

Installation Instructions

Accessory Ultraviolet (UV) Germicidal Lamp

1 & 2 Lamp Models—115V & 208/230V 60 Hz

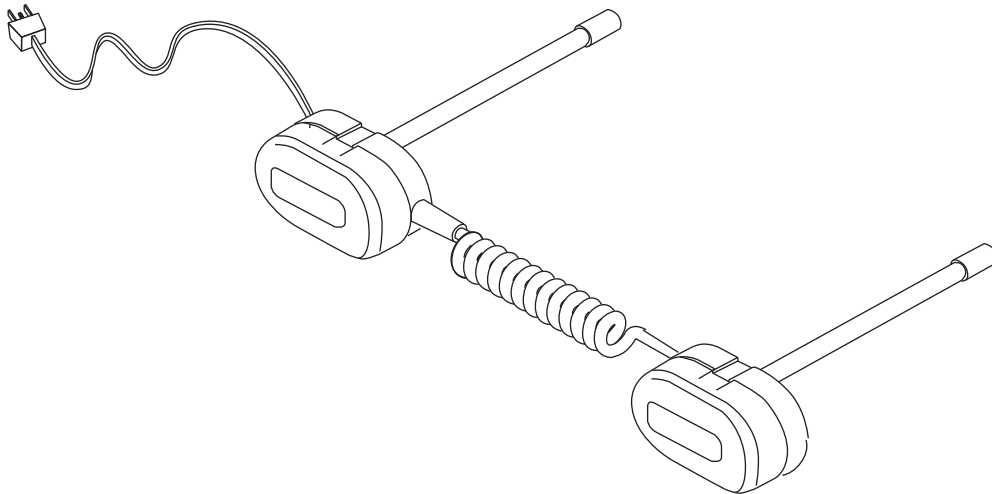


Fig.1_Two Lamp Model UV Lamp

03009

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

SAFETY

⚠ WARNING: EYE & SKIN BURN HAZARD
Failure to follow this warning could result in personal injury.
This unit contains high energy ultraviolet C-band (UVC) germicidal lamps which can cause serious eye and skin irritation. Never expose unprotected eyes or skin to the UVC light.

⚠ WARNING: UV Light Hazard. Harmful to skin and eyes. Can cause temporary or permanent loss of vision. Never look at the lamps while illuminated. To prevent exposure to ultraviolet light, be sure the ultraviolet air treatment system is disconnected before servicing any part of the HVAC system or removing any access panel or the equivalent.

Installation and servicing of air-conditioning equipment can be hazardous due to system pressure and electrical components. Only trained and qualified service personnel should install, repair, or service air-conditioning equipment.

Untrained personnel can perform basic maintenance functions such as changing lamps. All other operations should be performed by trained service personnel. When working on air-conditioning equipment, observe precautions in the literature, tags and labels attached to the unit or accessory, and other safety precautions that may apply.

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 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 a hazard 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.

Follow all safety codes. Wear safety glasses and work gloves. Have a fire extinguisher available if needed. Read these instructions thoroughly and follow all warnings or cautions attached to the unit. Consult local building codes and National Electrical Code (NEC) for special requirements.

Before proceeding with installation, inspect thoroughly for shipping damage. Notify shipper immediately if any damage is found. Check for proper clearances of moving parts.

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.

NOTE: This product has not been tested or certified to UL (Underwriters' Laboratories) standards for UV Radiation Devices.

Table 1— Unit Data

| UNIT INFORMATION | 1 LAMP MODEL | 2 LAMP MODEL | 1 LAMP MODEL | 2 LAMP MODEL |
|---------------------------------------------------------------------------------------------------------|-----------------------------------------------------|--------------|--------------|--------------|
| Electrical (V-PH-Hz) | 115-1-60 | 115-1-60 | 208/230-1-60 | 208/230-1-60 |
| Maximum Lamp Amperage Draw | 0.6 Amps | 1.1 Amps | 0.3 Amps | 0.6 Amps |
| Average Power Consumption | 27 Watts | 53 Watts | 27 Watts | 53 Watts |
| Unit Service Cord | 6 foot cord with ground pin plug | | | |
| Average Lamp Life | Approximately 1 Year or 9,000 Hours of Unit Runtime | | | |
| Initial UVC Output at 1 Meter (in microwatts per square centimeter and 70 Deg F) and 450 FPM Airflow | 105 | 198 | 105 | 198 |
| Lamp Length | 19-in. | | | |

INTRODUCTION

These instructions cover the installation of both the 1 and 2 lamp models. Lamps are designed to operate for **one year** continuously before replacement is required.

