

**INSTALLATION INSTRUCTIONS FOR HEAT EXCHANGER KIT FOR USE WITH 90% EFFICIENCY DOWNFLOW GAS FURNACES**

**⚠ WARNING**

Improper installation, adjustment, alteration, service or maintenance can cause property damage, personal injury or loss of life. Installation and service must be performed by a licensed professional installer (or equivalent), service agency or the gas supplier.

**⚠ WARNING**

Disconnect power before servicing unit.

**Shipping & Packing List**

Package 1 of 1 contains the following:

- 1 - Heat exchanger assembly
- 1 - Condensate trap parts bag
- 1 - Pressure switch (Kit 13X36 & 11X39 only)
- 1 - Template

**⚠ CAUTION**

As with any mechanical equipment, personal injury can result from contact with sharp sheet metal edges. Be careful when you handle this equipment.

**Application**

See tables 1, 2, 3 and 5 for unit capacity and corresponding replacement kits.

**Table 1  
Variable Capacity Furnaces**

Unit Capacity	Replacement Kit No.	Replacement Catalog No.
070	605996-68	10A46
090	605996-69	10A47
110	605996-70	10A48

**Table 2  
93 AFUE Single-Stage Furnaces with PSC Indoor Blower Motors**

Unit Capacity	Replacement Kit No.	Replacement Catalog No.
045	614580-11	13X17
070	614580-12	13X20
090	614580-13	13X21
110	614580-14	13X22

**Table 3  
95 AFUE Single-Stage Furnaces with PSC Indoor Blower Motors**

Unit Capacity	Replacement Kit No.	Replacement Catalog No.
045	614580-11	13X17
070	614580-17	13X25
090	614580-18	13X26
110	614580-19	13X27

**Table 4  
95 AFUE Single-Stage Furnaces with Constant Torque Indoor Blower Motors**

Unit Capacity	Replacement Kit No.	Replacement Catalog No.
045	614580-11	13X17
070	614580-23	13X31
090	614580-24	13X32
110	614580-25	13X33

**Table 5  
Two-Stage Furnaces with Constant Torque Indoor Blower Motors**

Unit Capacity	Replacement Kit No.	Replacement Catalog No.
045	614580-47	14D78
070	614580-91	11X39
090	614580-28	13X36
110	614580-29	13X37

**Table 6  
Two-Stage Furnaces with Variable Speed Indoor Blower Motors**

Unit Capacity	Replacement Kit No.	Replacement Catalog No.
045	614580-47	14D78
070	614580-91	11X39
090	614580-28	13X36
110	614580-29	13X37

**Installation - Down Flow Furnaces**

Refer to figure 1 as you disassemble the the unit. Place papers or protective covering in front of the furnace before removing the heat exchanger assembly.

