

INSTALLATION INSTRUCTIONS

Fan Coil Replacement Coil Kit

EBX & EBXX

These instructions must be read and understood completely before attempting installation.


These instructions covers the installation of replacement coil kit into fan coils (see Figure 1) The kit is designed to allow easy replacement of existing slope or A-coils. A 3/4 to 5/8 inch reducing bushing is included in the coil kit for use on the field vapor connection tube, when necessary.

SAFETY CONSIDERATIONS

Improper installation, adjustment, alteration, service, maintenance, or use can cause explosion, fire, electrical shock, or other conditions which may cause death, personal injury, or property damage. Consult a qualified installer, service agency, or your distributor or branch for information or assistance. The qualified installer or agency must use factory-authorized kits or accessories when modifying this product. Refer to the individual instructions packaged with the kits or accessories when installing.

Follow all safety codes. Wear safety glasses, protective clothing, and work gloves. Use quenching cloth for brazing operations. Have fire extinguisher available. Read these instructions thoroughly and follow all warnings or cautions included in literature and attached to the unit. Consult local building codes and National Electrical Code (NEC) for special requirements.

Recognize safety information. This is the safety-alert

symbol  When you see this symbol on the unit and in instructions or manuals, be alert to the potential for personal injury. Understand these signal words; DANGER, WARNING, and CAUTION. These words are used with the safety-alert symbol. DANGER identifies the most serious hazards which **will** result in severe personal injury or death. WARNING signifies hazards which **could** result in personal injury or death. CAUTION is used to identify unsafe practices which **would** result in minor personal injury or product and property damage. NOTE is used to highlight suggestions which **will** result in enhanced installation, reliability, or operation.



WARNING

ELECTRICAL SHOCK HAZARD

Failure to follow this warning could result in personal injury or death.

Before installing, modifying, or servicing system, main electrical disconnect switch must be in the OFF position. There may be more than one disconnect switch. Lock out and tag switch with a suitable warning label.



CAUTION

PROPERTY DAMAGE HAZARD

Failure to follow this caution may result in property damage

R-410A systems operate at higher pressures than R-22 systems. When working with R-410A systems, use only service equipment and replacement components specifically rated or approved for R-410A service.



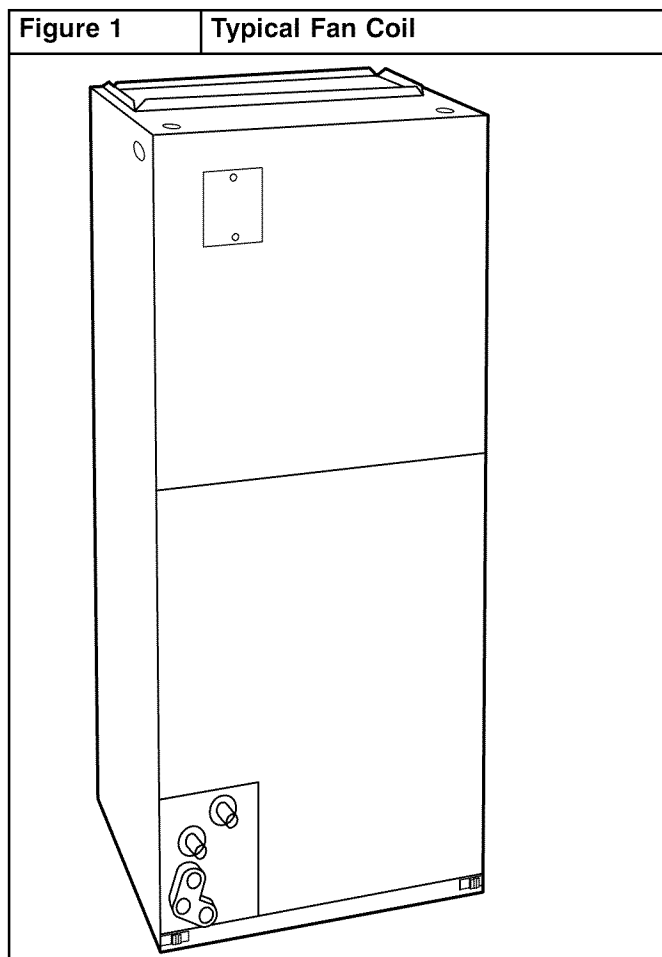
WARNING

ELECTRICAL SHOCK HAZARD

Failure to turn off electric power could result in personal injury or death.

