



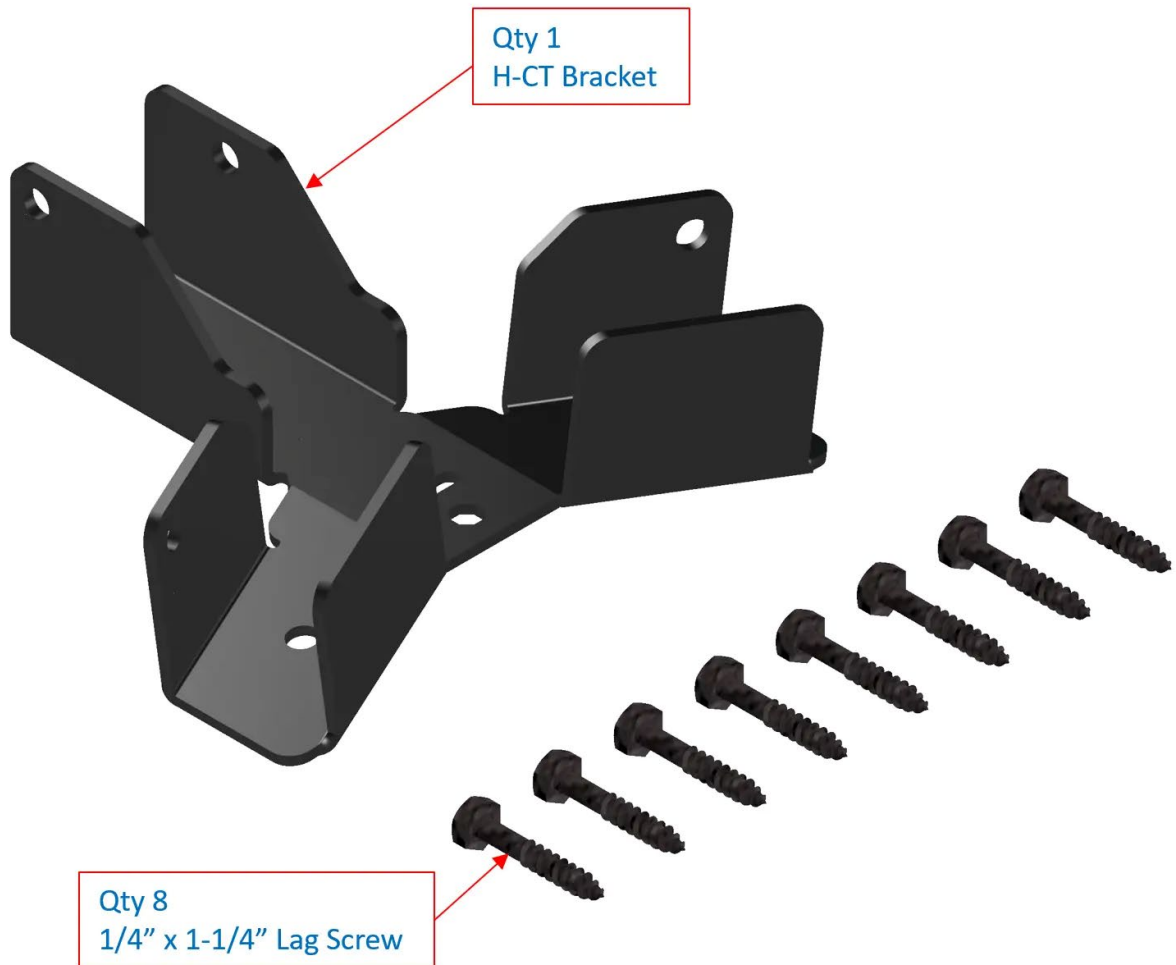
RioOutdoors.com

#H-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 gazebos/pergolas only and are not to be used for other structure construction purposes.

