



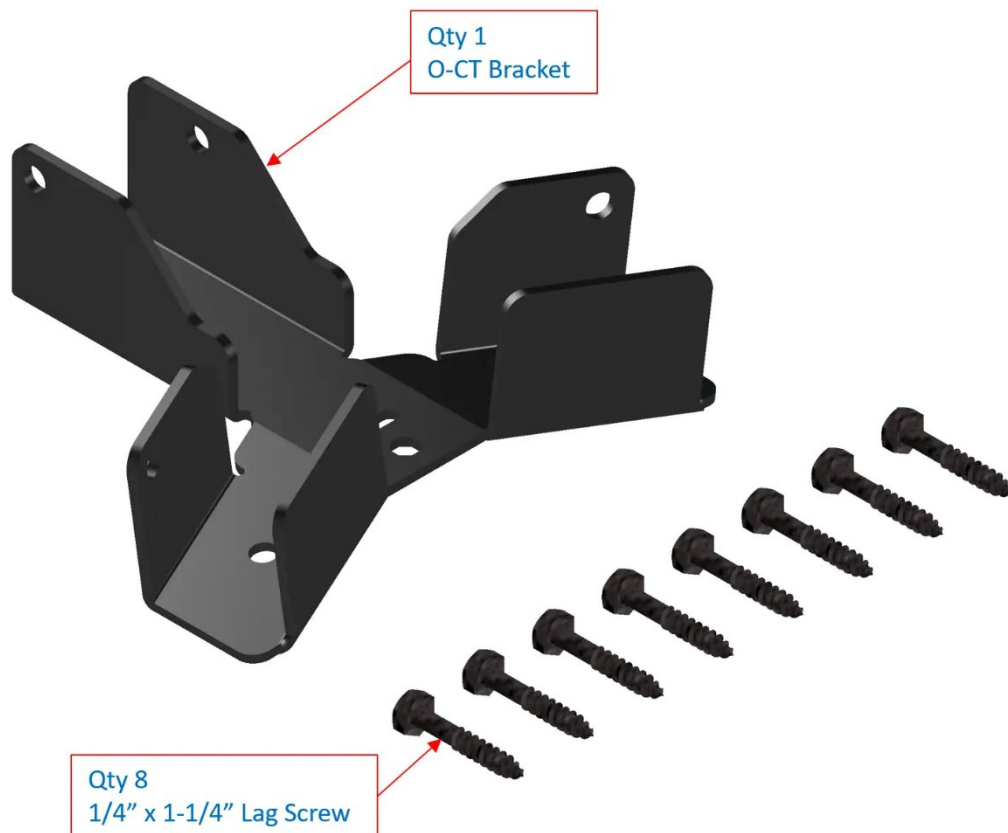
RioOutdoors.com

#O-CT Installation Instructions

WARNING: If the information in these instructions is not followed exactly, weakening or failure of the erected structure may result causing property damage, personal injury, or loss of life.

All brackets designed and sold by RioOutdoors.com are to be used for building pergolas only and are not to be used for other structure construction purposes.

Contents of SKU# O-CT Octagon Cross-Tie Bracket



1 #O-CT SPECIFICATIONS

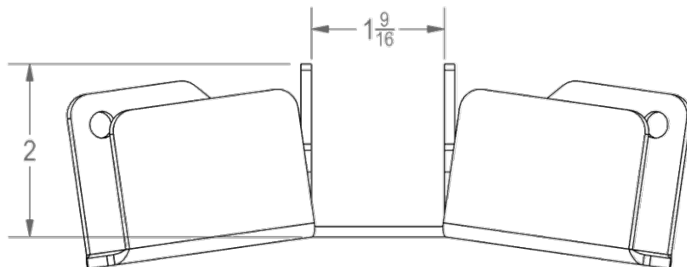
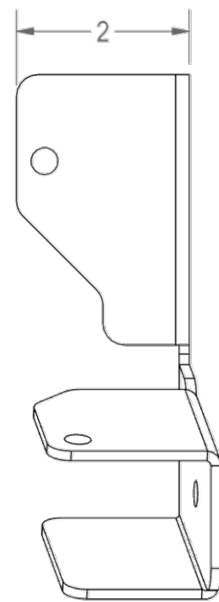
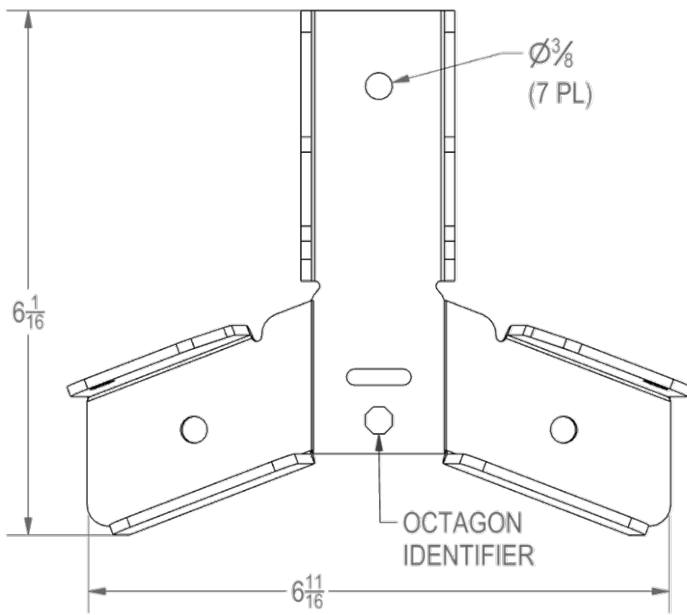
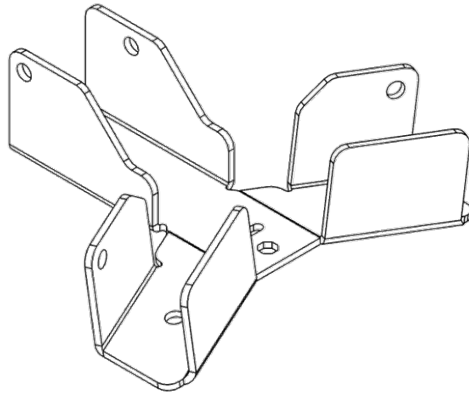


