

**THIS MANUAL MUST BE LEFT WITH THE
HOMEOWNER FOR FUTURE REFERENCE**

⚠ WARNING

Improper installation, adjustment, alteration, service or maintenance can cause property damage, personal injury or loss of life. Installation and service must be performed by a licensed professional HVAC installer or equivalent, service agency, or the gas supplier.

⚠ IMPORTANT

The Clean Air Act of 1990 bans the intentional venting of refrigerant (CFCs, HCFCs and HFCs) as of July 1, 1992. Approved methods of recovery, recycling or reclaiming must be followed. Fines and/or incarceration may be levied for noncompliance.

⚠ CAUTION

As with any mechanical equipment, contact with sharp sheet metal edges can result in personal injury. Take care while handling this equipment and wear gloves and protective clothing.

⚠ WARNING

To prevent serious injury or death:

1. Lock-out/tag-out before performing maintenance.
2. If system power is required (e.g., smoke detector maintenance), disable power to blower, remove fan belt where applicable, and ensure all controllers and thermostats are set to the "OFF" position before performing maintenance.
3. Always keep hands, hair, clothing, jewelry, tools, etc. away from moving parts.

Disponible en español en LennoxPros.com
Disponible en Français sur le LennoxPros.com site

INSTALLATION INSTRUCTIONS

C35 Series Coils – R410A

INDOOR VERTICAL UPFLOW COILS

Service Coil for Indoor Coil Replacement Only

(US applications)

For Servicing Existing Equipment Only

(US Applications)

508729-01

01/2025

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General Information

The coil drain pan has a maximum service temperature of 500°F. The drain pan must be at least 2" away from a standard gas-fired furnace heat exchanger and at least 4" away from any drum-type or oil-fired furnace heat exchanger. Closer spacing may damage the drain pan and cause a leak.

Refer to the Product Specification bulletin (EHB) for the proper use of these coils with specific furnaces, air handlers and line sets.

These instructions are intended as a general guide and do not supersede local or national codes in any way. Authorities who have jurisdiction should be consulted before installation.

IMPORTANT: Special procedures are required for cleaning the aluminum coil in this unit. See page 9 in this instruction for information.

Shipping and Packing List

Package 1 of 1 contains:

1 – Evaporator coil

Check the components for shipping damage; if found, immediately contact the last carrier.



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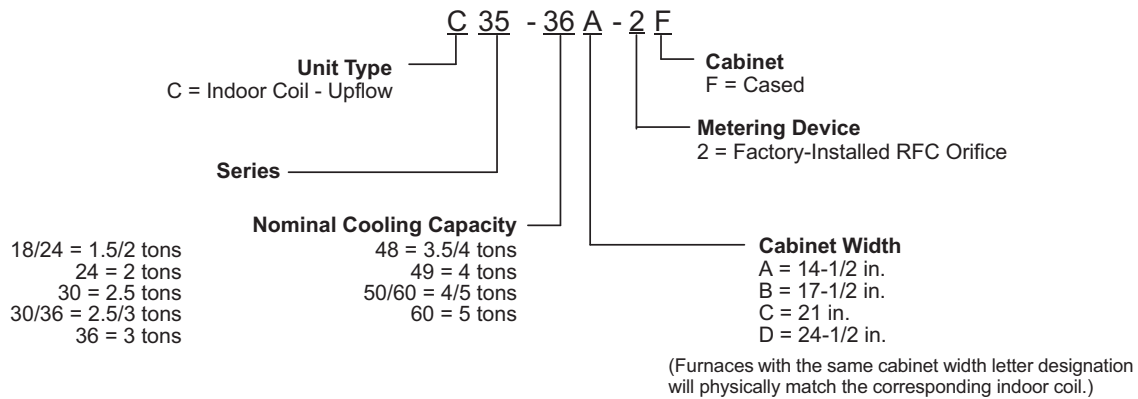
NOTE – This unit C35 is a **PARTIAL UNIT AIR CONDITIONER**, complying with **PARTIAL UNIT** requirements of this Standard, and must only be connected to other units that have been confirmed as complying to corresponding **PARTIAL UNIT** requirements of this Standard, UL 60335-2-40/CSA C22.2 No. 60335-2-40, or UL 1995/CSA C22.2 No 236.

