

# Blue Ridge Yurts Assembly Instructions

## 10' Walls

Thank you for purchasing a Blue Ridge Yurt. We suggest you invite several friends to help you set up your yurt. Follow the steps in order and call us if you have any questions. We will be available to you if you tell us when you will be setting up your yurt. Have fun with it!

### **YURT INSTALLATION SEQUENCE:**

Page

4. Plywood Band
4. Door Frame
5. Lattice Wall
6. Attach lattice to door frame and plywood band
7. Tension Cable
7. Center Ring
8. Rafters
9. Rafters over frames
10. Rafter: Cable Reinforcement
10. Vertical Supports
12. Roof Liner
13. Roof Insulation
13. Outer Roof
15. Dome
16. Wall Insulation
17. Fabric Walls
18. Cinch Cable to Bottom of Wall
19. Fabric around door and threshold
20. Horizontal supports between vertical studs
21. Set Door
21. Tighten Valence around Roof
22. Glass Windows
22. Rain diverters
23. Drip ledges
24. Window Rain Guards

## MATERIALS

### **Check to see that you have all of your materials:**

- Set-up instructions (frame layout and insulation diagram)
- Rafters
- Lattice Walls
- Center ring
- Door frame(s), door(s), and Window frames
- Dome with hardware attached and telescoping handle opener
- $\frac{3}{8}$ " strips of plywood to go around circumference of platform
- One tension cable,  $\frac{1}{4}$ " fastened with cable connectors
- One  $\frac{1}{8}$ " cable with turnbuckle and second cable clamp attached for tightening the bottom of the wall
- Outer Roof
- Roof liner, and roof insulation wedges (if ordered)
- Fabric walls
- 10' 2 x 4s for vertical supports
- 2 x 4s for horizontal blocking
- Rain diverter, foil pattern and vinyl cement (HH-66)
- Two "push" sticks. One 10' to measure wall height
- Insulation wall panels (if ordered)
- Hardware kit
- 32" strip to wrap fabric over door(s)
- Drip ledge board and fabric for over door(s)
- Fabric piece to cover under the door threshold
- Fabric "window rain guard" for over the windows

Any options you have ordered—for example, window insulation, stovepipe insert, awning, etc.

## **Hardware package includes:**

- Packet of screws to attach plywood band
- Hardware and screws for vertical supports
- 2" Spacer block for setting plywood band
- Small screws for plywood band to lattice
- Pan-head screws to attach lattice sections together if necessary
- Lag bolts and washers to attach lattice to sides of door
- Screws to attach door rafters and to set door frame
- Backer rod for dome
- Rafter - cut pattern piece
- Door handle
- Shims
- Spindle mechanism for dome
- Nails to close rafter notches
- Layout diagram
- Colored screws for drip ledge and over door panel
- Baby powder for roof installation (duro-last roof only)
- Fabric glue (HH-66) for rain diverters and window rain guard

## **Tools you will need:**

- Scaffolding or drywall lift with extension
- Ladders and step stools 12' and smaller
- Hard hats when raising rafters
- Drill with a variety of bits
- rubber mallet or hammer and wood block
- Sockets to tighten cable connectors and dome hinge
- stapler and staples to attach wall fabric around door frame
- 100' Tape measure
- Saw to cut plywood band
- Rope +25' to pull dome up and roof over
- Scissors or knife
- Pencil

## **Set up yurt on the platform**

# FRAME ASSEMBLY

## **PLYWOOD BAND**

You will need:

- Plywood strips
- Drill
- Screws
- Saw
- 2" spacer block to keep the band a consistent height above floor

You may want to paint or stain your plywood strips as 2" will be visible inside your yurt. This should be done ahead of time. If an additional floor will be installed add the wood to go under the lattice.