TABLE OF CONTENTS

1	#O-CT SPECIFICATIONS	2
2	GENERAL INFORMATION	4
2.1	SAFETY INFORMATION	4
2.2	TOOLS REQUIRED.....	4
2.3	CONTENTS OF BRACKET # O-CT	5
3	INSTALLATION INSTRUCTIONS	6
3.1	ADDING CROSS TIE BRACKETS TO RAFTERS	6
3.2	INSTALLING CROSS TIE BEAMS, ITEMS #B, C, D, E	9

Proper pilot hole diameter and depth for various lag screws and wood types

Lag Screw Type	Wood Type	Pilot hole drill diameter and depth
1/4" X 1-1/4" Lag Screw	Soft Wood	3/32" drill bit diam., 1-1/4" depth
	Hard Wood	3/16" drill bit diam., 1-1/4" depth
3/8" X 3" Lag Screw	Soft Wood	11/64" drill bit diam., 3" depth
	Hard Wood	1/4" drill bit diam., 3" depth

2 GENERAL INFORMATION

2.1 SAFETY INFORMATION

CAUTION: Adhere to all safety requirements. Wear safety glasses/goggles when working. Wear safety gloves when handling brackets, hardware, and lumber. Wear hearing protection when using a circular saw, miter saw, table saw, or hammer drill.

INSTALLER: Leave this manual with the consumer. **CONSUMER:** Retain this manual for future reference.

2.2 TOOLS REQUIRED

Listed below, are common tools required for pergola projects. These tools are not included in this kit. Your pergola project may not require all tools. Select and acquire the tools for your project from the "Required for" column in this table.



Description	Tool Purpose	Required for	Reference Image
Tape Measure	Measure and verify lengths.	All pergola types	
Framing Level	Verify Level/Plumb	All pergola types	
Hammer Drill	Drill holes in concrete pads or concrete footing for securing floor anchor brackets. Drill pilot holes for lag screws.	All pergola types	
Ratchet Socket Driver	Drive lag screws into Pergola lumber members.	All pergola types	
7/16" Hex Socket	Drive 1/4" X 1-1/4" Hex Hd. lag screws.	All pergola types	
3/32" Drill Bit	Drill pilot holes for 1/4" lag screws in soft wood.	All pergola types	
1/2" X 4" Masonry Drill Bit	Drill 1/2" X 2" deep holes in concrete pads or concrete footings.	Surface Mount styled pergola	
Circular Saw/Miter Saw	Cut headers to length; cut rafters to length.	All pergola types	
Crescent Wrench	Tighten down nut on concrete anchors.	Surface Mount Pergolas	Image not available.
Hammer	Various.	All pergola types.	

2.3 CONTENTS OF BRACKET # O-CT

The contents of this Bracket are shown in the table, below.

Before you begin your project, take an inventory of all items that you received from us. If any items are missing, contact us directly via email at info@RioOutdoors.com. Include your name and shipping address and your order number, if available. We will respond within 24 hours with a resolution to your problem.

Please note that the bracket parts you receive may appear slightly different than those depicted in these instructions. We perform continuous improvements in our designs and update our current products accordingly. The parts you receive will contain our most-recent improvements and features.

