

Installer's Guide

Replacement Coils

COL32491	COL32502	COL34584
COL32492	COL32503	COL34585
COL32493	COL32504	COL34586
COL32494	COL32941	COL34587
COL32495	COL32942	COL34588
COL32496	COL32943	COL34589
COL32499	COL34149	COL34590
COL32500	COL34150	COL34591
COL32501	COL34583	COL34592

SAFETY WARNING

Only qualified personnel should install and service the equipment. The installation, starting up, and servicing of heating, ventilating, and air-conditioning equipment can be hazardous and requires specific knowledge and training. Improperly installed, adjusted or altered equipment by an unqualified person could result in death or serious injury. When working on the equipment, observe all precautions in the literature and on the tags, stickers, and labels that are attached to the equipment.

Introduction

Read this manual thoroughly before operating or servicing this unit.

This document is customer property and is to remain with this unit. Return to the service information pack upon completion of work.

Warnings, Cautions, and Notices

Safety advisories appear throughout this manual as required. Your personal safety and the proper operation of this machine depend upon the strict observance of these precautions.

The three types of advisories are defined as follows:



WARNING

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION

Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury. It could also be used to alert against unsafe practices.

NOTICE

Indicates a situation that could result in equipment or property-damage only accidents.

Important Environmental Concerns

Scientific research has shown that certain man-made chemicals can affect the earth's naturally occurring stratospheric ozone layer when released to the atmosphere. In particular, several of the identified chemicals that may affect the ozone layer are refrigerants that contain Chlorine, Fluorine and Carbon (CFCs) and those containing Hydrogen, Chlorine, Fluorine and Carbon (HCFCs). Not all refrigerants containing these compounds have the same potential impact to the environment. Trane advocates the responsible handling of all refrigerants.

Important Responsible Refrigerant Practices

Trane believes that responsible refrigerant practices are important to the environment, our customers, and the air conditioning industry. All technicians who handle refrigerants must be certified according to local rules. For the USA, the Federal Clean Air Act (Section 608) sets forth the requirements for handling, reclaiming, recovering and recycling of certain refrigerants and the equipment that is used in these service procedures. In addition, some states or municipalities may have additional requirements that must also be adhered to for responsible management of refrigerants. Know the applicable laws and follow them.

⚠ WARNING

Proper Field Wiring and Grounding Required!

Failure to follow code could result in death or serious injury.

All field wiring **MUST** be performed by qualified personnel. Improperly installed and grounded field wiring poses **FIRE** and **ELECTROCUTION** hazards. To avoid these hazards, you **MUST** follow requirements for field wiring installation and grounding as described in **NEC** and your local/state/national electrical codes.

⚠ WARNING

Personal Protective Equipment (PPE) Required!

Failure to wear proper PPE for the job being undertaken could result in death or serious injury.

Technicians, in order to protect themselves from potential electrical, mechanical, and chemical hazards, **MUST** follow precautions in this manual and on the tags, stickers, and labels, as well as the instructions below:

- **Before installing/servicing this unit, technicians MUST put on all PPE required for the work being undertaken (Examples; cut resistant gloves/sleeves, butyl gloves, safety glasses, hard hat/bump cap, fall protection, electrical PPE and arc flash clothing). ALWAYS refer to appropriate Safety Data Sheets (SDS) and OSHA guidelines for proper PPE.**
- **When working with or around hazardous chemicals, ALWAYS refer to the appropriate SDS and OSHA/GHS (Global Harmonized System of Classification and Labelling of Chemicals) guidelines for information on allowable personal exposure levels, proper respiratory protection and handling instructions.**
- **If there is a risk of energized electrical contact, arc, or flash, technicians MUST put on all PPE in accordance with OSHA, NFPA 70E, or other country-specific requirements for arc flash protection, PRIOR to servicing the unit. NEVER PERFORM ANY SWITCHING, DISCONNECTING, OR VOLTAGE TESTING WITHOUT PROPER ELECTRICAL PPE AND ARC FLASH CLOTHING. ENSURE ELECTRICAL METERS AND EQUIPMENT ARE PROPERLY RATED FOR INTENDED VOLTAGE.**

⚠ WARNING**Follow EHS Policies!**

Failure to follow instructions below could result in death or serious injury.

- All Trane personnel must follow the company's Environmental, Health and Safety (EHS) policies when performing work such as hot work, electrical, fall protection, lockout/tagout, refrigerant handling, etc. Where local regulations are more stringent than these policies, those regulations supersede these policies.
- Non-Trane personnel should always follow local regulations.

⚠ WARNING**Cancer and Reproductive Harm!**

This product can expose you to chemicals, including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

⚠ WARNING**Safety Hazard!**

Failure to follow instructions below could result in death or serious injury or property damage.

This unit is not to be used by persons (including children) with reduced physical, sensory, or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning the use of the appliance by a person responsible for their safety.

Do not allow children to play or climb on the unit or to clean or maintain the unit without supervision.

⚠ WARNING**Safety Hazard!**

Failure to follow instructions below could result in death or serious injury and/or property damage.

Only qualified personnel with adequate electrical and mechanical experience must repair the unit. The manufacturer or seller is not responsible for any interpretation or resulting liability.

⚠ WARNING**Risk of Fire — Flammable Refrigerant!**

Failure to follow instructions below could result in death or serious injury, and equipment damage.

- To be repaired only by trained service personnel.
- Do not puncture refrigerant tubing.
- Dispose of properly in accordance with federal or local regulations.

⚠ WARNING**Refrigerant under High Pressure!**

Failure to follow instructions below could result in an explosion which could result in death or serious injury or equipment damage.

System contains oil and refrigerant under high pressure. Recover refrigerant to relieve pressure before opening the system. See unit nameplate for refrigerant type. Do not use non-approved refrigerants, refrigerant substitutes, or refrigerant additives.

⚠ WARNING**Live Electrical Components!**

Failure to follow all electrical safety precautions when exposed to live electrical components could result in death or serious injury.

When it is necessary to work with live electrical components, have a qualified licensed electrician or other individual who has been properly trained in handling live electrical components perform these tasks.

⚠ WARNING**System Charge!**

Failure to follow instructions below could result in abrupt release of system charge and could result in serious injury or property damage.

When opening the suction and liquid line service valve, turn the valve stem counterclockwise only until the stem contacts the rolled edge. Do not apply torque.

⚠ CAUTION**Sharp Edges!**

Failure to follow instructions below could result in minor to moderate injury or property damage.

Be careful of sharp edges on equipment or any cuts made on sheet metal while installing or servicing.

⚠ CAUTION

Coil Damage!