Contents of SKU# H-CT Hexagon Cross-Tie Bracket



1 #H-CT SPECIFICATIONS

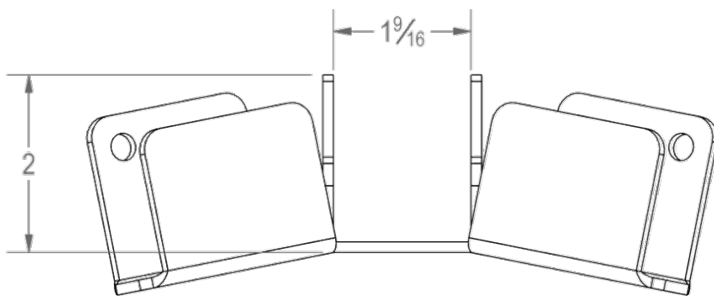
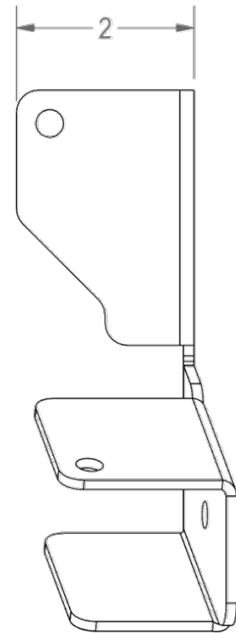
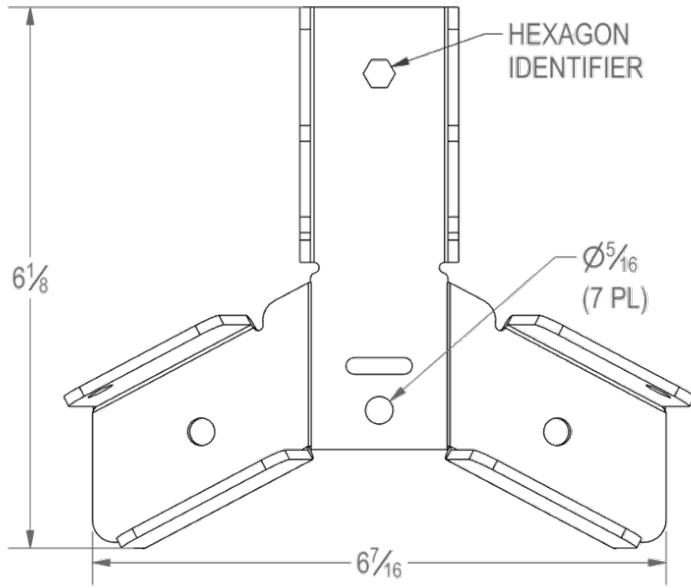
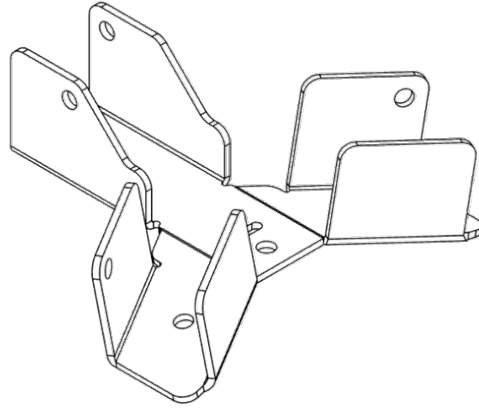


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Proper pilot hole diameter and depth for various lag screws and wood types

| 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 # H-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.

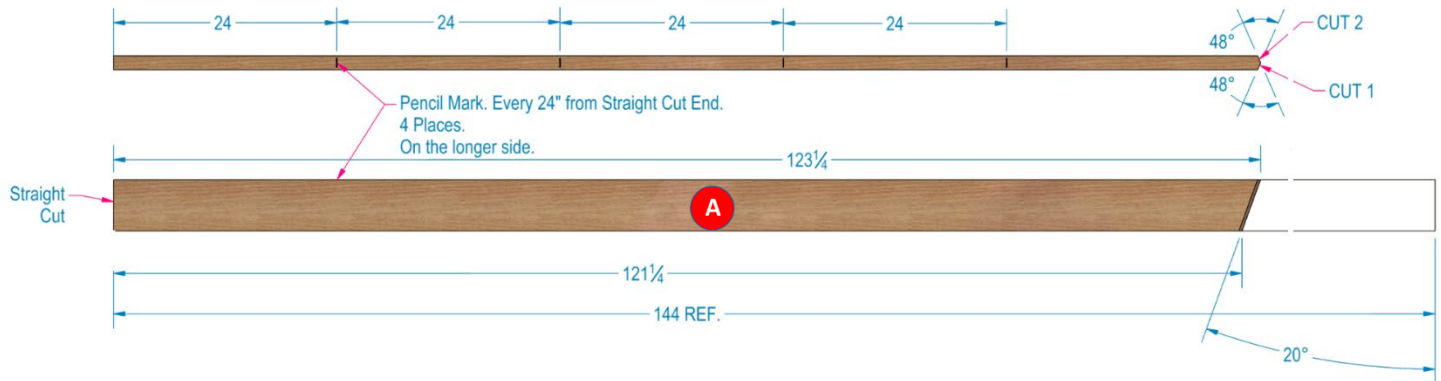
| Item SKU #, Description | Item Qty | Item Image |
|---|---|--|
| <p data-bbox="277 655 573 730">Hexagon Cross Tie Bracket SKU# H-CT</p> | <p data-bbox="834 680 850 701">1</p> |  A black metal bracket with a central hexagonal hole and four L-shaped flanges extending outwards, used for cross-tieing. |
| <p data-bbox="310 930 540 957">¼ x 1-1/4" Lag Screw</p> | <p data-bbox="834 930 850 951">8</p> |  A silver-colored metal lag screw with a hexagonal head and a threaded shaft. |

