

Installation Owner Diagnostics

Classroom Shelving Model SHL



X39640654010

UV-SVN001-EN



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Introduction

This manual is specifically designed to guide in the proper installation and maintenance of the Classroom Shelving Model SHL, the main shelving accessory to Trane's® VUV, heating and cooling Classroom Unit Ventilator series. By providing a checklist of components contained within the packaging and an illustrated, step-by-step installation guide, the shelving units can be installed with relative ease.

While no two installation processes are identical, this manual best describes the procedure most likely to occur in a majority of normal installations. This manual can be applied to all variations of the shelving unit: open, closed, with or without locking mechanisms and with or without dynamic airflow barriers.

Please note, this manual also includes installation procedures for cut-to-fit fillers and piping compartments. These steps may not apply to every installation. In those cases, simply omit the corresponding sections and proceed to the segments specifically pertaining to your installation.

This guide has been created to encompass all possible installation scenarios. It will be up to the installer to determine which segments are pertinent and which order of installation (shelving, filler and piping compartment) best suits the individual situation. When applicable, all optional installation steps or hardware needs have been clearly marked within the guide.

Storage Notice

The manufacturers of the Classroom Unit Ventilator Shelving Units discourage prolonged storage of the shelving components prior to installation.

If storage must occur, special care must be taken when storing the laminate tops of the units. The tops are heat and moisture sensitive and can warp or expand if improperly warehoused.

It is *highly recommended* to store the tops by laying them flat and in a climate controlled environment.



Preparing for installation

The following sequence describes the normal installation from physically mounting the shelving components to finishing procedures.

Before you begin installation of the individual shelving units:

¤ Be sure all items on the packing list are complete and undamaged.

¤ Familiarize yourself with this installation guide and any support literature for both the classroom unit ventilator and the shelving components.

¤ Formulate a comprehensive installation plan for the entire shelving and class room unit ventilator system.

Receiving and Handling the Shelving Components

¤ Upon shipment receipt of the individual shelving components, inspect all of the pieces for damage.

¤ Report any damage to the shipping company at the time of receipt.

¤ Remove the shelving from its packaging and check that all materials listed on the shipping bill are included.

¤ Check Tables 1 & 2 (pgs. 5-6) for descriptions of accompanying hardware kits and parts shipped with the shelving components.

¤ Check the condition of the shelving units and report any damage to your manufacturer's representative.

Tools Needed For Installation

Drill or screw gun

- **¤** 3/8" nut driver or wrench
- **¤** 7/16" nut driver or wrench
- **¤** No. 1 Phillips screwdriver
- **¤** 1/4" standard screwdriver
- **¤** Tape measure
- ¤ No. 2 Phillips screwdriver
- **¤** Level

Optional Tools

- **¤** Lag bolts: Size will vary based on particular installation requirement
- **¤** Sheet metal screws: Size will vary based on particular installation requirement
- **¤** *Double-cut sheet metal shears*: For possible trimming of cut-to-fit filler
- **¤** Hand or power saw: For possible cutting of laminate shelving top



Hardware Kits

Table 1 charts all of the hardware needed to install the shelving units. The number of pieces used will vary based upon the length of the shelving unit. Shorter lengths will result in unused hardware upon completion. Longer shelving units will require usage of all hardware.

Table 1: Hardware components included for installation

Part	Usage	Part	Usage	Part	Usage
4 - 5/16 " Cage nut	Shelving X Cut-to-fit filler Piping X Compartment	8 - 5/16" shelving washers	Shelving X Cut-to-fit X filler Piping Compartment	4 - 1/4" flange locking nut	Shelving X Cut-to-fit filler Piping C Compartment
4 - 3/8" kickplate screw	Shelving X Cut-to-fit filler X Piping X Compartment	4 - 5/16" x 1 1/2" Leveling legs	Shelving X Cut-to-fit filler Piping X Compartment	end panel bolt	Note: These parts will only be included if an end panel was ordered with either
4 - 1/4" x 1 1/4" shelving bolts	Shelving X Cut-to-fit filler X Piping Compartment	4 - Shelf clips	Shelving X Cut-to-fit filler Piping Compartment	end panel washer	the unit ventilator or shelving installation kits.
6 - 3/4" top & grille screws	Shelving X Cut-to-fit X filler Piping 2 Compartment	2 - 1/4" x 3 1/2" draw bolt	Shelving X Cut-to-fit filler Piping Compartment S		Spline
	Shelving		Shelving top X Cut-to-fit filler Piping Compartment Snap clip	The spline is a thin slat of u match the laminate top. I only be used when connec nate tops. To install, simply place the tally in the gap between th tops by sliding it in the pre on either end of the lamina	vood coated to The spline will sting two lami- spline horizon- e two laminate -made grooves te tops.



