Retrofitting a Snow & Wind Kit

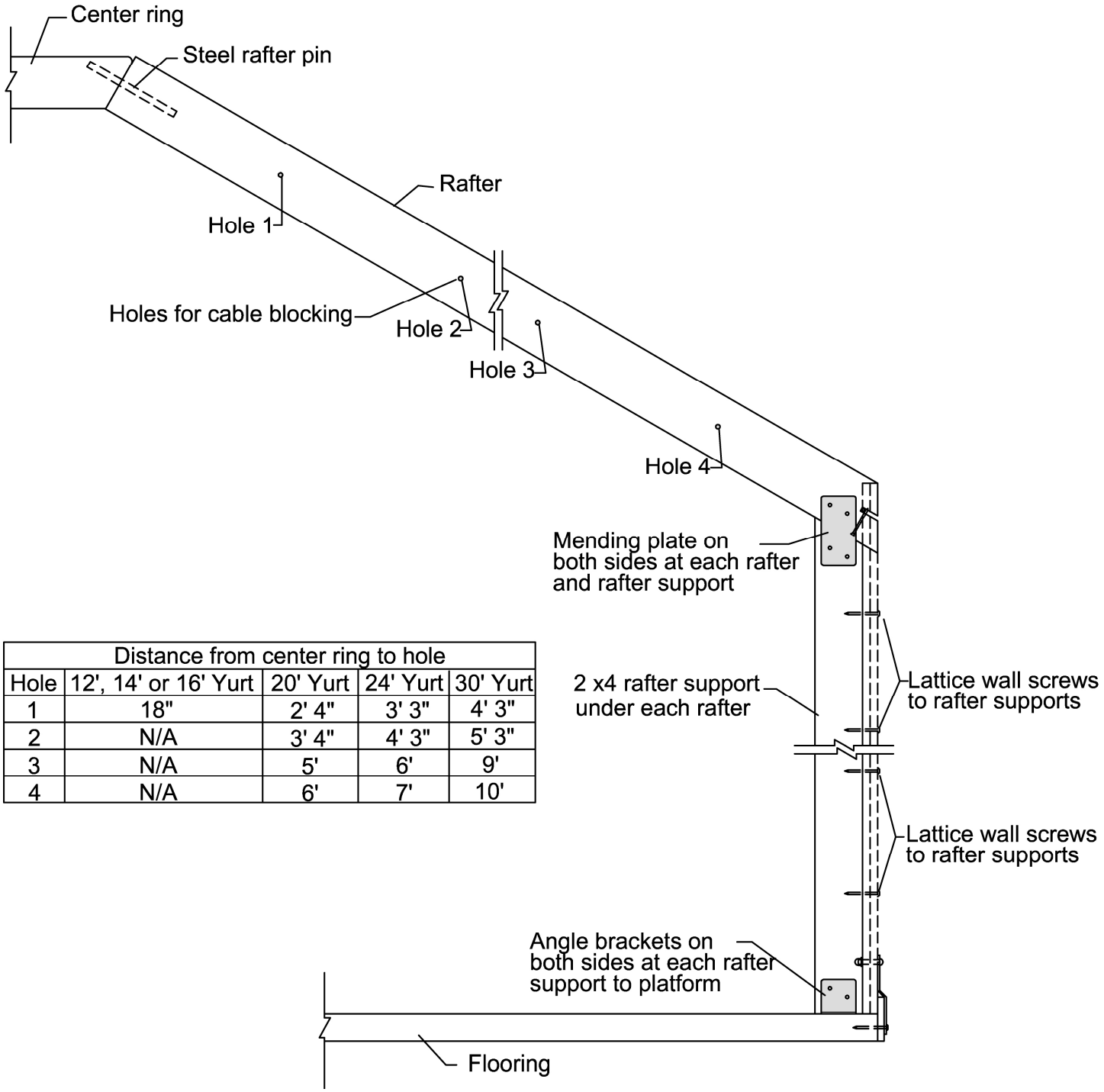
Note: The Snow & Wind Kit involves a lot of screws. If the yurt is being set up at a site without electricity be sure to have plenty of fully charged batteries for cordless drills or a generator to charge them.