3 INSTALLATION INSTRUCTIONS

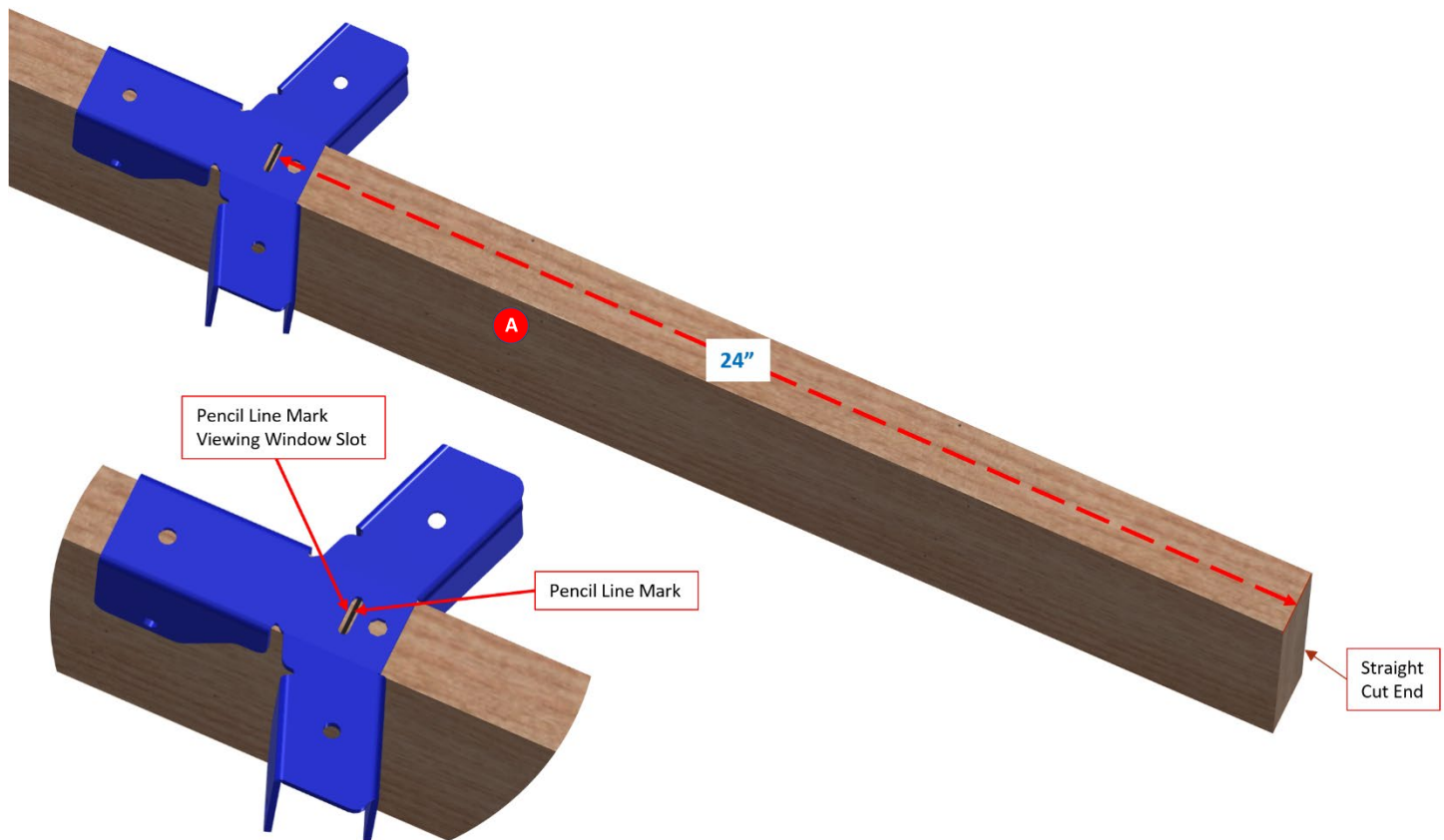
3.1 ADDING CROSS TIE BRACKETS TO RAFTERS

Prior to adding Cross Tie Brackets, you must cut and prepare the rafter members accurately. Cross Tie Brackets, #H-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.



