KIT BUILDING SYSTEMS

MODEL:405021

W12.2xL15xH6.4M

INSTALLATION INSTRUCTIONS

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Congratulations on your purchase of our instant shelter. This unit is a combination of excellent manufacturing and design. It is comprised of a rigid frame and a durable cover. For easy assembly, we have marked all the parts with codes, with proper installation, use and maintenance, your unit will provide many years of good and suitable service.

Tools Required

The following hand tool will be needed for proper installation of your new building:

- 12mm, 14mm, and 17mm open end wrenches
- 12mm, 14mm, 17mm sockets or box wrenches
- Large flat head screwdriver
- 2lb maul or sledgehammer
- 4ft level
- 14ft step ladder
- Stake and string for aligning base plates and frame

Assembly Procedure

1. Prepare location and place all unit boxes near location sight. Perform an inventory check before beginning, to be certain all components are available for installation.
2. Secure base plate flanges to base surface.
3. Assemble every group of the arch.
4. Begin frame assembly with front end arch, first interior arch, purlins, etc.
5. Add to assemble other groups of arches.
6. Install main cover over frame.
7. Install end cover over end panels.

Read all the detailed instructions and notices in the following assembly instructions!

Maintenance and Care

Annually or more often, the unit should be completely inspected internally and externally to make certain the unit remains properly installed and secured. Particular attention should be paid to:

- Hardware - check all carriage bolts and hardware connectors to be certain they are in place and tightened.
- Weather trends - The unit will strain against the base plate flange under windy conditions, pegs hardware, connection to frame members should be maintained tight and depth of pegs should be checked to be certain they remain deeply and firmly set.
- Snow Accumulation - All snow accumulation on the main cover should be removed as soon as possible. Tap the main cover from the inside with a broom or soft brush to clear cover.
- Main Cover Lacing - The poly rope that secures the main cover to the bottom rail of the frame assembly should be checked, and adjusted as needed. The tension on the main cover should be uniform from end and side to side. Rope ends must be tied off onto the frame members at the ends on each side.
- Cleaning - Cover and doors can be cleaned with a mixture of light detergent and water. A soft bristle brush with the mixture can be used to loosen any hard dirt, mould, or build up on the cover. After cleansing, the cover should be rinsed thoroughly to avoid any chemical reaction from residual detergent. Allowing dirt and debris to sit on cover over an extended time will damage cover irreparably.
- Severe Weather - in preparation for inclement weather, completely secure the door of your buildings portable building.

KIT BUILDING SYSTEMS

Parts List

part Code	Descriptin	Quantity
1	Top roof truss	5
1A	Top roof truss for front and back panel	2
2	Roof truss	10
2A	Roof truss for front panel	2
2B	Roof truss for back panel	2
3	Shoulder truss	10
3A	Shoulder truss for front panel	2
3B	Shoulder truss for back panel	2
4	Sidewall truss	10
4A	Sidewall truss for front panel	1
4B	Sidewall truss for back panel	2
4C	Sidewall truss for personal door side	1
5	Horizontal tube	66
6L	Base plate for left corner	2
6R	Base plate for right corner	2
7L	Base plate for left side	5
7R	Base plate for right side	5
	Ratchet	14
8	Base plate for front and back panel	4
8A	Base plate for door	2
9	Lower vertical tube for sides of back panel	2
10	Upper vertical tube for sides of back panel	2
11	Lower vertical tube for middle of back panel	1
12	Upper vertical tube for middle of back panel	1
13	Rails for middle of back panel	6
13A	Upper rails for sides of back panel	2
13B	Middle and lower rails for sides of back panel	4
14	Upper door track	2
14A	Lower door track	2
	Connectors of door track	2sets+4
15	Upper vertical tube for front panel	1
15A	Lower vertical tube for front panel	1
15B	Upper vertical tube for front panel(personal door side)	1
15C	Lower vertical tube for front panel(personal door side)	1
	Connectors of vertical tube	1sets+2
16	Upper rails beside door in front panel	2
16A	Rails beside door in front panel	2
16B	Upper rails for sides of front panel	1
16C	Lower rails for sides of front panel	1
16D	Rail for hand winch	1
16E	Rails beside door(personal door side)	2
16F	Upper rail for side of front panel(personal door side)	1
16G	Lower rail for side of front panel (personal door side)	1
17	Brace tube for sidewall	8
17A	Clip for #17	16
18	Tensioning tube for front panel	2+2
19	Tensioning tube for back panel	4+1
20	Tensioning tube for roof cover	10+2
22	Door tube	6+6
23	Bottom door tube	1+1
25	Stake peg	60
25A	Anchor bolt	60
28	Hexagon bolt M10*85	50
28A	Carriage bolt M10*85	86
29	Hexagon bolt M10*75	274

30	Hexagon bolt M10*30	40
31	Self-tapping screw	100
32A	Band for ratchet	14
34	Roof cover	1
35	Cover for front panel	1
37	Cover for door	1
38	Cover for back panel	1
39	Rope for cover installation	20
40	Plastic cap	12
41	Hand winch and pulley	1sets
42	Steelwire for front and back panel	4
42A	Steelwire for sidewall	8
	Turn buckle kit	12+24
43	Door beam	1+1
43A	Hanging tube for door beam	1
44	Anti-wear sticker	42
45	PVC tube for roof cover	16+2
46	Ratchet for PVC tube	40
47	Band for PVC tube	40
48	Personal door kit	1+1
49	Metal sheet for personal door	2+1