1. Unless your yurt was made prior to 1989 it should have a single “safety” cable installed through the rafters near the center ring in a circular pattern. If you have a 12', 14' or 16' yurt you will leave the safety cable in place. If the yurt is a 20', 24' or 30' diameter model you will need to remove the cable clamps and pull the cable out of the rafters since the safety cable will no longer be needed. If your yurt was made prior to 1989 the rafters will not have the holes that are necessary for the Snow & Wind Kit, so you will need to drill them using a 1/4" bit at the locations notated on Diagram VII.
2. Four ring-to-rafter brackets have been included for 12', 14' and 16' yurts and eight for 20', 24' & 30' yurts, which will slide onto the pin end of four evenly spaced rafters to firmly fasten them to the center ring. To install these brackets choose four (or eight) evenly spaced rafters and remove the screw from the bottom tip (the one which prevents the steel tension cable from coming out of the rafter notch). Once the screw has been removed you can carefully slide the tension cable out of the rafter notch and pull the rafter out of the center ring. Be careful not to let the pin end of the rafter drop to the floor or hit someone.

   a) Now slide a ring-to-rafter bracket onto the pin end of the rafter and screw it onto the rafter as shown on the photo using the hex head screws provided.
   b) Reinstall the rafter by sliding the pin end into the center ring and then the notched end onto the tension cable. You can now reinstall the screw into the tip of the rafter to prevent the tension cable from coming out of the notch.
   c) Screw the tabs on the ring-to-rafter bracket to the center ring.
   d) Repeat the process for the other evenly spaced rafters you have chosen for the brackets to be installed onto.

3. Locate and unwrap the package(s) marked “Rafter Supports”. The 2x4 rafter supports will be installed against the lattice wall under each rafter (see Diagram VII). They are *purposely provided long* so they can be cut on site to fit exactly (since the lattice wall height may vary). Be sure to cut the square end when cutting them to length so the angled end is not changed. (A miter saw works well for this.)
4. Measure and cut one rafter support and check it under several rafters to make sure it is the proper length. Once you are convinced that you have the right length, cut all of the rafter supports to the same length.
5. 2" x 4" mending plates are provided to attach the rafter supports to the rafters on both sides. 2" x 2" angle brackets are provided for attaching the rafter supports to the floor on each side (see Diagram VII). Use the cardboard template from your hardware box and the pilot bit provided to drill pilot holes for the metal plates before screwing them onto the rafter supports. This will ensure that the plates are properly positioned and the screws are offset so they do not hit each other.
6. Using a ¼" hex driver, attach the mending plates and angle brackets to the rafter supports with the hex head screws provided (in hardware box). Be sure to drive the screws in straight to avoid having the heads pop off.
7. Once all of the rafter supports have the hardware mounted to them, stand them up under each rafter and make sure the rafter is centered between the lattice wall crotches. Note: It is helpful to place a 1" block against your platform’s drip edge to ensure proper positioning of the rafter support. Have one person drill pilot holes while another installs the screws to secure the rafter support to the floor.
8. Once the rafter support has been anchored to the floor make sure it is plumb and secure it to the rafter. Be sure to drill pilot holes before driving in the screws. Repeat for all rafter supports. Double check to be sure the rafter supports are plumb, centered between lattice wall crotches and are tight against the lattice wall.