NOTE: These UV Lamps are designed for indoor use only.

This model consists of individual UV Lamp assemblies. On 2 lamp models, the 2 assemblies are connected by a flexible cord which will allow the installer to separate the lamps from 4-in. to 18-in.



CAUTION: UNIT DAMAGE HAZARD

Failure to follow this caution may result in damage to the product.

Do not touch glass section of UV Lamp without clean gloves. Damage to lamp will result. Oil from fingers will permanently etch glass of lamp and weaken structure. Clean lamp with rubbing alcohol and clean cloth if necessary.



CAUTION: MERCURY EXPOSURE HAZARD

Failure to follow this caution may result in minor personal injury.

Lamp contains a small quantity of mercury. Handle with care. If a lamp breaks, clean and dispose in accordance with local codes.

NOTE: Each lamp model kit includes cleaning kit and mounting screws.

INSTALLATION

PROCEDURE 1-UNIT MOUNTING LOCATION



WARNING: ELECTRICAL SHOCK HAZARD

Failure to follow this warning could result in electrical shock and cause injury or death.

Before installing accessory or performing maintenance or service on this or any other accessory, turn off main power to unit and install lockout tag. There may be more than one disconnect switch.



CAUTION: Personal Injury Hazard. Power supply can cause electrical shock. Disconnect power supply before beginning installation. Do not open modular units; there are no serviceable components inside" or the equivalent.



CAUTION: UNIT DAMAGE HAZARD

Failure to follow this caution could result in damage to unit or personal injury.

Perform visual inspection of potential mounting location by removing unit/cabinet door prior to cutting or drilling. Be careful not to cut, drill or drive screws into coil, refrigerant lines or other objects inside the HVAC unit.



CAUTION: Equipment Damage Hazard. Ultraviolet light can cause color shift or surface degradation and sometimes-structural degradation of non-metallic components. Select mounting location that prevents exposure to plastic flexible duct components, polyurethane foam insulation material, rubber hoses, wire insulation, etc. If mounting options are limited, items above should be protected with ultraviolet resistant material such as aluminum foil, aluminum duct tape, or metallic shields or the equivalent.

NOTE: On indoor coils 2 tons or smaller it is recommended that this UV lamp be installed in the connecting ductwork above the indoor coil and not in the coil casing itself.


NOTE: These products shall be mounted only on to metal air ducts.

NOTE: No testing has been done to determine the effects of UV light on duct board or flex duct, metal duct is recommended.

NOTE: It is recommended that a 7/8-in. hole be used for mounting this accessory. Using a 7/8-in. hole should provide proper clearances.

NOTE: Components contained in the current cooling coil cabinet are resistant to UVC exposure. Color shift or chalking may occur without affecting structural properties.

IMPORTANT: Select a mounting location that prevents direct exposure to non-fiberglass media filters. A minimum distance of 6ft is recommended (non-fiberglass media will break down from UV exposure).

 **Product should not be installed within a direct line of sight to any plastics or polymers not previously evaluated suitable for UV exposure. Product should not be installed with a direct line of sight to any opening that may expose the user or serviceman to UV exposure. Any service panel or opening in the air handling circuit that would expose the user to direct UV contact should provide an interlock.**

- 1) Turn off all power to unit and install lock-out tag.
- 2) Remove indoor coil casing door and inspect coil casing for proper location of UV lamp mounting holes.
- 3) Select location for lamp(s) that gives the most exposure to coil/drain pan. Light from the lamp should “wash” the coil and pan for maximum effectiveness (See Fig. 3A, 3B or 3C).

PROCEDURE 2-UNIT INSTALLATION

Location — Make sure the location can be supplied with the necessary power receptacle. Ensure that there is adequate clearance for service.

The preferred location for installation is in the coil casing over the evaporator coil. The lamps should be placed above the coil, so the UV rays will cover the entire coil.

On indoor coils 2 tons or smaller, the UV lamp should be installed in the connecting ductwork above the indoor coil and not in the coil casing itself.

Do not install the UV lamps near duct board or plastic flex duct. Metal duct is recommended.

Select a mounting location that prevents direct exposure to non-fiberglass media filters. A minimum distance of 6 feet is recommended (non-fiberglass media will break down from UV exposure).

Mounting — Perform the following procedure to mount the lamp.

