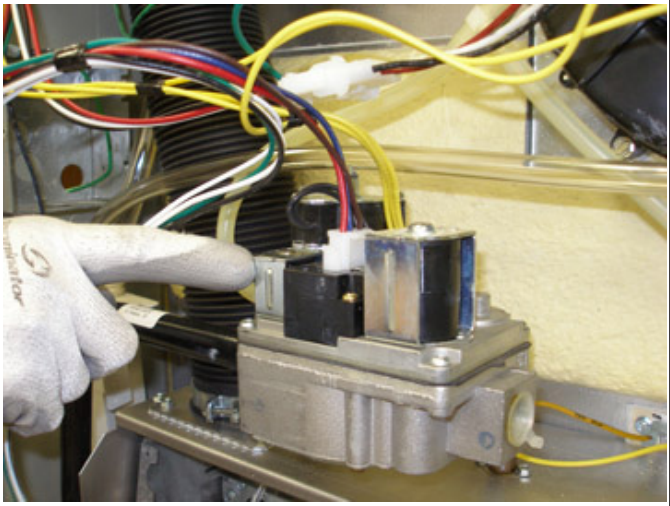


Figure 39

Figure 40

IFC Setup

Heating: The Integrated Furnace Control (IFC) controls the Variable Speed Indoor Blower. The blower "on" time is fixed at 45 seconds after ignition. The FAN-OFF period is field selectable by dip switches #1 and #2 located on the Integrated Furnace Control between the 5-pin and 9-pin wire connectors. The delay may be set at 60, 100, 140, or 180 seconds. The factory setting is 100 seconds (See unit wiring diagram).

W1-W2 stage delay (jumpered together) is field selectable by dip switch SW-1, #1 and #2 at .5, 5, 10 or 15 minutes. The factory setting is 10 minutes. (See wiring diagram).

Cooling: The fan delay-off period is set by dip switches on the Integrated Furnace Control. The options for cooling delay off is field selectable by dip switches #5 and #6.

The following table and graph explain the delay-off settings:

This unit is equipped with a blower door switch which cuts power to the blower and Gas Valve causing shutdown when the door is removed.

Reapply power and check for proper furnace operation.

SWITCH SETTINGS		SELECTION	NOMINAL AIRFLOW
5 - OFF	6 - OFF	NONE	SAME
5 - ON	6 - OFF	1.5 MINUTES	100% *
5 - OFF	6 - ON	3 MINUTES	50%
5 - ON	6 - ON	Enhanced Mode**	50 - 100%

**** - This setting is equivalent to BAY24X045 relay benefit.***

***** - This selection provides ENHANCED MODE, which is a ramping up and ramping down of the blower speed to provide improved comfort, quietness, and potential energy savings. See Wiring Diagram notes on the unit or in the Service Facts for complete wiring setup for ENHANCED MODE. The graph which follows, shows the ramping process.***

See Wiring Diagram on the unit or in the Service Facts for complete wiring setup for Enhanced Mode.

Airflow Dipswitch Settings

INDOOR MOTOR AIRFLOW SELECTION CHART						
OUTDOOR UNIT (SIZE IN TONS)					COOLING AIRFLOW SETTINGS	
SWITCH SETTING	*UY/DY060	*UY/DY080	*UY/DY100	*UY/DY120	3-ON 4-OFF (HIGH)	450 CFM/TON
1-OFF 2-OFF**	3	3.5 SEE NOTE 7	4	5	3-OFF 4-OFF** (NORMAL)	400 CFM/TON
1-ON 2-OFF	2.5	3	3.5	4	3-OFF 4-ON (LOW)	350 CFM/TON
1-OFF 2-ON	2	2.5	3	3.5		
1-ON 2-ON	1.5	2	2.5	--		
HEATING AIRFLOW SETTING - CFM (1st STAGE / 2nd STAGE)						
7-OFF 8-OFF (HIGH)	860/1290	1150/1400	1350/1900	1550/2150		
7-ON 8-OFF (NORMAL)	750/1125	1000/1400	1150/1600	1350/1950		
7-OFF 8-ON**(MED-LOW)	675/1012	900/1250	1000/1450	1200/1850		
7-ON 8-ON (LOW)	600/900	800/1100	900/1300	1050/1650		
COOLING OFF DELAY OPTIONS						
	SELECTION	NORMAL SELECTION				
5-OFF 6-OFF	NONE	SAME				
5-ON 6-OFF**	90 SEC	100% (BAY24X045 EQUIVALENT)				
5-OFF 6-ON	180 SEC	50%				
5-ON 6-ON	COMFORT-R	50%-100%				

NOTES:
1. GREEN LIGHT FLASHES ONCE PER 100 CFM AS PER DIP SWITCH SETTINGS.
2. FOR COOLING SYSTEM, Y MUST BE CONNECTED TO THE LOW VOLTAGE TERMINAL BOARD (LVTB).
   -HEAT PUMP SYSTEMS, Y AND O MUST BE CONNECTED TO THE LVTB.
   -2 SPEED SYSTEMS, USE YLO FOR LOW AND Y FOR HIGH SPEED CONNECTIONS TO LVTB.
3. IF A HUMIDSTAT IS USED:
   -*UY/DY: CUT JUMPER ABOVE BK & R AND CONNECT BETWEEN BK & R TERMINALS.
   -COOLING-ONLY/NON-HEAT PUMP SYSTEMS, JUMPER Y TO O FOR HUMIDSTAT OPERATIONS.
4. SEE SERVICE FACTS FOR COMFORT-R TIME DELAY SETTINGS.
5. POWER MUST BE OFF WHEN DIP SWITCHES ARE SET OR RESET.
6. RED INDICATOR LIGHTS (Y, BK, AND G) WILL COME ON WHEN ENERGIZED THRU THE CONTROL SYSTEM.
7. *UY080 ONLY

* PREFIX MAYBE "T" OR "A" / ** FACTORY SETTING

DWG. NO. B34181IP04

Fault Codes

INTEGRATED FURNACE CONTROL RED LED "ERROR" FLASH CODES	
2 Flashes ---	System Lockout (Retries or Recycles exceeded)
3 Flashes ---	Draft Pressure Error - Possible problems: a) Venting problem b) Pressure switch problem c) Inducer problem
4 Flashes ---	Open Temperature Limit Switch
5 Flashes ---	Flame sensed when no flame should be present
6 Flashes ---	115 volt AC power reversed, ignitor (Triac) fault, poor grounding or system voltage too low
7 Flashes ---	Gas valve circuit error
8 Flashes ---	Low flame sense
9 Flashes ---	Open Inducer Limit switch
10 Flashes ---	Inducer communication error
Solid ---	Internal GV error or Low TH voltage
Solid Red w/Solid Green "STATUS" LED	Continuous Reset caused by a blown fuse or internal error.