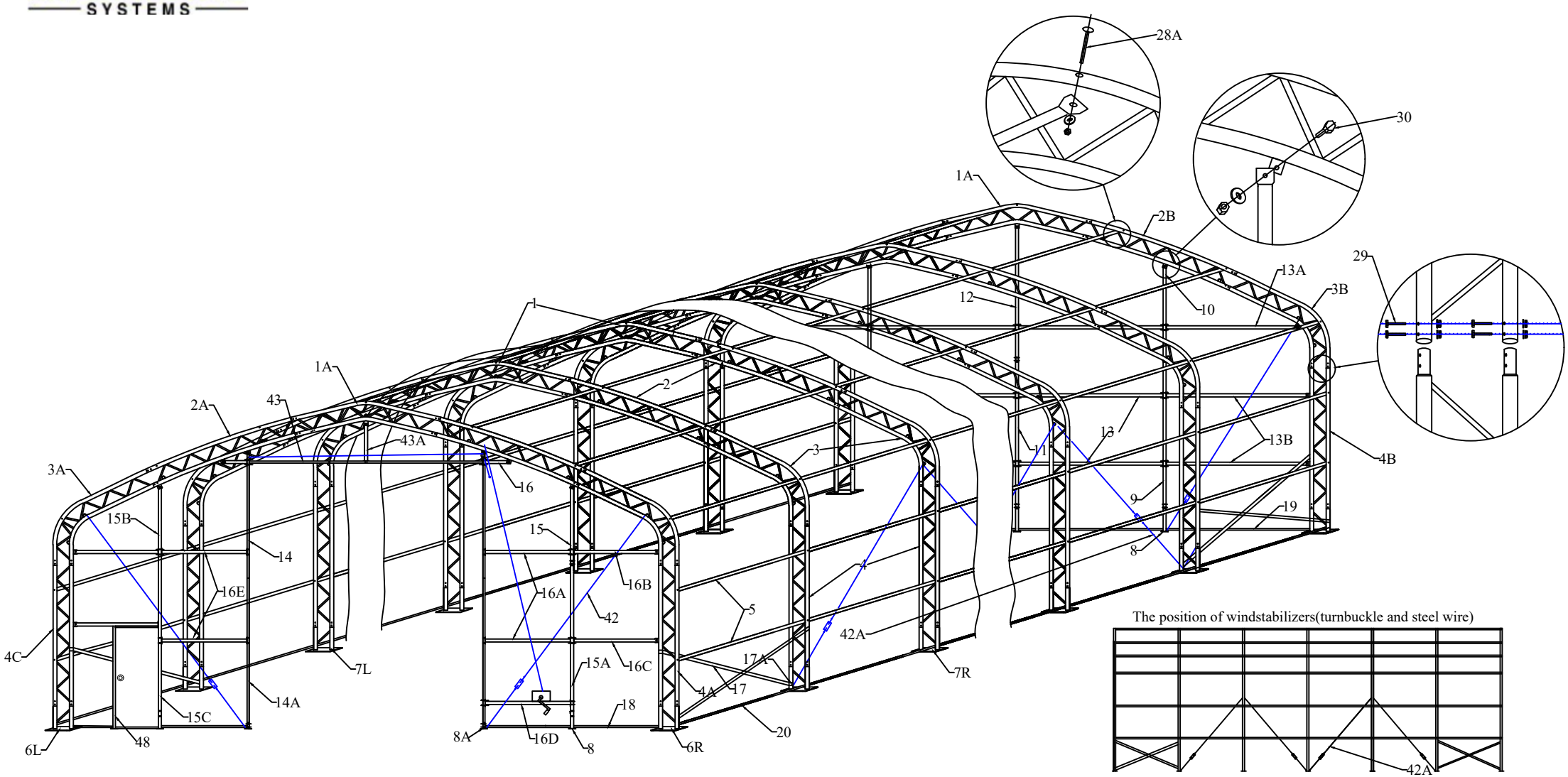


Figure 1 Sketch of Trussed Frame Shelter TC405021

Sit the building boxes in the chosen location. Remove all the components from packaging to ensure all components are present by checking with the Part List.

The Shelter must be secured to a firm surface that can receive and retain pegs firmly in position. The shelter should be installed on FIRM GROUND, not on SWAMP, SOFT/WET GROUND. The Base Flanges must be secured so they cannot be moved.

Step #1 --ARCH ASSEMBLY

Assemble ALL the arches including the base plates, and LAY them **on the ground** first. DO NOT erect them until you finish all the arches assembly. Each arches consist of:One Top roof tube (Part # 1/1A), Two Roof curving tube (Part # 2/2A/2B), Two Roof curving tube at shoulder height (Part # 3/3A/3B), Two Sidewall tube (Part # 4/4A/4B/4C), Two Base plates (Part #6L/6R/7L/7R). Connect the arches by Using the hexagon bolts with washers and nuts(part #29) through predrilled holes in frame members.

NOTE: Please notice that the part code of the arch sections. The sections of middle,front and back arches are not the same. Check with the Part List and the Sketch Figure.

NOTE: Please use the blanket(part #44) at each joint of connection of arches(except the two joints at bottom).

