

# INSTALLATION INSTRUCTIONS

## For the replacement of Secondary Heat Exchanger

### Part Numbers 1174416 through 1174423

This kit is designed to replace the 90% **N9MP1, N9MP2, N9MPD, \*9MPD, \*9MPT, \*9MPV** 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 (NFGC) ANSI Z223.1-2006/NFPA 54-2006. In Canada, refer to the National Standard of Canada Natural Gas and Propane Installation Code (NSCNGPIC) CAN/CGA-B149.1 and .2-05.

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. Note is used to highlight suggestions that will result in enhanced installation, reliability, or operation.

Kit Part	Used with Models	
1174416	N9MP1040B	N9MP(1/2)050B
1174417	N9MP1060B	N9MP(1/2)075B
1174418	N9MPD040-50F	*9MP(D/T/V)050
1174419	N9MPD060-75F	*9MP(D/T/V)075F
1174420	N9MP(1/2)080-100F	N9MP(1/2)080-100F
1174421	N9MPD080-100J	*9MPD080J *9MP(D/T/V)100J
1174422	N9MP(1/2)125J	
1174423	N9MPD125L	*9MP(D/T/V)125L

\* Denotes Brand (T, H or C)

### INTRODUCTION

This instruction covers installation of the secondary heat exchanger kit part number 1174416 through 1174423 for all 90% furnaces.

 **WARNING**

**FIRE EXPLOSION AND ELECTRICAL HAZARD**

Failure 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 secondary heat exchanger kit to replace a failed secondary heat exchanger. This secondary heat exchanger kit contains the following items:


Parts Supplied with Each Kit	Qty.
Secondary Heat Exchanger/Panel Assembly (includes insulation)	1
Panel Assembly Screws	20 Max
Turbulators	14 Max
Collector Box Gasket	1
Transition Assembly Gasket	1
Inducer Assembly Gasket	1
Installation Instructions	1

### DESCRIPTION AND USAGE

 **CAUTION**

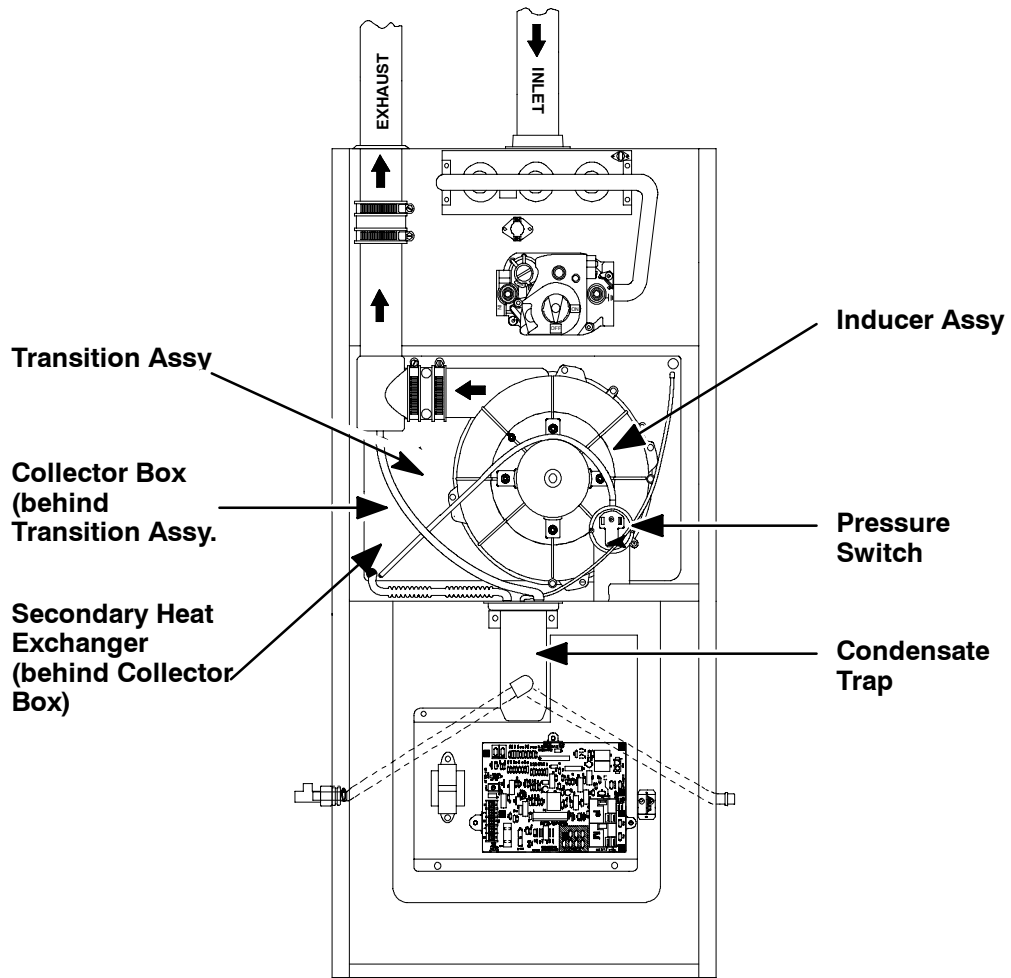
**UNIT OPERATION HAZARD**

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.