Partial units shall only be connected to an appliance suitable for the same refrigerant.

⚠ WARNING

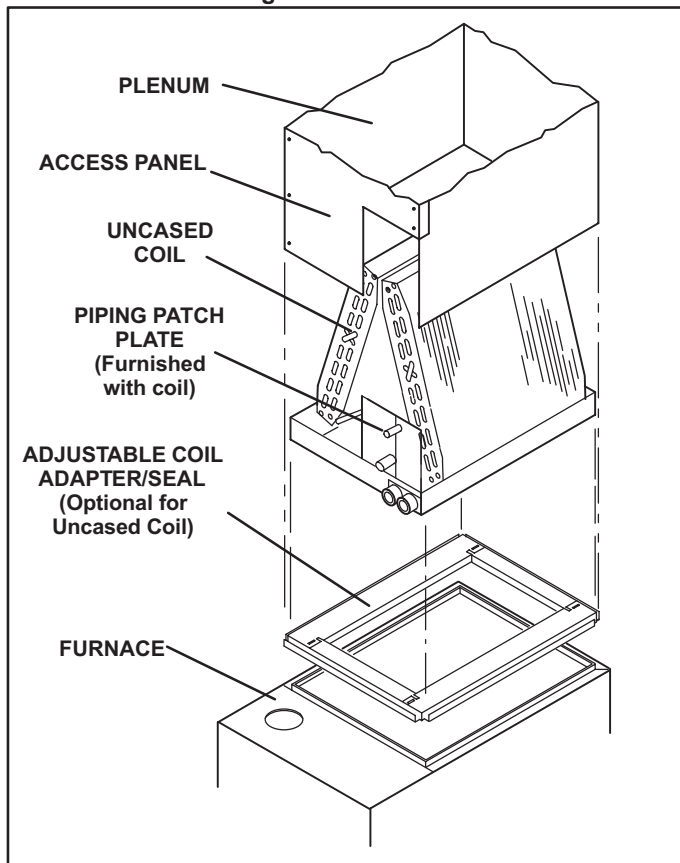
Every working procedure that affects safety means shall only be carried out by competent persons. This appliance is not to be used by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure they do not play with the appliance.

