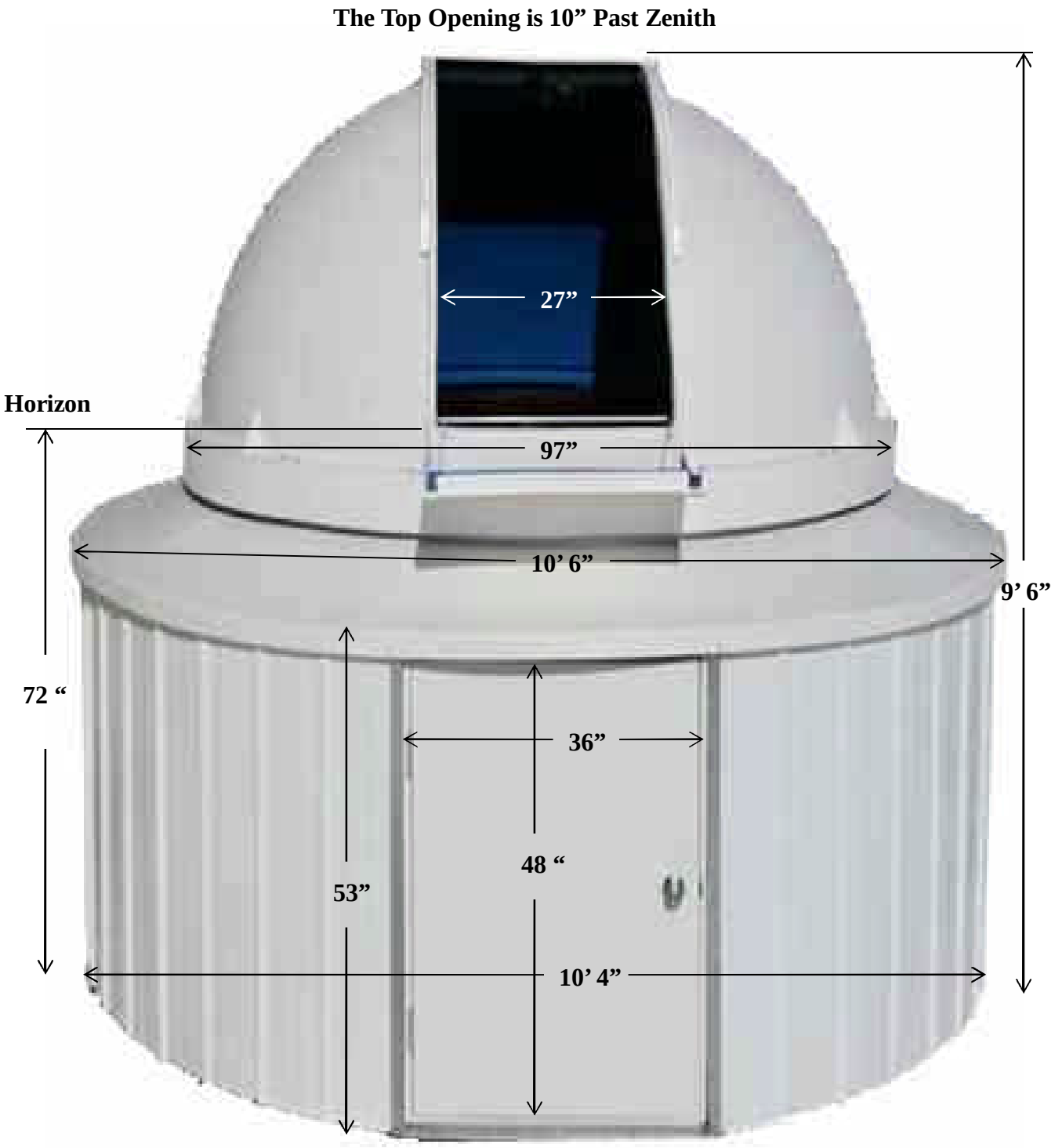
10’ 6” Deluxe Round Building Assembly Instructions



88.8 Sq. Feet on the floor

ExploraDome Building Instructions
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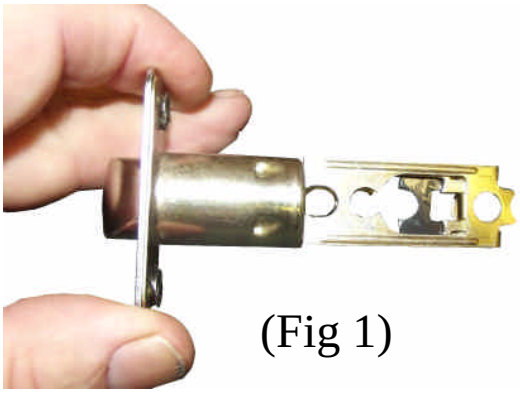
Component Identification

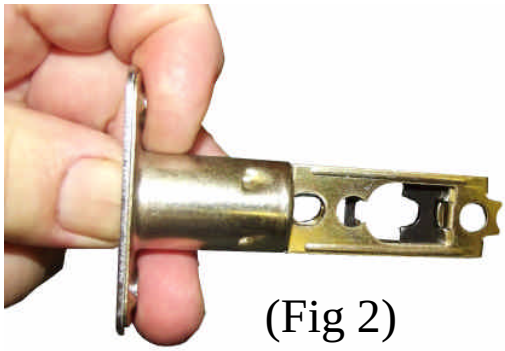
1 Explora Dome Fully Assembled,	1
2 Round Roof Panels	3
3 Aluminum Mounting Ring	1
4 High Performance Wheel Kit Complete	1
5 Sheets of Steel Siding	10
6 Steel Door Assembly W/ Keyed Door Lock	1
7 Aluminum Support Legs	9
8 Pieces of Retainer Ring	4
9 Pieces of Inside Enclosure Foam for sealing the Steel Siding Bottom	10
10 Pieces of Outside Enclosure Foam for sealing the Steel Siding Top	10
11 1/4 X 3” Wide Aluminum Banding	3
12 1/4 X 3” Wide Aluminum Arcing Angles (Base Ring)	3
13 Hardware Package	9
14 Small Roof Joint Brackets	3
15 Tube of Caulking	2
16 1” Large Head Philip self drilling self tapping screws	36
17 18 #10-32 X 3/8” Hex Head Slotted Self tapping screws	252
19 #10/32 SS Nylon Lock nuts for sheet laps	36
20 1/4 X 1 1/2” SS Hex Head Bolt	4
21 1/4 X 3/4” SS Phillips Flat Head machine Screw	18
22 1/4 X 3” SS Phillips Truss Head Bolts	9
23 1/4” Acorn Nut	9
24 1/4” Lock Nuts	

