

SHELTERWORLD 46' x 23' Round Style ASSEMBLY INSTRUCTIONS

1 Assemble First Rafter

Select six pipes to build your first rafter **A**. Two pipes have one smooth and one notched end. These will be the base pieces for your rafter arches. The other four pipes of the set are notched at both ends. These pipes will be the top pieces that come together to form the arch.

You will also need five 3-way couplers and two base feet to erect each arch.

Connect each smooth end pipe to each base foot by guiding the 5" machine bolts through the pre-drilled holes and connecting the 3/8" nuts **B**.

DO NOT TIGHTEN BOLTS. Base conduit will need to be added before tightening.

Assemble the notched ends of the pipe to the 3-way couplers **C**.

The notched pipe has pre-drilled screw holes. Couplings have no holes.

Drill through pipe guide holes into coupling. Fasten pipe and coupling using self-drilling 3/4" screws. No pilot hole is needed **D**.

For best results, work on a clean solid flat surface.

Assemble Second and Subsequent Rafters

To assemble second and subsequent rafters, repeat step 1. Use five 4-way couplers instead of 3-way couplers **E**.

2 Connect Purlins

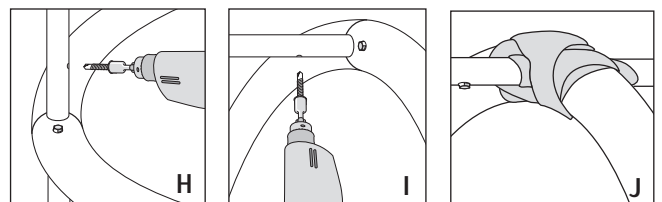
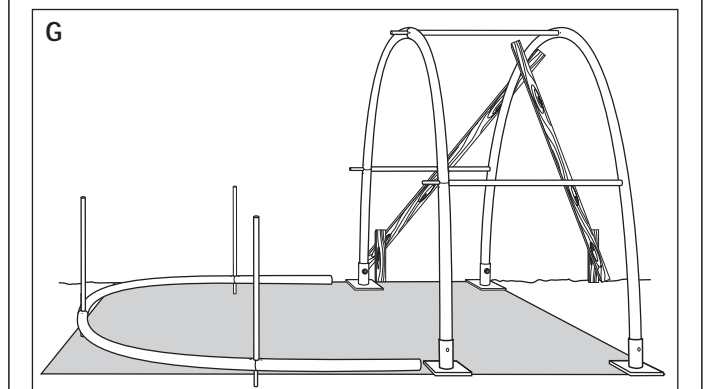
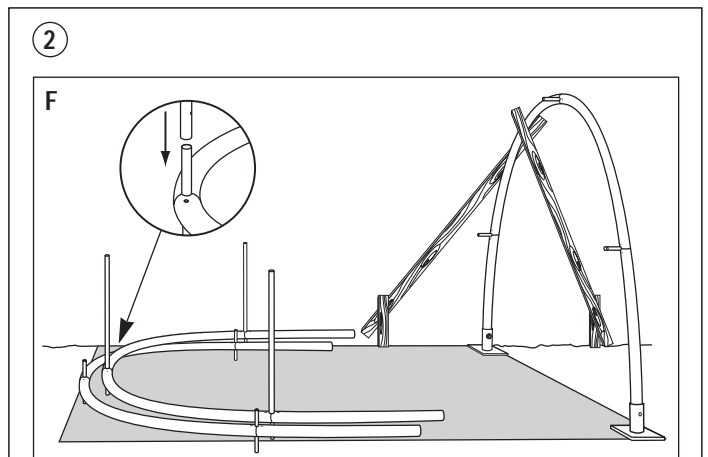
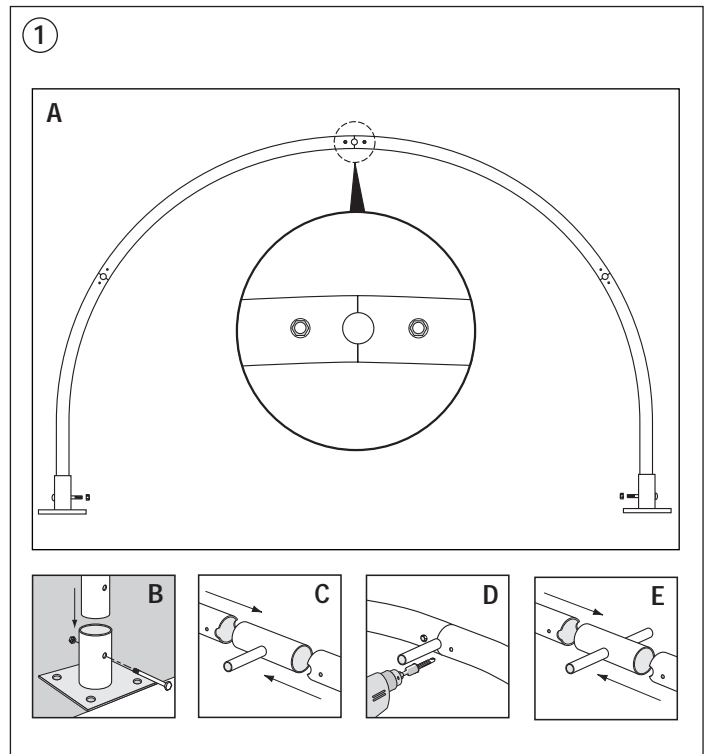
With the support of wooden props, or ropes and stakes in the ground, as shown **F**, stand first rafter at a 90° angle.