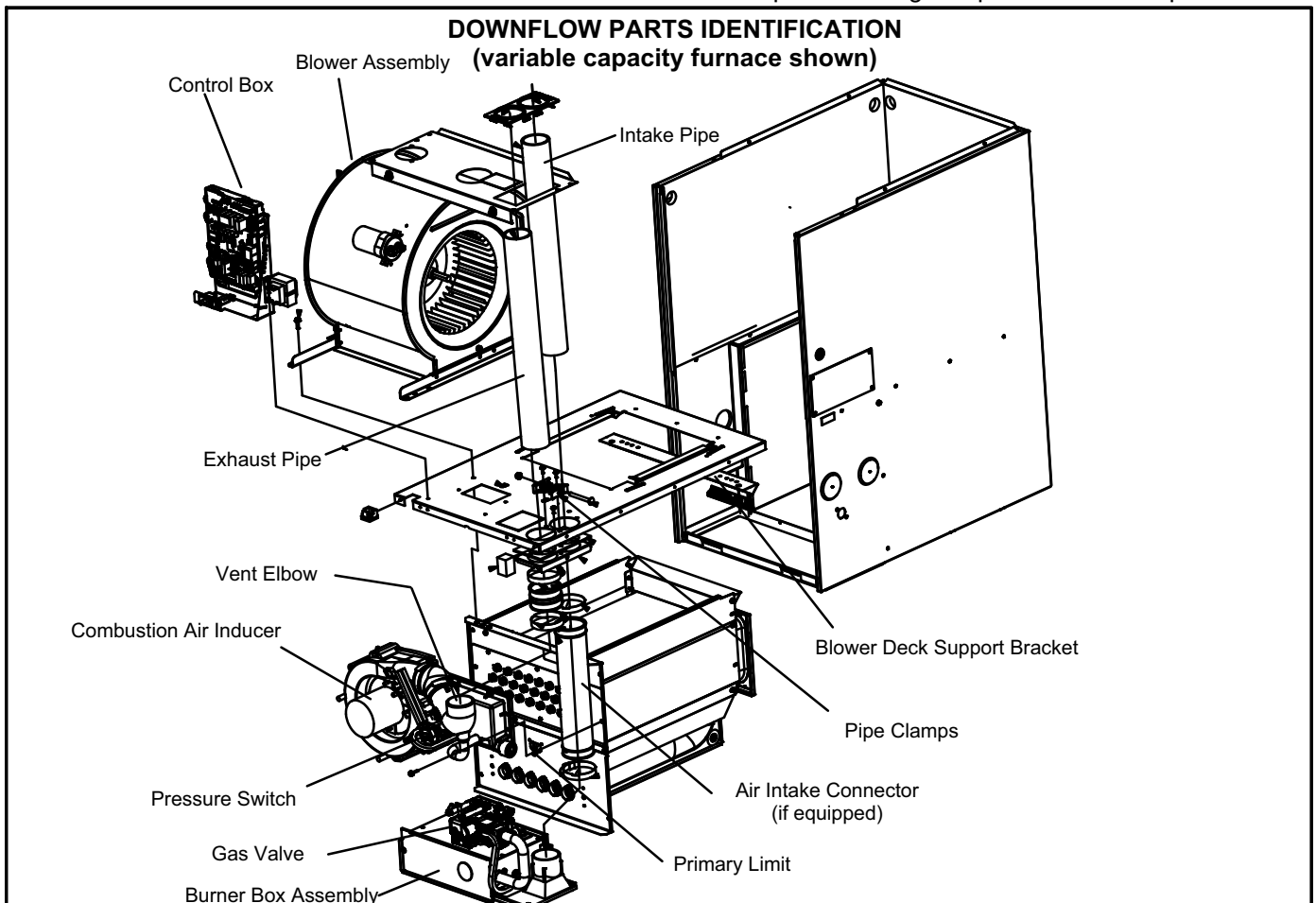
- 1 - Turn off electrical and gas supplies to the furnace.
- 2 - Remove the furnace access panels.
- 3 - Disconnect the wires from the gas valve.
- 4 - Remove gas supply line connected to gas valve. Remove the burner box cover (if equipped).
- 5 - Remove sensor wire from sensor. Disconnect 2-pin plug from the ignitor.
- 6 - Disconnect wires from flame roll-out switches. If equipped, disconnect ground wire from burner box mounting lug.
- 7 - Remove gas valve/manifold assembly.
- 8 - Loosen clamps at vent elbow. Disconnect condensate drain tubing from vent elbow and cold end header box. (*save tubing, set aside*). Remove the vent elbow.
- 9 - Disconnect the plug from the combustion air inducer. Remove two screws which secure combustion air inducer to collector box. Remove combustion air inducer assembly. Remove ground wire from vest panel on some models.
- 10 - Loosen clamps and remove combustion air intake flexible connector if equipped.
- 11 - Remove four burner box screws at the vestibule panel and remove burner box. Set burner box assembly aside.  
**NOTE** - *If necessary, clean burners at this time. Follow procedures outlined in Burner Cleaning section.*
- 12 - Mark and disconnect all pressure switch tubing from cold end header collector box.
- 13 - Mark and remove wires from pressure switch assembly. Remove pressure switch assembly. Keep tubing attached to pressure switch assembly.
- 14 - Remove electrical junction box from the side of the furnace.
- 15 - Disconnect condensate line from cold end header box.
- 16 - Loosen clamps on exhaust and air intake pipe seal plate. Slide exhaust and intake pipes up and out to clear blower deck. Remove exhaust and air intake pipe seal plate.
- 17 - Mark and disconnect any remaining wiring to heating compartment components. Disengage strain relief bushing and pull wiring and bushing through the hole in the blower deck.
- 18 - Remove the primary limit from the vestibule panel.
- 19 - Remove two screws from the front cabinet flange at the blower deck.
- 20 - Remove screws along vestibule sides which secure vestibule panel and heat exchanger assembly to cabinet. Remove two screws from blower rail which secure top heat exchanger flange. Spread cabinet sides slightly to allow clearance for removal of heat exchanger. Remove heat exchanger from furnace cabinet.
- 21 - Remove indoor blower from the furnace.
- 22 - If the furnace came with a blower deck support bracket as shown in figure 2, remove and discard.
- 23 - Align template with the blower deck cutout as shown in figure 3. If necessary drill a 3/16" diameter clearance hole. Flip the template around and drill another hole of same size on other side of blower deck. See figure 3.
- 24 - Install replacement heat exchanger into the cabinet. Check that the new drilled holes on the blower deck align with the coil support bracket.
- 25 - Secure Heat exchanger to the blower deck using two #8 screws through blower deck first. See figure 4.
- 26 - Re-secure the supporting screws along the vestibule sides and top to the cabinet.
- 27 - Reinstall cabinet screws on front flange at blower deck.
- 28 - Reinstall the primary limit on the vestibule panel.
- 29 - Route heating component wiring through hole in blower deck and reinsert strain relief bushing.
- 30 - Reinstall electrical junction box.
- 31 - Reinstall exhaust and air intake pipe seal plate. Reinstall exhaust and air intake pipes and tighten clamps on pipe seal plate.
- 32 - Reinstall the combustion air inducer. Reconnect the combustion air inducer to the wire harness.
- 33 - Reinstall pressure switch assembly and reconnect pressure switch wiring. On two-stage units install provided replacement pressure switch.
- 34 - Carefully connect combustion air pressure switch tubing from pressure switches to proper ports on cold end header collector box.
- 35 - Reinstall condensate trap.
- 36 - Reconnect exhaust drain tubing on vent elbow and cold end header box drain ports.
- 37 - Secure burner box assembly to vestibule panel using four existing screws. **Make sure burners line up with center of burner ports.**
- 38 - Reinstall combustion air intake flexible connector (if equipped), secure using existing clamps.
- 39 - Reinstall gas valve manifold assembly. Reconnect gas supply line to gas valve.
- 40 - Reconnect flame roll-out switch wires. If removed from step 6, reconnect the ground wire to the burner box mounting lug.
- 41 - Reconnect sensor wire and reconnect 2-pin plug from ignitor.
- 42 - Reinstall burner box cover if equipped.
- 43 - Reconnect wires to gas valve.
- 44 - Replace the blower compartment access panel.
- 45 - Follow lighting instructions on unit nameplate to light and operate furnace for 5 minutes to ensure the furnace is operating properly.
- 46 - Check all piping connections, factory and field, for gas leaks. Use a leak detecting solution or other preferred means.
- 47 - Replace heating compartment access panel.