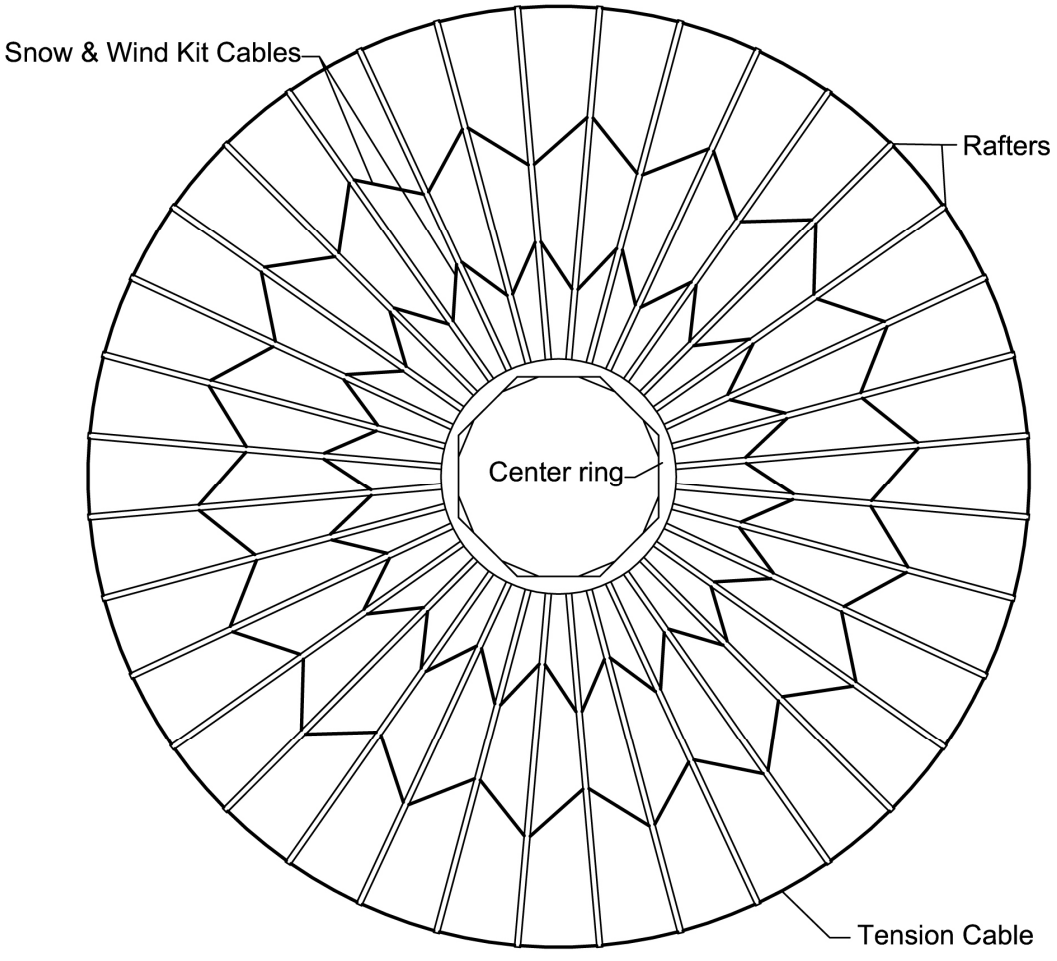
Diagram VII



Distance from center ring to hole				
Hole	12', 14' or 16' Yurt	20' Yurt	24' Yurt	30' Yurt
1	18"	2' 4"	3' 3"	4' 3"
2	N/A	3' 4"	4' 3"	5' 3"
3	N/A	5'	6'	9'
4	N/A	6'	7'	10'

9. From outside the yurt, remove the screws along the bottom of the side cover which fasten it to the platform (floor structure).
10. Loosen the wing nuts on the inside of the door frame so that the side cover can be pulled out of the door frame. This will allow you to slide between the side cover and the lattice wall.
11. From outside the lattice wall, drill a pilot hole through the lattice wall (where it crosses) into each rafter support using the drill bit provided (see Diagram VII). This should be done in four locations per rafter support. Drill just above the rivet where necessary. Then drive a 1-7/8" screw (from hardware box) through the lattice wall into the support at each location. These screws are an important part of the Snow & Wind Kit providing shear to prevent torque in the yurt.
12. **(For 20', 24' & 30' yurts only)** Locate the Snow & Wind Kit cables in your hardware box. These larger yurts will have two cables, with one marked as "long" and the other marked "short". Uncoil the cable marked "short" and remove the two cable clamps. Notice that your rafters each have four pre-drilled holes, but you will only be using two of them (having four holes makes the rafters interchangeable). Install the cable in a zigzag pattern through the two holes nearest the center ring as shown on Diagram VIII.
13. When you come around to where you began thread the end of the cable through the loop on the other end of the cable, pull it tight and secure the cable using the cable clamps.
14. Now install the cable marked "long" through the lower two holes (nearest the tension cable) in the same manner, but be absolutely sure that the cables pull in opposition and have equal tension on each (see Diagram VIII). If one is tighter than the other some rafters will start pulling away from the center ring and could weaken the structure and result in failure at lesser snow or winds loads.
15. Tighten cable clamps securely and cut off any excess cable using a cable cutter.

Diagram VIII



Additional Snow & Wind Protection

Do not let heavy snows collect on the roof in excess of 12". A push broom can be used to sweep down the excess, or a rope thrown over the yurt can be used to cut under the snow causing it to slide off. A protective snow fence is a good idea where there could be a large snow bank or build-up exerting pressure against the yurt. A freestanding porch structure can keep snow build-up away from your entry area, providing easy access in case of heavy snow. Integrating expanded metal grating into the porch can help prevent excess snow build-up in front of the door as well.

For both heavy snow and wind conditions, or when roof snow load cannot be maintained regularly, four 4" x 4" posts can be installed under the center ring as an additional shoring-up system (see Diagram X). These posts are not included but can be purchased from your local lumber supplier. Make sure the posts are evenly spaced on the center ring, plumb and are supported by the joists under the floor (not just the flooring itself). The posts may be secured with Post Cap/Base hardware (or equivalent) using wood screws at the top and bottom (or lag screws and angle brackets).