Model Number Identification

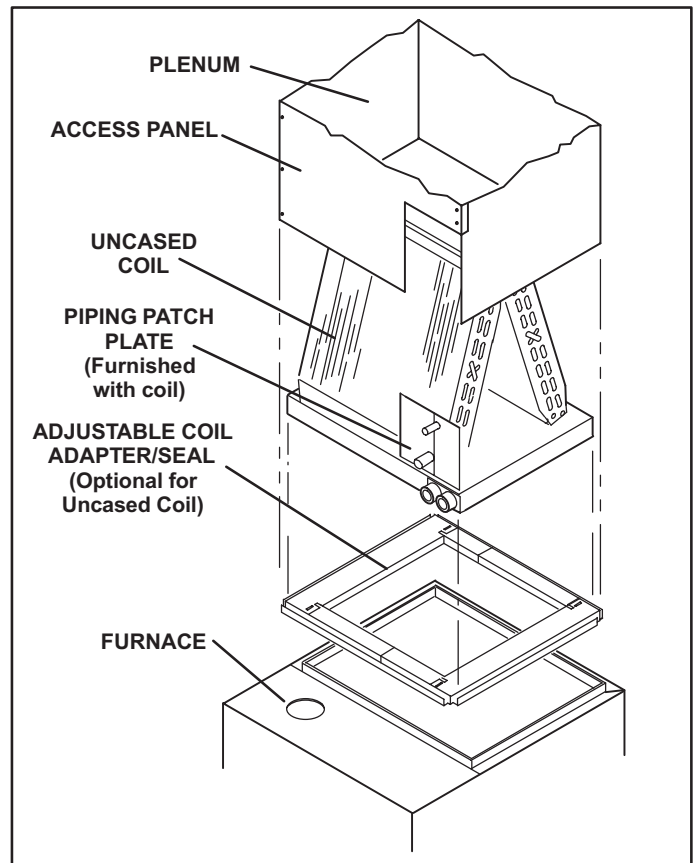


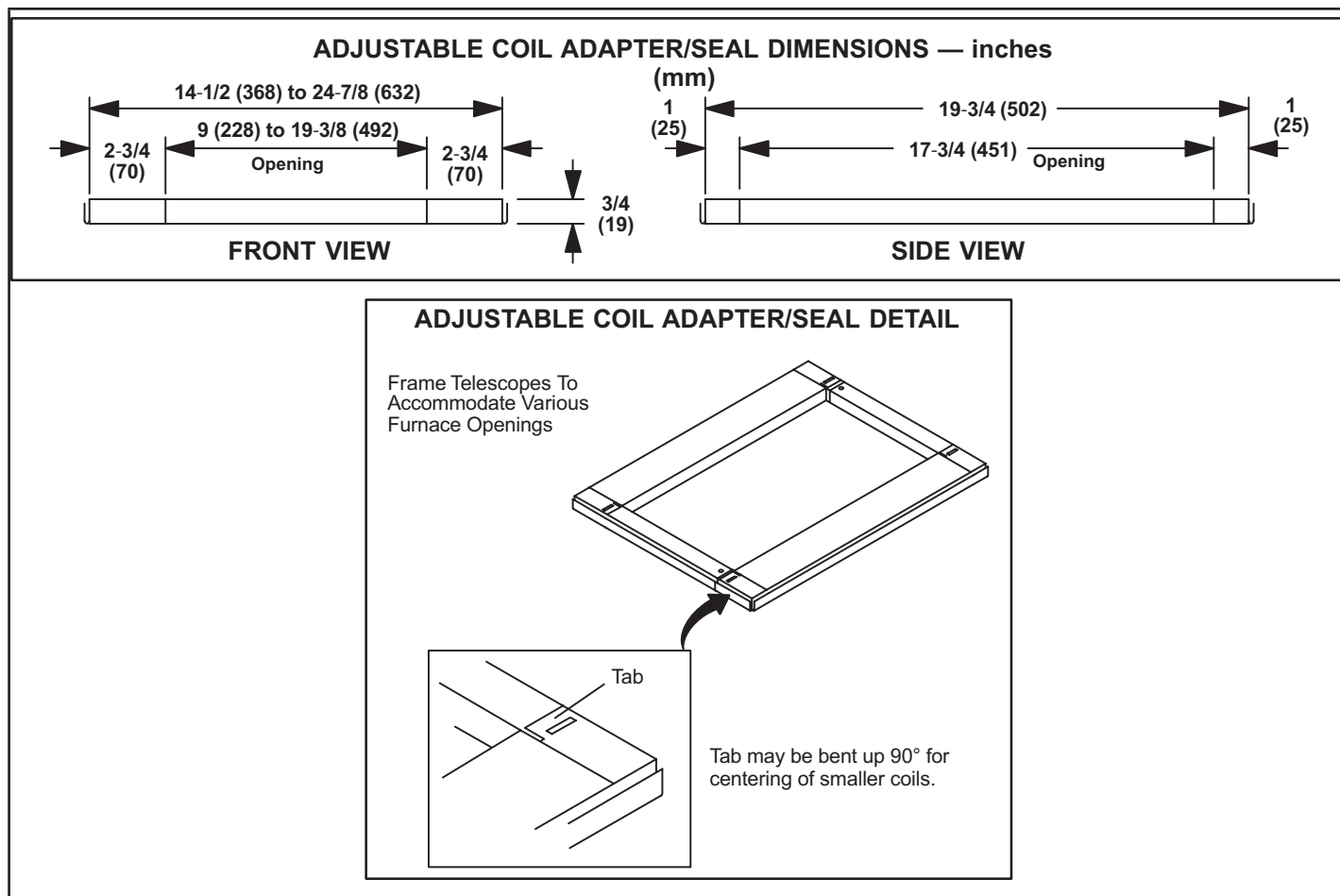
C35 Optional Adjustable Coil Adapter/Seal Applications

C35-18A through C35-60C Uncased Coils



C35-60D Uncased Coils





Releasing Air Charge

⚠ CAUTION

The coil is shipped from the factory pressurized with dry air. Pierce a hole in the rubber plug that seals the vapor line to relieve the pressure before removing the plugs.

