

# Installation Instructions

**NOTE:** Read the entire instruction manual before starting the installation.


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## SAFETY CONSIDERATIONS

Improper installation, adjustment, alteration, service, maintenance, or use can cause explosion, fire, electrical shock, or other conditions which may cause 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 and work gloves. Use quenching cloth for brazing operations. Have fire extinguisher available. Read these instructions thoroughly and follow all warning or cautions 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 the signal word DANGER, WARNING, or 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 a hazard which **could** result in personal injury or death. CAUTION is used to identify unsafe practices which **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.

## WARNING

### ELECTRICAL OPERATION HAZARD

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

Before installing or servicing system, always turn off main power to system. There may be more than one disconnect switch. Turn off accessory heater power if applicable.

## CAUTION

### PERSONAL INJURY HAZARD

Failure to follow this caution may result in personal injury.

This coil contains nitrogen precharge of up to 15 PSI. Release of this pressure through the center of the rubber plug is required before removing the plugs.

**IMPORTANT:** Nitrogen can leak out through the hole that the needle pierced in the plugs. This does not indicate a leaking coil nor warrant return of the coil.

## INTRODUCTION

The CNPFU/CNRFU coils are designed to be used within a gas or electric downflow furnace certified for use in manufactured homes (mobile homes).

The CNPFU/CNRFU coils are for use on the outlet (supply) side of the furnace only. This reduces condensate formation in the furnace heat exchanger during the cooling cycle.

## INSTALLATION

### PROCEDURE 1 — INSPECT EQUIPMENT

File claim with shipper if shipment is damaged.

### PROCEDURE 2 — INSTALL COIL

1. Disconnect power to furnace.
2. Remove furnace front access doors.
3. Remove furnace inner sheet metal shield.
4. Remove knockouts from furnace cabinet and inner shield.

5. Assemble the two halves of coil header plate over the coil tubes and fasten together using supplied screws. (On some furnace models, the top edge of the upper half of the header plate may need to be bent for proper screw hole alignment.)
6. Slide rubber grommets into place around coil tubes and into coil header plate holes.
7. Position rails inside furnace as shown in Fig. 1. Slide coil into furnace, nesting drain pan inside rails. (On some furnace models, the tabs on the rails may need to be bent up for proper fit.)
8. Align furnace inner shield (removed earlier) with coil header plate so that the refrigerant tubes fit through the knockouts. Fasten shield to header plates using supplied screws.
9. Replace furnace front access doors.

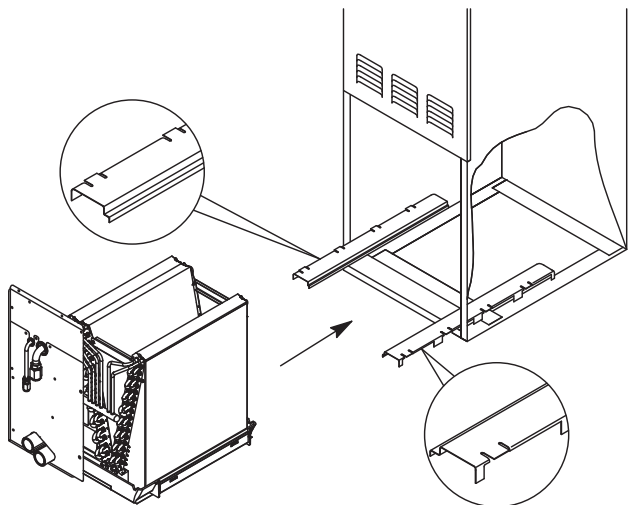


Fig. 1 Rails and Coil Installation

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**PROCEDURE 3 — CONNECT REFRIGERANT TUBING**

See Table 1 for coil connection sizes. Outdoor units may be connected to indoor sections using the field-supplied refrigerant-grade tubing of correct size and condition.

Table 1—Coil Connection Tube Size (In.)

Model Number	Liquid	Suction
CN(P,R)FU2418ACA	3/8	5/8
CN(P,R)FU3618ACA	3/8	3/4
CN(P,R)FU4818ACA	3/8	3/4

**⚠ CAUTION**

**UNIT OR PROPERTY DAMAGE HAZARD**

Failure to follow this caution may result in equipment damage or improper operation.

If undersized, damaged, or elliptically shaped tubing is used when making connections, leaks may result.

