

INSTALLATION INSTRUCTIONS

For the replacement of Primary Heat Exchanger

Part Numbers 1175196, 1175197, 1175198, 1175199 & 1175200

This kit is designed to replace the 80% **N8MPN, N8MPL, *8DNL, *8MPD, *8MPT, *8MPV** and 90% **N9MP1, N9MP2, N9MPD, *9UHX, *9MPD, *9MPT, *9MPV** Series and 50Hz **H8UH5, MUF, HL** Series Furnaces

* Denotes Brand (T, H or C)


SAFETY REQUIREMENTS

Installing and servicing heating equipment can be hazardous due to gas and electrical components. Only trained and qualified personnel should install, repair, or service heating equipment.

Untrained service personnel can perform basic maintenance functions such as cleaning and replacing air filters. All other operations must be performed by trained service personnel. When working on heating equipment, observe precautions in the literature, on tags, and on labels attached to or shipped with the furnace and other safety precautions that may apply.

Follow all safety codes. In the United States, follow all safety codes including the National Fuel Gas Code (NFPA) ANSI Z223.1-2006/NFPA 54-2006, or current revision. In Canada, refer to the National Standard of Canada Natural Gas and Propane Installation Code (NSCNGPIC) CAN/CGA-B149.1 and .2-M05, or current revision.

Wear safety glasses and work gloves. Have fire extinguisher available during Start-up, Adjustment steps, and service calls.

Recognize safety information. This is the safety-alert symbol . When you see this symbol on the furnace and in instruction manuals be alert to the potential for personal injury.

Understand the signal words *DANGER*, *WARNING*, or *CAUTION*. These words are used with the safety-alert symbol. *DANGER* identifies the most serious hazards, those that **will** result in severe personal injury or death. *WARNING* signifies a hazard that **could** result in personal injury or death. *CAUTION* is used to identify unsafe practices that **may** result in minor personal injury or product and property damage. Notes are used to highlight suggestions that will result in enhanced installation, reliability, or operation.

INTRODUCTION

This instruction covers installation of the primary heat exchanger kit part number 1175196, 1175197, 1175198, 1175199, and 1175200 for all 80% and 90% furnaces.



WARNING

FIRE EXPLOSION AND ELECTRICAL HAZARD.

Failure to follow this warning could result in property damage, personal injury, and/or death.

Turn off gas and electric supplies to unit before beginning any installation or modification. Follow the operating instructions on label attached to furnace.

Use this primary heat exchanger kit to replace a failed primary heat exchanger. This primary heat exchanger kit contains the following items:

DESCRIPTION AND USAGE



CAUTION

UNIT OPERATION HAZARD.

Failure to follow this caution may result in improper unit operation. Label all wires prior to disconnection when servicing controls.



CAUTION

CUT HAZARD.

Failure to follow this caution may result in personal injury.

Sheet metal parts may have sharp edges or burs, use care and wear appropriate protective clothing and gloves when handling parts.

Kit Part Numbers		
Part	Furnace Model Number	BTUH input rating
1175197	H8UH5, MUF, HL, N8MPN/L, *8MPN/L, *8DNL, *8MPD/T/V, N9MP1/2/D, *9MPD/T/V	40k & 50k
1175198	H8UH5, MUF, HL, N8MPN/L, *8MPN/L, *8DNL, *8MPD/T/V, N9MP1/2/D, *9MPD/T/V, *9UHX	60k & 75k
1175199	*9UHX	80k
1175199	H8UH5, MUF, HL, N8MPN/L, *8MPN/L, *8DNL, *8MPD/T/V, N9MP1/2/D, *9MPD/T/V	80k & 100k
1175200	*9UHX	100k
1175200	H8UH5, MUF, HL, N8MPN/L, *8MPN/L, *8DNL, *8MPD/T/V, N9MP1/2/D, *9MPD/T/V	125k
1175196	H8UH5, MUF, HL, *8MPN,	140k & 150k

* Denotes (T, H, or C)

Parts Supplied with Each Kit	Qty
Primary Heat Exchanger Bundle	1
Panel Assembly Screws	28 Max
Gasket	2 Max
Installation Instructions	1

INSTALLATION - Mid Efficiency Furnace (80%)

Step 1 - Preparing Furnace

Label wires and tubing prior to disconnection.