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)

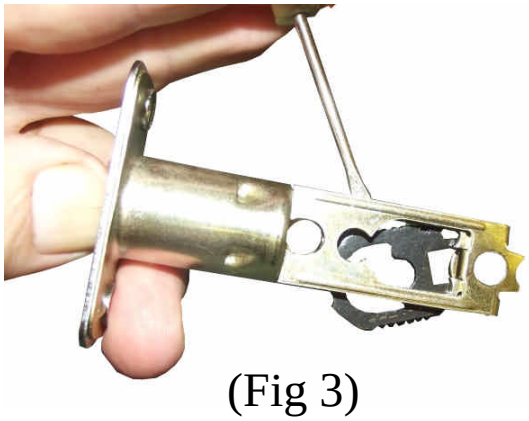


(Fig 1)



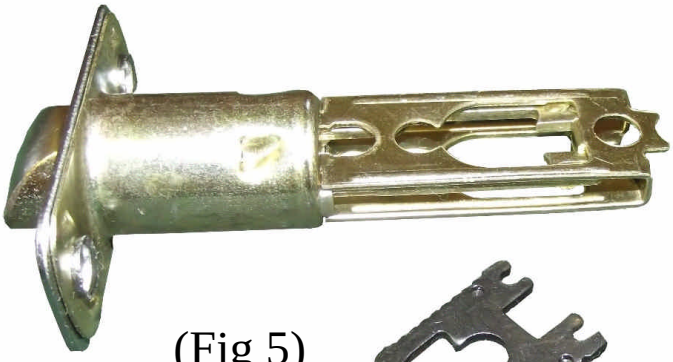
(Fig 2)

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)

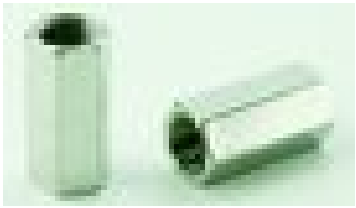
Mounting the Guide Wheels & Roller Wheels to the Mounting Ring

Parts List : All Stainless Steel Bolts
5 – 59MM Green Guide Wheels
10 – 59MM Green Roller Wheels in Brackets
20 – #10 X 3/8 Hex Head Machine Screws
5 – 1/4” X 1 1/4” SS Hex Head Bolts
5 – 1/4” X 3/4” SS Hex Head Bolts
5 – 1/4” X 7/8” Extension Nuts

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

1/4 X 3/4” SS Hex Bolt

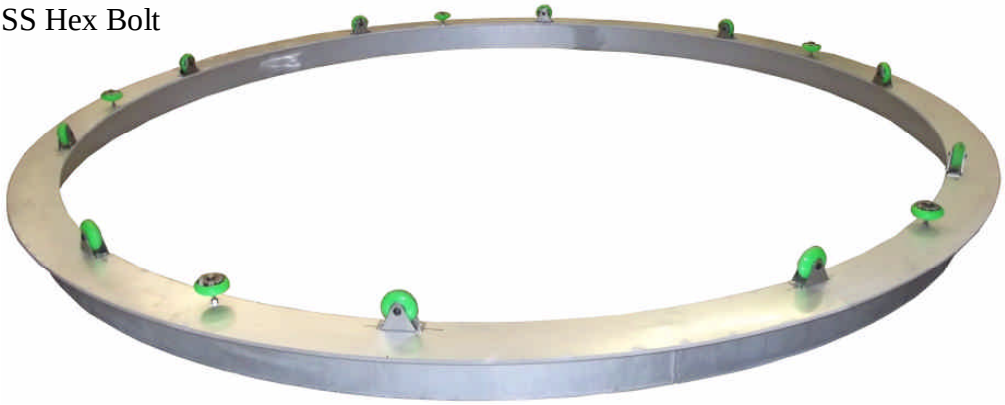
1/4 X 1 1/4” SS Hex Bolt

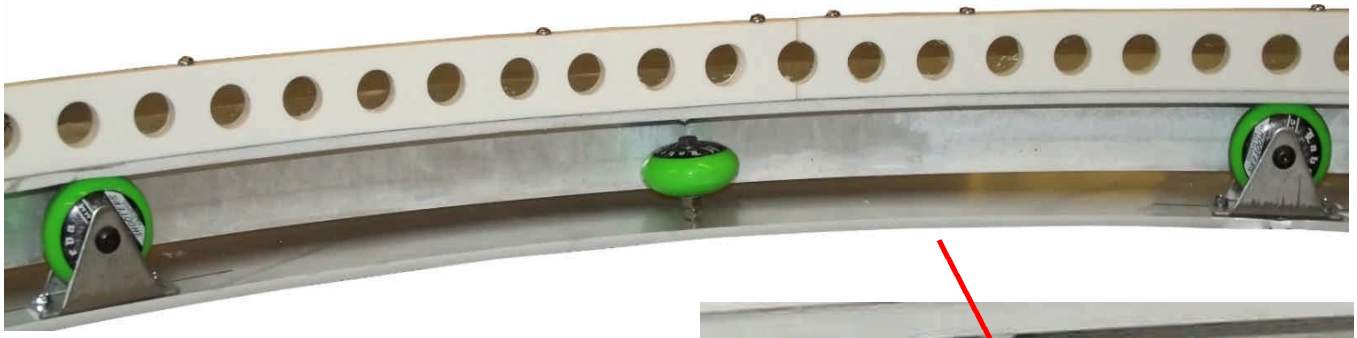


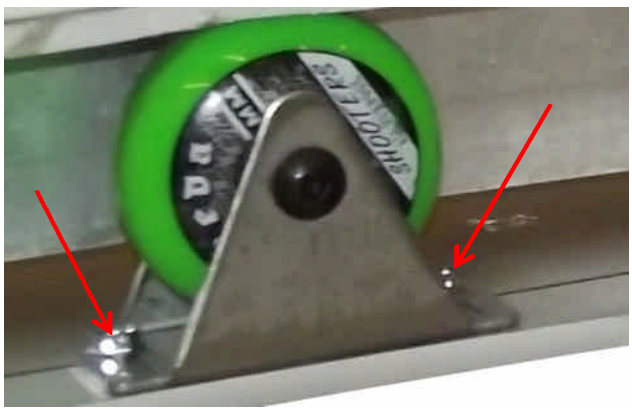
1/4 X 7/8” Extension Nut

The mounting ring is drilled and taped for the 10 roller wheels,& drilled for the 5 guide wheels, start by bolting the roller wheels in place with 2—#10/32 X 3/8” Hex head
self tapping screws.

