

## Zephyr 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
- Drill
- Impact Driver w/ Phillips Bit
- Adjustable Wrench
- Tape Measure
- Socket Wrench w/ Sockets
- Hole-Cleaning Brush
- Caulk Gun

### 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.

### 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.

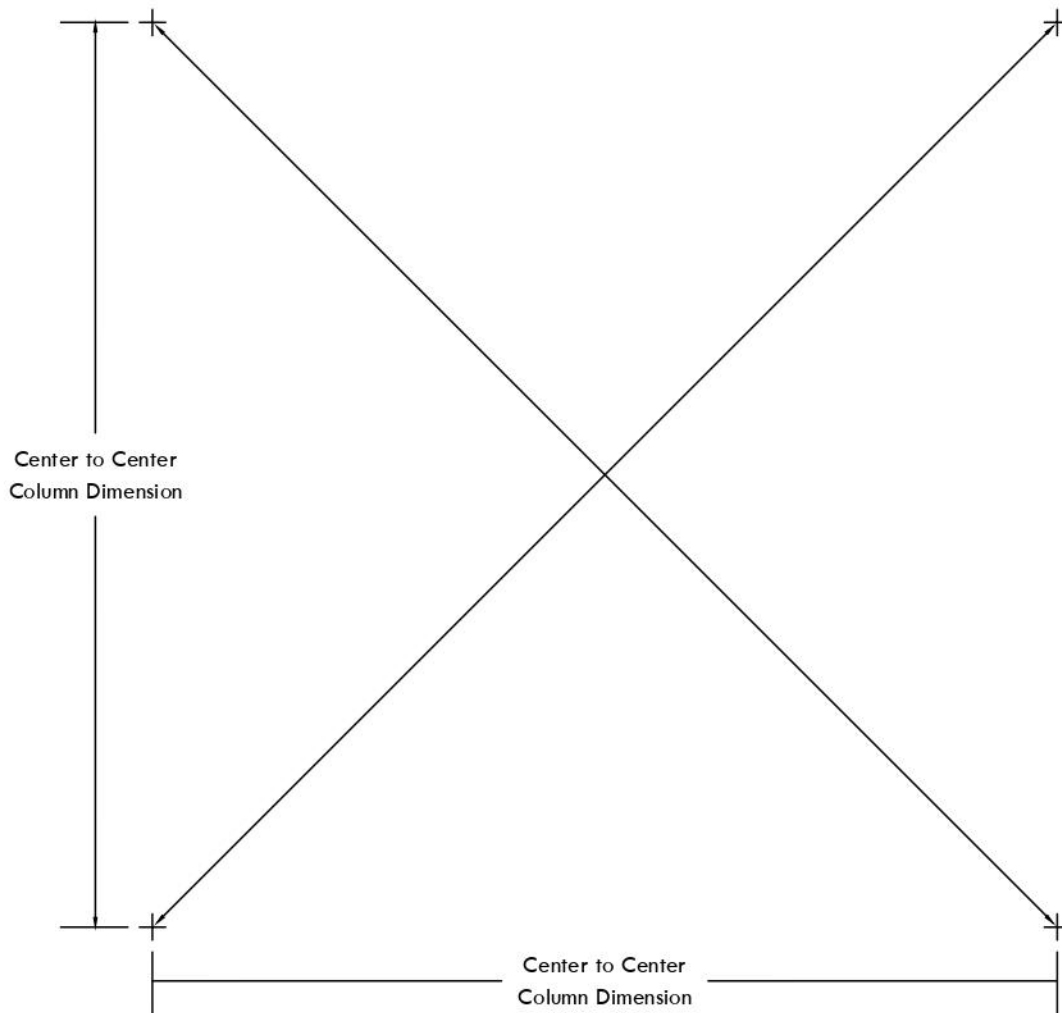
## Installation Sequence

This installation guide provides a step by step sequence for the installation of the structure. This guide covers only the structure, 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 leveling each column. The structure will not install correctly if the columns are installed out of square or out of level from one another.