1. Turn off all power to unit and install lockout tag.
2. Remove indoor coil casing door and inspect coil casing for proper location of UV lamp mounting holes.
3. Drill or cut a 7/8-in. hole for each UV lamp into the coil casing, casing door or the connecting ductwork.
4. Separate lamp base, lamp/ballast assembly, and plastic cover. See Fig. 5. Securely mount UV lamp base assembly using screws provided.
5. Securely mount UV lamp base assembly to the flat surface selected in Procedure 1 (use screws provided).
6. Replace coil casing door and slide ballast/lamp assembly into the mounted base, making sure the locating stud and Molex connectors are aligned (See Fig. 2).
7. Install fastener screw to hold lamp/ballast to base.
8. Replace plastic cover(s) on UV lamp assembly base to complete the installation.

NOTE: On furnace application—Use 115V power source other than the furnace motor circuit.

NOTE: On fan coil application—Use 208/230V power source other than the fan coil motor circuit.

9. Adhere warning label with install date and change dates (329734-101 REV-A) to indoor coil casing door. The label is included in the carton with the lamp(s).
10. Connect electrical cord to suitable electrical receptacle.

UV LAMP START-UP PROCEDURES

- 1) After power is supplied to lamp(s), make sure the LEDs behind the logo are illuminated. If not, verify supply voltage.

NOTE: On 2 lamp models, both lamp/ballast assemblies need to be installed before lamps will illuminate.

- 2) If at any time the LED lights behind the logo are dim this is an indication that one of the UV lamps is not working. Disconnect power and inspect for proper lamp operation.

UV LAMP CARE AND MAINTENANCE



CAUTION: MINOR BURN HAZARD

Failure to follow this caution may result in minor personal injury.
Allow lamp to cool for 1-minute before opening UV lamp casing or HVAC unit cabinet

NOTE: The recommended life of the lamp assembly in this UV lamp product is 1-year of constant operation or a maximum of 9,000 hours of unit runtime.

WARNING: Allow lamp to cool before opening UV lamp casing or HVAC unit cabinet. Failure to follow this caution will result in minor personal injury

- 1) When replacement of lamp is needed, order proper lamp assembly (See Table 2) from your dealer / distributor.
- 2) Disconnect power supply from UV lamp by unplugging the electrical cord.
- 3) Remove protective cover from UV lamp assembly.
- 4) Remove fastener screw(s) that holds lamp/ballast to base.
- 5) Gently pull lamp assembly from mounted base assembly.
- 6) Place old lamp assembly in a safe area before proceeding.

NOTE: Dispose of lamp per local regulations (in a manner consistent with CFL and fluorescent lamps).

CAUTION: MERCURY EXPOSURE HAZARD



Failure to follow this caution may result in minor personal injury.
Lamp contains a small quantity of mercury. Handle with care. If a lamp breaks, clean and dispose in accordance with local codes.

- 7) Carefully slide new lamp/ballast assembly into base assembly until fully seated, retighten fastener screw(s) to hold new lamp in base.
- 8) Replace protective cover.
- 9) Reconnect unit power to UV lamp.
- 10) Observe that LEDs behind logo brightly illuminate and that the lamp(s) are operational.

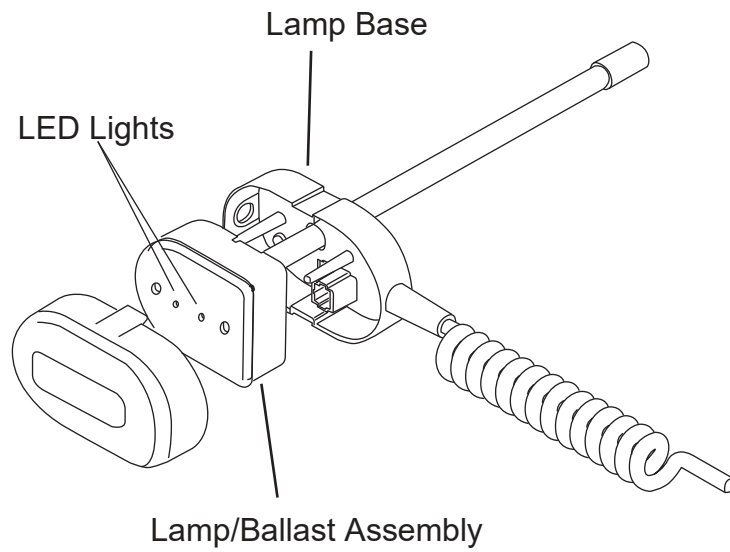
NOTE: Lamp/Ballast assembly should be removed when mounted on indoor coil casing door, if door is to be removed for system maintenance.