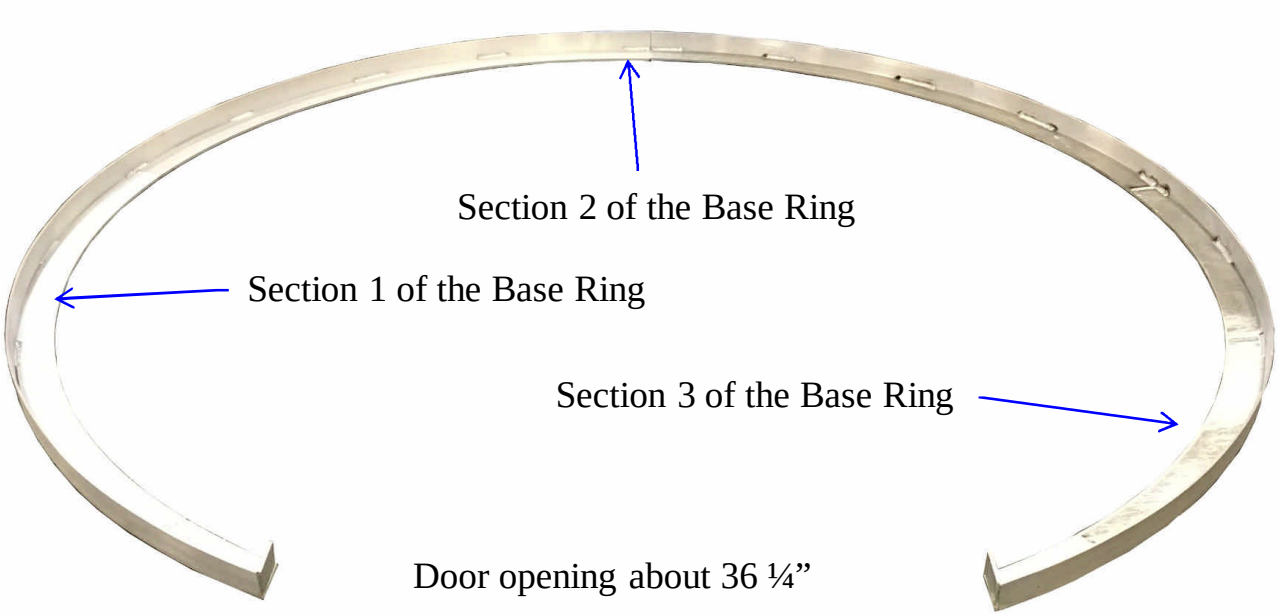
Install the guide wheels to the mounting ring, start with a 1/4 X 3/4” SS Hex bolt up through t from the bottom of the mounting ring and than install the 1/4” extension nut on to the bolt and tighten down, now put the 1 1/4” SS hex bolt into a wheel and than fasten it to the 1/4” extension bolt and tighten down. (as seen in the bottom photo)







Installing the Base Ring



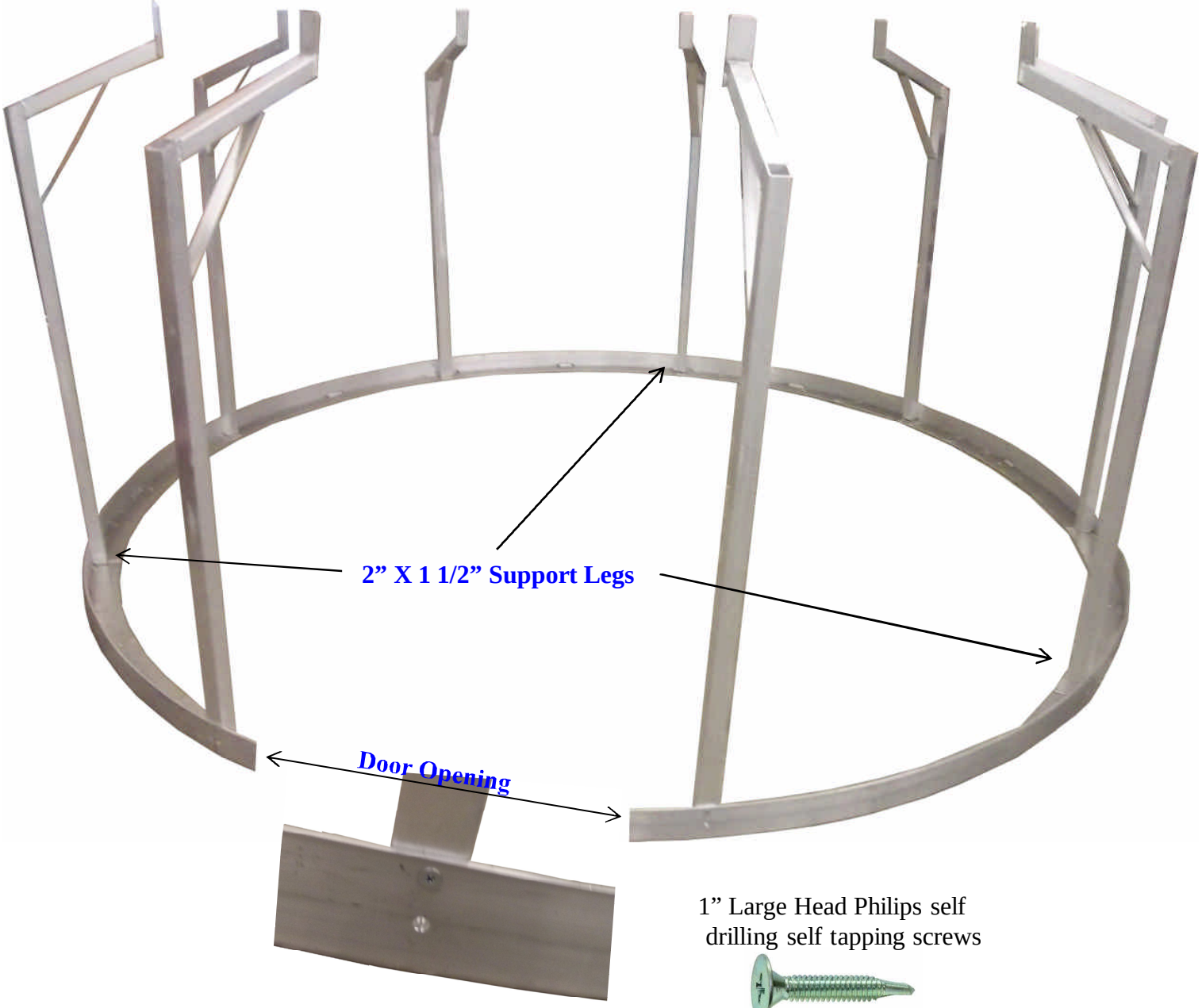
If you did not make your deck to my plans you will need to mark a circle that is 10’- 2” in diameter on the deck you are going to mount the building on.

