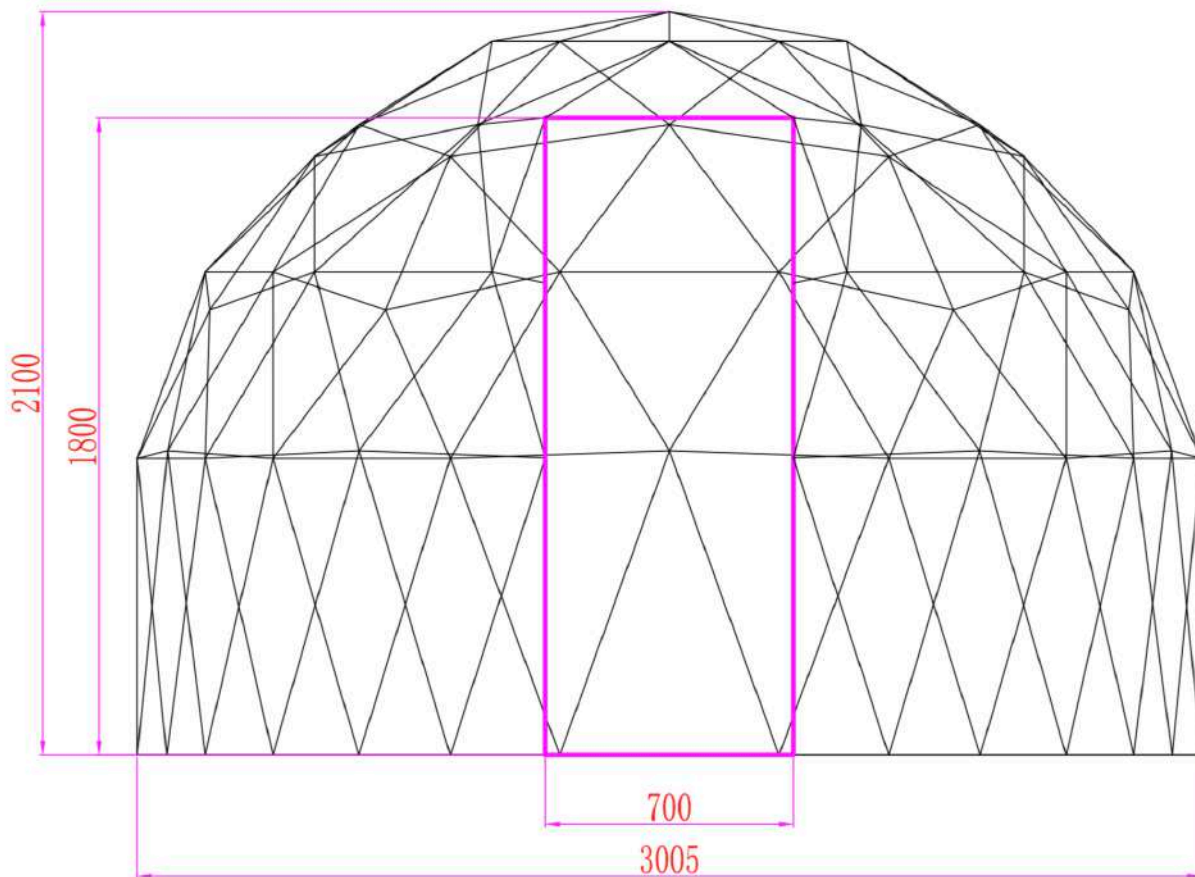




Installation Manual

For Patio Dome 3m/10' extended

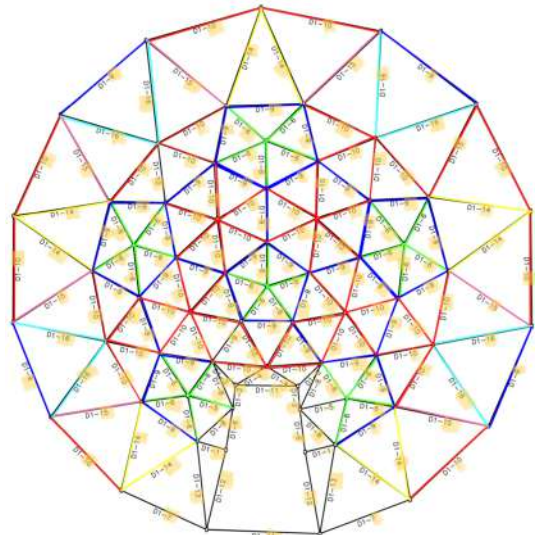
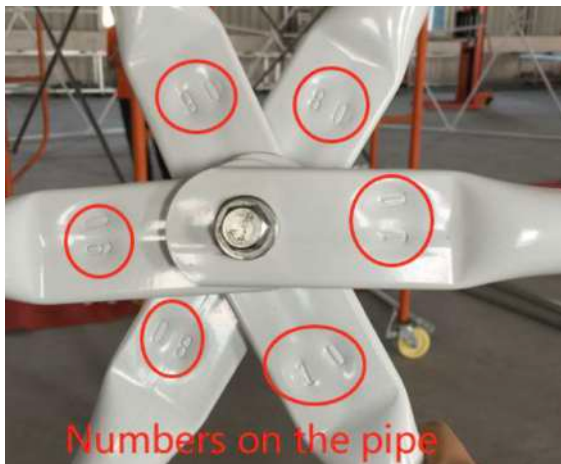