With the second assembled rafter laying flat as shown, connect five 1" x 45" Purlins to ends of the 3-way couplers **F**. Guide the Tek screw through the Purlin's predrilled hole and drill through coupler **H**.

The second rafter is now ready to be connected to the first standing rafter **G**.

Once the five Purlins are secured to the second rafter, stand the assembly and fasten the Purlins to the 3-way couplers on first rafter **I**.

Be sure that rafter arches are securely fastened to couplers. Check for straight alignment and firm fit. Finish tightening with Tek screws. To complete operation, tape pipe connections and rafters **J**.



Purlins should be fastened to couplers on the underside. Screw heads should not be in position to come into contact with cover fabric.

3 Connecting the Base Conduit

Beginning at the foot of the first Rafter Arch, connect the base conduit to the inside of frame through the pre-drilled holes using 5" bolts provided K, L.

Pre-drilled holes in base conduit are spaced at 3' intervals.

Connect required sections of base conduit at the foot connections by slipping the swaged end of the conduit into the plain end.

Some connections will be at the rafter and bolt together. Other connections may be between rafters. The connections between the rafters can be secured with a Tek screw M.



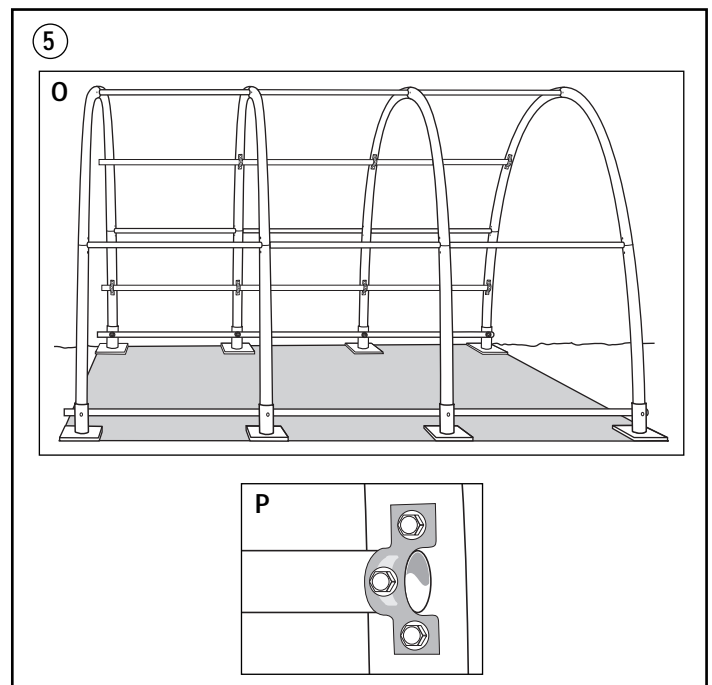