Failure to follow instructions below could result in minor to moderate injury or coil damage.

Confirm coil is pressurized with 8–12 psi dry air and factory-checked for leaks. Carefully release the pressure by removing the rubber plug on the liquid line. If no pressure is released, check for leaks.

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Revision History

- Updated model numbers added to scope
- Updated TXV mounting instructions

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Replacement Coil Models and Associated Air Handlers/ Accessories

Table 1. Replacement Coil Guidelines

Replacement Coil		R-410A Air Handler Model	R-454B Air Handler Model	Retrofit Accessories Included
Uncoated	Coated			
COL32491	COL32492 COL34583	TEM3A0B18, 24, 30, 36 TEM4*0B18, 19, 24, 30, 36 A4AH4P18, P24, P30, P36, E24 A4AH5E19 A4AH6E19	5TEM4B02 A5AHC002 — — —	Lineset Panels
COL32493	COL32494 COL34584	TEM3A0C42, 48 TEM4A0C37, C42, C48 A4AH4P37, E42A, E48A	5TEM4D04, D05 A5AHC004, C005	Horizontal Drain Pan Extension
COL32495	COL32496 COL34585	TEM4A0B31 TEM6A0B24, 30 TEM8A0B24, 30 A4AH4E30 A4AH5V24, V30, E31 A4AH6V24, V30, E31	5TEM4B03 5TEM6B02, B03 A5AHC003 A5AHV002, V003	Lineset Panels
COL32499	COL32500 COL34586	TEM3A0C60 TEM4A0C60 A4AH4E60A TEM6A0C48H41SA, 60H51SA TEM8A0C48V41DA, 60V51DA TEM4B0C37 TEM4A0C43 TEM6A0C36, 42 TEM8A0C36, 42 A4AH6V36, V42, E43 A4AH4E36, E37, E42B A4AH5V36, V42, E43	5TEM4D06 5TEM6D04, D05 A5AHC006 A5AHV004, V005	Horizontal Drain Pan Extension Top Baffle Extensions Lineset Panels
COL32501	COL32502 COL34587	TEM6A0D48, 60 TEM8A0D48, 60 A4AH6V48A1D, V60A1D	— — —	26.5-in. Cabinet Retrofit Kit Top Baffle Extensions

Replacement Coil Models and Associated Air Handlers/Accessories

Table 1. Replacement Coil Guidelines (continued)

Replacement Coil		R-410A Air Handler Model	R-454B Air Handler Model	Retrofit Accessories Included
Uncoated	Coated			
COL32503	COL32504 COL34588	TEM4A0C49, 61 TEM4B0C60 TEM6A0C48H41SB, 48H41SC, 60H51SB, 60H51SC TEM6B0C60 TEM8A0C48V41DB 48V41DC, 60V51DB, 60V51DC TEM8B0C60 A4AH6E49, E61, V48A1C, V60A1C A4AH4E48B, E60B A4AH5E49, E61, V48, V60	5TEM4D07 5TEM6D06, D07 A5AHC007 A5AHV006, V007	Horizontal Drain Pan Extension Top Baffle Extensions Lineset Panels
—	COL32941 COL34589	—	5TEMCB02, B03	none
—	COL32942 COL34590	—	5TEMCD04, D05	none
—	COL32943 COL34591	—	5TEMCD06, D07	none
COL34149	COL34150 COL34592	—	5TEM4B04 A5AHC004A1B	none

Inspection

1. Unpack all components of the replacement coil assembly.
2. Check carefully for any shipping damage. If any damage is found, this must be reported immediately and a claim made against the transportation company.
3. Check to be sure all components are in the package. Any missing components should be reported to your supplier at once and replaced with authorized components only.

General Information

These instructions are designed for installing a replacement coil into a previously installed air handler.

The air handler may be installed in one of the following orientations: upflow, downflow, horizontal left or horizontal right.

Actual air handler units and coil configurations may differ from models depicted.

Note: All legacy Apex A and N coils will be replaced with square-cut A-coils.

Common Preparation Steps

⚠ WARNING

Fire Hazard!

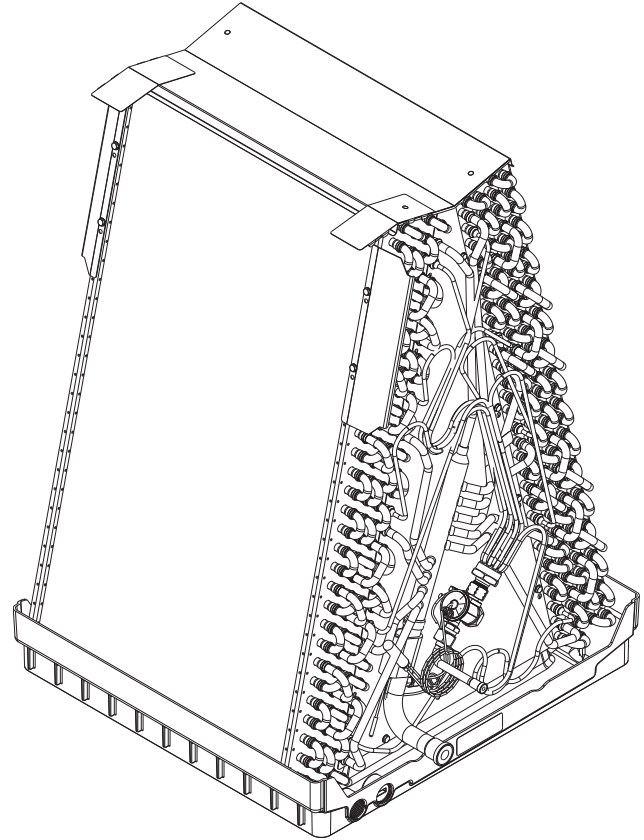
Failure to follow instructions could result in equipment damage or injury.

In systems using flammable refrigerants, observe all safety instructions and markings on the air handler. Ensure all safety devices are in place and functional. Do not puncture refrigerant tubing. Repair with trained professionals only and dispose properly in accordance with federal and local regulations.

1. Pump down or recover the refrigerant in the system.
2. Turn off high voltage power to the unit.
3. Remove the condensate drain lines from the indoor coil. Be prepared to catch any water that might be in the drain line and drain pan.
4. Disconnect the refrigerant lines to the indoor coil. Be sure to protect the refrigerant lines so debris does not enter the piping system.

5. Remove the air handler's front panels. Retain all screws to reinstall panels in a later step.

Figure 1. Square-cut A coil



Installation

The following sections provide removal and installation instructions for upflow, downflow, horizontal left, and horizontal right applications.

