18–AH67D1–2A–EN

Installer's Guide

Replacement Coils

Includes *coil models*
COL20247 through COL20255
Includes *black epoxy coil models*
COL20256 through COL20261

ALL phases of this installation must comply with NATIONAL, STATE AND LOCAL CODES

IMPORTANT — This Document is customer property and is to remain with this unit. Please return to service information pack upon completion of work.

These instructions do not cover all variations in systems nor provide for every possible contingency to be met in connection with the installation. Should further information be desired or should particular problems arise which are not covered sufficiently for the purchaser's purposes, the matter should be referred to your installing dealer or local distributor.

Table of Contents

Section 1. Safety 2

Section 2. Overview and Common Steps 3

2.1 Common Preparation Steps 3
2.2 Common Coil Removal and Retrofit 3

Section 3. COL20256 Only Coil Assembly 4

Section 4. Coil with a Mechanically Fitted TEV 5

4.1 Remove the existing coil 5
4.2 Remove the TEV from the Existing coil 5
4.3 Installing the TEV onto the replacement coil 5

Section 5. Coil with a Brazed TEV 7

5.1 Remove the existing coil 7
5.2 Installing the TEV onto the replacement coil 7

Section 6. Coil with a FCCV 9

6.1 Removing the FCCV 9
6.2 Remove the existing coil 9
6.3 Installing the FCCV into the replacement coil 9

Section 7. Reconnecting new coil assembly 11

Section 1. Safety

⚠ WARNING

This information is intended for use by individuals possessing adequate backgrounds of electrical and mechanical experience. Any attempt to repair a central air conditioning product may result in personal injury and/or property damage. The manufacture or seller cannot be responsible for the interpretation of this information, nor can it assume any liability in connection with its use.

⚠ WARNING

LIVE ELECTRICAL COMPONENTS!
During installation, testing, servicing, and troubleshooting of this product, it may be necessary to work with live electrical components. Failure to follow all electrical safety precautions when exposed to live electrical components could result in death or serious injury.

⚠ CAUTION

Coil is pressurized.

- Coil is pressurized with approximately 7 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.

⚠ CAUTION

CONTAINS REFRIGERANT!
SYSTEM CONTAINS OIL AND REFRIGERANT UNDER HIGH PRESSURE. RECOVER REFRIGER–ANT TO RELIEVE PRESSURE BEFORE OPENING SYSTEM.
Failure to follow proper procedures can result in personalillness or injury or severe equipment damage.

⚠ CAUTION

Extreme caution should be exercised when opening the Liquid Line Service Valve. Turn counterclockwise until the valve stem just touches the rolled edge. No torque is required.

⚠ CAUTION

SAFETY HAZARD
Sharp Edge Hazard. Be careful of sharp edges on equipment or any cuts made on sheet metal while installing or servicing. Personal injury may result.

Section 2. Overview and Common Steps

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. In addition, the coil could be a flat coil (not pictured) or an "A" coil as shown in Figure 1.

Note: If system is configured in downflow orientation, additional components will need to be ordered. See AH parts list.

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

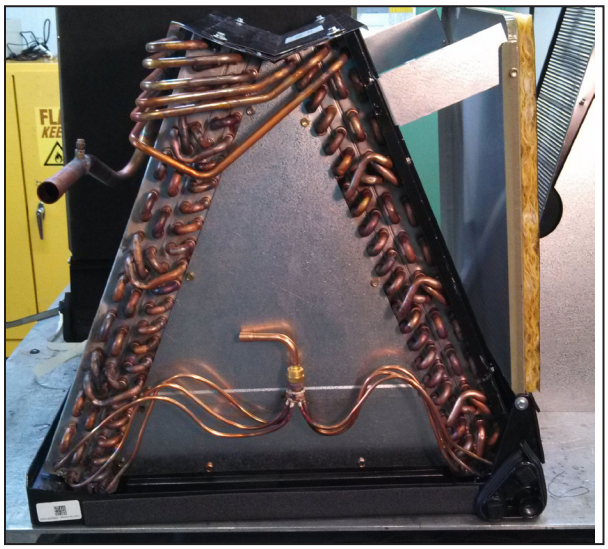


Figure 1 – "A" Coil

2.1 Common Preparation Steps

1) Pump down or recover the refrigerant in the system.
2) Turn off high voltage power to the unit.
3) Remove the condensate drain line 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. (FCCV section has unique instructions.)
5) Remove the air handler's front panels. Retain all screws to reinstall panels in a later step.

