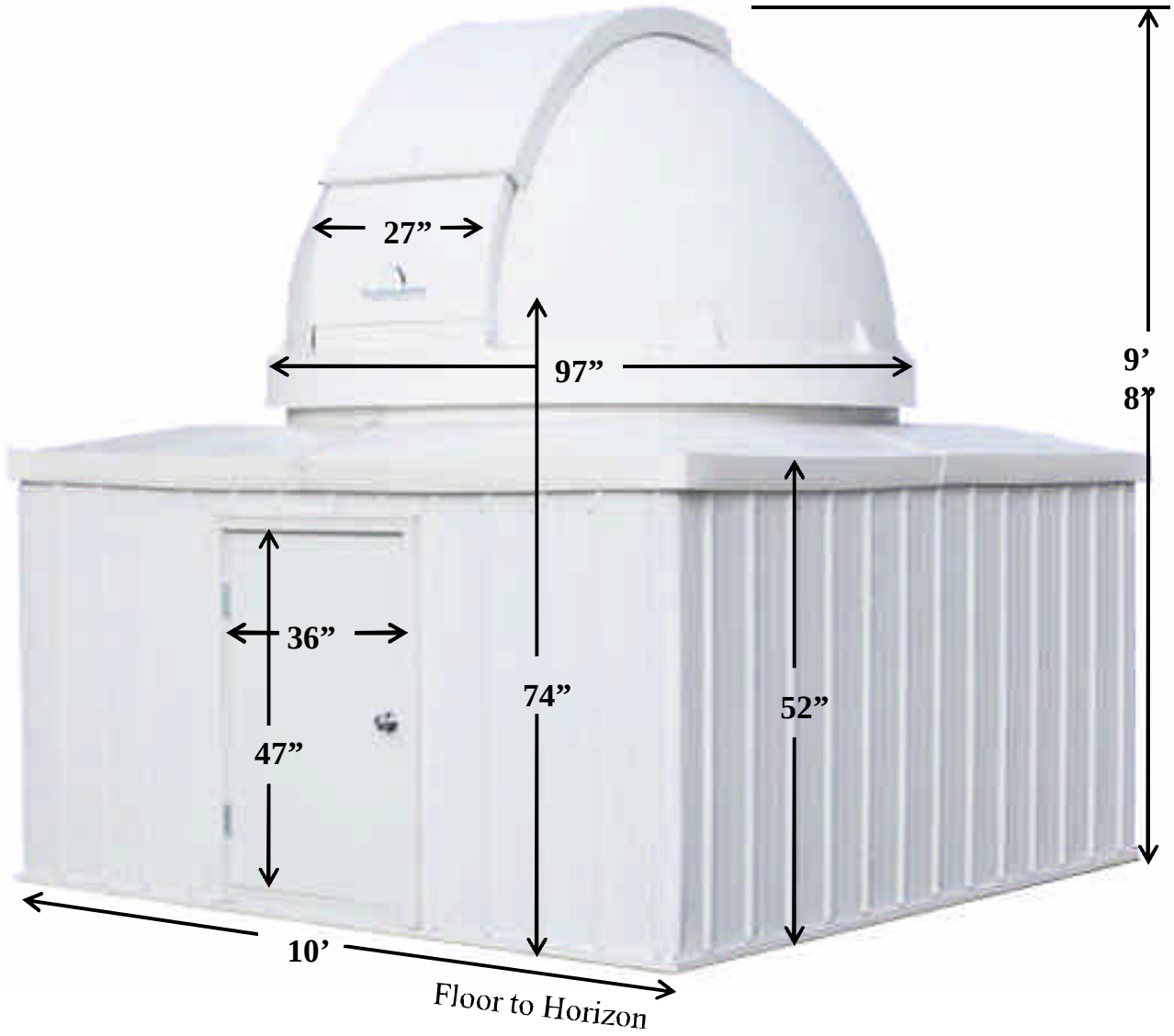
Assembly Instructions
10 X 10 Aluminum Frame Building



10’ X 10’ Square Building W/ Dome Includes:

The Steel Entry Door with a Dead Bolt Lock assembly and Aluminum Door Frame . Metal Siding, Aluminum Roof Support. Aluminum Wall Studs, Roof Panels, The Sliding Door Side Supports installed, Lower Door latches installed, Rope Assembly for Opening & Closing the Top Door and Closing the Lower Door installed, 1 Piece Wheel Channel with the Support Brackets installed and tested for rotation. The Wheel Kit for rotating the Dome.

The Smallest inside Diameter is 86” and that is at the Mounting Ring the Dome sits on. The Hatch opening is 27” wide and go 10” past Zenith. The Horizon is about 74” off the Floor .The Complete Unit is about
9’ 10” Tall, All hardware for the building is included.

Aluminum Roof Support Bolt Package

16- 5/16 X 2 ¼” SS Bolt Hex Bolt

24-5/16” X 1” SS Bolt Hex Bolt

40-5/16” SS Nylon Lock Nuts

16-5/16” SS Flat Washers

36-1 ½” White Tec Screws

8-1 ½” X 6” Aul. Flat Straps

4-1 ½” X 4” Aul. Flat Straps

8-#14 X ¾” Self Tapping Hex Screws

8-1/4” X ¾” SS Hex Bolts

8- ¼” SS Nylon Lock Nuts

8-#8 X 1” Phillips Head Self Drilling

2-Tubes Caulking

Aluminum Building Bolt Kit

4-1/4” X 2 ½” SS Hex Head Bolts

12-1/4” X 3 ½” SS Hex Head Bolts

14-1/4” Nylon Lock Nuts

32-10/32 X ¾” SS Pan Head Screws

32-#10/32 SS Lock Nuts

168-#14 X 3/4” Self Tapping Hex Screws

28- Inside Enclosure Foam

1-Door Lock Set

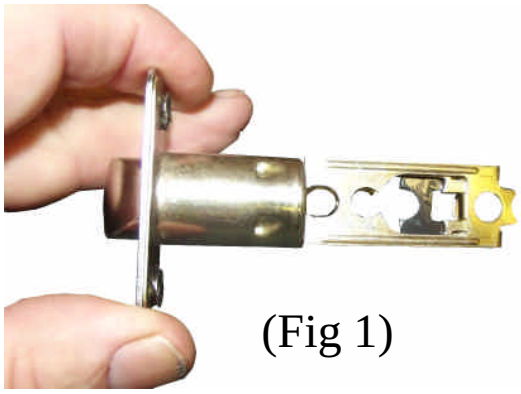
4-Tubes Caulking

1-Steel Door in Aluminum Frame

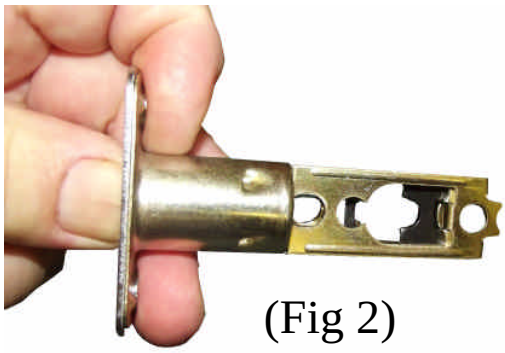
14-36” X 50” Sheets of Steel Siding

Door Lock Assembly

The Door Latch we use is 2 3/8” or 2 ¾” backset. To install in a 2 ¾” backset you need to remove the black Insert from the latch assembly. (Fig1)
Start by pushing in the latch button on the front of the latch assembly in, (Fig 2)

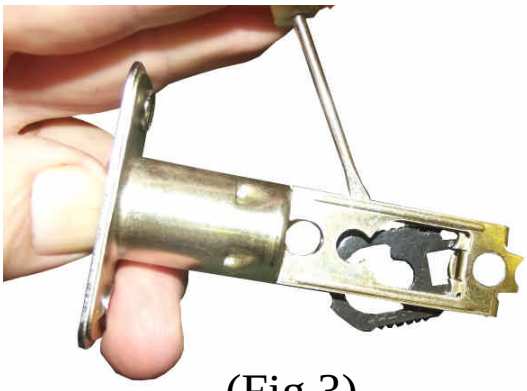


(Fig 1)



