

### Ultraviolet (UV-C) Lamp Kit for 2-5 Ton Air Handlers

#### **⚠ WARNING: HAZARDOUS VOLTAGE – DISCONNECT POWER BEFORE SERVICING**

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.

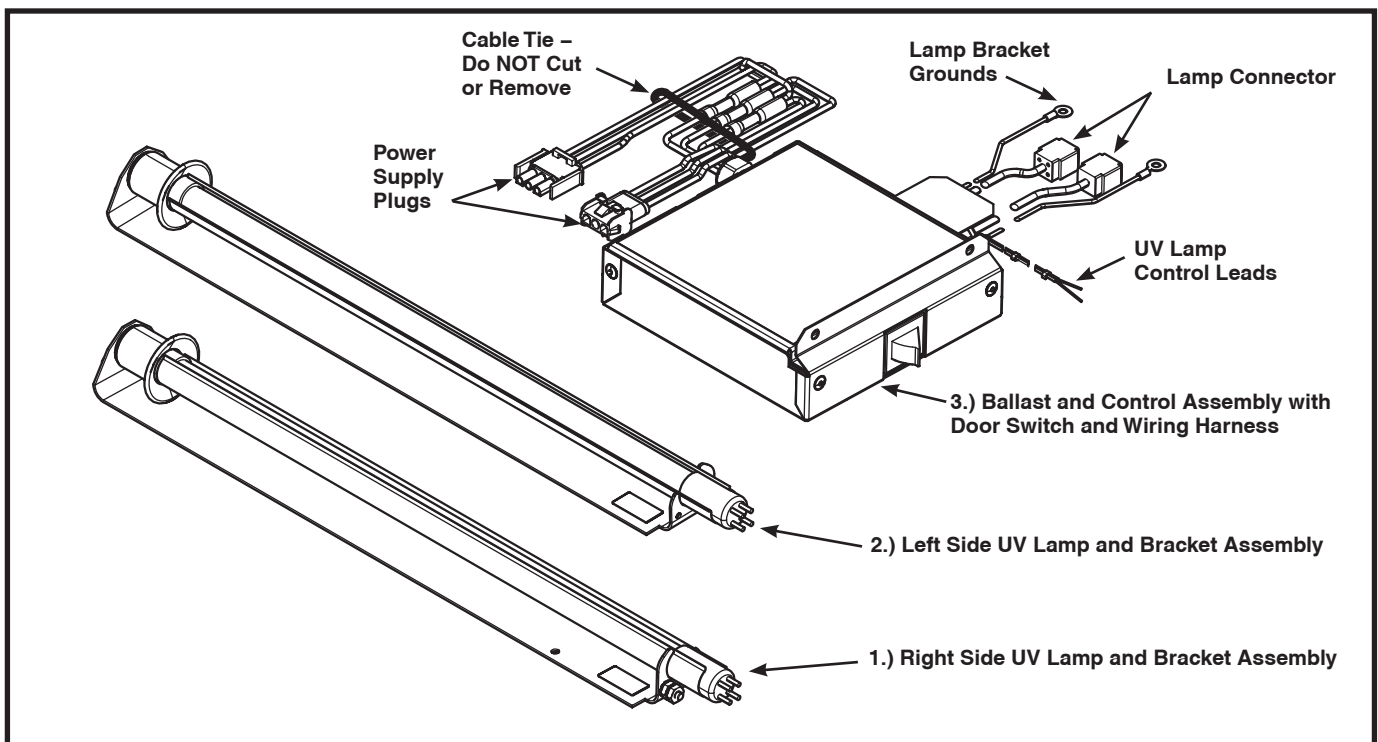
#### Models:

**BAYUVCLK001 – 40 Watt, 2 Lamp**

#### Used with:

TAM9, TAM8, TAM7, TAMG,  
TAM4, GAM5 Air Handlers

**Note:** 200-230V Units Only



#### Kit Contents (Items 4-10 are not pictured)

##### Item Qty Description

1	1	Right Side UV Lamp and Bracket Assembly
2	1	Left Side UV Lamp and Bracket Assembly
3	1	Ballast and Control Assembly with door switch and wiring harness (rated 200-230 VAC, 50-60 Hz)
4	4	Cable Tie
5	2	Wire Nut
6	2	Screw
7	3	Isopropyl alcohol swab
8	1	Wiring Diagram
9	1	UV Warning Label
10	4	8-32 Hex nut with star washer

#### Field Supplied

Ammeter with the ability to measure milliamps

#### General

The United States Environmental Protection Agency (EPA) believes that molds and bacteria inside buildings have the potential to cause health problems in sensitive individuals. The manufacturer provides high intensity C-band ultraviolet radiation (UV-C lamp kits) for installation in air handlers for the purpose of reducing microbiological growth (mold and bacteria) within the equipment. Polymer materials that are susceptible to deterioration by the UV-C lamp shall be shielded from direct exposure to the light. This kit was designed with this consideration and the reflectors must be in place. In addition, UV-C radiation can damage human tissue, namely eyes and skin. To reduce the potential for inadvertent exposure to the lights by operating and maintenance personnel, an electrical interlock that automatically disconnects power to the lamp is provided integral to the ballast assembly.

## Safety Information

### WARNING

**SAFETY HAZARD!** This information is for use by individuals having 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 manufacturer or seller cannot be responsible for the interpretation of this information, nor can it assume any liability in connection with its use.

### WARNING

**PERSONAL INJURY HAZARD!** Disconnect input power before beginning installation. Professional installation required per NEC standards. The power supply to this ultraviolet appliance must be disconnected before opening or servicing the unit. Any access panels or doors, within sight of the UV lamps, must be interlocked so as to disconnect power to the UV appliance upon opening or removal.

### WARNING

**HAZARDOUS VOLTAGE AND EXPOSURE TO ULTRAVIOLET RADIATION!** This product contains components that emit high-intensity ultraviolet (UV-C) radiation which can be harmful to unprotected eyes and skin. Disconnect all electrical power, including remote disconnects, before servicing. Follow proper lockout/tagout procedures to ensure the power can not be inadvertently energized. Failure to disconnect power before servicing could result in death or serious injury.

### WARNING

**HAZARDOUS VOLTAGE!** Multiple power sources may be present. Disconnect all electrical power, including remote disconnects, before servicing. Follow proper lockout/tagout procedures to ensure the power can not be inadvertently energized. Failure to disconnect power before servicing could result in death or serious injury.

### WARNING

**HAZARDOUS VAPORS!** If UV bulbs are broken, an appropriate respirator should be considered to prevent inhalation of mercury vapors. Failure to use a respirator could result in death or serious injury.

### CAUTION

**LAMPS CONTAIN MERCURY!** Follow local and state guidelines for disposal of mercury bulbs.

### CAUTION

**BROKEN GLASS!** Bulbs are fragile and can be easily broken. Always use gloves and eye protection when handling these bulbs. Failure to handle bulbs properly may result in minor to moderate injury.

**IMPORTANT** - *Avoid touching the lamp with bare hands as skin oils can accelerate future glass soiling and degrade the lamp performance. Wipe the lamp with a clean cloth and rubbing alcohol or glass cleaner after handling.*

## Pre-installation Instructions

1. Read all instructions before installing UV lamp kit.
2. Avoid touching the lamp with bare hands as skin oils can accelerate future glass soiling and degrade the lamp performance. Wipe the lamp with a clean cloth and rubbing alcohol or glass cleaner after handling.
2. Disconnect all power to the air handler.

### WARNING

**HAZARDOUS VOLTAGE!** Multiple power sources may be present. Disconnect all electrical power, including remote disconnects, before servicing. Follow proper lockout/tagout procedures to ensure the power can not be inadvertently energized. Failure to disconnect power before servicing could result in death or serious injury.