- Starting with the doorway and using the 2" spacer block, bend a plywood strip around the platform edge and mark a cut line on the outer edge of each door jamb and across the door opening, level with the floor. One pre-cut strip is provided
- Finish wrapping perimeter band, screwing band into the flooring edge at about 16" intervals. This will contain the lattice.
- The band is cut out at door openings, place door band board where you want to put your door, but not at window frame openings

## **DOOR FRAME**

You will need:

- Door frame
- Drill
- Long screws
- Tape measure
- Frame layout diagram

- Set the door frame in position. This must be securely attached. The curved header of the frame is in line with your platform, so it faces the outside. Both outside edges of the door jambs should be even with the plywood band). Use long screws to toe-nail the door frame to the platform. If you have more than 1 door/window frame, set them all in place now, measuring carefully between centers. Use your layout diagram
- Remove the door spacer that was stabilizing the frame

## **LATTICE WALL**

You will need:

- Wall sections
- Pan head screws
- #3 Phillips head screw driver

- Orient lattice walls. The top is rounded, the bottom has angled cuts. Side with screw heads face interior of yurt. Cut ends go on either side of a frame. Wall sections are numbered on the top and bottom edges, going clockwise between frames
- If any long sections need to be connected; with the 2 sections lying or standing next to each other, overlap the single strips and screw in the pan-head screws. May have to use Philips screwdriver to align the holes.
- Lift each section onto its bottom edge and open it from both ends, spreading it around to either side of a frame.
- Adjust each wall section so it is ~10' high all the way around, and against the plywood band at the bottom. Push or pull gently along the center row of screws to adjust. It should be level with the top of the headers on the frame. You can use a 10' "push stick" to check your height.

- Check that the distance between screws around center height is consistent. Re-adjust until it is. The distance behind the "wings" (ends of lattice or door frames) allows a fudge factor which helps to get the spacing consistent.
- If a wall section is too long, skip it and do the next section. A frame may need to be moved slightly, or a couple inches may need to be cut off a wall section in order to fit.
- If a section is too short, make appropriate corrections. This is where the 10" play from the "wings" is helpful.

## **ATTACH LATTICE WALL TO DOOR FRAME AND PLYWOOD BAND**

You will need:

- Lag bolts with washers for each frame
- Drill
- Bits
- Short screws
- Socket for lag bolts

- The end of the lattice wall will go to the exterior side of the "wings" on the frame. The top of the lattice will be level with the header. Beginning with the center X piece, hold the holes in alignment and insert a lag screw and washer from the outside, keeping the bottom of the wall on the floor. Repeat with the other X's. Attach lattice to the next frame in the same manner, keeping your 10' height.
- Go around outside perimeter and put short screws through your plywood band and into the back piece of lattice at every other "X" keeping the wall flat to the floor. This helps keep your lattice flush with the band

## **TENSION CABLE**

You will need:

- Tension cable

Note: DO NOT adjust the tension cable.

- The tension cable will sit in the top "X" of the lattice walls.
- Unroll the tension cable and lay it on the platform inside the lattice walls, placing the cable connectors to the right side of the door. Lace the cable over the top V's in the walls and through the grooves in the frame headers. It should be taunt, but not tight, and even all around. Start again if it is not.
- you will have 2 rafters on the door frame. Measure distance for between the lattice screws to get a rough distance for the door rafters. The cable connects should fall between rafters.

## **CENTER RING**

You will need:

- The center ring (without the dome)
- Scaffold or drywall lift with extension
- Wood scraps

- Remove the dome from the ring. Undo one end of each spring; remove the hinge from the ring. Replace the nuts so they don't get lost.

**\*\*the following is very important! \*\***

- ORIENT center ring with the screwed side facing the sky and positioned so the dome opener bracket (located on inside perimeter of ring) is away from the prevailing winds and hinge will be towards prevailing winds. This is to prevent strong winds from damaging the skylight when vented.

- Raise the ring. Approximate ring heights for 10' tall walls

$$24' \times 10' = 15'6''$$

$$30' \times 10' = 17'3''$$

- You will be using scaffolding or drywall lift to raise the ring. Put blocks under the ring until the top of ring is raised to appropriate height from the platform. This will facilitate putting rafters up.

## **RAFTERS**

You will need:

- Rubber mallet or hammer and block
- Hard hats
- Ladders
- Rafters with notches

**\*\*CAUTION\*\*** Danger zone, have a minimal people on the deck and all must wear hard hats.

- Start with rafter on one side of door. Insert pegs into ring holes, then seat the tension cable into the notched end of the rafter.

This works best if the rafter is held just below the tension cable while pegs are inserted into ring. The rounded edge of the rafter faces the ground.