## Prepare for Column Installation - Concrete Mounting Surfaces

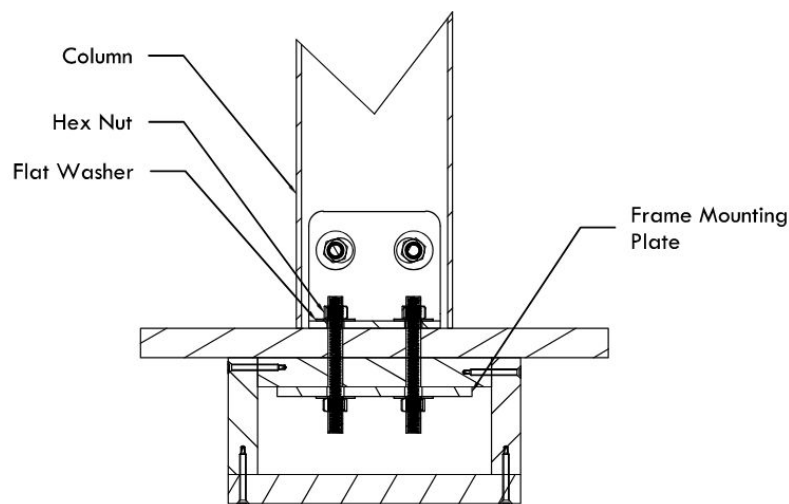
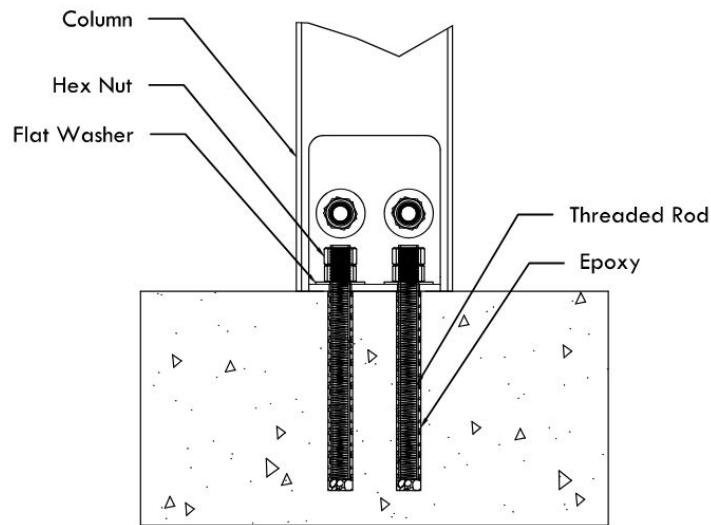
Drill the holes for the threaded rods and epoxy. The holes should be sized larger than the threaded rod diameter per the epoxy manufacturer's instructions. Clean the hole thoroughly.

Fill the holes with epoxy per the manufacturer's instructions. Insert the threaded rods in a twisting motion to ensure epoxy flows into the threads of the rods. Ensure that the rods are inserted to the proper depth and are plumb.

## Prepare for Column Installation - Wood Mounting Surfaces

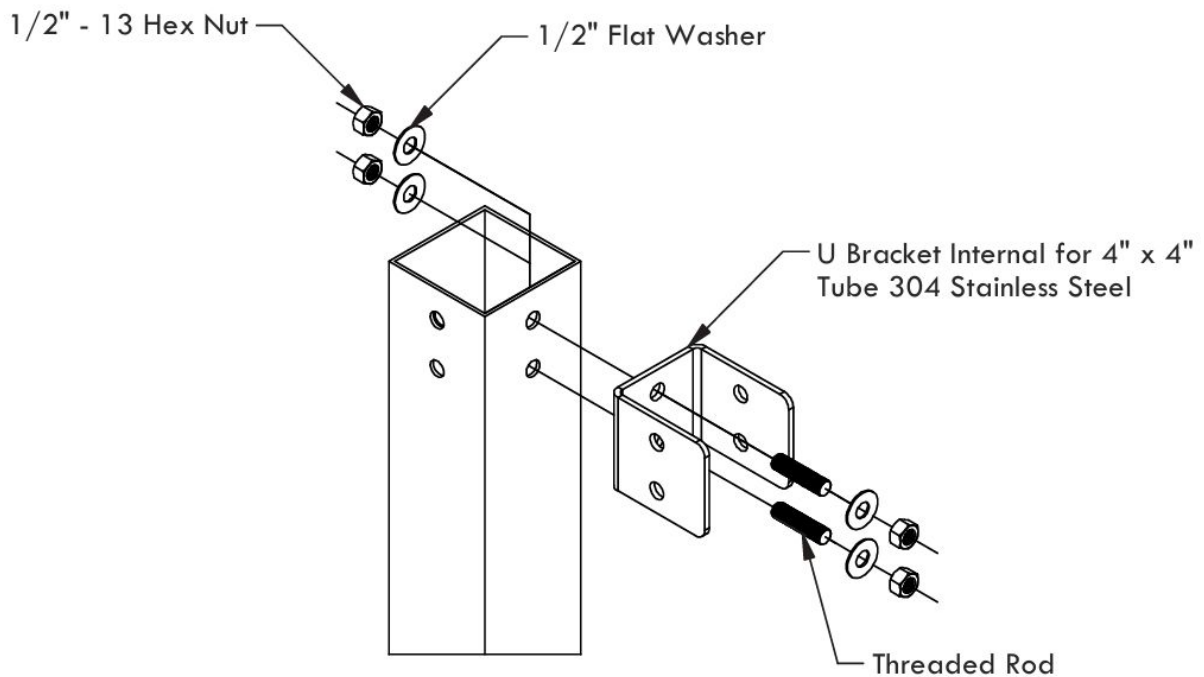
Install pressure treated wood blocking between the joists against the underside of the decking. Blocking should be a nominal thickness of 2" and wider than the framing mount plate.