**IMPORTANT:** The Right side lamp bracket must be installed before installing the ballast assembly.

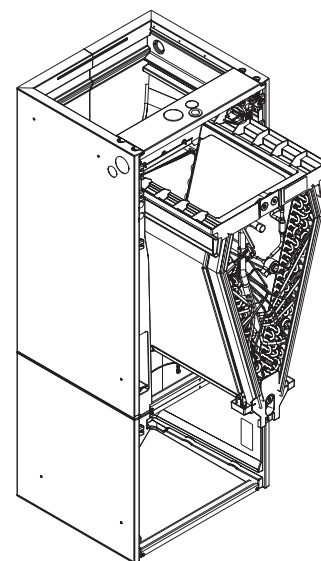
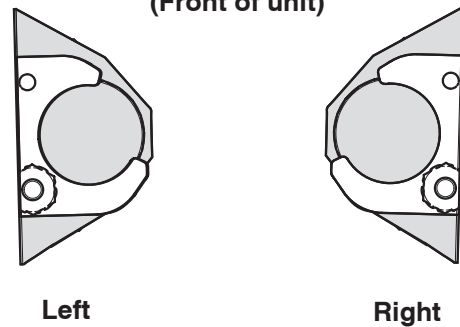
**IMPORTANT:** The lamp brackets and the ballast assembly are provided with aggressive adhesive on back. The adhesive has a peel-off liner. Do not remove the liner until these items have been placed into unit and proper mounting locations within the unit have been confirmed.

**IMPORTANT:** The two lamp brackets are not symmetrical. One is marked Right and the other is marked Left. These markings apply to an air handler in the vertical upflow configuration (with V-shaped coil orientation). It is very important that the right side and left side brackets are placed on the proper side so that UV light is directed toward the center of the coil. Further references to left and right side brackets, top, and bottom in this document assume upflow air handler configuration. For other configurations see the illustration on page 4 for proper bracket location.

**NOTE:** Use isopropyl alcohol to thoroughly clean and dry the surfaces of the inside coil compartment wall in the areas where the lamp brackets and ballast assembly will be permanently mounted.

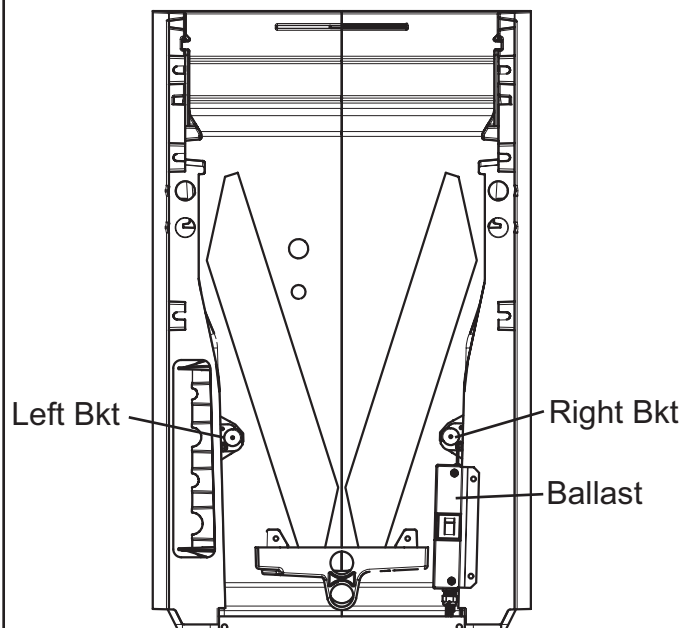
**NOTE:** For new air handler installations, if a UV lamp kit is installed, it is recommended to remove the coil and install the lamp brackets before installing the air handler.

End views  
(Front of unit)