1. Turn off gas at external supply shut-off.
2. Turn off electrical supply to furnace.

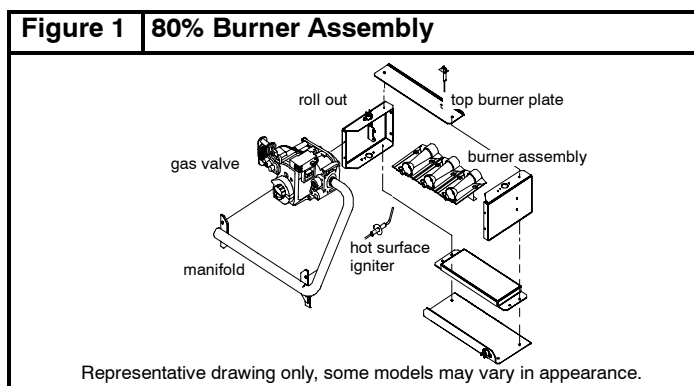
Note: More than one (1) disconnect may be required to disconnect power to unit.

3. Remove furnace doors.
4. Turn electrical switch on gas valve to "OFF".
5. Disconnect the vent.

Step 2 - Remove the Burner Assembly (Figure 1)

1. Disconnect wires from gas valve.
2. Remove front door plate.
3. Disconnect pressure switches, wires and tubing from inducer motor. (Keep tubing connected to pressure switch.)
4. Disconnect main limit switch wires from main limit switch on cell panel.
5. Disconnect inducer motor wires.
6. Disconnect wires from roll-out switches located on the burner box.
7. Disconnect harness from hot surface igniter.
8. Disconnect flame sensor wire from flame sensor.
9. Disconnect gas line at external union or pipe connection.
10. Remove plastic zip tie on gas manifold if there is one.
11. Remove gas valve and manifold four (4) screws.
12. Remove the burner assembly (**Figure 1**).
13. Remove the complete burner box four (4) screws.

Note: Wires can be pulled through gas line access hole to get them out of the way.



Step 3 - Remove the Collector Box & Inducer Assembly

1. Remove vent pipe.
2. Remove pressure switch bracket (keep the pressure switch tube attached to the pressure switch).
3. Remove three (3) screws securing inducer assembly to collector box.
4. Use a putty knife or automotive-type gasket scraper to carefully pry up on collector box where it meets the cell panel. Remove collector box.
5. Clean any remaining silicone residue from cell panel and collector box.

Step 4 - Primary Heat Exchanger Removal

1. Remove the screws fastening the primary heat exchanger cell panel to the cabinet.
2. Pull out the primary heat exchanger bundle with the cell panel still attached to heat exchanger.
3. Remove interior screws from heat exchanger and remove cell panel.

Step 5 - Install New Primary Heat Exchanger

1. After removing the new primary heat exchanger from the box, attach the cell panel to the bundle using the previously removed screws or the new screws provided. Attach cell panel with interior holes.

Note: Be sure that all gaskets are replaced in the same location as on the old heat exchanger. (**Figure 2**)

2. Place new primary heat exchanger bundle back into the furnace. Attach by reinstalling perimeter screws.
3. Replace front door plate.

Step 6 - Installation of Collector Box & Inducer Assembly

1. Apply 3/16 inch to 1/4 inch bead of high temperature silicone around the outside edge of the collector box. (High temperature silicone (red) is purchased separately.)
2. Realign collector box against cell panel and attach.
3. Align inducer assembly and attach to collector box.
4. Reinstall pressure switch.
5. Connect pressure switch tubing to inducer assembly.

Step 7 - Installation of Burner Assembly

1. Align burner box with mounting holes in cell panel and reinstall the four (4) mounting screws.
2. Reattach limit switches.
3. Reinstall burner assembly.
4. Reinstall gas valve and manifold. Be sure to reattach the green/yellow ground wire to the manifold.

Note: Failure to properly ground burner assembly will result in loss of flame sensing signal.

5. Connect flame sensor wire to flame sensor.
6. Connect harness to the hot surface igniter.
7. Replace front door plate.
8. Connect wires to limit switches, pressure switch, door switch and gas valve.
9. Plastic zip tie the wires around the manifold if necessary to prevent them from obstructing the gas flow out of the manifold.
10. Connect gas supply to external union or pipe connection.