Shelving Components

Table 2 is a listing of the shelving components that should accompany a majority of installation kits. Again, please note some of the components may or may not be present depending upon the particular installation kit ordered.

Table 2: Shelving components included for installation





General Information

General

Trane shelving is composed of up to four different components:

- shelving unit,
- Formica® laminate tops,
- piping compartments
- cut-to-fit fillers

The shelving unit, piping compartment, and cut-to-fit filler are made of 16-gauge galvaneal steel. Each piece is finished with a baked-on, industrial grade powder paint. Each unit is available in a selection of colors to match or coordinate with the classroom unit ventilator.

The Formica top is 1-inch particle board, finished with a choice of Formica laminate to compliment and coordinate with the powder-paint finish available on the metal shelving components and the classroom unit ventilator. The laminate top is available in sectional or continuous lengths, for an aesthetically pleasing appearance.

Each of the shelving components ships from the factory with a standard set of installation hardware to help minimize the need for field-supplied components. (See, Tables 1 & 2, on pages 5-6 for more information).

Installation

To help optimize the installation process of the shelving components, install the components in the following order:

- unit ventilator
- piping compartment
- shelving
- cut-to-fit fillers

This sequence will apply to a majority of installation procedures. Installing in this order will help simplify the process and help eliminate rework, reducing the time spent installing the shelving. However, the installer may alter the sequence to better suite a particular installation process.

Warnings/Cautions

Explanation:

WARNING

Warnings are provided throughout this manual to indicate to installing contractors, operators and service personnel of potentially hazardous situations which, if not avoided, COULD result in death or serious injury.

ACAUTION

Cautions are provided throughout this manual to indicate to installing contractors, operators and service personnel of potentially hazardous situations which, if not avoided, MAY result in minor or moderate injury, or damage to the product.



Piping Compartment

The piping compartment is designed to conceal exposed piping in the room next to the classroom unit ventilator.

The piping compartment is constructed out of 16-gauge paint grip sheet metal and finished with an appliance grade, baked-on powder paint finish. The powder paint finish is available in a variety of colors to match the finish in the classroom unit ventilator and other shelving components.

Before Beginning

Before beginning the piping compartment installation, the installer must determine if the application will be left or right ended. The piping compartment is designed to be installed on either end of the classroom unit ventilator.

Because of the uniqueness of each piping compartment installation, the following section is only a guide through the majority of installation processes. The installer must create a more detailed installation process based on the particular application at hand. The varied applications also calls for bolts, washers and nuts needed to connect piping compartment and unit ventilator to be field provided.

It should also be noted the piping compartment does not have to be the end piece of the entire shelving unit. It can serve as the conduit between the unit ventilator and shelving unit if necessary.

Tools Needed for Installation

The tools needed to install a piping compartment are:

- tape measure
- pen or pencil
- screw gun

• sheet metal shears or comparable metal cutting device

• sheet metal screws (field provided)

• lag bolts, washers and nuts (field provided)



Figure 1: Piping compartment with locking door in place



CAUTION

Before beginning installation, the unit ventilator must first be removed. (See Trane catalog UV-IOM-1 for detailed instructions.)

1

Remove end panel from unit ventilator (if end panel has been previously installed).



▲ CAUTION

If application is left-ended, some internal controls may need to be removed to gain access to pre-drilled holes and to prevent any possible damage from drilling during installation.



2 Measure height and depth of exposed piping to be covered by the piping compartment.

3 Using the measurements, mark and cut an opening on the appropriate side of the piping compartment.



4 Turn piping compartment upside down to install cage nuts and leveling screws.

5 Insert cage nuts. With the nut facing toward the side of the compartment, slip the cage nut into the channel slot. Cage nut will catch when inserted properly. Repeat for remaining three cage nuts.

CAUTION

If cage nut is installed incorrectly, it may bend under the piping compartment and prevent unit from leveling.









8 Using the pre-drilled holes on the unit ventilator, mark the piping compartment for hole location.



9

Using a drill, pre-drill holes in the piping compartment.

10 With field-supplied locking nuts, bolts and washers, attach the piping compartment to the unit ventilator.







Slide piping compartment door into place. Lock mechanism will hold door in place.