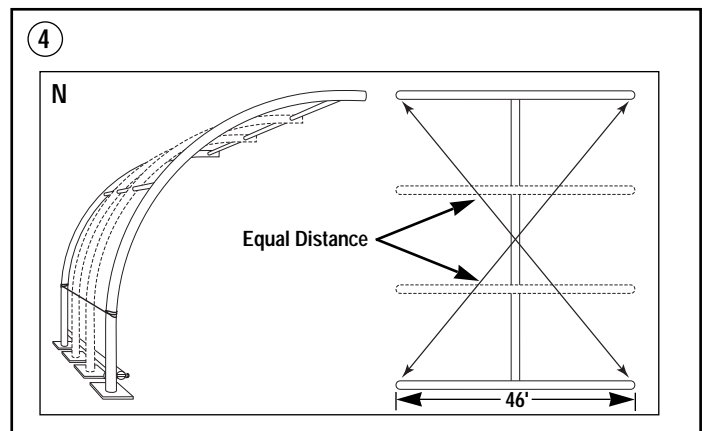
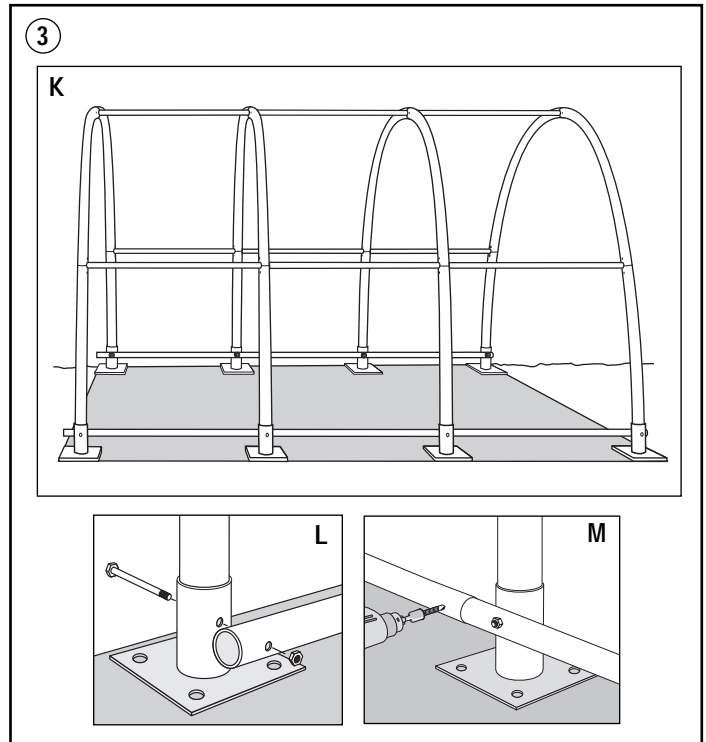
Do not tighten any bolts until ratchets are attached.

4 Square Corners and Tape Sharp Edges

Square and anchor the four corners. Adjust to a width of 46.' Outside to outside, string lines from front to back and adjust the width of the remaining rafters and anchor securely N.

5 Adding Extra Purlin

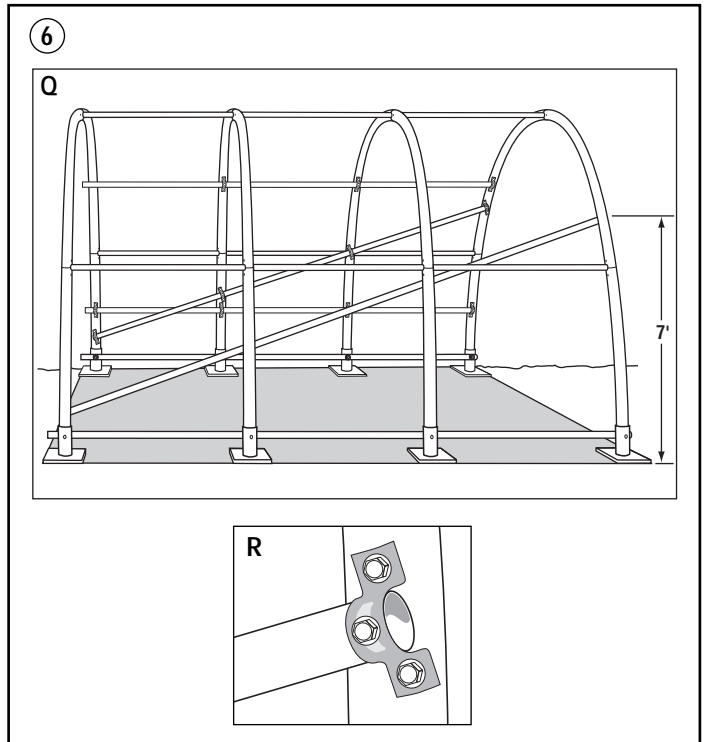
Install extra purlin midway between the rafter couplers, using rows of conduit, pipe straps and Tek screws O. Add 6 rows for 46' wide shelters. For the first row, measure to the midway point along the rafter between two couplers, and snap a straight line along the length of the shelter frame. Start with the first rafter, and fasten one side of pipe strap with a Tek screw at this point. (Do not tighten completely at this time.) Add the second Tek screw to the strap. For the second rafter, fasten a strap to it by following the same procedure. Next, install the extra purlin into the pipe straps. Align the plain end of the purlin flush with the edge of the first pipe strap P. Tighten the Tek screws on the first two rafters. After this, add a third Tek screw through the center of each strap to secure the purlin to the frame. Continue to fasten multiple lengths of purlin along the shelter using the above method.