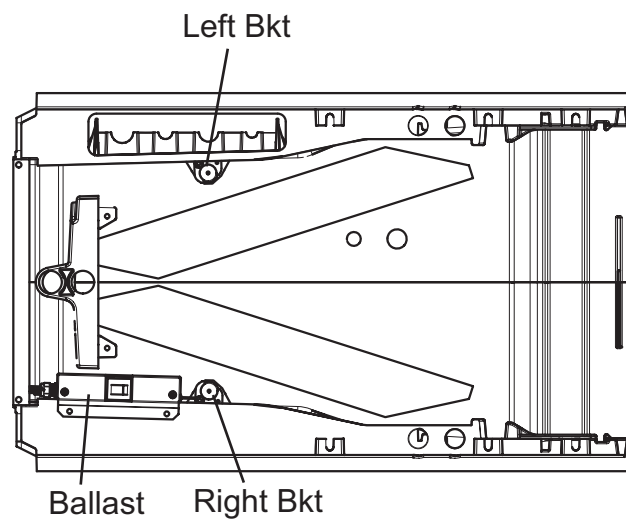


## UV Lamp Brackets and Ballast locations for Air Handler Orientations

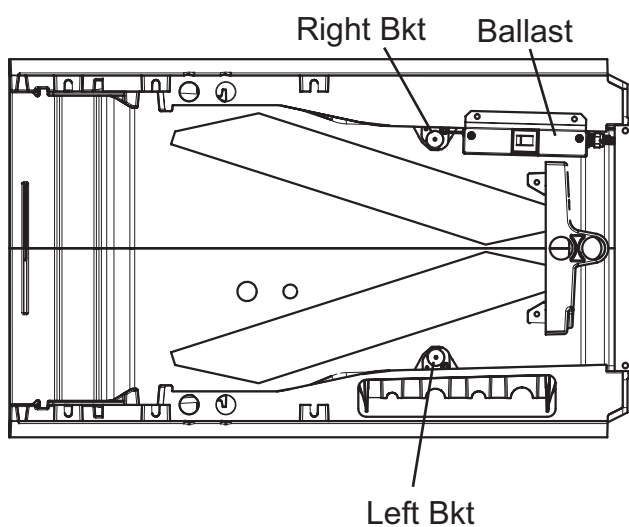
Upflow



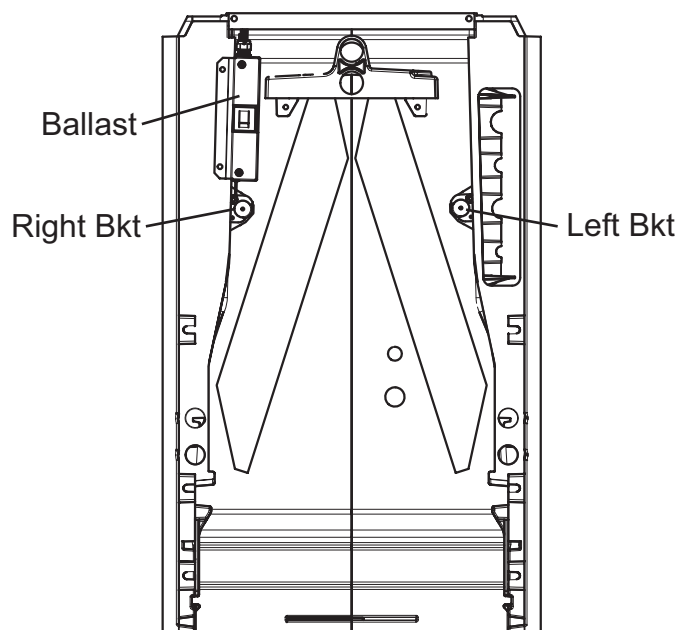
Horizontal Right



Horizontal Left

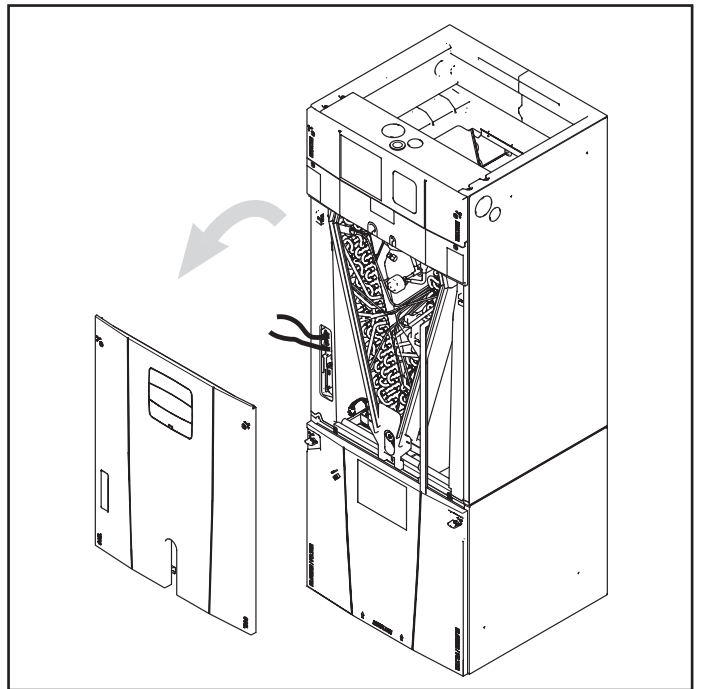


Downflow

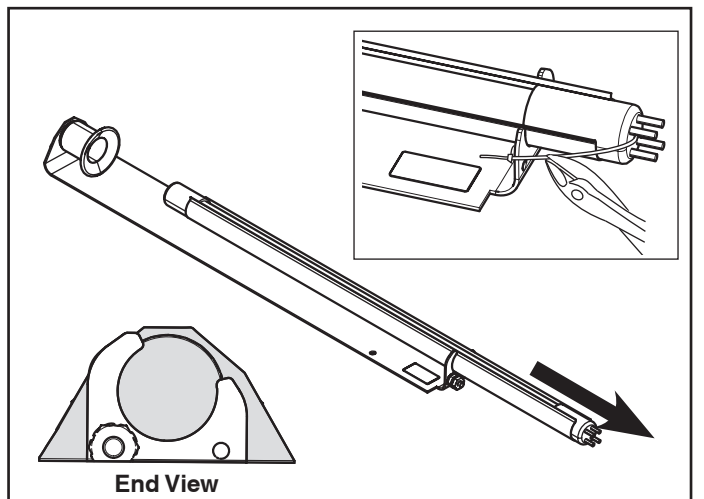


## Right Side UV Lamp bracket installation

**STEP 1.** Remove coil panel. See the air handler Installer's Guide for additional information if needed.

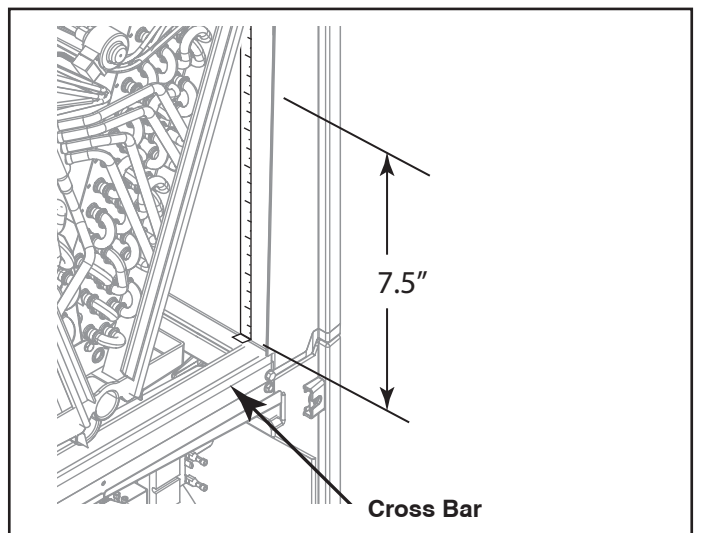


**STEP 2.** Cut the cable tie from the right side lamp bracket assembly. Slide the lamp and reflector assembly out of the bracket as shown.



**STEP 3.** Measure 7.5 inches above the cross bar and make a mark on the inside of the air handler cabinet (use a screwdriver or other metal object to scribe line).

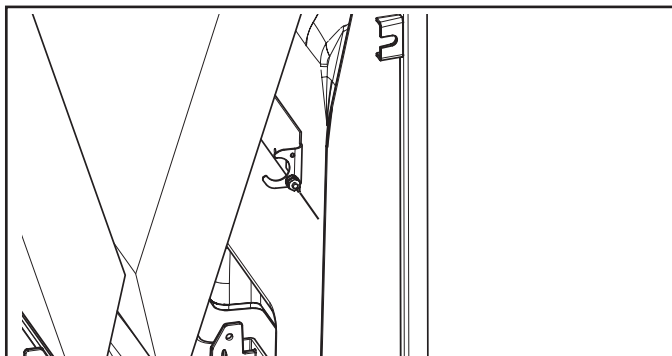
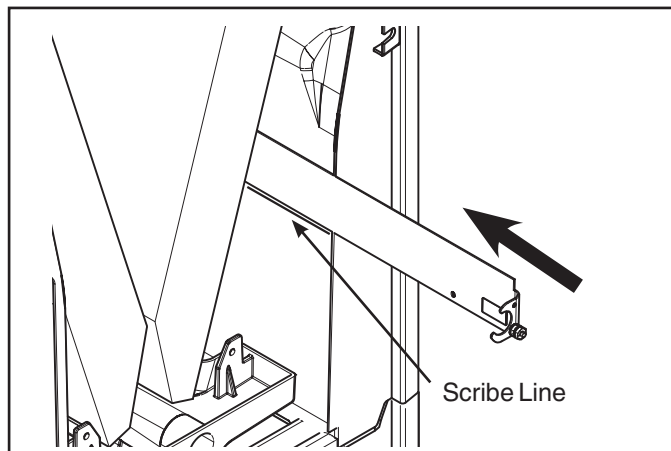
**STEP 4.** Draw a level line to the back of the air handler cabinet. This line will be used as a guide for the proper placement of the lamp bracket. The bottom of the lamp bracket will line up with the scribe line.



**STEP 5.** Once a proper dry fit has been verified, use the alcohol swabs to clean the area where the bracket is to be mounted.

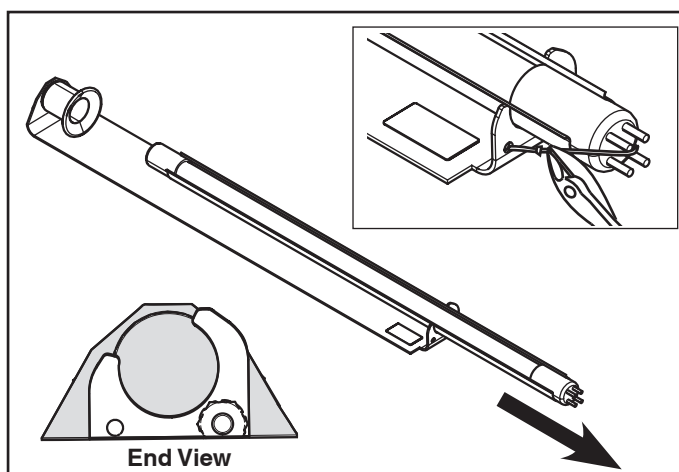
**STEP 6.** Remove liner from adhesive on back of bracket and carefully place bracket in coil compartment.

**STEP 7.** Apply pressure firmly over all areas of the bracket to permanently secure the adhesive to the coil compartment inner wall.

