

Installation Instructions

Heat Exchanger Replacement Kits

Description

The following installation instructions are for the Heat Exchanger Replacement Kits for APG/GPG gas/electric package units. This kit contains the complete heat exchanger assembly, a new heat exchanger gasket, a new ID Blower Plate gasket, and removal/replacement instructions.



WARNING

To avoid death, personal injury or property damage due to electrical shock, disconnect the electrical power supply before servicing this unit.



WARNING

Disconnect electrical power and shut off gas supply.

I. Removal Procedures

Note: Save all components and screws removed in the following procedures for reassembly. See Figure 5 on Page 3 for component identification and location.

1. Turn off all electrical power and gas supply to the unit.
2. Remove all the access doors (compressor, heat exchanger and evaporator/control).
3. Next, disconnect and remove the gas supply piping to the gas valve, then remove the condensate drain hose clamp at the condensate drain pan and remove the rubber drain hose from the drain pan (see Figure 1).
4. Remove the utility panel. You should now have all four panels removed from the heat exchanger side of the unit which will allow for removal of the heat exchanger assembly.
5. Remove the following wires: orange wire going to the ignitor, the red wire going to the flame sensor, the two purple wires going to the rollout switch, and the purple and black wires going to the gas valve.

Note: Use caution when removing the wires to avoid damaging any of the components.

6. Remove the one screw that holds the heat deflector to the heat exchanger at the top of the burner bracket (see Figure 5).
7. Remove the four screws holding the burner/manifold assembly to the heat exchanger face plate, and then remove the burner/manifold assembly.
8. Remove the orifice plate covering the heat exchanger tubes by removing the screws that secure it to the heat exchanger face plate.



RECOGNIZE THIS SYMBOL AS A SAFETY PRECAUTION

ATTENTION SERVICE PERSONNEL

As a professional servicer you have an obligation to know the product better than the customer. This includes all safety precautions and related items.

Prior to actual installation, thoroughly familiarize yourself with these instructions. Pay special attention to all safety warnings. Often during installation or repair it is possible to place yourself in a position which is more hazardous than when the unit is in operation.

Remember, it is your responsibility to install the product safely and to know it well enough to be able to instruct a customer in its safe use.

Safety is a matter of common sense...a matter of thinking before acting. Most dealers have a list of specific good safety practices...follow them.

The precautions listed in these instructions should not supersede existing practices but should be considered as supplemental information.

Note: If using natural gas, remove the mesh tube inserts from each tube of the existing heat exchanger. Mesh tube inserts would not be present if the unit has been converted to LP gas.