Table 2—Replacement Lamp Ordering Information

| REPLACEMENT LAMP ORDER NUMBERS | | |
|--------------------------------|--------------|--------------|
| Quantity | Lamp Voltage | Part Number |
| 1 Lamp/Ballast Assembly | 115-1-60 | UVLXXRPL1020 |
| 1 Lamp/Ballast Assembly | 208/230-1-60 | UVLXXRPL3020 |

WARRANTY STATEMENT: This UV lamp Product is covered by a limited warranty. Please see the warranty card for clarification.

Manufacturer reserves the right to discontinue, or change at any time, specifications or designs without notice and without incurring obligations.

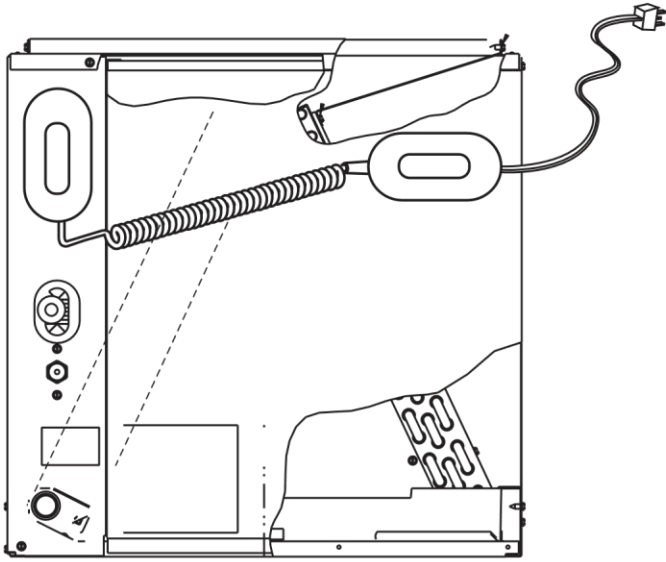


**Note: LED Lights are not lamp change indicators.
Lamps should be changed annually.**

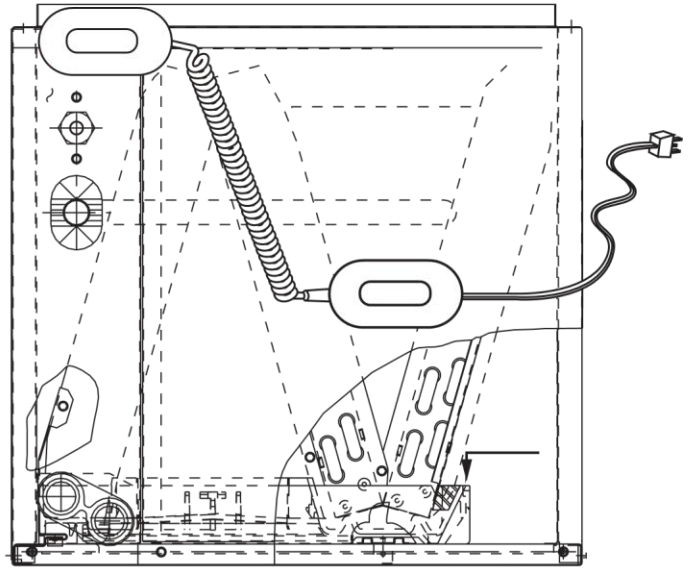
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Fig. 2—UV Lamp Assembly (Detail View)