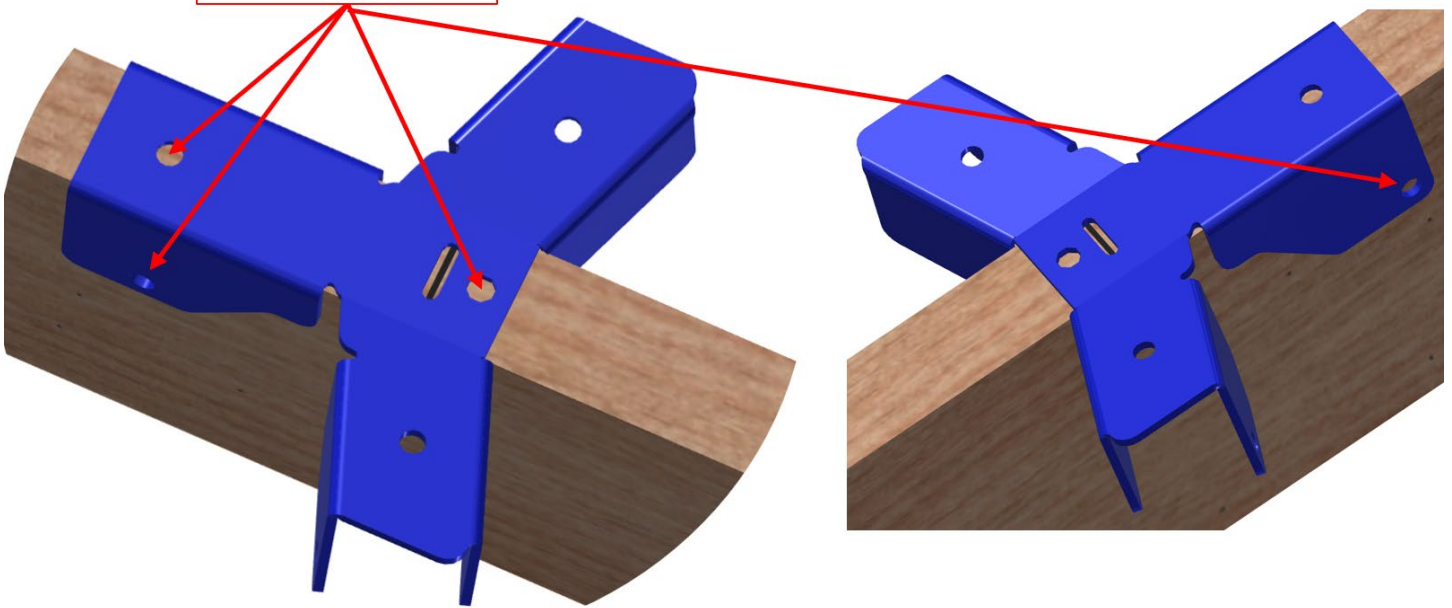
2. Make a pencil mark every 24" on the longer side of the rafter, starting at the straight cut end. The pencil marks must be on the longer side of the rafter member. This longer side will be the bottom surface once the rafter is mounted.



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.

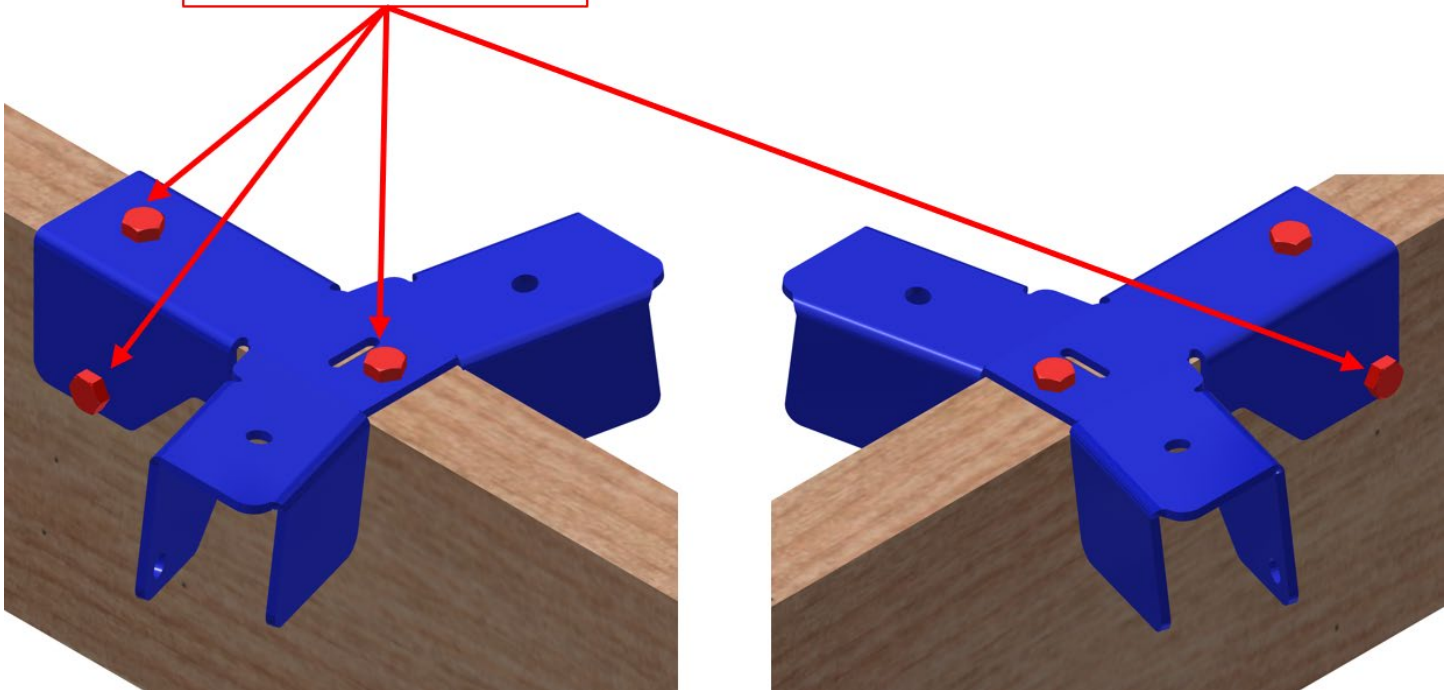
4. Drill $\frac{3}{32}$ " pilot holes into the rafter member at the center of four holes in the #H-CT bracket.