Coil Removal

1. If your air handler is equipped with a refrigerant detection system sensor or temperature sensors, remove and disconnect sensors. Retain to reinstall in the same position later.
2. Remove the center brace and the two coil retaining brackets. See [Figure 2, p. 10](#) and [Figure 3, p. 10](#).
3. On the N coil only, remove the shipping bracket if present. See [Figure 3, p. 10](#).

Figure 2. Center horizontal brace and coil retaining brackets

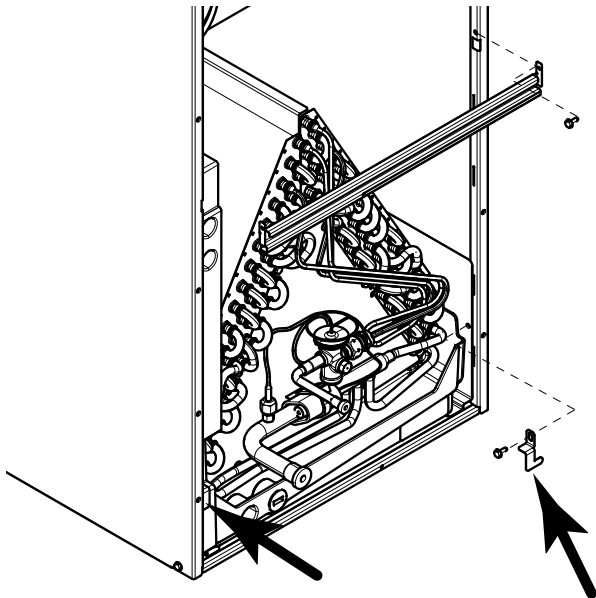
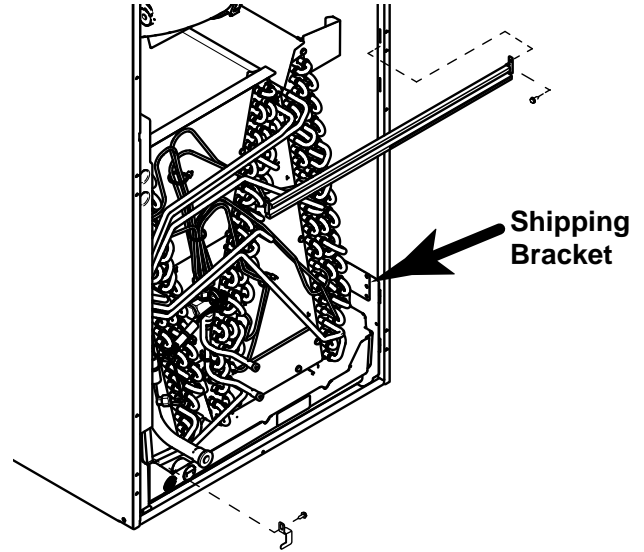
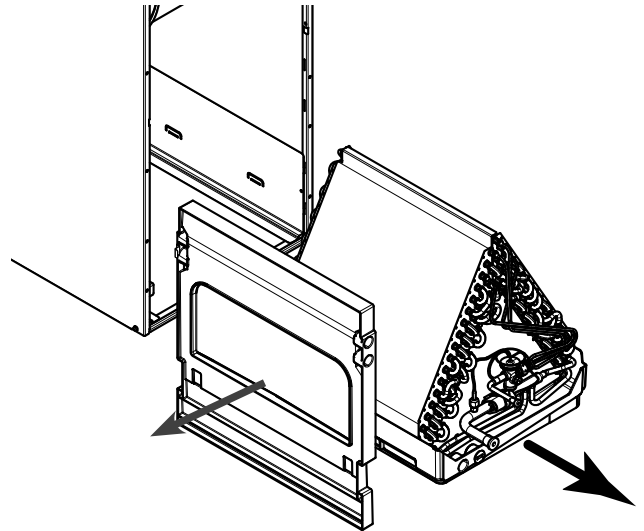


Figure 3. Center horizontal brace and coil retaining brackets - Legacy apex N coils



4. Remove coil assembly from the air handler by sliding assembly outward. See [Figure 4, p. 10](#).

Figure 4. Coil assembly and horizontal drain pan

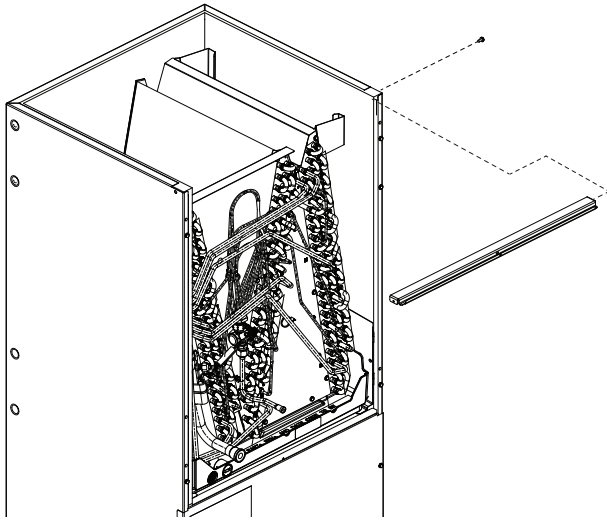


5. Remove and retain the horizontal drain pan to reinstall later. See [Figure 4, p. 10](#).

Downflow Coil Removal

1. For downflow N coil replacement, remove lower horizontal cross brace. See the figure below.

Figure 5. Lower horizontal cross brace



2. On the N coil only, remove the shipping bracket if present. See [Figure 3, p. 10](#)
3. Remove coil assembly from the air handler by sliding assembly outward. See [Figure 4, p. 10](#).

Note: The N coil replacement is taller than the N coil, see [Figure 25, p. 17](#). Some modification may be necessary to the unit or the return ductwork in downflow applications.

TXV Removal (If equipped)

1. Remove equalizer fitting.
2. Remove TXV sensing bulb and bulb clip.
3. Loosen and remove TXV outlet fitting from distributor assembly.
4. Protect the TXV assembly set so that debris does not enter. Retain to reinstall later.

Orifice Metering Device Removal (If Equipped)

1. Remove the Schrader valve from the equalizer port using a Schrader removal tool.
2. Loosen and remove copper liquid line tube fitting from distributor assembly.
3. Remove orifice metering device from inside distributor.
4. Protect Schrader valve and orifice metering device from debris. Retain both to reinstall later.