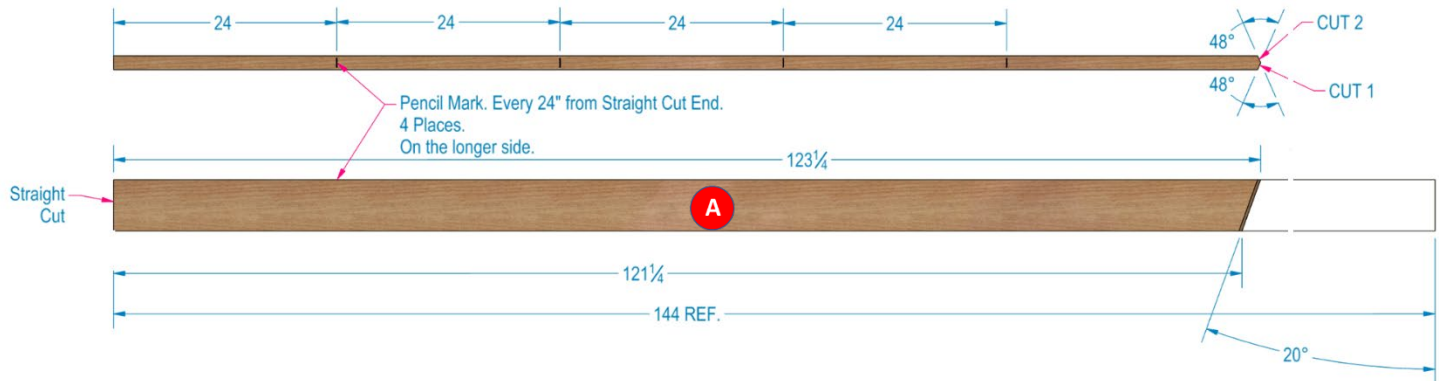
Item SKU #, Description	Item Qty	Item Image
<p style="text-align: center;">Octagon Cross Tie Bracket SKU# O-CT</p>	<p style="text-align: center;">1</p>	 A black metal octagonal cross tie bracket with four mounting holes and a central hole.
<p style="text-align: center;">¼ x 1-1/4" Lag Screw</p>	<p style="text-align: center;">8</p>	 A silver metal lag screw with a hexagonal head and a threaded shaft.

3 INSTALLATION INSTRUCTIONS

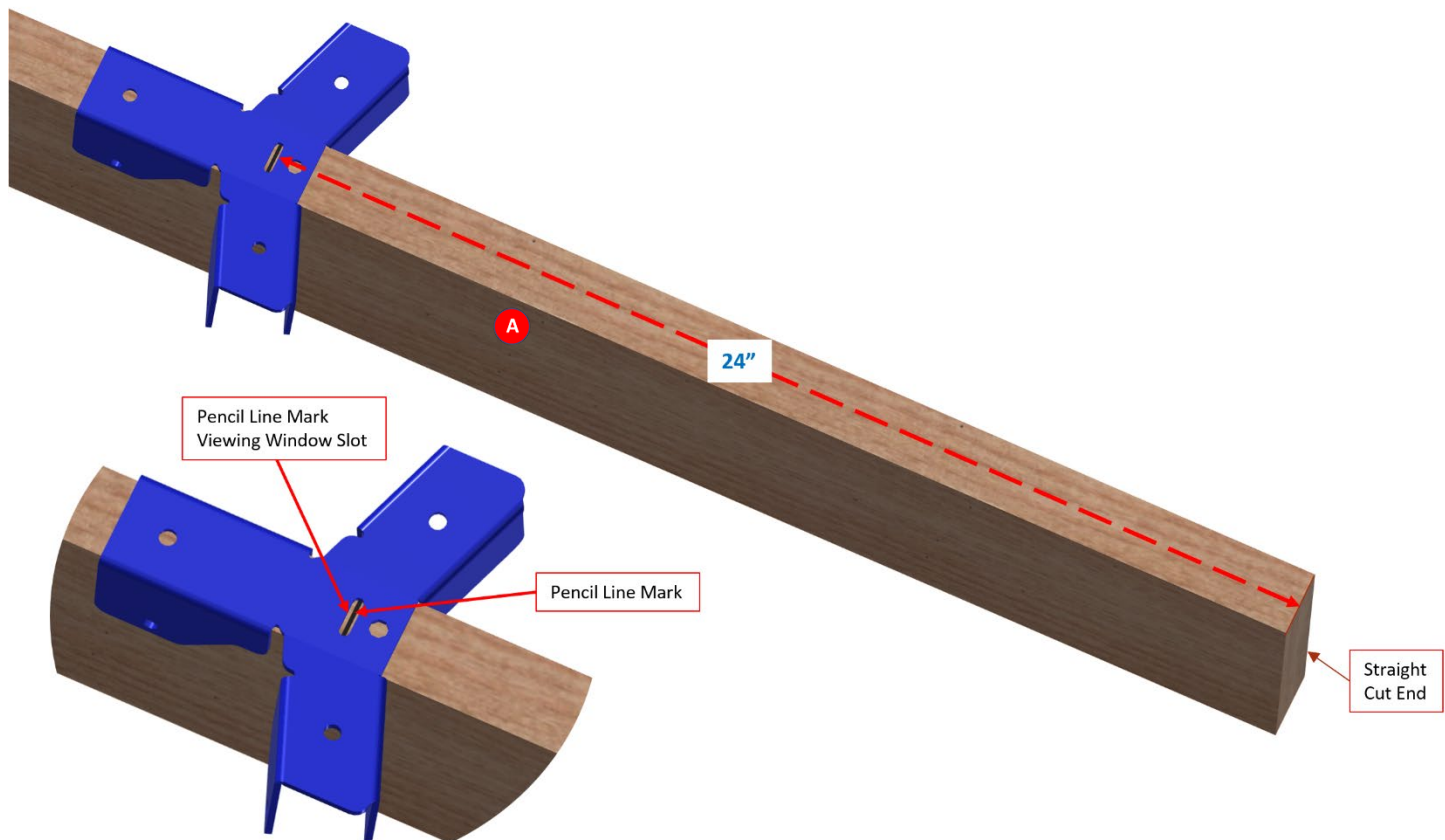
3.1 ADDING CROSS TIE BRACKETS TO RAFTERS

Prior to adding Cross Tie Bracket, you must cut and prepare the rafter members. Cross Tie Brackets, #0-CT, are designed to mount to the bottom surface of each rafter and are to be spaced 24" apart starting at the roof peak end of the rafters (straight cut end).