Before installing or servicing system, turn off main power to the system. There may be more than one disconnect switch, including accessory heater(s).

DESCRIPTION AND USAGE



The replacement coil kit is designed for use when replacement of an existing slope of A-coil is required.

NOTE: Replacement of an indoor slope or A-coil must include recovery and recycling of refrigerant currently in the system. Provided the refrigerant has not been contaminated with moisture, acid, solid particulate, or non-condensibles, it may be recovered by following the procedures listed below. However, if the refrigerant is contaminated, recycling or reclaiming methods are required. If leaks are present in the system, meaning the refrigerant may be contaminated, recycling or reclaiming methods **MUST** be used. Installation of new filter drier(s) is required. The filter drier-type will depend up on the contaminants in the system. See Split-System Residential Air Conditioners and Heat Pumps Service manuals for further information.



CAUTION

PROPERTY DAMAGE HAZARD

Failure to follow this caution may result in personal injury or property damage

Relieve pressure and recover all refrigerant before system repair or final unit disposal to avoid personal injury.

Use all service ports and open all flow-control devices including the solenoid valves.

INSTALLATION

If it is determined that the system does not have leaks, and the refrigerant is not contaminated, proceed as follows:

1. Recover system refrigerant
 - a. Attach gage/manifold set to service valves.
 - b. Start unit in cooling mode.
 - c. Front seat (close) liquid line service valve.
 - d. Operate unit until vapor pressure reaches 5 psig (35kPa), or until suction line LPS opens.
 - e. Turn off electrical supply to outdoor unit.
 - f. Front seat (close) vapor service valve.
 - g. Recover any remaining refrigerant.

NOTE: All condenser coils hold only a factory-supplied amount of refrigerant. Excess refrigerant, such as in long-line applications, may cause compressor internal pressure relief valve to open (indicated by sudden rise in vapor pressure) before refrigerant is recovered. If this occurs, turn off electrical supply to outdoor unit immediately, front seat (close) vapor service valve, and recover any remaining refrigerant.

2. Turn off electrical supply to indoor unit.
3. Disconnect condensate drain line.



WARNING

FIRE HAZARD

Failure to follow this warning could result in personal injury or death.

Use of torch may cause oil to catch fire. To remove use tubing cutter only.

4. Disconnect liquid and vapor lines from indoor coil. Use a tubing cutter to cut the lines.
5. Remove coil access panel.
6. Remove clip securing fitting panel to condensate drain pan and remove fitting panel.
7. Remove all shipping clips (if present), including horizontal pan clip. Slide coil and condensate pan assembly out of unit.
8. Remove horizontal condensate drain pan from coil (if present) and condensate pan assembly. (See Fig. 2.)
9. Remove 4 coil brackets if present. (See Fig. 2.)
10. Remove screws at delta plates and remove coil from vertical condensate drain pan. (See Fig. 2.)