- The rafters usually sit on the tension cable in every other wide space, so you need to count over spaces and corresponding ring holes to align properly. It may help to use a mallet on the notched end, or above the pegs to drive the pegs into the ring.

- Put up a 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> rafter dividing the ring roughly in 4ths. At this point it is easy for a rafter to slip out and fall, so be aware!

- To prevent a rafter from slipping out at the cable, drop a 10d nail (in hardware kit) into the pre-drilled hole in the rafter end, closing the notch.



- When the ring is self-supporting you can take off a layer of scaffold.
- If the cable is tight, push out on the lattice. Don't push up on the cable.
- Continue installing the rafters in a balanced fashion, opposite sides. You may need to move a rafter to a different location to end up with an even layout. If so remove nail that closes notch, move rafter and reinsert nail.
- The rafters over the frames will be the last installed, as they need to be cut and screwed.

## **RAFTERS OVER FRAMES**

You will need:

- Drill
  - Screws
  - Saw
  - Tri-square
  - Tape measure
  - Pencil
  - Cut pattern (hardware kit)
  - Pre-cut rafters (without notches)
  - Any leftover rafters with notches
- All the rafters are spaced ~25" apart, so measure where your door rafters will set on the header. They may not be symmetrical with the door frame. Some rafters are pre-cut to fit over the headers. A pattern is provided for additional ones.
  - Screw from the top of the rafter into the header. Make sure the end of the rafter is flush with the outside of the header before you attach door rafter(s). Put 2 screws per rafter.
  - If your rafter ends are flush with header, the door/ window frames should be plumb.

## **RAFTER: CABLE REINFORCEMENT**

You will need:

- 10d nails
- Hammer

- To ensure against strong winds lifting the rafters off the cable, a nail should be inserted through the rafter notch, behind the tension cable. Drop into the pre-drilled holes in the rafter ends, if you have not done this already.

## **VERTICAL SUPPORTS**

You will need:

- 10' finished 2 x 4's
- Angle brackets with screws
- 2 x 4's ~ 52" long, 8° angle on one end
- 4" screws (2/end)
- 3" screws for back of lattice into verticals.

- Install verticals after the yurt frame is up and before putting up insulation or fabric walls. This is so you can screw through the outside of the lattice into the vertical supports. Remove the screws in the lattice and screw supports through the lattice holes.

- Horizontal supports can be added later. They will be screwed ~8½' up from the floor, between verticals, using 2 4" screws per side. These are installed if you have long sections of walls without frames.

- Your yurt kit comes with a 2x4x10' finished support to go under every other rafter that does not have a door or window frame under it. You may have opted for some of them to be wider supports to double as shelving, closets, etc.

- These supports need to be attached **BEFORE** the fabric walls go on, as you will be screwing them from the outside.
- Remove the screws (#3 Philips head) from the inside lattice wall in the vertical line where the support will stand. Cut the support to length. The angled cut will be under the rafter end and the rounded edge will be to the inside.
- Use the 3" screws provided to attach the support from the back of the lattice wall, through the t-nuts and into the support. Use the provided 3" screws to attach the top of the support into the rafter end or tie plates and screws on either side of support.
- Use angled brackets and screws on either side of vertical support to attach bottom of support to the floor.

Your frame is finished! Step back and enjoy the light filtering through the rafters. Now you're ready to install the roof (or the insulation kit).

# INSULATION

## **ROOF LINER**

You will need:

- Liner
- Push sticks
- Stapler
- ¼" staples
- Ladder
- Rope
- Hand wipes to make sure everyone's hands are clean before handling the white fabric!

- The roof liner is the first step if you have insulation. You can carry it up through the center hole, or haul it up from the outside on a rope.

- Have a person on a scaffold inside the center ring throw the rope out over the roof to the ground. Tie rope to the narrow end of the folded roof liner on the ground, and have the person in the center ring pull it over the doorframe up the rafters.

- Open (unfold) the liner halfway, making sure the side without the raised seams is facing towards the inside (floor) of the yurt. As you unfold it, it tends to fall between the rafters but can be poked back up using the push sticks.

- Once it is unfolded halfway, pull the top layer up over your head from the center hole while helpers hold the bottom edge around the perimeter, then help pull and push the other half into place over the rafters using push sticks.