Shelving Units

The shelving unit is designed to provide attractive and functional additions to the classroom unit ventilator system. The shelving unit is constructed out of 16-gauge galvaneal steel, and finished with an appliance grade, baked-on powder paint. The classroom unit ventilator shelving units are available in a selection of colors to match and compliment the classroom unit ventilator product line.

Additionally, laminate, Formica® tops are available in a variety of colors and textures to coordinate with the painted metal components.

Tools and Hardware Required

The tools needed to install a shelving unit are:

- tape measure
- level
- pen or pencil
- drill
- screw gun
- sheet metal screws (field-supplied)
- lagbolts (field-supplied)



Figure 2: Unit ventilator with shelving unit shell prior to installation



Installation

Remove the end panel on the side of the classroom unit ventilator on which the shelving unit will be installed

2

Being careful not to scratch the surface paint when turning the shelving unit upside down.

Note: If a subbase is to be used in the installation of the shelving, proceed to page 15, Step 1 Otherwise, proceed to Step 3.

3

Insert cage nuts. With the nut facing out from the cabinet, slip the cage nut into the channel slot.

Note: Whether inserting into a subbase or shelving base, cage nuts will be inserted in the same fashion

▲ CAUTION

If cage nut is installed incorrectly, it may bend under the unit and keep unit from leveling.



Screw the leveling leg into 4 the cage nut. Using a tape measure or ruler, adjust the leveling leg height to 1" from the bottom of the cabinet.



Note: Depending on shelving length, there will be either 4 or 6 leveling legs to install

Note: Adjusting the leveling leg to 1" will help ensure the Formica top will be flush with the installed classroom ventilator

Install the back unit spacer. 5

A.) Place one of the brackets even with the pre-drilled hole located on the rear bottom of the unit



Note: With the unit upside down, the pre-drilled holes may be found at the top of the shelving unit's back.

B.) Using a drill and sheet metal screws, attach the spacer to the shelving unit.



Make sure the shelving unit 6 is level by turning it rightside-up so it rests upon the leveling legs. Place a level on top of the unit and adjust the leveling legs (if needed) until unit is level.

Install the wall bracket. 7

A.) Place a level on the back of the installed unit ventilator.



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B.) Measure and mark 1-1/4" below the level

C.) Using the level and a straight edge, mark a line the length of the wall bracket



D.) Position the wall bracket level with the mark. With a drill or screw gun and lag bolts, attach the wall bracket to the wall.

the spacer is necessary to help complete installation Step 11.

9 Install the snap clip by sliding the snap clip into the groove located on the wall bracket and clip across the top of the shelving unit in the opposing groove.



The snap clip is used to help hold the shelving unit to the wall bracket.

Note: If your application includes the installation of a sectional laminate top (length of shelving unit) proceed to Step 11.

If the application includes the installation of a continous laminate top (length of shelving and cut-to-fit filler), proceed to Step 13

10 Position the laminate top snug against the installed unit ventilator and resting against the wall bracket.

▲ CAUTION

Depending on the size of the laminate top, moving and placing may require more than one person.

Secure the laminate top to the wall bracket. In the gap between the classroom shelving and the unit ventilator, use top screws and a drill or screw gun to fasten the laminate top to the wall bracket. Holes have been predrilled in the bracket to ease fastening.

12 Check and adjust the shelving unit for level as necessary. Slide the shelving unit snug against the installed classroom unit ventilator





8 Position the shelving unit against the wall, 18" away from the unit ventilator. The installed spacer will help ensure the shelving unit is the proper distance away from the wall.

Note: The gap between the shelving and wall created by



13

Secure the shelving unit and the classroom unit ventilator together.

▲ CAUTION

If the shelving units are being attached to the left end of the unit ventilator, it may be necessary to remove a portion of the internal control panels in order to reach the four pre-drilled holes that align with similar holes in the shelving unit. (See picture below). Remove any control panels (if needed) BEFORE proceeding with the installation steps.



A.) Insert 1 shelving bolt through the aligned, pre-drilled holes in the shelving unit and unit ventilator.



B.) Using the nut-driver and the screwdriver, tighten the nut and bolt until secure.

▲ CAUTION

Do not overtighten! Warping of shelving wall may occur causing shelves to hang improperly.

C.) Repeat steps 13A & 13B for the remaining three holes.

Note: Remember to return any removed portion of the the internal controls back to their original housing following the completion of Step 13.

<u>Kick Plate</u>

14

4 Align the kickplate with the pre-drilled holes at the base of the shelving unit.









Shelves

16 Slide the notched portion of the shelf clip into the desired slot, with the bracketed portion facing out, inside the cabinet unit until it stops.