Drill the holes for the threaded rods through the deck and wood blocking.



## Install Beam Brackets

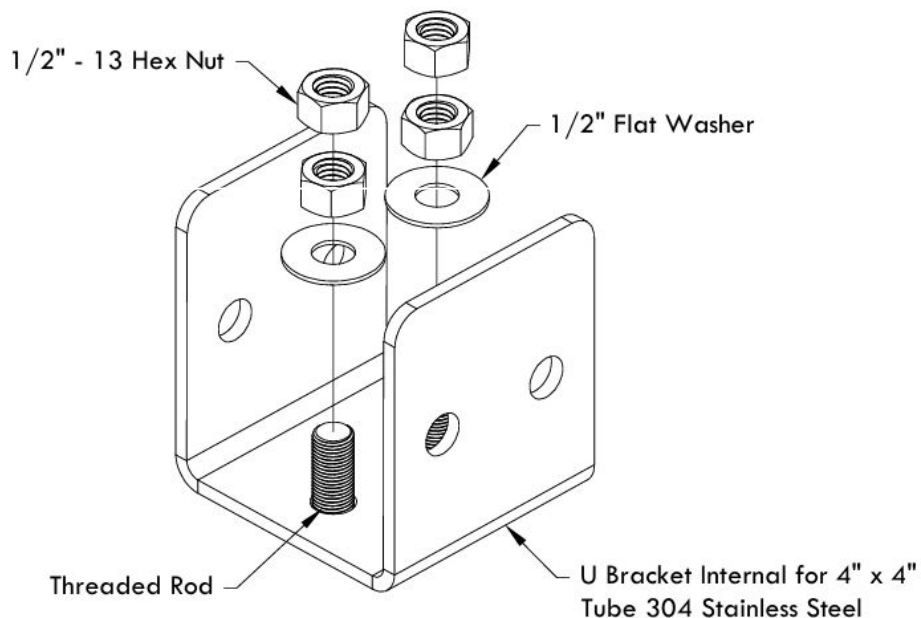
Install the internal brackets for the beams at the top of the columns. If the structure includes any integrations such as lighting, wiring for fans, or heaters, be sure to make the necessary connections, chase any wires, and test all connections.



## Install Column Mounting Brackets

Install the internal brackets to the mounting surface using flat washers and hex nuts. Ensure the brackets are properly oriented as shown. If the mounting surface is uneven, use flat washers or non-shrink grout to shim and level the brackets.