In areas where very heavy wind exposure is expected, we strongly recommend taking some extra precautions to prevent possible damage to the structure:

1. Purchase and install Pacific Yurts' cable tie-down system and perimeter blocking.
2. Be sure your door is closed, windows are attached and the dome is closed during heavy wind.
3. The lacing on the yurt covers should be periodically checked and pulled tight if necessary. Optional zigzag lacing from the valance grommets to eyescrews, which can be installed around the base, is recommended in areas with frequent high wind (see Diagram XI).
4. For domes with openers – Install a second pair of long springs and crimp the ends securely. This will hold the dome in position more firmly.

Diagram X

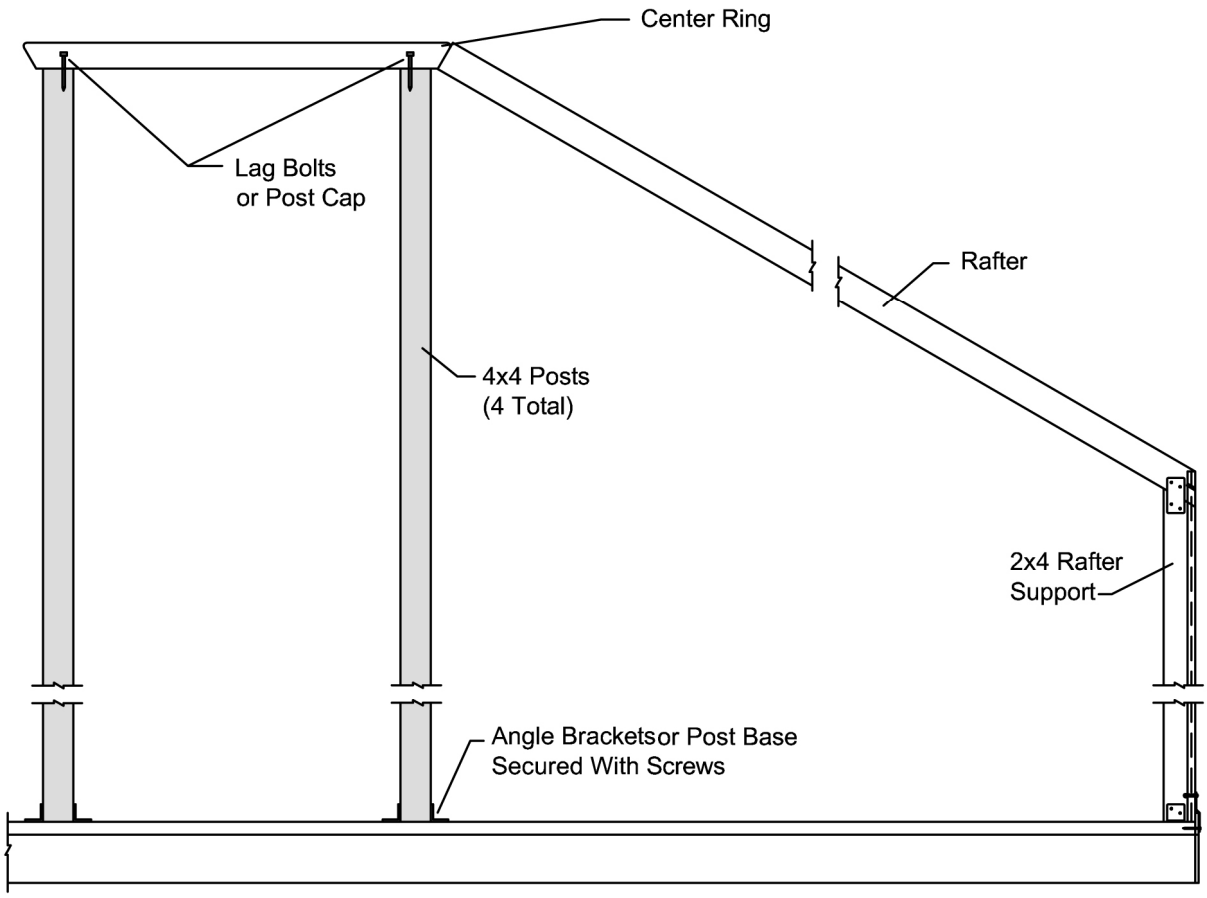


Diagram XI