Fault Code Recovery

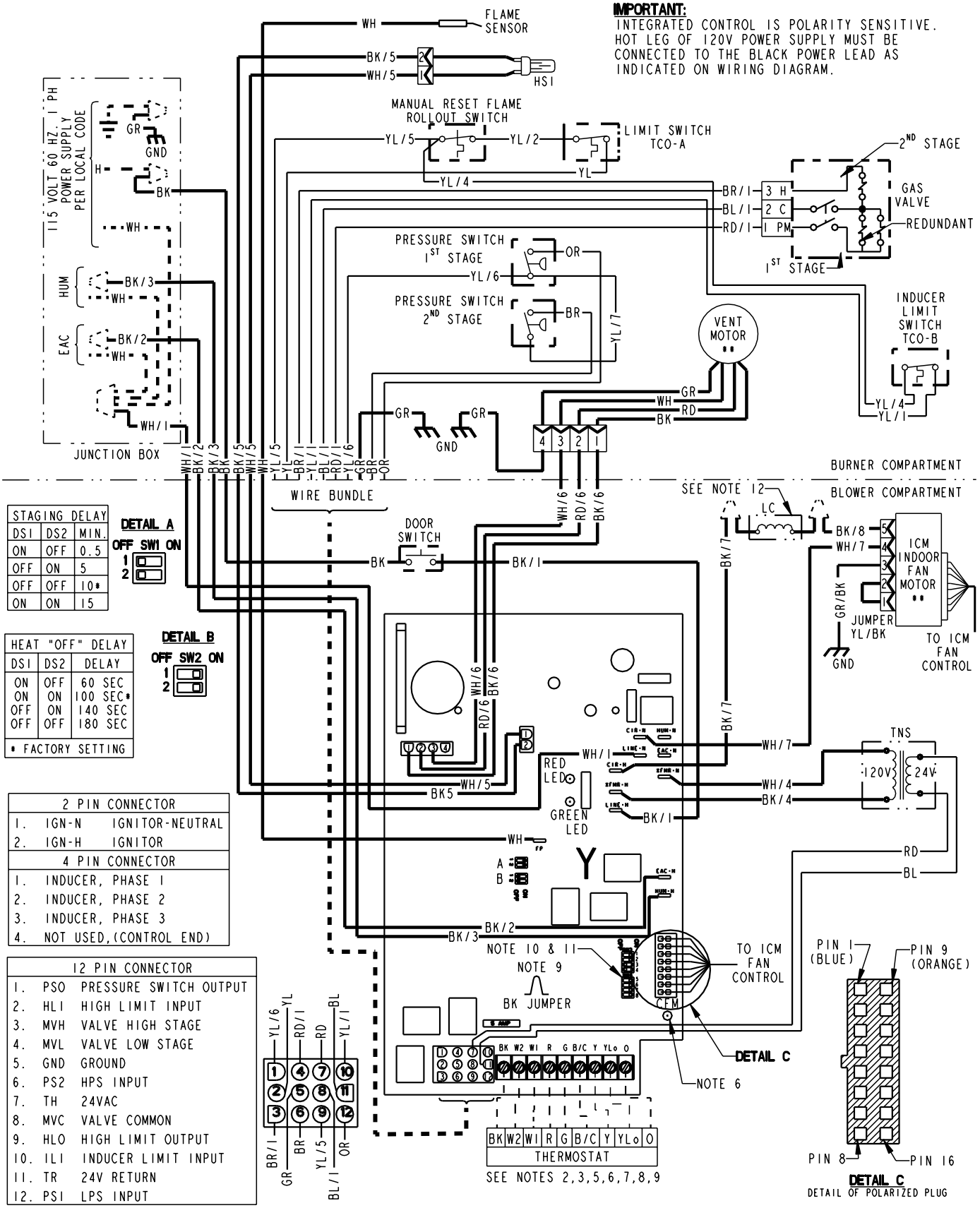
On power up, last 4 faults, if any, will be flashed on the red LED. The newest fault detected will flash first and the oldest last. There will be a 2 second delay between fault code flashes. Solid red LED error codes will not be displayed.

The Green LED will be on solid during last fault recovery. At any other time the control is powered, the Green LED indicator light will operate as shown in Table 14 and the red LED will flash LitePort data (one flash) every 20 seconds.

Table 25

INTEGRATED FURNACE CONTROL GREEN "STATUS" LED FLASH CODES	
Flashing Slow ---	Normal - No call for Heat
Flashing Fast ---	Normal - Call for Heat

KIT16582 Wiring diagram



STAGING DELAY		
DS1	DS2	MIN.
ON	OFF	0.5
OFF	ON	5
OFF	OFF	10*
ON	ON	15

DETAIL A
OFF SW1 ON

HEAT "OFF" DELAY		
DS1	DS2	DELAY
ON	OFF	60 SEC
ON	ON	100 SEC*
OFF	ON	140 SEC
OFF	OFF	180 SEC

* FACTORY SETTING

DETAIL B
OFF SW2 ON

2 PIN CONNECTOR	
1.	IGN-N IGNITOR-NEUTRAL
2.	IGN-H IGNITOR
4 PIN CONNECTOR	
1.	INDUCER, PHASE 1
2.	INDUCER, PHASE 2
3.	INDUCER, PHASE 3
4.	NOT USED,(CONTROL END)

12 PIN CONNECTOR	
1.	PSO PRESSURE SWITCH OUTPUT
2.	HLI HIGH LIMIT INPUT
3.	MVH VALVE HIGH STAGE
4.	MVL VALVE LOW STAGE
5.	GND GROUND
6.	PS2 HPS INPUT
7.	TH 24VAC
8.	MVC VALVE COMMON
9.	HLO HIGH LIMIT OUTPUT
10.	ILI INDUCER LIMIT INPUT
11.	TR 24V RETURN
12.	PSI LPS INPUT

From Drawing D344303P04

KIT16582 Schematic

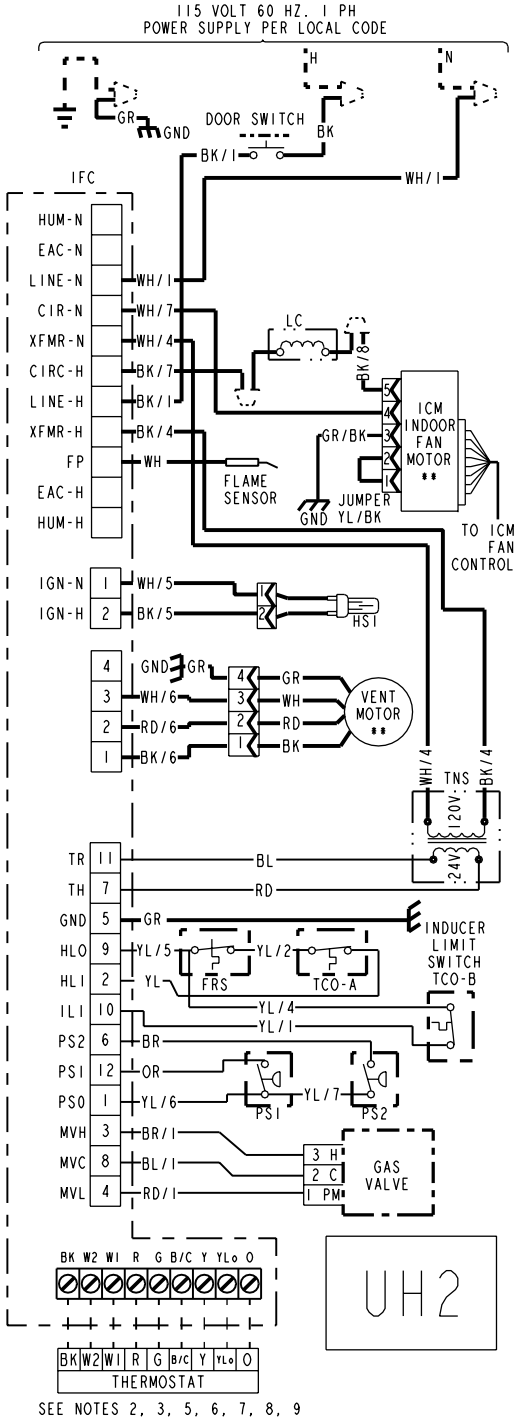


TABLE "A"	
MODELS	
*UH2B060A9V3V**	*UH2C100A9V4V**
*UH2B080A9V3V**	*UH2C100A9V5V**
*UH2B080A9V4V**	*UH2D120A9V5V**
* PREFIX MAY BE "A" OR "T" * SUFFIX MAY BE "A" THROUGH "Z"	

⚠ WARNING

HAZARDOUS VOLTAGE:
DISCONNECT ALL ELECTRICAL POWER INCLUDING REMOTE DISCONNECTS BEFORE SERVICING.
FAILURE TO DISCONNECT POWER BEFORE SERVICING CAN CAUSE SEVERE PERSONAL INJURY OR DEATH.