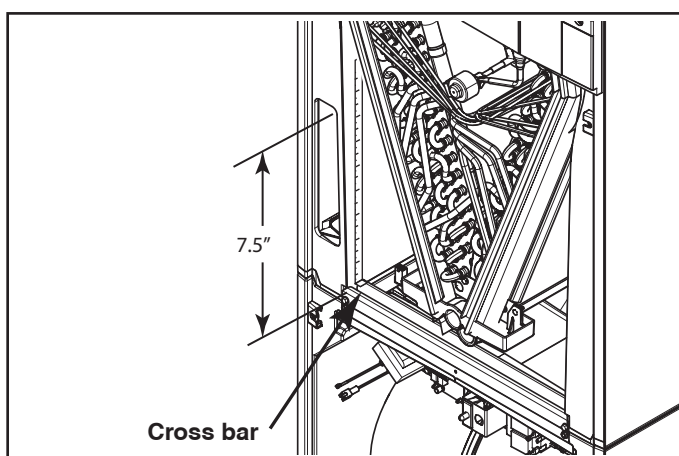


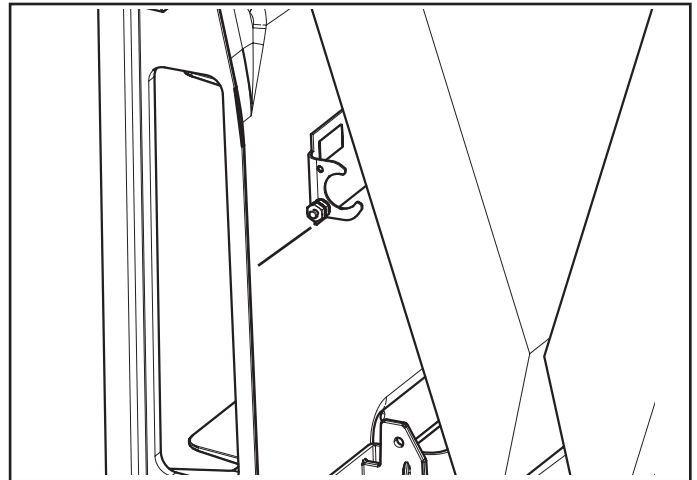
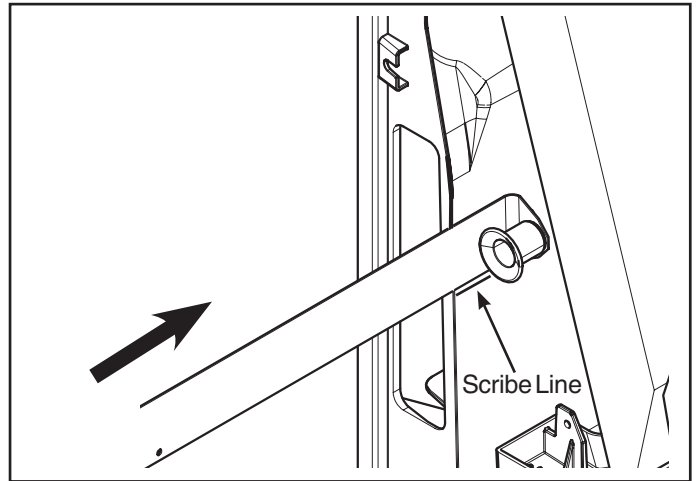
### Left Side UV Lamp bracket installation

**STEP 8.** Cut the cable tie on the left side lamp bracket assembly. Slide the lamp and reflector assembly out of the lamp bracket as shown.



**STEP 9.** Measure 7.5 inches above the cross bar and make a mark on the inside of the air handler cabinet. Follow the same process as the right side bracket. Perform a dry fit test before cleaning the air handler cabinet and securing the bracket in place.





## Ballast assembly installation

### ⚠ WARNING

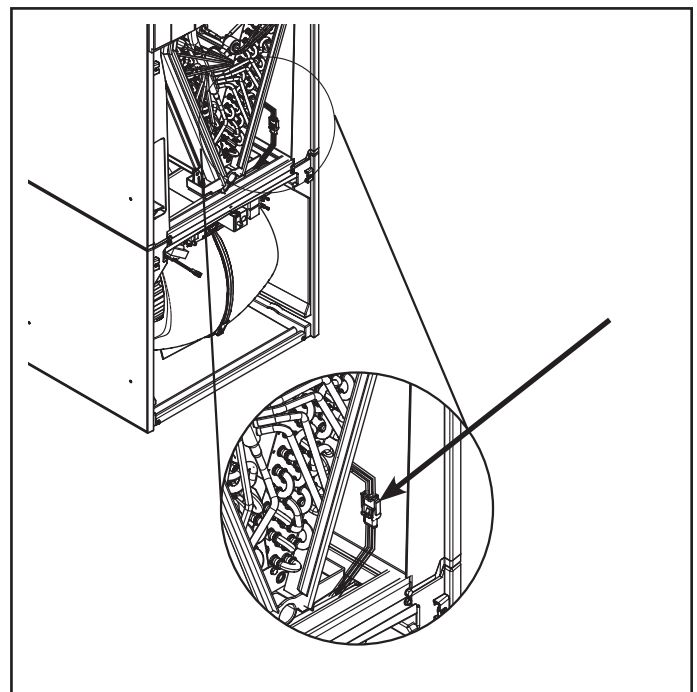
**HAZARDOUS VOLTAGE!** Multiple power sources may be present. Disconnect all electrical power, including remote disconnects, before servicing. Follow proper lockout/tagout procedures to ensure the power can not be inadvertently energized. Failure to disconnect power before servicing could result in death or serious injury.

**IMPORTANT:** For easy of installation, the Power Plugs must be connected before installing the ballast assembly in the unit.

**IMPORTANT:** The ballast assembly is provided with aggressive adhesive on back. The adhesive has a peel-off liner. Do not remove the liner until proper mounting locations within the unit have been confirmed.

**NOTE:** Use isopropyl alcohol to thoroughly clean and dry the surfaces of the inside coil compartment wall in the areas where the ballast assembly will be permanently mounted.