NOTE - If there is no pressure released when the vapor line rubber plug is pierced, check the coil for leaks before continuing with the installation.

The C35 coils are shipped with a 10 ± 3 psi dry air holding charge. Puncture the suction line rubber plug to release the charge. Remove the rubber plug. Ensure that the coil is void of pressure.

Installation

⚠ WARNING

Risk of explosion or fire. Can cause injury or death. Recover all refrigerant to relieve pressure before opening the system.

Refrigerant Line Connections LINE SIZES

The refrigerant line sets should be sized according to the recommendations given in the air conditioner unit installation instructions. Use table 1 to determine correct braze connection sizes. A field-provided adapter may be required to match line set connections.

TABLE 1. Refrigerant Line Connections – Model C35

Model Number	Suction	Liquid
18/24	3/4 Inch	3/8 Inch
24		
30		
30/36		
36		
48	7/8 Inch	
49		
50/60		
60		

REPLACEMENT PARTS

If replacement parts are necessary, order kit 69J46. The kit includes:

- 10 – Brass nuts for liquid line assemblies
- 20 – Teflon rings
- 10 – Liquid line orifice housings
- 10 – Liquid line assemblies

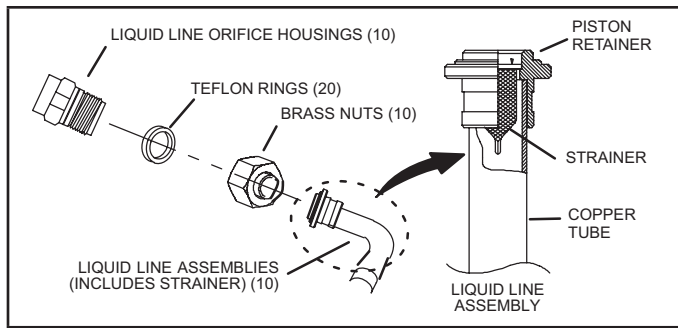


FIGURE 1. 69J46 Kit Components

BRAZING GUIDELINES

⚠ IMPORTANT

Braze-free fittings must conform with UL207 or ISO14903 (latest edition).

Use a silver alloy brazing rod (5 or 6 percent silver alloy for copper-to-copper connections or 45 percent silver alloy for copper-to-brass or copper-to-steel connections).

Before making brazed connections, place a field-provided heat shield, such as a wet rag, against the unit cabinet and around the piping stubs, expansion valve and sensing bulb. The heat shield must be in place to prevent heat damage during brazing. See figure 2.

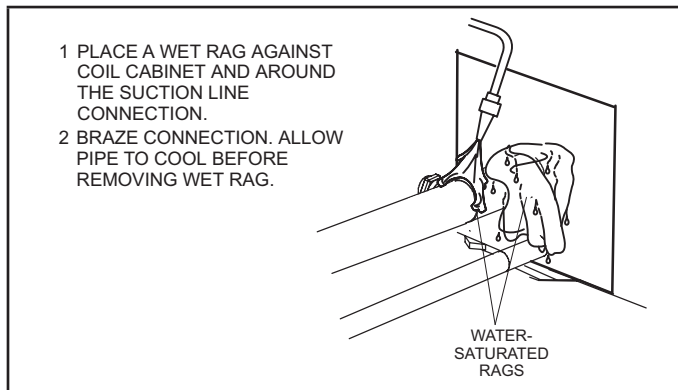


FIGURE 2. Braze Refrigerant Lines

SUCTION LINE CONNECTION

Use the following procedure to connect the suction line to the indoor coil:

- 1 - Remove rubber plug from the stubbed connection.
- 2 - For brazed connections:
 - a. Position the refrigerant piping and make the brazed connection following the brazing guidelines.
 - b. Do not remove the water-saturated rags until the piping has cooled completely.
- 3 - For braze-free connections:
 - a. Position the refrigerant piping and follow the assembly instructions provided with the braze-free connector.

