

## Silhouette & ShadeFlex Canopy Installation Guide

Read this guide and review shop drawings and notes before beginning installation.

All packages should be opened and inspected for hidden damage upon receipt. Any missing or damaged components should be noted on the delivery receipt with the carrier before accepting the shipment. All items should be repackaged and stored where protected from moisture, dirt, and excessive heat. Do not wrap material so that heat or moisture can become trapped. Ensure that items are level, fully supported, and have airflow between parts. Damage from improper storage is not considered shipping damage and is not covered by product warranties. Handle materials so as to protect materials, coatings, fabric and finishes during transportation and installation to prevent damage or staining.

It is the responsibility of the installer to meet or exceed all code and safety requirements, and to obtain all required building permits. These instructions are only a guide, and may not address every circumstance. The installer should determine and implement appropriate installation techniques for each situation. Structureworks shall not be held liable for improper or unsafe installations.

### Recommended Tools

The tools required for installation will vary depending on structure configuration and the hardware used. Review shop drawings to confirm drill bit sizes, socket sizes, and other project specific tools.

- Pencil
- 4' Level
- 8' Ladder (2)
- Framing Square
- Tape Measure
- Caulk Gun
- Drill
- Impact Driver
- #2 Philips, #3 Philips and 1/4" Hex Drive Bit
- String Line & String Level
- Rubber Mallet
- Adjustable Wrench
- 5/32" Allen Wrench
- Miter Saw with 80-100 Tooth Blade

### Required Materials

Depending on the configuration of the structure, additional materials such as ledger attachment hardware, silicone caulk, and anchoring epoxy may be needed. Review shop drawings for project specific requirements.

### Paint Touch-Up

All structures will require touch up over time and at completion of construction. Use extreme care when handling components. Touch up paint is provided. In the event of scratching or chipping, touch up the painted surface with the included brush. Apply light coats in order to allow the paint to flow and dry with a smooth finish.

## **Structure Cleaning and Maintenance**

Use a combination of Simple Green All-Purpose Cleaner and hot water with a soft bristle brush. Clean after installation and on an annual basis. For more difficult to clean marks, a Mr. Clean Magic Eraser can be used. Structural attachments should be inspected annually.

## **Canopy Use and Maintenance**

Do not operate in rain or high winds.

Inspect annually for wear and tighten or replace parts as needed.

To reduce dirt buildup, remove canopies and rinse fabric with a hose. Do not use a power washer. Allow fabric to dry before retracting.

Apply ShadeFlex track cleaner regularly to keep rollers operating smoothly.

Use ShadeFlex fabric cleaner to clean heavy dirt or stains, and apply ShadeFlex canopy water repellent to protect the fabric from mildew and environmental damage.

If canopies will not be used for an extended period, they can be retracted and secured with a ShadeGuard. During winter months it is advised to remove and store the canopy. To remove the canopies, loosen the WindLock set screws at the retracted end and remove the plate. Then, loosen the set screws on the roller lock pins and remove all crossmembers. Store the canopy in a dry, protected location.

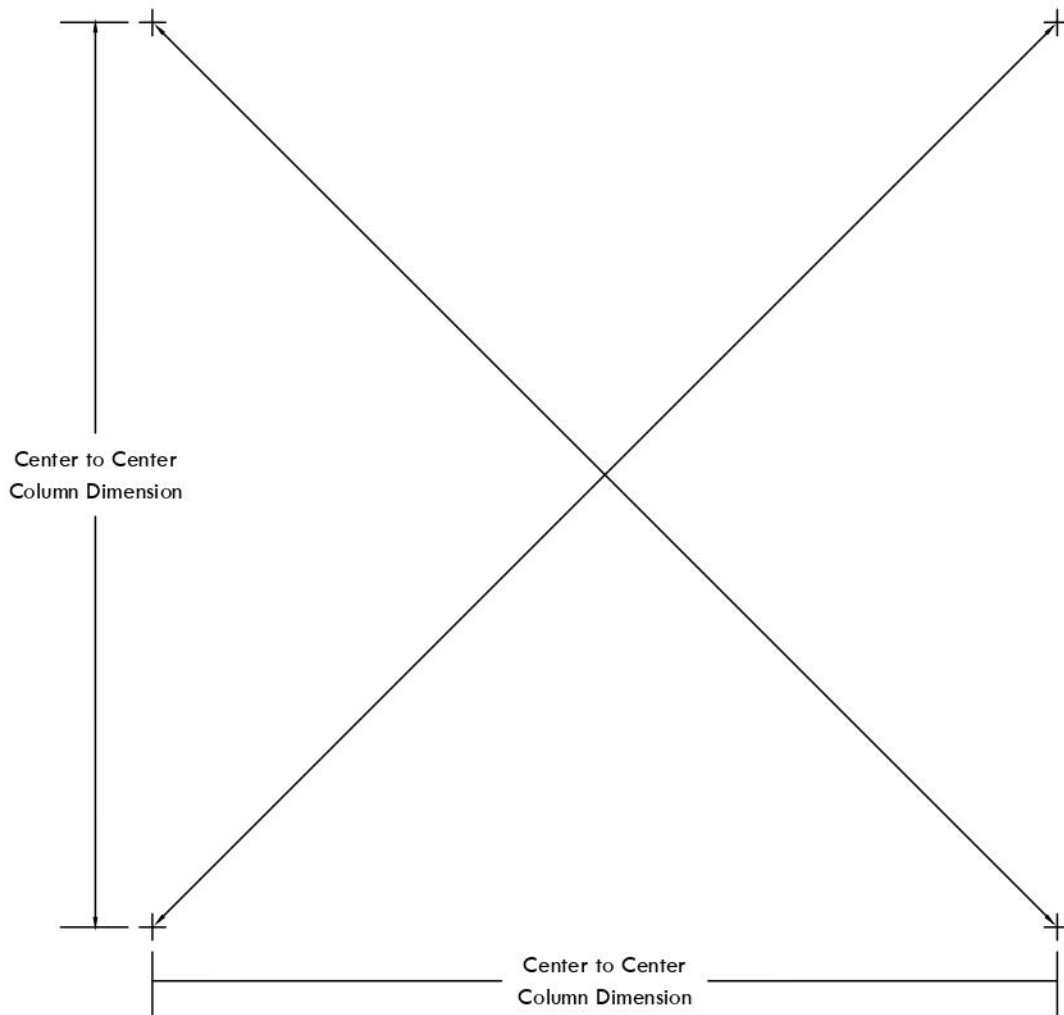
## Installation Sequence

This installation guide provides a step by step sequence for the installation of the structure and canopy. This guide covers only the structure and the canopy, separate installation guides are provided for accessories and other products used in the installation of the structure. Ensure that you have all required installation guides before beginning the installation.

All structures are made to order and are provided with shop drawings. Shop drawings may contain additional information, details, or job specific instructions. Shop drawings take precedence over this installation guide.

## Layout

Layout all columns according to the shop drawings. Columns must be located precisely and variations in the height of the mounting surface must be accounted for by trimming or leveling each column. The structure will not install correctly if the columns are installed out of square or out of level from one another. Refer to Fiberglass Column Installation Guide for more information.