Know the Dome Materials and How to Read the Dome Map

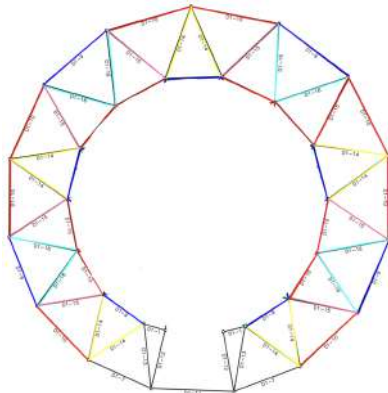
- There are 6 dome packages:



- The “Strut #” at the bottom of the labels (highlighted above) corresponds to the number on the pipe (encircled in red below). This “Strut #” also corresponds to the various numbers labelled on the Dome Map Installation Diagram (see highlighted numbers on the map below)...Reference the full scale Dome Map Installation Diagram on the last page of this manual during dome set-up.
- Note: double check the strut number on the physical pipe before you begin to attach the pipes. This is especially important for package “5 of 6” which contains several strut numbers.



- Each circular ring of the Dome Map Installation Diagram corresponds to each vertical layer of the dome



- Noticing the patterns in the Dome Map Installation Diagram will help with setup:
 - There are four pentagons (5-pointed stars) that use only #6 struts (Figure 1)
 - There are four hexagons (6-pointed stars) that use only #10 struts (Figure 2)
 - All #9 struts form the perimeter of the pentagons (dark blue) & hexagons (light blue) (Figure 3)

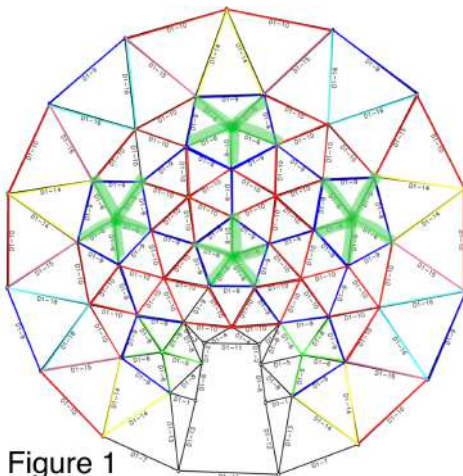


Figure 1

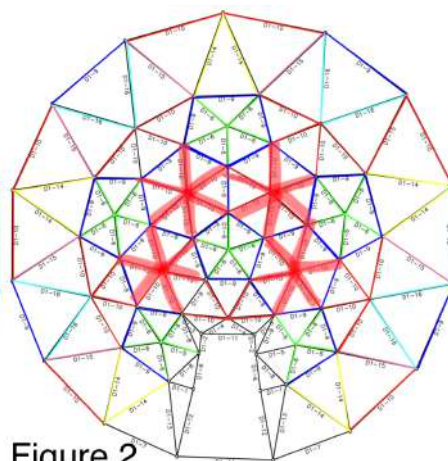


Figure 2

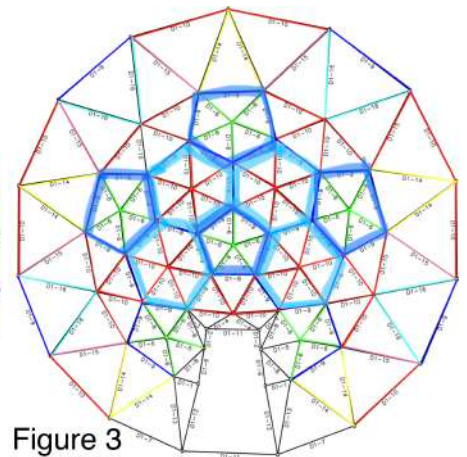


Figure 3

Dome Setup

- Dome assembly works best in a team of three people
 - Person 1: To read the Dome Map Installation Diagram and lead the assembly, calling out what strut # is required at a given time
 - Person 2: To retrieve the appropriate strut # from the packaging as instructed by Person 1
 - Person 3: To hold pieces in place and tighten nuts as needed
- Rule for hardware assembly: insert the bolt with washer from the outside to the inside of the dome. The pipes should be flat against each other, concave side facing inward. Loosely attach the tubing with the nut, removing the nut to add the next layer. Only when the hub is complete, add the washer, do not tighten until the dome is completely set up.