⚠ CAUTION

USE COPPER CONDUCTORS ONLY!
UNIT TERMINALS ARE NOT DESIGNED TO ACCEPT OTHER TYPES OF CONDUCTORS.
FAILURE TO DO SO MAY CAUSE DAMAGE TO THE EQUIPMENT.

INTEGRATED FURNACE CONTROL

REPLACE WITH PART CNT06017 OR EQUIVALENT

ELECTRICAL RATING

INPUT: 25 VAC, 60 HZ.
XFMR SEC. CURRENT: 450 MA. + MV LOAD
MV OUTPUT: 1.5 A @ 24 VAC
IND OUTPUT: 3 PHASE OUTPUT
IGN OUTPUT: 2.0 A @120 VAC
CIRC. BLOWER OUTPUT: 14.5 FLA, 25 LRA @ 120 VAC
HUMIDIFER & AIR CLEANER MAX. LOAD: 1.0 A @ 120 VAC

TIMINGS

PREPURGE: 0 SEC.; INTERPURGE: 60 SEC.
POST PURGE: 5 SEC.
IGN WARMUP: 20 SEC.
IAP: 2; TFI: 5 SEC.
RETRIES: 2 RECYCLES: 10
HEAT ON DELAY: 45 SEC.
COOL ON DELAY: 0 SEC.
AUTO RESTART: 60 MIN.
AUTO RESTART PURGE: 60 SEC.

TCO THERMAL CUT OUT
PS PRESSURE SWITCH
FRS FLAME ROLLOUT SWITCH
FP FLAME SENSOR
CHASSIS GROUND
HSI HOT SURFACE IGNITER
DOOR SWITCH
FUSE
CF CAPACITOR
COIL

LINE / 24 V — FACTORY WIRING
LINE / 24 V — FIELD WIRING

** INTERNAL THERMAL PROTECTION

BK	BLACK	GR	GREEN
WH	WHITE	BR	BROWN
YL	YELLOW	RD	RED
OR	ORANGE	BL	BLUE

WIRE COLOR
BK/1
NUMBER ID (IF ANY)

L	LINE	TH	24 VAC (HOT)
N	NEUTRAL	TR	24 VAC (COMMON)
GND	GROUND	MV	MAIN GAS VALVE
B/C	COMMON	TNS	TRANSFORMER
HLO	HIGH LIMIT OUTPUT	ILI	INDUCER LIMIT INPUT
HLI	HIGH LIMIT INPUT		

NOTES:

1. IF ANY OF THE ORIGINAL WIRING AS SUPPLIED WITH THIS FURNACE MUST BE REPLACED, IT MUST BE WITH WIRE HAVING A TEMPERATURE RATING OF AT LEAST 105°C.
2. THERMOSTAT HEAT ANTICIPATOR SETTING: FIRST STAGE .38 AMPS, SECOND STAGE .13 AMPS. IF SETTING IS NOT FIXED ON THERMOSTAT, FOR SINGLE STAGE HEATING THERMOSTAT SET AT .51 AMPS.
3. FOR PROPER OPERATION OF COOLING SPEED, "Y" TERMINAL MUST BE CONNECTED TO THE ROOM THERMOSTAT.
4. THESE LEADS PROVIDE 120V POWER CONNECTIONS FOR ELECTRONIC AIR CLEANER (EAC) AND HUMIDIFIER (HUM). MAX. LOAD: 1.0 AMPS EACH.
5. JUMPER W1 AND W2 FOR SINGLE STAGE HEATING THERMOSTAT, SECOND STAGE WILL BE ENERGIZED, DELAYED PER STAGING DELAY SETTING.
6. GREEN LIGHT (CFM) FLASHES ONCE PER 100 CFM COMMAND.
7. FOR HEAT PUMP SYSTEMS Y AND O MUST BE CONNECTED TO THE LOW-VOLTAGE TERMINAL BOARD.
8. FOR TWO COMPRESSOR SYSTEMS, USE "YLO" FOR LOW SPEED AND "Y" FOR HIGH SPEED CONNECTION TO THE LOW-VOLTAGE TERMINAL BOARD.
9. OPTIONAL HUMIDSTAT IS TO BE CONNECTED BETWEEN THE "R" AND "BK". FACTORY INSTALLED JUMPER "R" TO "BK" (BK JUMPER) ON THE CIRCUIT BOARD MUST BE CUT IF OPTIONAL HUMIDSTAT IS USED. THE JUMPER MUST ALSO BE CUT WHEN APPLYING AN AIRFLOW COMMAND SIGNAL TO THE "BK" INPUT SUCH AS WITH THE VARIABLE SPEED SINGLE-ZONE AND MULTI-ZONE SYSTEM CONTROLLERS. ON SINGLE SPEED COOLING ONLY / NON-HEAT PUMP SYSTEMS, JUMPER "Y" TO "O" FOR PROPER OPERATION OF THE DELAY PROFILES AND THE HUMIDSTAT. FOR TWO COMPRESSOR OR TWO SPEED SYSTEMS, JUMPER "YLO" TO "O".
10. SEE INDOOR MOTOR AIRFLOW SELECTION CHART, LOCATED IN THE FURNACE FOR DIP SWITCH SETTINGS TO SET AIRFLOW AND COOLING OFF DELAYS.
11. POWER MUST BE OFF WHEN DIP SWITCHES ARE SET.
12. USED FOR *UH2B080A9V4V** *UH2C100A9V4V** *UH2C100A9V5V** & *UH2D120A9V5V**.
13. ON POWER-UP, LAST FOUR FAULTS, IF ANY, WILL BE FLASHED ON RED LED. GREEN LED WILL BE SOLID ON DURING LAST FAULT RECOVERY.