1. Identify the Rafter lumber members which are labeled with an "A" label.



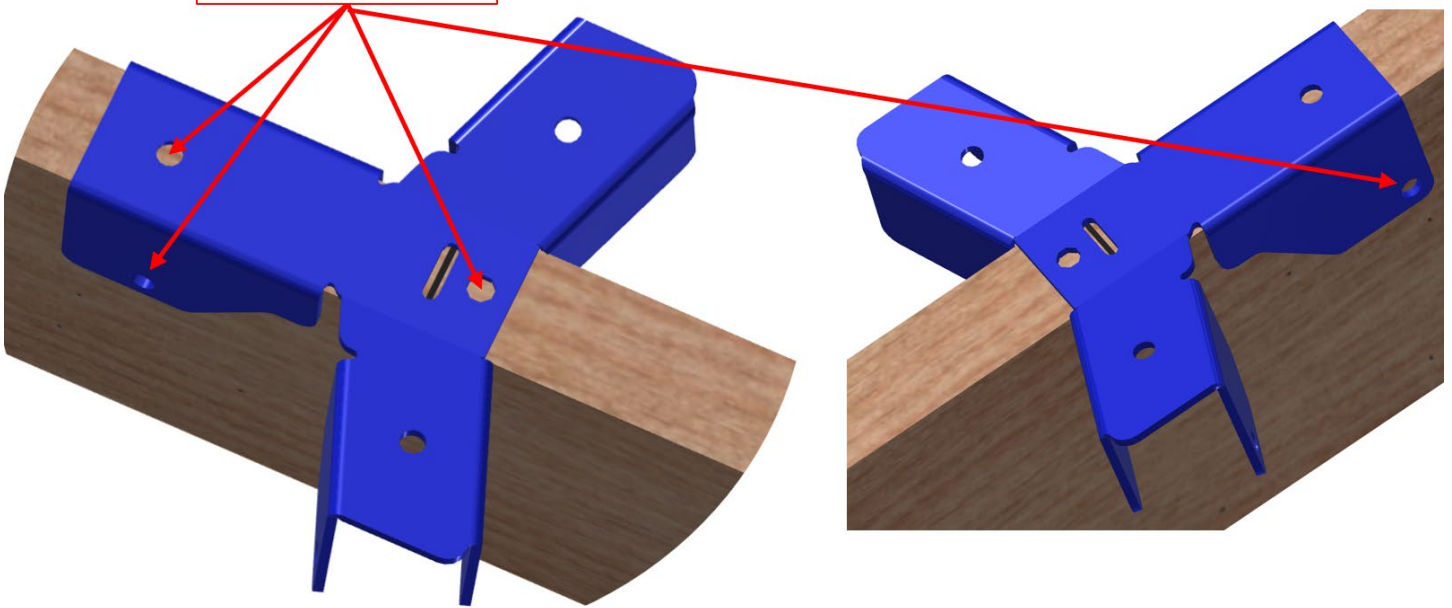
2. Make a pencil mark every 24" on the longer side of the rafter, starting at the straight cut end. The pencil marks must be on the longer side of the rafter member. This longer side will be the bottom surface once the rafter is mounted.



3. Position one cross tie bracket with the 24" pencil line mark inside the pencil mark viewing window slot. Center the pencil mark within the slot. The U-channels face downward, as shown in the images, above.

