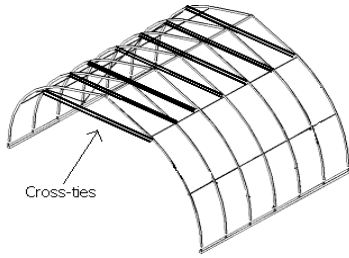


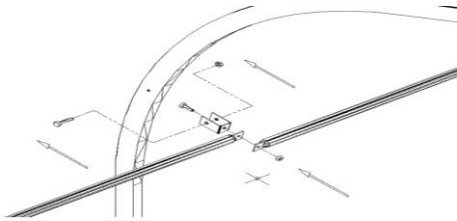
## Cross-ties



*Cross-ties* are an inexpensive way to reinforce your structure, typically increasing the snow/wind load by 5 pounds per sq. ft. They are made from the same material as the *purlins* and *wind-braces* and, depending on the width of the structure, between 10 and 14 feet long. In cases where the *cross-ties* are not included in the package they are available as add-ons.



They are installed under the *ridge* and span across the width of the structure from *hoop* to *hoop*. If your structure has two rows of *purlins* the *cross-ties* are fastened at the top *purlin* sharing the *purlin clip*. If your structure has one row of *purlins*, there will need to be a hole drilled above that row at the height at which the *cross-tie* is to be installed.



If your building has *cross ties* which are installed on the *purlin clip*, leave the *purlin clip* loose so that you will have a little more “wobble” room for installing the *cross ties* later.

Long *cross ties* or *cross ties* in heavy load areas will require mid support and lateral bracing.

**Keep in mind that adding a *cross-tie* decreases the usable height of your building, usually by 24-36 inches.**

When attaching the *purlins*, you must first insert a 1-1/2” C bolt into the center of the *purlin clip*. The size of bolt is slightly longer than normal when you have cross ties for your structure.

If a structure has two rows of *purlins*, the *cross ties* will be attached at the upper row to the same bolt as the *purlins*. Make sure the *purlin C*. bolt is 1-1/4” long. You can leave the lock nut on and simply add another nut over the *cross tie*.

If you do not have two rows of *purlins*, your *cross ties* are much shorter and you will need to drill holes to secure the *purlin clips*.

You will need to **slightly** bend the *purlin clip* tabs down to match the angle of the bolt. **Be careful not to over bend!**

When there is a two part *cross tie*, there will be a threaded rod which is both the center support and the joiner. The threaded rod is suspended from the *ridge* on a *purlin clip* (double nutted). The *purlin clip* is secured to the *ridge* with two *speed screws*. There is also a nut above and below where the two parts of the *cross tie* overlap.

**Cross ties are not normally supplied for the two end pairs of hoops since this would interfere with the end framing. They are strongly recommended to be purchased if your building is open ended.**

*PLEASE NOTE: Any italicized words in this document are words that are listed in the glossary.*