Layer One

- By the end of these steps, the dome assembly should look like **Figure 4**:



Figure 4

- Place the pieces of the dome foundation in a circle starting with the door (**D1-11**) – mark the door (highlighted in **Figure 5**) with a pencil so you have a reference point when constructing the dome.
- There should be 15 pipes laying flat (**Figure 5**) that follow the strut # pattern outlined on the Dome Map Installation Diagram.

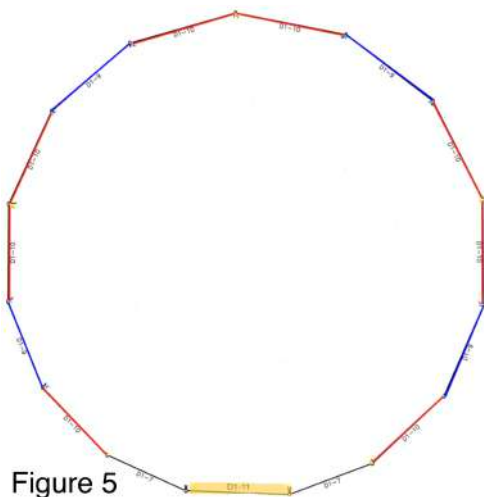
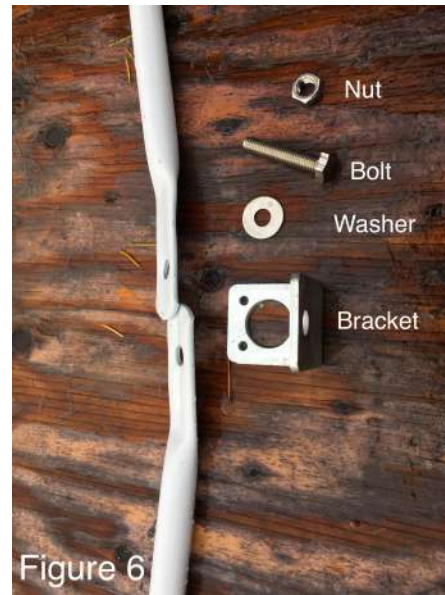
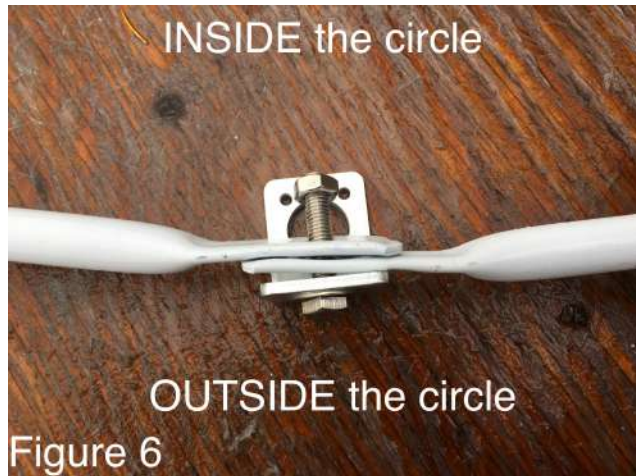


Figure 5



Figure 5

- Assemble the pipes and the hardware shown in **Figure 6**
- Notice the pipes are flat against each other facing the **INSIDE** of the circle.



- Hardware assembly
 - Insert the bolt with washer from the outside to the inside of the dome, going through the bracket (of the side with ONE hole) and through the two pipes
 - Loosely screw a nut at the end of the bolt (loosely because you will be disassembling later to add more pipes)
- Reference the [Dome Map Installation Diagram](#) to know where to PLACE each pipe that follow a triangular pattern around the INSIDE of the circle shown in **Figure 7**. Use the door as a reference to help ensure the pipes are placed correctly around the circular base

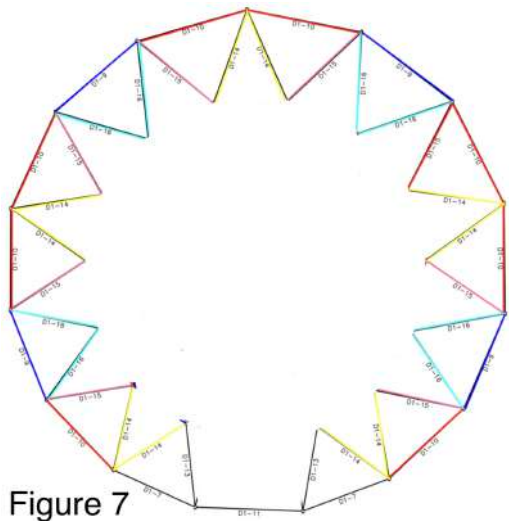


Figure 7

Figure 7

- To simplify assembly, you will be moving the pipes to the OUTSIDE of the circle shown in **Figure 8**, ensuring the pipe #s still matchup with the correct pipe # of the circular base.