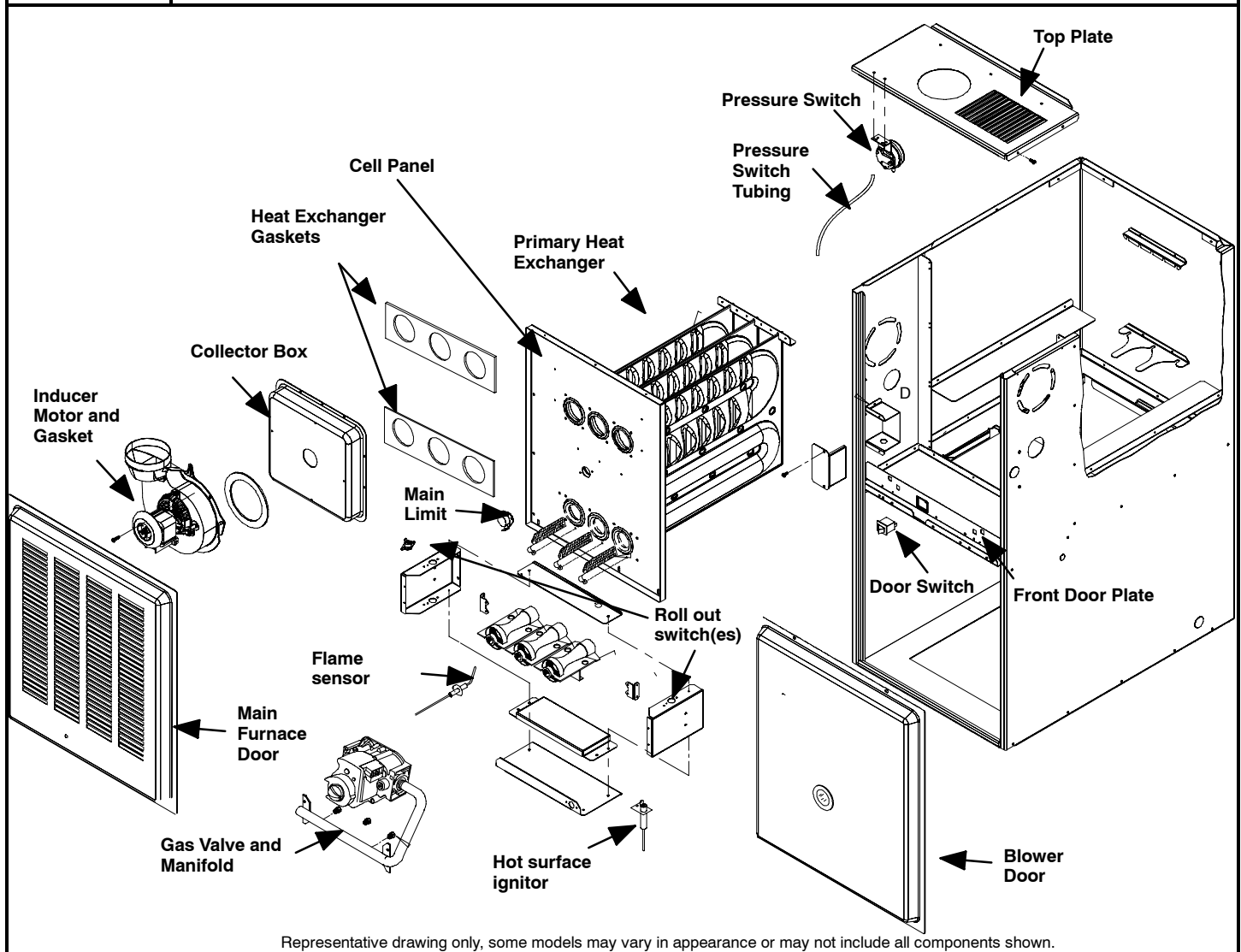
Verify System Operation

Upon completion of all replacement procedures, perform the following steps to verify the system operation.

1. Turn the thermostat to its lowest temperature setting or to OFF if equipped with a System Select Switch.
2. Turn the gas valve control knob to ON.
3. Reinstall all access panels.
4. Turn ON all electrical power and gas supply to the unit.
5. Set the thermostat to the desired temperature and the System Select Switch to HEAT.
6. Observe unit operation through two (2) complete heating cycles. See "Sequence of Operation" in furnace installation instructions.