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



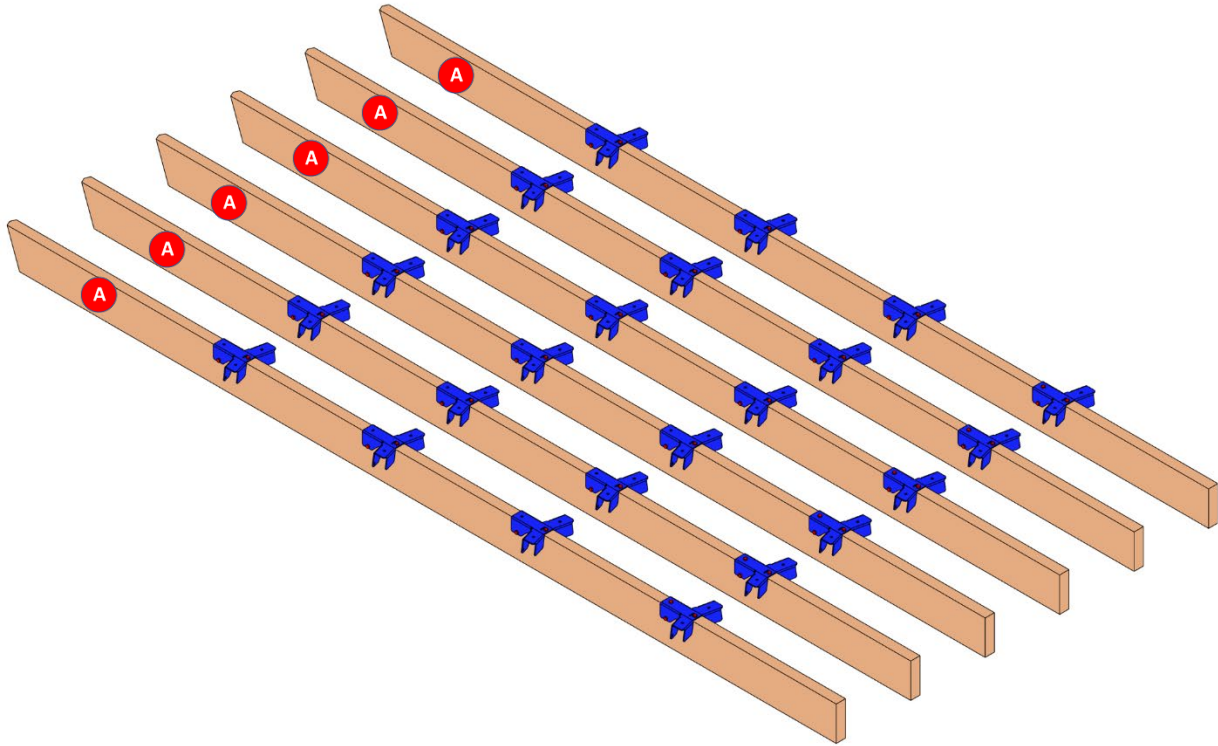
5. Drive one (1) $\frac{1}{4}$ " x $1\text{-}\frac{1}{4}$ " lag screw into the pilot holes you drilled in step 4. Tighten the lag screws.