6**Installing Struts**

After the frame is square and secured, and the rafters are plumb, install the four corner struts. The struts keep the frame stabilized by preventing it from rocking forward and backward. For the struts, use conduit pipe. Attach one end of pipe to the fourth rafter directly above the mounting foot with a 1.315" pipe strap and two Tek screws. Attach the other end to the first, or outside rafter, approximately 7' above the ground **Q**. Make sure pipe and strap are flush at this end **R**. After the pipe is angled in place, apply straps and Tek screws to the other two rafters in between. Finish the connection by securing strap to pipe with a third Tek screw in the center of each one **R**.

FYI: When angling each strut, have someone help hold it in place or use heavy tape. Also, a slight bend will be required in the strut for proper alignment. This procedure may require two people. Have one person apply the necessary pressure to hold the pipe end (nearer to the ground) against the rafter, while another applies the strap and screws.

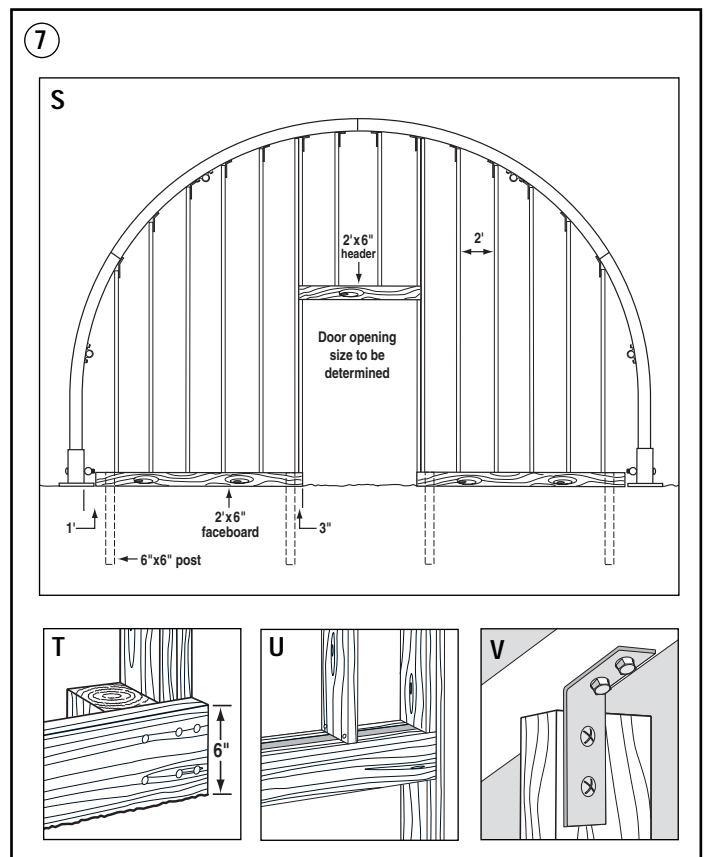
**7****Install Gable Ends**

The gable ends of 46' shelters must be framed with wood (Not supplied). First, plan out the design of each end. Determine the door size, style, and location. Next, sink (4) 6" x 6" pressure treated posts 4' into the ground. Leave 6" of them above ground. Place (2) post 3" beyond door opening, and (2) posts 1' in from rafter sides **S**. After this, place (2) pressure treated 2' x 6' face boards across the fronts of posts up to the width of the door opening. Nail face boards to posts **T**. Then, frame in doors openings with (4) 2' x 6' studs and (2) 2' x 6' door headers **S-U**. Attach a bracket to both the rafter and studs **S**. Secure bracket with Tek screws to the rafter, and wood screws to the studs. Make sure studs are flush with outside rafter **V**. Nail face board to the bottom of the studs. Add additional studs every 2'.

Anchor unit securely using an approved anchor system.



Do not install cover or end panels until new unit is securely anchored.