Figure 2

80% Expanded View



INSTALLATION - High Efficiency Furnace (90+%)

Step 1 - Preparing Furnace

Label wires and tubing prior to disconnection.

1. Turn off gas at external supply shut-off.
2. Turn off electrical supply to furnace.

Note: More than one (1) disconnect may be required to disconnect power to unit.

3. Remove furnace doors.
4. Turn electric switch on gas valve to "OFF".
5. Disconnect the vent.

Step 2 - Remove the Burner Assembly (Figure 3)

1. Disconnect wires from gas valve.
2. Disconnect pressure switches, wires and tubing from inducer motor. (Keep tubing connected to pressure switch.)
3. Disconnect main limit switch wires from main limit switch on cell panel.
4. Disconnect inducer motor wires.
5. Disconnect wires from roll-out switches located on the burner box.
6. Disconnect wires from door switch.
7. Disconnect harness from hot surface igniter.
8. Disconnect flame sensor wire from flame sensor. (On Honeywell Smart Valve Step 7 and 8 are not necessary)

9. Disconnect gas line at external union or pipe connection.

10. Remove plastic zip tie on gas manifold if there is one.

11. Remove gas valve and manifold four (4) screws.

Note: Burner assembly may or may not be removed.

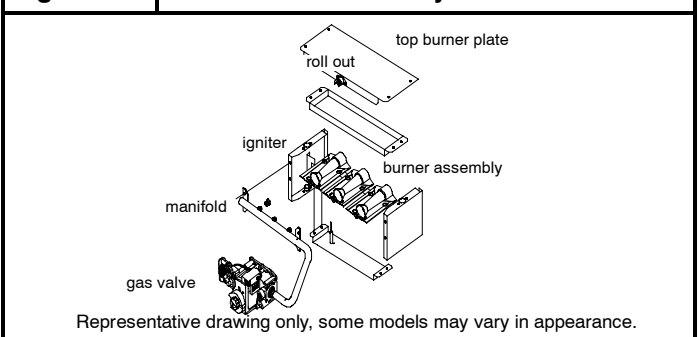
12. Remove the complete burner box four (4) screws.

Note: On Honeywell Smart Valve there are two (2) additional screws holding ignitor assembly.

13. Remove the Junction Box (J-Box).

Note: Wires can be pulled through gas line access hole to get them out of the way.

Figure 3 90% Burner Assembly



Step 3 - Remove Trap and Pressure Switches

1. Disconnect the corrugated 5/8" ID drain tube from the transition box.
2. Disconnect pressure switch hose from the transition box. (On two-stage remove hose from inducer assembly.)



CAUTION

PERSONAL INJURY HAZARD.

Failure to follow this caution may result in personal injury.

There may be condensate in the tubes. Spilled condensate may be slippery.

3. Remove the drain tee or the field supplied vent tube from the inducer assembly.
4. Remove the two (2) screws fastening the pressure switch assembly to the blower deck and remove the assembly from the furnace.
5. Remove the two (2) screws fastening the condensate trap assembly to the blower deck and remove the assembly by pulling the tubes through the opening.
6. Remove front door plate.
7. Remove drain tube clip.

Note: Not all furnaces contain the drain tube clip.

Step 4 - Remove the Collector Box, Inducer Assembly & Secondary Heat Exchanger

1. Remove vent pipe.
2. Remove the four (4) screws fastening the inducer assembly to the transition assembly and remove the inducer assembly from the furnace.
3. Remove the screws fastening the transition assembly to the cell panel (7-11 screws depending on the model) and remove the transition assembly and transition assembly gasket from the furnace.
4. Remove collector box screws.
5. Remove collector box, being careful with gasket and insulation board.
6. Clean any remaining gasket residue from cell panel and collector box.
7. Remove the division plate and the secondary heat exchanger.

Step 5 - Primary Heat Exchanger Removal

1. Remove the screws fastening the primary heat exchanger cell panel to the cabinet and primary heat exchanger assembly (13-20 screws depending on the model).
2. Remove screws from top plate.
3. Slide the primary heat exchanger assembly out.



CAUTION

PROPERTY DAMAGE HAZARD.

Failure to properly follow this caution may result in property damage.

The turbulators are loose in the tubes and there may be condensate in the tubes.

