44 ft. Dome Frame Instructions

This is a big job.

You will need :

- a few friends
- 3 levels of scaffolding (the peak is 22 ft high).
- a couple of 9/16" wrenches*

*Ratchet wrenches make the job easier, but normal wrenches will work fine. A drill with a 9/16" socket tip will speed things up.

In this kit you will receive:

30 'A' struts	60 'E' struts
60 'B' struts	90 'F' struts
30 'C' struts	130 'G' struts
30 'D' struts	65 'H' struts
	60 'I' struts

Color coding the struts:

The 44 ft. dome frame has 555 struts in 9 different lengths. Each strut is marked with a letter 'A' through 'I' at one or both ends. The number 7 tells us that it is a 44 ft. dome strut. To help make it clearer as you are erecting the frame, color code each strut with the provided stickers. Put the sticker in the middle of each strut facing the inside of the dome. Double check each strut while you are putting up the frame.

Assembly:

NOTE: It is easier to set up your frame off the deck as long as you have enough people to help lift it back on when complete. If you are setting up on your deck, temporarily nail a brace board to all perimeter boards to hold frame on deck.

Start at the bottom, bolting the struts together as you go. Complete each row before you move up to the next. The large washer is positioned on the outside of the struts to cover any sharp edges. Use the small washers for the bottom row. Do not tighten the bolts until the entire frame is together because you will be unbolting and adding more struts. We find this much easier than trying to bolt all the struts on at once. Add the upper struts to the outside of the bolt, closest to the large washer to enable the dome skin to slide on easily. Let the upper struts hang down until you are ready to add to them, to avoid bending the strut ends.

Use the written instructions below if they are helpful to you. Some people find it easier to set up by just following the frame diagram. Watch the dome construction section of the Pacific Domes video before

assembling your frame and putting on the dome skin.

- Begin by bolting the base (horizontal struts) and sides (semi-vertical struts) of Row 1 together.
  There will be four strut ends at each bolt, and there will be 30 bolts.

- Add the base of Row 2 to the apex of Row 1, bolting together loosely.
  There will be four strut ends at each bolt. There will be 30 bolts.
  You will need to prop up the part that you have done as you move around the circle. Once complete, this much will hold itself up.

- Unbolt and add the sides of Row 2 to each of these bolts.
  Remember to add the struts that point upward to the outside of the bolt, and let them hang down until you add the base of Row 3.

- Add the base of Row 3 to the apex of Row 2, bolting together loosely.
  There will be four strut ends at each bolt. There will be 30 bolts.

- Unbolt and add the sides of Row 3 to each of these bolts.
  Add the struts that point upward to the outside of the bolt, and let them hang down until you add the base of Row 4.

- Add the base of Row 4 to the apex of Row 3, bolting together loosely.
  There will be four strut ends at each bolt. There will be 30 bolts.

- Unbolt and add the sides of Row 4 to each of these bolts.
  Add the struts that point upward to the outside of the bolt, and let them hang down until you add the base of Row 5.

- Add the base of Row 5 to the apex of Row 4, bolting together loosely.
  There will be four strut ends at each bolt, except directly above the pentagons of Row 3/4, where there will be five.
  There will be 25 bolts.

- Unbolt and add the sides of Row 5 to each of these bolts.
  Add the struts that point upward to the outside of the bolt, and let them hang down until you add the base of Row 6.

- Add the base of Row 6 to the apex of Row 5, bolting together loosely.
  There will be four strut ends at each bolt, except directly above the pentagons of Row 3/4, where there will be five.
  There will be 20 bolts.

- Unbolt and add the sides of Row 6 to each of these bolts.
  Add the struts that point upward to the outside of the bolt, and let them hang

down until you add the base of Row 7.

• Add the base of Row 7 to the apex of Row 6, bolting together loosely.
There will be four strut ends at each bolt, except directly above the pentagons of Row 3/4, where there will be five.
There will be 15 bolts.

• Unbolt and add the sides of Row 7 to each of these bolts.
Add the struts that point upward to the outside of the bolt, and let them hang down until you add the base of Row 8.

• Add the base of Row 8 to the apex of Row 7, bolting together loosely.
There will be four strut ends at each bolt, except directly above the pentagons of Row 3/4, where there will be five.
There will be 10 bolts.

• Add the edge of the top pentagon to the apex of Row 8, bolting together loosely.
There will be five strut ends at each bolt. There will be 5 bolts.

• Unbolt and add the five center 'A' struts to these bolts, sandwiching them in between the other five struts (do not put them on the outside). This will enhance the integrity.

• Bring the 'A' struts to the center and *let out a big sigh of relief* as you put in the last bolt at the peak.
Now you are ready to tighten all the bolts.

HINTS! – If at any time you notice the strut ends are not bolting together smoothly and easily as you're erecting the frame, this is because the base of frame is not plane and not perfectly round (44 ft. diameter). Don't be frustrated. Take time to adjust the base of your frame. This will influence any part further up that you're working on. Use your tape measure.

• After Row 5, using lightweight long poles to hold up the existing frame helps to prevent frame from caving in.
• You can call us any time for more details and help. Pacific Domes does offer professional assistance at additional cost to help set up your dome.