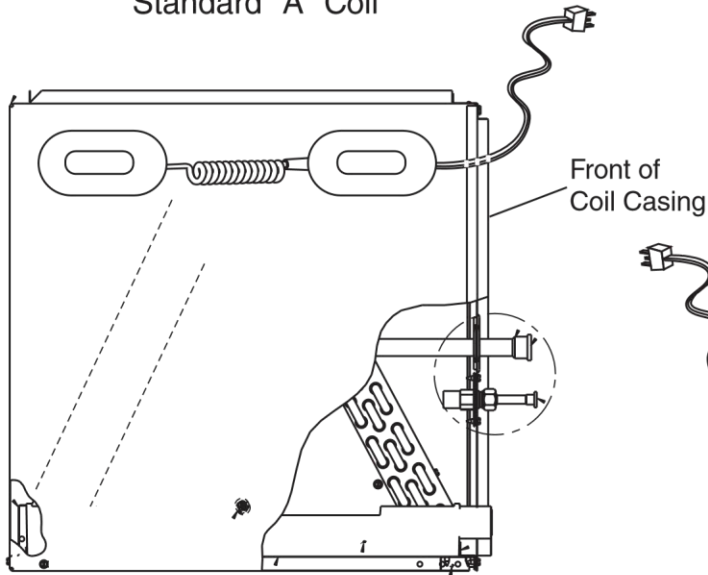
Suggested Mounting Locations



Standard "A" Coil

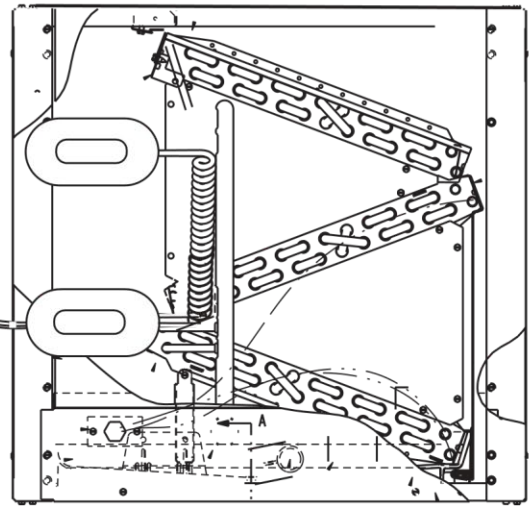


Standard "N" Coil



Side View

Wide 042, 048, 060 & 060A "A" Coil

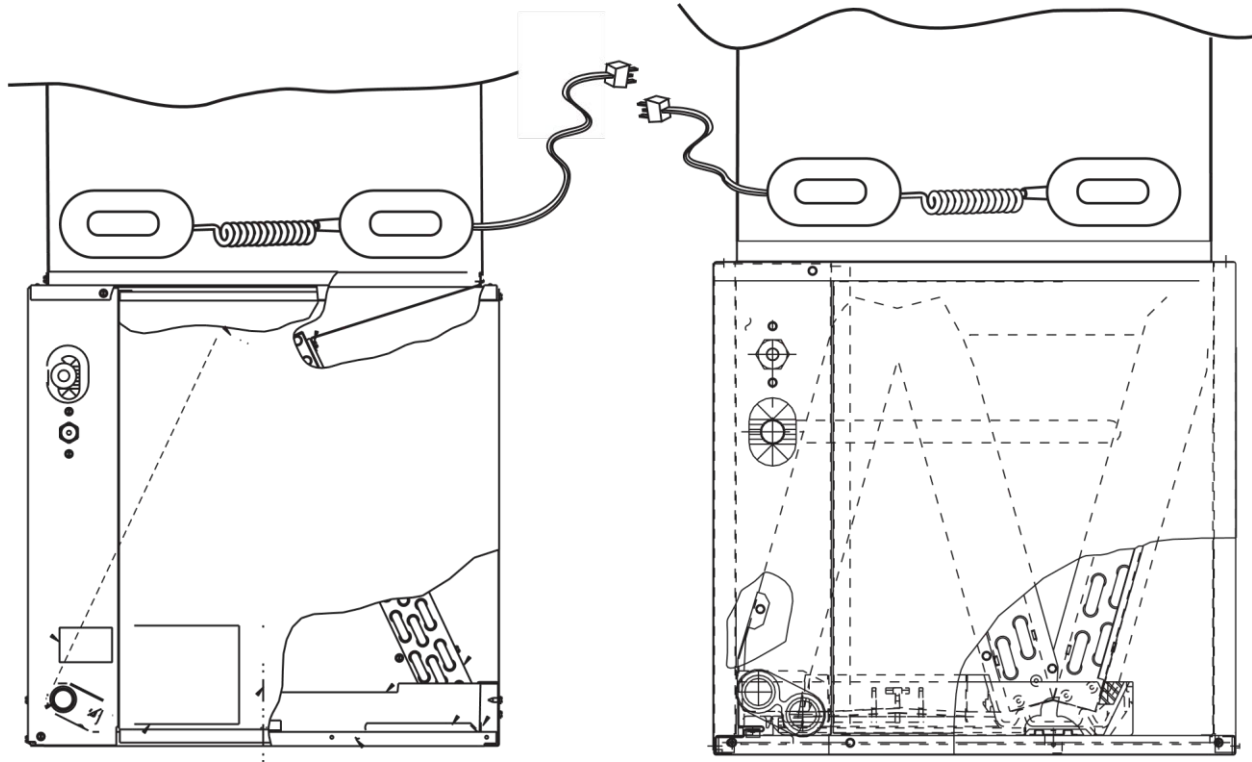


Horizontal "N" Coil

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Fig. 3A—Typical Furnace Coil Mounting Locations--115-v Application