## **⚠ CAUTION**

**Some soaps used for leak detection are corrosive to certain metals. Carefully rinse piping thoroughly after leak test has been completed. Do not use matches, candles, flame or other sources of ignition to check for gas leaks.**

### **Cleaning the Burner Assembly (if needed)**

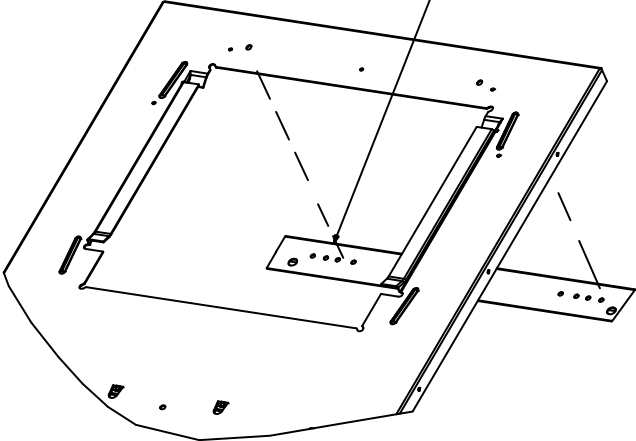
- 1 - Turn off electrical and gas power supplies to furnace. Remove upper and lower furnace access panels.
- 2 - Disconnect the wires from the gas valve.
- 3 - Remove the burner box cover (if equipped).
- 4 - Disconnect the gas supply line from the gas valve.
- 5 - Loosen clamps and remove combustion air intake flexible connector (if equipped).
- 6 - Mark and disconnect sensor wire from the sensor. Disconnect plug from the ignitor at the burner box.
- 7 - Disconnect wires from rollout switches. If equipped, disconnect ground wire from burner box mounting lug.
- 8 - Remove gas valve/manifold assembly.
- 9 - Remove four screws which secure burner box assembly to vest panel. Remove burner box from the unit.
- 10 - Use the soft brush attachment on a vacuum cleaner to gently clean the face of the burners. Visually inspect the inside of the burners and crossover for any blockage caused by foreign matter. Remove any blockage.
- 11 - Reinstall the burner box assembly using the existing four screws. Make sure the burners line up with the center of the heat exchanger inlets.
- 12 - Reinstall combustion air intake flexible connector (if equipped), secure using existing clamps.
- 13 - Reinstall the gas valve manifold assembly. Reconnect the gas supply line to the gas valve. Reinstall the burner box cover if equipped.
- 14 - Reconnect the sensor wire and reconnect the 2-pin plug to the ignitor wiring harness.
- 15 - Reconnect the rollout switch wires. Reconnect the ground wire to the burner box mounting lug removed from step 6.
- 16 - Reconnect wires to gas valve.
- 17 - Replace the blower compartment access panel.
- 18 - Refer to instruction on verifying gas and electrical connections when re-establishing supplies.
- 19 - Follow lighting instructions to light and operate furnace for 5 minutes to ensure that heat exchanger is clean and dry and that furnace is operating properly.
- 20 - Replace heating compartment access panel.