11. Thermostatic Expansion Valve (TXV) units only—To use original TXV with new coil, remove TXV from original coil and install onto new coil as follows:
- a. If TXV has a sweat joint on the valve outlet, unbraid sweat joint as shown in Fig. 3.
 - (1.) Remove equalizer tube. Use file to score and break off tube at old coil suction header, or unbraid. Remove bulb from old coil. The TXV should now be completely separated from old coil.
 - (2.) Install TXV onto new coil. Remove liquid line fitting tube from new coil, and remove piston from piston body. Use tubing cutters to cut off elbow. (See Fig. 4.)
 - (3.) Braze remaining tube and nut onto TXV outlet. (See Fig. 5.)
 - (4.) Install resulting TXV/nut assembly onto new coil in same location as on old coil.
 - (5.) Install equalizer tube onto new coil by scoring extension tube near brazed tip of tube, and sliding equalizer tube into extension tube. Braze equalizer tube to extension tube. (See Fig. 6.)
 - (6.) Install thermal bulb into suction header of new coil in 10 o'clock or 2 o'clock position.
 - b. If valve has a mechanical joint at valve outlet, use wrenches to separate valve outlet from old coil.
 - (1.) Remove equalizer tube. Use file to score and break off tube at old coil suction header, or unbraid. Remove bulb from old coil. The TXV should now be completely separated from old coil.
 - (2.) Install TXV onto new coil. Remove liquid line fitting tube from new coil using wrenches. Remove piston. Install valve onto new coil using wrenches. If TXV outlet is flare type, use adapter tube provided.
 - (3.) Install equalizer tube onto new coil by scoring extension tube near brazed tip of tube, and sliding equalizer tube into extension tube. Braze equalizer tube to extension tube.
 - (4.) Install thermal bulb into suction header of new coil in 10 o'clock or 2 o'clock position.
 - c. If replacement coil has a mechanical connection with no piston body, install TXV to flare nut or new coil.
 - (1.) Remove equalizer tube. Use file to score and break off tube at old suction header, or braze. Remove bulb from old coil.
 - (2.) Install TXV onto new coil. Install valve onto new coil onto coil using wrenches.
 - (3.) Install equalizer tube onto new coil by scoring and breaking extension tube near brazed tip of tube. Slide equalizer tube into extension tube and braze connection.
 - (4.) Install thermal bulb onto suction header of new coil in 10 o'clock or 2 o'clock position.
12. Horizontal Applications Only—Remove coil top seal (attached with 4 screws) and J-shaped tube from original coil, and install them in same position on new coil. (See Fig. 2.)
13. Place coil assembly in plastic condensate pan and secure with 4 screws through delta plate. (See Fig. 2.)
14. Horizontal and Upflow Applications Only—Attach 4 coil brackets to coil and pan assembly. (See Fig. 2.)
15. Horizontal Applications Only—Place horizontal condensate pan into position on coil and pan assembly.
- NOTE: Installation of horizontal condensate pan is not necessary for upflow or downflow applications.
16. Slide completed assembly into unit.
17. Reinstall fitting panel and reconnect clip securing fitting panel to condensate drain pan.
18. Horizontal Applications Only—Reinstall horizontal pan clip and secure with 1 screw. (See Fig. 2.)
19. Reinstall coil access panel.
20. Reconnect liquid and vapor refrigerant lines and condensate drain line. Install new filter drier(s).
- NOTE: If a torch is used to unbraid the line set, protect the fitting panel with a wet cloth or braze shield as necessary.
21. Evacuate line set and indoor coil to 500 microns, back seat (open) liquid and vapor service valves.
22. Turn on electrical supplies to indoor and outdoor units.
23. Check system refrigerant charge and operation. See Split-System Residential Air Conditioners and Heat Pump Service Manuals for further information.