- When in place, the edges of the liner should hang over the ends of the rafters. At this point it helps to put a short staple through the liner into the top of several rafters. This will hold the liner in place while the insulation and roof are installed.

## **ROOF INSULATION**

You will need:

- 2 or 3 packages of foil wedges
- Foil tape
- Flat spreader
- Rope
- Stapler

- On a flat surface, PREPARE AHEAD by taping the foil wedges together. Be sure if there is any "print" on the foil that it is all facing upwards. This is to prevent the print from showing through the white roof liner. Run the spreader down the taped seam to get out any air spaces. It will come in two packages for a 24' and three packages for a 30'. Two sections will need to be taped for a 30' and one section will need to be taped on a 24'.

- The insulation can be folded into a long triangle and lifted by rope from outside the yurt, narrow end up. Unfold all the way around the roof.

- The insulation should hang evenly over the edges of the rafters. The last wedges will overlap and will then need to be taped from top and bottom edges as far as possible. If it overlaps too much the insulation will not cover the rafter ends and should be adjusted if that's the case.

- Stapling liner and insulation around the ring now will help hold it in place while the roof is installed.

## **OUTER ROOF**

You will need:

- Scaffold
- Rope
- Screws (hardware kit)
- Push sticks
- Baby powder (for duro-last roof upgrade only)

- Have a person on scaffold inside the center ring throw the rope out over the roof to the ground. Tie rope to the narrow end of the folded roof on the ground and have the person in the center ring pull it over the doorframe up the rafters. All should start over the door.
- If there is insulation, helpers need to keep it in place while roof slides up. Baby powder helps it slide if you have the duro-last upgrade.
- The roof is heavy so you'll need 2 people on ladders to help lift the roof up the wall and onto the rafters. Leave about 1' of roof hanging over the top of the wall (this helps keep it from falling between rafters). Unfold the roof half way. The people on the ground will need to assist with the unfolding around the edges. You can use your push sticks to help poke the roof into place.
- Durolast roof is very heavy and may need to be hoisted up the layers of scaffolding and lifted through the ring (2-3 people) up through the ring.
- When the roof is open half way, pull the top half up and over your head in the center. You can use long sticks to help push the roof around as needed. A rope can be tied to the valance cable on the roof and pulled by someone on the perimeter to help unfold the roof
- The seam along the bottom edge of the roof should be even all the way around the perimeter.
- When you begin to attach the walls, the weight of them pulls on the roof and may result in one side hanging lower than the other. To prevent this, install short screws to evenly secure the roof layers to the ring. Clamps could also be used. Be sure to pad the clamps on the lower side of the ring to prevent marring.

## **DOME**

You will need:

- Scaffold
- Dome
- Opening Spindle (hardware kit)
- Utility knife or scissors
- Rope
- Sockets
- Screwdriver
- Short screws
- Backer rod

- Before pulling up your dome, trim and screw your liner, insulation, and roof fabric so they lay fairly flat on top of the ring, and aren't visible from your central opening. Do not trim the fabric around the hinge, as this invites leakage. Punch 3 holes through your liner and roof fabric for the hinge screws. You may cut back the insulation at the hinge, if necessary.

- Push a circle of backer rod under the roof fabric where the dome will be sitting. Next, install short screws to evenly secure the roof layers to the ring.

- Your dome will have 2 hooks for the springs, a hinge, and an opener. It will have a gasket on the bottom lip. Gently pull the dome up from the outside edge of the roof, using a rope. Pull the dome up with flat side down; use additional baby powder if necessary to slide up smoothly. Set the hinge over the screws and tighten with the nuts.

- Attach the springs to the 2 hooks on the ring.

- Install the opener spindle. First attach the spindle nut to bracket on the inside of the ring, then bottom out the spindle. Attach the top of the spindle to dome by spinning the spindle to align the holes with dome sitting flat on the ring.

- adjust a half turn of the spindle downward so that there is the slightest pressure on the dome to avoid cracking dome when closed. ( spindle should bottom out at the flat position of dome on the ring.)