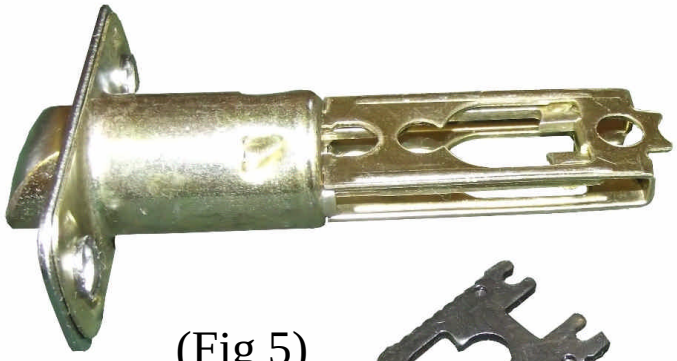
(Fig 2)

Then use a small screw driver to push down on the black insert slightly, (Fig 3) Now release the button and pull the insert out the bottom (Fig 4) Now it is ready to install in a 2 ¾” backset door. (Fig 5)



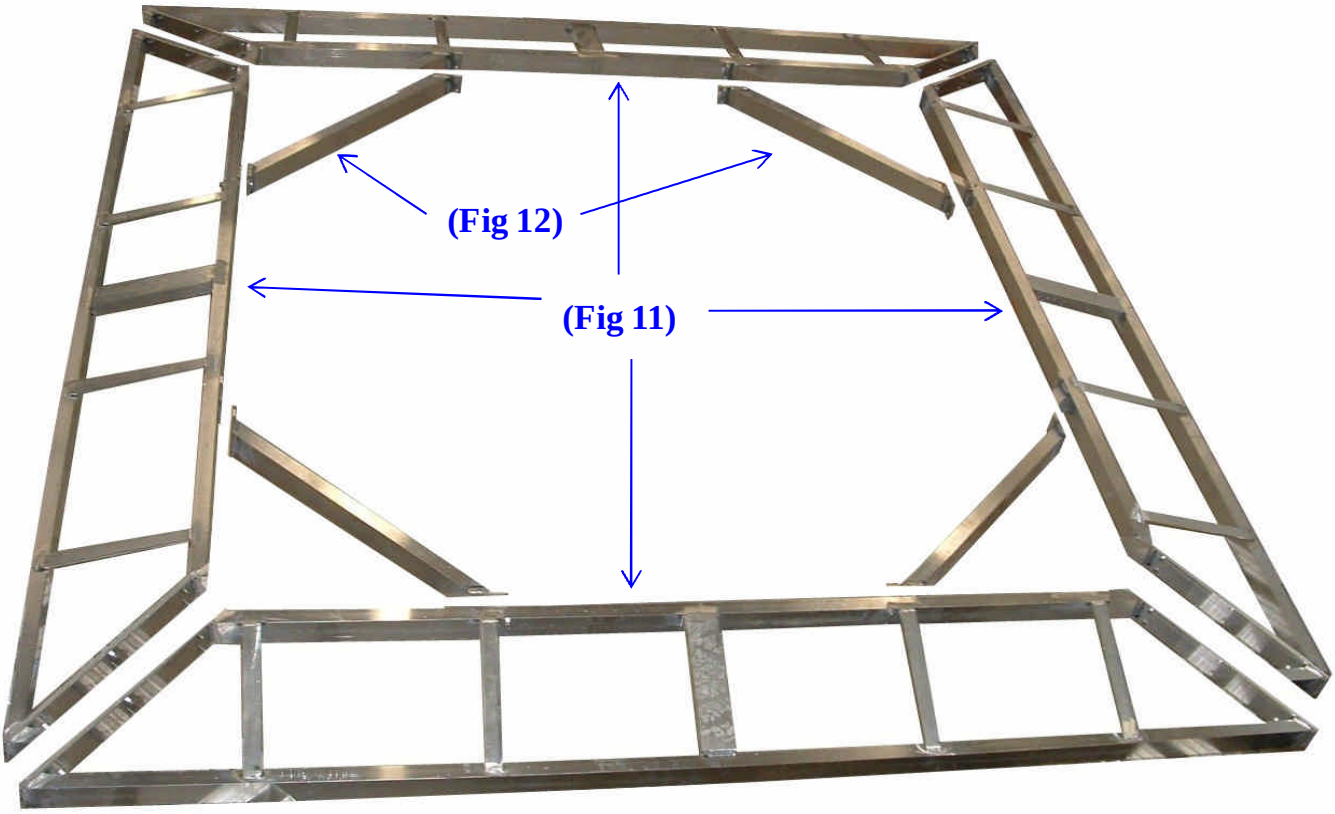
(Fig 3)

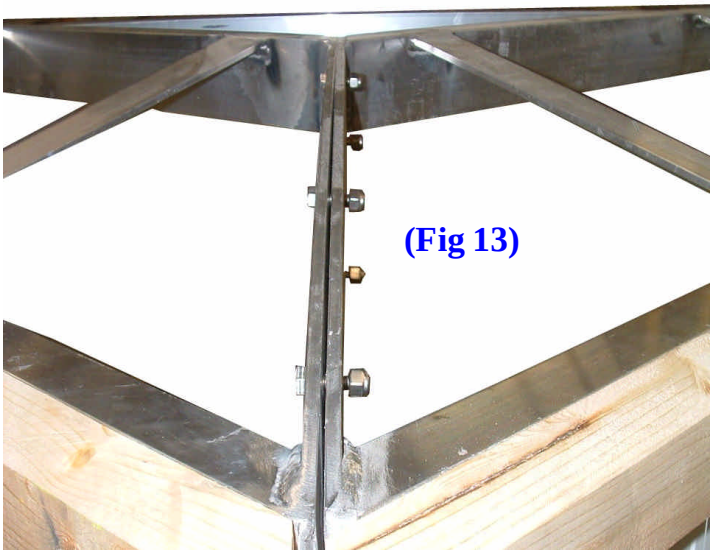
(Fig 4)



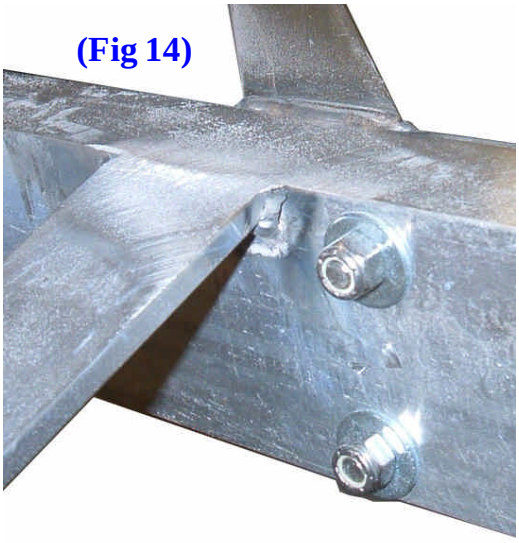
(Fig 5)

Aluminum Roof Support Structure Assembly





(Fig 14)