2.2 Common Coil Removal and Retrofit

Three types of installations exist. For the specific configuration, refer to the appropriate section below:

1) **Mechanically Fitted TEV** (Thermal Expansion Valve)
   See Section 3

2) **Brazed TEV** (conversion to mechanically fitted coils is required)
   See Section 4

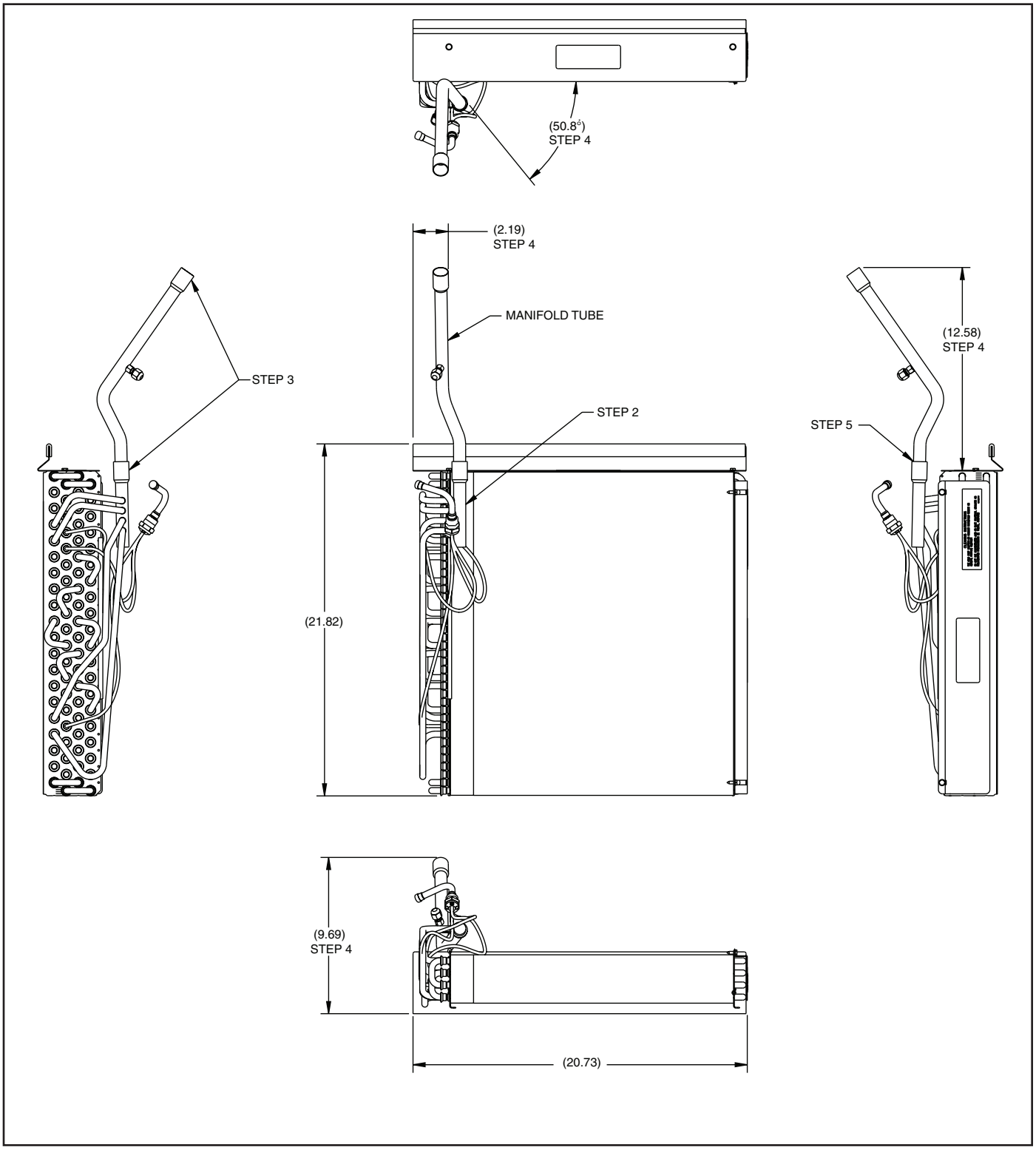
3) **FCCV**–Flow Control Check Valve, sometimes referred to as an orifice
   See Section 5

For coil replacement and reconnection instructions, see **Section 6**.