Install Retrofit Kit for 26.5-inch Wide Cabinets

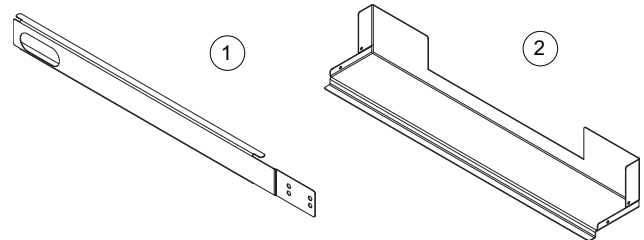
This retrofit kit will be installed when it is shipped with the replacement coil only. This kit is only applicable for 26.5-inch wide cabinets.

Table 2. Retrofit kit contents

Item	Description	Qty.
1	Small Bracket	2
2	Large Bracket	1

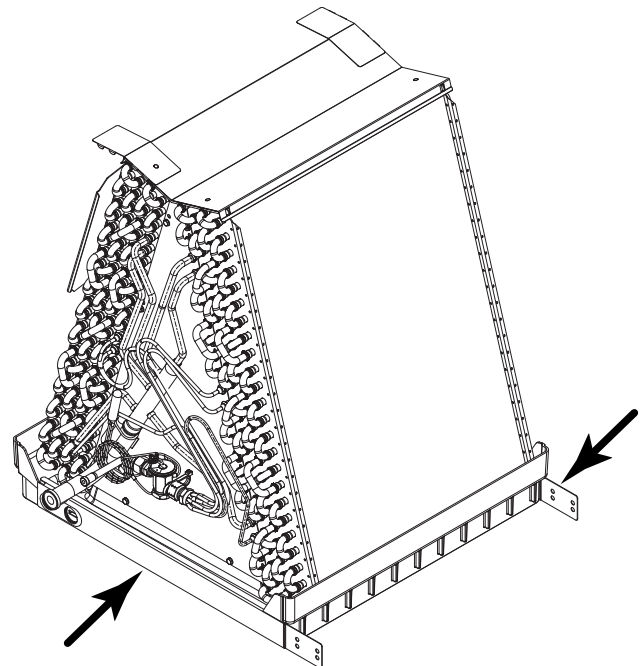
Note: Install the brackets always on the right side of the coil assembly.

Figure 6. Retrofit kit contents



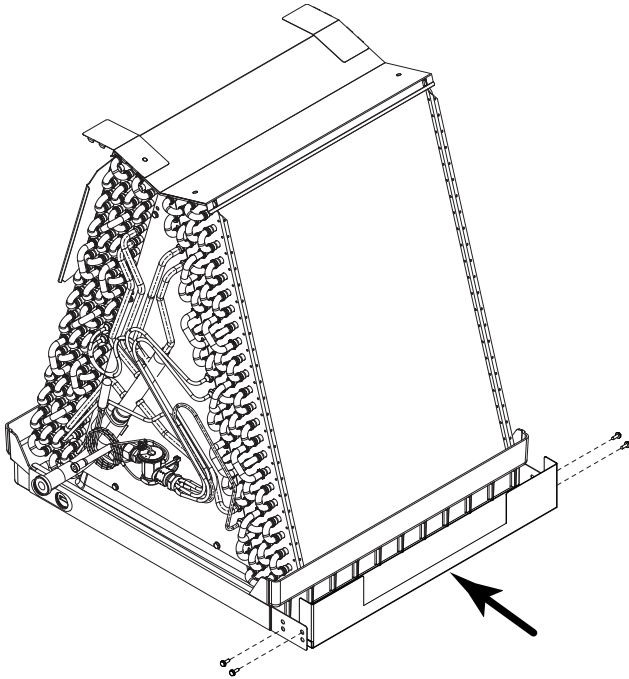
1. Remove kit contents from packaging.
2. Install two small brackets, each on the front and rear side bottom of the coil assembly. See the figure below.

Figure 7. Small brackets



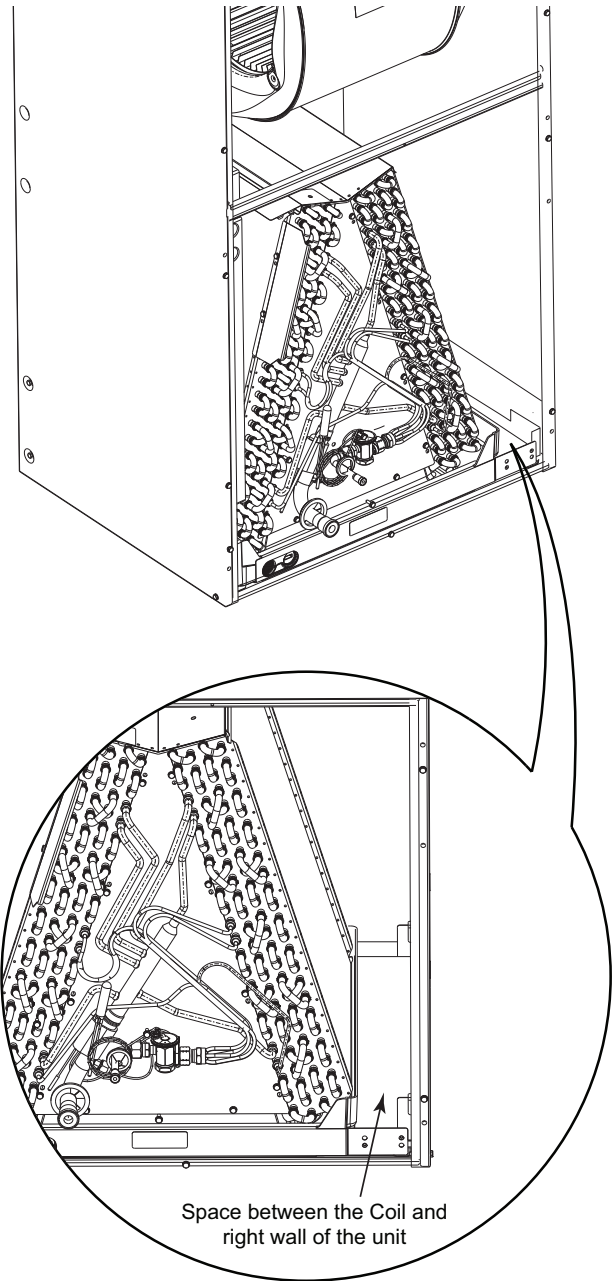
3. Install the large bracket between the two small brackets, align the mounting holes and secure using the screws supplied with the kit. See the following figure for detail.

Figure 8. Large bracket



The assembled view of the coil assemblies is shown in the following figure.

Figure 9. 26.5-inch retrofit kit and coil assembled in unit



Install Replacement Coil

Note: All legacy Apex A and N coils will be replaced with square-cut A-coils.