C35 LIQUID LINE CONNECTION

Connect the properly-sized field-provided liquid line to the liquid line stub using the following procedures:

- 1 - For brazed connections:
 - a. Position the refrigerant piping and make the brazed connection following the brazing guidelines.
 - b. Do not remove the water-saturated rags until the piping has cooled completely.
- 2 - For braze-free connections:
 - a. Position the refrigerant piping and follow the assembly instructions provided with the braze-free connector.

NOTE – When installing refrigerant lines longer than 50 feet, see the *Lennox Refrigerant Piping Design and Fabrication Guidelines, CORP. 9351-L9*, or contact Lennox Technical Support Product Applications for assistance.

Leak Testing, Evacuating and Charging

Refrigerant system installations shall be installed and tested per ASHRAE Standard 15.2, Section 10.0 (latest edition).

Refer to the outdoor unit instruction for leak testing, evacuating and charging procedures. Always leak check entire system before charging.

Sealing the Coil Cabinet and Ducts

⚠ WARNING

There must be an airtight seal between the bottom of the furnace and the return air plenum. Use fiberglass sealing strips, caulking, or equivalent sealing method between the plenum and the furnace cabinet to ensure a tight seal. Return air must not be drawn from a room where the furnace or any gas-fueled appliance (i.e., water heater), or carbon monoxide-producing device (i.e., wood fireplace) is installed.

The coil cabinet and drain openings **MUST** be sealed after installation to ensure against air leaks, which can impact system performance. The material, and method, used should be capable of enduring the range of temperature and humidity levels expected in the specific install location.

Ensure that the duct is secured and all joints are properly sealed to the coil cabinet flanges.

Condensate Drain Connections

⚠ IMPORTANT

After removal of drain pan plug(s), check drain hole(s) to verify that drain opening is fully open and free of any debris. Also check to make sure that no debris has fallen into the drain pan during installation that may plug up the drain opening.

MAIN DRAIN

Connect the main drain and route drain tubing downward to drain line or sump. Do not connect drain to a closed waste system. See figure 3 for typical drain trap configuration.

OVERFLOW DRAIN

It is recommended that the overflow drain stub be connected to an overflow drain line for all units. If the overflow drain is not connected to a drain line, it must be plugged with the provided cap.

SEALING CABINET DRAIN OPENINGS

Drain openings in cabinet **MUST** be sealed.

CONDENSATE DRAIN RECOMMENDATIONS

The following practices are recommended to ensure better condensate removal:

- Main and overflow drain lines should **NOT** be smaller than both drain connections at drain pan.
- Overflow drain line should run to an area where homeowner will notice drainage.
- It is recommended that the overflow drain line be vented and a trap installed. Refer to local codes.