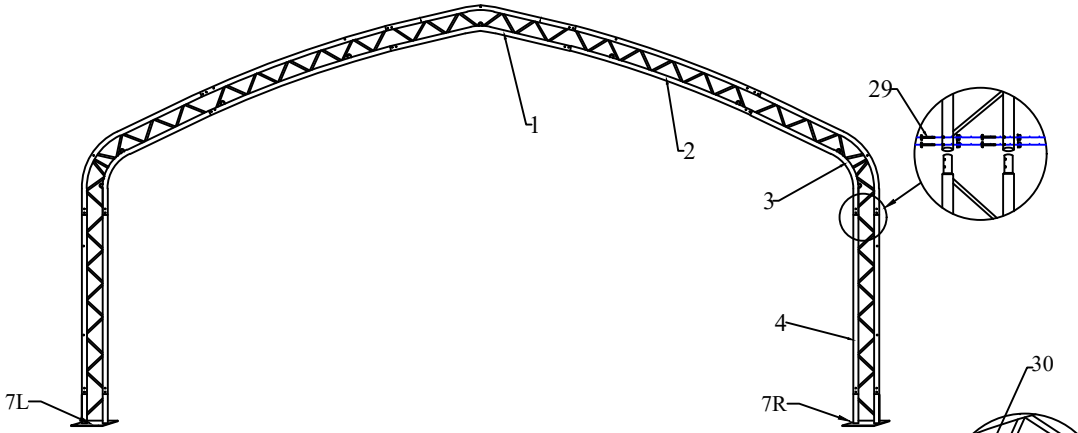


Figure 2 The middle arch

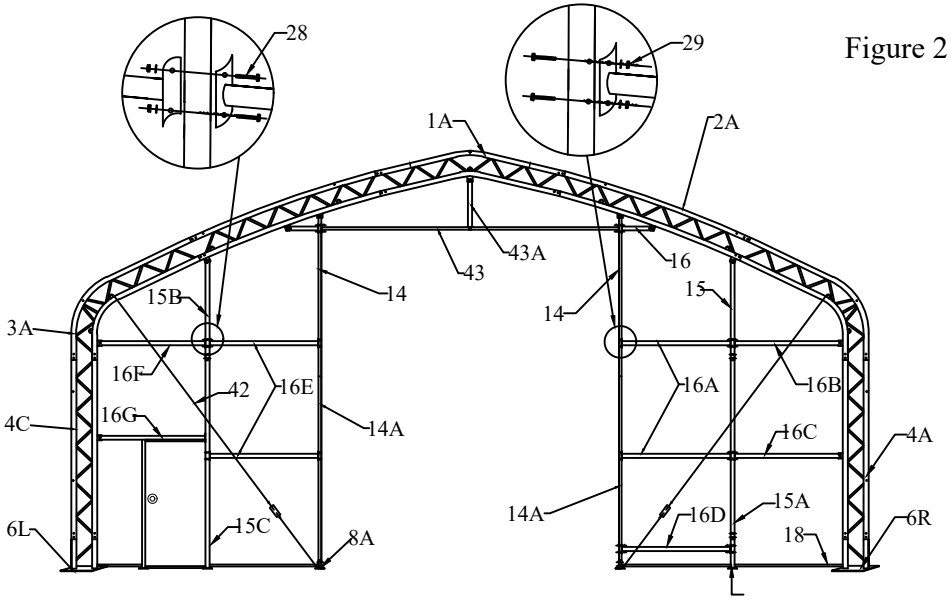


Figure 3 Front Panel Arch

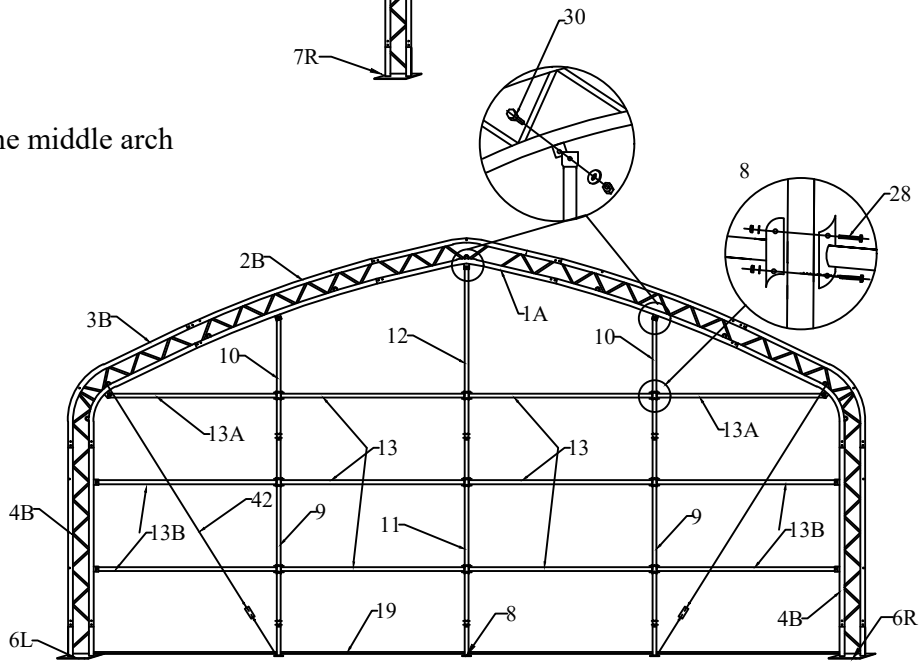


Figure 4 Back Panel Arch

Step #2 --ERECTING ARCHES

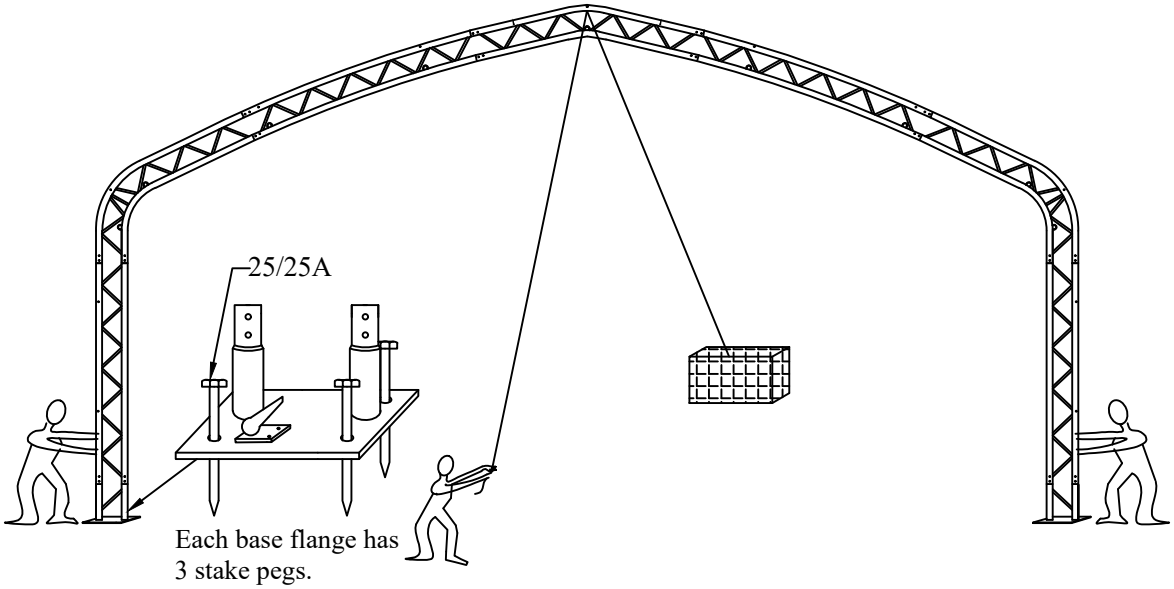


Figure 5 Erecting the Arch

As figure 5 shows, erecting the front arch by using ropes, tie and secure the rope on some heavy object to secure the arch standing temporarily. Then secure the base plates to the ground by using stake pegs(part #25/25A).