- Attach the pipes at the **BASE** of the circle seen in **Figure 8** (the vertex of the triangle will still be loose). Insert a washer at this attachment point before screwing the nut back on. These triangles will be the vertical height of the first layer.
- Refer to the [Dome Map Installation Diagram](#) to lay the required connecting pipes **IN BETWEEN** the triangles you have laid out (see **Figure 9**)



- For the next step, have one person stand on the inside of the circle, and one person stand on the outside of the circle. The person on the outside stands the triangle up using one hand, and in the other hand, pick up the connecting horizontal loose pipe laid out in the previous step. The person on the inside loosens and removes the nut and assists the person on the outside in assembling the connecting pipe with the standing triangle (**Figure 10**).
- Repeat previous step until the first layer is complete (**Figure 4**).

Pre-Assemble the Hexagons and Pentagons

- Before adding any more pipes to the dome structure, the next step is to pre-assemble the hexagons and pentagons.
- Recall there are four pentagons (5-pointed stars) that use only **#6 struts** (**Figure 1**) and four hexagons (6-pointed stars) that use only **#10 struts** (**Figure 2**)
- To simplify assembly, you will pre assemble THREE 5-pointed stars using only **#6 struts** (**Figure 11**)

- NOTE: the fourth 5-pointed star mentioned above is located at the very top of the dome (**Figure 1**). These pipes will be attached individually as the last step of the fifth layer.
- When pre-assembling the hardware with the pipes, remember to insert the bolt through a washer first. Screw on a nut (loosely) to secure the pre-assembled 5-pointed stars.
- Remember, the open end of the bolt is on the inside of the dome where the pipe attachments are concave-shaped.



- Repeat the pre-assembly steps above for the four hexagons (6-pointed stars) that use only #10 struts (**Figure 12**)



Layer Two (without the door)

- By the end of these steps, the dome assembly should look like **Figure 13**:

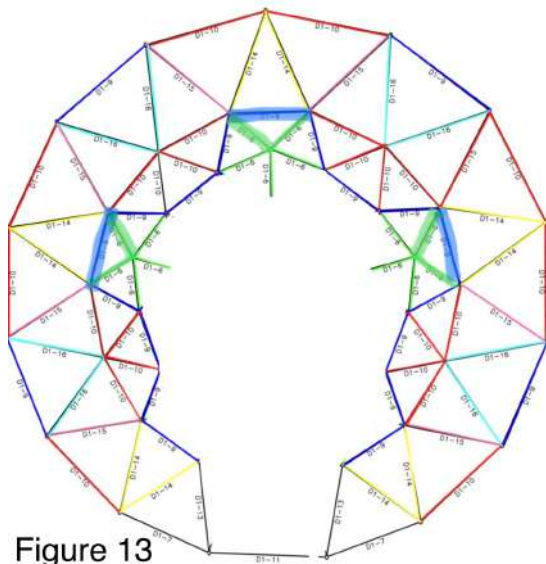


Figure 13

- Take one of the pre-assembled 5-pointed stars (**#6 struts**) and attach the two innermost **#6 struts** (highlighted green, **Figure 13**) to each end of the **#9 struts** on the first layer of the dome (highlighted blue, **Figure 13**). Refer to the [Dome Map Installation Diagram](#) to ensure correct placement
- Repeat step above for the other two pre-assembled 5-pointed stars. It is OK to leave the stars free-standing as imaged in **Figure 14**



- The next steps will require twelve **#9 struts** and eight **#10 struts**
 - Four of the **#9 struts** will contribute to the *horizontal* second layer of the dome, and eight of the **#9 struts** will make up the *vertical* second layer of the dome (**#9 struts** highlighted blue, **Figure 15**)
 - All of the **#10 struts** will contribute to the *vertical* second layer of the dome (highlighted red, **Figure 15**)

- Place the vertical #9 struts on either side of the attached #6-struts of the 5-pointed star. Add a washer before screwing on the nut. At the upper end of the same #9 strut, attach the next innermost #6 strut of the pre-assembled 5-pointed star to form a triangle (highlighted green, **Figure 15**). Repeat this pattern on either side of the free-standing 5-pointed stars.
- Place the vertical #10 struts (highlighted red, **Figure 15**) in between the #9 struts assembled in the step above
- Place the horizontal #9 struts (highlighted blue, **Figure 15**) in between the #10 struts from the step above

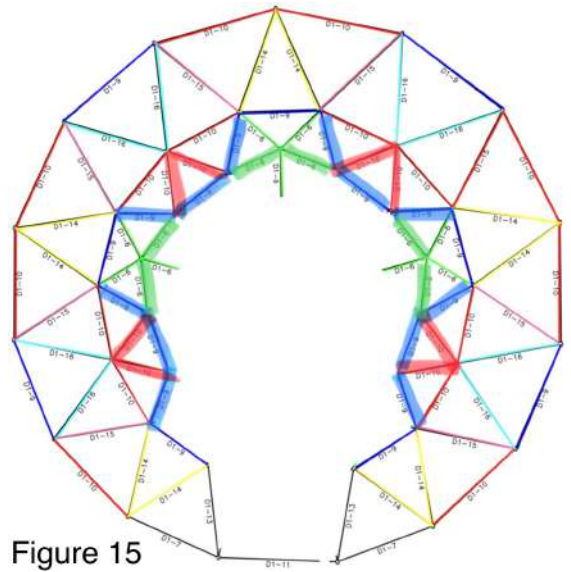


Figure 15

Layer Two (including the door)