**\*\*Be careful not to close your dome too tight as it could crack the acrylic! \*\***

## **WALL INSULATION**

You will need:

- Wall insulation panels
- Over the door insulation panels
- Cable ties
- Tape measure
- Ladder
- Diagram for panel placement (on the back of instructions)

- The wall insulation is made in panels all are tagged with their designated placement in your yurt, starting to the LEFT side of the door (when standing outside). (See the diagram)

- The insulation hangs outside the lattice on the ¼" tension cable, with the white liner facing in.

- Using the diagram, hang the insulation panels in their designated position. Thread the cable ties through the grommets, and around the ¼" tension cable. The insulation should be across the outside edges of the door jambs. The rest of the panels will have about a 6" overlap.



- To begin, use the minimum number of cable ties necessary to hold the panel in place. Do not tighten them. After you get your outside wall fabric in place, you will probably need to make some adjustments. Do this by sliding the insulation panels on the cable. Once you are satisfied with the alignment, you can go back and install all the cable ties, and tighten them.

- The two over the door insulation panels will be inserted above the door with the white liner facing the inside of your yurt. Staple it to the outside framing above the door.

## FABRIC WALLS

You will need:

- Fabric wall(s)
- Ladders
- Stapler
- Drill
- Short screws (optional)
- Clamps

- In order for the fabric to cover the yurt above the door and wrap around the door frame, there is a lot of fabric overlap at the door, which you will be cutting out, once the walls are hanging in place.

- Your walls hang from the  $\frac{1}{8}$ " cable in the roof valance. The "hanks" (white plastic connectors) on the top edge of the walls are twisted onto the cable. They only twist one way. Pliers may be helpful.

- Begin on the left side of the door, as you stand outside. Start hanging fabric wall 7" beyond center of door frame (from both

sides). This will result in a 14" overlap of fabric at the center of the door. The walls are heavy and awkward to carry. You will need a helper or two to unfold the fabric and hold it up while you connect the hanks to the cable. Be careful to keep the fabric from getting dirty!

- Use clamps to hold fabric in place on door jamb so you don't lose your over hang amount.

- Attach every 3<sup>rd</sup> hank to begin with. This will get the weight of the wall distributed around the yurt quickly and make it easier to go back and adjust the placement of the walls. The loops that hold the cable in the valance may be in the way of where you want to attach a hank. You can move the hank by loosening the little screw and sliding the hank to a better position. Try not to pull the hank off the fabric, but slide it along the fabric. When finished, your walls should hang straight without puckers or folds.

- If your walls are in 2 pieces, the piece you just put up will be ending at another doorway. Repeat procedure, leaving 7" beyond center of door frame from both sides. Use clamp to hold in place.

## **CINCH CABLE ALONG BOTTOM OF WALL**

You will need:

- 1/8" cable with turnbuckle attached
- Cable clamps (attached)
- Socket

- Starting at the door, thread your cable through the hanks along the bottom edge of the walls.

- The cable ends will be joined under the doorway. They need to be pulled tight, so the fabric is tucked around and under your plywood band, and you do not see any edges. If you have 2 doors, place the turnbuckle under the back door.
- Using the cable connectors, make a loop on the end of the cable, connecting to the turnbuckle (which should be fully opened). Tighten your connectors so the cable is as tight as you can pull it, and then tighten with the turnbuckle. This is easier to do with 2 people—one holding the ends of the turnbuckle while the other turns the middle.
- After the cable is tight, check the yurt perimeter to make sure it is tucked under. If not pull down on the walls until it is.

\*It is very important to keep your cable cinched snugly under your floor. You will need to tighten it periodically. \*

## **FABRIC AROUND DOOR AND THRESHOLD**

You will need:

- Colored roofing screws
- 32" above door stick
- Stapler

- Once walls are hanging without puckers or folds, pull the fabric taut (horizontally) staple it to the door jambs and trim fabric around the inside of the door frame. leave an 8"- 10" of fabric overhang to wrap around the inside of the door frame.
- From one side pull fabric that is above the door taut. Neatly fold/roll excess fabric back to center brace and staple in place.