Step #3 --Assembling Roof Purlins

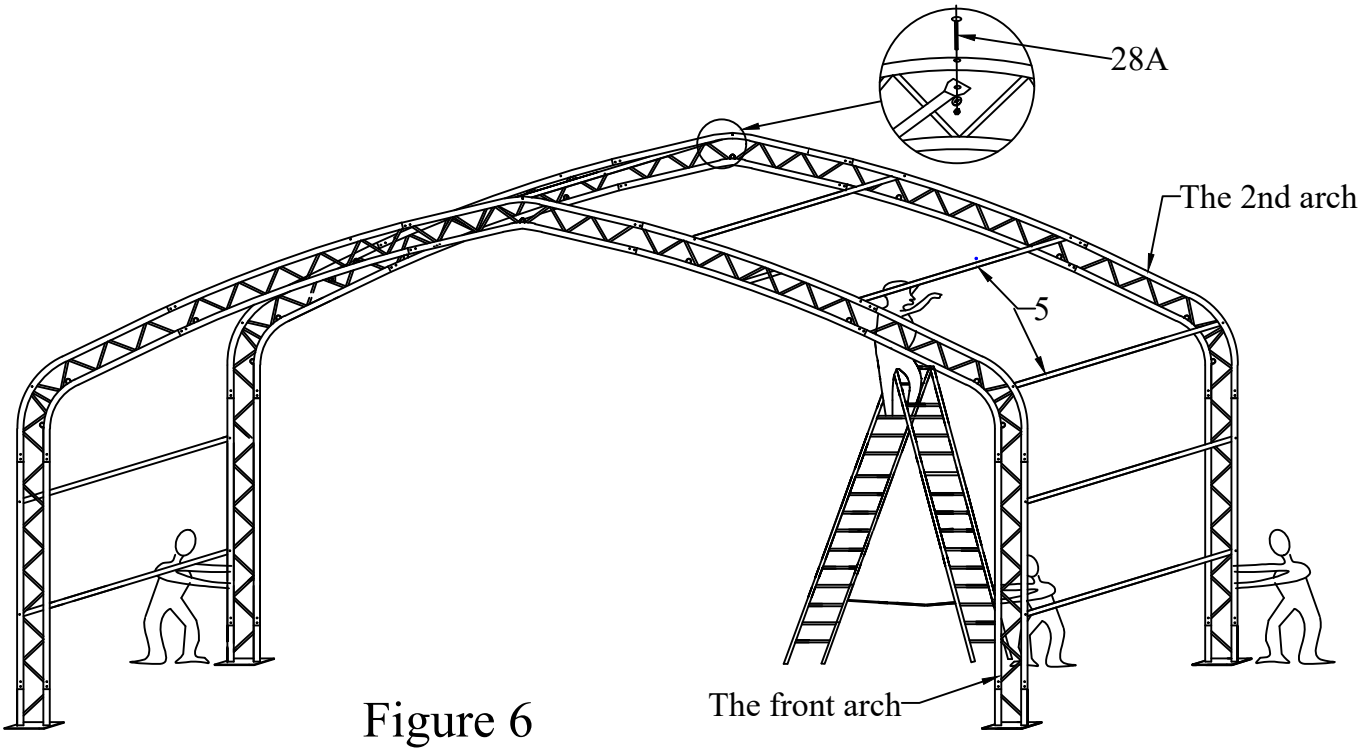


Figure 6

Immediately after erecting the front arch, erect the 2nd arch in the same way. Then connect the two erected arches using Roof Purlin Tubes as figure 6 shows. Secure the Roof Purlin tubes into place using carriage bolts and nuts (part #28A).

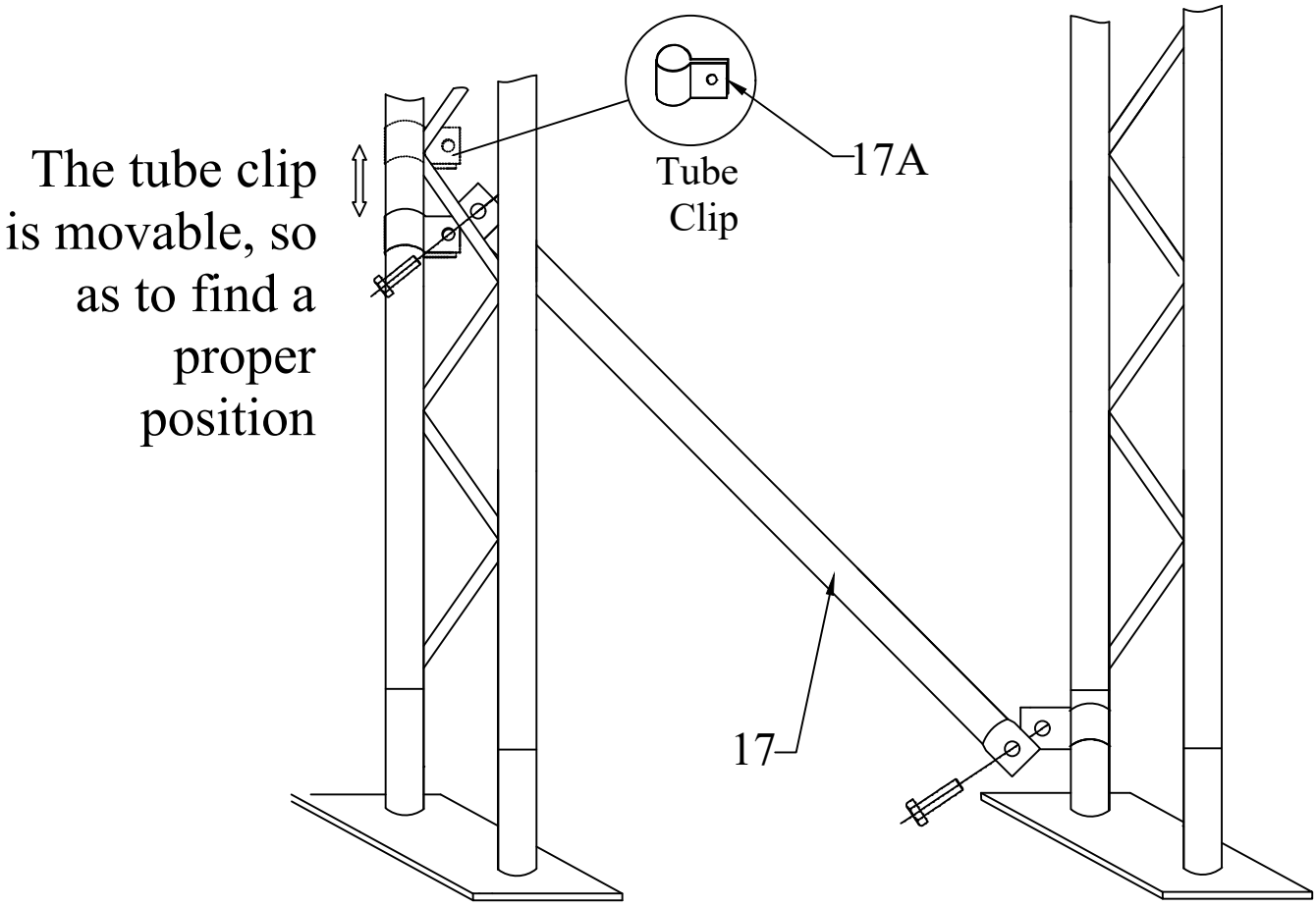


Figure 7: Wind Brace Supports(part 17)

Next install the Wind Brace supports that connect the Front Arch to the first Interior Arch. The Wind Braces give the arch assemblies strength as a unit.Use Bolt M10X30 (Part #30) at the end of each Wind Brace Support to secure.