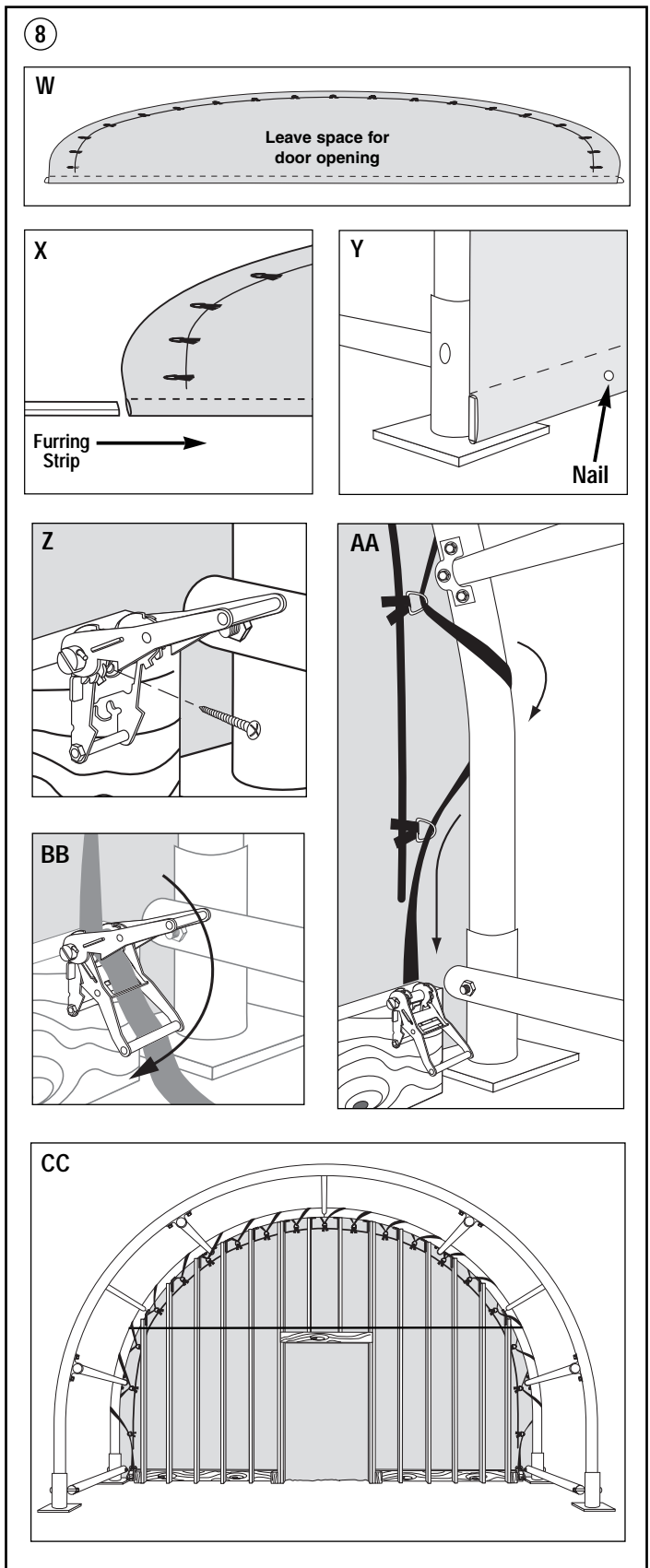


Locate the end panel. Lay it on the ground with the webbing and D-rings facing up and hem side placed towards the gable end W. Slide a 1"x3" furring strips into the hem on both sides of the end panel, leaving enough space for the door opening X. Position the end panel (with webbing and D-rings facing in) against the front of the 2"x6" face board and nail into place Y. Attach a ratchet to the inside of the face board. Fasten it with a wood screw 8" from the face board's end Z. Lace the end panel to the rafter with strapping CC. Begin by lacing the strapping through the first D-ring on the end panel. Pull the strap around the rafter, then place through the next D-ring. Repeat this procedure until the strap is placed through the last D-ring AA. Pull the slack out of the strapping and position the end panel evenly. Next, feed the strap through the center slot of the ratchets. Tighten panel with ratchets evenly from both sides centering the panel on the frame BB. If the ratchets need to be released, open them completely and they will release. Excess strap can be pulled through ratchets. The ratchets can then be retightened.

Fasten a horizontal strap located in end panel to the rafters on each side. Tie each end to both rafters. Pull tightly. Cut a small section of the 12" wide material (which sealed to the inside of the end panel where each framing stud meets). Tie a 1" strap around the 2" strap to the framing member to keep the end panel billowing.