Now locate where you want the door opening to be on the Deck and place Section 1 of the base ring on the deck following the line that you drew, keep the outside edge of the base ring flush with the line. The right end of Section 1 is cut at an angle, you will place it where you want the left side of the door assembly to be. Now place 2nd Section in place against the end of Section 1, and the out side edge of Section 2 flush with the line. Now place the 3rd Section in place, again placing the end of Section 3 against the end of Section 2, again keeping the out side edge of the base ring flush with the line. This should form the circle and have a open area where the door will go. This opening should be 36 1/4” wide opening. Check the width of the door assembly to make sure, adjust if needed.

Take section 1 up and put a bead of caulking on the bottom side and place it back in place and fasten it down in place. Now caulk Section 2 and reinstall it, but apply some caulking to the end of Section 2 before you fasten it back down. This will help seal the joint. Now caulk Section 3 and reinstall it the same way you did Section 2 and fasten it back down.

(In wood decks we use 2 1/2” Deck, in concrete we use a 2 1/2” cement anchor bolt you drill a 5/16” hole in the cement 3” deep)

Special Note: It is a good idea to lay the 3” wide bands on top of the base ring to make sure the base ring is the same diameter as the 3 bands are. Place the 3” wide band edge to edge on top the base ring going over the door opening and make sure the 3” wide bans are tight end to end of each other.



1” Large Head Philips self drilling self tapping screws

Installing the support legs to the base ring

There are 6 support legs that are 1 1/2” square tubing and 3 support legs that are 2” X 1 1/2” Rectangle tubing. These 3 tubes go evenly space around the base ring. (Every 3rd leg) They will give you more space to fasten the joints of the 3” band and the Roof panels together.

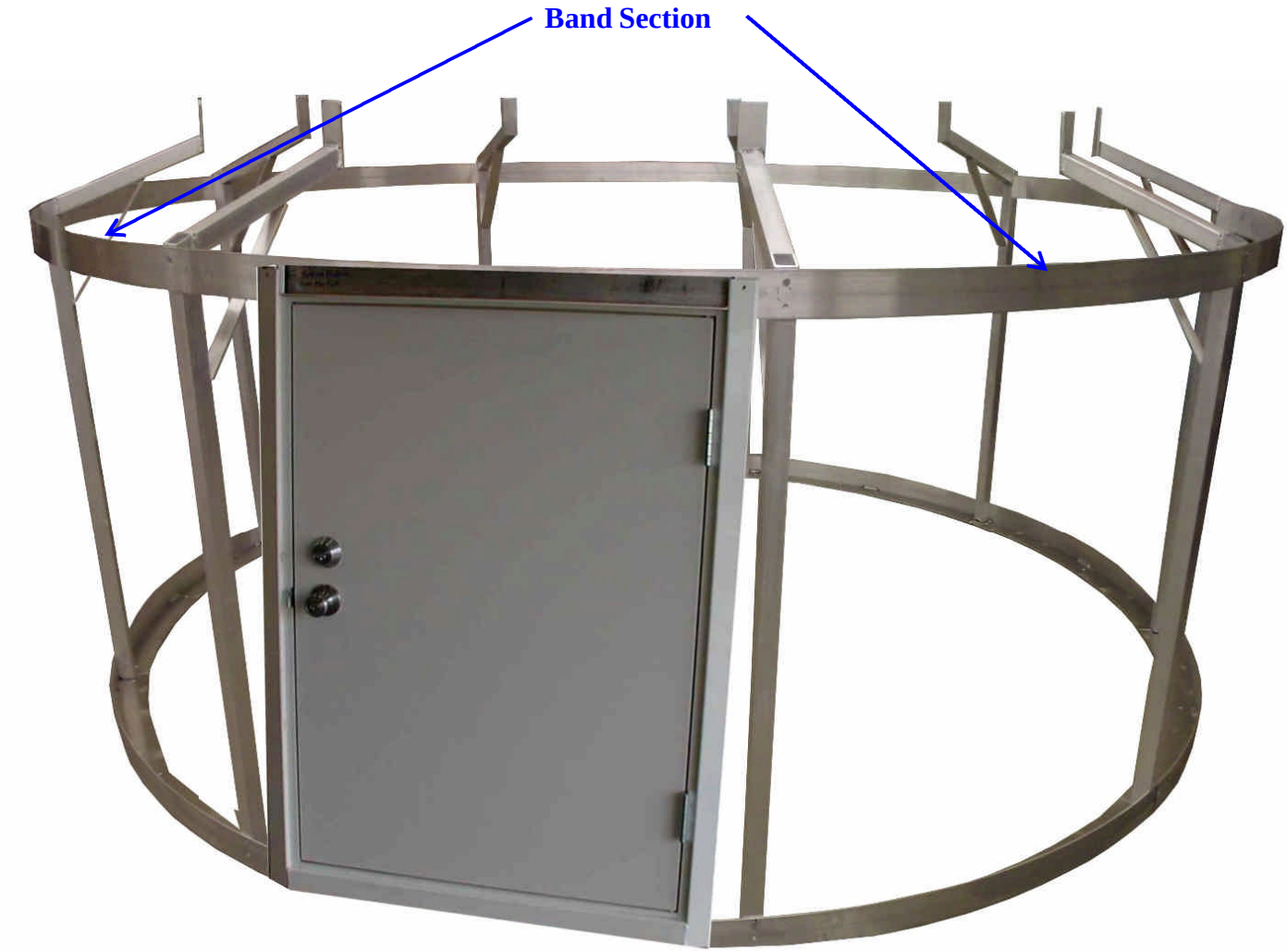
Place a 1 ½” square tube leg in the first hole on each side of the door opening, set the leg to the inside of the base ring, centering the tube in line with the predrilled holes and fasten in place with 2-1” Large Head Philip’s self drilling self tapping screws.