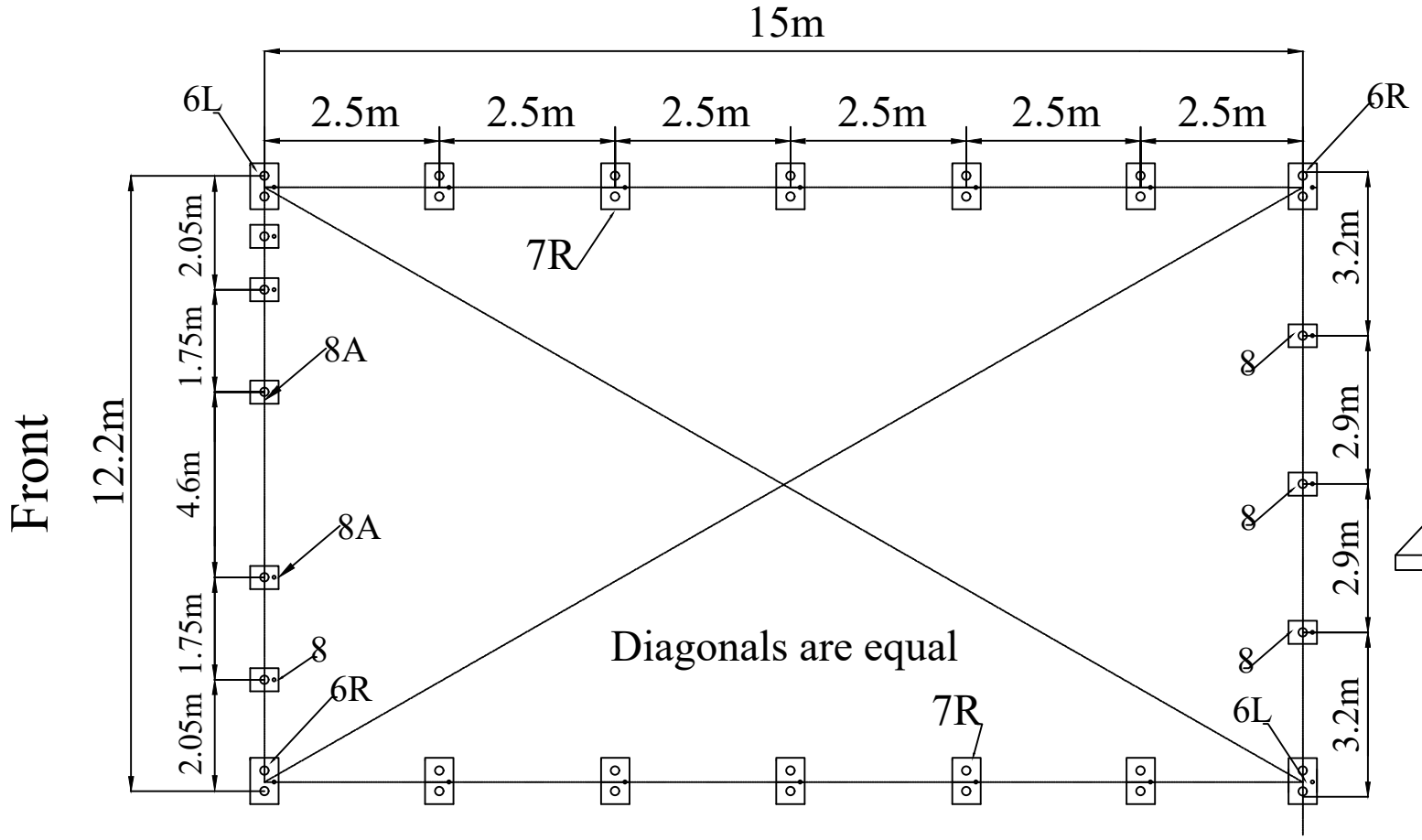
Continue to install other Arches Assemblies in the same manner. Overlap pinched ends of Roof Purlin onto same carriage bolts inside frame assembly.

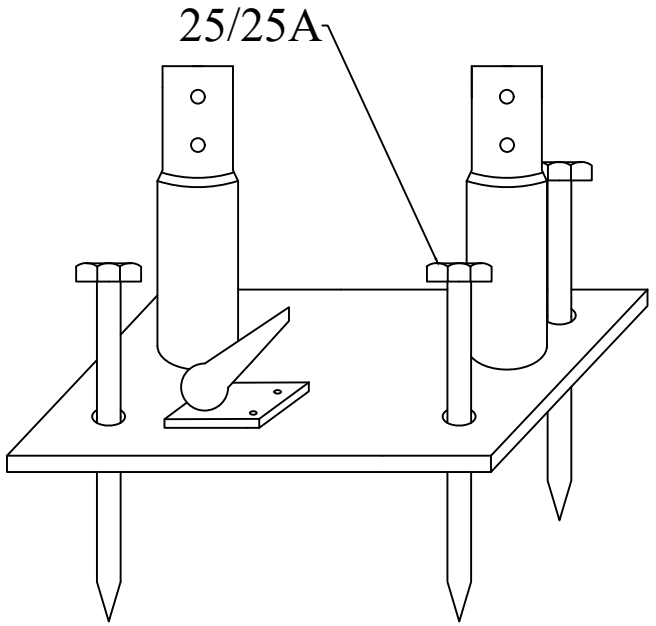
Next check entire frame assembly for square and plumb. Adjust Wind Braces and Roof Purlin as necessary to being frame into plumb. Next tighten frame bolts adequately.

IMPORTANT NOTES:

Before Installing the fabric, the anti-friction straps must be strapped over the joints of the steel tubes to prevent the fabric from scratching against the steel which can otherwise cause damage to the fabric over time.

Position of Base Flanges





The Shelter must be secured to a firm surface that can receive and retain pegs firmly in position. The shelter should be installed on FIRM GROUND, not on SWAMP, SOFT/WET GROUND. The Base Flanges must be secured so they cannot be moved.

Step #4 --WIND STABILIZERS CABLES AND TURNBUCKLES

On each side of frame, between the first and last two groups of arches, and on the front&back panel frame, cables with turnbuckle are provided to align and strengthen frame before installing cover. After installing all cables, tighten the turnbuckles slightly to adjust the arches vertically and to add rigidity.

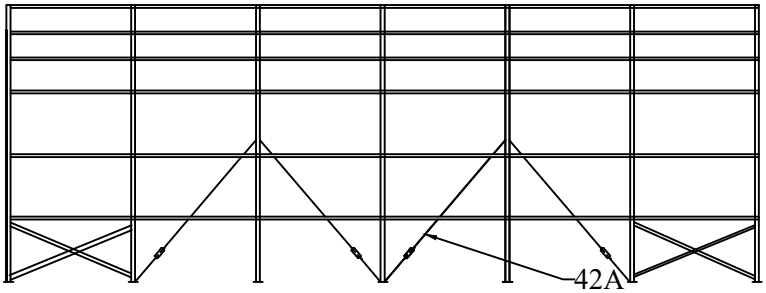


Figure 8 The position of windstabilizers(turnbuckle and cable) at the sidewall.

Step #5 --BOLT RATCHETS TO BASE FLANGES

Attach Tie Down Ratchet to each Base Flange along Sidewall. Use two Bolts M8x15 for each sidewall ratchet to secure to Base Flange.

ROOF COVER INSTALLATION

Step #6 --POSITION ROOF COVER

As figure 9 shows, when ready to install Roof Cover, unpack cover and lay parallel to building frame on one side. Cover must be pulled over top of frame assembly without being snagged or stressed on any frame members. Use multiple ropes over top of frame as shown in picture below. Having another person inside frame on a ladder to assist in getting Roof Cover over frame will insure the cover will go on without any damage.