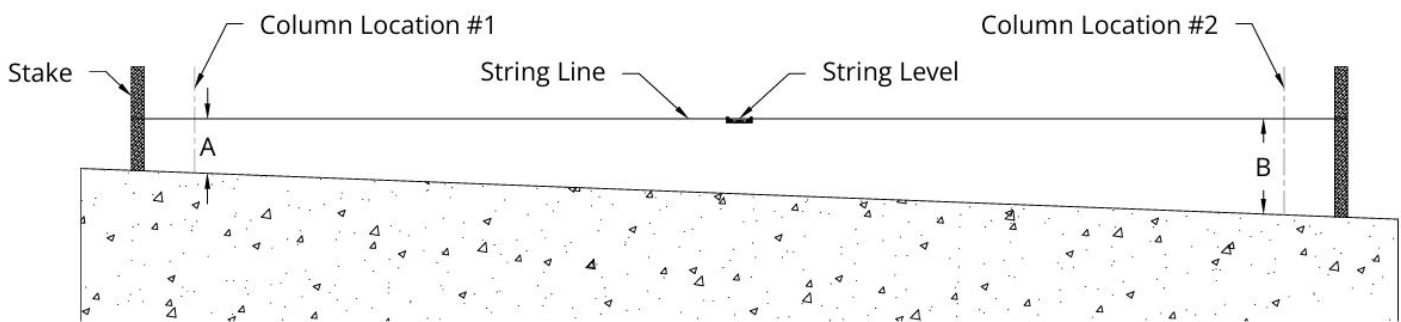


## Adjust Column Height

Silhouette columns come standard in 10' lengths but can be cut shorter if desired or to account for uneven mounting surfaces.

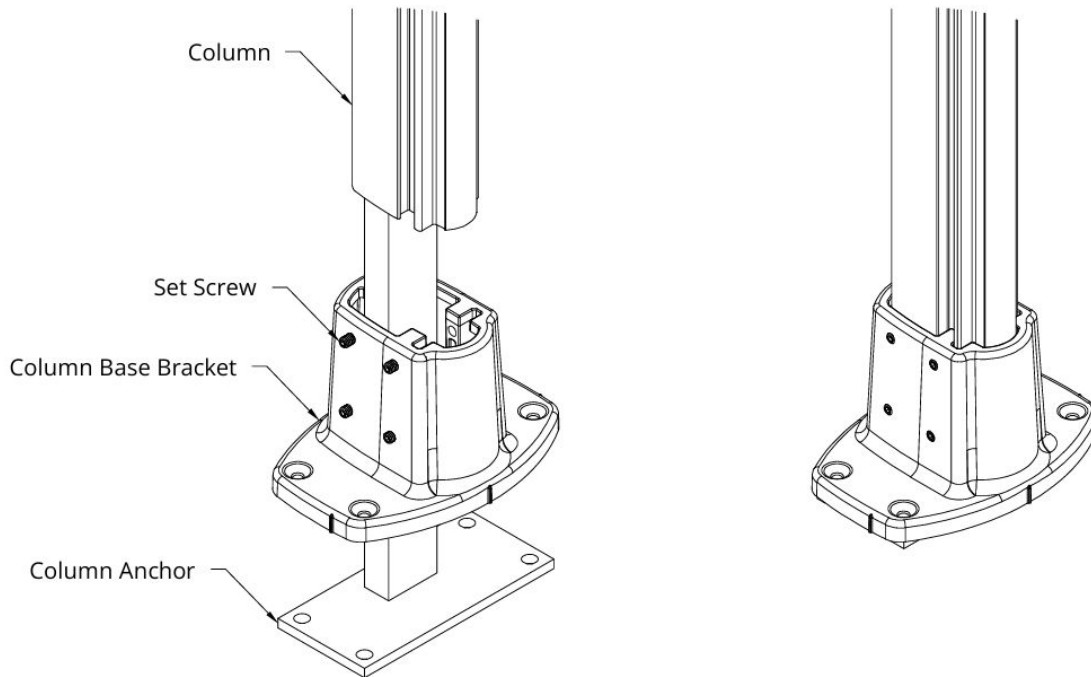
To ensure the structure is level when installed, first check the elevation at each column location. Drive a yard stake or similar marker at each column location and run a string line between them. Place a string level near the middle of the line, then adjust one end of the string until level. Measure the difference in height between the two points. Cut the column at the shorter location by this measured distance.

Measure the cut length from the bottom of the column and mark this location around the column at several points. Next, apply painters tape around the column so that the edge of the tape aligns with the marks. Using a miter saw, cut along the tape line.

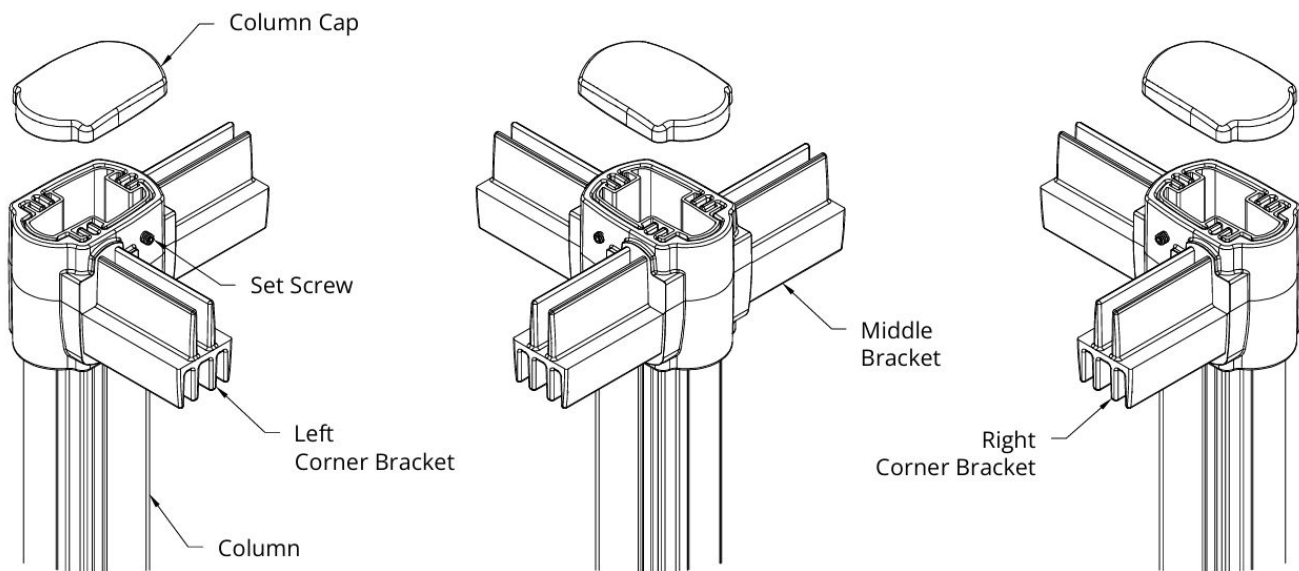


## Pre-Assemble Columns

Slide the base bracket and column over the column anchor. Secure by tightening all set screws on the column base.



Position the correct corner bracket at the top of the column based on its location within the structure. Tighten all set screws to secure the bracket in place. Press-fit the column cap onto the top of each column.