Place the 2” wide support leg to the second set of holes drilled in the base ring, back from the door opening, set to the inside of the base ring centering the tube in line with the predrilled holes and fasten in place with 2-1” Large Head Philip’s self drilling self tapping screws use the top hole.

Place a 1 ½” square tube leg in the next hole and fasten in place the next tube is the 2’ X 1 ½” rectangle tube and the next is the last 1 ½” x 1 ½” square tub leg.

Now it should look like the photo above.

Special note: (If you have trouble holding the support legs up right use the 3” top bands to help stabilize the legs as you fasten them in place, just clamp the bands to the top of the leg to help hold them while you fasten them to the base ring.)

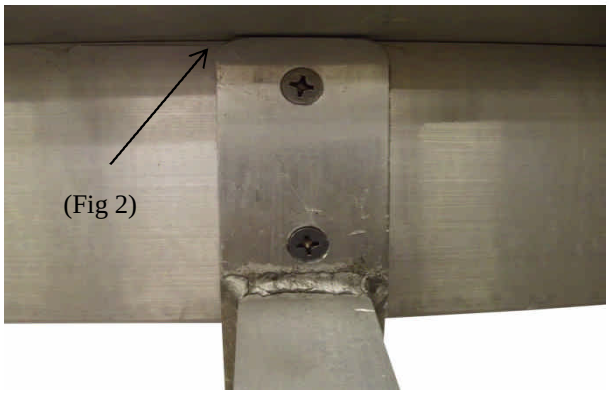


1” Large Head Philips self drilling self tapping screws

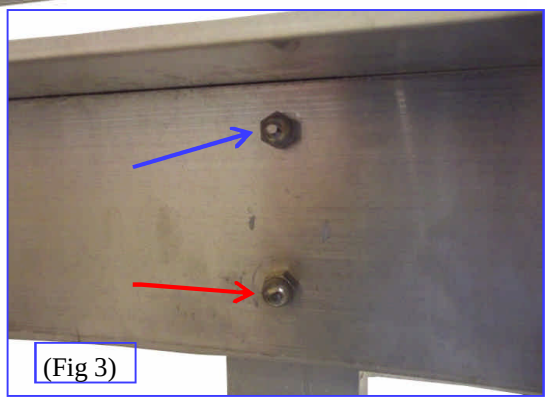
Installing the 3” Wide Band to the Support Legs

Now place the door assembly in place, check to make sure it is square, true the leg supports to the door assembly place a section of the 3” wide band on top of the door assembly so it goes to the center of the second leg on each side of the door this should be the 1 ½” X 2” Tube legs it should be to the center of each tube. Fasten it to the support leg using the same large head Phillips self drilling and tapping screws as used earlier.

Now fasten the other 2 sections in place the sane way as the first



(Fig 2)



(Fig 3)

Installing the Mounting Ring

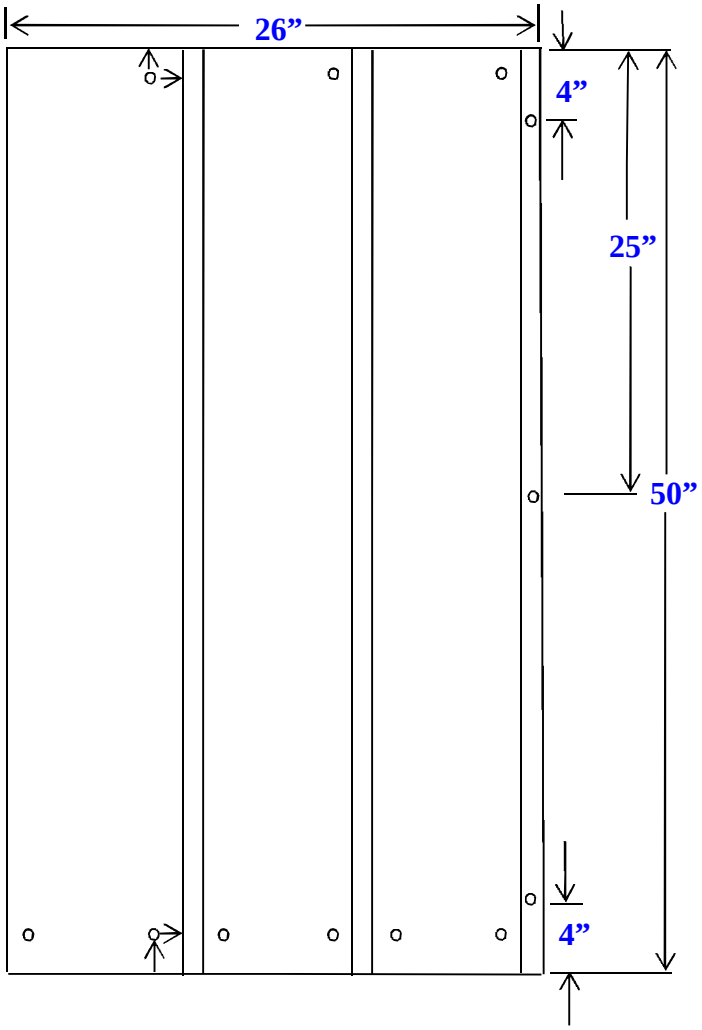
Place the mounting ring to the inside of the support leg tabs. Slip the mounting ring down so the support leg tabs come in contact with the bottom of the mounting ring it self . (Fig 2) Now space the support leg evenly around the mounting ring. (Average spacing should be about 42 1/2” center to center on the support leg tabs on the out side of the mounting ring)

(Do not Drill and bolt the 2” Wide Roof Support Legs at this Time)