Do not attempt to install end panels or cover on a windy day.




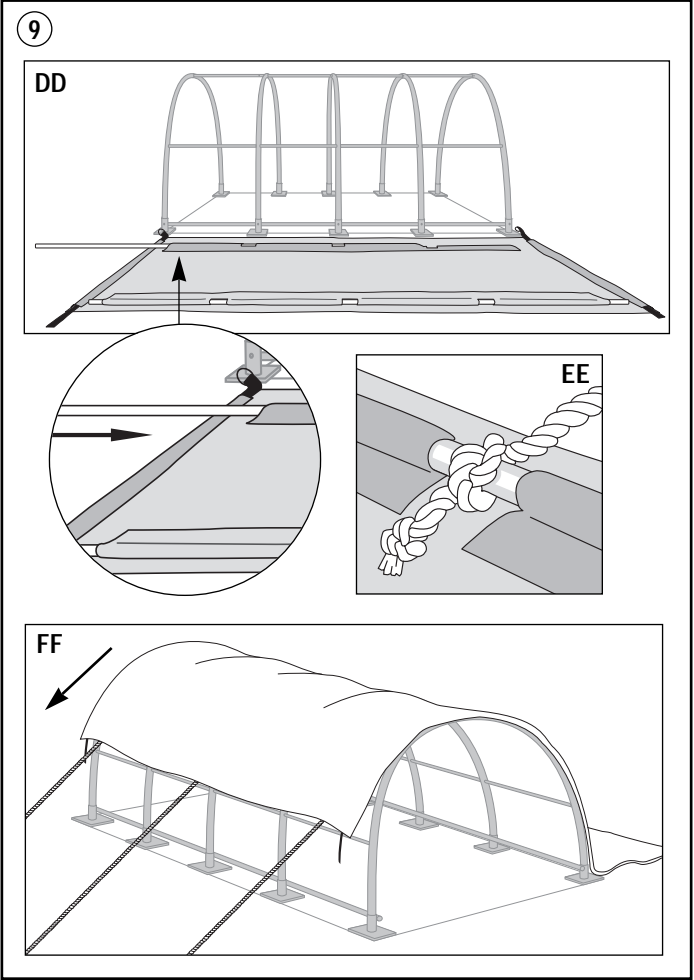
9 Install Main Cover

Unpack cover and stretch out completely with white (or inside) facing up. On the cover, locate the ends with strapping and line them up with the front and back of the shelter **DD**. Slide cover conduits into hem connectors. Join multiple lengths of conduit together using conduit connectors for the length of the cover. If you wrap a single layer of duct tape around joint it will help hold the conduit to the connector.

Pull Cover Over Rafters

Attach a rope onto the cover conduit at every opening **EE**. Throw rope over frame and pull cover over the structure **FF**. Remove ropes. Position cover evenly on all four sides.

 **Do not leave the cover unattended under any circumstances until final assembly and tightening has been completed.**



10 Corners of Structure


In the front and rear hems, locate the black straps. These straps correspond with the front and rear of the shelter. Fasten a ratchet about 10" in from the end of the rafter to the front of the 2'x6' with a wood screw. Fasten ratchets to the remaining 3 corners **GG**. Feed the strap through the center slot in the ratchets and tighten down all four corners slightly. Do not tighten completely at this time.