DIAGNOSTIC CODES

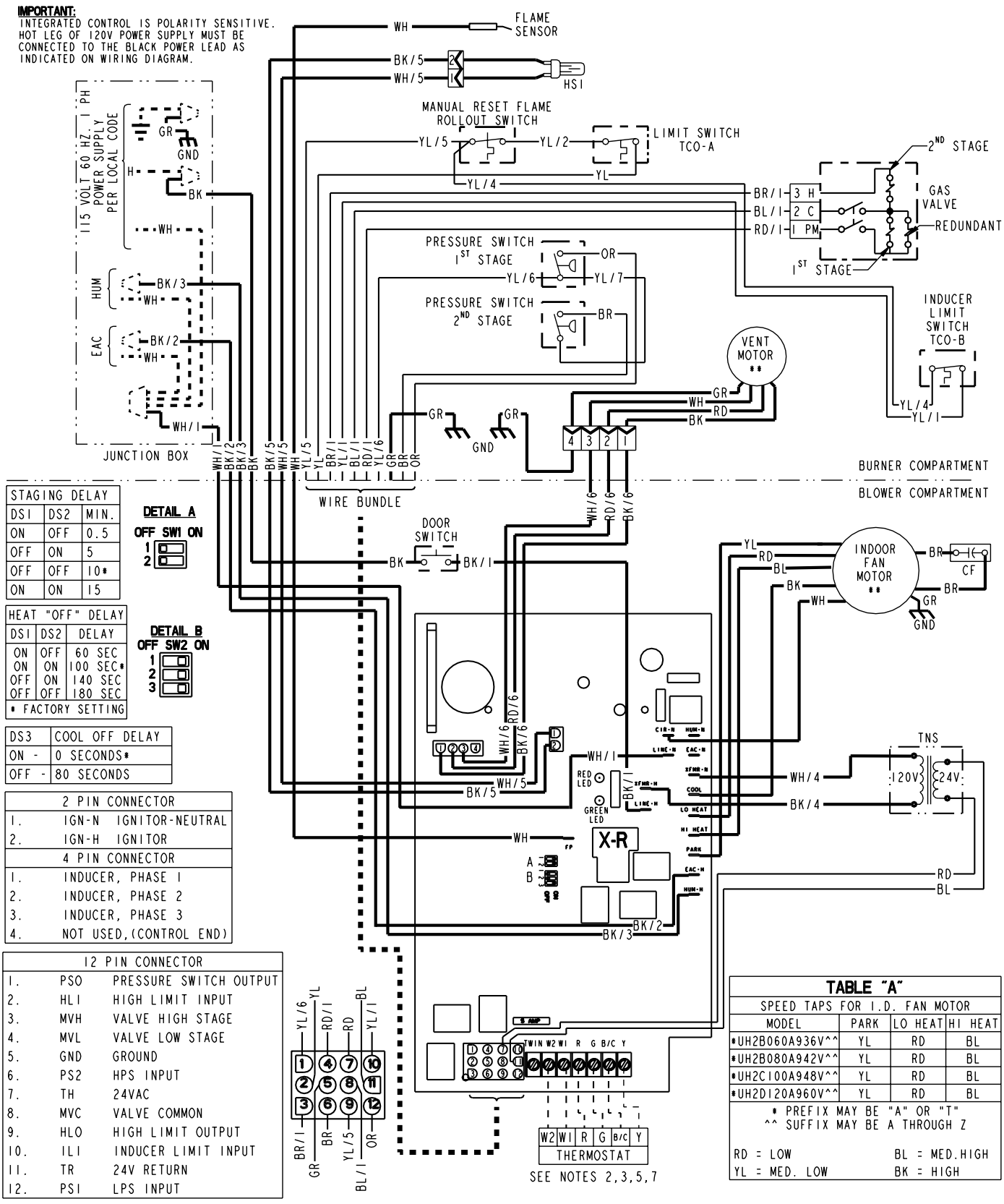
RED LED - LitePort™ DATA - 1 FLASH EVERY 20 SEC.
2 FLASHES: RETRIES OR RECYCLES EXCEEDED
3 FLASHES: INDUCER OR PRESSURE SWITCH ERROR
4 FLASHES: OPEN LIMIT OR ROLLOUT SWITCH
5 FLASHES: FLAME SENSED WHEN NO FLAME SHOULD BE PRESENT
6 FLASHES: LINE REVERSE
7 FLASHES: GAS VALVE CIRCUIT ERROR
8 FLASHES: WEAK FLAME
9 FLASHES: OPEN INDUCER LIMIT ERROR

GREEN LED - STATUS
SLOW FLASH: NORMAL, NO CALL FOR HEAT
FAST FLASH: NORMAL, CALL FOR HEAT PRESENT

GREEN AND RED LEDs ON CONTINUOUS:
FUSE OPEN OR INTERNAL CONTROL FAILURE

From Drawing D344303P04

KIT16584 Wiring diagram



STAGING DELAY		
DS1	DS2	MIN.
ON	OFF	0.5
OFF	ON	5
OFF	OFF	10*
ON	ON	15

DETAIL A
OFF SW1 ON
1
2

HEAT "OFF" DELAY		
DS1	DS2	DELAY
ON	OFF	60 SEC
ON	ON	100 SEC*
OFF	ON	140 SEC
OFF	OFF	180 SEC
* FACTORY SETTING		

DETAIL B
OFF SW2 ON
1
2
3

DS3	COOL OFF DELAY
ON -	0 SECONDS*
OFF -	80 SECONDS

2 PIN CONNECTOR	
1.	IGN-N IGNITOR-NEUTRAL
2.	IGN-H IGNITOR
4 PIN CONNECTOR	
1.	INDUCER, PHASE 1
2.	INDUCER, PHASE 2
3.	INDUCER, PHASE 3
4.	NOT USED,(CONTROL END)

12 PIN CONNECTOR		
1.	PSO	PRESSURE SWITCH OUTPUT
2.	HLI	HIGH LIMIT INPUT
3.	MVH	VALVE HIGH STAGE
4.	MVL	VALVE LOW STAGE
5.	GND	GROUND
6.	PS2	HPS INPUT
7.	TH	24VAC
8.	MVC	VALVE COMMON
9.	HLO	HIGH LIMIT OUTPUT
10.	ILI	INDUCER LIMIT INPUT
11.	TR	24V RETURN
12.	PSI	LPS INPUT

TABLE "A"

SPEED TAPS FOR I.D. FAN MOTOR

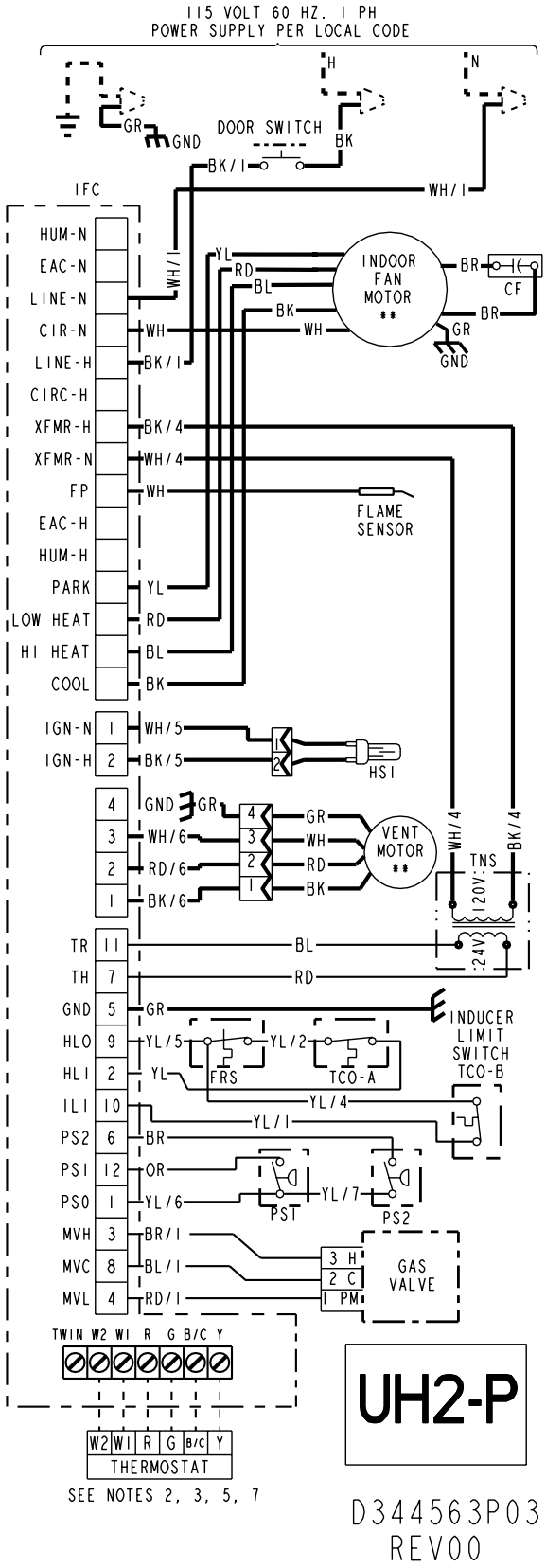
MODEL	PARK	LO HEAT	HI HEAT
*UH2B060A936V^^	YL	RD	BL
*UH2B080A942V^^	YL	RD	BL
*UH2C100A948V^^	YL	RD	BL
*UH2D120A960V^^	YL	RD	BL