Step 6 - Install New Primary Heat Exchanger

1. After removing the cell panel from the old primary heat exchanger, attach it to the new primary heat exchanger with interior screws.

2. Place the new primary heat exchanger with cell panel back in the furnace and attach with perimeter and top plate screws.

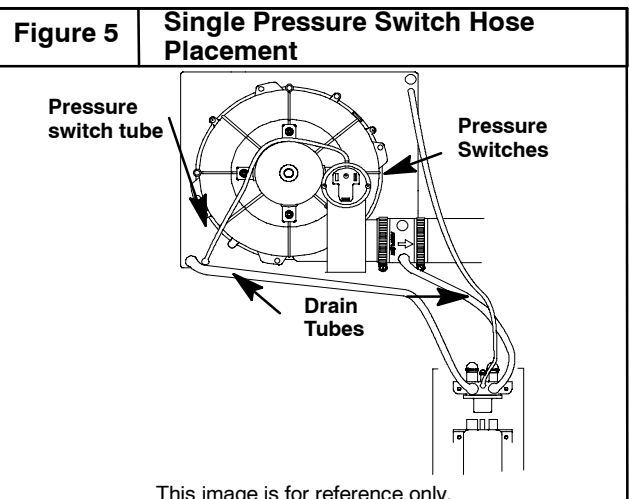
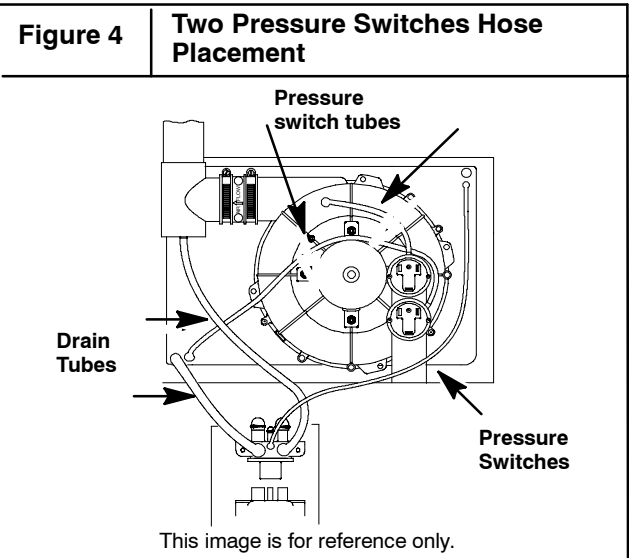
Note: Make sure gaskets are returned to the same locations as removed from (Figure 6).

3. Reinstall the secondary heat exchanger back into the furnace.
4. Reinstall the perimeter screws on the secondary heat exchanger.

Step 7 - Installation of Collector Box & Inducer Assembly

1. Reinstall the collector box gasket, collector box and insulating board.
2. Reinstall the transition assembly to the cell panel.
3. Attach the inducer assembly with the four (4) removed screws in the same venting position as it was prior to removal.
4. Replace front door plate.
5. Reattach the drain tubes (Figure 4 and Figure 5).
6. Replace the pressure switch assembly to the front door plate.
7. Attach the pressure switch tube to the transition (two stage will require pressure switch tube attached to inducer assembly.)

Note: Be sure that all drain tubes are not kinked or pinched.



Step 8 - Installing of Burner Assembly

1. Align burner box with mounting holes in cell panel and reinstall the four (4) mounting screws.
2. Reinstall gas valve and manifold. (On Honeywell Smart Valve, do not forget the two (2) screws for ignitor assembly.)
3. Reinstall the Junction Box (J-Box).
4. Reinstall gas valve and manifold. Be sure to reattach the green/yellow ground wire to the manifold.

Note: Failure to properly ground burner assembly will result in loss of flame sensing signal.

5. Connect flame sensor wire to flame sensor.
6. Connect harness to the hot surface igniter. (On Honeywell Smart Valve already connected.)
7. Replace drain tube clip before replacing the front door plate. (Be sure that the drain tube is not kinked/buckled before clipping down the tube.)