- Notice there are two more 5-pointed stars in the second layer of the dome on either side of the door (highlighted green, **Figure 16**). Pre-assemble two pentagons (same process as before) using the strut order as follows: #6-#6-#5-#6-#6.
- Attach the pre-assembled 5-pointed stars (ordered #6-#6-#5-#6-#6) on either side of the door, where the two innermost #6 struts attach to either side of the horizontal #9 strut (highlighted blue, **Figure 16**). Add a washer before screwing on the nut.

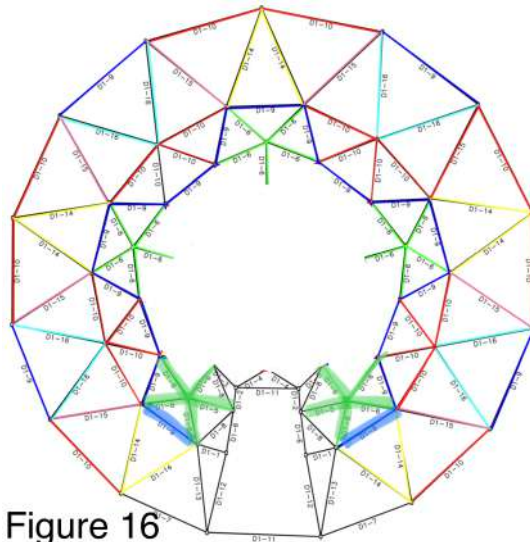


Figure 16

- Using the [Dome Map Installation Diagram](#), pre-assemble the door, attaching the washer/bolt/nut where it's marked "X" in red in **Figure 17**. NOTE: pre-assemble with the washer/bolt going from the outside to inside of the dome. Loosely screw on a nut.
- One person hold the door in place while another person uses the [Dome Map Installation Diagram](#) to determine which door struts attach to the struts of the first and second layer of the dome.
- Note the **#5 strut** of the 5-pointed pentagons attach to the left and right of the door at the contact point between the two **#8 struts** (**#5 struts** highlighted purple, **#8 struts** highlighted orange, **Figure 17 & 18**). Add a washer to these contact points left/right of the door.
- The finished second layer with the door will look like **Figure 18**.