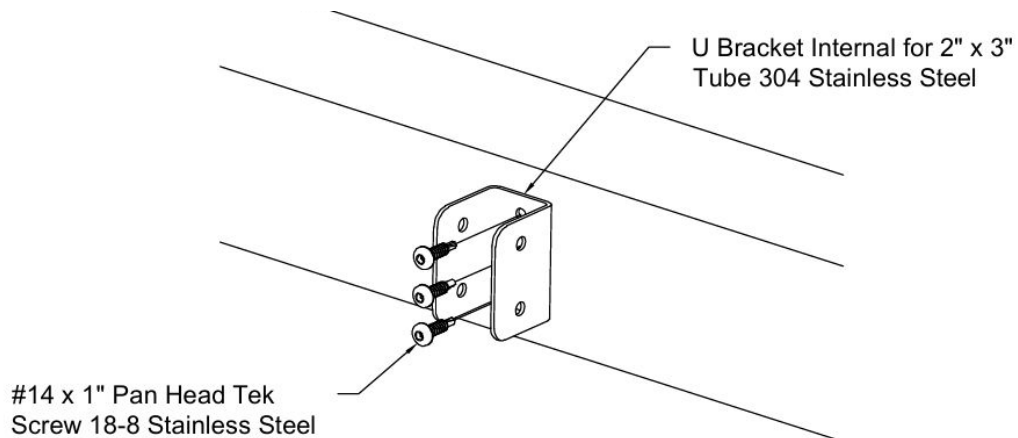
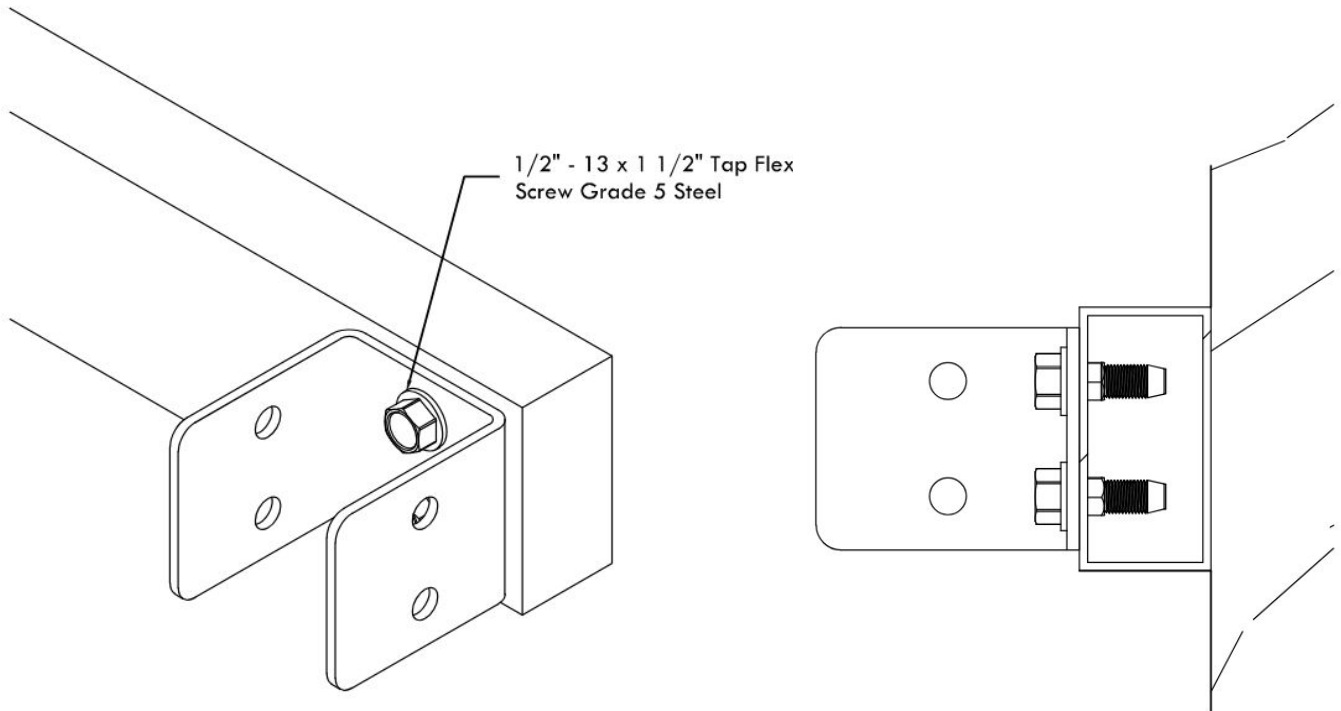
Do not install the hardware that connects the brackets to the columns at this time.



## Install Brackets and Ledger - Attached Structures Only

Install the internal brackets for the beams and rafters onto the ledger. Then mount the ledger to the host