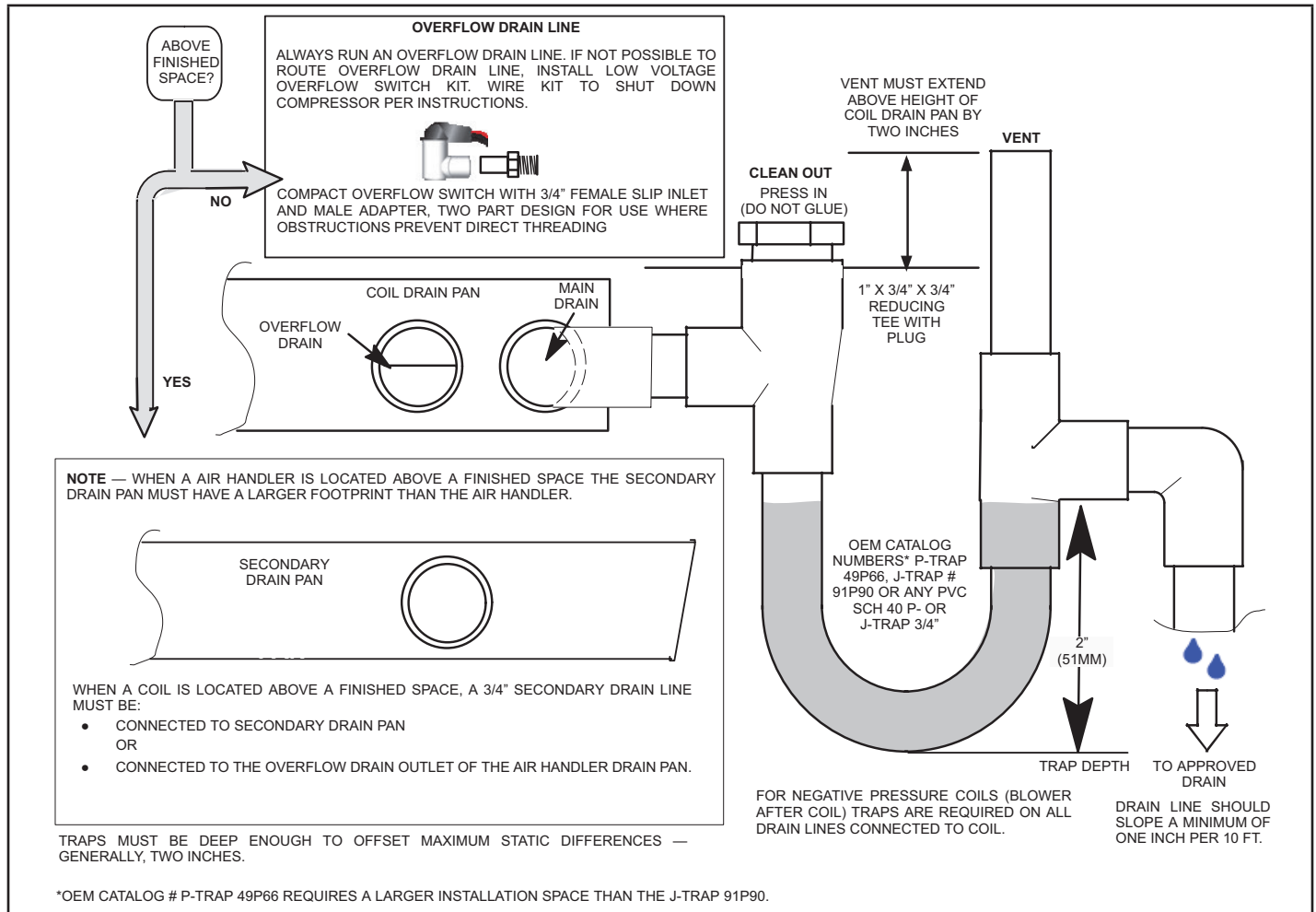


FIGURE 3. Typical Main and Overflow Drain Installations

Blower Speed Selection

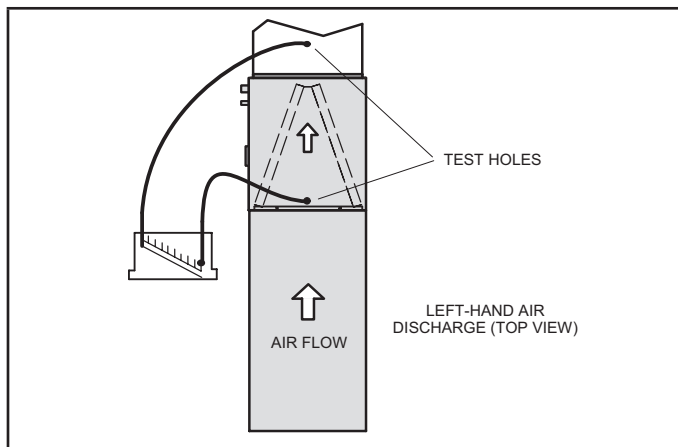


FIGURE 4. Static Pressure Test

⚠ CAUTION

Take care when drilling test holes into the furnace flange and the duct. Drill holes away from refrigerant piping. Test holes should be drilled where specified in order to avoid unit damage.

Proper air volume must be provided over the evaporator coil. Select a blower motor speed tap that will provide 400 ± 50 CFM per 12,000 Btuh of cooling capacity (wet coil). A static pressure reading must be taken to see if the pressure drop falls within the proper range.

To ensure accuracy, air must be read from below the coil and above the coil. See figure 4 for an example to obtain an accurate reading.