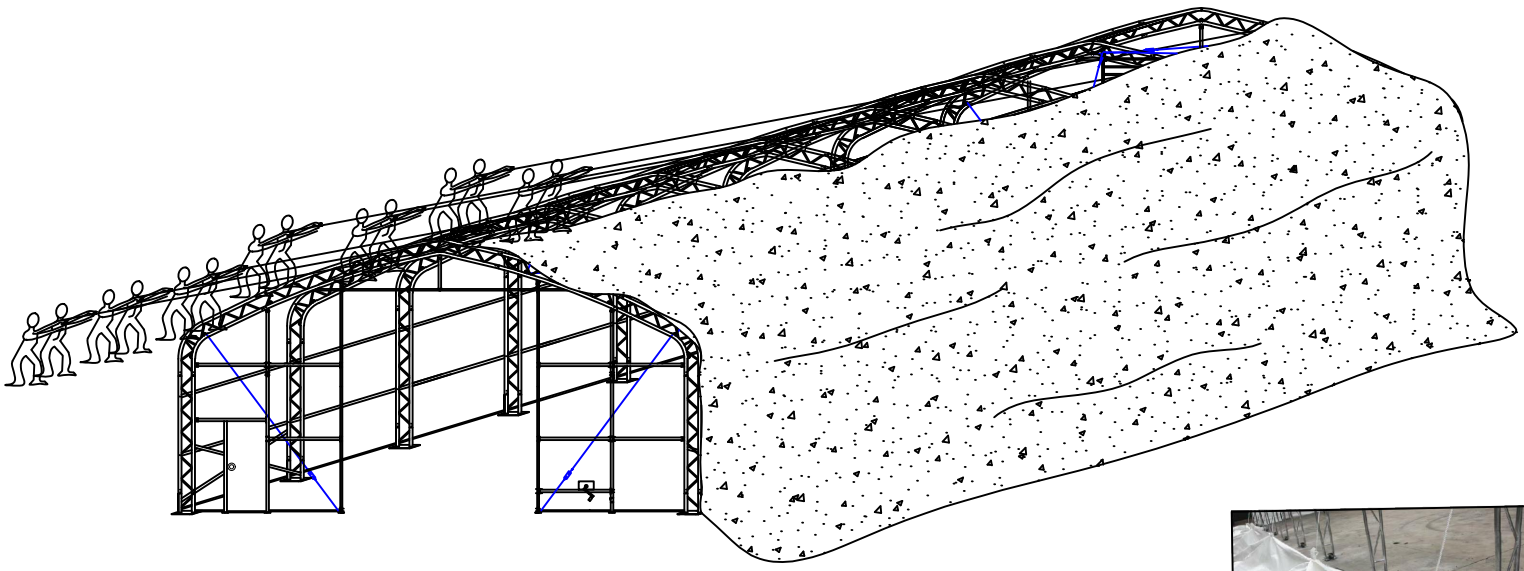
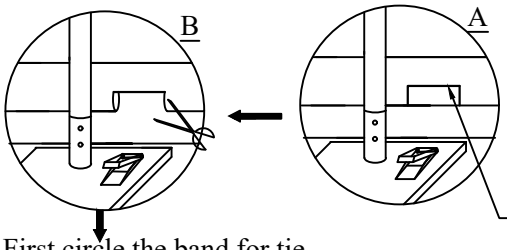


Figure 8 Pull the Roof Cover over the frame evenly

Then make the cuts using forfex along the outlines.

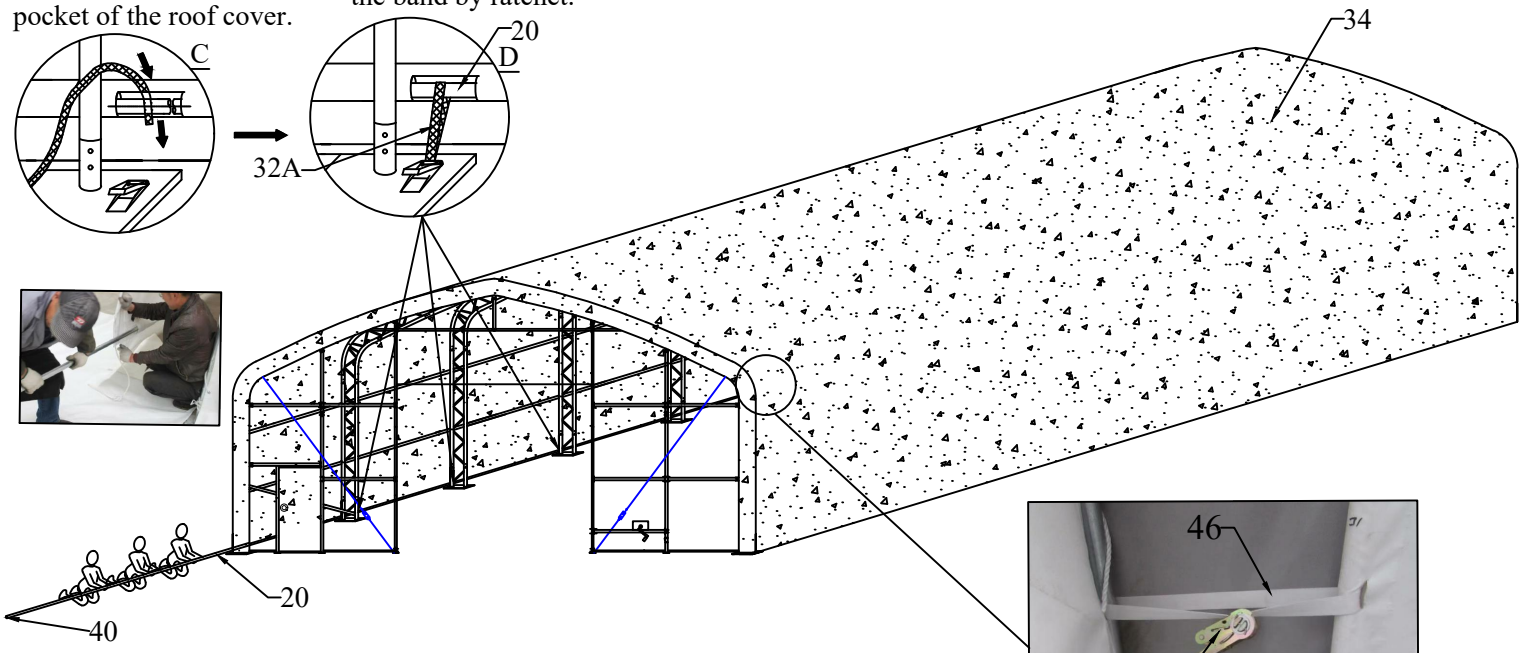


Before inserting the cover tensioning tube(part #20) into pocket of roof cover, you need to make cuts for band of Ratchet on the cover first. Firstly please draw the outline of the cuts according to the position of Ratchet. The position of cuts should be right upon the ratchets.

draw the outline of cuts

First circle the band for tie down ratchet (part#32A) around the tensioning tube through the cuts on the pocket of the roof cover.

Then put the bands through the reel of the ratchet, and tension the band by ratchet.



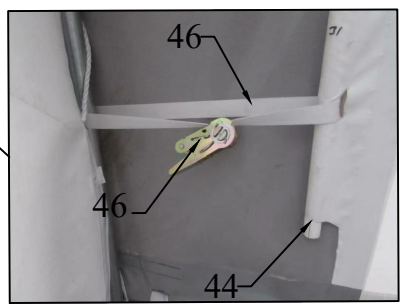


Figure 9 Fastening the Roof Cover

Step #7 --TENSION COVER ON FRAME FROM SIDE-TO-SIDE

As Figure 10 shows, when Roof Cover is over top of Frame Assembly, insert Cover Tensioning Tubes into pockets along both sides of Roof Cover. Center Roof Cover over Frame assembly both side to side and front to back. Align one side of Roof Cover evenly front to back. Add Band for Tie Down Ratchet at each point along the cover opening, as shown. Put Band for Tie Down Ratchets over Cover Tensioning Tubes at each Base Plate along one side. Bands do not attach to Tensioning Tubes, but loop around and secure at both ends on ratchet.