structure, ensuring it is secured to structural components capable of supporting the load of the system.

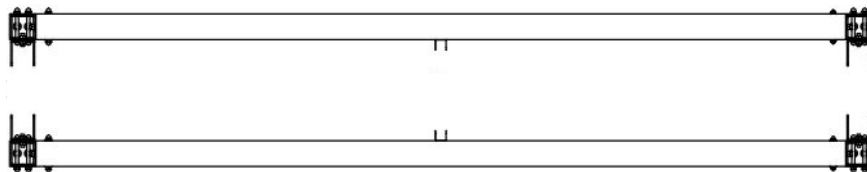
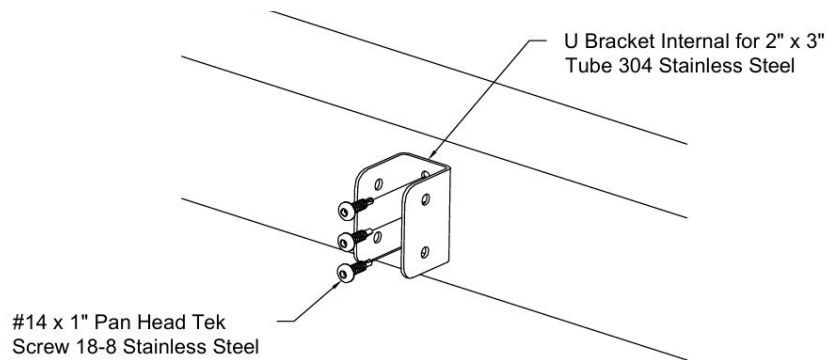
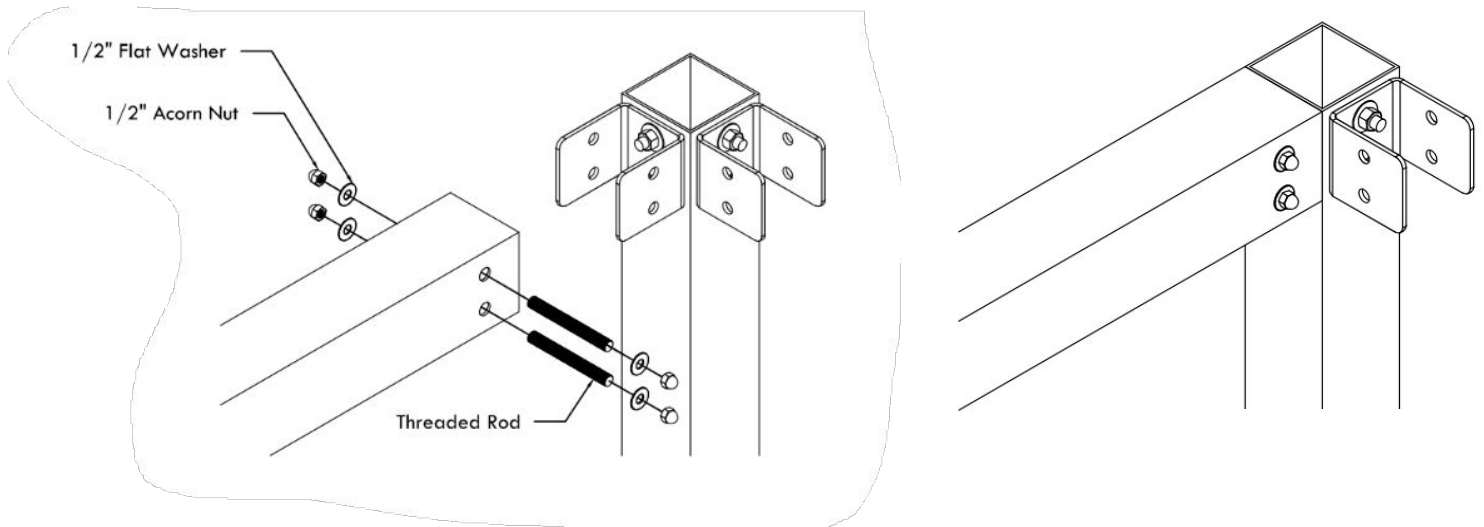
Attachment hardware for the ledger is not provided, as it will vary based on the specific mounting conditions.