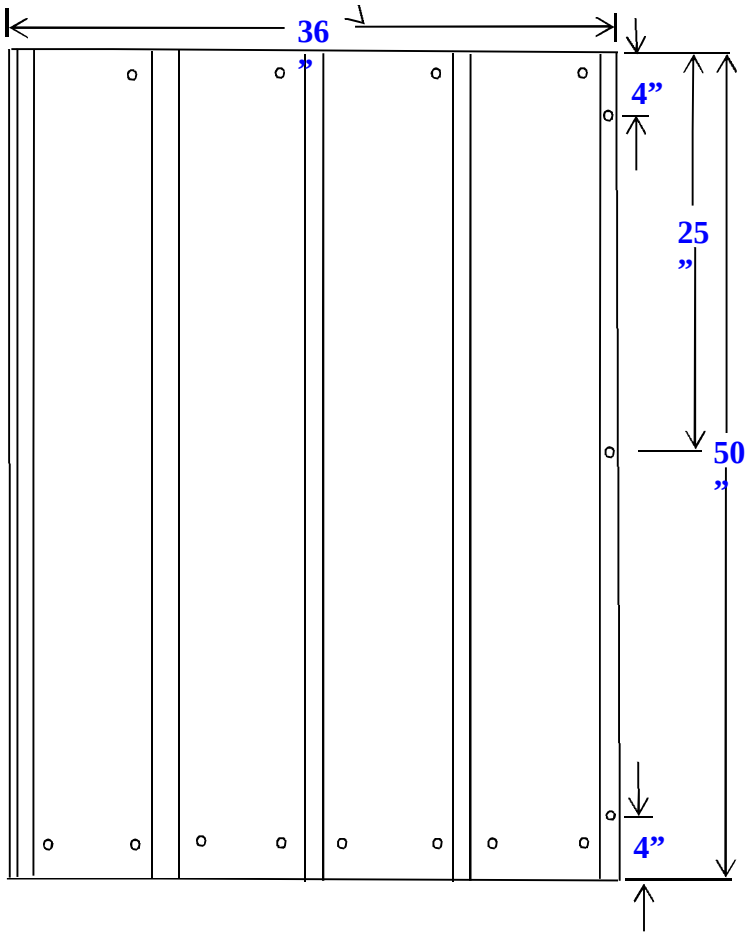
Now drill the top 1/4” Holes in the support leg tab through the mounting ring and bolt in place with 1-1/4” X 3/4” SS Phillips Flange head bolt with a nylon lock nut on the inside. (Fig 3 Blue Arrow) (If the hole is not drilled in the tab drill it about 1” down from the top of the tab. Now repeat this step on the other 8 support legs.

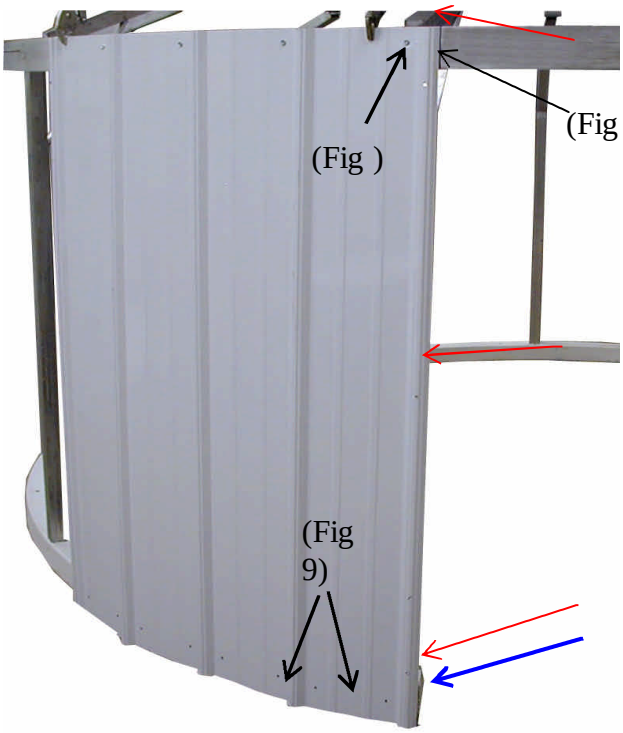
Once you have the top bolts installed, you want to square up the frame work the best you can, than drill the second ¼” hole in the leg tab just above the weld and install the second flange head bolt into the mounting ring, and use the acorn nut on it,
(Fig 3 Red Arrow)

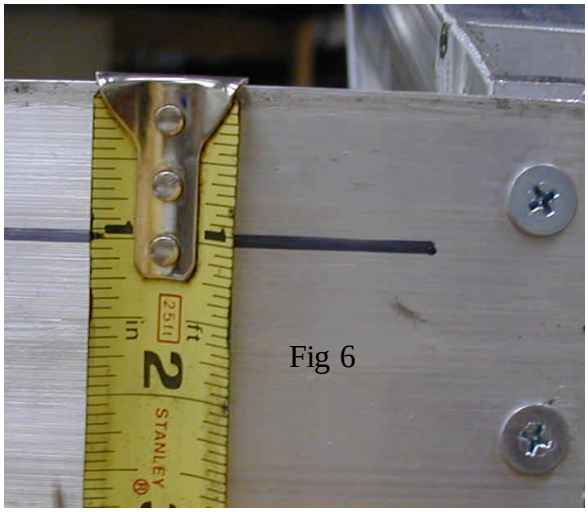
3/16” hole 1” down from the top of the sheet & 1” away from the left side of the rib starting on the narrow lip side of the sheet



3/16” hole 2” up from the bottom of the sheet & 1” away from each side of the rib starting on the narrow lip side of the sheet







Enclosure Foam

(Fig 8)

Installing the Steel Siding

Now this is one way to do the siding, In this scenario the sheets will meet in the middle of the back of the building one sheet will tuck under the other but will not be a lap joint like all the others. The other way is to keep going from the left side of the door all the way around to the other side of the door frame tucking the cut side of the last sheet under the casing of the door frame. (There are several different ways to install the steel siding to the building. If your deck or pad is larger then the Dome diameter you will hold the steel siding flush with the top of the aluminum band at the top of the wall. (Fig 4) If your deck or pad is the same diameter as the building you can hang the steel siding 1" or so down from the top of the aluminum band at the top of the wall.) (Fig 6) In the second scenario the steel will cover over your floor.

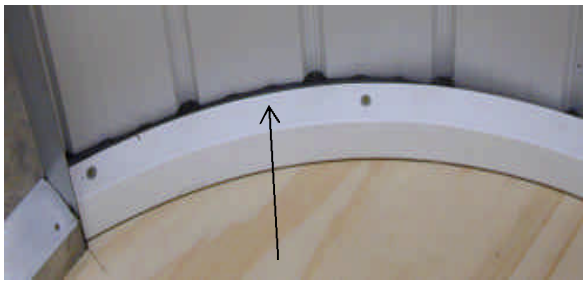
Start by making sure the support leg is level side to side.