**Left Column**

**Middle Column**

**Right Column**

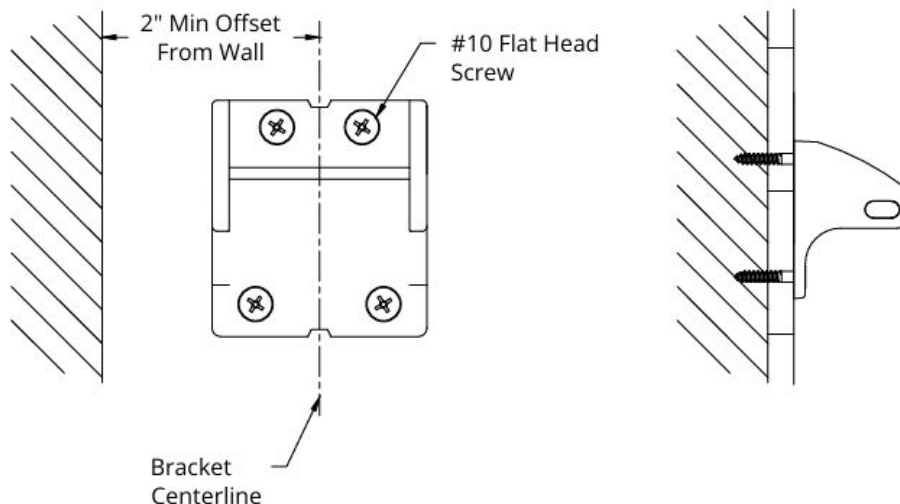
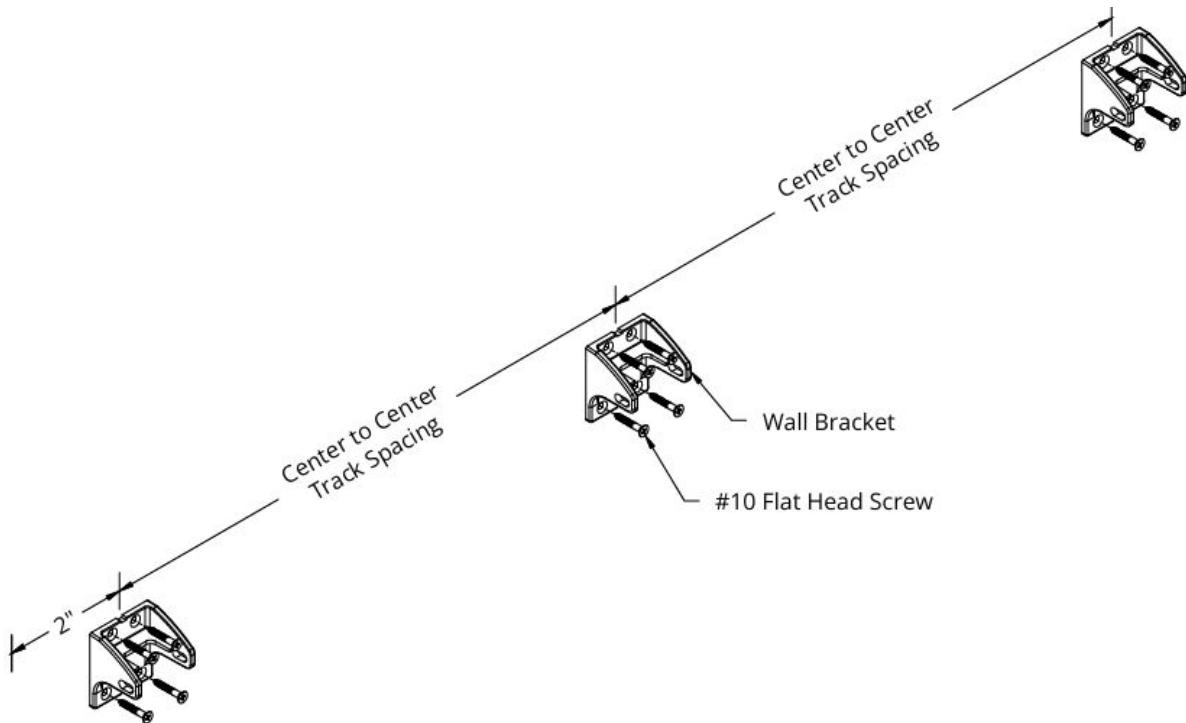
## Install Mounting Brackets - Attached Structures

For attached structures, one side will be mounted to a host structure using mounting brackets. All brackets must be installed at the same height that is detailed in the shop drawings.

Begin by determining the location of either the left or right corner bracket. If the bracket is positioned in a closed corner, maintain a minimum 2" offset from the center of the bracket to the adjacent wall. If the bracket is in an open area, it can be mounted flush with the edge.

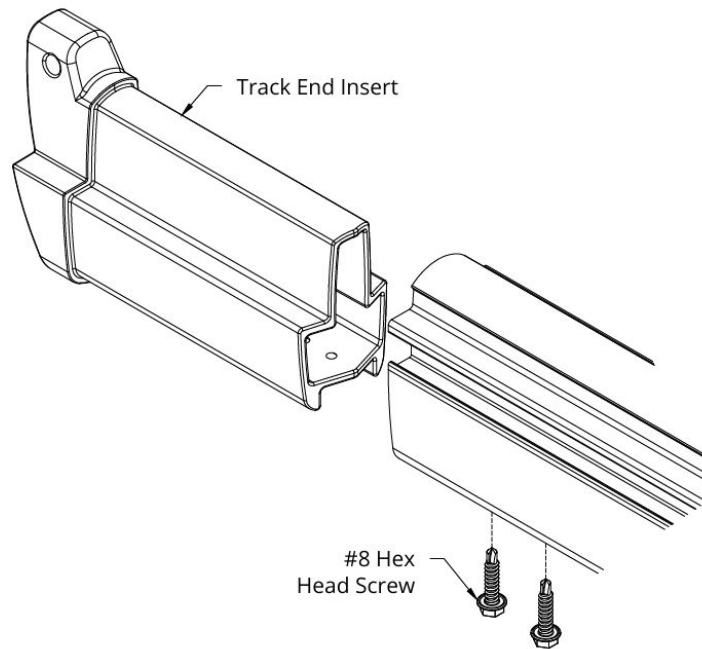
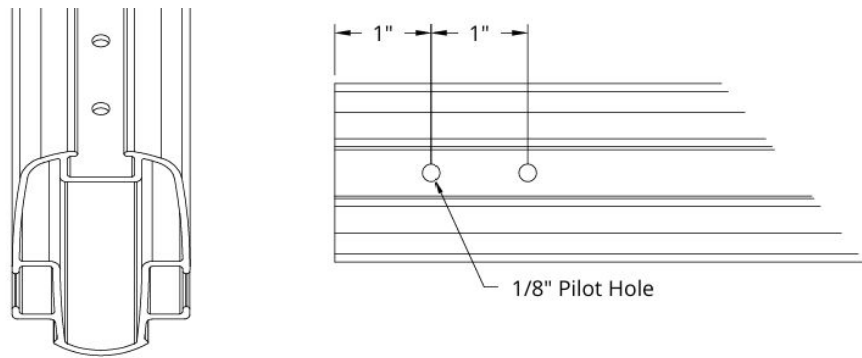
Secure the bracket using screws. Ensure the brackets are mounted to structural components that can support the loads of the structure. When mounting to a surface other than a wooden ledger or wood substrate, use hardware appropriate for that surface.

Using the center-to-center spacing shown in the shop drawings, install the remaining brackets, confirming that all are level and aligned at the same height.



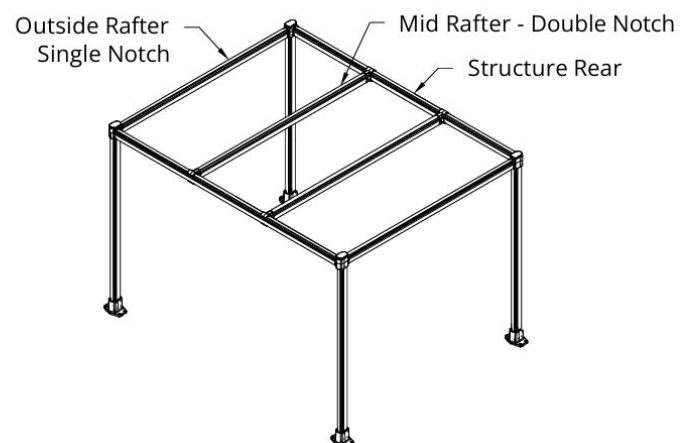
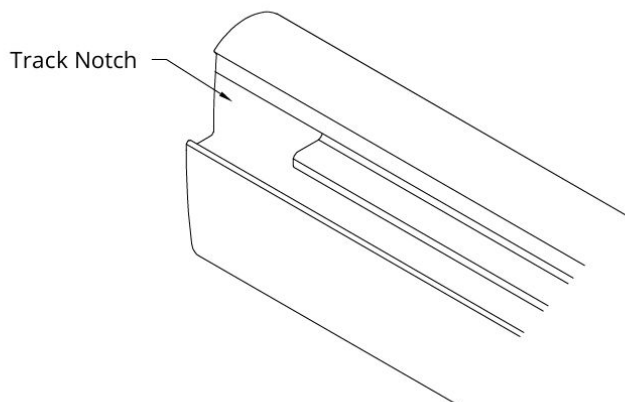
## Prepare Tracks

Drill 1/8" pilot holes at the bottom of both ends of each track, as shown below. For attached structures, install the track end insert at the wall end of the track and secure with screws.