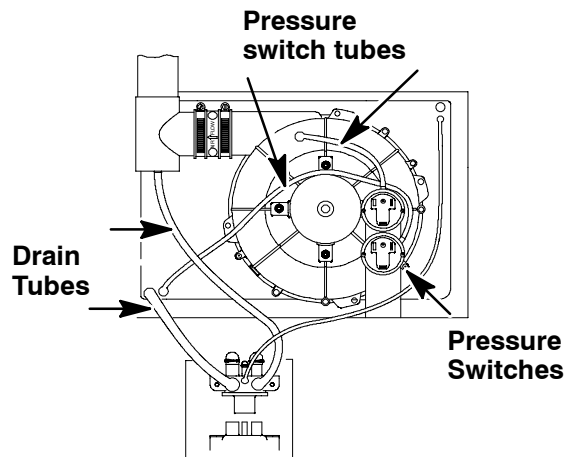
**Figure 1****Furnace**

## INSTALLATION

### Step 1 - Disconnect Wires and Tubing

Label wires and tubing prior to disconnection.

- A. Turn off gas and electrical supplies to furnace.
- B. Remove main furnace door.
- C. Remove blower access door.
- D. Detach electrical junction box.
- E. Disconnect all wires from the inducer assembly.
- F. Disconnect wires from the pressure switch assembly.
- G. Disconnect all drain and pressure switch tubes from the transition assembly and pressure switch assembly (**Figure 2**).

**Figure 2****Two Stage -  
Two Pressure Switches**

## Step 2 - External Component removal

**Note:** There may be condensate left in the tubes/heat exchanger. Spilled condensate may be slippery.

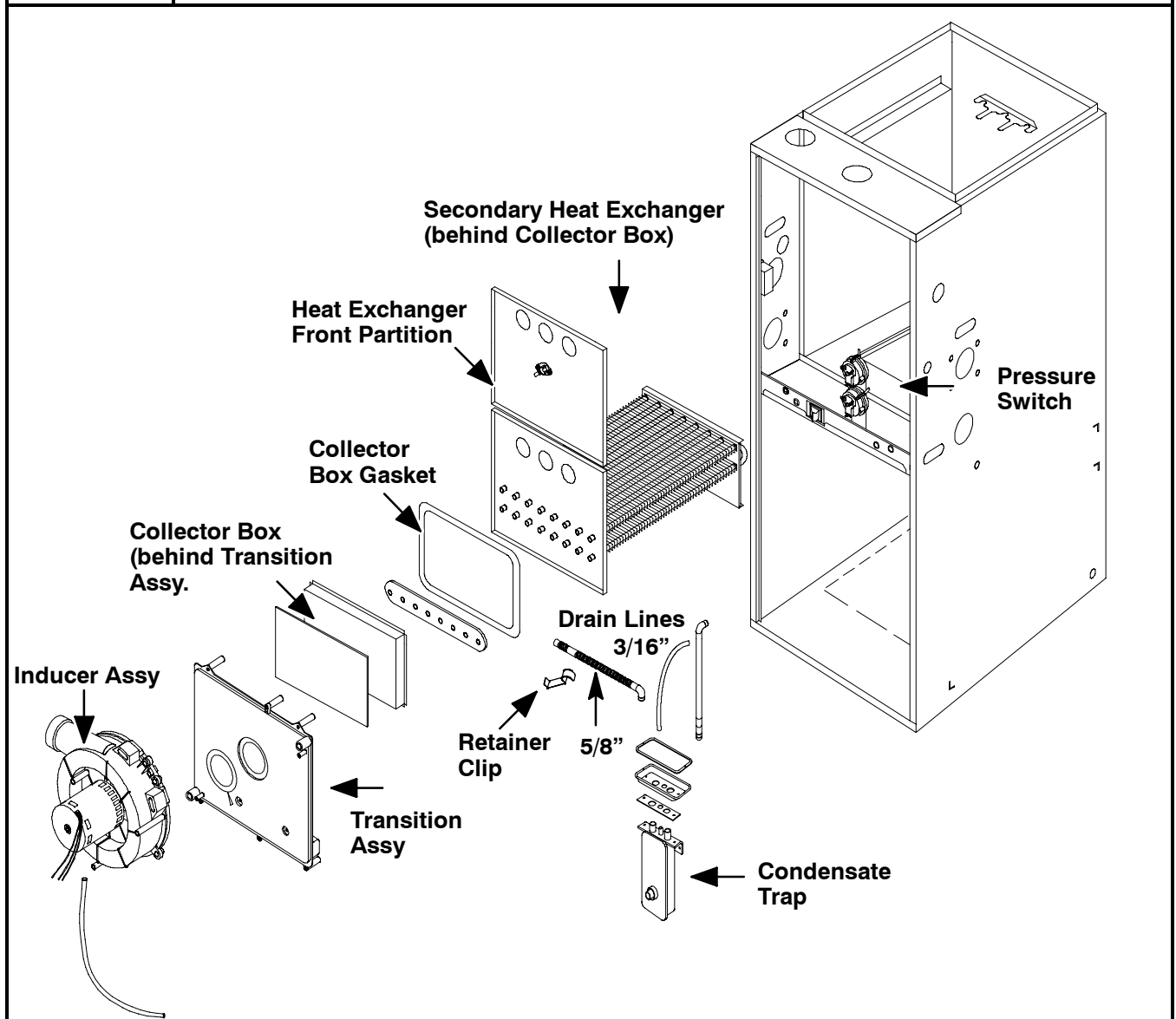
- A. Remove the screw from the retainer clip supporting the corrugated 5/8" ID drain tube that is connected to the transition assembly from the condensate trap assembly.
- B. Disconnect the corrugated 5/8" ID drain tube that is connected to the transition assembly from the condensate trap assembly.
- C. Remove the drain tee or the field supplied vent tube from the inducer assembly.