Next take up slack in tie bands by ratcheting the mechanisms, tightening cover. Evenly adjust ratchets on both sides of roof cover to take wrinkles out of roof cover. **DO NOT** fully tighten cover yet. Leave adequate slack so that cover can also be adjusted front to back in next step.

Step #8 --TIGHTEN ROOF COVER ON FRAME FRONT TO BACK

The roof cover is tensioned from front to back by the rope lacing to grommet flaps inside the main cover, inside the unit at both front and rear arches. Using the rope provided, lace the main cover grommet flap around the main frame front and rear arch pieces. Start in the top middle of each arch, and lace to each side. Add rope length by tying pieces together or cutting as necessary.

Lace all grommets on cover inside flap with rope. Starting at the middle top point over the door, tighten lacing only enough to take wrinkles out of the cover. Repeat for the Rear Arch. **DO NOT** over tighten lacing to pull out the grommets.

After the roof cover lacing is adjusted evenly across the grommet flap, go back and re-adjust the Tensioning Ratchets along the side edges of the Roof Cover. At this point, the main cover can be pulled taut enough to take all excess material and wrinkles out of cover. It will be necessary to repeat this step 2-3 weeks after unit assembly is complete and roof cover has a chance to stretch out over the frame completely.

Step #9 --ASSEMBLE FRONT & REAR COVER

Secure the Front and Back Cover to the arch panel by using the ropes provided.