## Identify Rafter Notches - Freestanding Structures

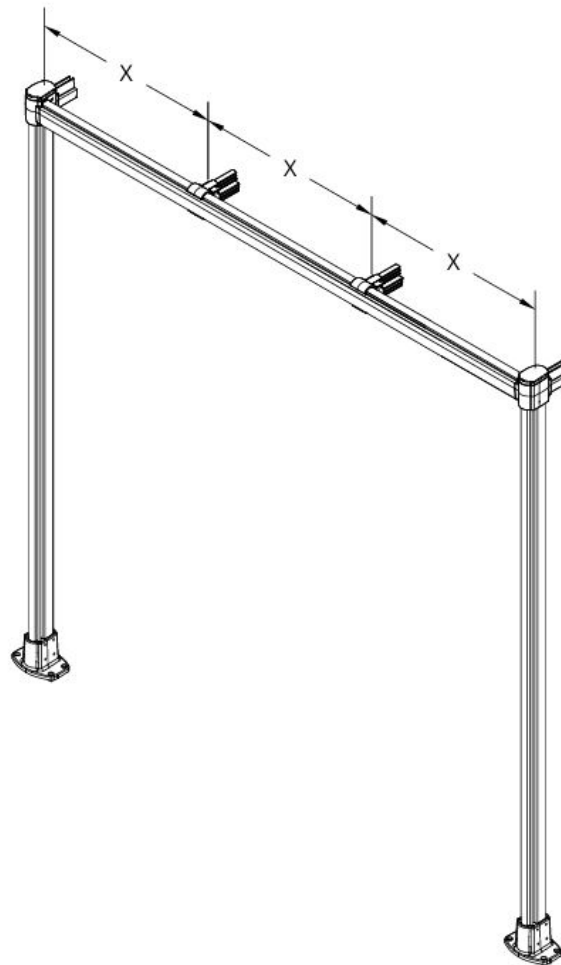
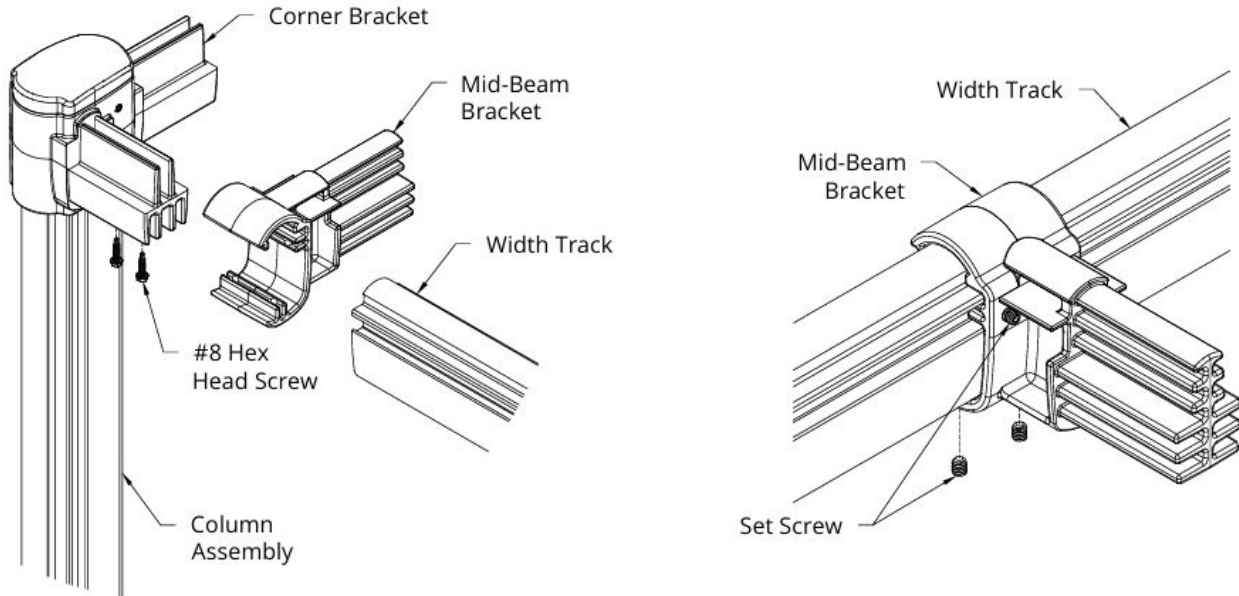
All rafter tracks on freestanding structures will have notches at one end to accommodate the canopy installation. When installing the tracks, make sure the notches are positioned at the rear of the structure, where the canopies will retract. Outside tracks will have a single notch, while mid tracks will have two. Ensure the notches on outside tracks are towards the inside of the structure.