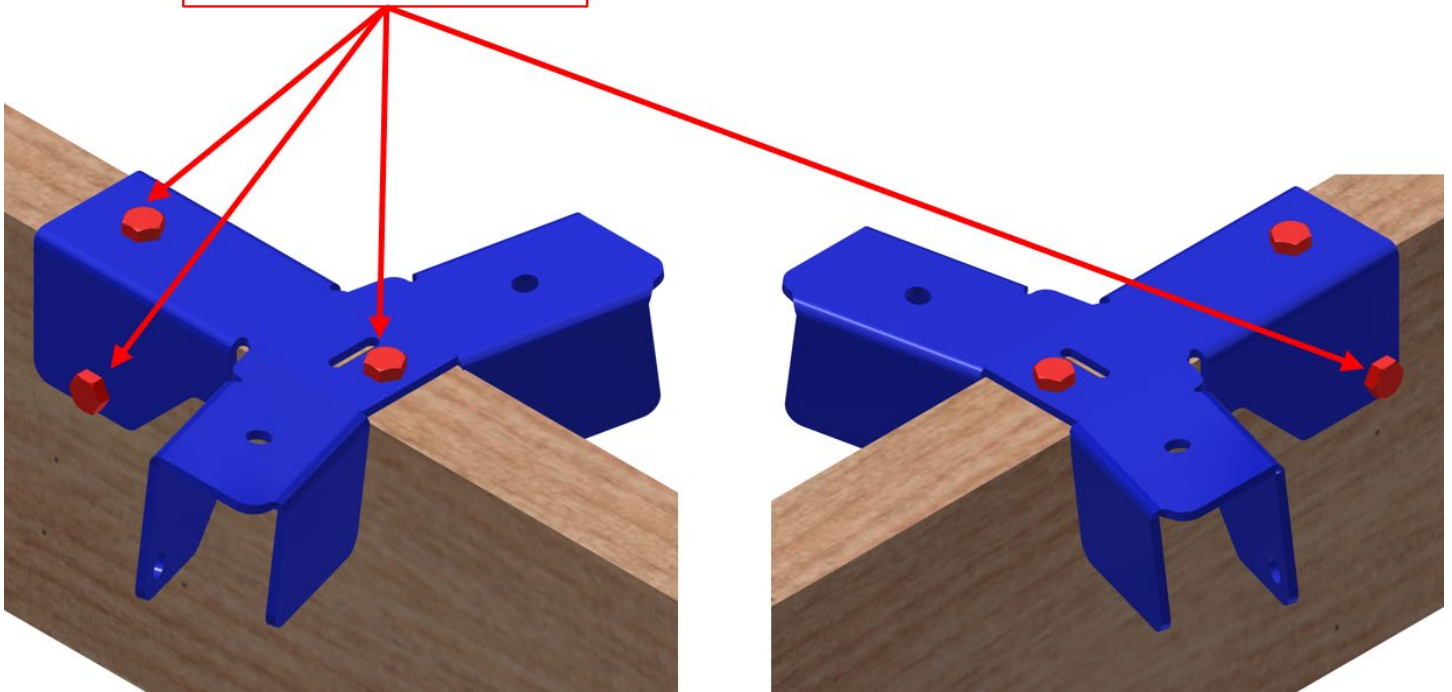
4. Drill $\frac{3}{32}$ " pilot holes into the rafter member at the center of four holes in the #O-CT bracket.

Drill $\frac{3}{32}$ " x $1\text{-}1/4$ "
Pilot holes. 4 places.



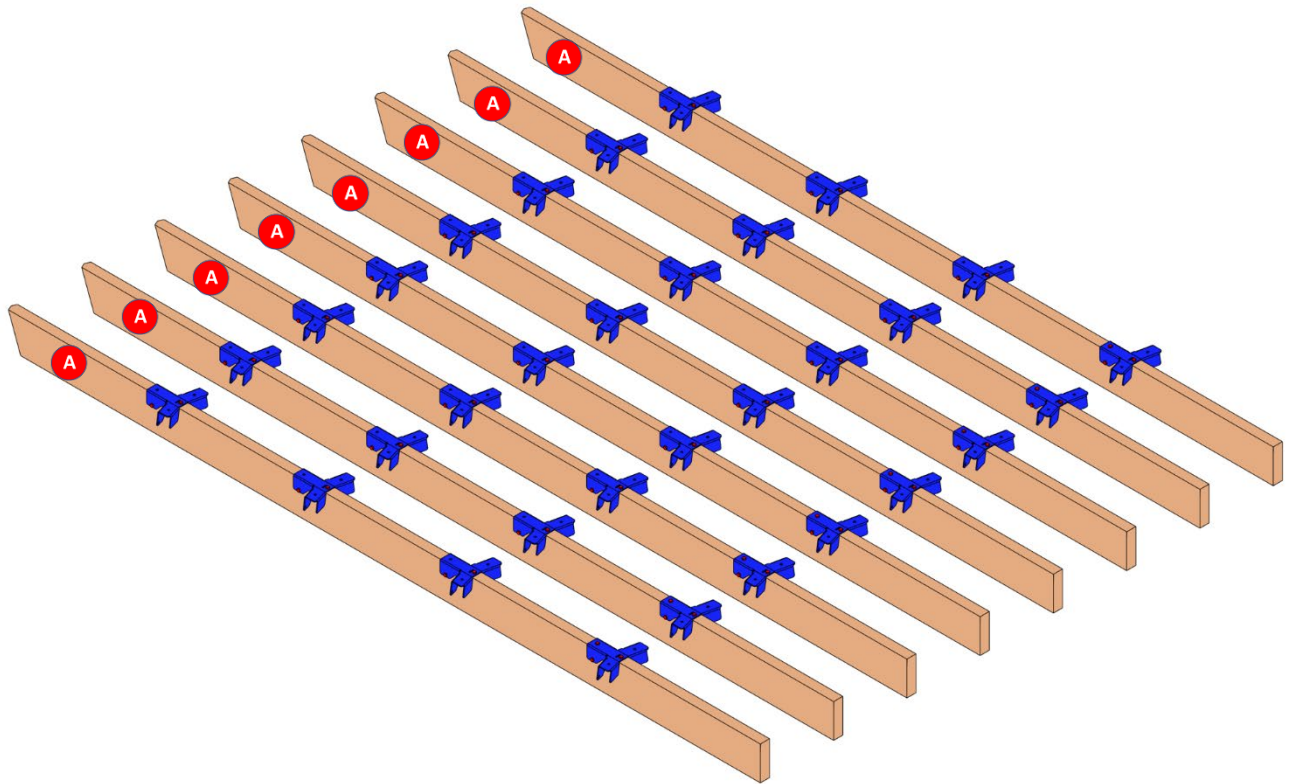
5. Drive one (1) $\frac{1}{4}$ " x $1\text{-}1/4$ " lag screw into the pilot holes you drilled in step 4. Tighten the lag screws.