When tubing package is used and mechanical connections are made within 60 sec, coils do not require evacuation. Entire suction tube must be insulated to prevent condensate damage within furnace cabinet.

Connect refrigerant liquid and suction tubes to compatible fittings on coil, using backup wrenches. Make suction tube connection first, then liquid tube connection.

For a mix-match system, use suction tube sizes recommended in outdoor unit Installation Instructions.

**A. Mechanical Connection**

1. Loosen lock nut on compatible fitting one turn. Do not remove. (See Fig. 2.)

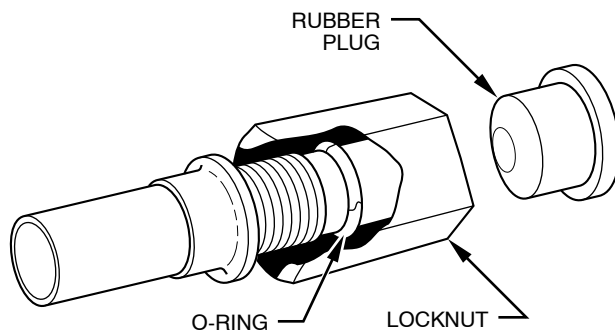


Fig. 2 Compatible Fitting A86154

2. Remove plug making sure O-ring is in the groove inside compatible fitting.
3. Cut tubing to correct length. Insert tube into compatible fitting until it bottoms.
4. Keep compatible fitting bottomed. Tighten lock nut using backup wrench until it contacts back of coupling flange.

**B. Refrigerant Metering Device**

1. CNPFU MODELS - These coils have a factory-installed hard shut-off TXV designed only for use with Puron®, R-410A, refrigerant. Use only with outdoor units designed for Puron® refrigerant, R-410A.
2. CNRFU MODELS - These coils have a factory-installed hard shut-off TXV designed only for use with R-22 refrigerant. Use only with outdoor units designed for R-22.

**NOTE: All TXVs have preset superheat settings and are not field adjustable.**

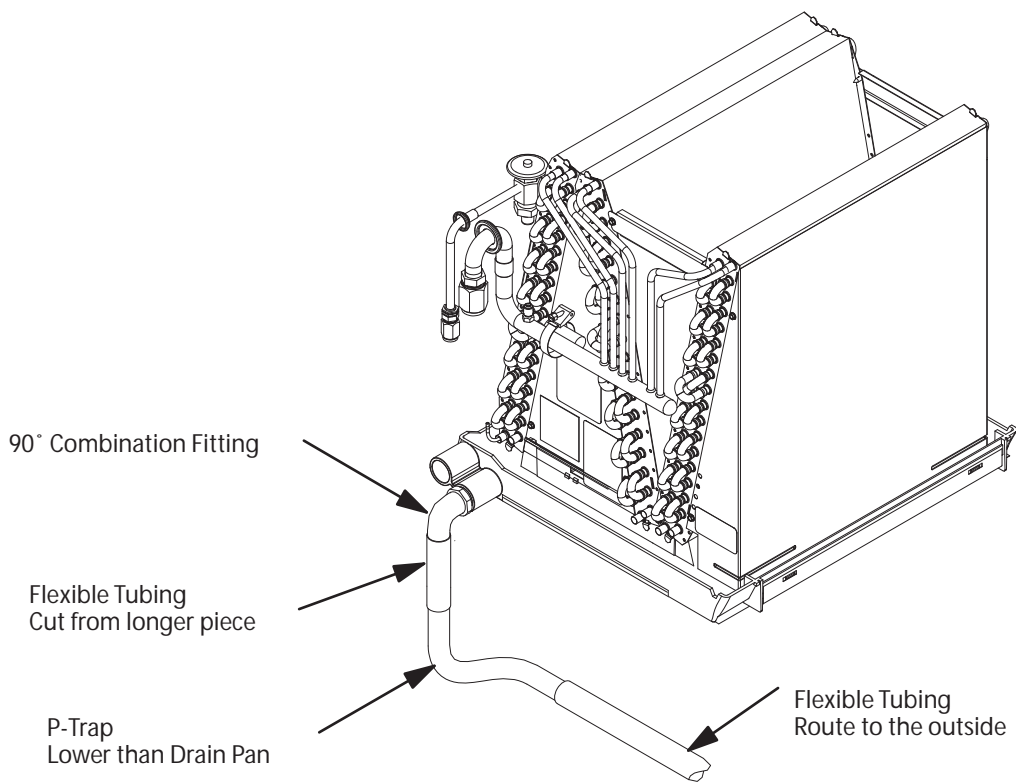
Carefully remove TXV bulb insulation and verify that the TXV bulb is securely fastened with hose clamp. Tighten screw a half-turn past hand tight with TXV bulb placed in the indentation with full contact with the vapor line tube. Re-wrap TXV bulb with insulation.