## Assemble Width Track

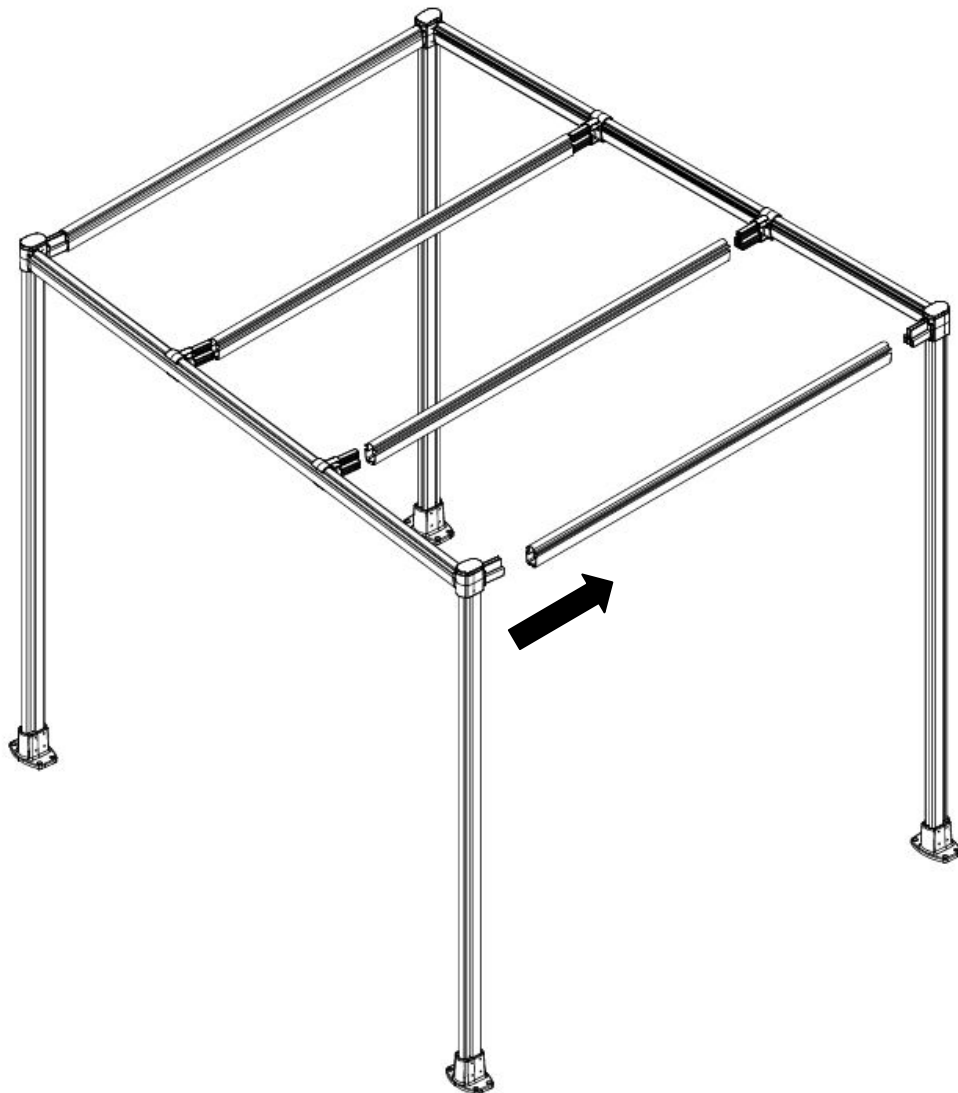
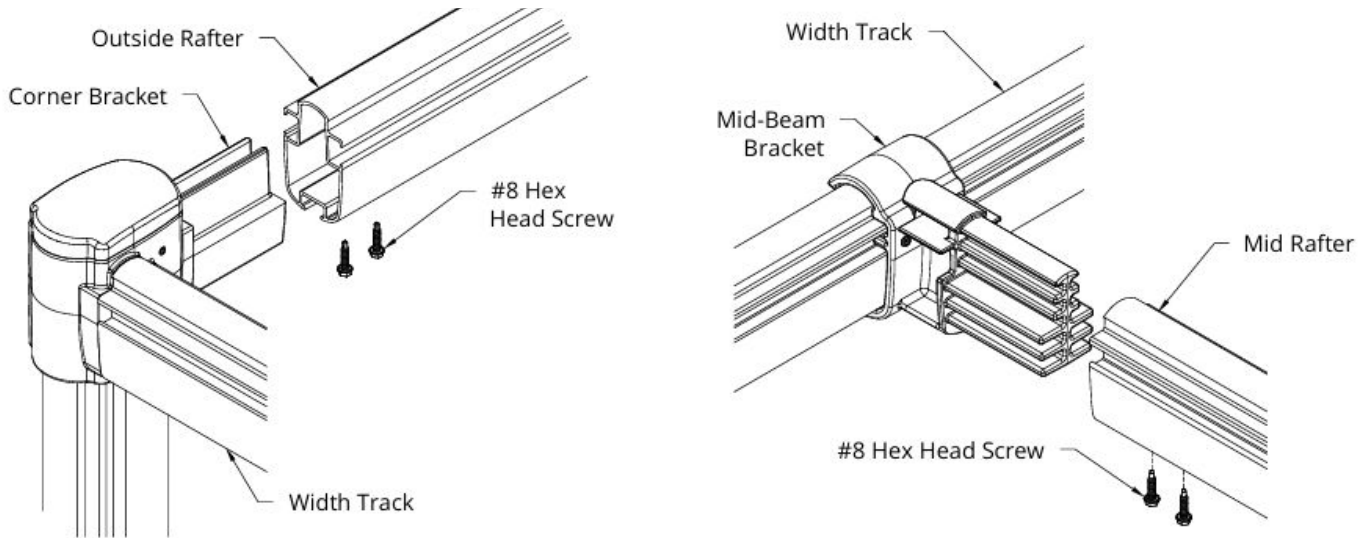
Slide the mid-beam brackets onto the width track and position based on the location detailed in the shop drawing. Secure by tightening all four set screws.

Slide the width track onto the column assembly and secure with screws. For Freestanding structures repeat this step for the opposing width track.



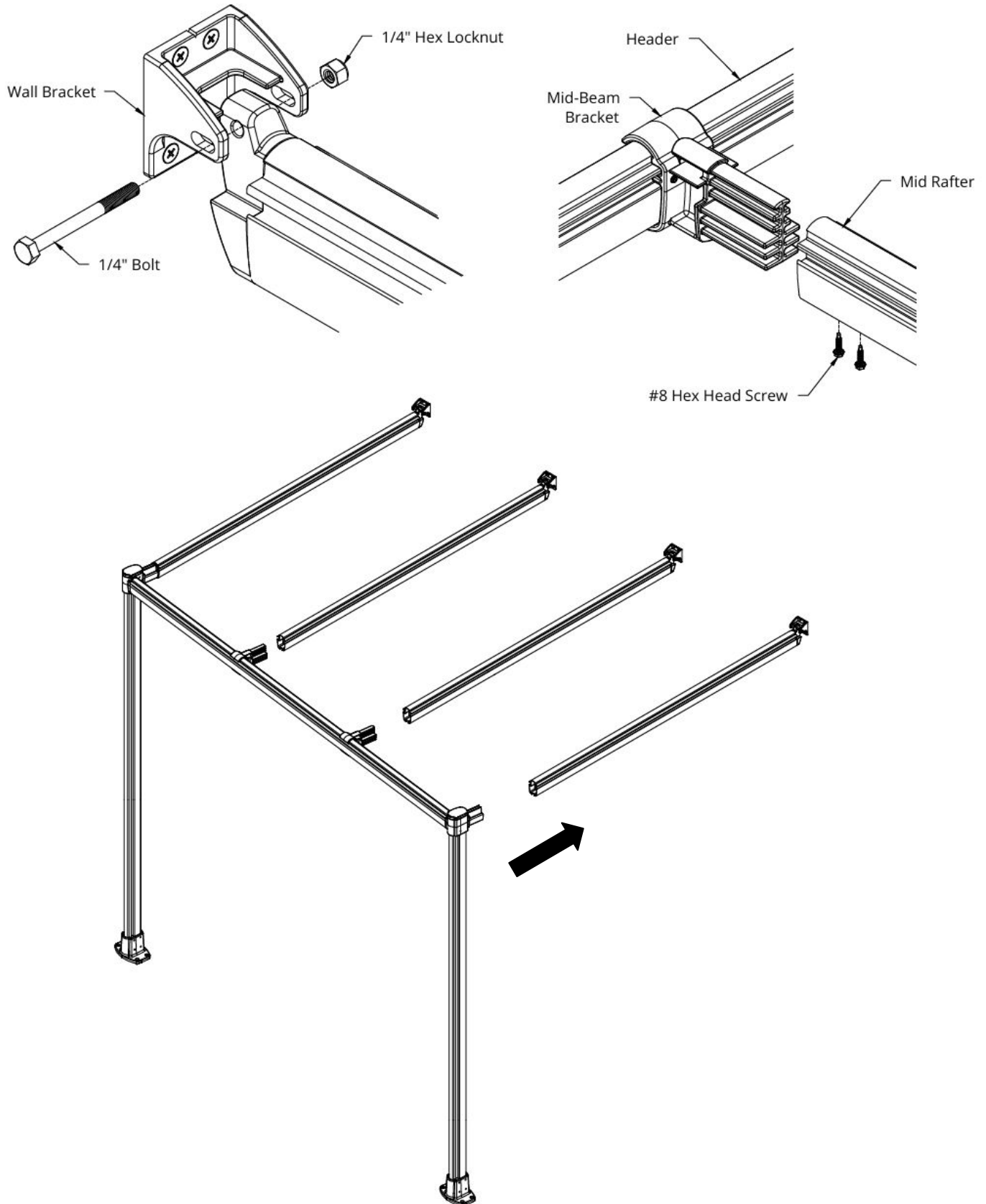
## Install Tracks - Freestanding Structure

Starting at one end of the structure, secure one end of the rafter track to the bracket on the width track assembly with screws. Position the opposite end into the corresponding bracket on the opposing width track assembly. As additional rafter tracks are installed, gradually slide the width track assembly into place. Once all rafter tracks have been positioned, secure the remaining end of the rafter track with screws.