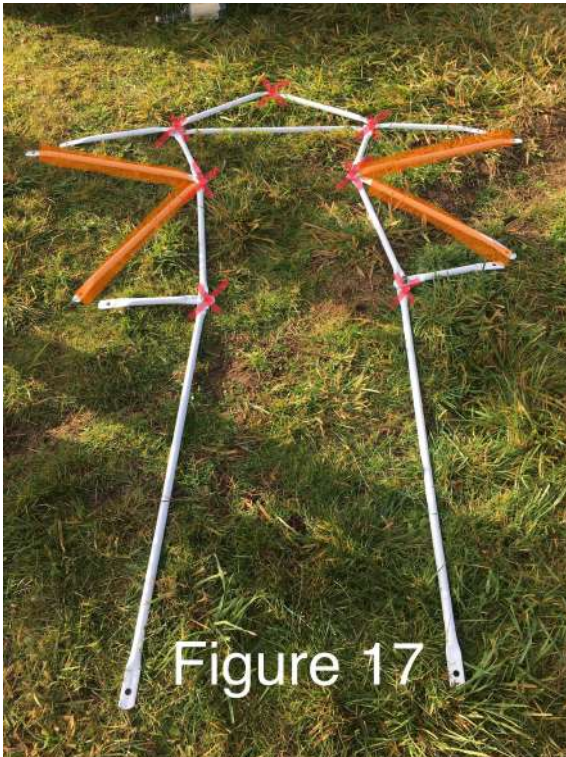


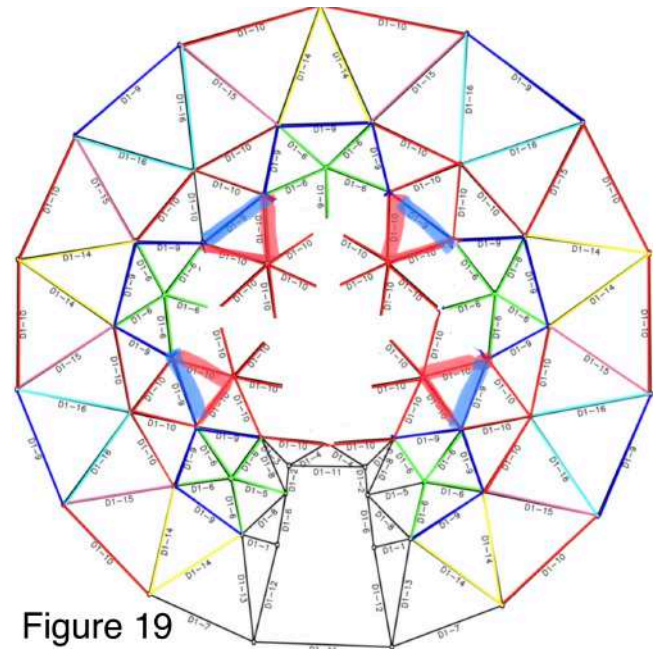
Figure 17



Figure 18

Layer Three

- Attach the innermost **#10 struts** of the pre-assembled 6-pointed stars to both ends of the horizontal **#9 struts** (**#10 struts** highlighted red, **#9 struts** highlighted blue, **Figure 19**) to begin forming the third vertical layer of the dome. Refer to the Dome Map Installation Diagram to ensure correct placement.



- Retrieve eight **#9 struts**. These will also contribute to the vertical layer of the dome highlighted blue, **Figure 20**)
- At the connection points (encircled orange, **Figure 20**) where you just added the pre-assembled 6-pointed stars, attach the **#9 struts** (highlighted blue, **Figure 20**). Add a washer to the bolt before screwing on the nut.
- At the upper end of these **#9 struts**, connect another **#10 strut** from the pre-assembled 6-pointed star to complete the triangle.
- Continue this pattern until the third layer is complete (NOTE: the pattern around the door is slightly different)
- Beside the door, the lower and upper end of the **#9 struts** (dark blue, **Figure 20**) connect to the remaining two **#6 struts** of the 5-pointed pentagons beside the door (highlighted green, **Figure 20**)
 - At the lower end of these **#9 struts**, add a washer to the bolt
 - At the upper end of these **#9 struts**, attach a **#10 strut** to either side (highlighted orange, **Figure 20**), which will connect to the vertex of the door (**#4 struts**)

- Refer to the Dome Map Installation Diagram to ensure correct placement of struts.