* PREFIX MAY BE "A" OR "T"
^^ SUFFIX MAY BE A THROUGH Z

RD = LOW
YL = MED. LOW
BL = MED.HIGH
BK = HIGH

From Drawing D344563P03

KIT16584 Schematic



DIAGNOSTIC CODES (SEE NOTE 8)	
RED LED - LitePort tm Data - 1 Flash every 20 seconds	
2 FLASHES - SYSTEM LOCKOUT RETRIES OR RECYCLES EXCEEDED	6 FLASHES - 115 VOLT AC POWER REVERSED
3 FLASHES - INDUCER OR PRESSURE SWITCH FAULT	7 FLASHES - GAS VALVE CIRCUIT ERROR
	8 FLASHES - LOW FLAME SENSE SIGNAL
4 FLASHES - OPEN LIMIT SWITCH	9 FLASHES - OPEN INDUCER LIMIT
5 FLASHES - FLAME SENSED WHEN NO FLAME SHOULD BE PRESENT	10 FLASHES - INDUCER COMMUNICATION FAULT
	CONTINUOUS ON - INTERNAL CONTROL FAILURE
GREEN LED - STATUS	
SLOW FLASH - NORMAL, NO CALL FOR HEAT	
FAST FLASH - NORMAL, CALL FOR HEAT PRESENT	
GREEN AND RED LED'S ON CONTINUOUS - FUSE OPEN OR INTERNAL CONTROL FAILURE	

WARNING ⚠	CAUTION ⚠
HAZARDOUS VOLTAGE DISCONNECT ALL ELECTRICAL POWER INCLUDING REMOTE DISCONNECTS BEFORE SERVICING. FAILURE TO DISCONNECT POWER BEFORE SERVICING CAN CAUSE SEVERE PERSONAL INJURY OR DEATH.	USE COPPER CONDUCTORS ONLY! UNIT TERMINALS ARE NOT DESIGNED TO ACCEPT OTHER TYPES OF CONDUCTORS. FAILURE TO DO SO MAY CAUSE DAMAGE TO THE EQUIPMENT.

INTEGRATED FURNACE CONTROL

REPLACE WITH PART CNT 06584 OR EQUIVALENT
ELECTRICAL RATING
INPUT: 25 V.A.C., 60 HZ.
XFMR SEC. CURRENT: 450 MA. + MV LOAD
MV OUTPUT: 1.5 A @ 24 V.A.C.
IND OUTPUT: 3 PHASE OUTPUT
IGN OUTPUT: 2.0 A @ 120V.A.C.
CIRC. BLOWER OUTPUT: 14.5 FLA,
25 LRA @ 120 VAC
HUMIDIFER & AIR CLEANER
MAX. LOAD: 1.0 A @ 120 VAC

TIMINGS
PREPURGE: 0 SEC.; INTERPURGE: 60 SEC.
POST PURGE: 5 SECONDS
IGNITOR WARMUP: 20 SECONDS
IAP: 3; TFI: 5 SECONDS
RETRIES: 2; RECYCLES: 10
HEAT ON DELAY: 45 SECONDS
COOL ON DELAY: 0 SECONDS
AUTO RESTART: 60 MINUTES
AUTO RESTART PURGE: 15 SECONDS

TCO THERMAL CUT OUT
PS PRESSURE SWITCH
FRS FLAME ROLLOUT SWITCH
FP FLAME SENSOR
CHASSIS GROUND
HSI HOT SURFACE IGNITER
DOOR SWITCH
FUSE
LINE / 24 V } FACTORY WIRING
LINE / 24 V } FIELD WIRING
** INTERNAL THERMAL PROTECTION
CF CAPACITOR
COIL

BK	BLACK	GR	GREEN
WH	WHITE	BR	BROWN
YL	YELLOW	RD	RED
OR	ORANGE	BL	BLUE

WIRE COLOR
BK/I
NUMBER ID (IF ANY)

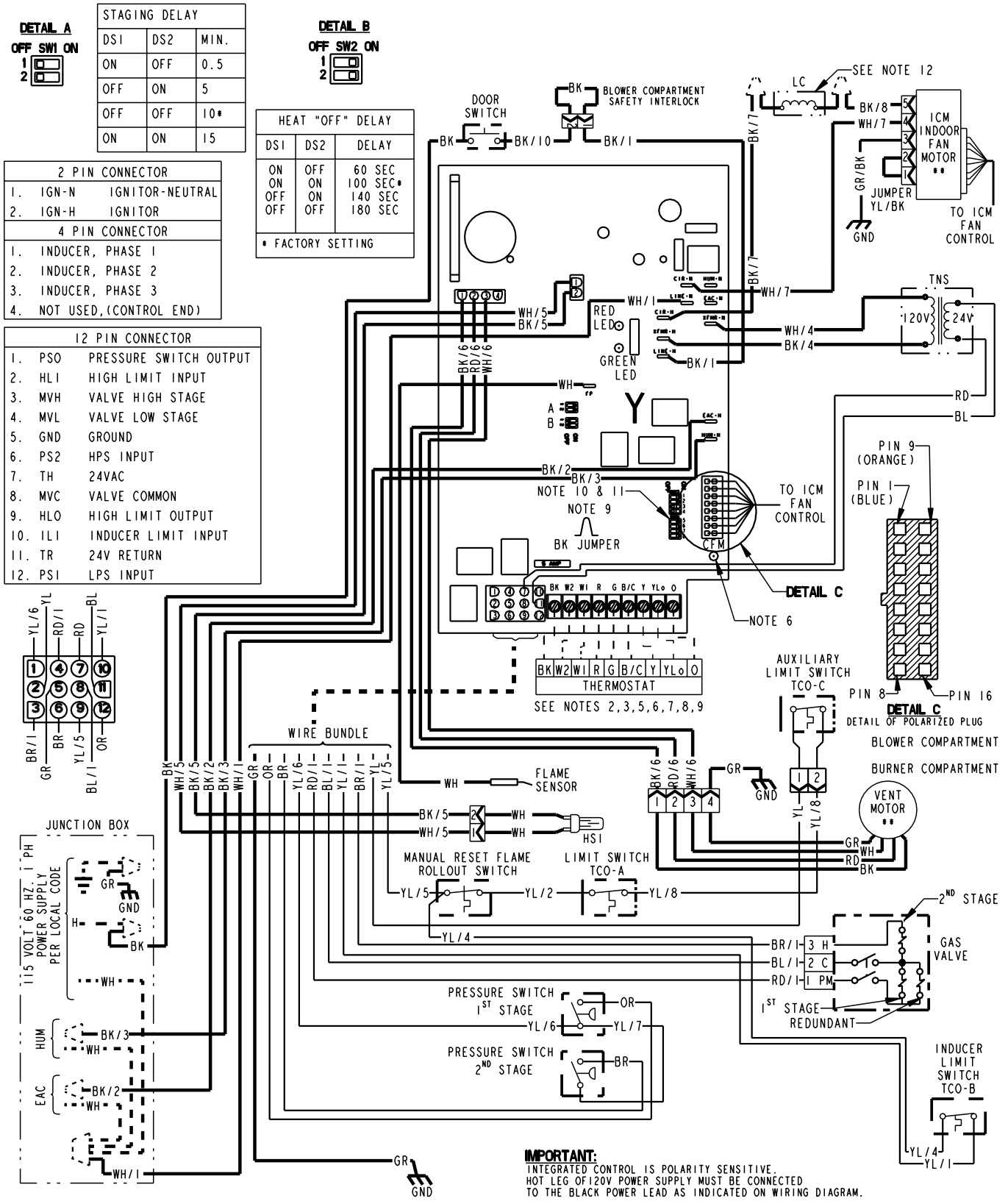
L	LINE	TH	24 VAC (HOT)
N	NEUTRAL	TR	24 VAC (COMMON)
GND	GROUND	MV	MAIN GAS VALVE
B/C	COMMON	TNS	TRANSFORMER
HLO	HIGH LIMIT OUTPUT	ILI	INDUCER LIMIT INPUT
HLI	HIGH LIMIT INPUT		