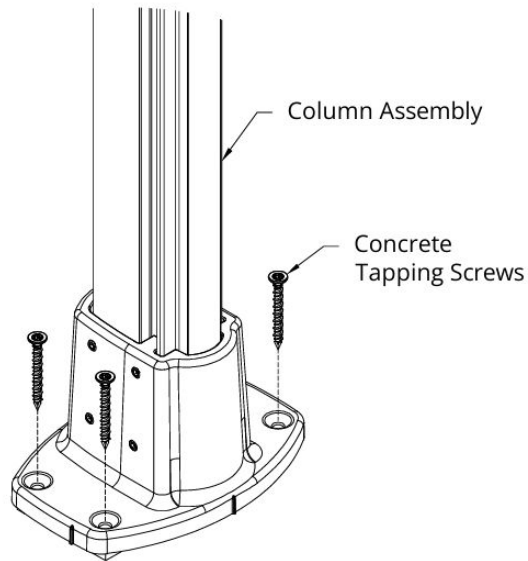
## Install Tracks - Attached Structure

Starting at one end of the structure, lift the rafter track into the wall bracket and secure with bolt and hex lock nut. Position the opposite end into the corresponding bracket on the width track assembly. As additional rafter tracks are installed, gradually slide the width track assembly into place. After all rafter tracks are positioned, secure to the width track with screws.



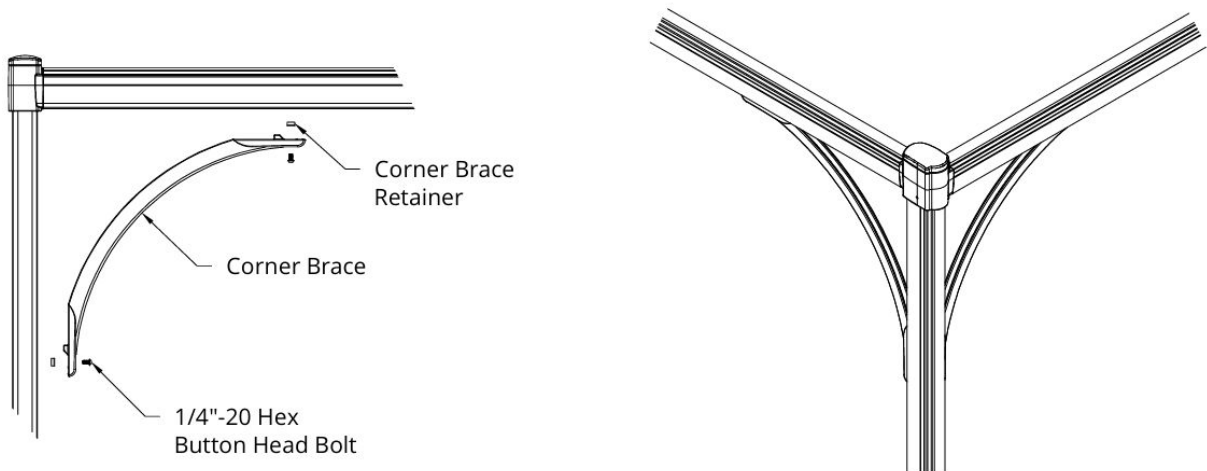
## Anchor Columns

Anchor the columns to the ground using concrete tapping screws. If mounting to a surface other than concrete, use hardware appropriate for the mounting surface.



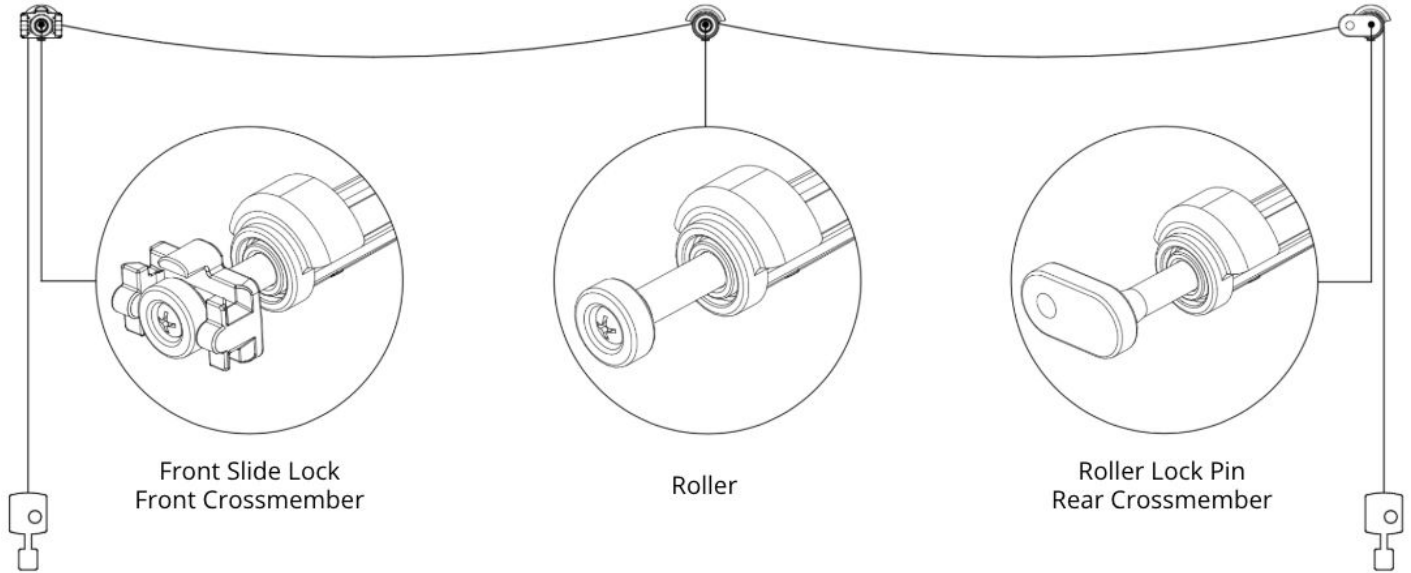
## Install Corner Braces

Install two corner braces on each column using button head bolts and brace retainers.