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

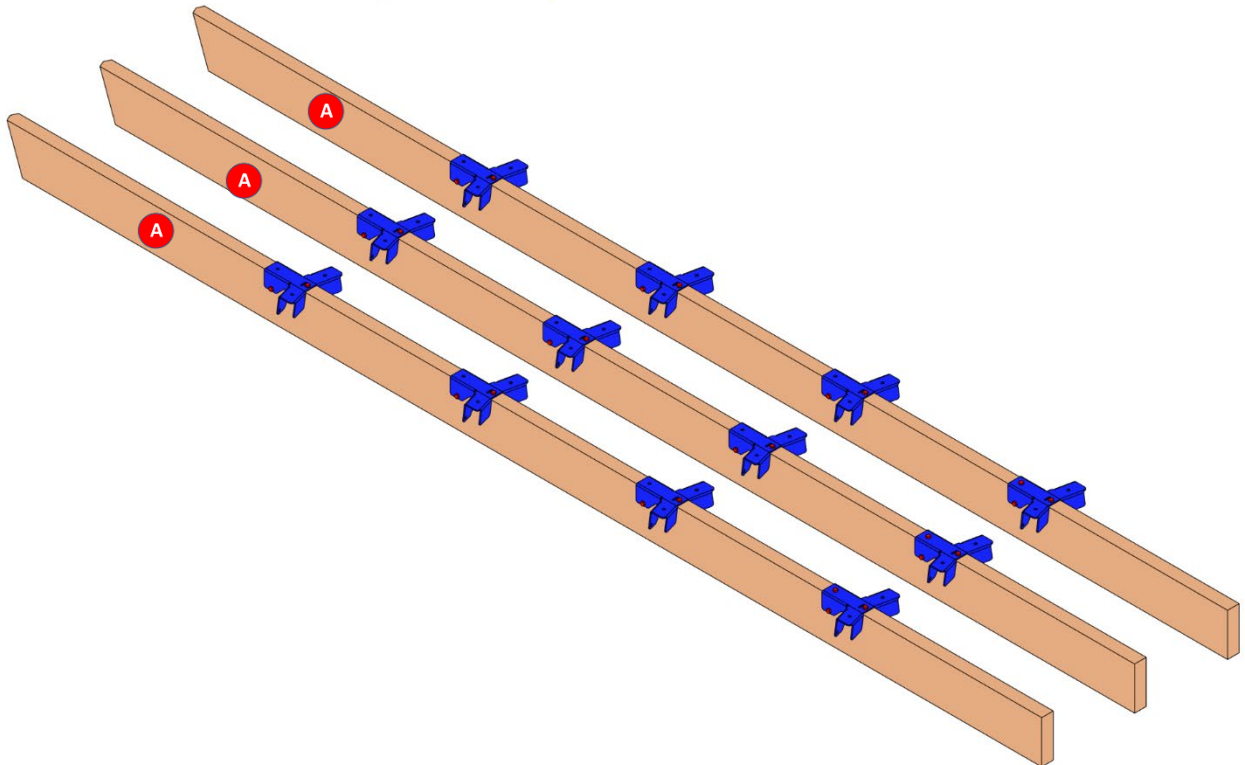


6. Repeat steps 1 to 5 and add one #H-CT bracket at the pencil line marks on all rafter members.

Full Hexagon Roof Requires 6 Rafters with Cross Tie Brackets

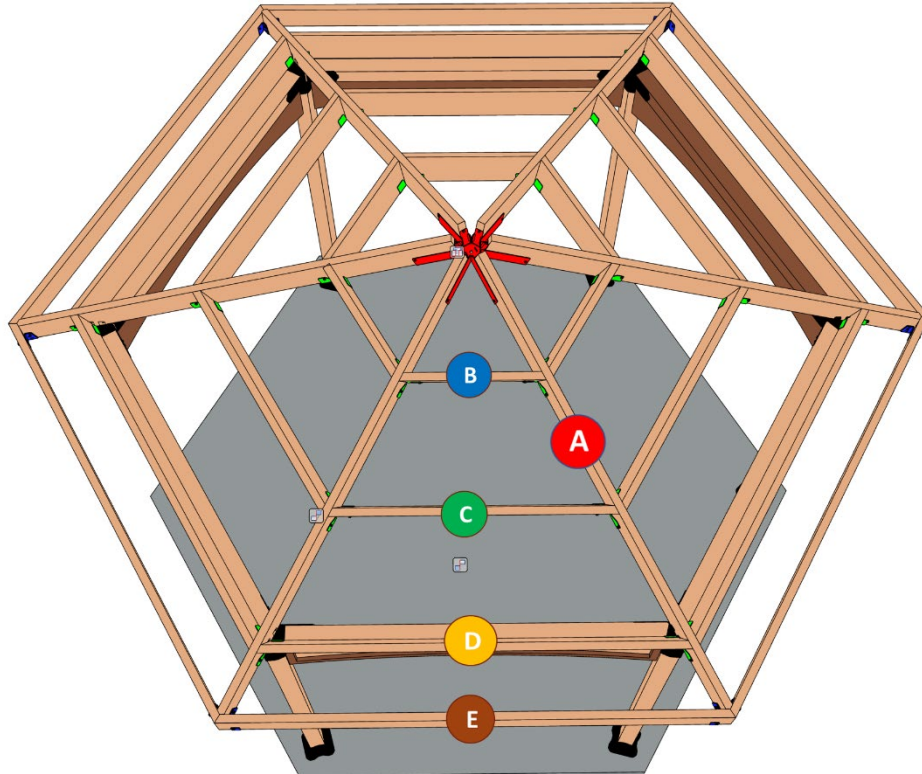


Partial Hexagon Roof Requires 3 Rafters with Cross Tie Brackets