NOTES:

1. IF ANY OF THE ORIGINAL WIRING AS SUPPLIED WITH THIS FURNACE MUST BE REPLACED, IT ,MUST BE WITH WIRE HAVING A TEMPERATURE RATING OF AT LEAST 105 C.
2. THERMOSTAT HEAT ANTICIPATOR SETTING: FIRST STAGE.38 AMPS, SECOND STAGE .13 AMPS. IF SETTING IS NOT FIXED ON THERMOSTAT, FOR SINGLE STAGE HEATING THERMOSTAT SET AT .51 AMPS.
3. FOR PROPER OPERATION OF COOLING SPEED, "Y" TERMINAL MUST BE CONNECTED TO THE ROOM THERMOSTAT.
4. THESE LEADS PROVIDE 120V POWER CONNECTIONS FOR ELECTRONIC AIR CLEANER (EAC) AND HUMIDIFIER (HUM). MAX. LOAD: 1.0 AMPS EACH.
5. JUMPER W1 AND W2 FOR SINGLE STAGE HEATING THERMOSTAT, SECOND STAGE WILL BE ENERGIZED, DELAYED PER STAGING DELAY SETTING.
6. POWER MUST BE OFF WHEN DIP SWITCHES ARE SET.
7. WHEN TWINNING TWO FURNACES, BOTH UNITS MUST BE CONNECTED TO THE SAME 115 VAC PHASE. CONNECT THE TWO UNITS 'TWIN' TERMINALS WITH 14 TO 22 AWG WIRE.
8. ON POWER-UP, LAST FOUR FAULTS, IF ANY, WILL BE FLASHED ON RED LED. GREEN LED WILL BE SOLID ON DURING LAST FAULT RECOVERY.

From Drawing D344563P03

KIT16583 Wiring diagram



From Drawing D344304P04

KIT16583 Schematic

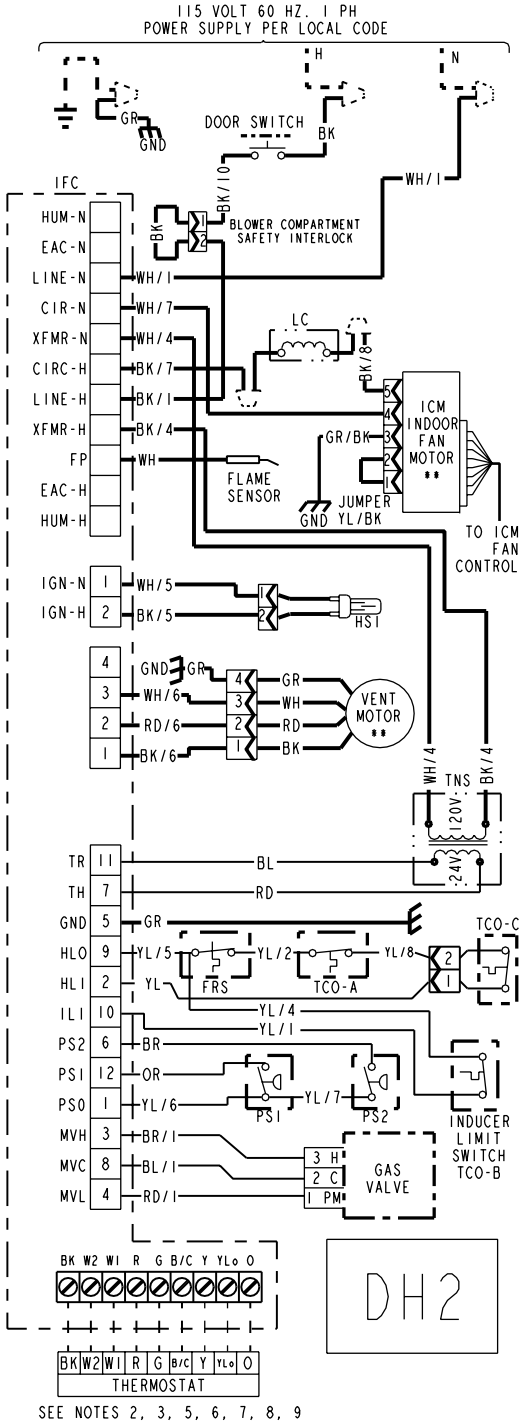


TABLE "A"	
MODELS	
*DH2B060A9V3V**	*DH2C100A9V4V**
*DH2B080A9V3V**	*DH2D120A9V5V**
*DH2B080A9V4V**	
* PREFIX MAY BE "A" OR "T" * SUFFIX MAY BE "A" THROUGH "Z"	

⚠ WARNING

HAZARDOUS VOLTAGE:
DISCONNECT ALL ELECTRICAL POWER INCLUDING REMOTE DISCONNECTS BEFORE SERVICING.
FAILURE TO DISCONNECT POWER BEFORE SERVICING CAN CAUSE SEVERE PERSONAL INJURY OR DEATH.

⚠ CAUTION

USE COPPER CONDUCTORS ONLY!
UNIT TERMINALS ARE NOT DESIGNED TO ACCEPT OTHER TYPES OF CONDUCTORS.
FAILURE TO DO SO MAY CAUSE DAMAGE TO THE EQUIPMENT.

INTEGRATED FURNACE CONTROL

REPLACE WITH PART CNT0601 7 OR EQUIVALENT
ELECTRICAL RATING
INPUT: 25 VAC, 60 HZ.
XFMR SEC. CURRENT: 450 MA. + MV LOAD
MV OUTPUT: 1.5 A @ 24 VAC
IND OUTPUT: 3 PHASE OUTPUT
IGN OUTPUT: 2.0 A @120 VAC
CIRC. BLOWER OUTPUT: 14.5 FLA,
25 LRA @ 120 VAC
HUMIDIFER & AIR CLEANER
MAX. LOAD: 1.0 A @ 120 VAC
TIMINGS
PREPURGE: 0 SEC.; INTERPURGE: 60 SEC.
POST PURGE: 5 SEC.
IGN WARMUP: 20 SEC.
IAP: 2; TFI: 5 SEC.
RETRIES: 2 RECYCLES: 10
HEAT ON DELAY: 45 SEC.
COOL ON DELAY: 0 SEC.
AUTO RESTART: 60 MIN.
AUTO RESTART PURGE: 60 SEC.