## Install Width Beams

Position a beam across the width of the structure between the supporting columns. To align the beam with the internal brackets, you may need to slightly lean one of the columns away from the beam. Once the brackets are inserted into the ends of the beam, bolt the beam to the columns and tighten all hardware securely. For freestanding structures, repeat this process to install the second width beam.

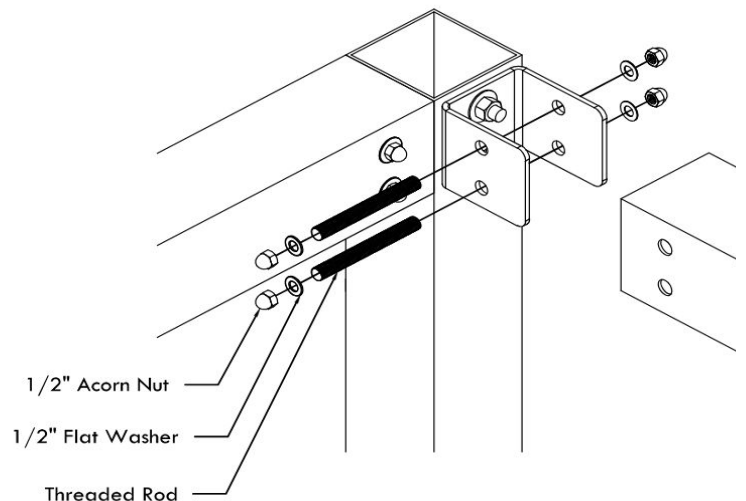
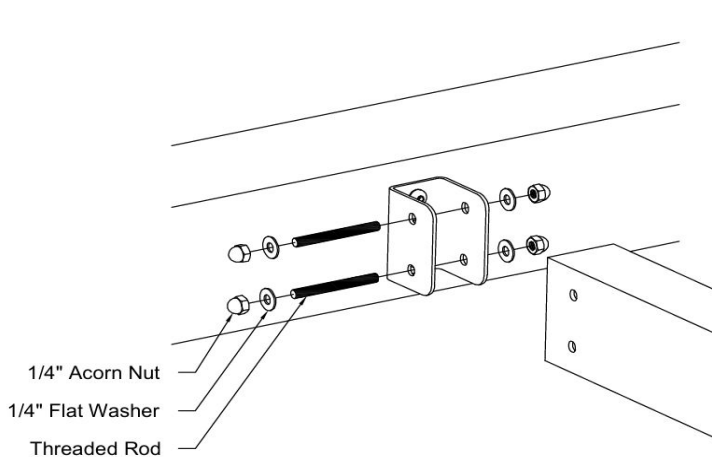
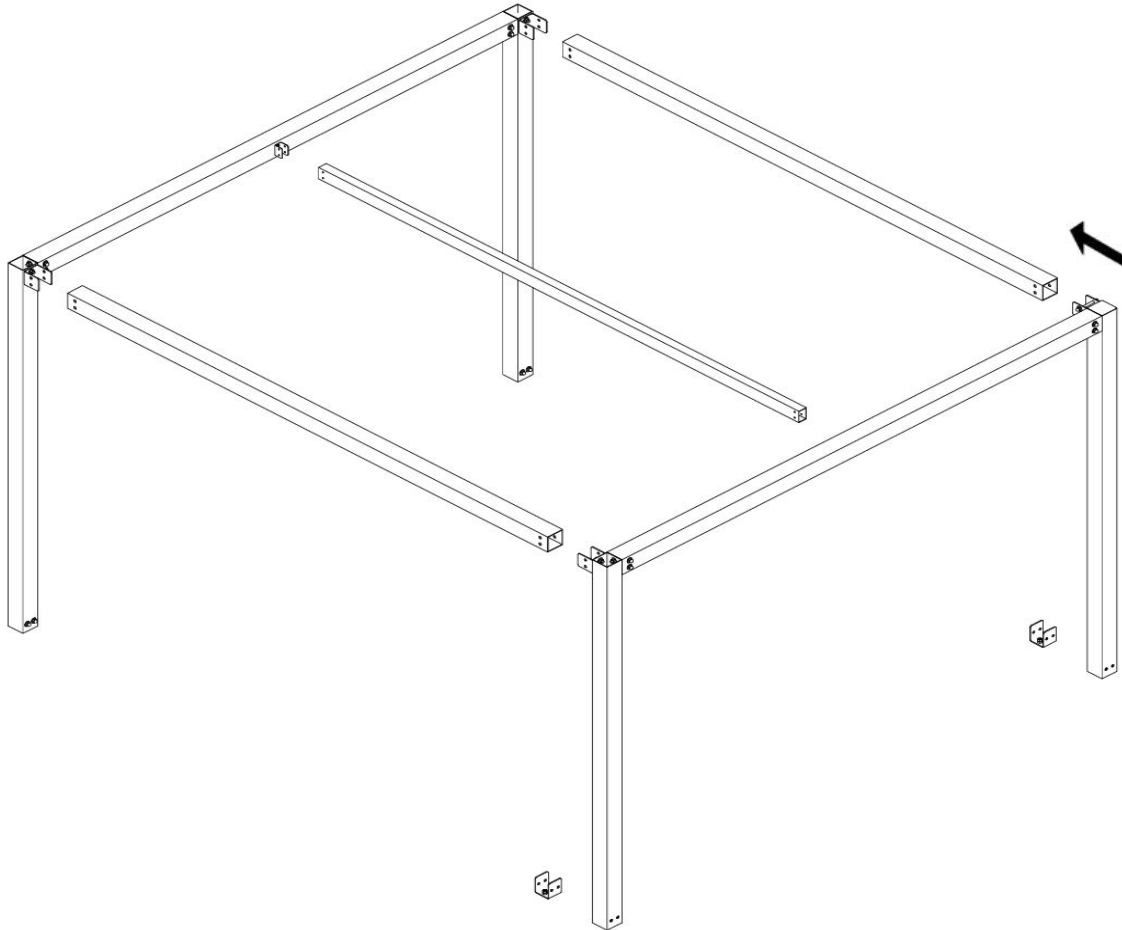
Next, install the remaining internal brackets for the rafters onto the width beams.



## Install Projection Beams and Rafter - Freestanding Structures

The projection beams and rafters must be installed in sequence from one side of the structure to the other. All components in this step will be bolted on one side of the structure, while the unbolted ends are gradually slid onto the beam and rafter brackets as the width beam is slowly moved into its final position.