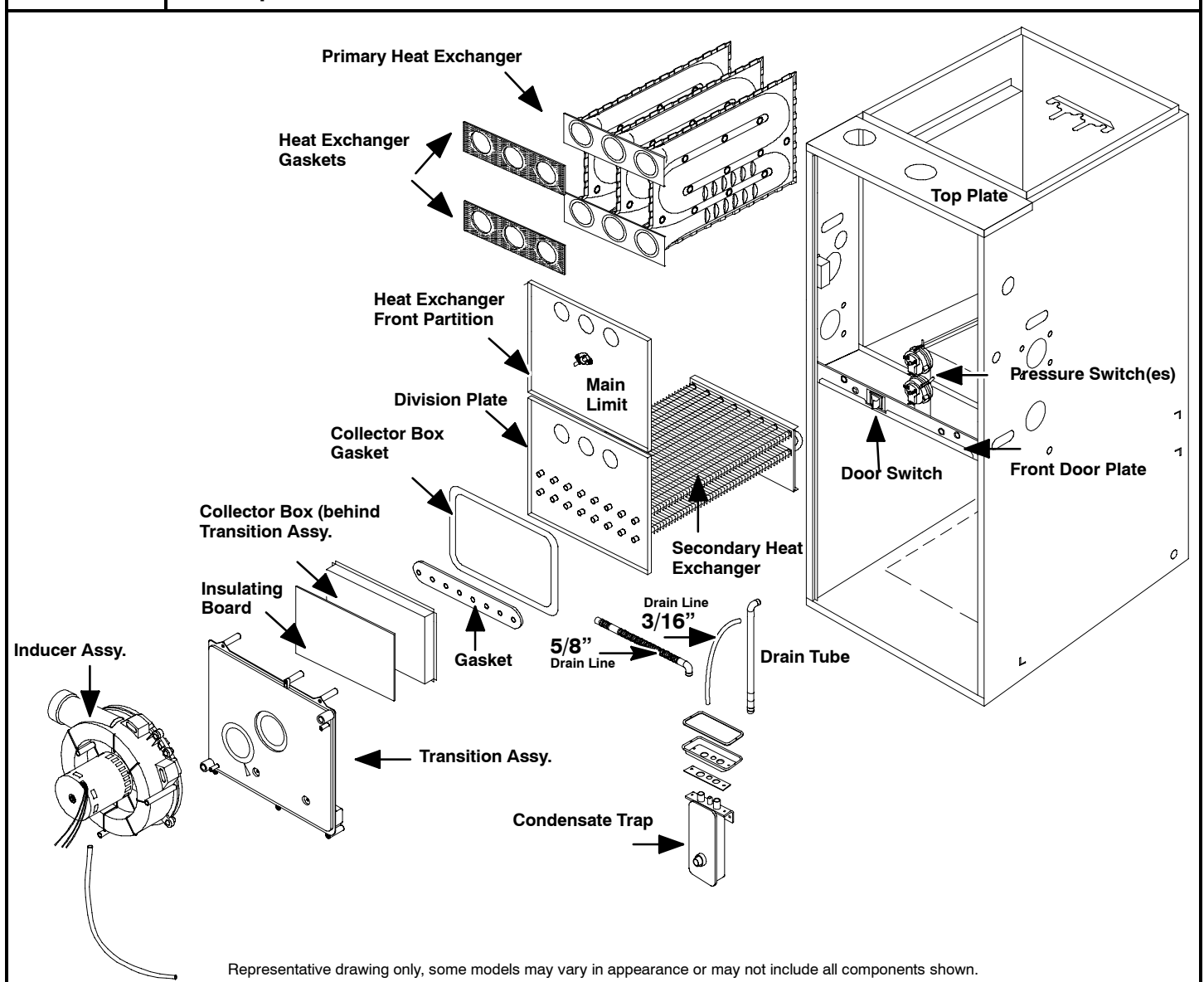
8. Connect wires to limit switches, pressure switches, door switch, gas valve, and inducer assembly.
9. Connect gas supply to external union or pipe connection.

Verify System Operation

Upon completion of all replacement procedures, perform the following steps to verify the system operation.

1. Turn the thermostat to its lowest temperature setting or to OFF if equipped with a System Select Switch.
2. Turn the gas valve control knob to ON.
3. Reinstall all access panels.
4. Turn ON all electrical power and gas supply to the unit.
5. Set the thermostat to the desired temperature and the System Select Switch to HEAT.
6. Observe unit operation through two (2) complete heating cycles. See "Sequence of Operation" in furnace installation instructions.

Figure 6 90% Expanded View



Representative drawing only, some models may vary in appearance or may not include all components shown.