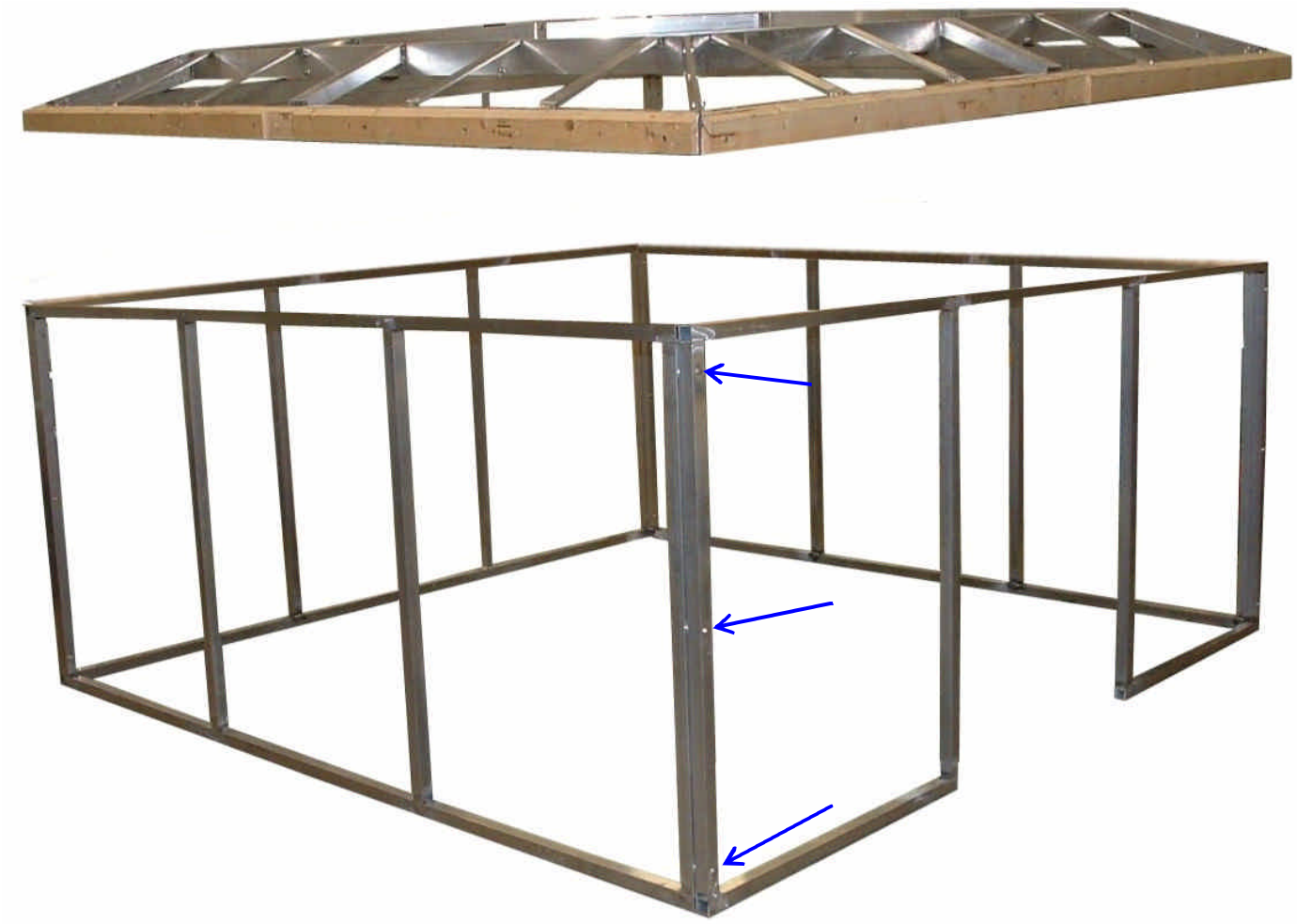


There are 4 main support sections (Fig.11) and 4 corner support arms, (Fig.12) Place the 4 support sections in a square and install the 5/16 X 1” hex head bolts through the holes in the corner plates there are 6 bolts in each corner.

(If the holes are out of alinement you will need to redrill them)

Finger tighten them only at this time. (Fig.13) Once you have the bolts in all four corners tighten all four corners. Now place the corner support arms in the corners (Fig 12) if the hole are not drilled or are out of place, than space them so the ends are the same distance from the corners. Than drill a 5/16” hole through the center of each tab slot and than bolt in place with the 5/16 X 2 1/4” hex bolt using a washer on the bolt head side with the nut on the out side of the tube, do all 4 tubes like this. (Fig.14)

Roof Support Bolted Together.



(Fig. 1)

Now assemble the 4 wall section together, drilling 3 -1/4” holes in each corner starting 4” down from the top and 4” up from the bottom, and 1 centered from top to bottom of the wall. **(Fig. 1 Blue Arrows)**

Bolt the four wall sections together using the 1/4 X 3 1/2” SS Hex Head Bolts and the SS Nylon Lock Nuts.

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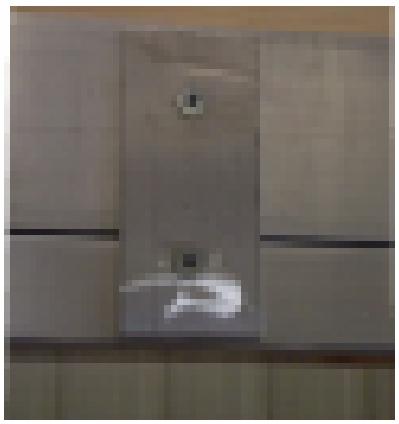
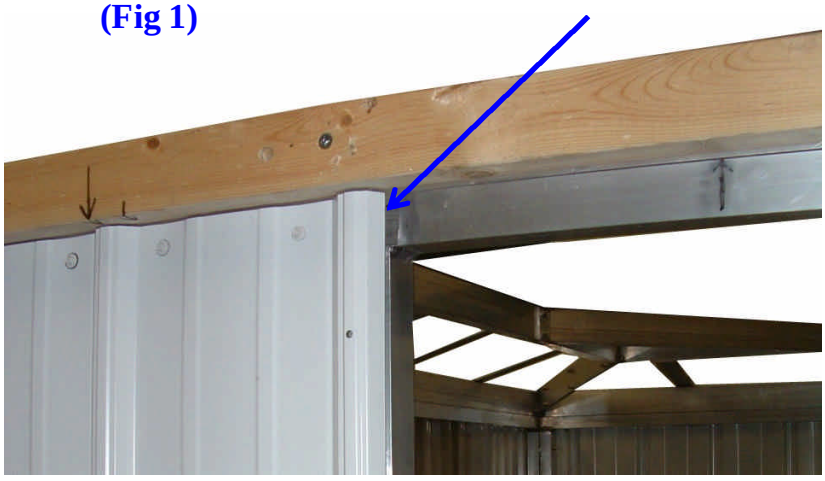
(Fig 1)



(Fig 2)



(Fig 3)

Now fasten the Roof support assembly to the top of the walls, using 4– 1 1/2" X 3" Flat strap use 2 #8 X 1" Phillips Head Self drilling screws, about 8" in from each corners (Fig 1 & 2)

When you fasten the siding to the outside wall you are fastening the siding to the roof support. This also ties the roof support to the side walls of the building, making a securer structure (Fig 3)