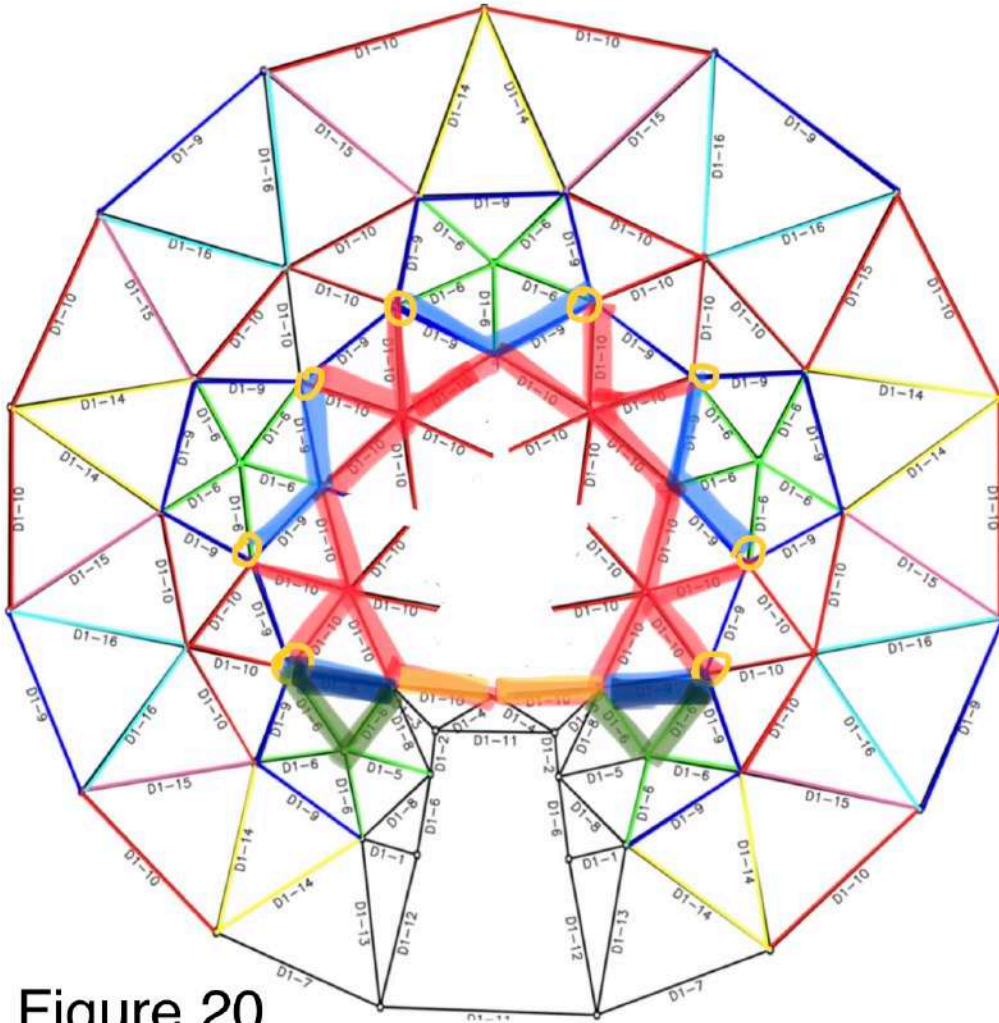


Figure 20

Layer Four

- Five #9 struts are used in this layer (highlighted blue, Figure 21)
- The #9 struts in this layer attach to the remaining two #10 struts of the pre-assembled 6-pointed star (highlighted red, Figure 21)
- Above the door attach two #10 struts (highlighted dark red, Figure 21). At the bottom of these struts, add a washer. The top of these struts attach to the #9 struts by the door.

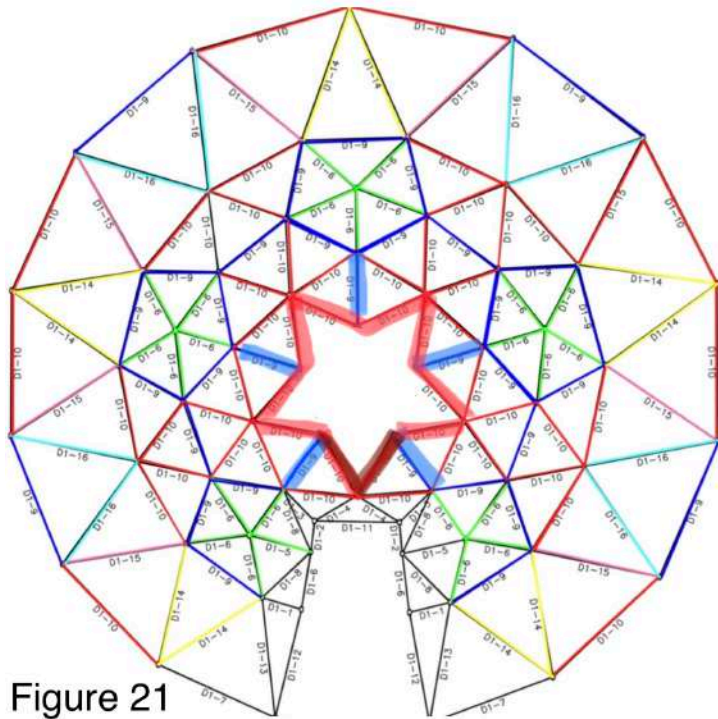


Figure 21

Layer Five

- Retrieve five #9 struts and five #6 struts.
- At each of the remaining five contact points (encircled orange, **Figure 22**), attach a #9 strut (highlighted blue, **Figure 22**) and a #6 strut (highlighted green, **Figure 22**) to each of the five joining #10 struts (highlighted red, **Figure 22**).
- Attach the remaining #6 struts that form the highest point of the dome.