**STEP 10.** Disconnect the high voltage wiring harness on the right side of the indoor coil.

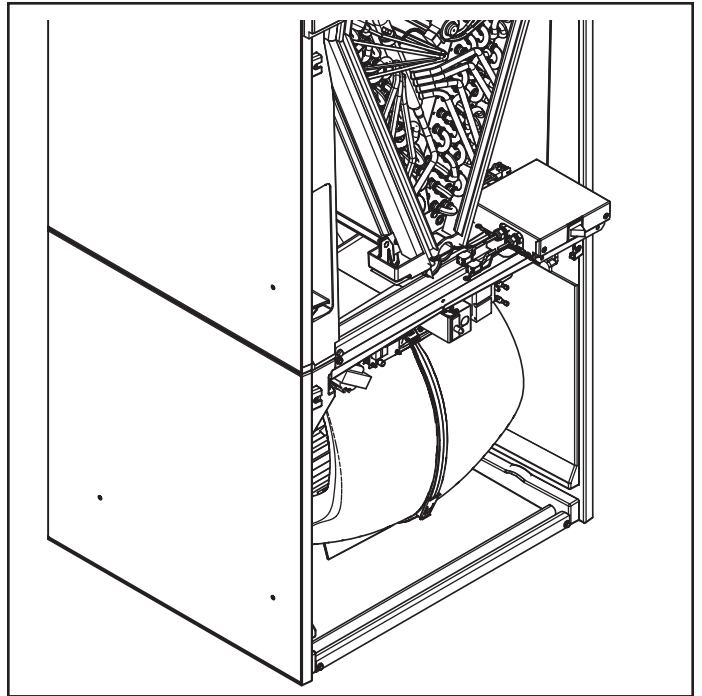




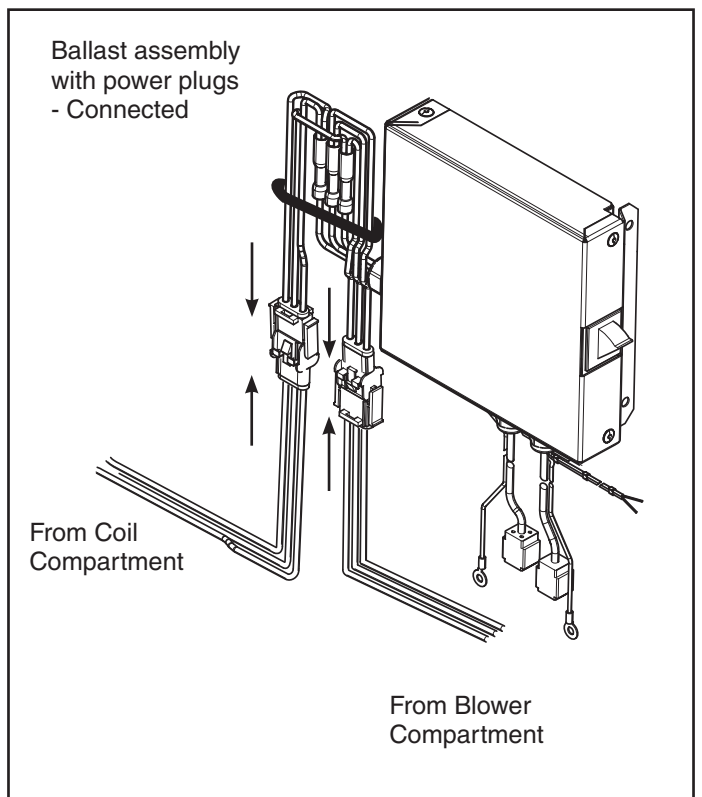
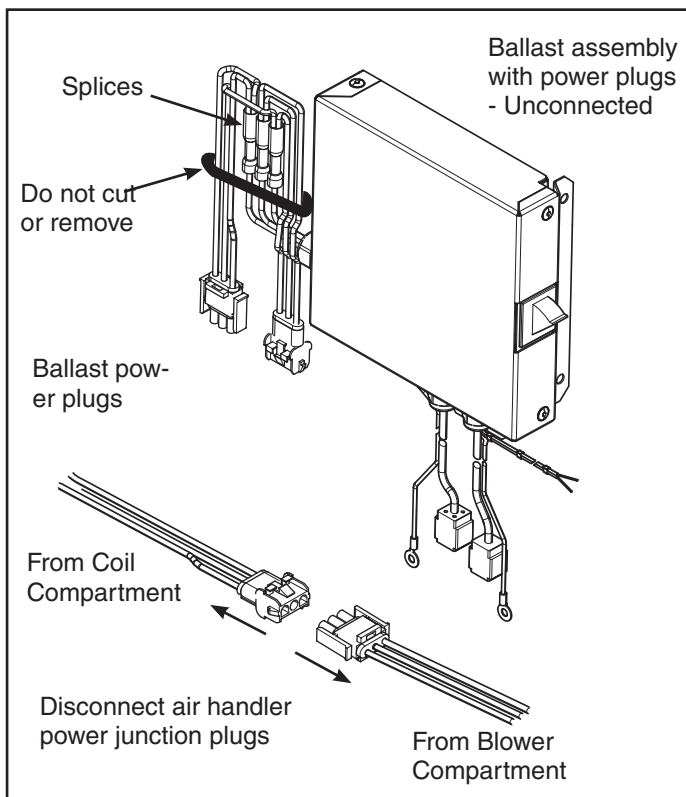
## Installing power wiring connections

**STEP 11.** Rest the ballast assembly on top of the cross brace.

**IMPORTANT:** Do not cut or remove the cable tie that holds the ballast assembly power plugs. The tie prevents strain on the splices.



**STEP 12.** Connect the ballast assembly in series with the high voltage leads.





**IMPORTANT:** The ballast and bracket assembly is provided with aggressive adhesive on back with peel-off liner. Before removing adhesive liner, temporarily place ballast and bracket assembly into unit to determine proper mounting location.

**IMPORTANT:** For 17.5" wide cabinets, Do Not remove the adhesive liner. The ballast will be held on by screws only allowing for easy removal to access to the blower plug if needed.

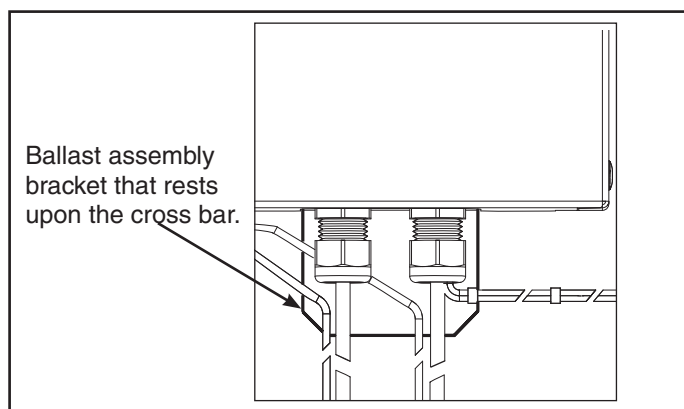
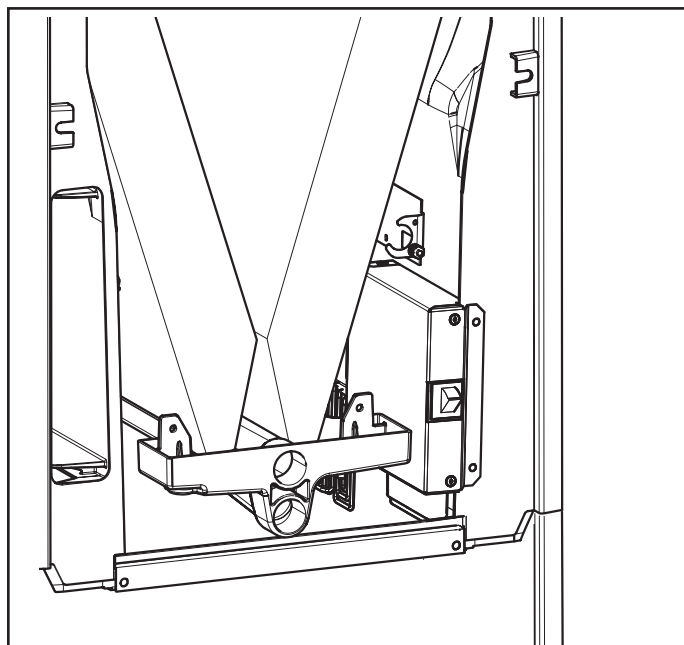
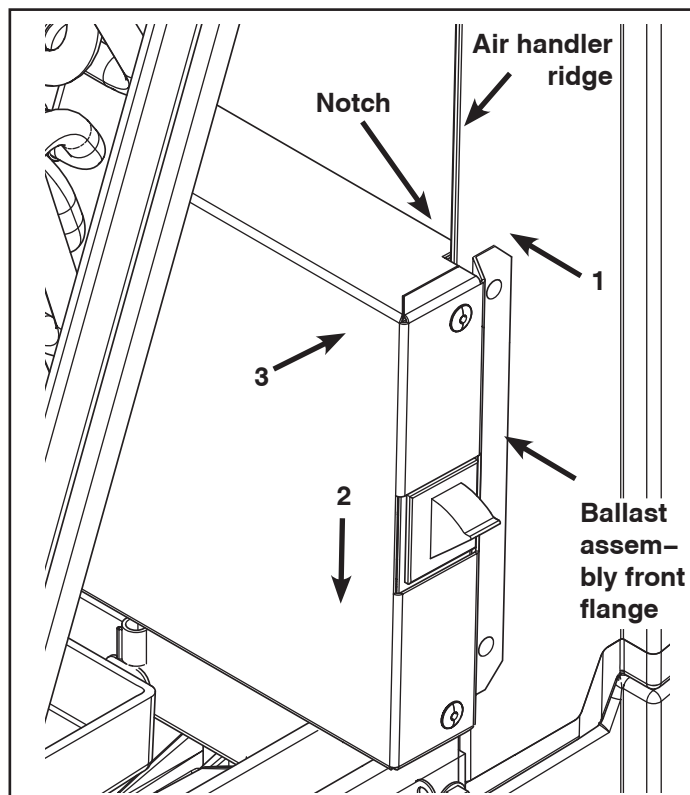
**STEP 13.** Test fit by carefully placing the ballast and bracket assembly in the unit.