Starting on the bottom left side of the door opening measure the distance from the support leg to the end of the base ring, (Blue Arrow). Now mark that same distance from the support leg out to the right, of the top of the door opening band, (Fig 4 Black Arrow)

Now place the first sheet of steel siding on the left side of the door opening (as you face the building) start even with the line (Fig 4) and the end of the base ring, make sure that the wide lip side of the steel siding is to the right side and the top of the steel siding is where you decided to start on the 3" aluminum band at the top of the wall. (Fig 4 or Fig 6) and clamp it in place. Now mark the center of the high ribs of the steel siding at the bottom of the sheet, this is so you can place the enclosure foam in the proper place to fit the steel siding. Remove the sheet of siding and place the enclosure foam at the top edge of base ring. Check to make sure both top and bottom right side of the sheet are in place. Now drill a 11/64" hole in the aluminum band through the steel siding staying about 1" off to the left side of the high rib at the bottom of the sheet, than 1"off both sides of the remaining high ribs, and fasten it in place with a 10-32 X 3/8 Hex head self threading screw. (Fig 8)

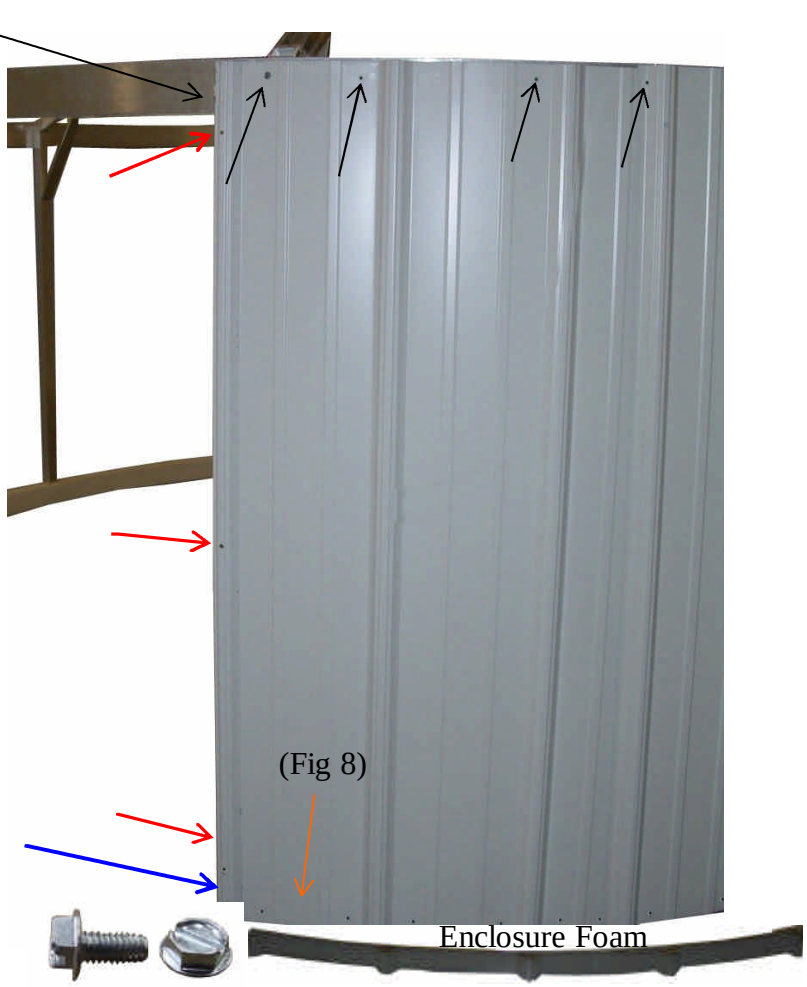
Do Not fasten the top of the siding yet.

Install 5 more sheets of siding around this same side, installing the enclosure foam as you go. Fasten the bottom only for now. There are 3 - #10/32 Hex Head self threading screws with SS nylon lock nut on the inside that fasten the laps of the sheets together. Drill these holes with a 13/64" drill they are 4" down from the top and 4" up from the bottom and the 3rd hole is center in the lap of the sheet. (Red Arrows) It works best to hold a block of wood on the backside of the steel siding when drilling the lap holes. Drill them in the center of the high rib)



Showing the foam Enclosure installed on the old style base ring.

(Fig 7)



Note: If you follow the instructions on this page you will then meet in the middle of the back of the building or skip to the following page and the last sheet will tuck under the right side of the door frame.

Now do the right side of the door opening, measure the distance from the support leg to the end of the base ring (at the bottom where the door goes, (Blue Arrow). Now mark that same distance from the support leg out to the left side of the door opening, at the top of the wall. (Fig 4)

Now place the first sheet of steel siding on the right side of the door opening (as you face the building) start even with the line (Fig 4) and the Blue Arrow, making sure that the wide lip side of the steel siding is to the left side (Red Arrows) and the top of the steel siding is where you decided to start on the 3" aluminum band at the top of the wall. (Fig 4) and clamp it in place. Mark the center of the high ribs the same way you did on the other side, Place the enclosure foam and reinstall the siding.

Now drill a 11/64" hole 1" to the right of the first rib, on the siding and the aluminum band (Fig 8) and fasten it in place with a 10-32 X 3/8 Hex head self threading screw. (Fig 7) Drill all the other holes on each side of the rib at the bottom of the sheet and fasten in place with the 10-32 X 3/8" hex head self tapping screws.

Now install the next 4 sheets of siding around this side. Fasten only the bottom of the sheet as you go and install the enclosure foam also.

There are 3 - #10/32 Hex Head self threading screws with SS nylon lock nut on the inside that fasten the laps of the sheets together. Drill these holes with a 13/64" drill they are 4" down from the top and 4" up from the bottom and the 3rd hole is center in the lap of the sheet.

The last sheet should be cut narrower than the other 9 sheets this sheet should be able to be slipped under the last sheet on the other side, check the enclosure foam the high rib will need to be removed so the sheet fits properly against the aluminum band at the bottom. Now just fasten the sheet into place the same way you have so far. Fasten the over lap in the flat area of the 2 pieces of siding the same spacing of the machine screws on the other laps.

Now square up the frame work to the door opening and fasten the top of the siding to the 3" aluminum band. You only need 1 screw on one side of the high rib make sure it comes out so there is a screw on the lap side of each sheet. No enclosure foam is used at the inside top of the sheet, there we use a piece on the outside.

Installing the Door Assembly

Now with all the steel siding fastened in place, move on to the door frame assembly installation. First slip the door assembly in place and check to see that it fits properly, and the door assembly can be squared to the opening. If all looks good you can remove the door assembly and put several beads of caulking down on the floor where the bottom of the door will set.