9. Remove the two yellow wires and the rubber vacuum hose from the pressure switch and then remove the pressure switch.

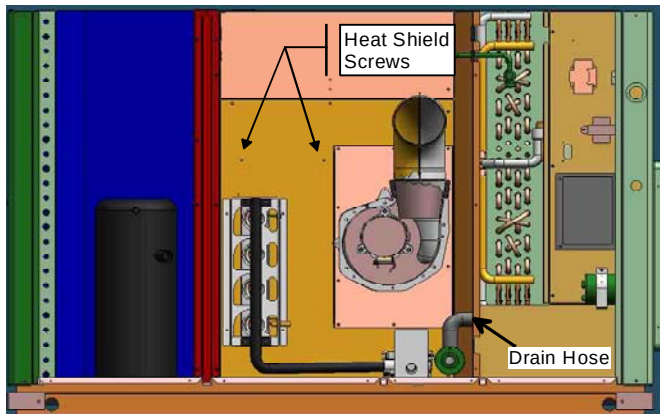


Figure 1

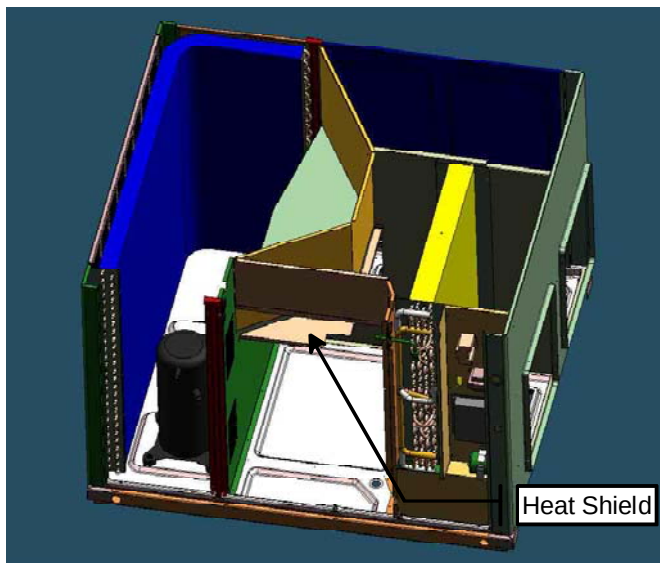


Figure 2

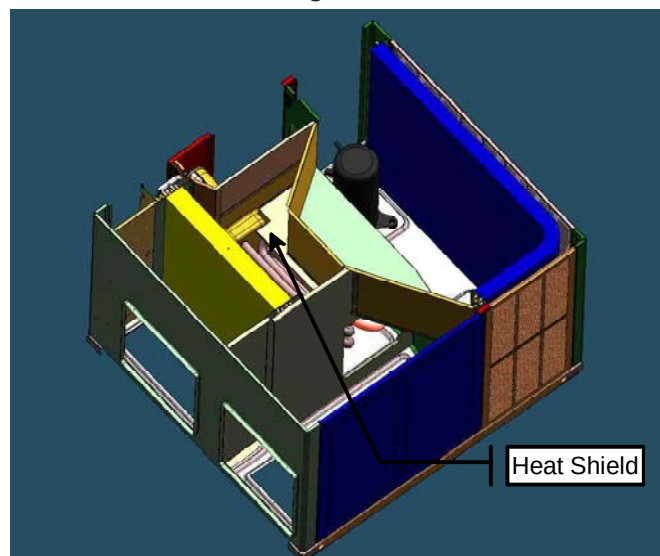


Figure 3

10. Disconnect the two power leads for the inducer blower, remove the screws from the inducer blower plate and then remove the inducer blower assembly.
11. Remove the two screws holding the heat shield to the heat exchanger (see Figure 1). Remove the remaining screws holding the heat exchanger assembly in place. The heat exchanger assembly can now be removed by sliding it out of the unit.

NOTE: Notice the position of the heat shield in the unit (see Figures 2 and 3). You will have to align the heat shield screw holes with the holes in the new heat exchanger assembly when installing the new heat exchanger.

II. Reinstallation Procedures

NOTE: Before installing the new heat exchanger, you must first affix the new gasket (red foam) to the heat exchanger. First, you must clean the heat exchanger where the new gasket will be installed. Wipe off all oil and debris to insure the new gasket will adhere to the heat exchanger. Now that the heat exchanger is cleaned thoroughly, begin installing the new gasket. Looking at the heat exchanger from the back (facing the tubes), the gasket will be on the back left side from top to bottom, on the back along the top, and down the right on the outside of the flange (see Figure 4).

The new heat exchanger assembly can now be installed in the unit.

1. Slide the new heat exchanger assembly into the unit making sure to align the screw holes in the heat shield with the holes in the new heat exchanger assembly (see Figure 1). You may need to use a wire to help align the holes. If you cannot align the screw holes in the heat shield as previously described, you will have to remove the top to gain access to the heat shield. You can then reach in and hold the heat shield in place by hand while installing the two screws to secure the heat shield to the heat exchanger.
2. Secure the new heat exchanger to the unit with the screws that were removed in Step 11 of the removal procedures. Insure there is an air tight seal between the heat exchanger and the unit to prevent air leakage into the burner area.
3. Install inducer blower plate along with new gasket and secure with the screws removed in Step 10 of the removal process and reconnect the two power leads from the inducer motor. The new inducer blower plate gasket also includes a inducer blower gasket that will not be used. Remove the inner gasket (inducer blower gasket) and discard.
4. Next, install the pressure switch and reconnect the two yellow wires and the rubber vacuum hose removed in Step 9 of the removal process.

Note: If using natural gas, reinstall the mesh tube inserts into each tube of the new heat exchanger. If using LP gas, do not use the mesh tube inserts, these can be discarded.

5. Install the orifice plate with the screws removed in Step 8 of the removal procedures.

6. Install the burner and manifold assembly with the screws removed in Step 7 of the removal procedures.
7. Next secure the heat deflector at the top of the burner bracket with the one screw removed in Step 6 of the removal procedures.
8. Reconnect the orange wire to the ignitor, the red wire to the flame sensor, the two purple wires to the rollout switch, and the purple and black wires to the gas valve that were removed in Step 5 of the removal procedures. Refer to wiring diagram if needed.