The ballast should be level and resting on the air handler cross bar. The notch of the ballast assembly will slide into the ridge of the air handler. Ensure a solid fit before removing peel-off liner and exposing the adhesive back.

**Note:** Be careful not to trap or pinch wires behind or below the ballast assembly.

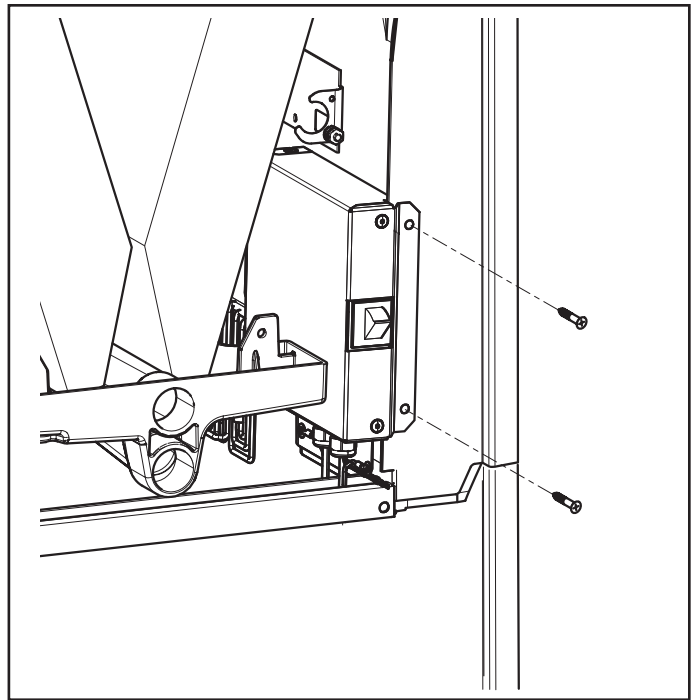
**STEP 14.** Once a proper dry fit has been verified, use the isopropyl alcohol swabs to clean the area where the ballast is to be mounted.

1. Remove the adhesive liner and follow the previous steps. Do not let the adhesive backing touch the cabinet until the ballast is in place.
2. Once the ballast assembly is in place, apply firm pressure to secure to the inner wall of the air handler.



**STEP 15.** Attach the two supplied screws through the holes in the bracket. Use a low torque setting when drilling in screws.

**IMPORTANT:** Use the provided cable ties to secure the wires behind the cross bar.

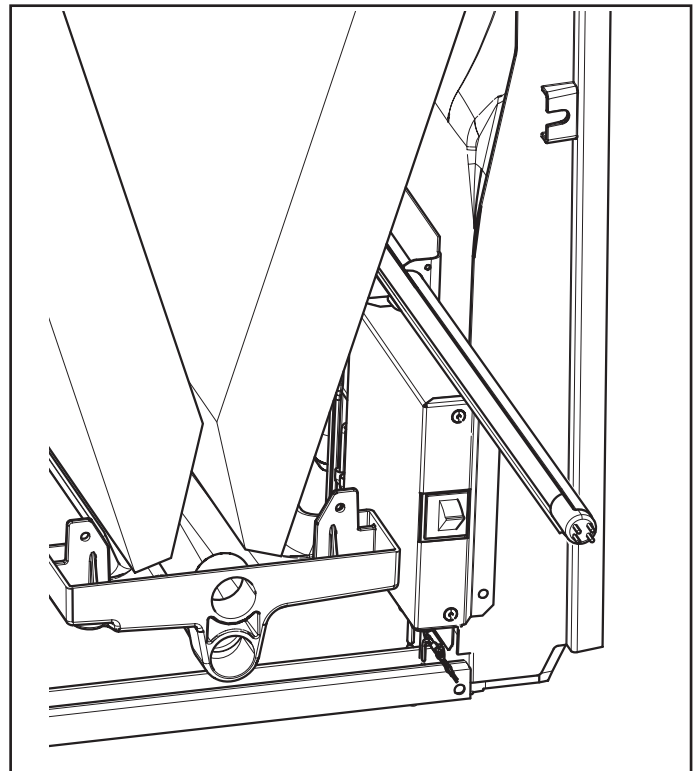


## Installing UV Lamp wiring connections

**NOTE:** If the coil was removed before installation, replace the coil before continuing with the kit installation.

**STEP 16.** Install the left and right side lamps and reflectors into their brackets.

**IMPORTANT:** The lamp is held in place by a metal reflector that is slightly elliptical. You may need to rotate the lamp when sliding it into the bracket. The lamp will slide in easily once properly aligned.

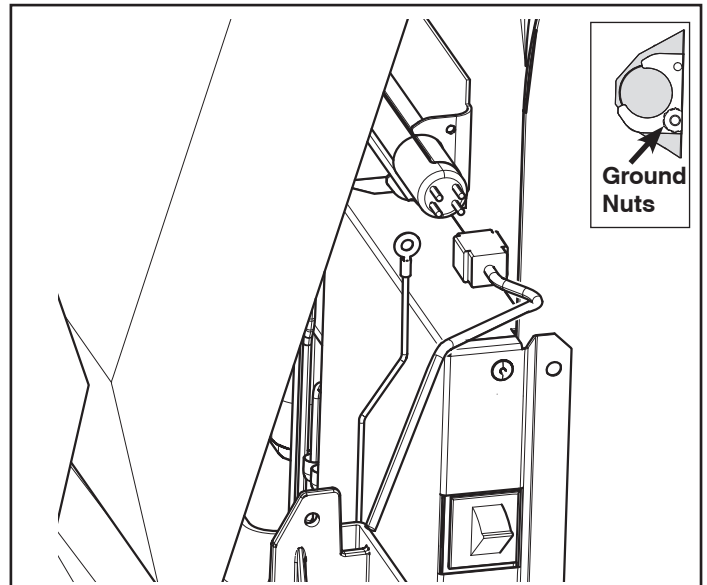


**Note:** There are two connecting harnesses for the lamps. The short harness is for the right lamp. The longer harness is for the left lamp.

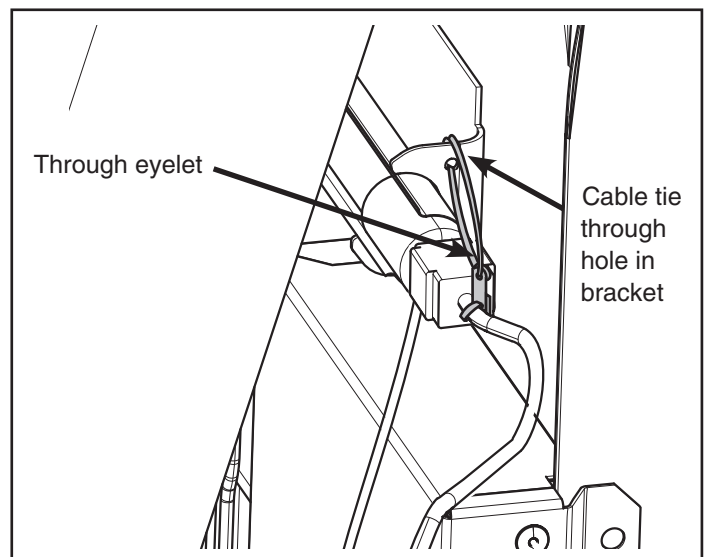
**STEP 17.** Route the right hand lamp connector and ground wire harness to the right hand lamp.