Section 3. COL20256 Only Coil Assembly

3.1 Braze manifold tube

1) Remove D344885G10 coil from shipping carton (not shown).
2) Remove tie wraps from manifold tube (not shown).
3) Remove end plugs.
4) Locate manifold tube as shown in illustration.
5) Braze tube in place.



Section 4. Coil with a Mechanically Fitted TEV

4.1 Remove the existing coil

4.2 Remove the TEV from the Existing coil

Note: Caution must be used not to damage the TEV, equalizer line, or sensing bulb. This TEV will be reattached to the replacement coil.

4.3 Installing the TEV onto the replacement coil

1) To install the metering device, remove the outer sheet metal cover of the replacement evaporator coil by taking out the screws around the perimeter of the shield.

   This will expose the short liquid line and distributor assembly of the replacement coil.

   Retain the screws for re-attachment in a later step (See Figure 2)

Figure 2 – Removing outer sheet metal cover

Note: Take care not to bend the coil distributor lines. Use a backup wrench to prevent stress on components. (See Figure 3)

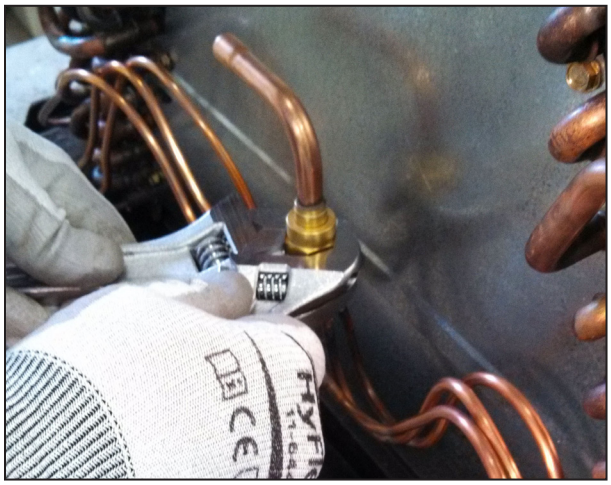


Figure 3 – Using a backup wrench

2) Remove and discard the short liquid line. (See Figure 4)

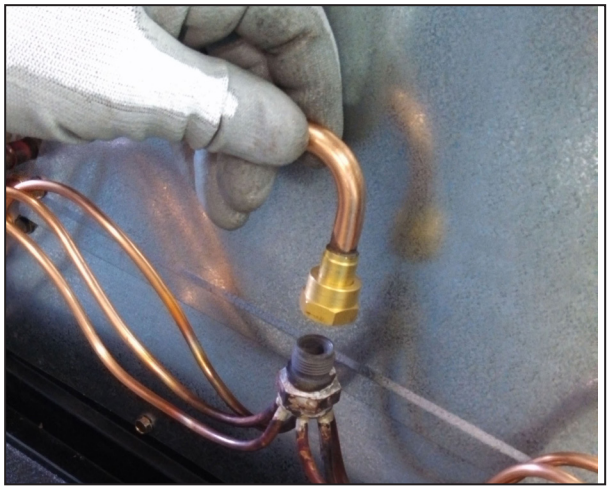


Figure 4 – Removing short liquid line

3) Bolt the TEV (which was removed from the original coil) to the distributor assembly. (See Figure 5)

Note: Torque specification for TEV equals 1/6 turn past finger tight.

Figure 5 – Installing TEV

4) Connect the liquid line from the removed coil to the TEV by bolting it to the refrigerant entering connection of the TEV. (See Figure 6)

Figure 6 – Connecting liquid line

5) The liquid line must be wrapped to prevent copper tubing from coming in contact with the tubing and the outer sheet metal cover. (See Figure 7)

Note: NON-metallic tape such as electrical tape, foam tape, armaflex etc. is recommended.