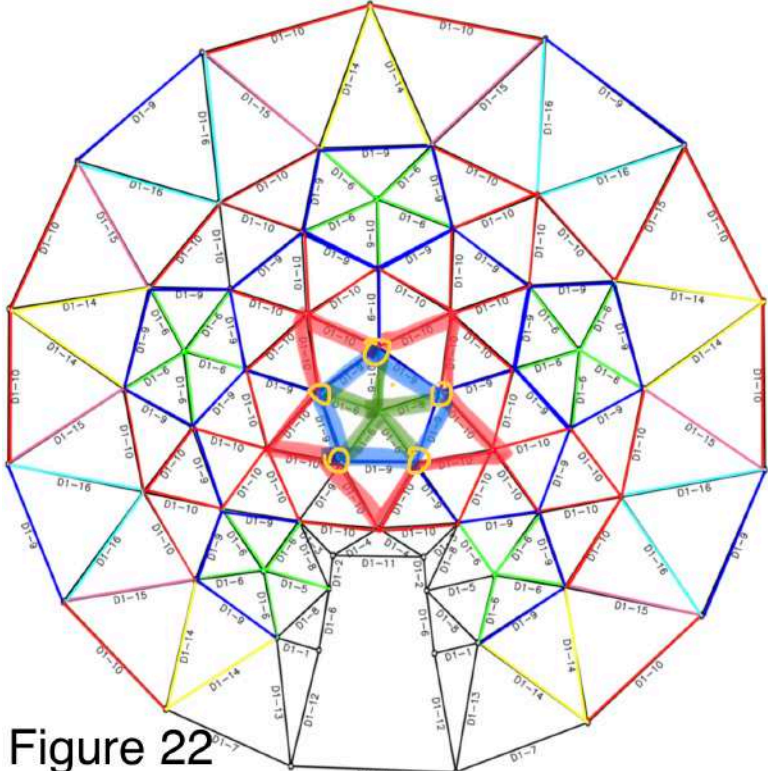


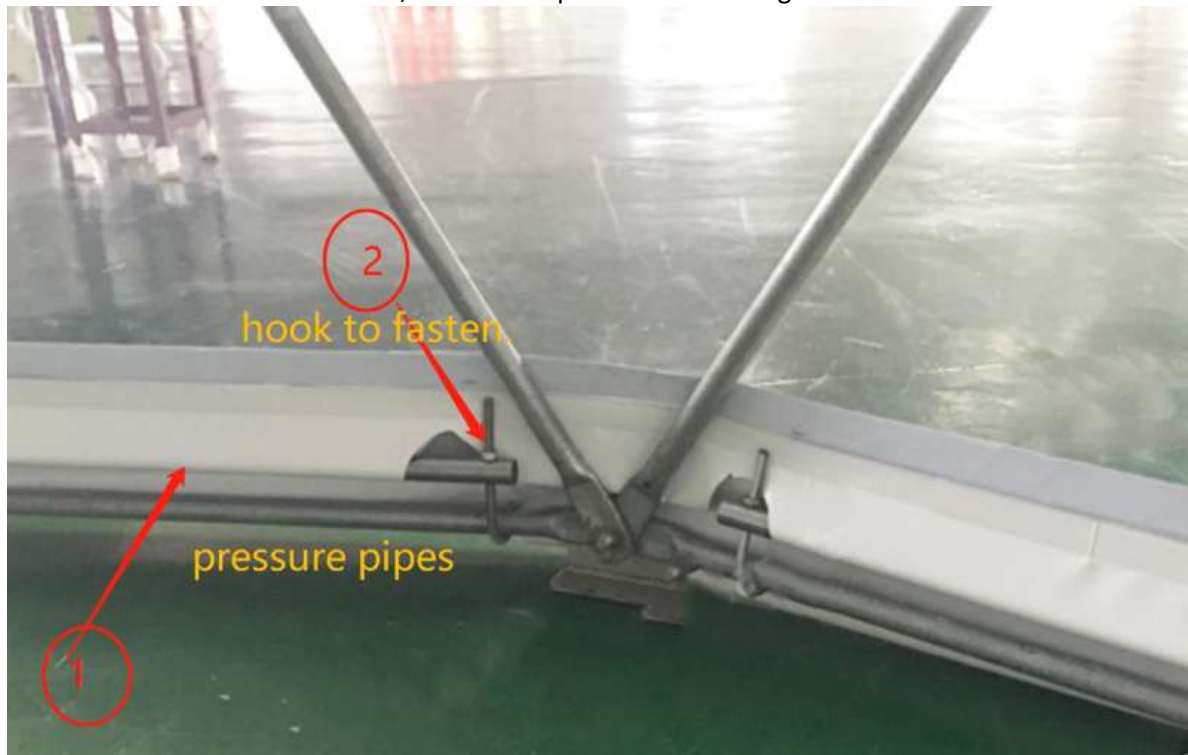
Figure 22

Tighten the Dome

- Once the entire dome is assembled, tighten the nuts (an impact driver with socket will speed this up considerably) from the centre top down all the way around. Now you have a rock solid structure!
- Centre your dome and attach the feet to the ground or platform with screws, bolts or ground anchors.
- Screw the plastic caps (found in hardware package) onto the bolts inside of the dome.

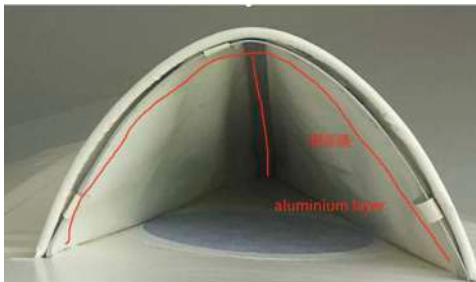
Fitting the Cover

- Pull the cover over the frame and centre the door.
- Pull the cover down even further by using your body weight (**Figure 23**)
- If setting up in cold weather, the cover will be more stiff and wrinkly and harder to tension. In this case, use the biggest heater you have (or multiple ones) to heat up the dome as warm as possible so it can be tightened well.
- Line up the tensioning struts in their positions: they correspond to the dome strut number that is 10 less- 19 goes with 9, 20 with 10, etc.
- You may need to make small cuts in the tensioning sleeve to insert the tensioning struts.
- We have found Ratchet straps useful for tensioning the cover. You can use ratchet straps to pull the cover towards the sides of the door on both sides and lace it tightly, then move the straps to one side of the dome, attach the J-hooks and bolts loosely, and move the straps along, until all J-hooks are attached. Only then, tighten all nuts on the J-hooks with a wrench or ideally a long socket on an impact driver.
- Wrinkles will come out over time, with the help of heat and sunlight.





- Insert the aluminum strips to stiffen the edge of the vent opening



Dome Map Installation Diagram