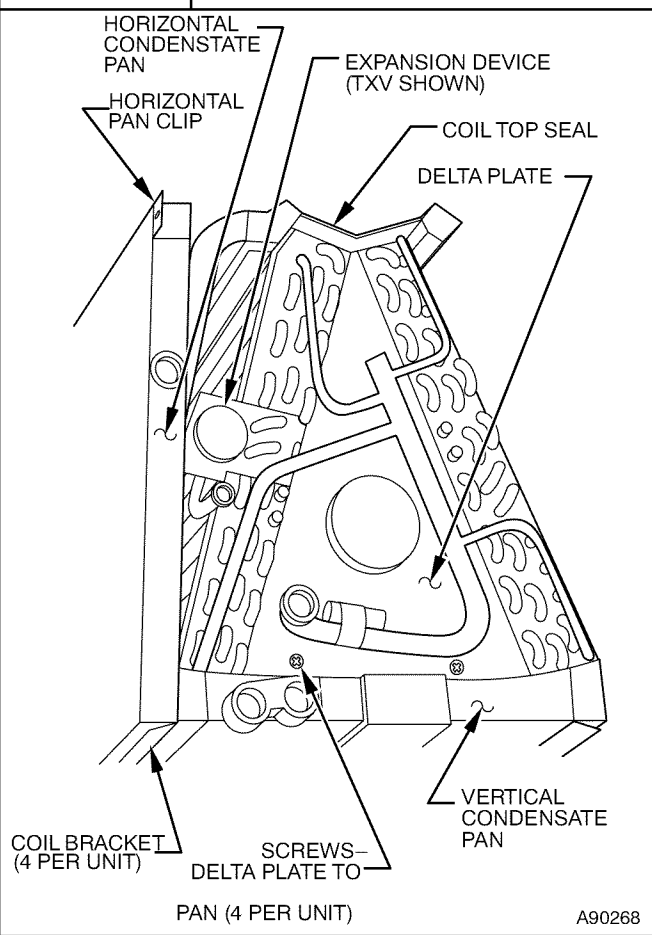
CAUTION

UNIT DAMAGE HAZARD

Failure to follow this caution may result in unit damage

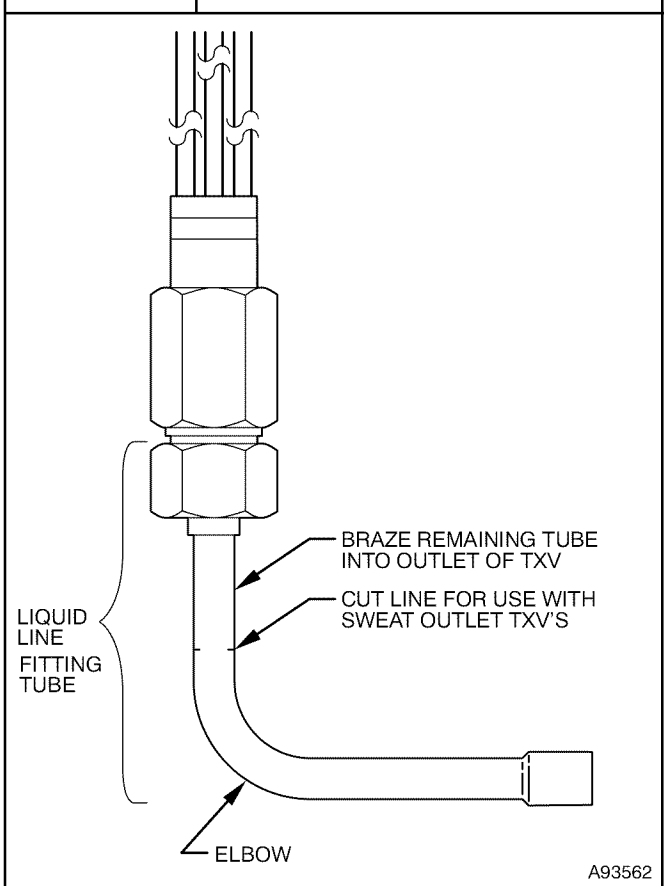
When securing braces or supports to unit, select a location where drill and fasteners will not contact refrigeration components.