$\frac{1}{4}$ " x $1\text{-}1/4$ " lag screws.
4 places.

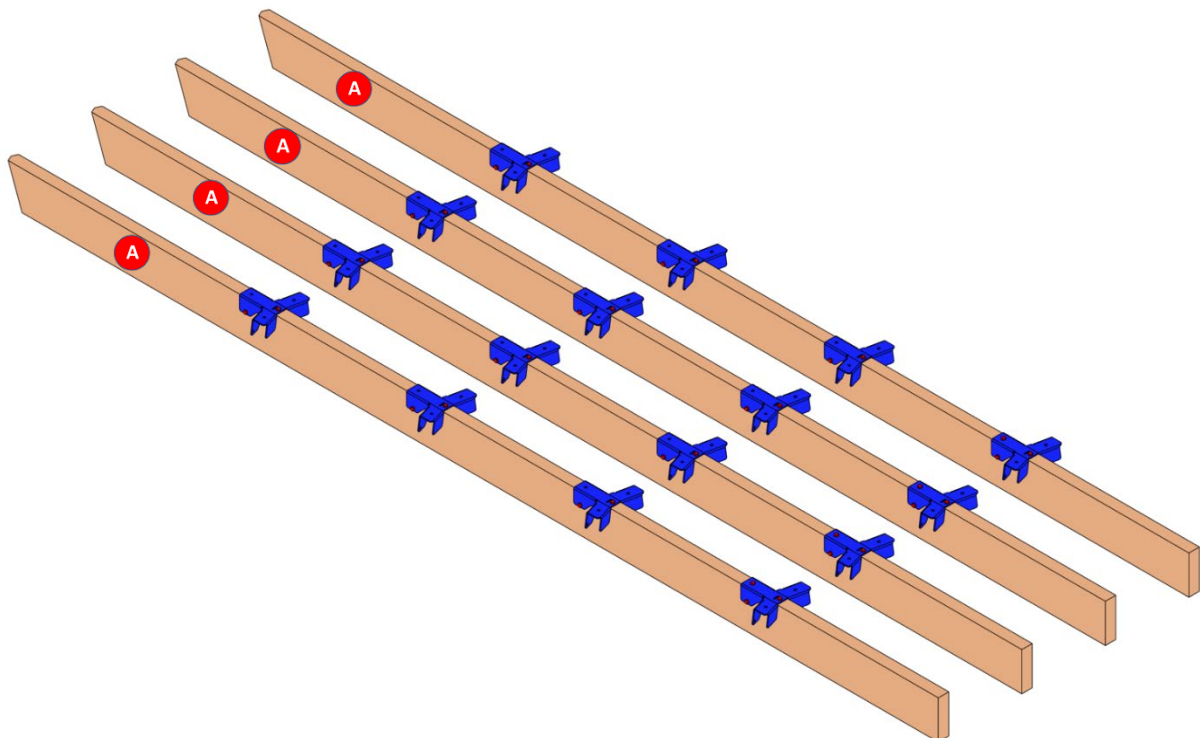


- Repeat steps 1 to 5 and add one #0-CT bracket at the pencil line marks on eight (8) rafter members for full Octagon Solid Roof Structures and four (4) rafter members for Partial Octagon Solid Roof Structures.