Alternate Mounting Locations

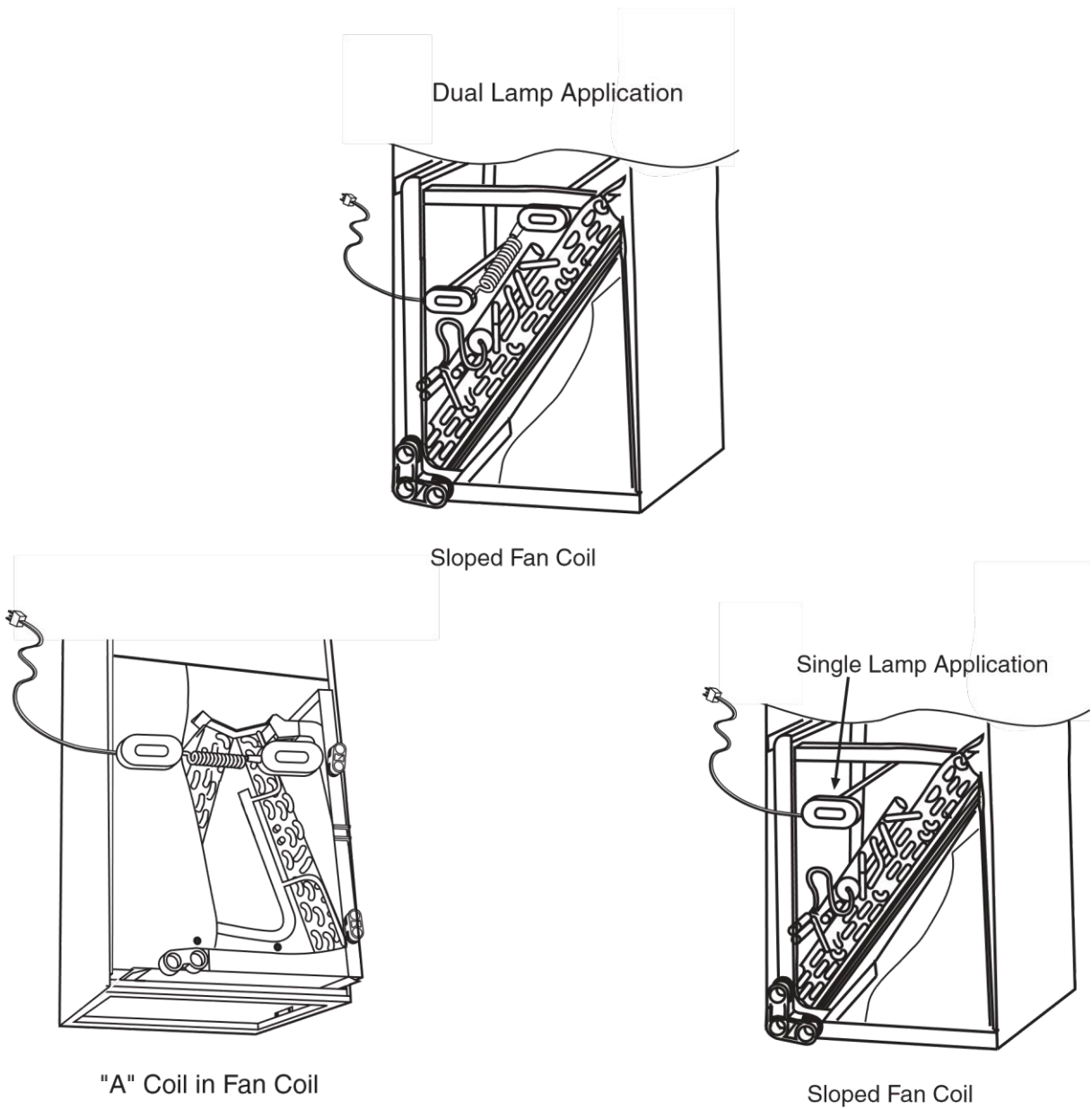


Small "A" Coil

Small "N" Coil

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Fig. 3B—Alternate Furnace Coil Mounting Locations--115-v Application



C04014

Fig. 3C—Fan Coil Mounting Locations--208/230-v Application