Figure 2 A-Coil Component Location



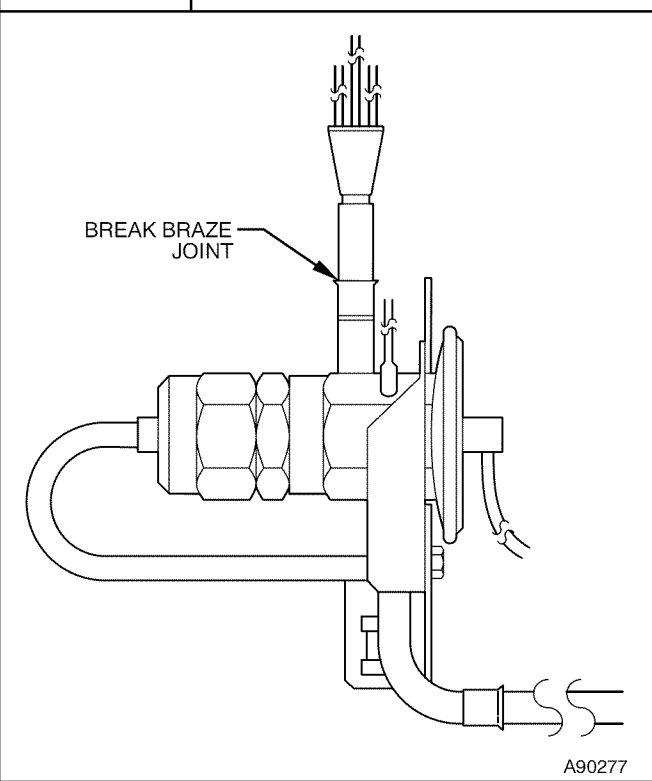
A90268

Figure 4 Modification required for sweat outlet TXV



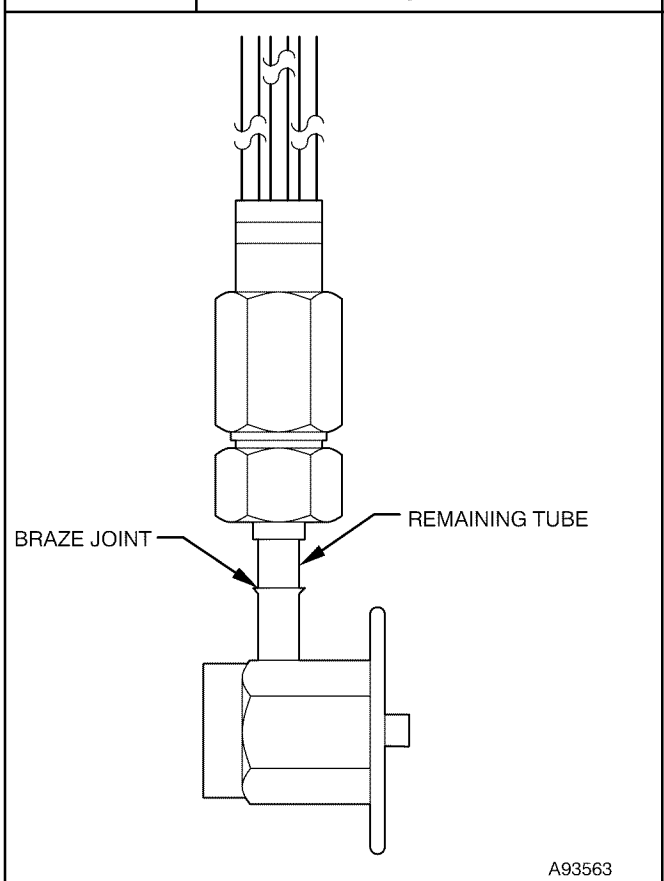
A93562

Figure 3 Removal of Internal TXV with sweat outlet joint



A90277

Figure 5 Installation of Original sweat outlet TXV onto Replacement Coil



A93563

INSTALLATION – SLOPE COIL UNITS ONLY

1. Recover system refrigerant.
 - a. Attach gage/manifold set to service valves.
 - b. Start unit in cooling mode.
 - c. Front seat (close) liquid line service valve.
 - d. Operate unit until vapor pressure reaches 5 psig (35kPa), or until suction line LPS opens.
 - e. Turn off electrical supply to outdoor unit.
 - f. Front seat (close) vapor service valve.
 - g. Recover any remaining refrigerant.
- NOTE:** All condenser coils hold only a factory-supplied amount of refrigerant. Excess refrigerant, such as in long-line applications, may cause compressor internal pressure relief valve to open (indicated by sudden rise in vapor pressure) before refrigerant is recovered. If this occurs, turn off electrical supply to outdoor unit immediately, front seat (close) vapor service valve, and recover any remaining refrigerant.
2. Turn off electrical supply to indoor unit.
3. Disconnect condensate drain line.
4. Disconnect liquid and vapor lines from indoor coil. Use a tubing cutter to cut the lines.
5. Remove coil access and fitting panels.
6. Remove 1 screw securing coil to unit casing.
7. Remove coil/pan assembly from unit.
8. Place assembly on a flat surface. On units manufactured prior to 1996, remove 2 screws securing coil support columns to pan. (See Fig. 7.)
9. Rotate columns 90°, pull away from coil, and remove columns from assembly.
10. Remove 2 screws securing coil to condensate pan. (See Fig. 7 and 8.)
11. Remove coil from condensate pan.
12. Thermostatic Expansion Valve (TXV) units only—To use original TXV with new coil, remove TXV from original coil and install onto new coil, as follows:
 - a. If TXV has a sweat joint on the valve outlet, unbrazed sweat joint as shown in Fig. 3.
- (1.) Remove equalizer tube. Use file to score and break off tube at old coil suction header, or unbrazed. Remove bulb from old coil. The TXV should now be completely separated from old coil.
- (2.) Install TXV onto new coil. Remove liquid line fitting tube from new coil, and remove piston from piston body. Use tubing cutters, cut off elbow. (See Fig. 4.)
- (3.) Braze remaining tube and nut onto TXV outlet. (See Fig. 5.)
- (4.) Install resulting TXV/nut assembly onto new coil in same location as on old coil.
- (5.) Install equalizer tube onto new coil by scoring extension tube near brazed tip of tube, and sliding