1. Remove replacement coil from packaging.
2. Remove rubber plug from suction line connection.

Reinstall TXV (If previously equipped)

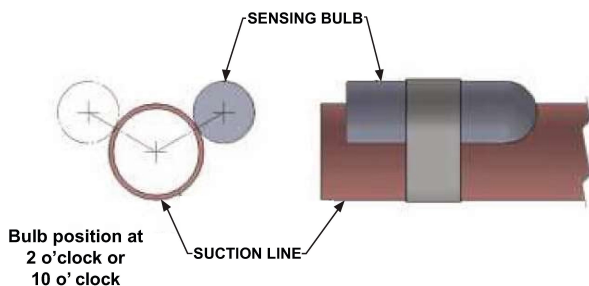
1. Using back-up wrench, remove mechanical fitting from distributor.

2. Remove existing O-ring from the outlet of the TXV and replace with the new O-ring supplied with the replacement coil.
3. Install TXV assembly and hand tighten the mechanical fitting. Use back-up wrench and tighten assembly firmly. Do not over tighten.
4. Install external equalizer and hand tighten the fitting. Use back-up wrench and tighten assembly firmly. Do not over tighten.
5. Install TXV sensing bulb on the suction line either inside or outside the cabinet. Confirm the bulb is tightly secured.

Note: If the spring steel TXV bulb clip removed from the existing coil fits loosely on the new coil or suction line, use a field-supplied stainless steel hose clamp to secure the TXV bulb. The clamp should be "snug" but not "tight."

Note: If mounting the bulb outside the cabinet, pass the bulb and line through an opening in the line set panel. Place the bulb at the 10 or 2 o'clock position on the line relative to the floor.

Figure 10. TXV sensing bulb



6. Wrap the insulating gasket (provided with the replacement coil) around sensing bulb, clip, and tube. Use tie wrap to secure insulation around bulb.

Reinstall Orifice Metering Device (If previously equipped)

1. Using back-up wrench, remove mechanical fitting from distributor.
2. Remove existing o-ring from the copper liquid line tube and replace with the new o-ring supplied with the replacement coil.
3. Install orifice metering device inside distributor.
4. Install copper liquid line tube on the distributor and hand tighten the mechanical fitting. Use back-up

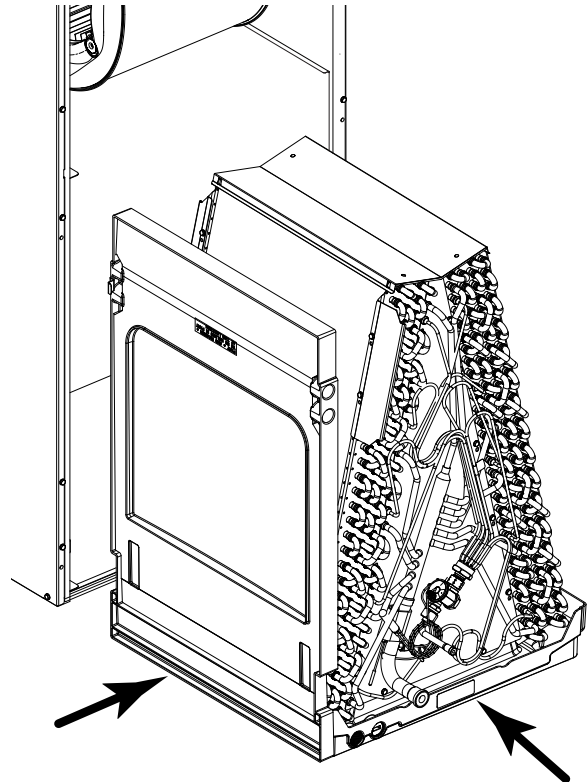
wrench and tighten assembly firmly. Do not over tighten.

5. Reinstall Schrader valve in the external equalizer port on the suction manifold. Replace cap.

Coil Installation for Upflow Applications

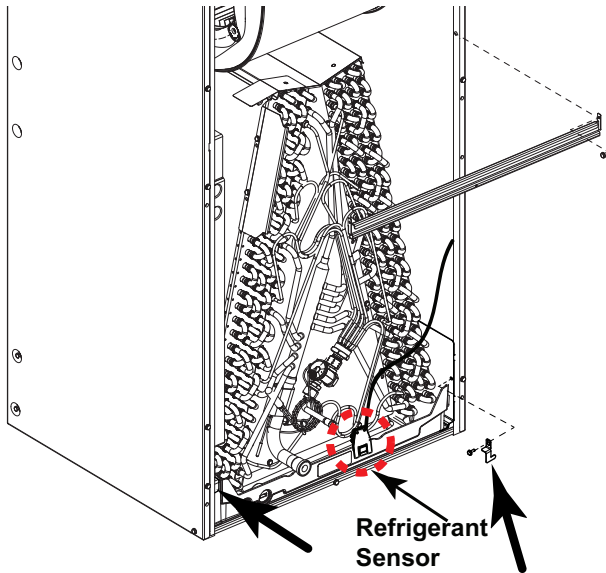
1. Attach the horizontal drain pan to the replacement coil and slide the assembly into the unit. See the following figure for details.

Figure 11. Coil assembly and drain pan



2. Reinstall coil retaining brackets and horizontal brace(s). See the figure below.

Figure 12. Coil retaining brackets and horizontal brace

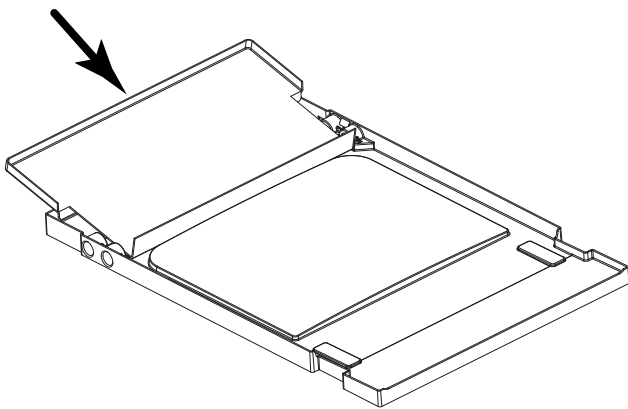


3. If equipped, reinstall refrigerant sensor and/or temperature sensors in same locations as before and reconnect. See [Figure 21, p. 16](#), [Figure 22, p. 16](#), [Figure 23, p. 17](#), and [Figure 24, p. 17](#).