**PROCEDURE 4 — INSTALL CONDENSATE DRAIN**

Coil is provided with two 3/4 in. NPT condensate drain connections. **The lower connection is the primary drain, and the higher connection is the secondary (overflow) drain.**

Coil is provided with flexible drain tubing, 90° combination fitting, and P-trap. (See Fig. 3.)

1. Thread the 90° combination fitting into the primary (lower) drain. Use pipe dope and do not over tighten.
2. Determine where the P-trap will be placed. NOTE: Keep the P-trap as close to the coil as possible. P-trap must be positioned lower than the bottom of the drain pan. (See Fig. 3.)
3. Cut a length of the flexible tubing and install it from the 90° combination fitting to the P-trap.
4. Install the remainder of the flexible tubing to the outlet side of the P-trap and route the tubing to the outside. Check local codes before connecting to a waste (sewer) line.



**Fig. 3 Condensate Drain**

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**NOTE:** Route hose so that it does not obstruct access to the filter.

5. Prime the trap, test for leaks, and insulate drain lines where sweating could cause water damage.
6. If a gravity drain cannot be used, install a condensate pump. Install the pump as close to the indoor section as possible.

If secondary drain is required, fabricate a similar hose and P-trap and install to the secondary (higher) drain pan connection.

If coil is located in or above a living space where damage may result from condensate overflow, a separate 3/4 in. drain must be provided from secondary (overflow) drain connection. Run this drain to a place in compliance with local installation codes where it will be noticed when unit is operational. Condensate flowing from secondary (overflow) drain indicates a plugged primary drain - unit requires service or water damage will occur.

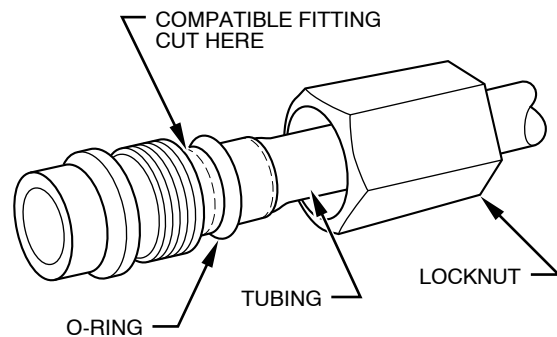
**NOTE:** For downflow electric furnace, the secondary (overflow) drain connection must be installed to prevent possibility of water dripping onto live electrical components.

**START-UP**

Refer to outdoor unit Installation Instructions for system start-up and refrigerant charging details.

**PROCEDURE 5 — MECHANICAL CONNECTION REPAIR**

1. Pump down unit and frontseat condensing unit service valves.
2. Back lock nut off compatible fitting onto tube at indoor evaporator coil. (See Fig. 4.)
3. Cut fitting with hacksaw between threads and O-ring.
4. Remove tubing section remaining in threaded portion of fitting. Discard lock nut.



**Fig. 4 Repair of Mechanical Connection**

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**PROCEDURE 6 — RECONNECTING REFRIGERANT TUBING**

1. Remove all burrs and fittings from remaining portion of compatible fitting.

**⚠ CAUTION**

**UNIT OR PROPERTY DAMAGE HAZARD**

Failure to follow this caution may result in equipment damage or improper operation.

Failure to install trap can result in condensate flowing out of coil pan and into furnace. Install trap in furnace or outside under floor.

2. Insert tube end into remaining portion of compatible fitting.
3. Solder with low-temperature (430°F) silver alloy solder.

4. Evacuate evaporator coil and tubing at condensing unit service valves reclaiming refrigerant.
5. Operate system for 10 minutes.
6. Adjust charge to required superheat.



## CAUTION

### UNIT DAMAGE HAZARD

Failure to follow this caution may result in equipment damage or improper operation.

Wrap a wet cloth around rear of fitting to prevent damaging factory-made joints.