equalizer tube into extension tube. Braze equalizer tube to extension tube. (See Fig. 6.)

- (6.) Install thermal bulb into suction header of new coil in 10 o'clock or 2 o'clock position.
 - b. If valve has a mechanical joint at valve outlet, use wrenches to separate valve outlet from old coil.
- (1.) Remove equalizer tube. Use file to score and break off tube at old coil suction header, or unbrazed. Remove bulb from old coil. The TXV should now be completely separated from old coil.
- (2.) Install TXV onto new coil. Remove liquid line fitting tube from new coil using wrenches. Remove piston. Install valve onto new coil using wrenches. If TXV outlet is flare type, use adapter tube provided.
- (3.) Install equalizer tube onto new coil by scoring extension tube near brazed tip of tube, and sliding equalizer tube into extension tube. Braze equalizer tube to extension tube.
- (4.) Install thermal bulb into suction header of new coil in 10 o'clock or 2 o'clock position.
 - c. If replacement coil has a mechanical connection with no piston body, install TXV to flare nut on new coil.
- (1.) Remove equalizer tube. Use file to score and break off tube at old suction header, or unbrazed. Remove bulb from old coil.
- (2.) Install TXV onto new coil. Install valve onto new coil onto coil using wrenches.
- (3.) Install equalizer tube onto new coil by scoring and breaking extension tube near brazed tip of tube. Slide equalizer tube into extension tube and braze connection.
- (4.) Install thermal bulb onto suction header of new coil in 10 o'clock or 2 o'clock position.
13. Install new coil into condensate pan using two original screws and two support columns.
14. Install new coil pan assembly into unit and secure with one screw previously removed from unit casing. (See Fig.7.)
15. Reinstall coil access panel.
16. Reconnect liquid and vapor refrigerant lines and condensate drain line. Install new filter drier(s).
- NOTE:** If a torch is used to unbrazed the line set, protect the fitting panel with a wet cloth or braze shield as necessary.
17. Evacuate line set and indoor coil to 500 microns, back seat (open) liquid and vapor service valves.
18. Turn on electrical supplies to indoor and outdoor units.
19. Check system refrigerant charge and operation. See Split- System Residential Air Conditioners and Heat Pump Service Manuals for further information.