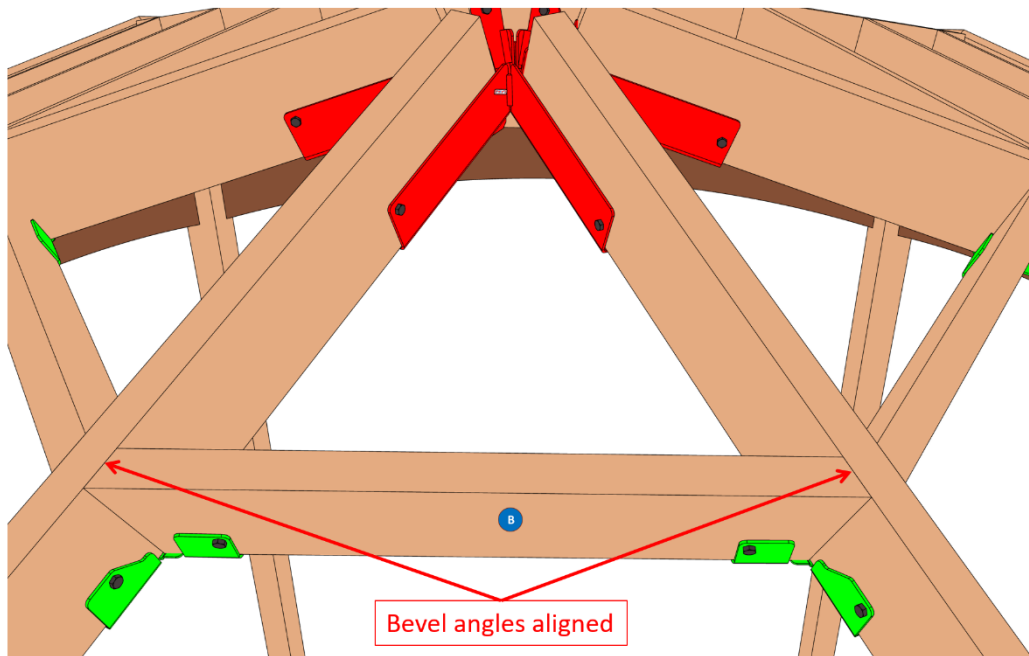


3.2 INSTALLING CROSS TIE BEAMS, ITEMS #B, C, D, E

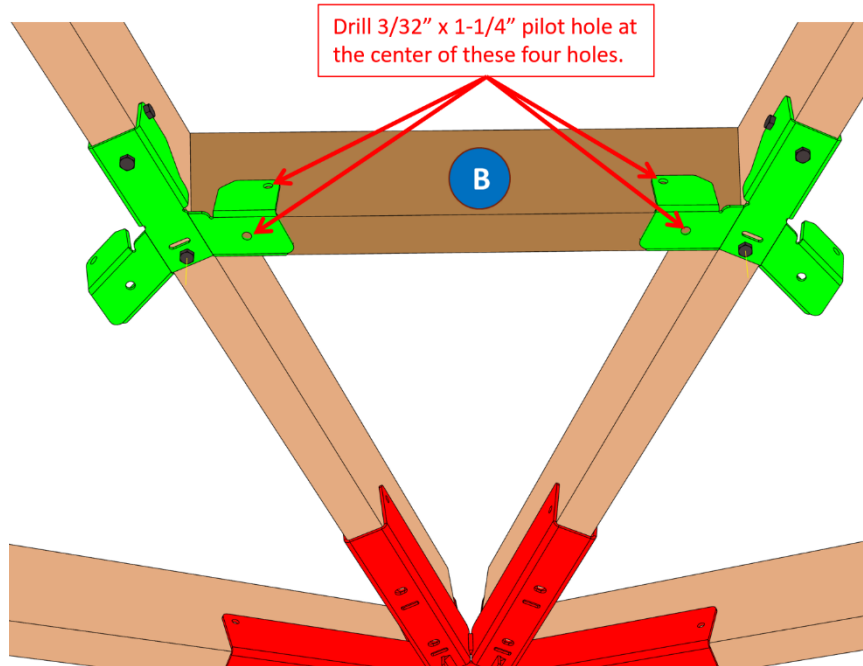
Prepare cross tie beams as instructed in the main instruction manual. The same installation procedures apply to all cross tie beams: B, C, and D. Start by installing the cross tie beams closest to the peak of the roof, cross tie beam B.



