



Patio Roof Riser Hardware



BUILT STRONG

- ✓ **SAVES TIME**
- ✓ **SAVES MONEY**
- ✓ **LOOKS AWESOME**
- ✓ **Instantly adjusts to any pitch!**
- ✓ **Raises the patio roof for headroom, runoff, light and airflow!**
- ✓ **Eliminates the need for additional support footings & posts!**
- ✓ **Can be used to build an open trellis pergola for shade, or, add some slope, install lightweight polycarbonate roofing, and enjoy year-round dry outdoor living space!**

Originally designed for use with decorative patio pergolas.

Instead of using a single 4x8 beam, Pergola beams are two 2x8s on both sides of the 4x4 posts connected with (2) ½" x 7½" galvanized bolts and (4) ½" x 2 ½" PRR Bridge/Timber washers required for side to side shear. This install allows for more decorative tails perpendicular to the rafter tails.

Installing the PRR 4x4s at 48"oc on the roof, allows you to use 4x6s or 6x6s up front because they are spaced wider at 8', 10' or 12'.

Please read this important info before building:

Safety First – Roof work can be dangerous- we recommend that you follow OSHA 3755-05 2015 guidelines before you build. Always check with your local government, state, county or city building regulatory officials to see if you require a permit. Even though the Patio Roof Riser is engineered for a 6500lb bearing load, we still recommend that you consult with a licensed structural engineer for your "Site Specific" structural requirements.

Patio Roof Riser is one component of a three part structural system.

PART 1 - The first part is the **PRR Hardware** itself. When properly installed it has an extremely strong front to back shear, bearing, and up-lift load capacity. Shear load front to back is so strong that in most cases there's no need to install diagonal braces back toward the house on your front patio posts.

PART 2 - **PRR Structural Bridge-Timber Washers** – Use ½" bolts with the PRR Bridge-Timber washers through 2x8s & 4x4s are required for shear loads right to left. The ½" x 2 ½" PRR Powder Coated Structural Bridge-Timber Washers are sold individually so you can use them as needed throughout your design on your front posts, beams and diagonal braces.

PART 3 - **Structural loads working together.** Install PRR posts every 48" to evenly distribute your overall structural loads. If you want to space your posts farther apart you should consult with a licensed engineer for your site specific structural requirements.

Patio Roof Riser is a Trademark of Woodstone Structures, LLC Patent Pending

PRR PROJECT CALCULATOR

How many Patio Roof Risers and Bridge/Timber washers do I need?

Up to 24" overhangs included below.

Width of project	Patio Roof Risers	PRR Bridge-Timber Washers
6 to 8 foot wide	2	16
10 to 12 foot wide	3	24
14 to 16 feet wide	4	32
18 to 20 foot wide	5	40
22 to 24 feet wide	6	48
26 to 28 feet wide	7	56
30 to 32 feet wide	8	64
34 to 36 feet wide	9	72
38 to 40 feet wide	10	80

**Don't forget to include matching PRR Bridge-Timber Washers
for your front posts, beams and diagonal braces!**



Where do I install the patio roof riser hardware? To help you understand, visualize your existing house rafters only being 6" long overhanging past your existing exterior wall. That is where the PRR Hardware is mounted.

What kind of roofing materials can the waterproof PPR hardware be installed on? Composition shingles - three tab - architectural & heavy dimensional. Metal roofing - vertical panel and standing seam.

How many PRR posts do I need? For a strong install we recommend PRR Hardware evenly spaced set @ 48" O/C, 4" x 4" x 16" tall posts, installed on every other rafter.

Determining your new patio roof layout - Most Patio Roofs, Pergolas & Trellises are more effective and look better overhanging your patio or deck foot-print 16"-24" on all sides. With this in mind, the outside supporting corner posts should be installed in or close to the outside corners of your patio or deck location.

How far do I overhang the roof above the PRR hardware? Your new patio roof should be cantilevered at least 12" beyond the PRR post & beam above the existing building envelope.

What if my rafters are not evenly spaced to match the patio that I'm covering? You do not have to install the PRR only on a rafter tail. You can install 4x8 DF solid blocking flat between the rafters. Predrill both rafters then install blocking flat using (6) 5" Ledgerloc lags 2" O.C. trough rafters into both ends of your 4x8 flat blocking.

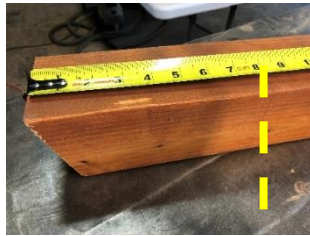
Tidbits – For longest life and quick install, precut and pre-stain your pergola or trellis materials (including the ends) before you install them on the roof.

If you have any questions please call 541.285.1965 for technical info.



1.

Cut the roof pitch angle off the bottom of each post. Minimum 16" from long point of angle to square end of post. **PIC 1**



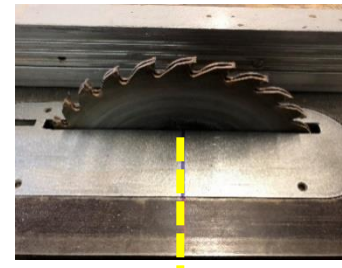
2.