Coil Installation for Horizontal Left Applications

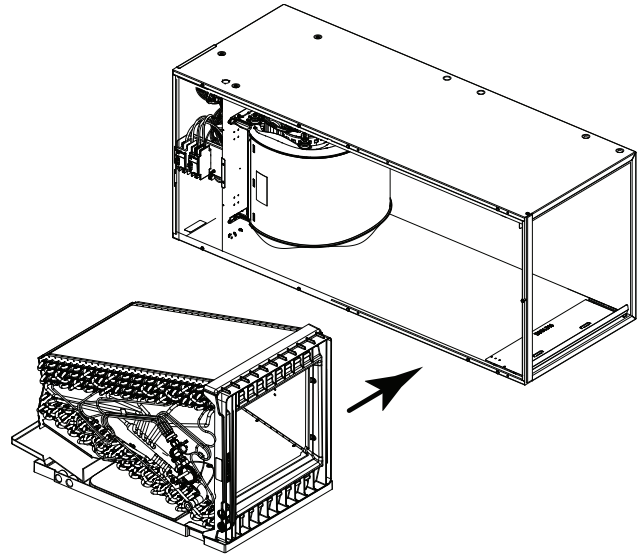
Note: Some replacement coils ship with a horizontal drain pan extension. For horizontal left or right applications, install horizontal drain pan extension when applicable. See the figure below.

Figure 13. Horizontal drain pan with extension



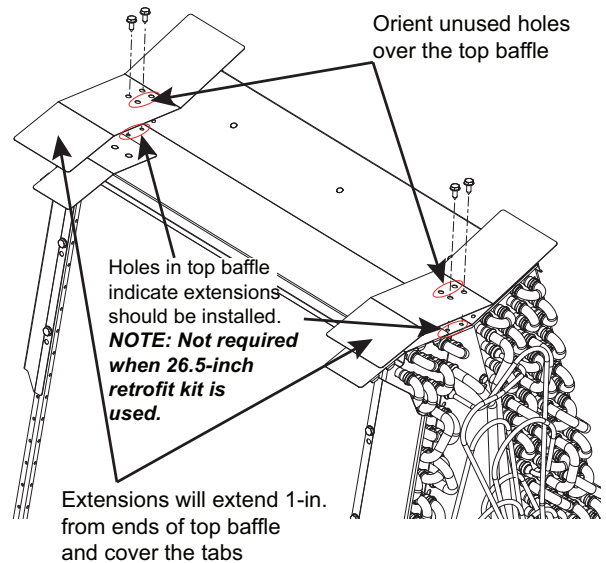
1. Attach the horizontal drain pan with extension to the replacement coil and slide the assembly into the unit. See the figure below.

Figure 14. Coil assembly with horizontal drain pan



2. When included and applicable, install top baffle extensions. See the figure below.

Figure 15. Top baffle extensions

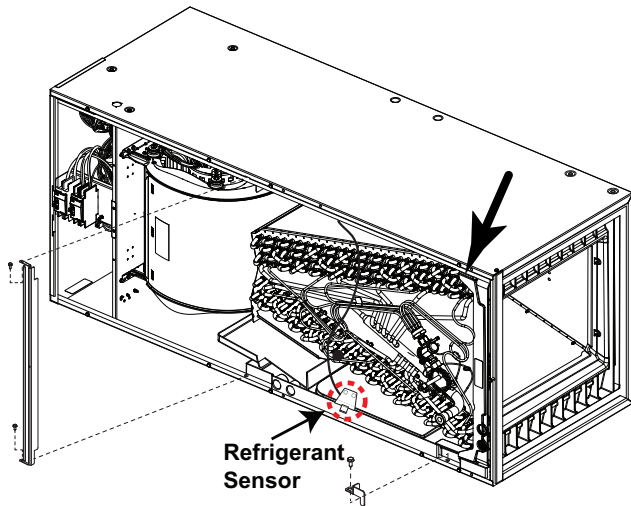


Note: For horizontal installations, install extensions on top baffle as shown using included screws.

3. Reinstall the coil retaining brackets. See the figure below.

Note: Replacements for N coils will ship with an additional retaining bracket that will be required for horizontal left installations.

Figure 16. Coil retaining brackets and horizontal brace



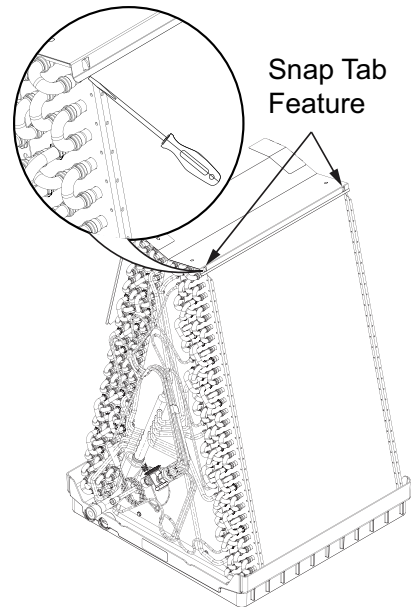
4. Reinstall horizontal brace(s). See Figure 16, p. 15.
5. If equipped, reinstall refrigerant sensor and/or temperature sensors in same locations as before and reconnect. See Figure 21, p. 16, Figure 22, p. 16, Figure 23, p. 17, Figure 24, p. 17.

Coil Installation for Horizontal Right Applications

Note: For Horizontal Right applications, ON SOME MODELS, the top panel assembly of the coil must be rotated for proper condensate management before installing the replacement coil assembly into the unit. If the replacement coil models does not have a gull wing and tabs in the top panel assembly, skip the Steps 1 to 3.

1. On the right side of the top baffle, position a flat head screw driver tip underneath the top baffle flange and pivot the screwdriver downward to release the front tab. See the figure below.

Figure 17. Snap tab feature



2. Repeat for right rear tab to release top baffle assembly from coil.
3. Rotate the top baffle 180 degree and snap all four corners to lock in place. See the figure below.