These Assembly Photos Do not Show the Roof Assembly

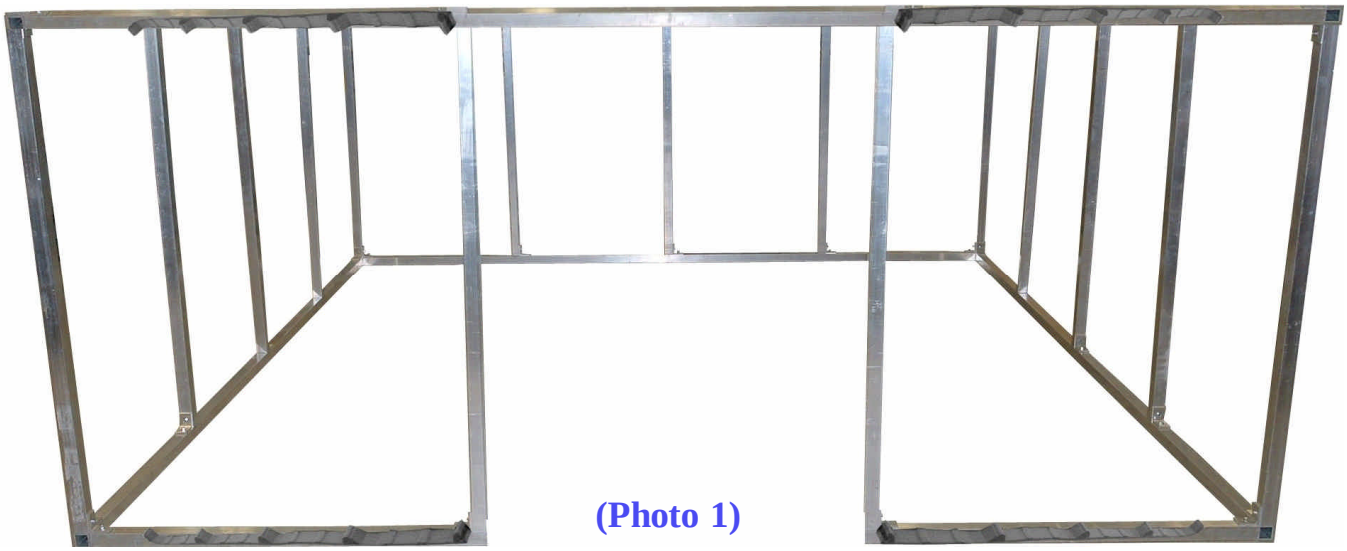
Photo 1

Photo 2

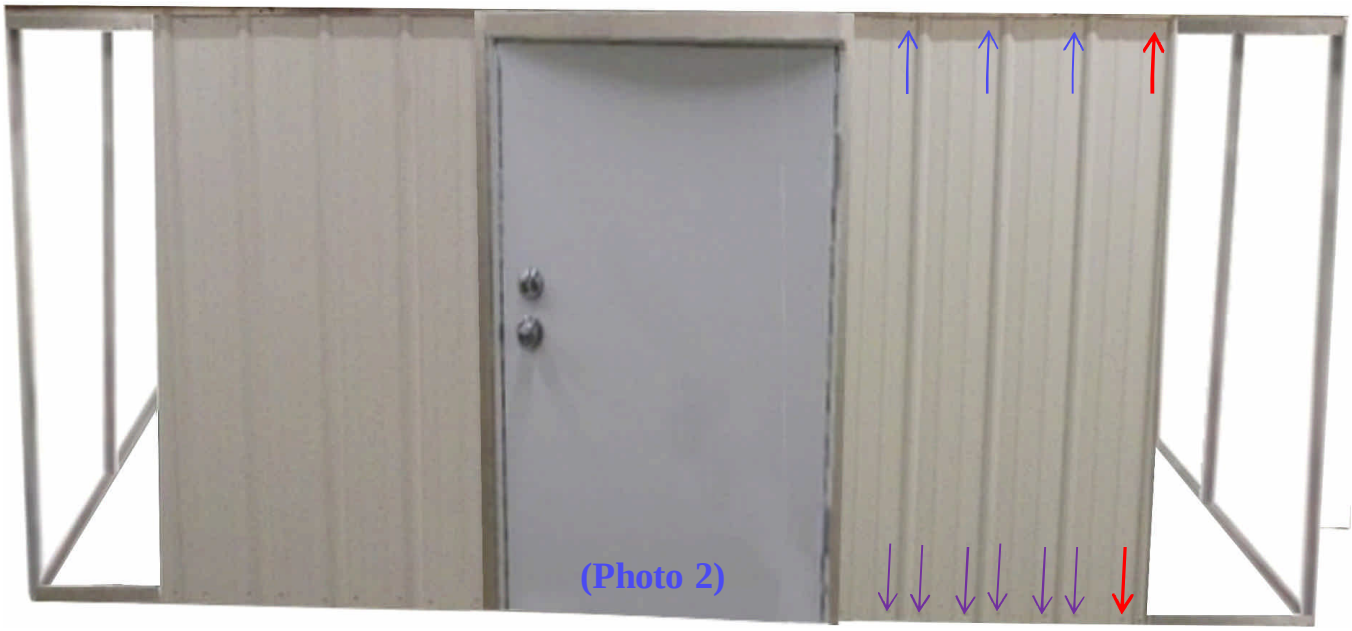
First stand the Door assembly in place and make sure it fits into the opening, make adjustments if needed. **(Photo 1)** Than pull it out slightly, to allow the steel siding to be slipped behind the casing of the door frame.

Now look closely at both sides of a sheet of siding, you want to identify the side of the sheet that has the wider lip on it, once you do then place that side of the sheet behind the casing lip of the door frame, do this on both sides of the door.

Now mark the center of the high rib of the siding onto the aluminum framing tube both top and bottom. **(Blue Arrows)** **(Photo 2)** You are doing this so you can place the enclosure foam in the proper place so when you put the siding back in place enclosure foam is in the proper place, to keep bugs and dirt out.



(Photo 1)



(Photo 2)

Now remove the Door and the 2 sheets of siding from the building and place the enclosure foam on the front wall, (flush with the bottom of the top tube) and (flush with the top of the bottom tube) on both sides of the door opening. **(Photo 1)**

Now stand the 2 sheets of siding back in place, than the door assembly back in place, the lip of the door assembly should just cover the ribs on the siding, (if it does not, work with one side of the door assembly at a time and press against the siding slightly till it does.)

Now you can fasten that sheet of the siding in place using the #14 X 1" Hex head self drilling screws.

(Hold the siding up ¼" to ½" off the bottom tube or tight to the bottom of the wood on the roof support.)

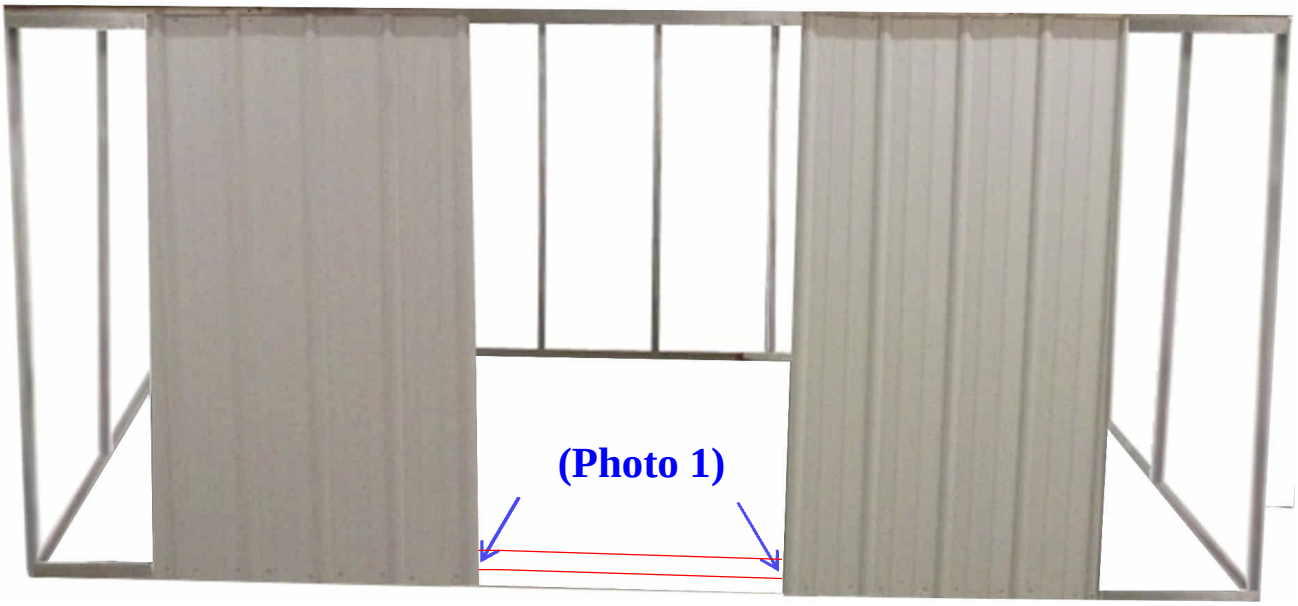
Starting at the top measure down 3/4" on the siding and 1" to the inside of each of the high ribs. (Marked with Blue arrows) Measure up 3/4" from the bottom of the sheet and 1" on each side of the high rib. **(Purple arrows) (Photos 2)**