- Repeat on other side except use the “above door stick” provided to fold the fabric around on. Set this over the stapled fabric on the center brace. Screw it using the colored roofing screws provided.
- Make a diagonal cut in fabric at upper corners of door frame.
- Fold and wrap the overhanging fabric snugly around door frame—like you would with Tyvek. At the bottom of the door, you’ll need to fold the fabric diagonally first; Staple in place. Repeat on other side of the door. You do not want it to show inside the yurt once your door is set.
- When your door is set in place, this fabric will be covered.
- Included in your supply box is a rectangular piece of fabric “under door cover” that matches your lower panel. Using a stapler, install this so it will be under your door and overhanging the platform. (optional: caulk beneath and caulk on fabric before the door goes in.)

## **HORIZONTAL SUPPORTS BETWEEN VERTICAL STUDS**

You will need:

- 4” Screws
- 2x4 sections angled on one edge
- Saw
- Tri-square
- Drill

You should have received enough horizontal lengths of 2x4 to make a circle ~8½’ off the floor, excluding windows and doors. You will need to cut these to length to fit between the vertical supports and the door/window frames. One end will already be

angled. These horizontal members increase your wind load and are especially important in high wind areas. Use 2 screws per end of horizontal piece.

## FINISHING DETAILS

### **SET DOOR**

You will need:

- Door
- Door shims
- Long screws
- Level
- Saw

- Set the door into the opening and push until the trim is flush with the outside walls. Use door shims behind the hinges and screw into place according to the directions with the door.

- Attach door knobs according to directions in package.

- Suggestion: you can add a hook and eye fastener to the outside of your door, to ensure that excessive winds won't shift the frame and open the door.

### **TIGHTEN THE VALANCE AROUND ROOF**

- Find the laces on the bottom of the valance. Pull VERY tight and tie off. If there is excess cord, you can cut it off.

## **GLASS WINDOWS**

You will need:

- Marker
- Razor knife
- stapler

- Draw a rectangle on your insulation liner or wall fabric about 4" inside the frame made for your window opening.
- Draw a diagonal line from each corner of the wooden frame to the corners on the inner rectangle that you've drawn.
- Using a sharp razor knife, start at the bottom of the window opening and cut along the diagonal lines drawn through the insulation, liner, and outer fabric. Repeat at the top two corners.
- Connect the cuts, taking out the inner rectangle.
- Staple onto window frame. You are ready to set your own windows.

## **RAIN DIVERTER**

You will need:

- Rain diverter
- HH-66
- Rain diverter template
- Marker
- ladder

Note: Do this before installing your drip ledges

- To install your rain diverter(s), center the bubble-foil template over your door so the ends are over the sides of your door and

close to the valance. Trace the top edge of the template onto your roof.

- Apply HH-66 adhesive in a ½" band to roof all along the top of the line you traced. Apply the HH-66 along the 1" strip on the rain-diverter. Allow the adhesive to "tack-up" for a minute or two.
- Starting at the top center, carefully stick your rain diverter to the roof. Do one side, then the other, pressing out any air bubbles.

## **DRIP LEDGE**

You will need:

- Drip ledge board
  - Fabric
  - Colored roofing screws
  - Cable ties
  - 3" Screws
- You should have one drip ledge for each entry, to prevent excess water from wicking in. We still recommend the rain diverters over the doorways as an added precaution.
  - Install your 2x wood drip ledge above your door with the curved edge out using screws provided. It will attach to the bottom of the arced header.
  - Attach the fabric provided with cable ties through the grommets under the roof valance where the valance cable is located. Pull the fabric tight, fold the lower edge under so it is even, and screw it along the outer curved edge of the board, using the colored roofing screws provided in your supply box. Your fabric should be

about ½" wider than the board on either side. You may need to add short screws under the valance if there are wrinkles.

- The drip ledge will be screwed into bottom of door header.

## **WINDOW RAIN GUARD**

You will need:

- Fabric rain guard
- HH-66 or fabri-tac

You will have a fabric rain guard to install above each glass window to prevent rain from wicking under frame.

- Center your rain guard over window frame and apply glue to yurt wall above window trim where the brow will go. Apply glue across the top of the rain guard. Stick rain guard to yurt wall.

- Next, apply glue down the sides of the rain guard, then yurt wall and press to install.

- If your walls are all vinyl, adhere with HH-66. If they are Starfire, use Fabri-Tac.

## **WEATHERIZING SUGGESTIONS**

- Caulk between your plywood band and floor. This needs to happen BEFORE the walls go up.

- Caulk around your door and window frames.