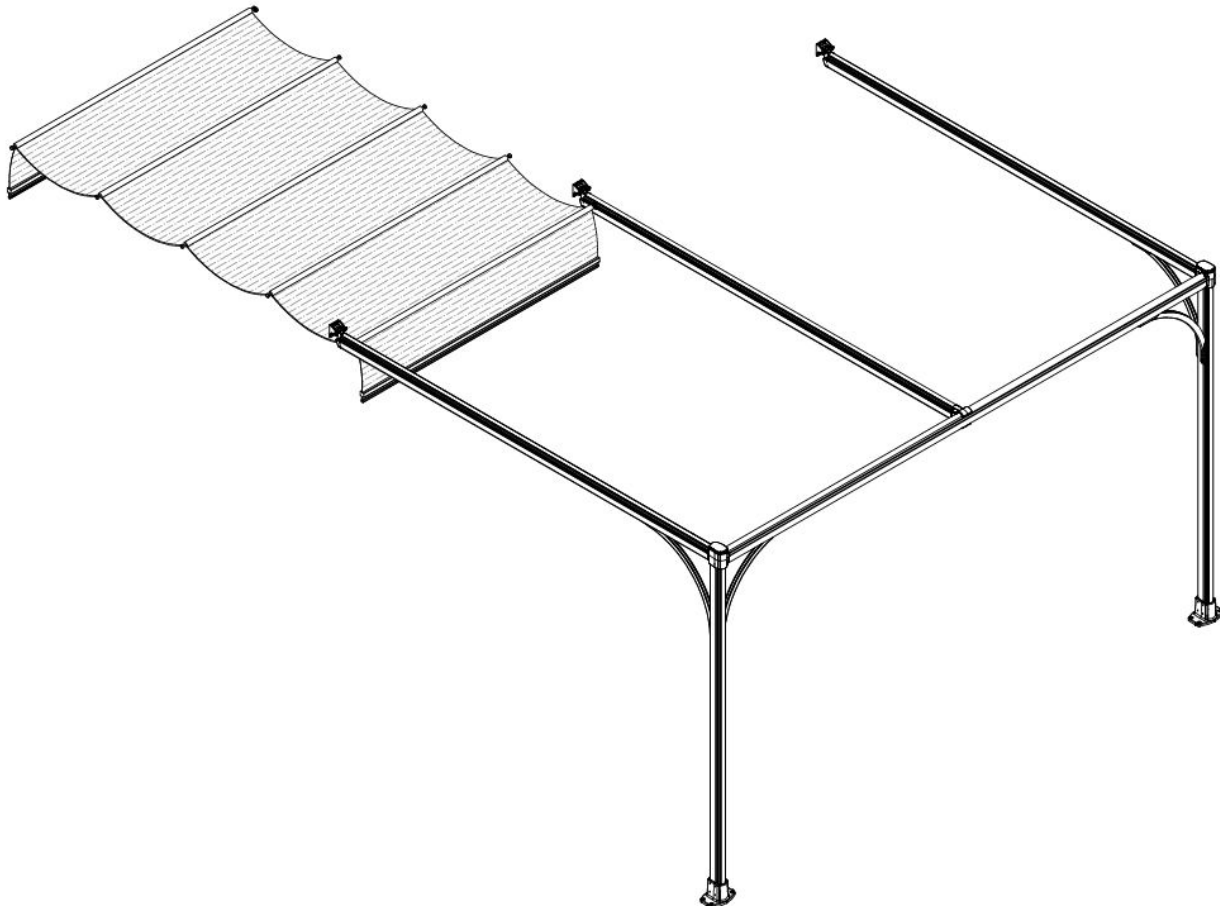
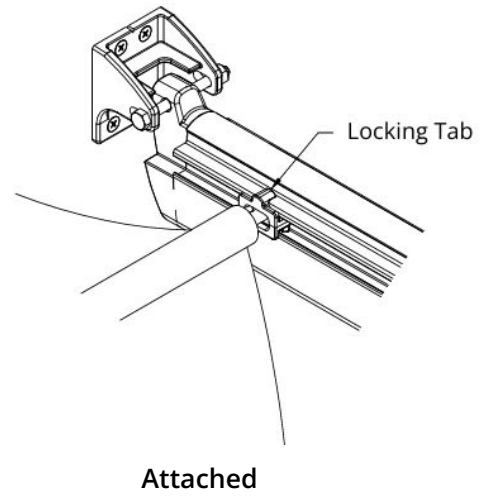
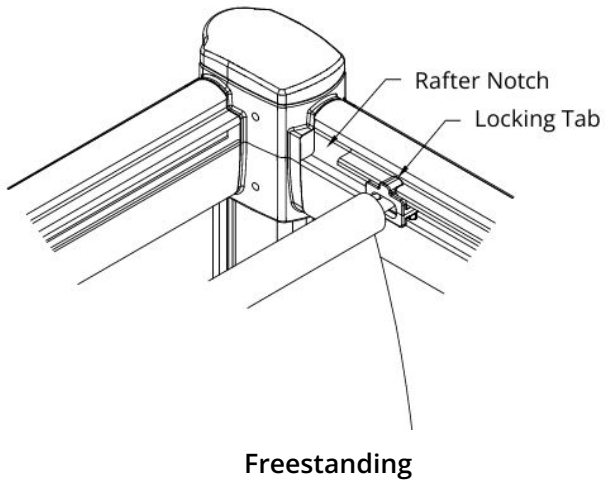
## Install ShadeFlex Canopy

Determine the correct orientation of the canopy by identifying the front slide lock and the roller lock pin. For attached configurations, the roller lock pin will be located on the wall side. For freestanding configurations, the roller lock pin will be located on the side where the fabric will collect when retracted. Additionally, ensure the PVC side of the crossmember faces upward and the aluminum side faces downward.



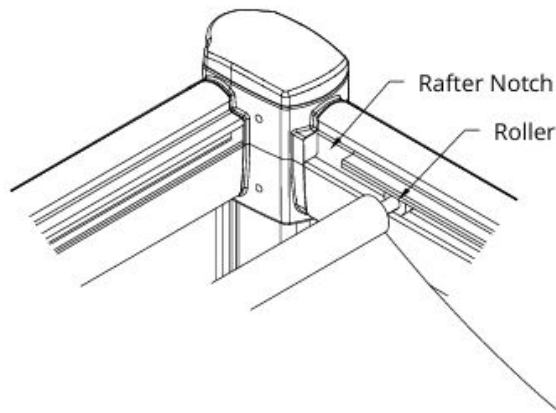
## Install Front Slide Lock Crossmember

Begin installation at the rear of the structure, starting with the crossmember that contains the front slide lock. Insert this crossmember into both rafter tracks at the same time to avoid binding, making sure the locking tab on the crossmember is facing upward.

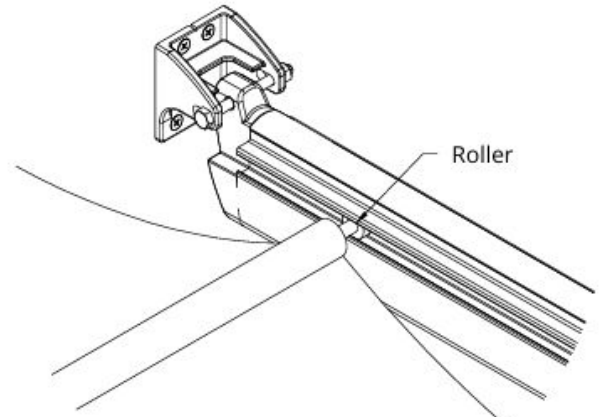


## Install Mid Crossmembers

Install remaining mid crossmembers into both rafter tracks at the same time.