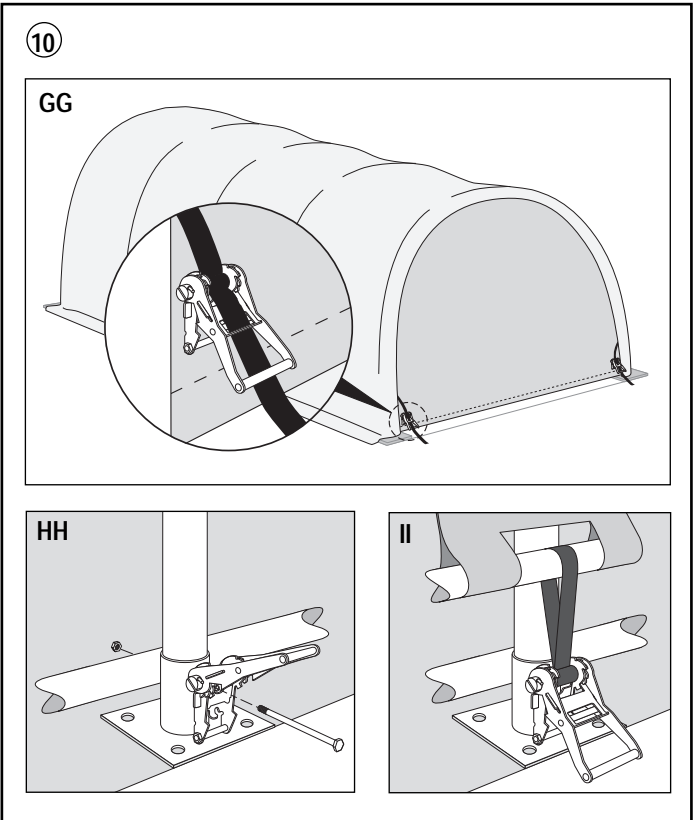
If the shelter you are installing is over 48' long proceed to step 11 before continuing.

The sides of the cover will be fastened with ratchets on both sides of the frame. Locate the rafters where the hem is cut out of the conduit **II**. (Normally the open conduit is the second, next to last and every other rafter in between.) Fasten the ratchets to the outside of the rafters underneath the cover flap. Remove the 5" machine bolt, place ratchet, then reinstall bolt through ratchet, rafter, and conduit and tighten **HH**.

FYI: Ratchets must be placed at both ends of the shelter. The formula for placing a ratchet at every other rafter works out if the total number of rafters ends on an odd number. However, if the total number ends on an even number, the formula does not work; therefore, omit ratchets on two consecutive rafters within the shelter.

Locate the yellow 5' straps and loop them over the conduit where the hem is cut out. Feed both ends of the straps through the slot in the ratchet and tighten slightly. Center cover evenly from front to back and side to side. Tighten the ratchets at the front and back of the shelter first, then tighten the remaining ratchets working towards the center. If the ratchets need to be released, open them completely and they will release. Excess strap can be pulled through ratchets and ratchets can then be retightened.

 **Cover must be kept taught. Check tension periodically. Snow must not be allowed to accumulate on cover.**



11**For Models Over 48' In Length**

Once the cover is on the frame and is sitting squarely and straight, visually check to ensure that the cover extends approximately 12" over both ends of the building.

Glue sections of the PVC tubes together (smooth end into bell end) and insert these into the PVC pipe pocket located approximately 6' from both ends of the cover. Fill all pockets with the PVC tubing for both ends of the shelter. Next, using the 1" strapping provided, start at the base and lace the strap around the PVC tube, that shows through the open notches, and then back to the end rafter all the way up to the center of the shelter. Secure the strap to the rafter. From this secured center, work your way down to the other end, tighten the strap and tie it at the base **JJ**. Repeat this lace-up on the other side.

On both ends of the shelter, the PVC pipe should be parallel with the rafter all the way around. The cover should be snug and secure from end to end when finished.

Cut the straps *only after* you have finished the tighten down procedure and have secured the ends.

11**JJ**