NOTE: Ensure the rollout switch is properly seated in the burner bracket, and that the heat deflector is in place on top of the burner bracket. **It is very important that the heat deflector is in place for proper operation of the rollout switch.**

9. Install the utility panel that was removed in Step 4 of the removal procedures.
10. Reconnect the condensate drain hose to the condensate drain pan using clamp removed in Step 3 of the removal procedures (see Figure 1).
- NOTE:** Reinstall screws in top if the top was removed in Step 1 of the reinstallation procedures.
11. Reconnect the gas supply piping to the gas valve in the unit that was removed in Step 3 of the removal procedures.

NOTE: The gasket is shown in black in Figure 4 below to emphasize the location of the gasket. The actual gasket will be a red foam gasket.

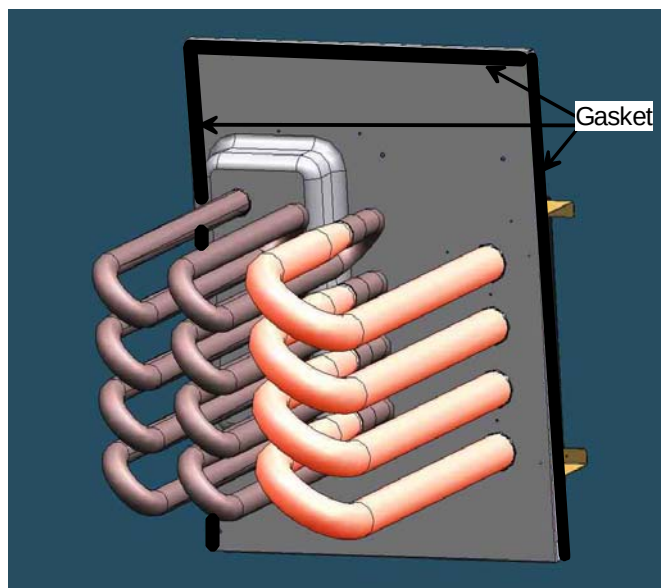


Figure 4

12. Next, install the compressor and evaporator/control access doors that were removed in Step 2 of the removal procedures.



To avoid the possibility of explosion or fire, never use a match or open flame to test for leaks.

NOTE: Before placing the unit in operation, leak test the unit and gas connections. Check for leaks using an approved chloride-free soap and water solution, an electronic combustible gas detector, or other approved testing method.

13. Restore power to the unit and check for proper operation. Verify proper gas pressures, static pressures and temperature rise on the unit.

NOTE: If the gas pressures, static pressures and temperature rise are not within the ranges specified, this will result in premature unit failure.

NOTE: After the indoor blower comes on, check around the new heat exchanger to verify there are no air leaks into the burner area. If there are leaks, this must be sealed prior to installation of final access door.

14. After verifying proper operation, replace the heat exchanger door removed in Step 2 of the removal procedures.

NOTE: The flue elbow has been removed from the inducer motor in Figure 5 below to better show the components.

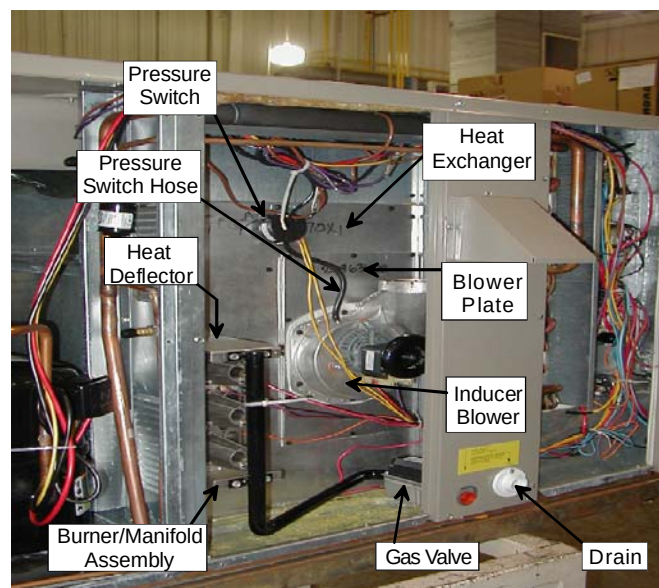


Figure 5