Figure 18. Rotate top baffle

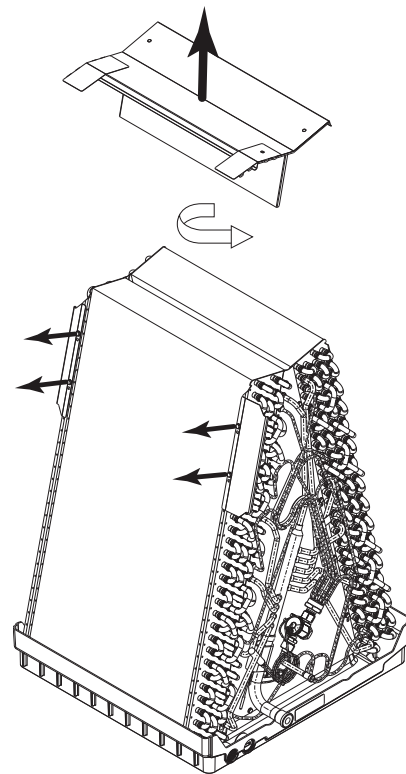
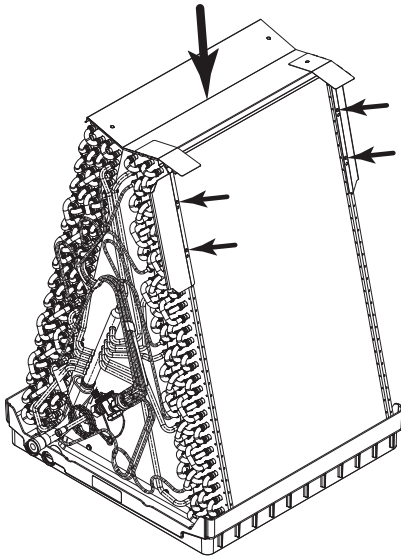


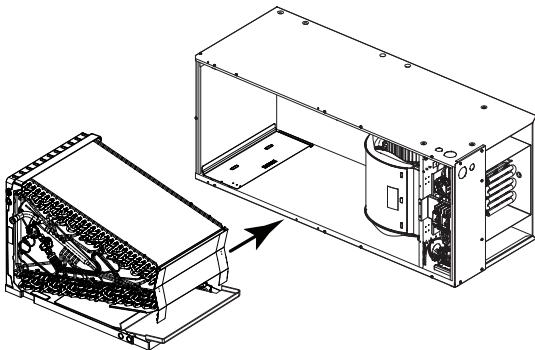
Figure 19. Install top baffle



4. Remove left side drip rails and screws and reinstall on the right side. See [Figure 18, p. 15](#) and [Figure 19, p. 16](#).
5. Attach the horizontal drain pan with extension to the replacement coil and slide the assembly into the unit. See the figure below.

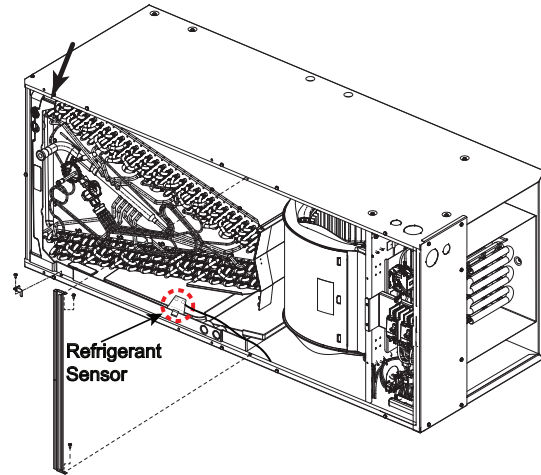
Note: Some replacement coils ship with a horizontal drain pan extension. For horizontal left or right applications, install a horizontal drain pan extension when applicable. See [Figure 13, p. 14](#).

Figure 20. Coil assembly with horizontal drain pan



6. When included and applicable, install top baffle extensions. See [Figure 15, p. 14](#).
7. Reinstall the coil retaining brackets and horizontal braces. See the figure below.

Figure 21. Coil retaining brackets and horizontal brace



8. If equipped, reinstall refrigerant sensor and/or temperature sensors in same locations as before and reconnect. See [Figure 21, p. 16](#), [Figure 22, p. 16](#), [Figure 23, p. 17](#), and [Figure 24, p. 17](#).

Figure 22. Temperature sensors for COL32941

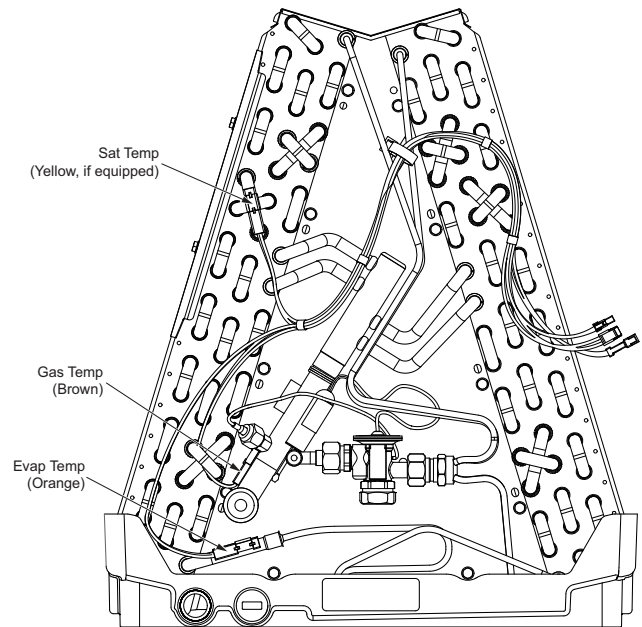


Figure 23. Temperature sensor for COL32942

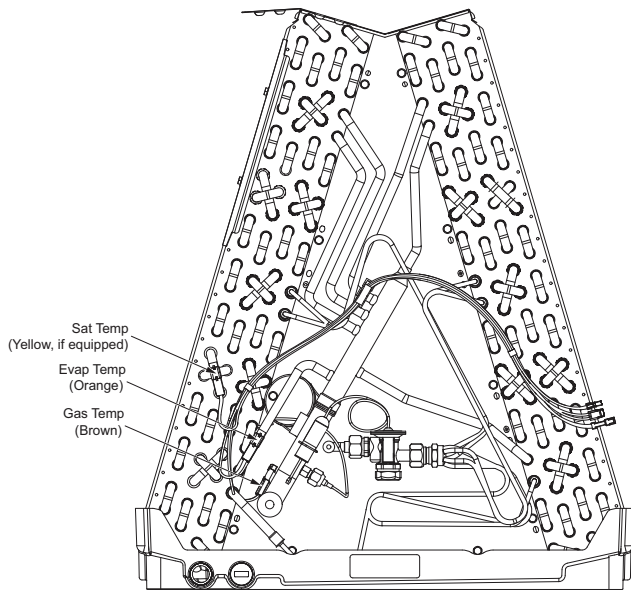
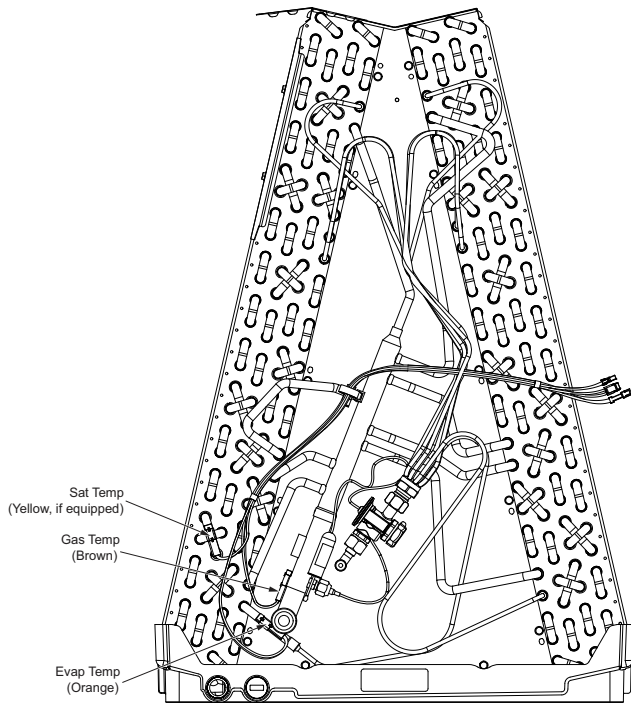