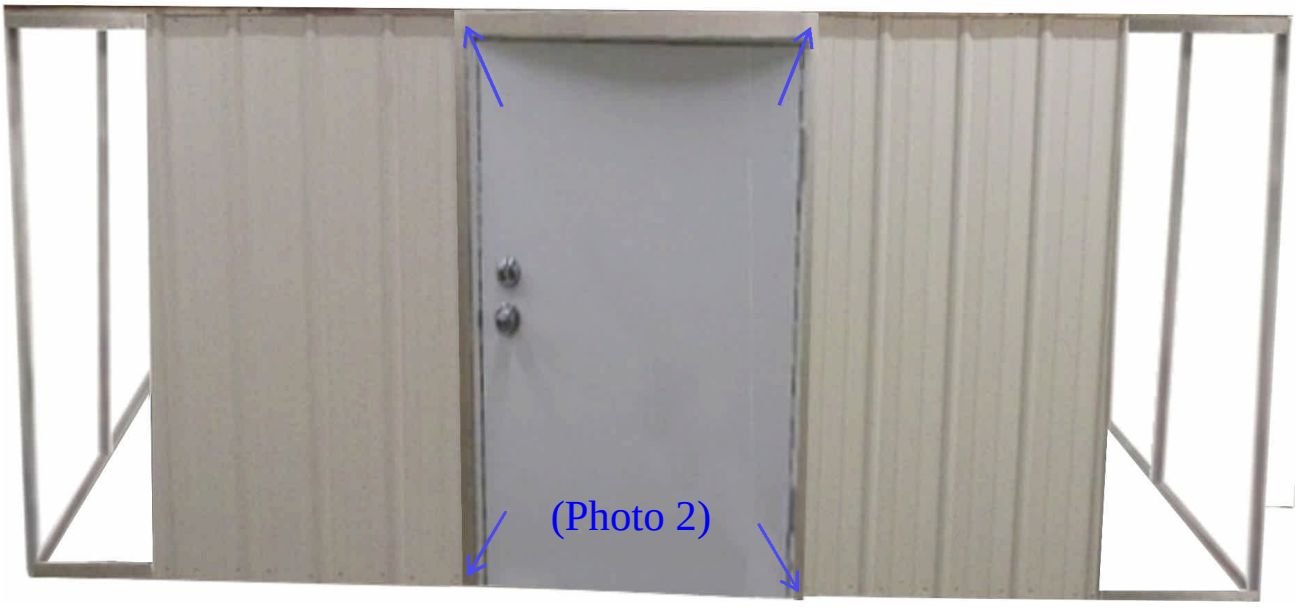
(Do not Fasten the Red Arrows Until the next sheet is installed)

Now repeat the procedure on the other side of the door

The narrow lip of the siding always goes over the wide lip of the siding to ensure a proper lap.

Now install the door assembly into place.





Run 2 beads of caulking at the bottom of the door opening and each bottom corner, (Photo 1) Reinstall the door assembly.

Now drill a ¼" hole ¾" down from the top of the door frame & centered on the casing and about ¾" up from the bottom and also centered on the door casing. (Photo 2) and bolt the 4 corners of the door frame in place using 4- ¼" X 2 ½" SS Hex Head bolts with SS nylon lock nuts on the inside.

(Photo 1)

(Photo 2)

Following the same procedure for placing the enclosure foam on both the top and bottom of the aluminum tubing and install the next 4 pieces of enclosure foam and than install the next 2 sheets of siding onto the front of the building. (The wide lip of the siding goes under the narrow lip of the perversely installed sheet.) Use the same #14 X 1" Hex head self drilling screws The sheets will over hang each side of the building about 18".

Drill a 13/64th hole in the center of the laps of the sheets and fasten with 1- #10-32 X 3/8 SS Pan Head machine screw with a nylon lock nut on the inside. (Photo 1 Red Arrows)

When you come to the corner just bend the sheet of siding right around the corner Just like you did with the enclosure foam. It works best to have 2 people when doing this. If you can't get a clean bend take the sheet off and lay it on a flat surface, (put something soft down first to protect the front of the sheet) lay a 1 X 3 on the bend and push on the narrow side of the sheet to fold it over making a cleaner corner bend.

Now fasten the balance of the sheet in place the same way you have been doing.

Now with the front sheets folded around the corner, place the next sheet in place and mark the high ribs the same way you did the front wall. Install the enclosure foam both top and bottom. Replace the sheet and fasten in place using the same #14 X 1" Hex head self drilling screws. You also want to bolt the laps of the sheets together with 1- #10-32 X 3/8 SS Pan Head machine screw with a nylon lock nut on the inside just like the front. The last sheet will over hang the back wall just like the front did. (Remember do not put the last screw in on the end of the sheet so you can put the next sheet under it. Now repeat the same procedure down the other side)

Moving to the back side. Your enclosure foam should be started around the corners on both sides of the back of the building with what was left from the sides. Now bend the sheet around the corner the same way you did the front sheets. Fasten both sides.

Now working from each side install the enclosure foam both top & bottom rails. Place a sheet working towards the center. Fasten in place using the same #14 X 1" Hex head self drilling screws. You also want to bolt the laps of the sheets together with 1- #10-32 X 3/8 SS Pan Head machine screw with a nylon lock nut on the inside.

(Remember do not put the last screw in on the end of the sheet so you can put the next sheet under it

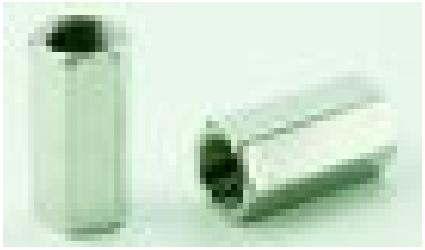
Now with all the enclosure foam in place, install the final full sheet onto the building. If there is a space left between sheets you should have a piece of siding left to fill it. Slip the flat side under one side or the other and line the lap up into place on the other side. You will need to peel the rib of the enclosure foam up on the side you slip the siding behind so the sheet can lay flat in place. Fasten in place using the same #14 X 1" Hex head self drilling screws You also want to bolt the laps of the sheets together with 1- #10-32 X 3/4" SS Pan Head machine screw with a nylon lock nut on the inside.

Deluxe Wheel Kit on an Aluminum Mounting Ring

Aluminum Mounting Ring W/ Wheels Mounting

About 28” center to center on roller wheels

#10-32 X 3/8” Hex Head Slotted Self tapping screws



1/4 X 7/8” Extension Nut

1/4 X 1 1/4” SS Hex Bolt

1/4 X 3/4” SS Hex Bolt

If not assembled:

Use the #10-32 X 3/8” Hex Head slotted self tapping screws to fasten the bracketed wheels to the ring surface, 10 wheel assemblies spaced evenly, drill and 11/64” hole in each slot with the wheel assembly 1/4” in from the inside edge of the ring.

Drill a 1/4” hole 7/8” in from the inside edge of the ring in between every other roller wheel. Use the 1/4” X 3/4 SS Hex bolt from the bottom up into the extension nut and tighten in place. Use the 1/4 X 1 1/4” SS hex bolt through the wheel and into the top of the extension nut and snug into place.