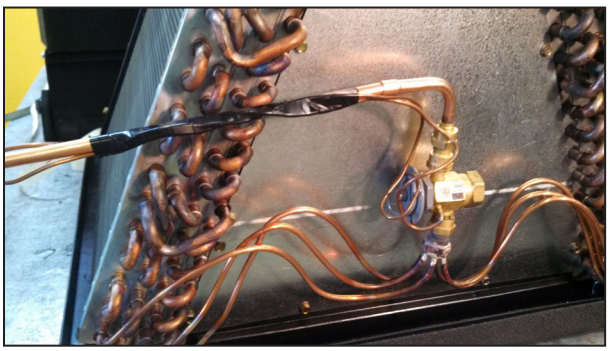


Figure 7 – Wrapping liquid line

6) Remove the Schrader core from the brass fitting on the suction manifold before connecting the equalizer line. (See Figure 8)

7) Connect the equalizer line to the brass fitting on the suction manifold. (See Figure 9)

For coil replacement and reconnection instructions, see **Section 6**.

Section 5. Coil with a Brazed TEV

5.1 Remove the existing coil

5.2 Installing the TEV onto the replacement coil

1) To install the metering device, remove the outer sheet metal cover of the replacement evaporator coil by taking out the screws around the perimeter of the shield.

   This will expose the short liquid line and distributor assembly of the replacement coil.

   Retain the screws for re-attachment in a later step (See Figure 2)

Note: If this is a first time coil replacement a TEV must be ordered from parts to convert the air handler to a mechanically fitted TEV .

Note: Take care not to bend the coil distributor lines. Use a backup wrench to prevent stress on components. (See Figure 3)

2) Remove the short liquid line. (See Figure 4)

3) Bolt the TEV to the distributor assembly. (See Figure 5)

Note: Torque specification for TEV equals 1/6 turn past finger tight.

4) Remove the solder cap from the short liquid line to connect a field fabricated liquid line.

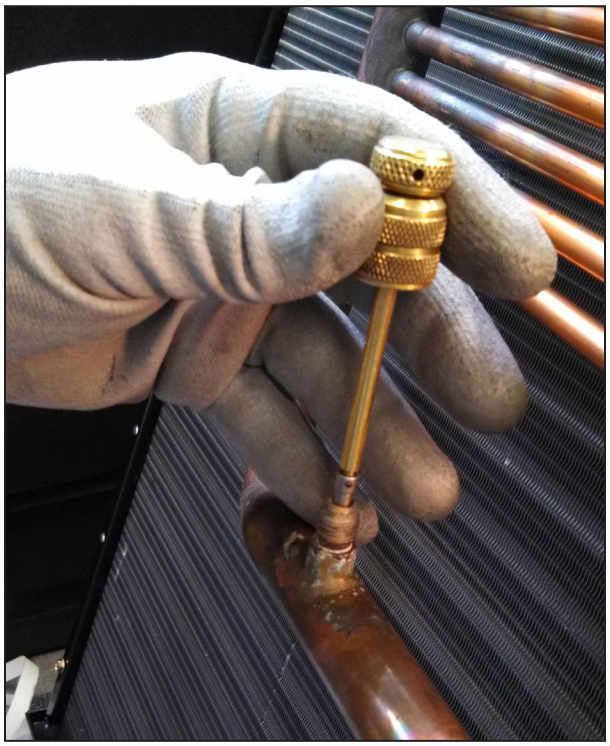


Figure 8 – Removing Schrader core

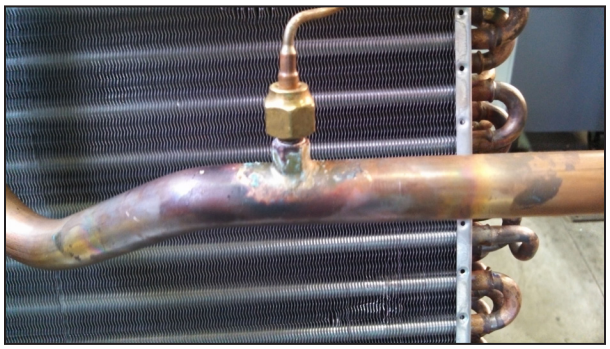


Figure 9 – Connecting equalizer line

Note: Wet rags must be applied to all braze joints before and during heating to prevent overheating of internal coil components. (See Figure 10)