Full Octagon Roof Requires 8 Rafters with Cross Tie Brackets

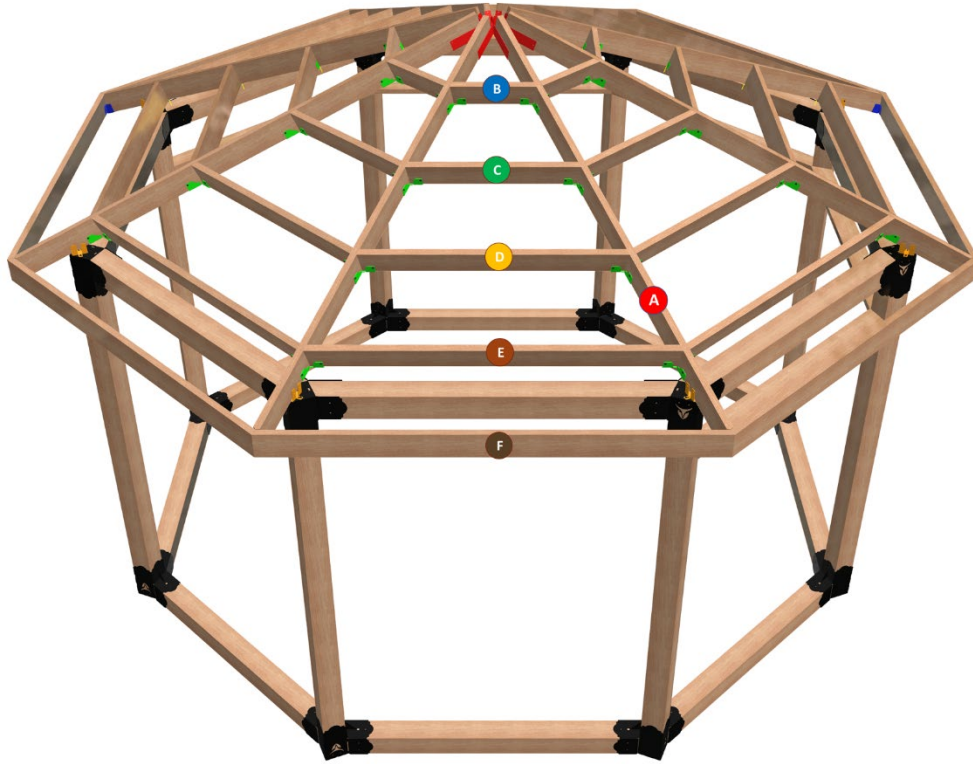


Partial Octagon Roof Requires 4 Rafters with Cross Tie Brackets

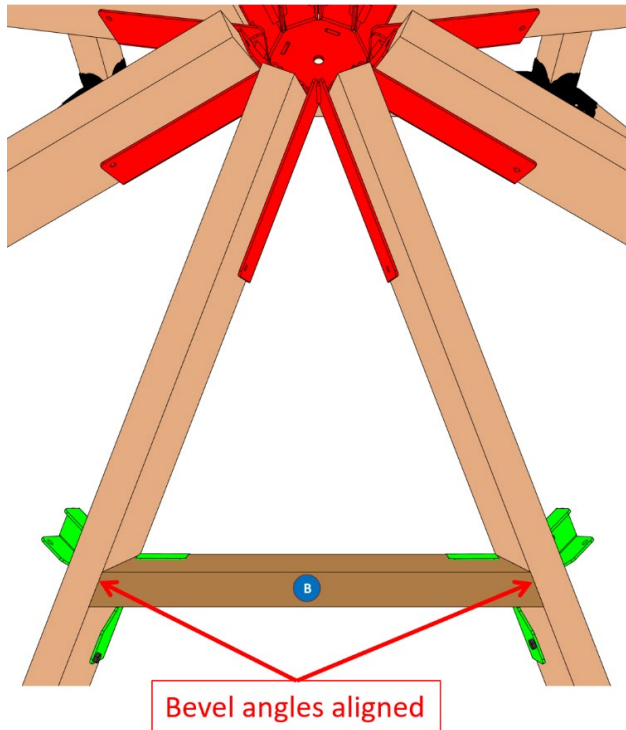


3.2 INSTALLING CROSS TIE BEAMS, ITEMS #B, C, D, E

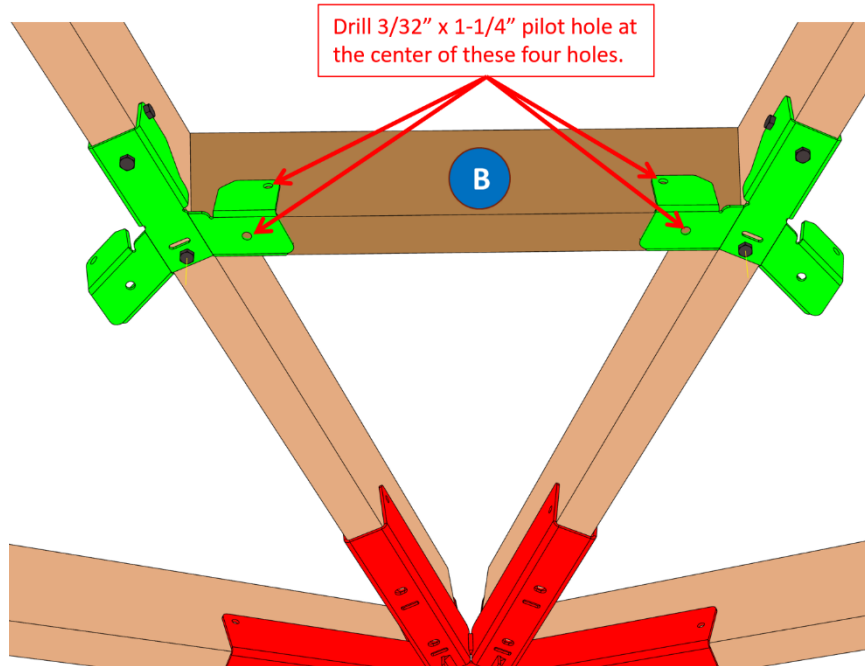
Prepare cross tie beams as instructed in the main instruction manual. The same installation procedures apply to all cross tie beams: B, C, D, and E. Start by installing the cross tie beams closest to the peak of the roof, cross tie beam B. Then work downward in a circular pattern.