Figure 24. Temperature sensor for COL32943

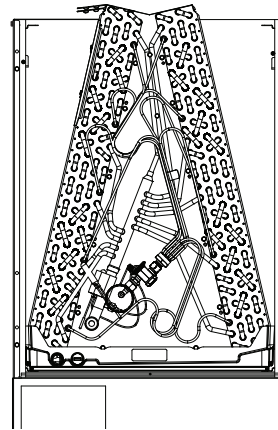


Coil Installation for Downflow Applications

1. Slide the replacement coil into the unit. See [Figure 25](#), p. 17.

Note: Some modifications to the unit or return air duct work may be required for downflow applications.

Figure 25. Downflow orientation with square-cut A coil

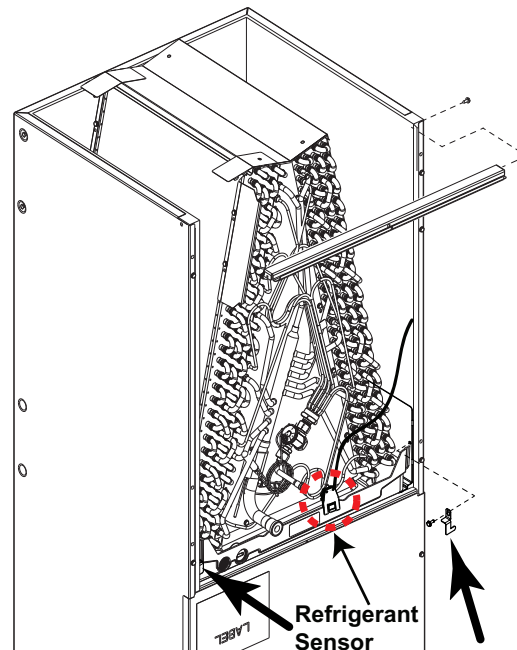


2. Reinstall coil retaining brackets. See [Figure 26](#), p. 17.

Notes:

- Step is optional for downflow coil replacements.
- For the N coils there is only one coil retaining bracket on the unit. Additional retaining bracket shipped with the replacement coil.

Figure 26. Lower horizontal brace



3. Reinstall lower horizontal brace(s). See [Figure 26](#), p. 17.
4. If equipped, reinstall refrigerant sensor and/or temperature sensors in same locations as before and

reconnect. See Figure 21, p. 16, Figure 22, p. 16, Figure 23, p. 17, Figure 24, p. 17.

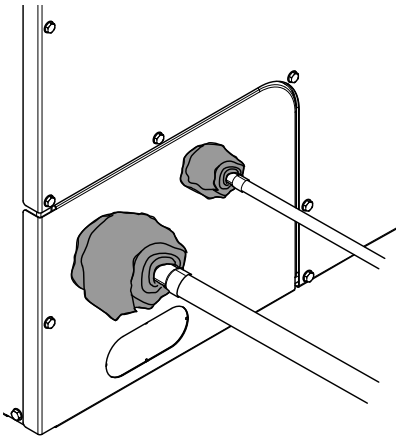
Reconnecting Replacement Coil

1. Reinstall coil and blower panels.

Note: Some replacement coil orders will ship with multiple replacement line set panels. When necessary, install the applicable panel and discard the remaining panels.

Note: Wet rags must be applied to all braze joints before and during heating to prevent overheating of internal coil components.

Figure 27. Wet rag



2. Remove rubber plugs from the suction and liquid lines.
3. Reconnect the field refrigerant piping.
4. Reconnect condensate drain piping.

Refilling Refrigerant System (R-22 or R-410A systems)

1. Pressure test the refrigerant system using dry nitrogen. Test all connections for leaks to ensure integrity of the refrigerant piping system.
2. Pull a vacuum on the refrigerant system to 500 microns or less.
3. Refill the system with new refrigerant or release the charge from the outdoor unit to the refrigerant piping system.

4. Start outdoor unit and set refrigerant charge per the outdoor unit installation instructions.

Refilling Refrigerant System (R-454B systems)

After completion of field piping for split systems, the field pipework shall be pressure tested with nitrogen and then vacuum tested prior to refrigerant charging, according to the following requirements:

Pressure Test

1. Using dry nitrogen, pressurize the field piping and indoor coil to the lower of the maximum operating pressures listed on the name plates of the indoor and outdoor units (likely 600 psi).
2. The test pressure after removal of the pressure source shall be maintained for at least one (1) hour with no decrease of pressure indicated by the test gauge, with the test gauge resolution not exceeding 30 psi.
3. Check for leaks by using a soapy solution at each field-made joint.

Note: Remove nitrogen pressure and repair any leaks before continuing.

Vacuum Test

Important: Do not open the service valves until the refrigerant lines and indoor coil leak check and evacuation are complete.

1. Evacuate until the micron gauge reads no higher than 350 microns, then close off the valve to the vacuum pump.
2. Observe the micron gauge. Evacuation is complete if the micron gauge does not rise above 500 microns in one minute and 1500 microns in ten minutes.
3. Once evacuation is complete, blank off the vacuum pump and micron gauge, and close the valve on the manifold gauge set.
4. All procedures for charging the system with refrigerant shall be according to the instructions provided by the manufacturer of the outdoor unit.

Important: Under no circumstances shall potential sources of ignition be used in the searching for or detection of refrigerant leaks.

After charging the system, all indoor field-made joints of the field piping shall be checked for refrigerant leaks using an electronic leak detector calibrated for R-454B having a sensitivity of 5 grams per year or better.

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