- D. Remove the two (2) screws fastening the pressure switch assembly to the blower deck and remove the assembly from the furnace.
- E. 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.

**Note:** There may be condensate left in the tubes/heat exchanger. Spilled condensate may be slippery.

- F. Remove the four (4) screws fastening the inducer assembly to the transition assembly and remove the inducer assembly from the furnace.

**Figure 3** Expanded View



## Step 3 - Internal Component Removal

- A. 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

- B. Remove the eight (8) screws fastening the collector box/insulation board assembly to the cell panel and remove it from the furnace along with the collector box gasket.

#### Step 4 - Secondary Heat Exchanger Removal

- A. Remove the screws fastening the secondary heat exchanger cell panel to the cabinet and primary heat exchanger assembly (13-20 screws depending on the model).
- B. Begin sliding the secondary heat exchanger assembly out and lift it over the door divider plate.



### CAUTION

#### PROPERTY DAMAGE RISK

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

#### Step 5 - Install New Secondary Heat Exchanger

- A. After removing the new secondary heat exchanger from the box and removing any protective material, slide the assembly into the furnace.
- B. Line the mating screw holes up and install all the screws that fasten the assembly to the cabinet and primary heat exchanger assembly. New screws were provided with this kit in case any of the screws were damaged during removal.
- C. Install turbulators in the bottom of the secondary heat exchanger.

**Note:** Some furnaces may not have the full amount of turbulators. When installing the new turbulators, make sure to install a full set.

#### Step 6 - Installing Internal Components

- A. Inspect the collector box gasket and replace with the new one from the kit if needed.
- B. Fasten the collector box/insulation board assembly to the cell panel using the eight (8) screws that were removed from Step 3B.
- C. Inspect the transition assembly gasket and replace with the new one from the kit if needed.
- D. Fasten the transition assembly to the cell panel using the screws that were removed from Step 3A.

- E. Inspect the inducer assembly gasket located on the front of the transition assembly and replace with the new one from the kit if needed.

**Note:** This gasket has an adhesive on one side which is used to secure it to the transition assembly.

#### Step 7 - Installing External Components

- A. Install the inducer assembly with the four (4) screws removed during Step 2C in the same venting position as it was prior to removal.

**Note:** It is recommended to install these screws with a hand tool to prevent damaging/stripping the mating holes in the transition assembly.

- B. Feed the drain tubes through the rectangular opening in the blower deck with the condensate trap drain stub facing outwards and fasten the assembly to the blower deck with the screws removed from Step 2D. Do not forget to install the gasket in this Step.
- C. Place the pressure switch assembly on the blower deck and fasten in place with the screws removed from Step 2C.
- D. Install the drain tee or field supplied vent tube into the inducer assembly.
- E. Connect the corrugated 5/8" ID drain tube from the transition assembly to the condensate trap assembly.
- F. Using previously removed screw, remount retainer clip, between the door switch plate and the blower shelf, supporting the corrugated 5/8" ID drain tube that is connected to the transition assembly from the condensate trap assembly.

#### Step 8 - Connect Wires and Tubes

- A. Connect all drain and pressure tubes. Ensure that the tubes are not kinked or pinched.
- B. Connect the wires to the pressure switch(es).
- C. Connect all the wires for the inducer assembly.
- D. Fasten the electrical junction box to the cabinet.

Now that the secondary heat exchanger replacement is complete, install the blower access door and turn on the gas and electrical supply. Check furnace operation through two (2) cycles. Finally, check for condensate leaks and install the main furnace door.

**Note:** You must prime the trap or furnace may cycle on error until the trap fills.