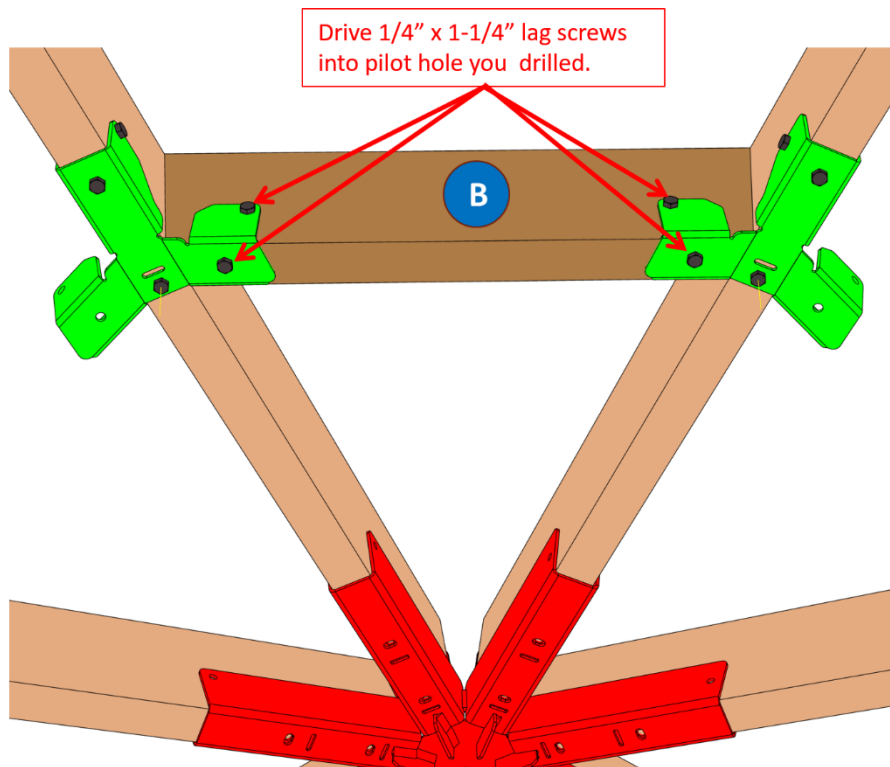
1. Lift and place one Beam B in the U-channels of adjacent cross tie brackets. Match the bevel angle in the cross tie beam ends with the tapers of the rafters. The cross tie beams will sit properly in one orientation only.



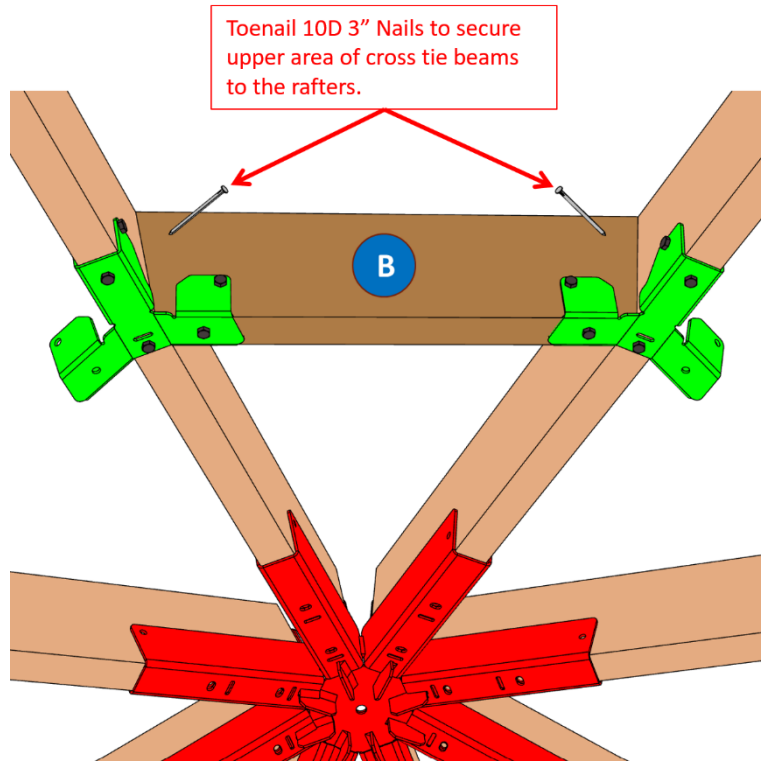
2. Identify two holes in each cross tie bracket, see below. Drill $3/32'' \times 1-1/4''$ pilot holes at the center of these four holes.



3. Drive one $1/4'' \times 1-1/4''$ 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.