Freestanding

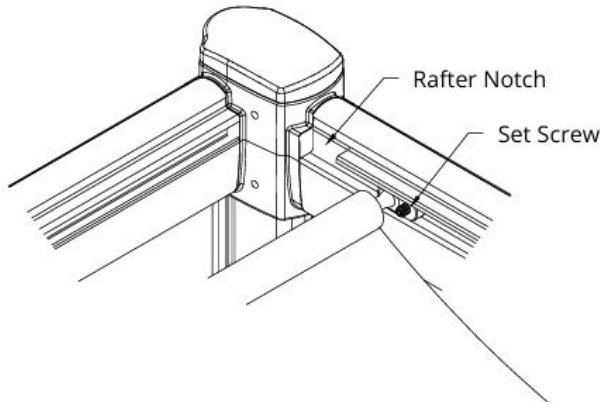


Attached

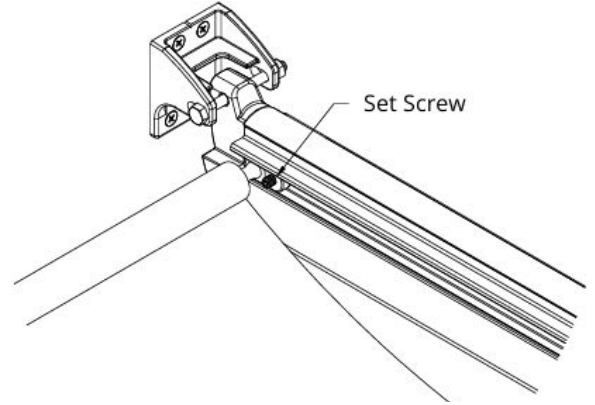


## Install Roller Lock Pin Crossmember

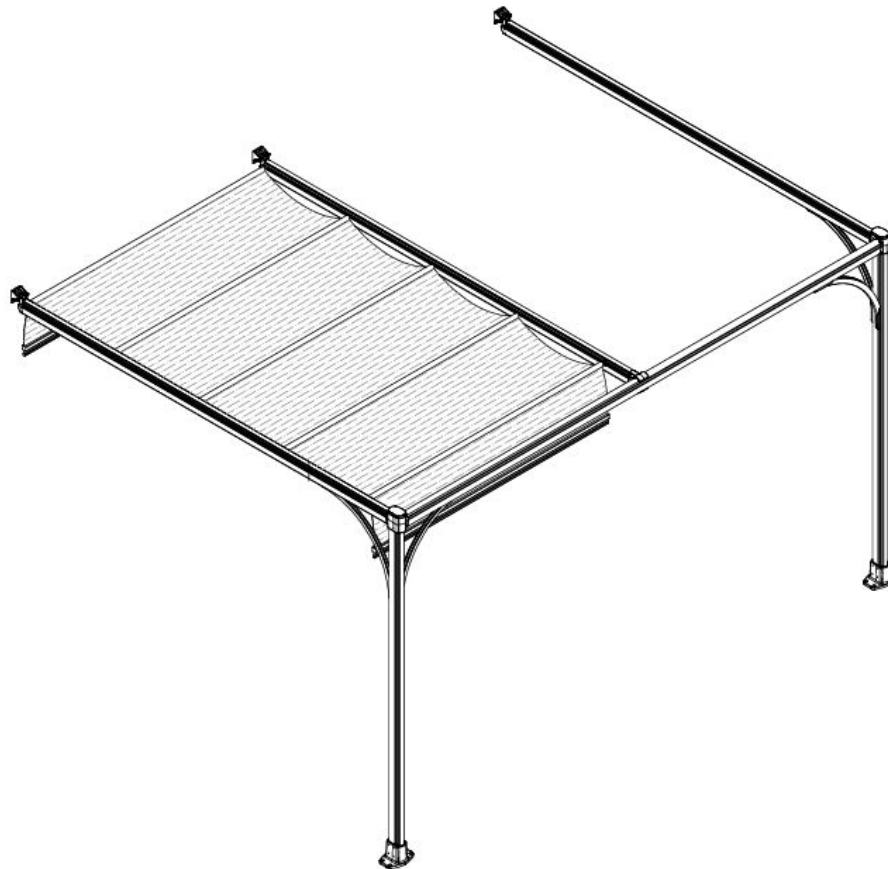
Finally, install the last crossmember into the tracks. The roller lock pin should face towards the front of the canopy. Position this final crossmember at the desired stopping point for the canopy, measuring from a fixed reference point to ensure consistent placement across all canopies. Once positioned, tighten the roller lock pin set screw.



Freestanding



Attached

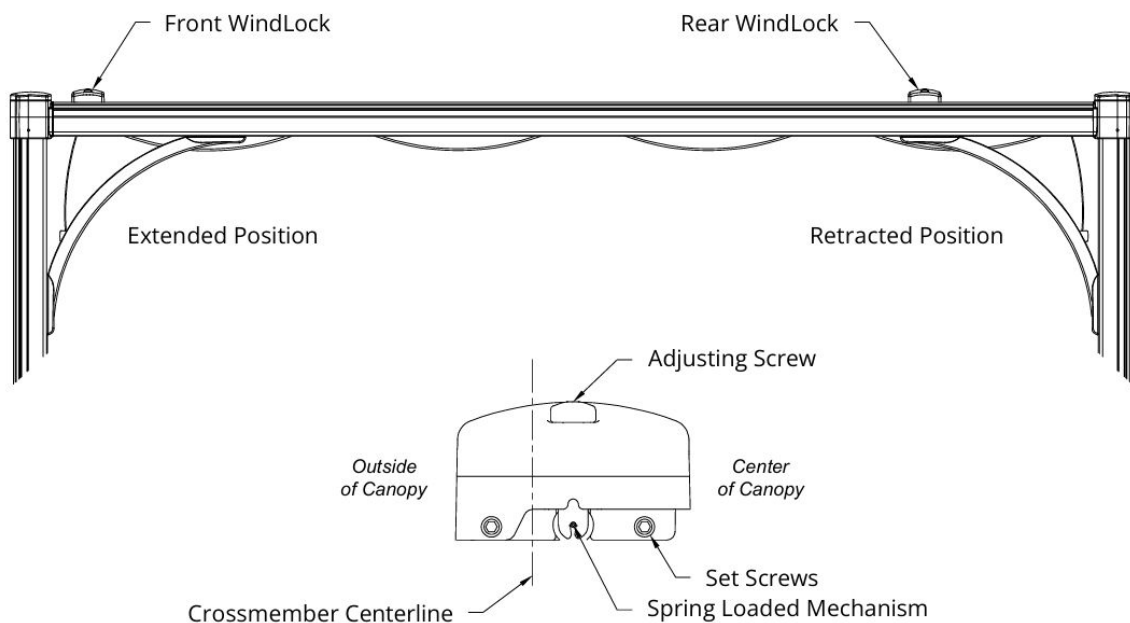


## Install WindLocks

Position a WindLock at the end of the track where the canopy will be in the extended position as shown below. Secure the WindLock to the rafter track by tightening all four set screws.

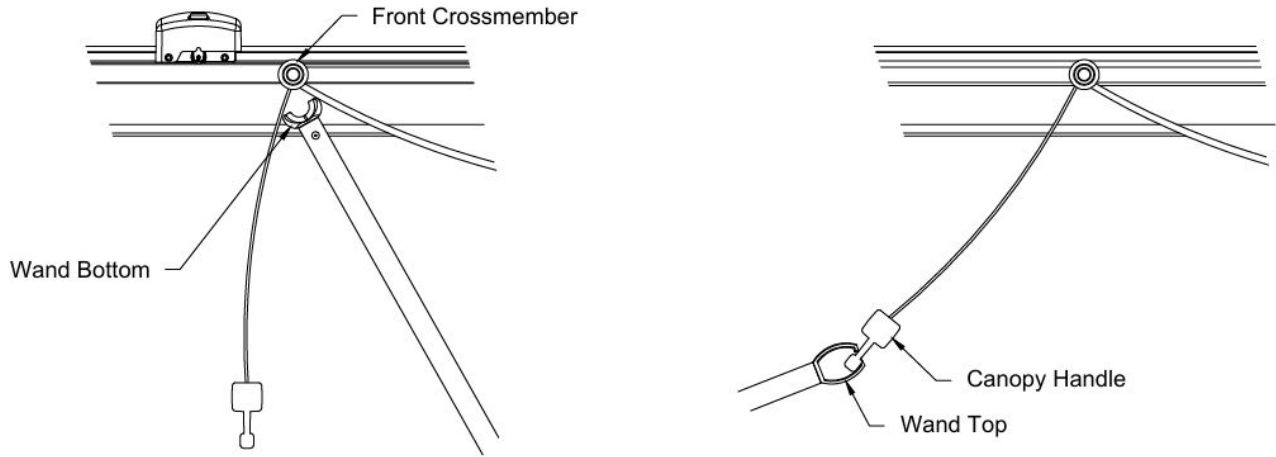
Next, fully retract the canopy and mark the centerline of the first crossmember that contains the front slide locks on the rafter track. Position a second WindLock on the rafter track as shown below. Align this WindLock so the mark is centered between the set screw and the spring-loaded mechanism, just as before. Tighten all four set screws with an Allen wrench to secure it in place.

Tighten or loosen the adjusting screw on the WindLock to set the desired spring tension. The WindLocks are designed to release the fabric during inclement weather. Avoid over tightening the adjusting screw.



## Canopy Wand

To operate the canopy, use the canopy wand. To engage or disengage the front crossmember from the WindLocks, use the bottom of the wand to push the front crossmember. To extend or retract the canopy, use the top of the wand to pull the canopy handle.



Store using the wand mount and appropriate mounting screws based on the installation surface.