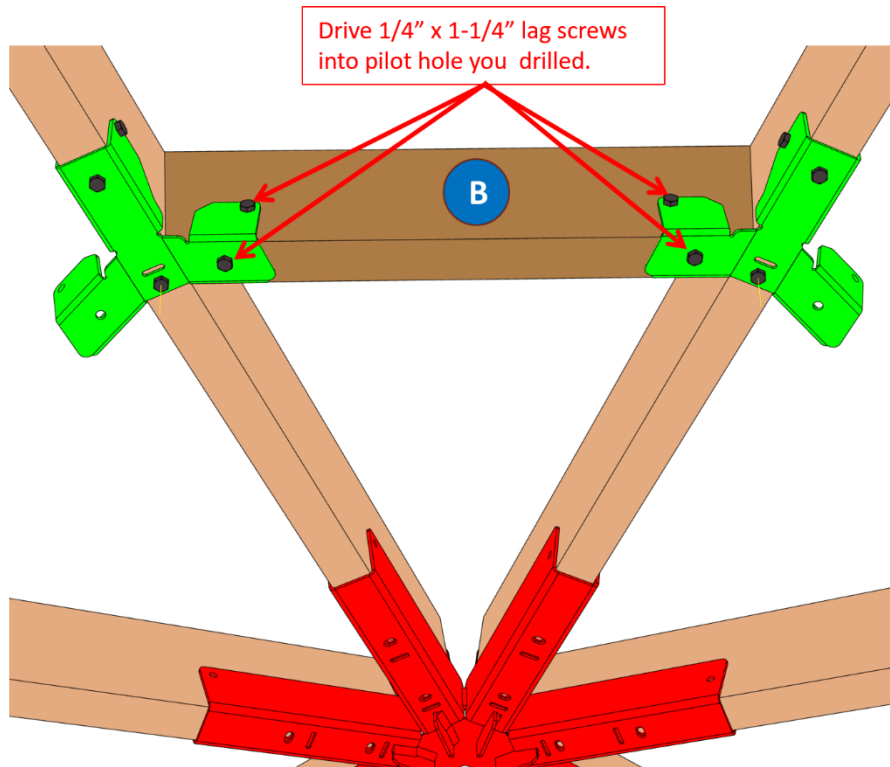
1. Lift and place one Beam B in the U-channels of adjacent cross tie brackets. Match the bevel angle in the cross tie beam ends with the tapers of the rafters. The cross tie beams will sit properly in one orientation only.



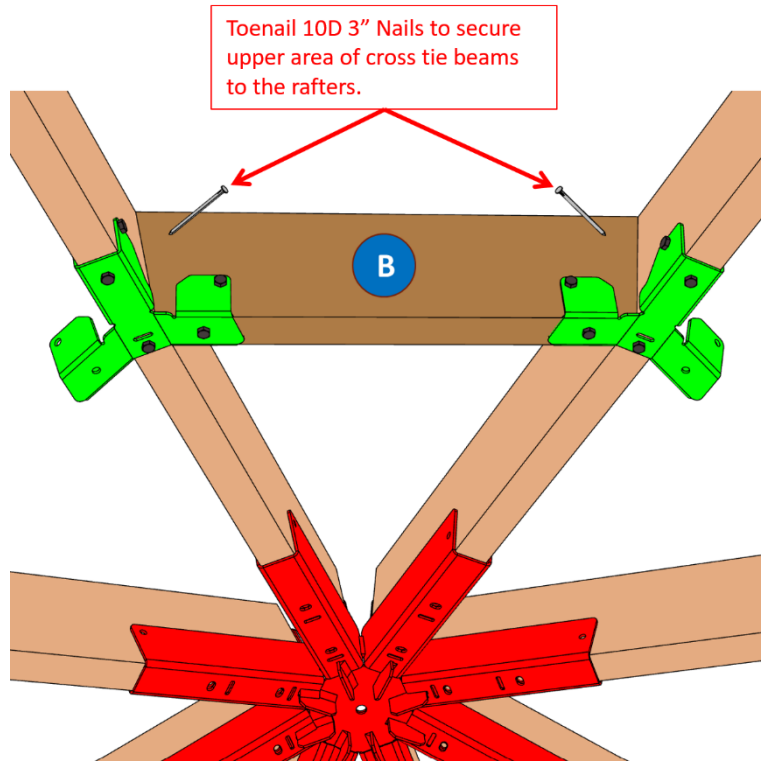
2. Identify two holes in each cross tie bracket, see below. Drill $\frac{3}{32}$ " x $1\text{-}1/4$ " pilot holes at the center of these four holes.



3. Drive one $\frac{1}{4}$ " x $1\text{-}1/4$ " lag screw through the four pilot holes you drilled. Tighten the lag screws.



4. Drive one 10D 3" nails to secure upper area of cross tie beams to the rafters. One nail on each side through the cross tie beam and into the rafter.



5. Repeat steps 1 to 4 for all cross tie beams B, C, D, & E.