5) Field fabricate a new liquid line using field-supplied 3/8" OD copper tubing and fittings. Route this line toward the suction manifold side of the coil and through the coupling panel to the existing field lineset. (See Figure 11)
6) Test fit the field fabricated liquid line to ensure:
   A) it does not contact the front panel or return bends/copper tubing.
   B) it passes through the opening on the coupling panel.
   C) it is long enough to reach the field line set outside the air handler.
7) Remove the Schrader core from the brass fitting on the suction manifold. (See Figure 8)
8) Connect the equalizer line to the brass fitting on the suction manifold. (See Figure 9)
9) Sensing bulb should be routed to the suction manifold with the equalizer line but not yet attached.
10) The field fabricated liquid line, the equalizer line, and the sensing bulb cap tube must all be wrapped to prevent copper tubing from coming in contact with the tubing and the outer sheet metal cover. (See Figure 7)

Note: NON-metallic tape such as electrical tape, foam tape, armaflex etc. is recommended.

For coil replacement and reconnections instructions, see Section 6.

Figure 10 – Using wet rags

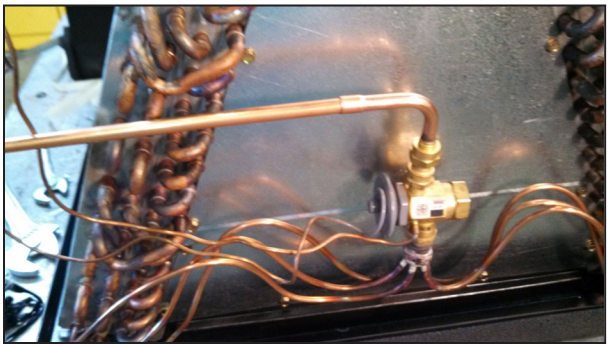


Figure 11 – Field fabricated liquid line

Section 6. Coil with a FCCV

6.1 Removing the FCCV

Note: The FCCV will be reused in the replacement coil. DO NOT discard.

1) Disconnect the liquid line to remove the FCCV from the fitting. Retain for later installation in the new coil.
2) Using tubing cutters, cut copper tubing on either side of fitting that held FCCV.
3) Remove fitting from coupling panel. The new field fabricated liquid line will be routed through this opening.

6.2 Remove the existing coil

6.3 Installing the FCCV into the replacement coil

1) To install the metering device, remove the outer sheet metal cover of the replacement evaporator coil by taking out the screws around the perimeter of the shield.

   This will expose the short liquid line and distributor assembly of the replacement coil.

   Retain the screws for re-attachment in a later step (See Figure 2)

Note: Take care not to bend the coil distributor lines. Use a backup wrench to prevent stress on components. (See Figure 3)

2) Remove the short liquid line from the new coil distributor. (See Figure 4)
3) Install the FCCV into the distributor assembly with orientation as shown. (See Figure 12)
4) Bolt the short liquid line to the distributor assembly. (See Figure 3)

Note: Torque specification for TEV equals 1/6 turn past finger tight.

Figure 12 – Orientation of FCCV

Note: Wet rags must be applied to all braze joints before and during heating to prevent overheating of internal coil components. (See Figure 10)

5) It is necessary to remove the solder cap or rubber plug from the short liquid line to connect a field fabricated liquid line.
6) Field fabricate a new liquid line using field-supplied 3/8" OD copper tubing and fittings. Route this line toward the suction manifold side of the coil and through the coupling panel to the existing field lineset. (See Figure 13)
7) Test fit the field fabricated liquid line to ensure:
   A) it does not contact the front panel or return bends/ tubing.
   B) it passes through the opening on the coupling panel.
   C) it is long enough to reach the field line set outside the air handler.
8) Make certain the brass fitting on the suction manifold has a schrader core inside and is sealed with a cap. (See Figure 14)
9) The field fabricated liquid line must be wrapped to prevent copper tubing from coming in contact with the tubing and the outer sheet metal cover. (See Figure 15)

Note: NON-metallic tape such as electrical tape, foam tape, armaflex etc. is recommended.

For coil replacement and reconnection instructions, see **Section 6**.