Repeat for all shelving clips.



Place shelf upon shelving clips.



Installing a subbase

Using one of the subbase attachments, turn the attachment upside down on top of the base of the shelving unit.



2 The subbase should fit snugly to the shelving base. For a more secure fit, align the pre-drilled holes on the subbase and shelving base. Using sheet metal screws, fasten both components together.



Note: Following completion of this step, return to page 12 to continue installation.



Cut-to-fit Filler

The cut-to-fit filler is designed to conceal any gaps between wall or other shelving components and the classroom unit ventilator. The versatility of the cut-to-fit filler allows it to be installed between a shelving component and a wall; between two pieces of shelving components; between a classroom unit ventilator and a wall; or between a classroom unit ventilator and a shelving unit.

Before Beginning

Before beginning the cut-to-fit filler installation process, it should be known there are two types of installation processes:

1. Installation between a shelving unit and a wall or between a unit ventilator and a wall.

2. Installation between a unit ventilator and a shelving unit.

Both types of installation are explained in the following section.

It is also important to know the depth of the laminate top being used for the shelving unit installation process. There are essentially two different depths: 21-1/4" and 15-1/4".

Before proceeding, determine which depth applies to your installation as there are steps within this guide that will require this information in order to complete the installation steps. The installer must also decide if the installation will be either right or left ended. This is determined by the predrilled holes on the cut-to-fit filler lip. The holes must align with the shelving unit in order for a proper connection to occur.

Also note a single filler can be used for two applications. If multiple gaps are to be filled, take this into account when measuring filler for trimming.

This portion of the installation may also call for trimming the laminate top, especially in installations where the top extends over both the shelving unit and cut-to-fit filler.

Tools and Hardware Required

The tools needed to install a cut-to-fit filler compartment are

- tape measure
- level
- pen or pencil
- drill
- screw gun

• double-cut shears or similar sheet metal cutting device

- sheet metal screws (field-supplied)
- lagbolts (field-supplied)
- Hand or power saw



Figure 3: Shelving unit shell with cut-to-fit filler



Note: Steps 1 through 4 will be the same in both types of cutto-fit filler installations. Complete these steps and then proceed to the proper set of installation instructions.

1

Measure the distance the filler will be needed:

A.) Measure the distance at the top of the two units or the unit and the wall where the filler will be installed.



Top measurement:

B.) Measure the distance at the bottom of the two units or the unit and the wall where the filler will be installed.

Bottom measurement:_____



Using the measurements, mark the filler for cutting.

Note: Before cutting, make sure you have determined if the application will be a right or left end installation.



- **3** Using double-cut shears, trim the filler along the marked line.
- **4** Finish the trimmed edge by attaching the self-adhesive rubber gasket.



Note: If cut-to-fit filler is being installed between a unit ventilator and shelving unit, proceed to page 19 to continue installation.

Between a Shelving Unit and Unit Ventilator or Wall

1 Using a tape measure, measure the height of the shelving unit, including any subbases, from the floor to the top of the unit.

Note: Measurement should be taken WITHOUT laminate top in place.







3 Using a level or equivalent straight edge, mark off the distance.



4

Based on the installation, use a tape measure to measure either 15-1/4" or 21-1/4" from the back of the wall.

5

Mark off the distance

6

Align the unit mounting bracket to the mark. Also, mark the location of the pre-

drilled hole on the bracket.







Using the drill, pre-drill holes

for the lagbolts to attach the

bracket to the wall.

7

Insert the lagbolts through 8 the holes in the mounting bracket and into the predrilled holes in the wall. Tighten the bolts so the bracket is attached to the wall.

To help hold the filler front in 9 place, apply the provided velcro strip to the bracket and the back side of the filler top.



Lay the metal top of the filler 10 on the bracket. Using shelving bolts, washers, and lock nuts, attach to the shelving unit.



CAUTION

Do not overtighten! Warping of shelving wall may occur causing shelves to hang improperly.

Note: If installing a continuous laminate top that is longer than the space provided by the shelving unit and filler, continue with Step 11.

If your laminate top covers only the shelving unit or is the same length as the space proved by the shelving unit and filler, proceed to Step 16 and complete installation.



Measurement:





Using the measurement, measure and mark the same distance on the laminate top.



Using a hand or power saw, trim the laminate top to the measurement.