Figure 6 Replacement A-Coil

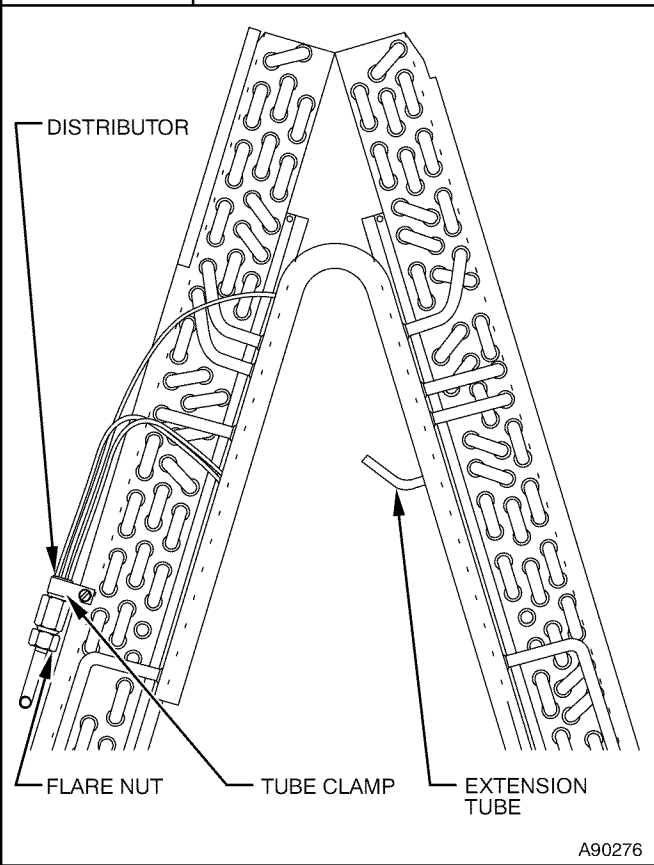


Figure 7 Slope Coil Component Location

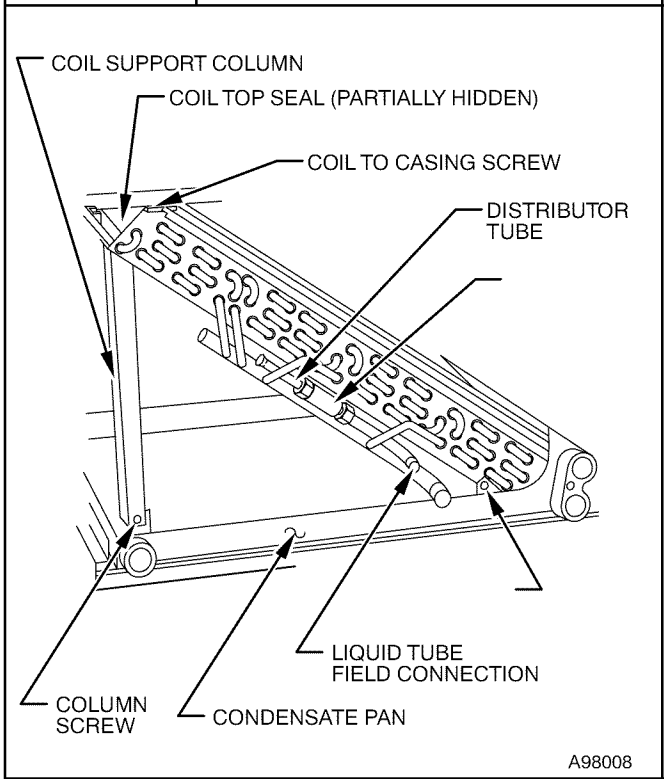
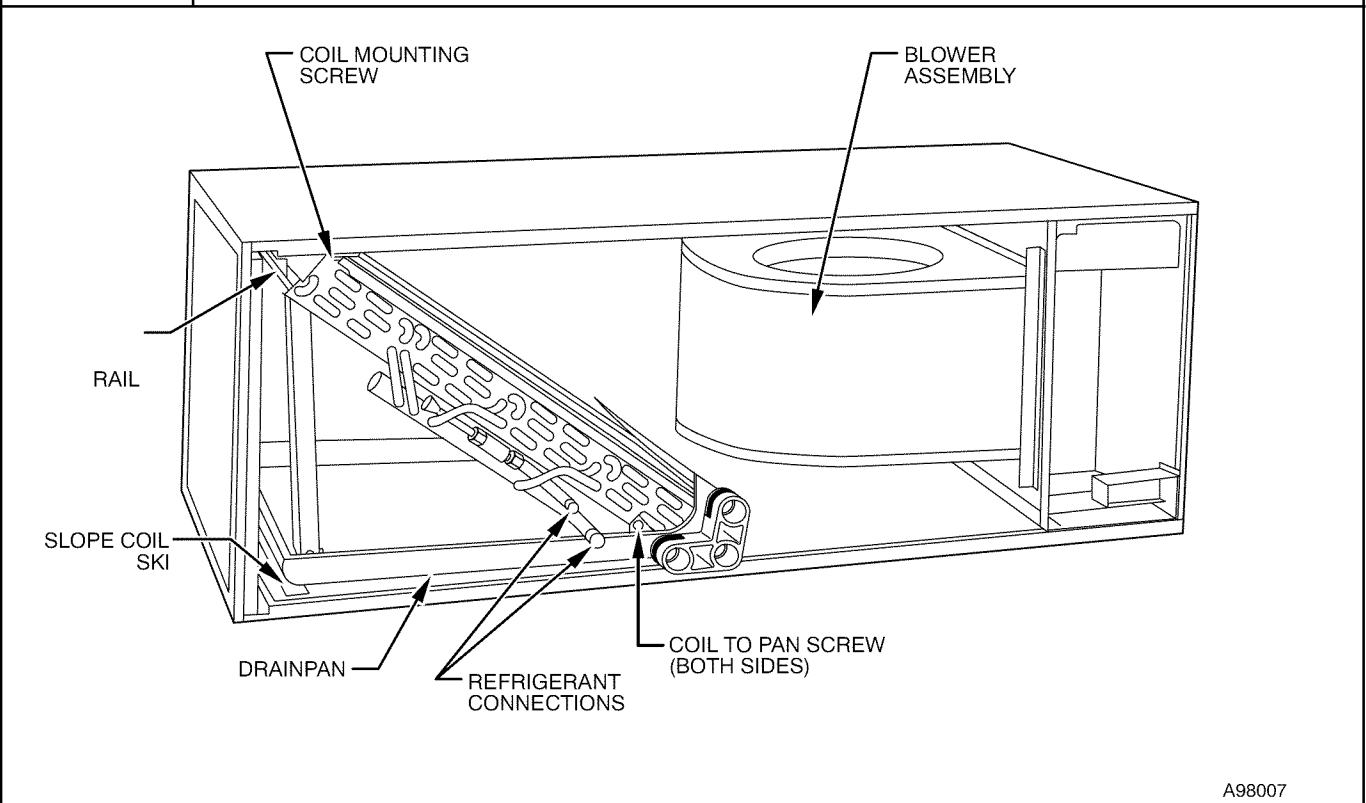