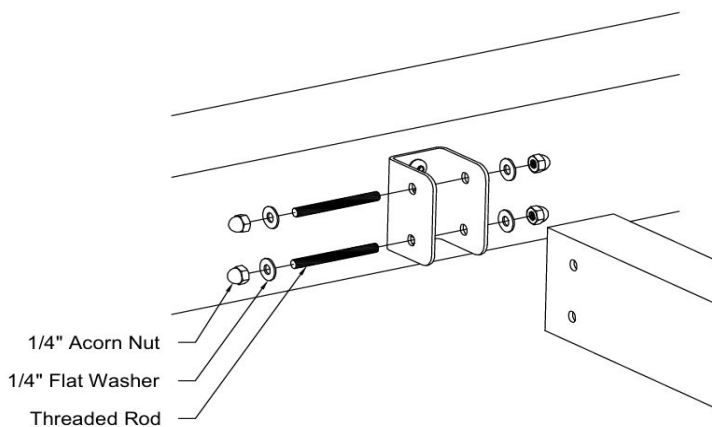
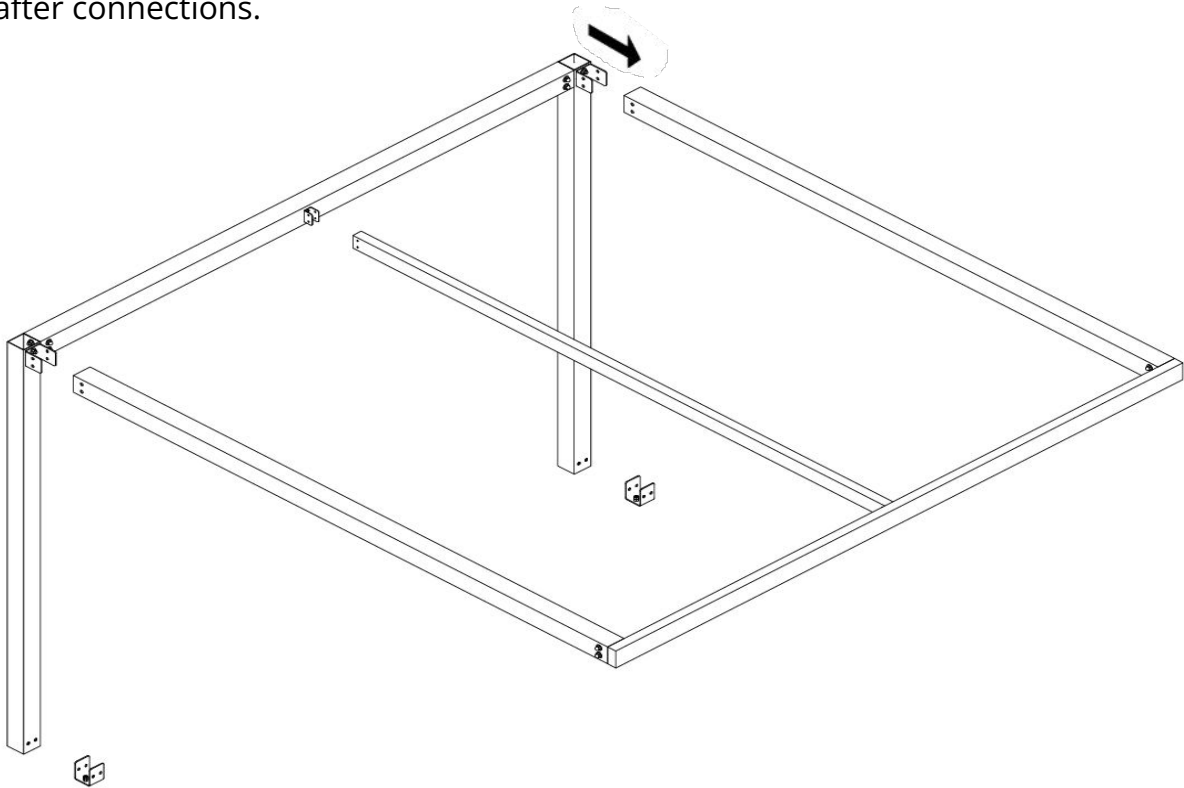
Once the projection beams and the rafters have been placed and bolted to the bracket on one end of the component, install the hardware on the other end of the component and fully tighten all beam and rafter connections.



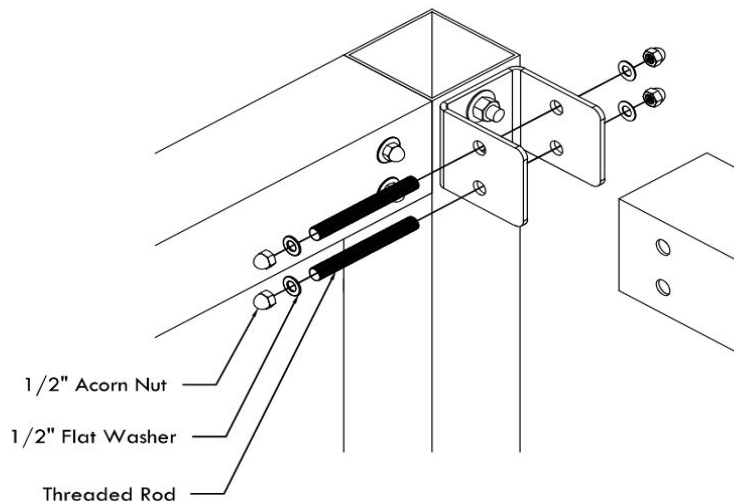
## Install Projection Beams and Rafter - Attached Structures

The projection beams and rafters must be installed in sequence from one side of the structure to the other. All components in this step will be bolted on one side of the structure, while the unbolted ends are gradually slid onto the beam and rafter brackets as the width beam is slowly moved into its final position.

Once the projection beams and the rafters have been placed and bolted to the bracket on one end of the component, install the hardware on the other end of the component and fully tighten all beam and rafter connections.