Secure the laminate top to 14 the wall bracket. In the gap between the classroom shelving and the unit ventilator, use top screws and a drill or screw gun to fasten the laminate top to the wall bracket. Holes have been pre-drilled in the bracket for ease of fastening.

15

Install the front panel of the cut-to-fit filler by sliding the top of the panel into fitted slot of the already installed filler top. Align the pre-drilled holes at the bottom of the panel with the pre-drilled holes at the bottom of the shelving unit.

Using shelving bolts, wash-16 ers and lock nuts, attach filler bottom to shelving unit.



Using kickplate screws and screwdriver, attach kickplate to filler front.

Between a classroom unit ventilator and shelving unit



both the unit ventilator and shelving unit.

A.) Align the pre-drilled holes on the rear of the end panel to the predrilled holes on the end of the shelving unit.

B.) Using the shelving and end panel bolts and the lock nuts, secure the end panel to the installed unit ventilator.

▲ CAUTION

The end panels MUST be in place on the unit ventilator to prevent possible damage to internal controls during drilling procedures of installation.

Make sure the shelving unit 2 is level and using a tape measure, mark the shelving unit 1-1/4" from the top of the unit.

Depending on your installa-3 tion requirements, measure 15-1/4" or 21-1/4" in from the back of the wall and mark the measurement on the unit.

Align the filler unit bracket with the two marks with the top of the bracket 1-1/4" down and the front of the bracket on the 15-1/4" or 21-1/4" mark.





5

Mark placement of the bracket's pre-drilled holes on the unit ventilator's end panel.



Using a drill, pre-drill holes into the end panel.

▲ CAUTION

Be careful not to drill too far into the panel as internal controls in the unit ventilator can be damaged.

7

Using sheet metal screws (field provided) secure the bracket to the unit ventilator end panel.



To help hold the filler front in place, apply the provided velcro strip to the bracket and

the back side of the filler top.



Lay the metal top of the filler 9 on the bracket. Using shelving bolts, washers, and lock nuts, attach to the shelving unit.



CAUTION

Do not overtighten! Warping of shelving wall may occur causing shelves to hang improperly.

Note: If installing a continuous laminate top that is longer than the space provided by the shelving unit and filler, continue with Step 11.

If your laminate top covers only the shelving unit or is the same length as the space proved by the shelving unit and filler, proceed to Step 16 and complete installation.



Using a tape measure, measure the length of the top of the shelving unit from the wall to the end of the filler.

Measurement:



Using the measurement, measure and mark the same distance on the laminate top.

Using and hand or power 12 saw, trim the laminate top to the measurement.

Secure the laminate top to 13 the wall bracket. In the gap between the classroom shelving and the unit ventilator, use top screws and a drill or screw gun to fasten the laminate top to the wall bracket. Holes have been predrilled in the bracket to ease fastening.





14 Install the front panel of the cut-to-fit filler by sliding the top of the panel into the fitted slot of the already installed filler top. Align the pre-drilled holes at the bottom of the panel with the pre-drilled holes at the bottom of the shelving unit.



15 Using shelving bolts, washers and lock nuts, attach filler bottom to shelving unit.





Using kickplate screws and screwdriver, attach kickplate to filler front.

Note: If your laminate top extends over the cut-to-fit filler, you may now complete the laminate top installation.



Maintenance

Cleaning the Shelving Components

- Clean the shelving components using only non-abrasive cleaning products.
- To prevent harming the Formica laminate top, avoid chlorine bleach products.
- Do not allow water to stand in the door tracks of the shelving units. Standing water could cause the doors to catch and not close smoothly.

Storage

- To prevent damage to the adjustable shelf, do not store articles over 150-lbs on the adjustable shelves. Storing articles of excessive weight on the adjustable shelves may cause bowing of the metal components.
- Avoid storing objects with exposed blades or sharp corners against the walls of the shelving. Sharp objects may cause deep scratching of the powder paint finish.
- Avoid storing objects that extend past the length of the adjustable shelves. Storing objects that extend too far off the adjustable shelves will prevent injury to occupants in the room, stored objects, and shelving doors, if present.

Maintaining the Doors

- To help ensure that the doors roll smoothly along the track, avoid storing articles that will hang into the path of the sliding doors.
- Do not force the doors closed. Forcing the doors to close could cause damage to the articles stored in the shelving, the cabinet doors, or the shelving. Remove any articles that prevent the doors from moving freely.
- Periodically lubricate the doors if they seem to stick. Typically, lubricant is not necessary, but if sticking occurs lubricating slightly should alleviate the problem





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