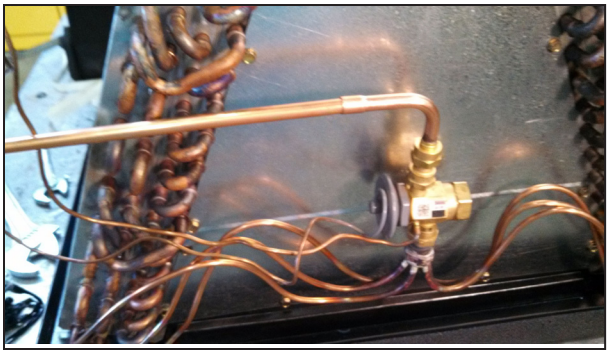


Figure 13 – Field fabricated liquid line

Figure 14 – Sealed Schrader core

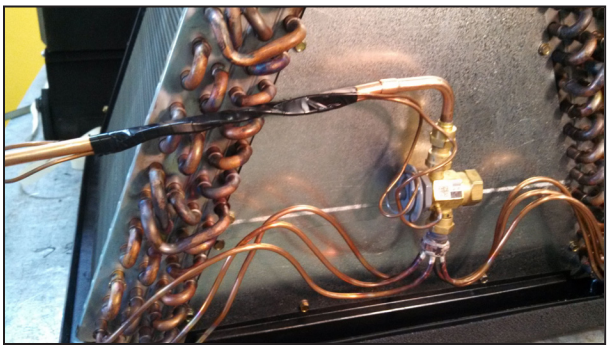


Figure 15 – Wrapping liquid line

Section 7. Reconnecting new coil assembly

1) Put the new coil assembly into the air handler using care not to damage any of the coil components.

Note: Make sure the coil fits into the rails or channels the failed coil was removed from. If previous coil was secured with screws, reinstall them now.

2) Using tubing cutters, cut off the spun closed end of the suction line or remove rubber plug (See Figure 16), depending on coil.
3) Install the front coupling panel (on units so equipped), routing the refrigerant piping through the coupling panel. (See Figure 17)

Note: Wet rags must be applied to all braze joints before and during heating to prevent overheating of internal coil components. (See Figure 10)

4) Reconnect the field refrigerant piping.
5) Pressure test the refrigerant system using dry nitrogen. Test all connections for leaks to ensure integrity of the refrigerant piping system.

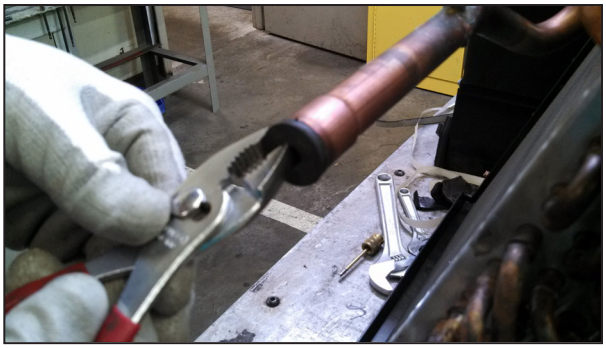


Figure 16 – Removing rubber plug

Figure 17 – Routing lines through panel

Note: Steps 6 and 7 do not apply to units equipped with FCCV.

6) Attach the TEV sensing bulb to the suction manifold. The bulb should be between the 8 - 4 o'clock position on the line. (See Figure 18)
7) Insulate the TEV sensing bulb. (See Figure 19)
8) Reinstall the outer sheet metal cover using screws previously removed.
9) Reconnect the condensate drain piping making sure there is a trap in the main drain line
10) Install the front panels of the unit removed in earlier steps.
11) Pull a vacuum on the refrigerant system to 350 microns or less.
12) Refill the system with new refrigerant or release the charge from the outdoor unit to the refrigerant piping system.
13) Start outdoor unit and set refrigerant charge per the outdoor unit installation instructions.

Note: Arrange baffles and horizontal pan on new coils to match previous installation.

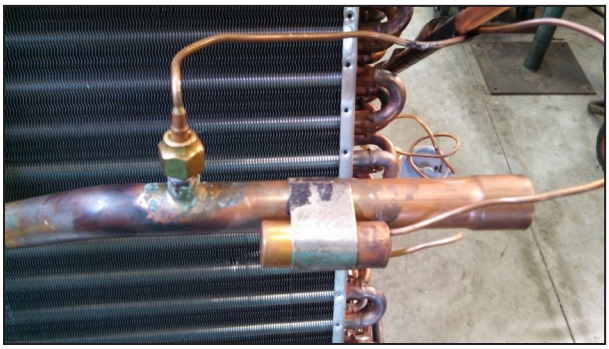


Figure 18 – Attaching sensing bulb

Figure 19 – Insulating the sensing bulb

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