Installing the Brush Seal on the Wheel Ring

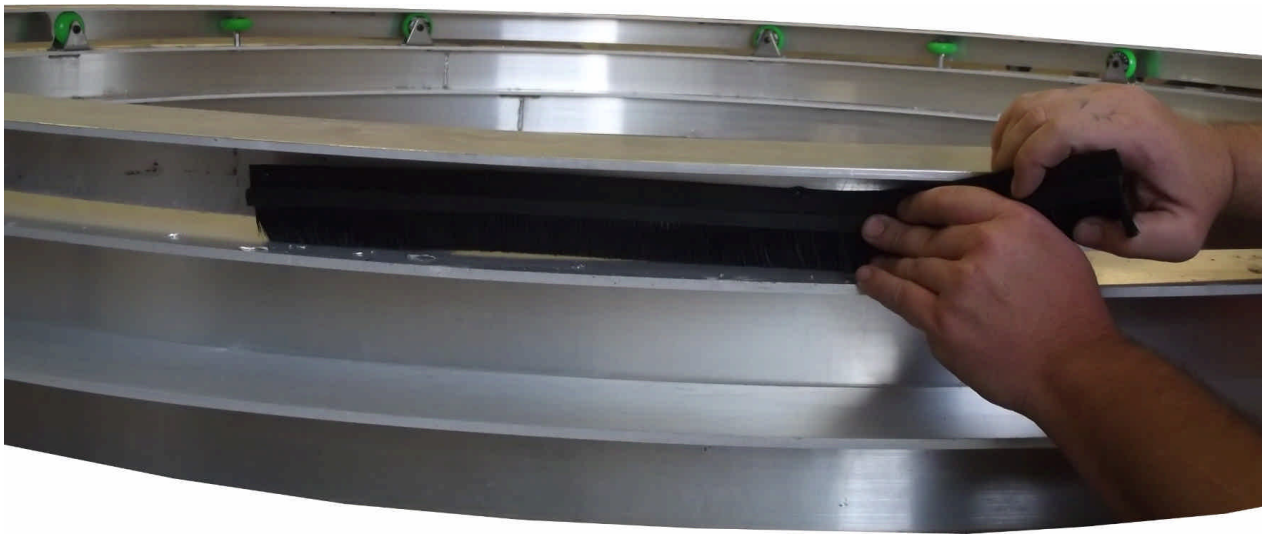
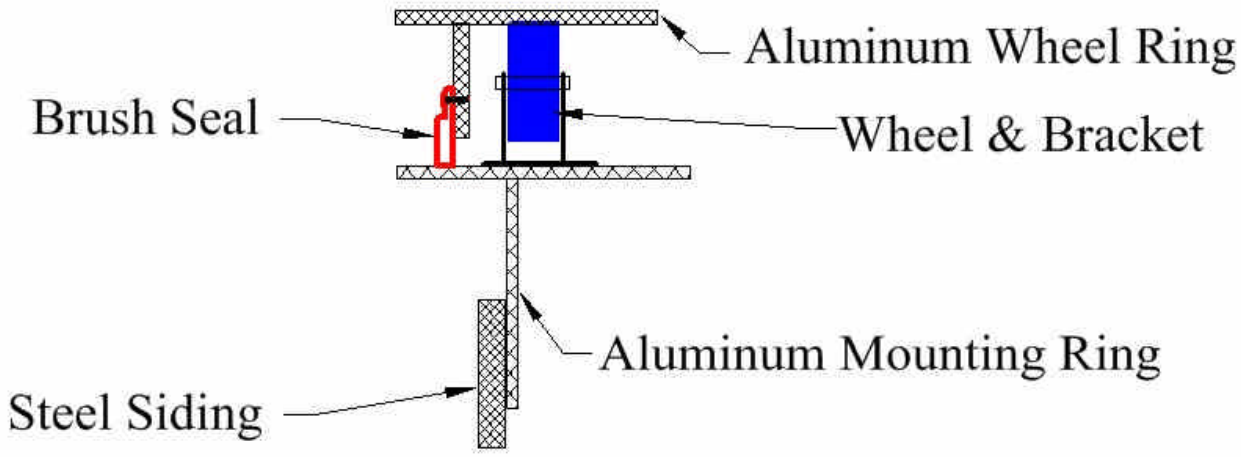


Diagram 2



The 2nd way is to Install the brush seal to the outside of the wheel ring before you put the Dome on
top of the wheel ring. Starting about 1" in from the end of the brush seal and drill a 11/64" hole through the rubber brush seal and the aluminum ring and install a using #10-32X3/8 hex head self threading screws, this should be done about every 6" all the way around. (As seen in Diagram 2)

Now set the Dome on to the wheel ring, most times you do not need to fasten the Dome to the wheel ring, but if you like you can fasten it down with 1 or 2 ¼" X 1" SS flange head bolt with a ¼" ss nylon lock nut on the inside.

This wheel ring has the drive track all read install not all wheel ring come this way.

Roof Panel Assembly Instruction.

Weather you are building the roof support out of wood or using our Aluminum Roof Support the panels mount the same way.

The roof panels should be precut to 45 3/8” on the left side of the roof panel, they also have an in lip on the down side of the roof panel that goes in under the 2 X 3 about 3/4”. We precut the roof panels so that they are the final size needed most times, you may need to add or remove a the 1/4” spacer fastened to the face side of the 2 X 3 that goes around the roof support frame to get the proper fit you are looking for. If the sides of the roof panels are not predrilled for the screws the layout is, 1 1/2” down from the top of the panel and 4” in from the corner than 22” than 40” than in the center of the lap than repeat down the other side of the roof panel. (Fig 2)

Now set the first roof panel in place as shown in (Fig,1) push the roof panel down over the wood and in tight to the sides (Black Arrows) and than screw the corner in place using the 1 1/2” white screws as shown in (Fig 2) going down the right side, push the panel down so the inside of the roof panel is down tight to the wood, if you can not do this by hand than use clamps to aid you (Fig,3) and screw in place with the 1 1/2” white screws. Leave the left side hang until you install the last roof panel.

(Check and make sure the right outside corner of the first panel has been rounded to fit the underside of the second roof panel (Red Arrow Fig 4) and the bottom in lip of the left side of the second roof panel (Black Arrow Fig. 4) has been cut away about 3 1/2”so the roof panel can slide over the lap of the first panel)

Now place the second roof panel in place, the left side of the second roof panel will go over the right side of the first roof panel (Fig,4) push this side in tight to the wood and check your lap, it should fit nicely over the first roof panel (Fig,5) if it is long than mark it and cut it off, (Fig 6) if it is ok than screw the side in place (again make sure the roof panel is tight down and in to the 2 X 3), now with the left side down in place, fasten the right side down the same way you did the first panels right side. Make sure the roof panel is down tight to the wood framing. (Fig,3) and screw in place with the 1 1/2” white screws.

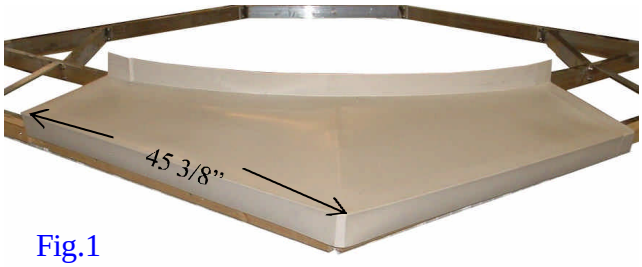


Fig.1

Fig.2

Fig.3

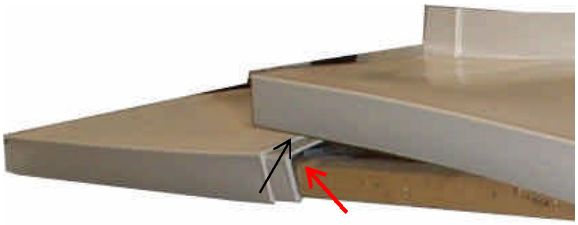


Fig.4

Fig.5

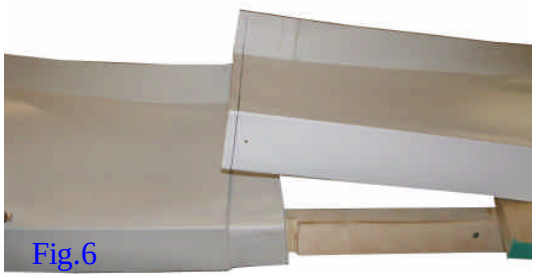


Fig.6

Now with 2 roof panels in place, put the mounting ring in place then hold the last 2 roof panels in place and check the fit of the mounting ring to the roof panels. (Fig.7)

On the inside of the building check the underside of the roof panels, you should not be able to get your finger between the roof panel and the mounting ring. They should be very close or even tight up to each other. Also check both sides of the roof panels to make sure the mounting ring is not keeping the roof panels from being able to be pushed up to the 2 X 3. If this is happening you may need to add another filler around the outside of the 2 X 3 to get the panels to fit better. If there is a gap between the roof panels and the mounting ring you may want to remove the filler strip to close the gap between them and have less of a gap on the overlap of the roof panel joint (Red Arrow). You install the next roof panels the same way you have done the first 2. When you get to the last roof panel just slip the right side under the left side of the first panel. Now it should look like (Fig,8) once you have all the sides fastened. Let the roof panels some what position the Mounting ring, (Not all roof panels will be completely up tight to the other roof panel there can be a gap between them this is normal)