**STEP 18.** Place the ground wire on the stud. Place a factory supplied nut on the ground stud and tighten it to secure the grounding wire in place. Then place a second factory supplied nut onto the stud and tighten in place also.

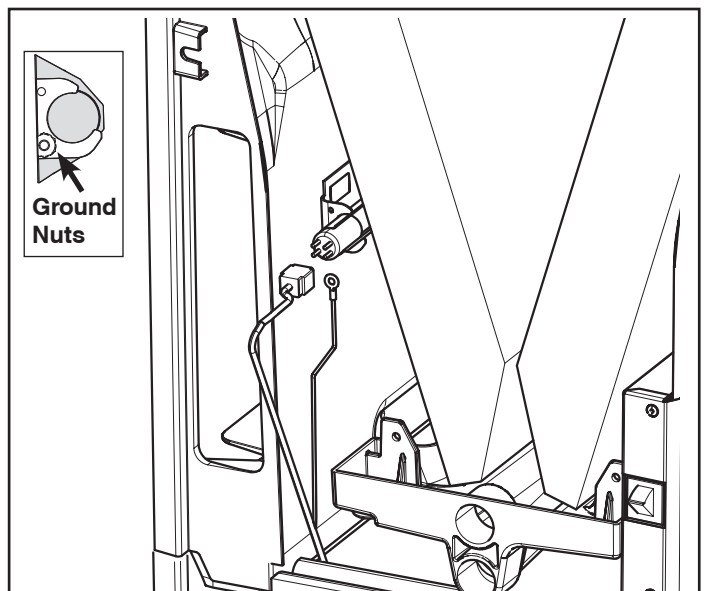
**STEP 19.** Support the lamp and place the pin connector on the lamp. The connector is position sensitive and will slide on easily when in the proper orientation.



**STEP 20.** Use one of the provided cable ties to secure the lamp to the bracket. Loop the cable tie around the lamp bracket and through the eyelet on the plug.



**STEP 21.** Follow the same process for the second lamp.

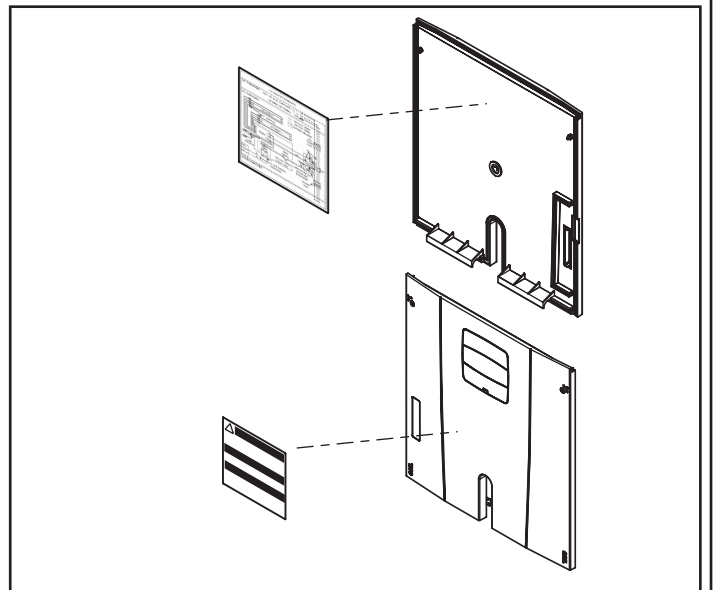


**STEP 22.** Use the provided cable ties to secure all wires

**STEP 23.** Apply wiring diagram label to the inside of the coil compartment panel.

**IMPORTANT:** *Make sure all wires are secured completely behind the crossbar and below the coil to prevent wire damage when coil panel is replaced.*

**STEP 24.** Apply UV Hazard warning label to the outside of the coil compartment panel. Place panels back on air handler.



## Testing for Proper Operation

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### **WARNING**

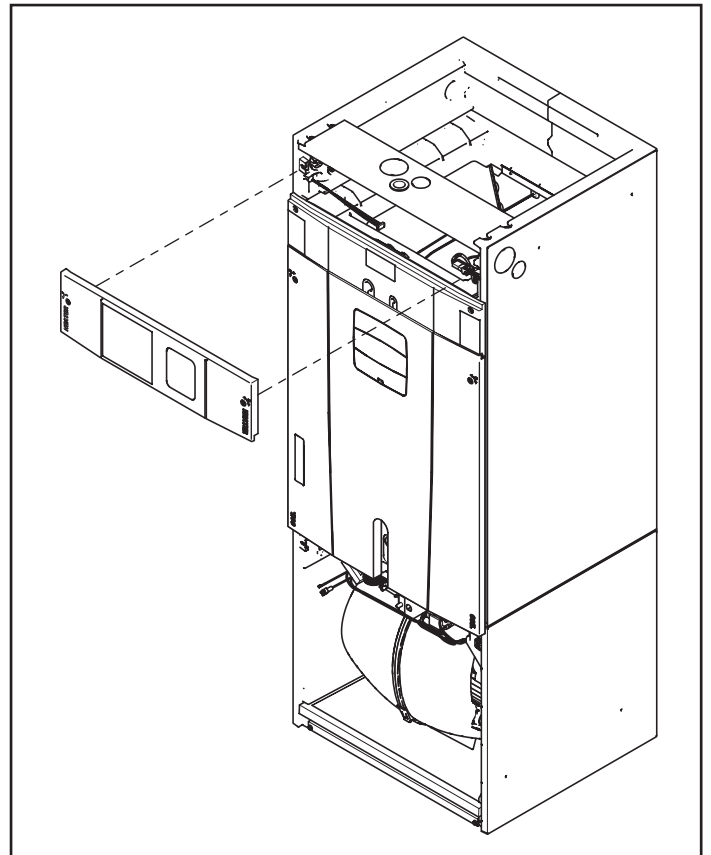
**PERSONAL INJURY HAZARD!** Disconnect input power before beginning installation. Professional installation required per NEC standards. The power supply to this ultraviolet appliance must be disconnected before opening or servicing the unit. Any access panels or doors, within sight of the UV lamps, must be interlocked so as to disconnect power to the UV appliance upon opening or removal.

### **WARNING**

**PERSONAL INJURY HAZARD!** UV-C can be harmful to unprotected eyes. Do not troubleshoot the lamps by sight.

### **WARNING**

**ELECTRICAL HAZARD!** The ballast produces a very high voltage. Checking for voltage output is likely to cause damage to the meter. Failure to follow this warning could result in property damage, serious personal injury, or death.



**STEP 25.** Remove the heater panel.

**STEP 26.** Set the system comfort control to OFF and restore power.

**STEP 27.** Use an ammeter to check for current flow on the high voltage wires entering the air handler. The lamps should generate approximately 0.2 amps of current when energized.

**STEP 28.** Replace the heater panel and restore the system comfort control to its original setting.

## Maintenance

**IMPORTANT:** A UV lamp's characteristic blue glow remains long after its output drops below an effective level and is not a reliable indicator of the need for replacement. Contact your dealer to order and install replacement lamps. To maintain peak efficiency, replace bulb every two years of operation.

**IMPORTANT:** Use a clean dry cloth (not bare hands) or clean the lamp with alcohol or window cleaner after handling.

**IMPORTANT:** Contact your Dealer for cleaning and maintenance.

**IMPORTANT:** The lamp must remain clean for optimal performance.

**IMPORTANT:** UV lamps contain mercury, which is a regulated hazardous waste. Disposal of these lamps is subject to state and federal regulations. Although regulations vary from state to state, disposal requirements for UV lamps typically conform to those for fluorescent bulbs. The Association of Lighting and Mercury Recyclers (ALMR) is a nonprofit, educational, and informative source on mercury recycling and disposal. To learn about individual state recycling programs, visit their web site at <http://www.almr.org/index.htm>.