TCO THERMAL CUT OUT
PS PRESSURE SWITCH
FRS FLAME ROLLOUT SWITCH
FP FLAME SENSOR
CHASSIS GROUND
HSI HOT SURFACE IGNITER
DOOR SWITCH
FUSE
CF CAPACITOR
COIL

LINE / 24 V } FACTORY WIRING
LINE / 24 V } FIELD WIRING

** INTERNAL THERMAL PROTECTION

BK	BLACK	GR	GREEN
WH	WHITE	BR	BROWN
YL	YELLOW	RD	RED
OR	ORANGE	BL	BLUE

WIRE COLOR (e.g. BK/1)
NUMBER ID (IF ANY)

L	LINE	TH	24 VAC (HOT)
N	NEUTRAL	TR	24 VAC (COMMON)
GND	GROUND	MV	MAIN GAS VALVE
B/C	COMMON	TNS	TRANSFORMER
HLO	HIGH LIMIT OUTPUT	ILI	INDUCER LIMIT INPUT
HLI	HIGH LIMIT INPUT		

NOTES:

1. IF ANY OF THE ORIGINAL WIRING AS SUPPLIED WITH THIS FURNACE MUST BE REPLACED, IT MUST BE WITH WIRE HAVING A TEMPERATURE RATING OF AT LEAST 105°C.
2. THERMOSTAT HEAT ANTICIPATOR SETTING: FIRST STAGE .38 AMPS, SECOND STAGE .13 AMPS. IF SETTING IS NOT FIXED ON THERMOSTAT, FOR SINGLE STAGE HEATING THERMOSTAT SET AT .51 AMPS.
3. FOR PROPER OPERATION OF COOLING SPEED, "Y" TERMINAL MUST BE CONNECTED TO THE ROOM THERMOSTAT.
4. THESE LEADS PROVIDE 120V POWER CONNECTIONS FOR ELECTRONIC AIR CLEANER (EAC) AND HUMIDIFIER (HUM). MAX. LOAD: 1.0 AMPS EACH.
5. JUMPER W1 AND W2 FOR SINGLE STAGE HEATING THERMOSTAT, SECOND STAGE WILL BE ENERGIZED, DELAYED PER STAGING DELAY SETTING.
6. GREEN LIGHT (CFM) FLASHES ONCE PER 100 CFM COMMAND.
7. FOR HEAT PUMP SYSTEMS Y AND O MUST BE CONNECTED TO THE LOW-VOLTAGE TERMINAL BOARD.
8. FOR TWO COMPRESSOR SYSTEMS, USE "YLO" FOR LOW SPEED AND "Y" FOR HIGH SPEED CONNECTION TO THE LOW-VOLTAGE TERMINAL BOARD.
9. OPTIONAL HUMIDSTAT IS TO BE CONNECTED BETWEEN THE "R" AND "BK". FACTORY INSTALLED JUMPER "R" TO "BK" (BK JUMPER) ON THE CIRCUIT BOARD MUST BE CUT IF OPTIONAL HUMIDSTAT IS USED. THE JUMPER MUST ALSO BE CUT WHEN APPLYING AN AIRFLOW COMMAND SIGNAL TO THE "BK" INPUT SUCH AS WITH THE VARIABLE SPEED SINGLE-ZONE AND MULTI-ZONE SYSTEM CONTROLLERS. ON SINGLE SPEED COOLING ONLY / NON-HEAT PUMP SYSTEMS, JUMPER "Y" TO "O" FOR PROPER OPERATION OF THE DELAY PROFILES AND THE HUMIDSTAT. FOR TWO COMPRESSOR OR TWO SPEED SYSTEMS, JUMPER "YLO" TO "O".
10. SEE INDOOR MOTOR AIRFLOW SELECTION CHART, LOCATED IN THE FURNACE FOR DIP SWITCH SETTINGS TO SET AIRFLOW AND COOLING OFF DELAYS.
11. POWER MUST BE OFF WHEN DIP SWITCHES ARE SET.
12. USED FOR *DH2B080A9V4V**, *DH2C100A9V4V** & *DH2D120A9V5V**.
13. ON POWER-UP, LAST FOUR FAULTS, IF ANY, WILL BE FLASHED ON RED LED. GREEN LED WILL BE SOLID ON DURING LAST FAULT RECOVERY.

DIAGNOSTIC CODES

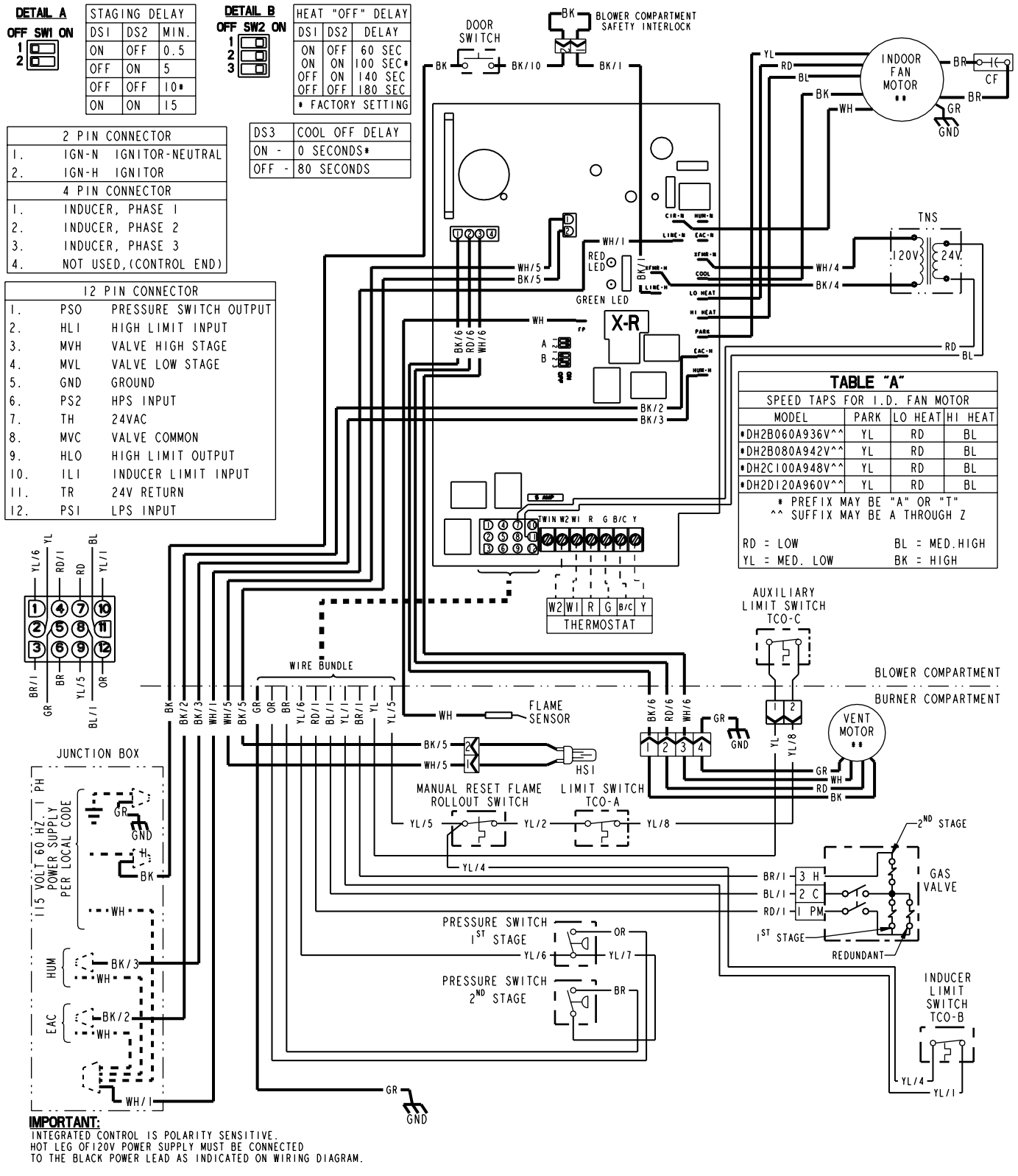
RED LED - LitePort™ DATA - 1 FLASH EVERY 20 SEC.
2 FLASHES: RETRIES OR RECYCLES EXCEEDED
3 FLASHES: INDUCER OR PRESSURE SWITCH ERROR
4 FLASHES: OPEN LIMIT OR ROLLOUT SWITCH
5 FLASHES: FLAME SENSED WHEN NO FLAME SHOULD BE PRESENT
6 FLASHES: LINE REVERSE
7 FLASHES: GAS VALVE CIRCUIT ERROR
8 FLASHES: WEAK FLAME
9 FLASHES: OPEN INDUCER LIMIT ERROR