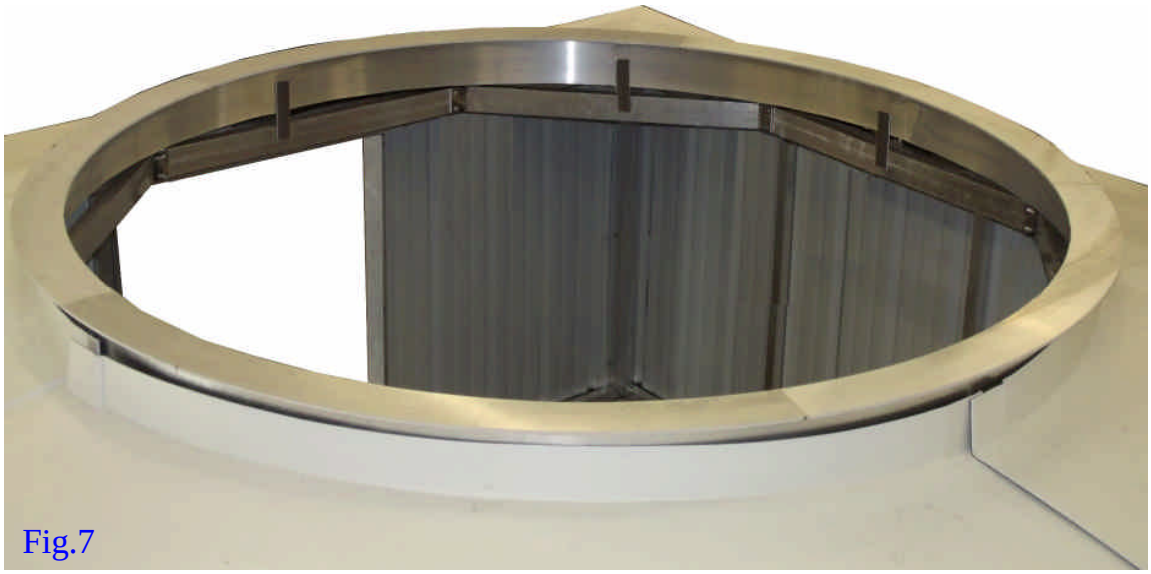


Fig.7

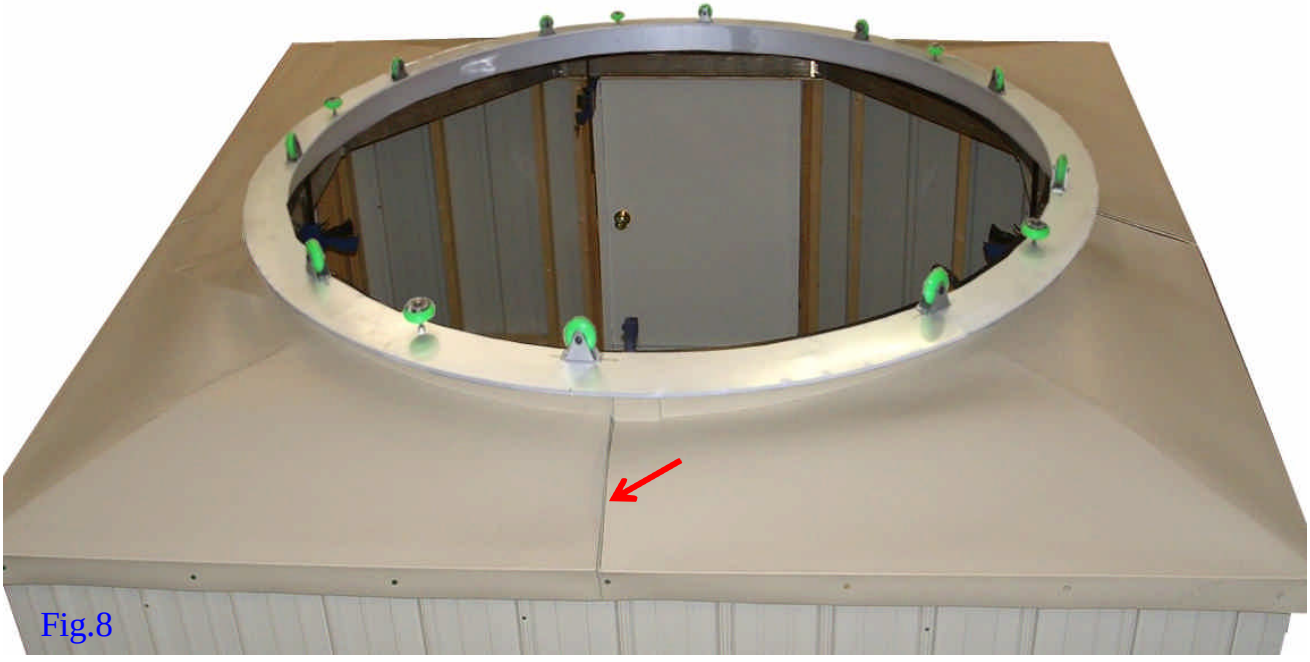


Fig.8

Now you can fasten the mounting ring into place, use the 8 -1 1/2" X 6" flat straps (Fig,10) Place them about 2" down on the roof support frame going up on to the mounting ring, position them where the roof support frame and the mounting ring allows them to be able to be fastened with out having to twist them to much. Space them some what equally around the mounting ring and fasten them to the roof support frame by drill a 13/64" hole into the roof support tube and fasten the flat strap in place with 1- 1/4" X 3/4 Hex head self tapping bolt. (Red Arrow)

Then drill a 1/4" hole through the flat strap and through the mounting ring and use 1 - 1/4" X 3/4" SS Hex Head Bolt to bolt the aluminum mounting ring to the flat strap.
(Black Arrow)

Install the bolt from the out side in then place the 1/4" SS nylon lock nut on the bolt.

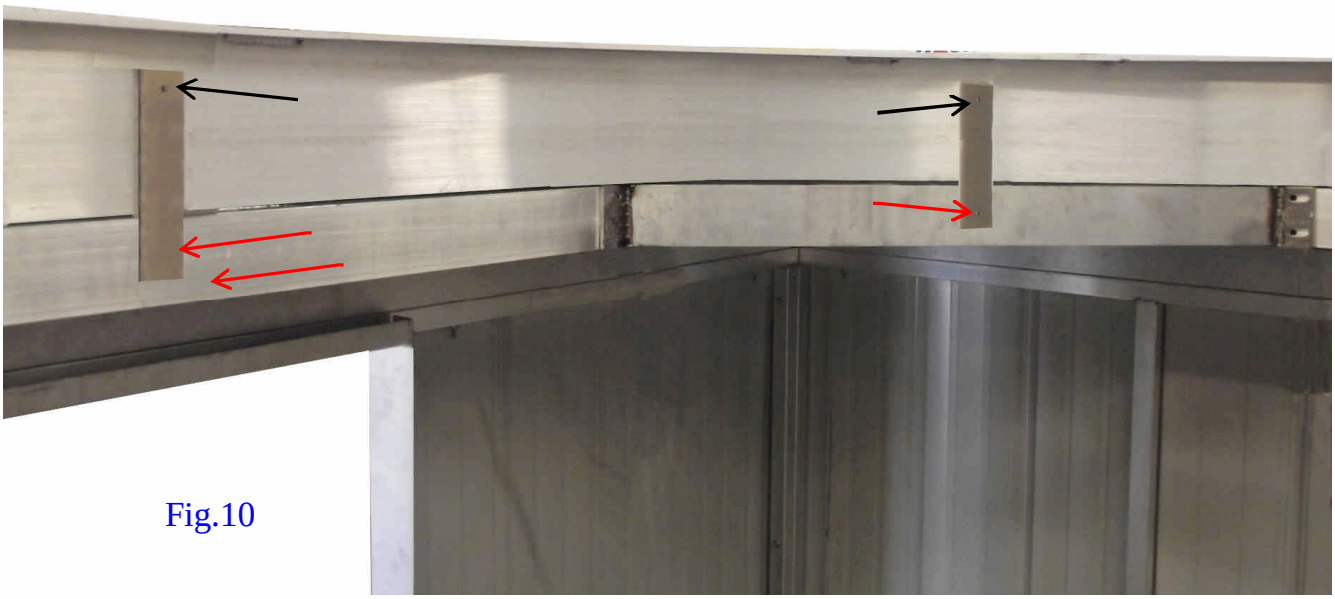


Fig.10

Now you are ready to install the Dome on to the top of building. It is best to have 4 people when lifting the Dome up onto a standard height building. 3 on the outside and 1 on the inside of the building to carry the Dome across to the other side.