### WARNING

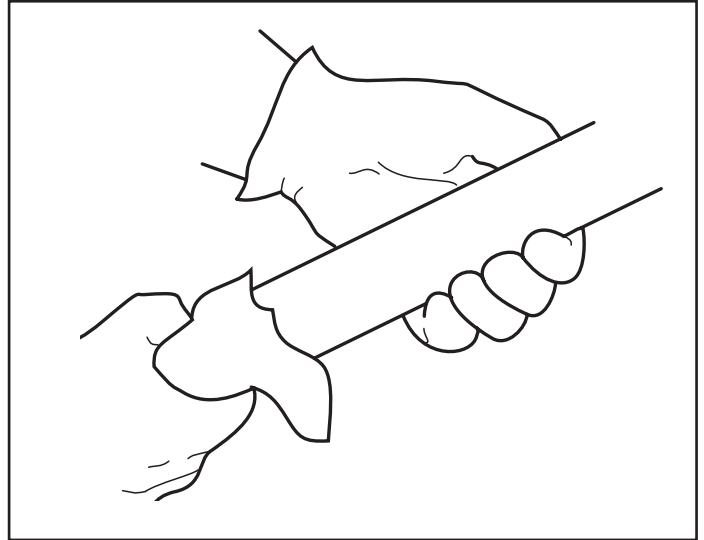
**HAZARDOUS VAPORS!** If UV bulbs are broken, an appropriate respirator should be considered to prevent inhalation of mercury vapors. Failure to use a respirator could result in death or serious injury

### CAUTION

**BROKEN GLASS!** Bulbs are fragile and can be easily broken. Always use gloves and eye protection when handling these bulbs. Failure to handle bulbs properly may result in minor to moderate injury.

#### UV Lamp Replacement

1. Disconnect all electrical power to the unit.
2. Open the coil panel.
3. Cut the cable tie and remove the plug from the lamp.
4. Wearing soft cloth gloves and safety glasses, use two hands and firmly grasp the lamp at nearest end.
5. Slide the lamp and reflector shield out of the unit.
6. Remove the reflector from lamp.
7. Snap the reflector on the new lamp.
8. Install the new lamp.
9. Place the plug on the lamp.
10. Replace the coil panel.



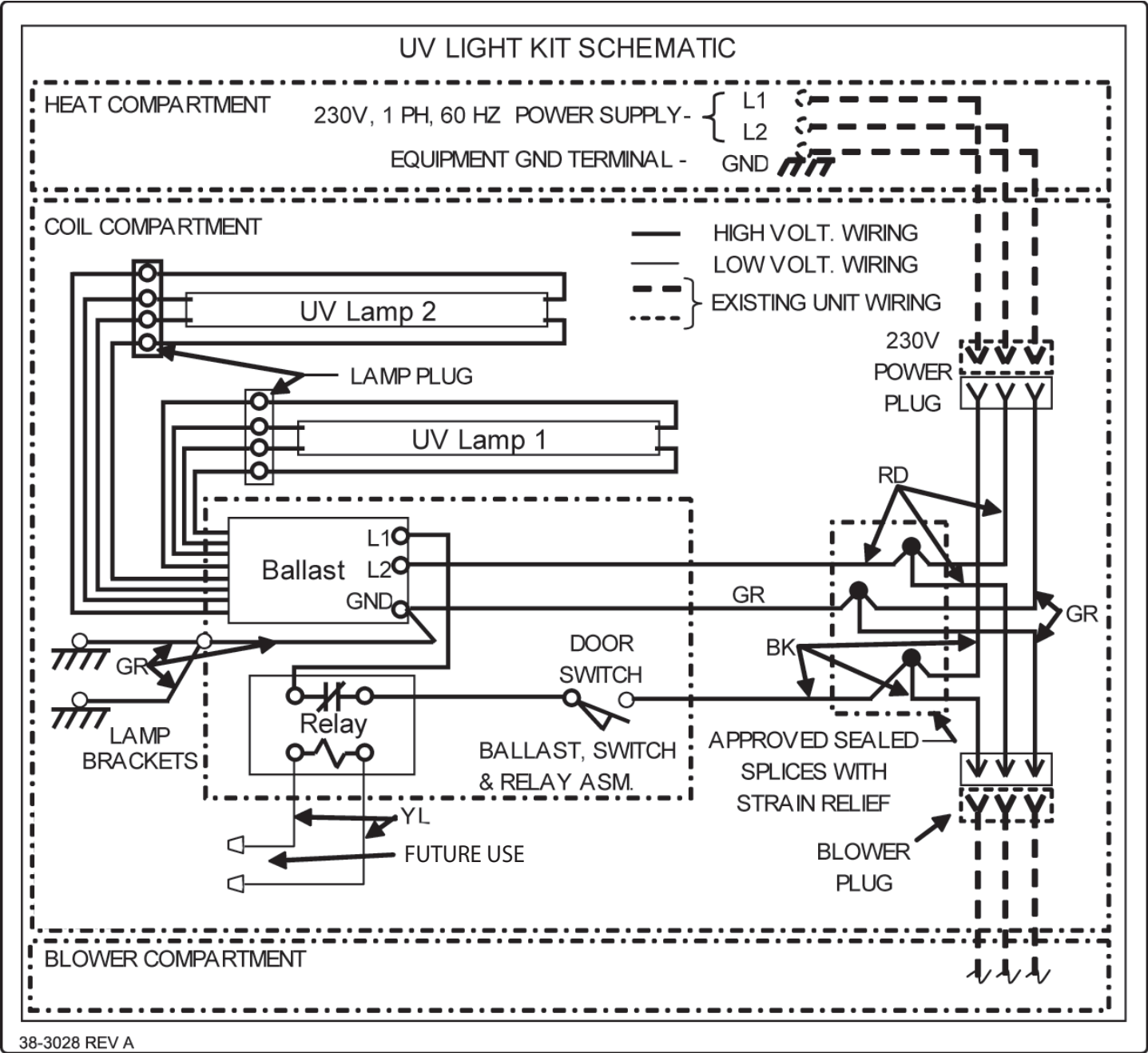
**IMPORTANT:** The lamp is held in place by a metal reflector that is slightly elliptical. You may need to rotate the lamp when sliding it into the bracket. The lamp will slide in easily once properly aligned.

#### Cleaning the UV Lamps

1. Disconnect all electrical power to the unit.
2. Open the coil panel.
3. Cut the cable tie and remove the plug from the lamp.
4. Wearing soft cloth gloves and safety glasses, use two hands and firmly grasp the lamp at nearest end.
5. Remove the lamp and reflector from the lamp bracket and slide the lamp out of the unit.
6. Remove the reflector from the lamp.
7. Wipe the lamp with a clean cloth and rubbing alcohol or glass cleaner. Avoid touching the lamp with bare hands as skin oils can accelerate future glass soiling and degrade the lamp performance.
8. Replace the reflector on the lamp.
9. Reinstall the lamp.
10. Replace the plug on the lamp.
11. Replace the coil panel.

**IMPORTANT:** The lamp is held in place by a metal reflector that is slightly elliptical. You may need to rotate the lamp when sliding it into the bracket. The lamp will slide in easily once properly aligned.

Wiring Diagram





#### About Trane and American Standard Heating and Air Conditioning

Trane and American Standard create comfortable, energy efficient indoor environments for residential applications. For more information, please visit [www.trane.com](http://www.trane.com) or [www.americanstandardair.com](http://www.americanstandardair.com)

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The manufacturer has a policy of continuous data improvement and it reserves the right to change design and specifications without notice. We are committed to using environmentally conscious print practices.

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Supersedes 18-GJ11D1-4 (September 2017)

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