Figure 8 Slope Coil Component Location



R-410A QUICK REFERENCE GUIDE

- R-410A refrigerant operates at 50% – 70% higher pressures than R-22. Be sure that servicing equipment and replacement components are designed to operate with R-410A.
- R-410A refrigerant cylinders are rose colored.
- Recovery cylinder service pressure rating must be 400 psig, DOT 4BA400 or DOT BW400.
- R-410A systems should be charged with liquid refrigerant. Use a commercial type metering device in the manifold hose.
- Manifold sets should be 750 psig high-side and 200 psig low-side with 520 psig low-side retard.
- Use hoses with 750 psig service pressure rating.
- Leak detectors should be designed to detect HFC refrigerant.
- R-410A, as with other HFC refrigerants, is only compatible with POE oils.
- POE oils absorb moisture rapidly. Do not expose oil to atmosphere.
- POE oils may cause damage to certain plastics and roofing materials.
- Vacuum pumps will not remove moisture from oil.
- A liquid line filter-drier is required on every unit.
- Do not use liquid line filter-driers with rated working pressures less than 600 psig.
- Do not install a suction line filter-drier in liquid line.
- Wrap all filter-driers and service valves with wet cloth when brazing.
- Do not use with an R-22 TXV.
- If indoor unit is equipped with an R-22 TXV, it must be changed to an R-410A TXV.
- Do not use capillary tube indoor coils.
- Never open system to atmosphere while it is under a vacuum.
- When system must be opened for service, break vacuum with dry nitrogen and replace all filter-driers.
- Do not vent R-410A into the atmosphere.
- Observe all **WARNINGS, CAUTIONS, NOTES**, and **bold** text.