**FIGURE 1**

**BLOWER DECK SUPPORT BRACKET**

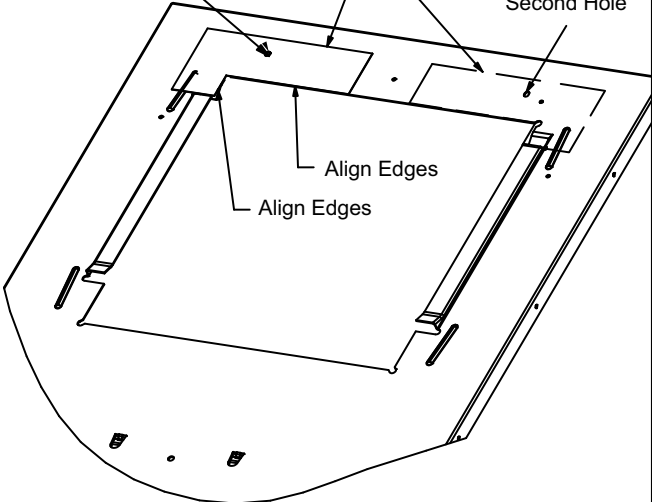
Remove Blower Deck Support Bracket



**FIGURE 2**

**USING THE TEMPLATE**

Drill Hole  
Template (flip over and drill other side)  
Second Hole

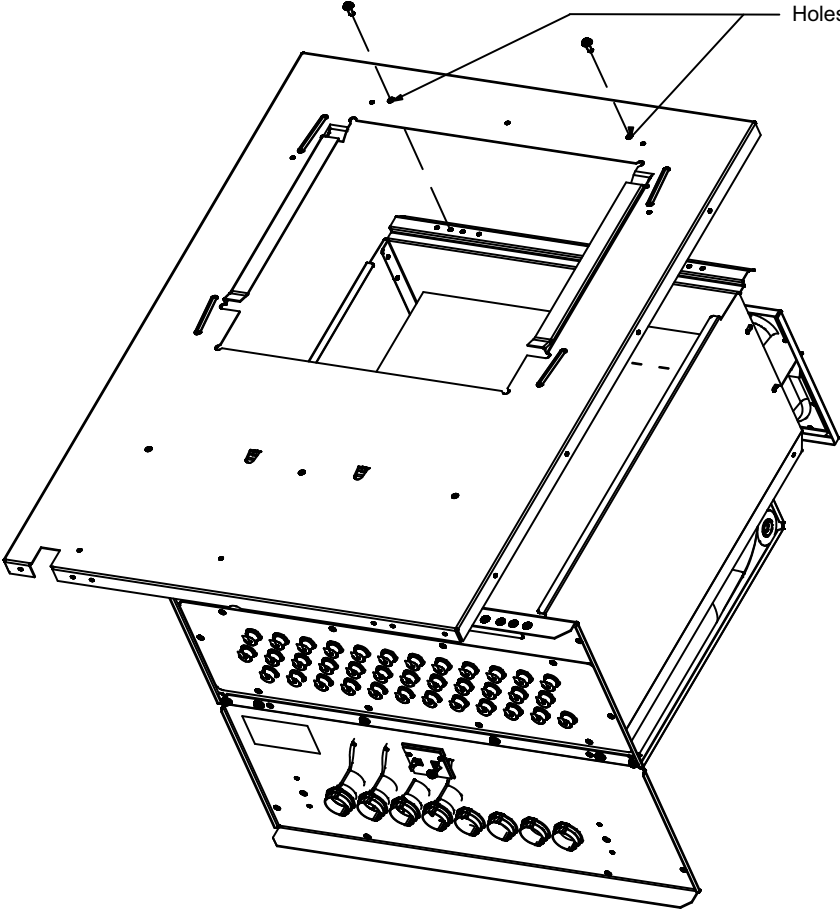


FURNACE FRONT

**FIGURE 3**

**HEAT EXCHANGER WITH BLOWER DECK**

Holes Made From Template



**FIGURE 4**