1/4" Acorn Nut  
1/4" Flat Washer  
Threaded Rod

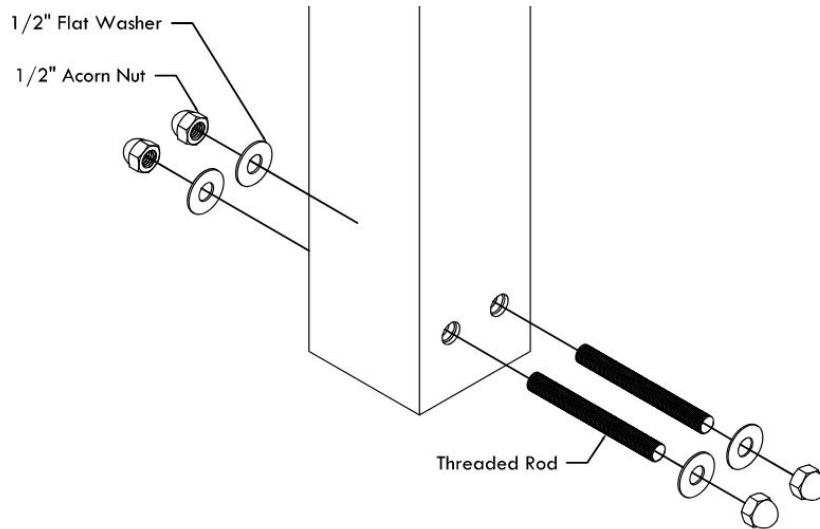


1/2" Acorn Nut  
1/2" Flat Washer  
Threaded Rod

## Tighten Column Bolts

Ensure that all beams and rafters are properly installed and bolted, the beams are level, and the columns are plumb.

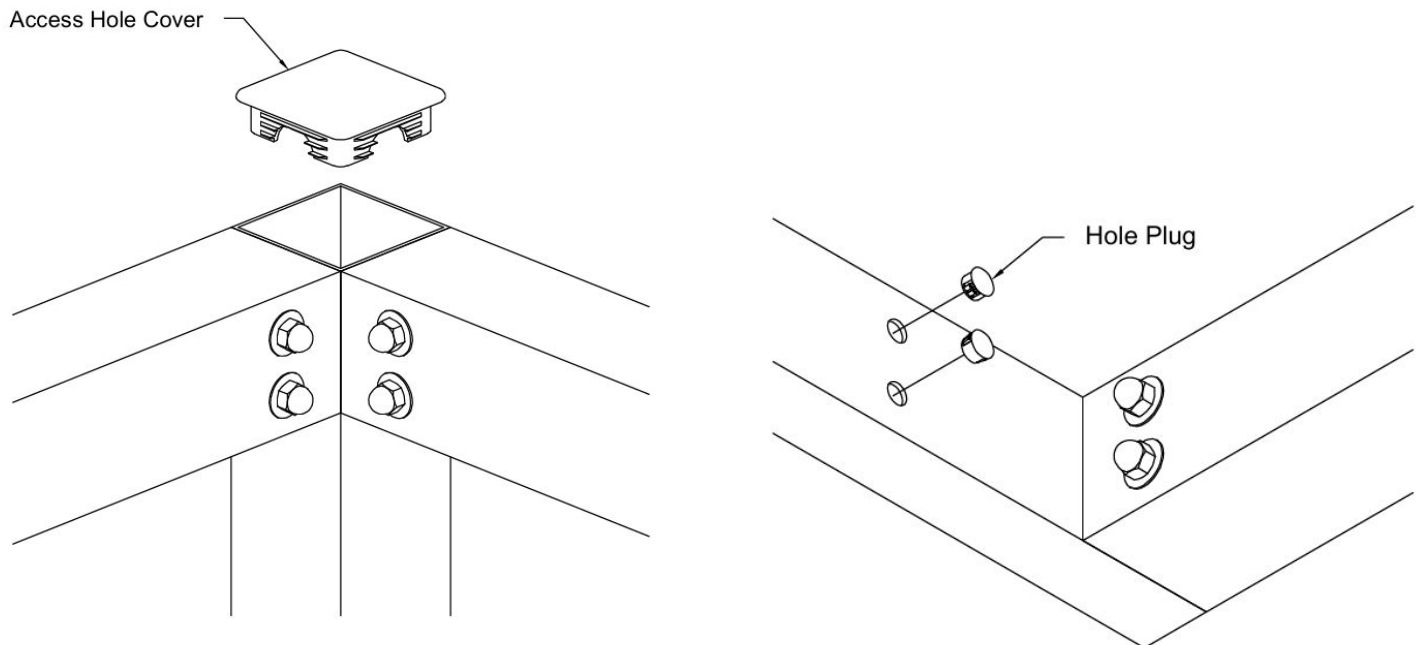
Install flat washers and hex nuts onto the threaded rods at the base of the columns and tighten securely.



## Install Access Hole Covers & Hole Plugs

Press the access hole covers into place on top of the columns and seal them with silicone.

For attached structures, insert hole plugs into the face of the ledger.



## 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.