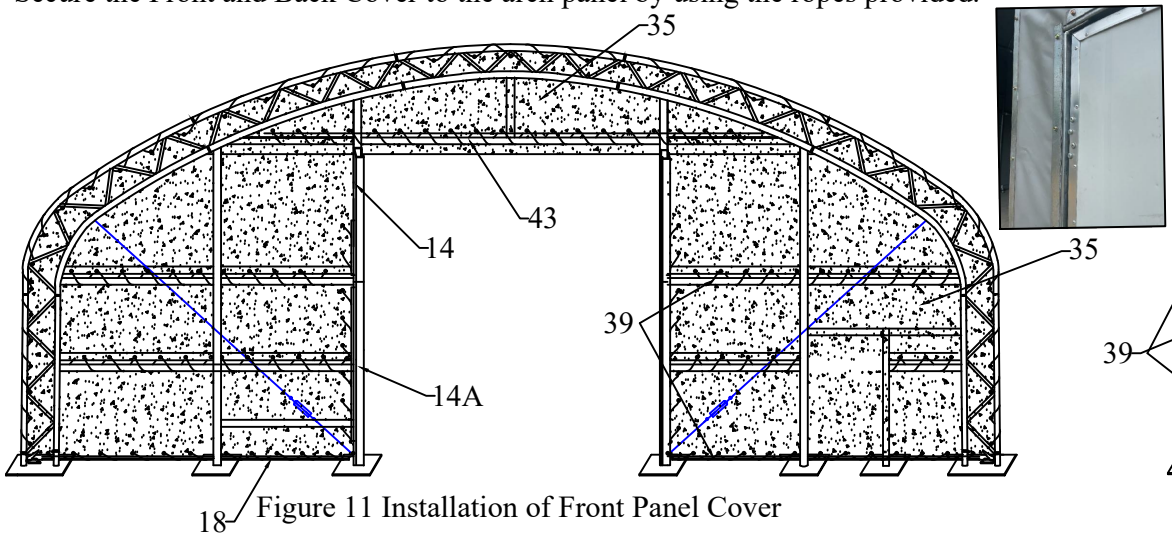


Figure 11 Installation of Front Panel Cover

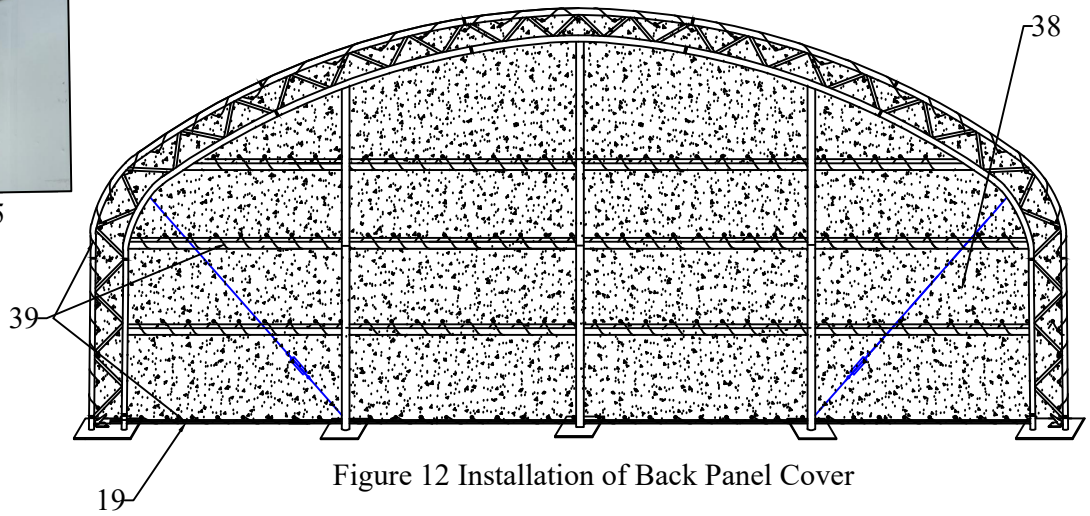


Figure 12 Installation of Back Panel Cover

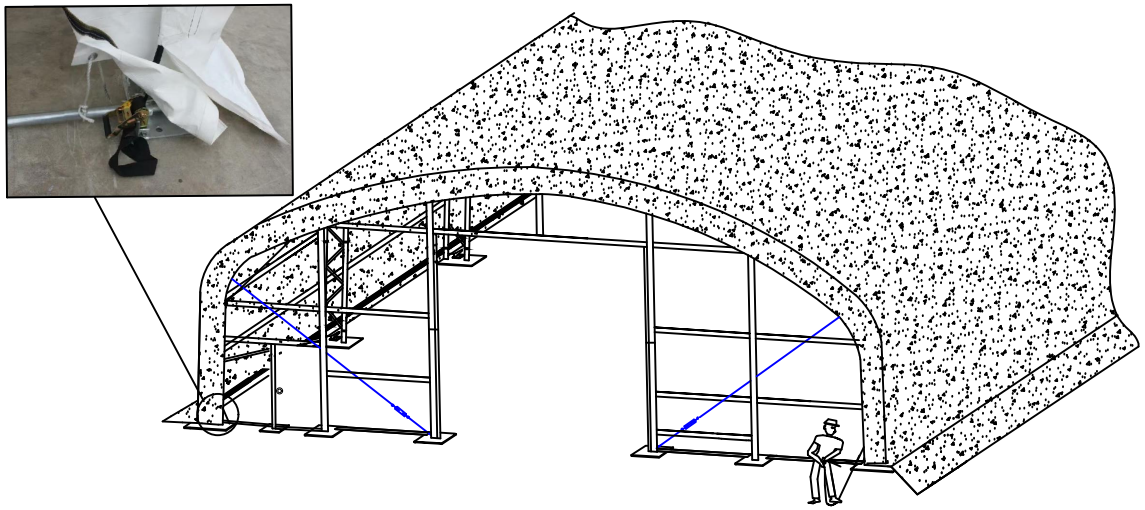


Figure 13 Fastening the two ends of the Roof Cover

Main Cover Edge Tie Off - Once both Front and Rear Covers are installed, the Roof Cover Edge flap, front and rear, should be tightened and tied off. Begin by pulling the remaining Roof Cover over the Frame arch, so the rope pocket is over the edge of the frame. Tie off the rope that goes through the rope pocket on one side. The rope ties off to the loop that is located on the Base Flange in Corner (6L or 6R). Moving to the other side, begin to pull the rope down.

Hold the rope in hand, and push down at the bottom of the rope with a foot. Pull the rope tight, and tie off to the welded hoop on the Base Flange. As you are pulling the edge rope, it will be necessary to adjust the excess material that will collect along the rope packet. Adjust the material so that it is not bunched up and it does not pull the roof cover to one side or the other. Once the Front is completed, repeat the process on the Rear flap of the Roof Cover.

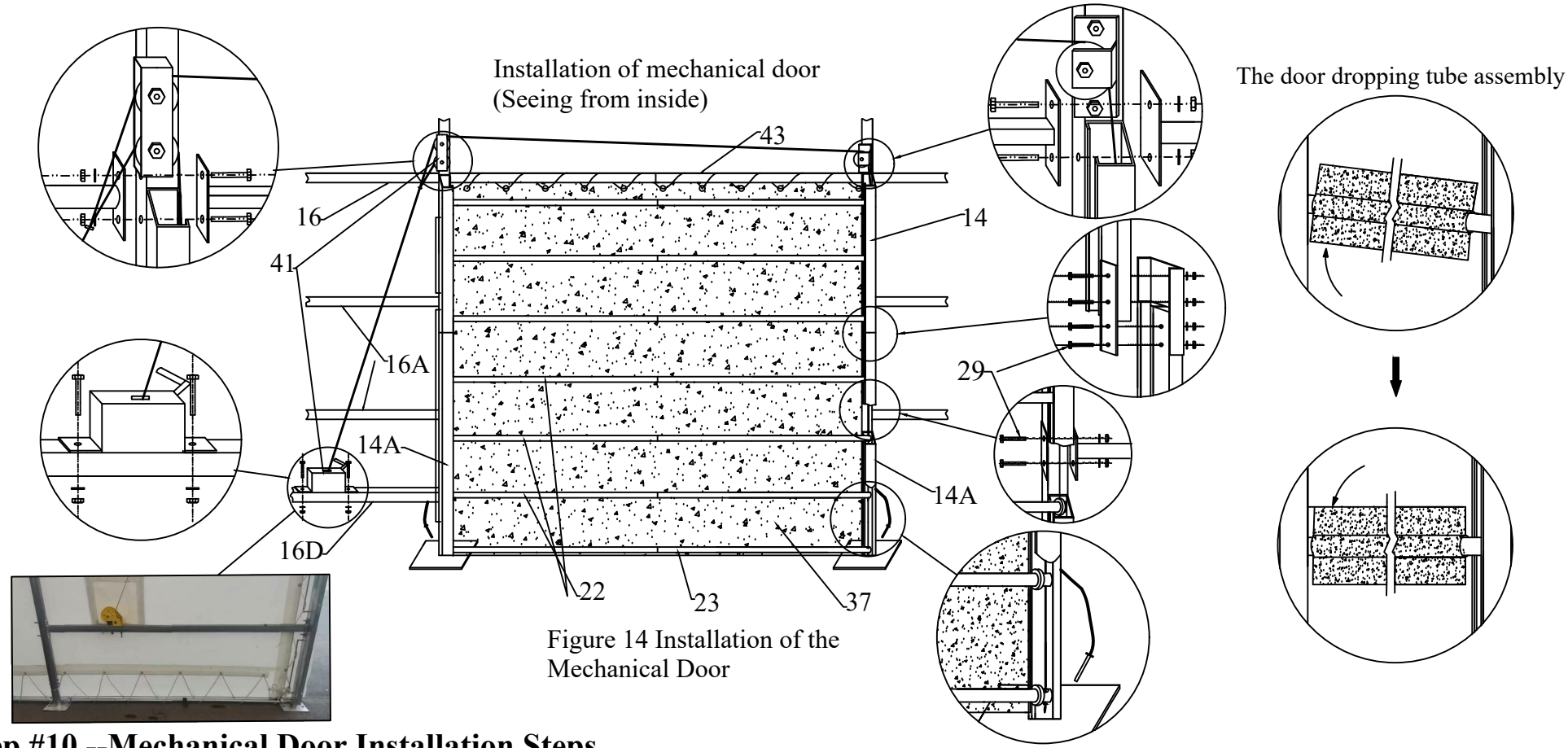


Figure 14 Installation of the Mechanical Door

Step #10 --Mechanical Door Installation Steps

1. Install Main Door Pulleys (left and right) over the Top of the Door on each side of the Door Beam (Part #43).
2. Next mount the Winch Mechanism to the Front Panel Lower Beam (Part #16D).
3. Slide Bottom Door Dropping Tube (Part #23) into the bottom horizontal fabric pocket on the Door Cover(Part #37). Then slide the six remaining Door Dropping Tubes (Part #22) into the remaining horizontal fabric pockets in the Door Cover.
4. From the bottom of the door tracks(14,14A), gently raise and slide one door dropping tube(22) into the tracks. And then feed the other remaining door dropping tubes(22,23) into the door tracks.
5. Next install the steel wire that leads from the door winching assembly to the bottom of the door dropping tubes. The Winch Assembly has a long and a short steel cable secured to it. Feed the end of the shorter of the two cables through the lower roller of the double pulley at the top of the door assembly track closest to the Winch Assembly, and then down through the holes in the Bottom Door Dropping Tube (23) on the left hand side of the door (facing from the inside). When the steel cable goes down though the hole in the Bottom Dropping Tube (23), tie a knot in the steel wire so that it cannot pass back up through the hole.
6. From the Winch Assembly route leading end of the Longer Steel Cable through the Upper Roller of the double pulley on near door track and then through the Single Roller on the door track farthest from the Winch Assembly. Then down through the Bottom Door Dropping Tube (23). When the steel cable goes down though the hole in the Bottom Door Dropping Tube (23), tie a knot in the steel cable. Door can now be opened or closed by operating the Winch Assembly. Raise and lower the door several times to be certain door tube ends are not binding on track. Lubricate if necessary.