GREEN LED - STATUS
SLOW FLASH: NORMAL, NO CALL FOR HEAT
FAST FLASH: NORMAL, CALL FOR HEAT PRESENT

GREEN AND RED LEDs ON CONTINUOUS:
FUSE OPEN OR INTERNAL CONTROL FAILURE

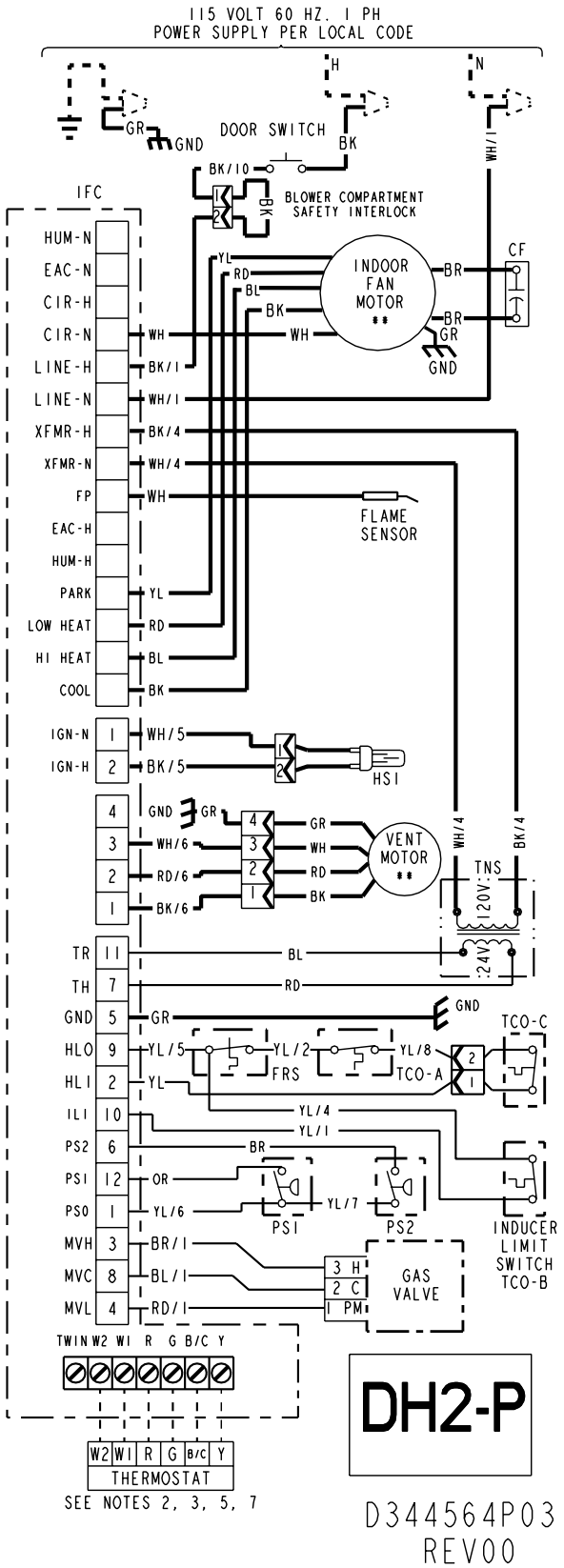
From Drawing D344304P04

KIT16585 Wiring diagram



From Drawing D344564P03

KIT16585 Schematic



DIAGNOSTIC CODES (SEE NOTE 8)	
RED LED - LitePort tm Data - 1 Flash every 20 seconds	
2 FLASHES - SYSTEM LOCKOUT RETRIES OR RECYCLES EXCEEDED	6 FLASHES - 115 VOLT AC POWER REVERSED
3 FLASHES -INDUCER OR PRESSURE SWITCH FAULT	7 FLASHES - GAS VALVE CIRCUIT ERROR
	8 FLASHES - LOW FLAME SENSE SIGNAL
4 FLASHES - OPEN LIMIT SWITCH	9 FLASHES - OPEN INDUCER LIMIT
5 FLASHES - FLAME SENSED WHEN NO FLAME SHOULD BE PRESENT	10 FLASHES - INDUCER COMMUNICATION FAULT
	CONTINUOUS ON - INTERNAL CONTROL FAILURE
GREEN LED - STATUS	
SLOW FLASH - NORMAL, NO CALL FOR HEAT	
FAST FLASH - NORMAL, CALL FOR HEAT PRESENT	
GREEN AND RED LED'S ON CONTINUOUS - FUSE OPEN OR INTERNAL CONTROL FAILURE	

WARNING ⚠	CAUTION ⚠
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INTEGRATED FURNACE CONTROL

REPLACE WITH PART CNT 06584 OR EQUIVALENT
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XFMR SEC. CURRENT: 450 MA. + MV LOAD
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IND OUTPUT: 3 PHASE OUTPUT
IGN OUTPUT: 2.0 A @ 120V.A.C.
CIRC. BLOWER OUTPUT: 14.5 FLA,
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DOOR SWITCH
FUSE
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COIL

LINE, 24 V } FACTORY WIRING
LINE, 24 V } FIELD WIRING

** INTERNAL THERMAL PROTECTION

BK	BLACK	GR	GREEN
WH	WHITE	BR	BROWN
YL	YELLOW	RD	RED
OR	ORANGE	BL	BLUE

WIRE COLOR
BK/1
NUMBER ID (IF ANY)

L	LINE	TH	24 VAC (HOT)
N	NEUTRAL	TR	24 VAC (COMMON)
GND	GROUND	MV	MAIN GAS VALVE
B/C	COMMON	TNS	TRANSFORMER
HLO	HIGH LIMIT OUTPUT	ILI	INDUCER LIMIT INPUT
HLI	HIGH LIMIT INPUT		

NOTES:

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From Drawing D344564P03

About Trane and American Standard Heating and Air Conditioning

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The manufacturer has a policy of continuous data improvement and it reserves the right to change design and specifications without notice. We are committed to using environmentally conscious print practices.

18-CH66D1-5B-EN 12 Jun 2023

Supersedes 18-CH66D1-5A-EN (August 2022)

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