Once the Dome is installed and is rotating you can move on to installing the retainer ring. (Next Page)

Installing the Retainer Ring

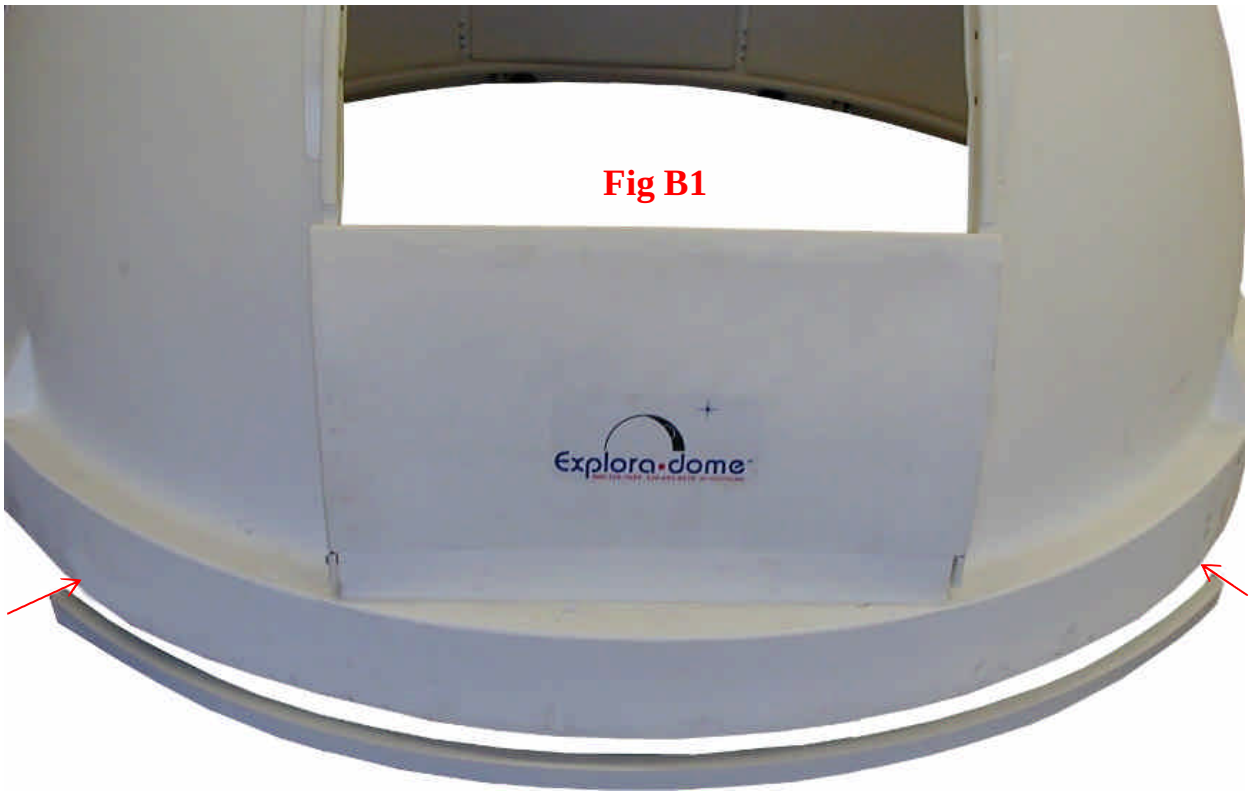


Fig B1

When you have all the adjustments to the guide wheels and roller wheels made and the Dome is turning properly it is time to put the retainer ring sections in place.

The 1/4 ring sections should be about 77” long and about 1” tall. Hold the retainer section up to the Dome and mark the end points onto the Dome.

Mark 1” in from each end of the retainer ring and than mark every 15” from the 1” mark towards the center from each end the center point can vary. Now drill a 3/16” hole about 3/4” up from the bottom of the Dome skirt in line with your marks. Use the #8 X 3/4” Screw to fasten the Retainer Ring in place. There should be 6 screws per section. (If your Dome skirt is dented in you can fasten one end and apply pressure to the other end to help push the dents out. If they are sever it helps to place spacers between the Dome skirt and the Mounting ring to force them out before you put the retainer ring in place use as many as you need to do this).

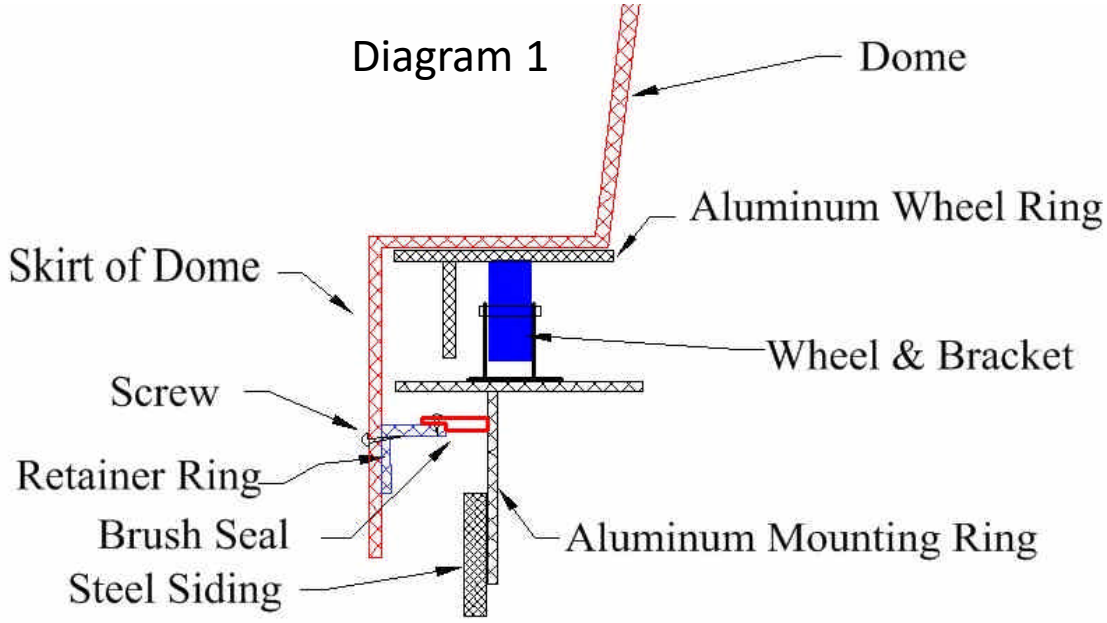
You want the tip of the screws to come through the retainer ring sections right in the coroner of the retainer ring or just below it. This is the thickest portion of the ring and it will also keep the tip of the screws covered or close to the corner so they do not stick out. It may take several attempts to get the screw to come out in the coroner of the retainer ring sections.

After you install each section of retainer ring rotate the Dome and make sure it is not binding some where as you rotate it. If you do find a problem fix it before you go on. You may need to trim some of the lip that goes under the mounting ring off if it rubs the mounting ring.

Now repeat this procedure on the next 3 sections of retainer ring.

Checking each section for clearance as you go.

On the last section you may need to trim off the end of the retainer ring to make it fit in the last open section. Than fasten in place the same way you have been.

Installing the Brush Seal on the Retainer Ring
Old Way

There are 2 ways to install the brush seal on the 8’ Explora Dome the 1st and most often
used is to mount it to the retainer ring. This is how we have done it in the past.
(As seen in Diagram 1 Below)
1st Install the brush seal to the retainer ring sections with #6 x 3/8” pan head screws, about every 6” cutting the brush seal about ¼” longer than the retainer ring. Do this to all 4
sections.
Here is a cross section of the Dome showing how the retainer ring goes in under the skirt of the Dome. The red is a cut out of the Dome it self. When you install the retainer ring you should rotate the Dome for each section you reinstall to make sure it clears so you know before you finish if you need to adjust it.