Starting from the long side of the freshly cut angle, measure up the post and mark @ 8". Using a square, transfer the 8" mark to the side. For pitches 10/12-12/12 measure 9" instead of 8". **PIC 2**



3.

Using the insta-pitch bar as a template, set the bar flat, centered on the side of the post with the square end, to the 8" mark. Center the bar on the post. The round end of the bar should be cantilevering past the side of the angle. Mark the two side holes then drill (2) 9/16" holes through the post. **PIC 3**



4.

Next use a 10" table or beam saw to cut a 1/4" wide groove in the center of your post. Set cutting depth at 2-7/8". When using a table saw, mark your saw table with a perpendicular line butting into the center side of the blade. **PIC 4**



USE AN EXTERIOR WOOD SEALER OR OIL STAIN; BE SURE THAT BOTH ENDS OF YOUR POSTS AND THE INSIDE OF THE 1/4" GROOVE ARE SEALED.



5.

CAUTION – Hold post FIRMLY to table with one hand and turn saw "OFF" with other. Do NOT remove your post from the table saw until the blade has COMPLETELY stopped turning.

With the long angle facing up start your cut. Make sure your 8" post mark and center blade mark meet or slightly pass each other then stop! **PIC 5**

TOOLS NEEDED:

- TAPE MEASURE
- CARPENTERS SQUARE
- LEVEL
- STRING LINE
- BEAM OR TABLE SAW W/ 10" BLADE
- 9/16 " DRILL BIT
- 5/16 " DRILL BIT
- 9/16 WRENCH OR 6 POINT SOCKET
- 15/16 " WRENCH & 6 POINT SOCKET
- 3/4 " WRENCH & 6 POINT SOCKET

NOTE: WHEN USING AN IMPACT DRIVER, YOU MAY NEED TO TOUCH UP BOLT & LAG HEADS WITH RUSTOLEUM GLOSS BLACK

STEPS 1-5
ARE
GROUND
WORK

ROOF TOP INSTALLATION

6. Locate for your two PRR end posts. For each end locate the center of the rafter and the outside of the exterior bearing wall. Use a level and transfer both locations above the rafter tails onto the roof. Mark the roofing with a "T".

The top horizontal line of the "T" being the exterior wall location below, and the center vertical line of the "T" being the center of the rafter tail below.



7.

Use PRR base plate as a guide, line it up covering the bottom portion of the "T". Look to see if there is a shingle lap under the baseplate. If so, adjust slightly up or down until there is no shingle lap under the plate. Now you have the exact horizontal location for your waterproof base plates. For the exact vertical, mark again, then move the base plate. Start in the center of your marked location probing with a micro drill bit to locate the exact center of the rafter. Again, use the base plate as a guide to squarely pre-drill 5/16" mounting holes in center of rafter. **PIC 7**



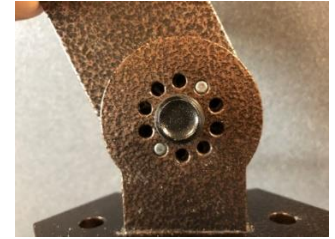
8.

Clean area with a damp rag removing moss, sawdust and dirt. **REMOVE THE BUTYL SEALER PAPER** Then install using the (2) 3/8" x 4" flange lag bolts provided. **PIC 8**



9.

After installing both ends Snap a chalk line or horizontally run a tight string line between the two ends and set the remaining center base plates @ 48" on center. **PIC 9**



10.

Set the Insta-pitch adjustable arms. Install the arm bar using the 5/8" flange bolt provided. Do not install the locknut yet. Use a torpedo level and set the bar close to the plum location. Install the lock-pins in the holes that line up. **PIC 10** You can now tighten your grade 8 bolt and locknut. Note; Because of variables "exactly perfectly plum" is adjusted when setting the 4x4 posts.



11.

Install your 4x4 posts. Start with the two end posts. Slide the post over the bar with the slot of the post facing the peak of the house roof. Use 4 decorative PRR bridge/timber washers and (two) $\frac{1}{2}$ " x $4\frac{1}{2}$ " galvanized bolts and nuts then assemble hand tight snug. Using a torpedo level adjust the post to perfectly plumb then tighten the half inch bolts for permanent installation. Run a tight string line between the two end posts. Plumb the remaining posts to the string then tighten for permanent installation.

PIC 11



12.

Installing the 2x8 horizontal beams and PRR bridge/timber washers for needed shear. Use a tight level string line end to end. Temporarily install both level beams using 3" galvanized screws sandwiching the 4 x 4 posts between and close to flush on top. **PIC 12** Go back and check for plumb on each post. Locate the vertical centers of the posts and beams. Measure down $1\frac{3}{4}$ " from the top of the beam and up $1\frac{3}{4}$ " from the bottom of the beam. Mark and drill two $\frac{1}{2}$ " holes through both the beams and post. Install decorative PRR bridge/timber washers with (two) $\frac{1}{2}$ " x $7\frac{1}{2}$ " galvanized bolts and nuts.