- 1 - Drill one 5/16" air test hole into the delta plate between the coil slabs.
- 2 - Drill one 5/16" air test hole into the duct above the top of the coil.
- 3 - Connect the instrument for **static pressure measurement** hoses to the air entering side of coil. Insert the hoses so that 1/4" extends inside the duct or end seal. Seal around holes with Permagem®.
- 4 - Turn on electrical power to the furnace and set the thermostat to initiate a cooling demand.
- 5 - Table 2 lists air volumes and equivalent static pressure readings for these units. Observe the static pressure reading. If the reading is below the required air volume, increase the blower speed; if the reading is above the required air volume, decrease the blower speed. Refer to the furnace wiring diagram for blower speed settings.
- 6 - When the required static pressure readings are obtained, remove the test hose lines and insert snap hole plugs into test holes.

TABLE 2. Air Volume / Static Pressure Drop Across Coil – Model C35

Cabinet		Vol: CFM	Drop: in. w.g.	
Model	Width in.		Dry	Wet
18 / 24A	14.5	600	.11	.17
	14.5	800	.18	.25
18 / 24B	17.5	600	.11	.17
	17.5	800	.18	.25
24A	14.5	800	.16	.18
24B	17.5	800	.16	.18
30A	14.5	1000	.18	.20
30B	17.5	1000	.18	.20
30 / 36A	14.5	1000	.19	.21
	14.5	1200	.27	.30
30 / 36B	17.5	1200	.13	.16
	17.5	1200	.17	.21
30 / 36C	21	1000	.13	.16
	21	1200	.17	.21
36A	14.5	1200	.27	.30
36B	17.5	1200	.17	.21
48B	17.5	1400	.23	.24
	17.5	1600	.30	.31
48C	21	1400	.13	.16
	21	1600	.16	.20
49C	21	1600	.17	.22
50 / 60C	21	1600	.23	.29
60C	21	2000	.29	.34
60D	24.5	2000	.21	.27

Maintenance

NOTICE !

Failure to follow instructions will cause damage to the unit.

This unit is equipped with an aluminum coil. Aluminum coils may be damaged by exposure to solutions with a pH below 5 or above 9. The aluminum coil should be cleaned using potable water at a moderate pressure (less than 50psi). If the coil cannot be cleaned using water alone, Lennox recommends use of a coil cleaner with a pH in the range of 5 to 9. The coil must be rinsed thoroughly after cleaning.

In coastal areas, the coil should be cleaned with potable water several times per year to avoid corrosive buildup (salt).

A trained technician or service agency must perform maintenance and service on equipment. At the beginning of each heating or cooling season, indoor coils should be cleaned.

Do not use hydrofluoric acid, alkaline, or similar chemicals on coils. These chemicals are not necessary to dissolve salt, and may damage the fin coating. Acid washes are used to dissolve oils and greases, which generally are not present on most installations.

Alkaline washes are useful for dissolving oxides such as zinc oxide, aluminum oxide, and iron oxide (rust). These three oxides are more corrosion-resistant than base metals, so dissolving or removing them will cause an increase in corrosion.

CLEANING THE COIL

- 1 - Remove the coil from the cabinet or plenum, and take the coil to an appropriate place to clean it.
- 2 - Vacuum or brush the coil to remove matted and surface debris from the fins. Use vacuum attachments and/or brushes that are non-destructive to fins.
- 3 - If oil deposits are present, spray the coil with a mild household liquid detergent to soften deposits. Do not leave the detergent on the coil for more than 10 minutes. Flush the coil thoroughly with potable water.

NOTE - For units in coastal regions, fresh water will dissolve away any salt deposits. (Wash coils with fresh water at least every six months.)

- 4 - Spray the coil at a vertical angle of 30 to 45 degrees with a constant stream of water at moderate pressure. A pressure washer with a fan nozzle will work best. Do not spray the coil from a horizontal direction.
- 5 - Direct the spray so that any debris is washed out of the coil and base pan. For most residential units, hot water is not necessary.

NOTE - Attempting to back flush from the inside of the coil will require removing parts from the unit, and it may be very difficult to flush the whole coil surface. Attempting to blow water through a coil will slow the water stream and reduce the flushing action of the outer fin surface.

- 6 - Replace the coil into the cabinet or plenum. Ensure that you have followed the proper procedure for routing and securing the refrigerant tubing.

IMPORTANT

Ensure that the distributor lines are not rubbing together or kinked. All tubes must have enough clearance from other metal parts. Use wire ties to secure tubes to prevent movement that could cause the refrigerant tubing to fail.

Use of Coil-Furnace System During Construction

Units may be used for heating or cooling of buildings or structures under construction, if the following conditions are met to ensure proper operation:

DO NOT USE THE UNIT FOR CONSTRUCTION HEAT UNLESS ALL OF THE FOLLOWING CRITERIA ARE MET:

- Furnace must be in its final location. The vent system must be permanently installed per these installation instructions.
- Furnace must be installed as a two-pipe system and one hundred percent (100%) outdoor air must be provided for combustion air requirements during construction.
- A room thermostat must control the furnace. The use of fixed jumpers that will provide continuous heating is prohibited.
- The input rate and temperature rise must be set per the furnace rating plate.
- Supply and Return air ducts must be provided and sealed to the furnace. Return air must be terminated outside of the space where furnace is installed.
- Return air temperature range between 60°F (16°C) and 80°F (27°C) must be maintained.
- MERV 11, or greater, air filters must be installed in the system and must be regularly inspected and maintained (e.g., regular static checks and replaced at end of life) during construction.
- Blower and vestibule access panels must be in place on the furnace at all times.
- The furnace heat exchanger, components, duct system, and evaporator coils must be thoroughly cleaned following final construction clean-up.
- Air filters must be replaced upon construction completion.
- All furnace operating conditions (including ignition, input rate, temperature rise and venting) must be verified in accordance with these installation instructions.

EQUIPMENT MAY EXPERIENCE PREMATURE COMPONENT FAILURE AS A RESULT OF FAILURE TO FOLLOW THE ABOVE INSTALLATION INSTRUCTIONS.

FAILURE TO FOLLOW THE ABOVE INSTALLATION INSTRUCTIONS VOIDS THE MANUFACTURER'S EQUIPMENT LIMITED WARRANTY. LENNOX DISCLAIMS ALL LIABILITY IN CONNECTION WITH INSTALLER'S FAILURE TO FOLLOW THE ABOVE INSTALLATION INSTRUCTIONS.

NOTWITHSTANDING THE FOREGOING, INSTALLER IS RESPONSIBLE FOR CONFIRMING THAT THE USE OF CONSTRUCTION HEAT IS CONSISTENT WITH THE POLICIES AND CODES OF ALL REGULATING ENTITIES. ALL SUCH POLICIES AND CODES MUST BE ADHERED TO.

Decommissioning

Before carrying out this procedure, it is essential that the technician is completely familiar with the equipment and all its detail. It is recommended good practice that all refrigerants are recovered safely.

Prior to the task being carried out, an oil and refrigerant sample shall be taken in case analysis is required prior to re-use of recovered refrigerant. It is essential that electrical power is available before starting decommissioning.

- a) Become familiar with the equipment and its operation.
- b) Isolate system electrically.
- c) Before attempting the procedure, ensure that:
 - mechanical handling equipment is available, if required, for handling refrigerant cylinders;
 - all personal protective equipment is available and being used correctly;
 - the recovery process is supervised at all times by a competent person;

- recovery equipment and cylinders conform to the appropriate standards.
- d) Pump down refrigerant system, if possible.
- e) If a vacuum is not possible, make a manifold so that refrigerant can be removed from various parts of the system.
- f) Make sure that cylinder is situated on the scales before recovery takes place.
- g) Start the recovery machine and operate in accordance with instructions.
- h) Do not overfill cylinders (no more than 80% volume liquid charge).
- i) Do not exceed the maximum working pressure of the cylinder, even temporarily.
- j) When the cylinders have been filled correctly and the process completed, make sure that the cylinders and the equipment are removed from site promptly and all isolation valves on the equipment are closed off.
- k) Recovered refrigerant shall not be charged into another REFRIGERATING SYSTEM unless it has been cleaned and checked.