Now Slip the door assembly back in place and square the door assembly, drill a 1/4" hole down about 3/4" from the top and centered on the door frame casing and fasten the top of the door assembly in place. (Fig 11 **Red Arrows**) using 2 – 1/4 X 1 1/2" SS Hex bolts and SS Nylon lock nuts on the inside.

Now drill a 1/4" Hole about 1 1/2" up from the floor and centered on the door casing through the base ring and than fasten the bottom of the door assembly in place (Fig 11 **Red Arrows**) using 2 – 1/4 X 1 1/2" SS Hex bolts and SS Nylon lock nuts on the in side.

Now drill the 3/16" holes needed to fasten the siding steel to the door casing, measure 4" down from the top and centered on the casing flange 4" up from the bottom centered on the casing flange and centered top to bottom on the casing flange (Blue Arrows) .#10/32 Hex Head self threading screws form the outside in and 10-32 SS nylon Lock nut on the inside

Photo 1

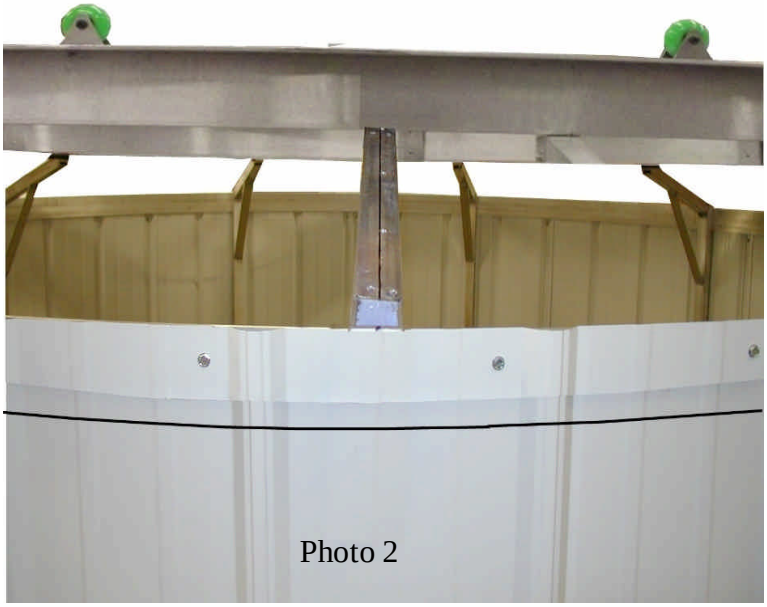


Photo 2

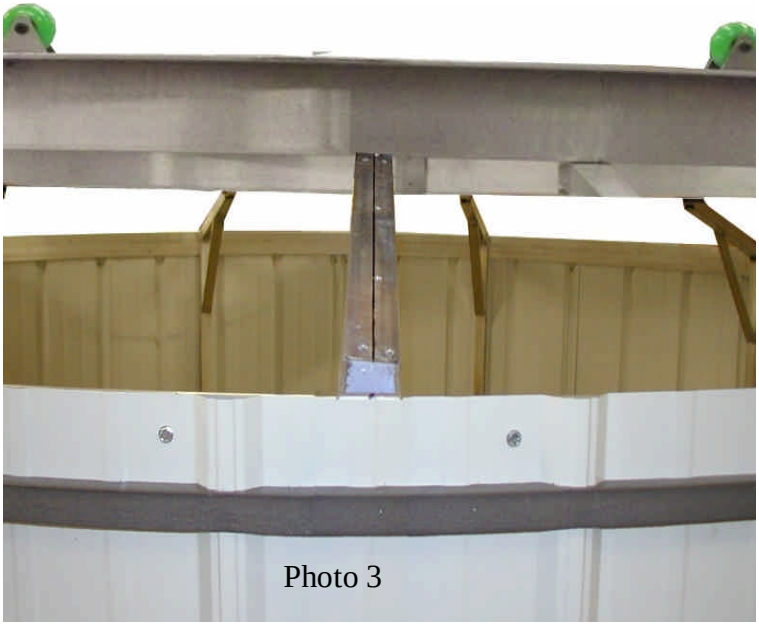


Photo 3

Once you have the siding on the building you should install the outside enclosure form that goes behind the roof panels.

Start by placing a roof panel on to the building, (Photo 1) push the roof panel down tight to the top of the wall, draw a line on the side wall of the building flush with the bottom of the roof panel along the length of the roof panel. (Photo 2)

Now move the roof panel 1/3 the way around the building and repeat the same procedure, Now repeat the procedure for the final section.

You should now have a line drawn all the way around the building about 4" down from the top of the side wall. (Photo 2)

Now install the bottom side of the outside enclosure foam flush on the line, it should now look like (Photo3)

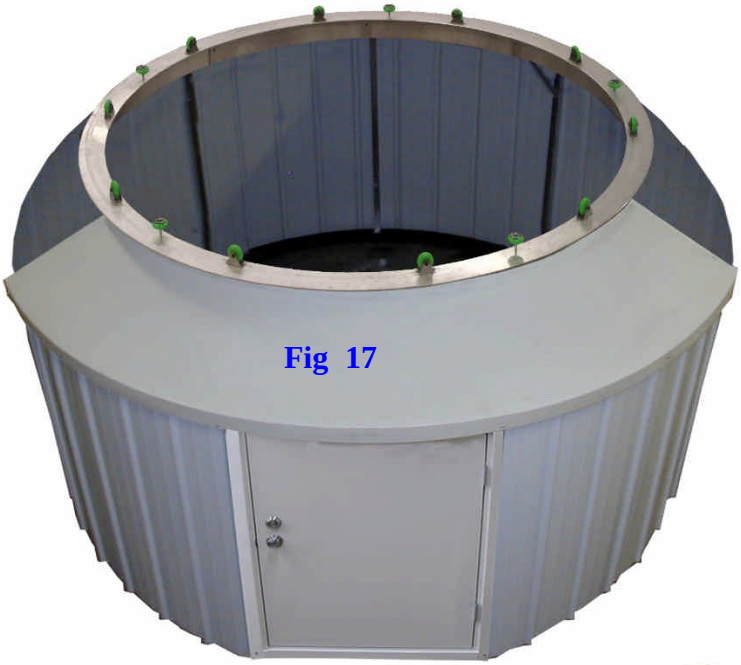


Fig 17

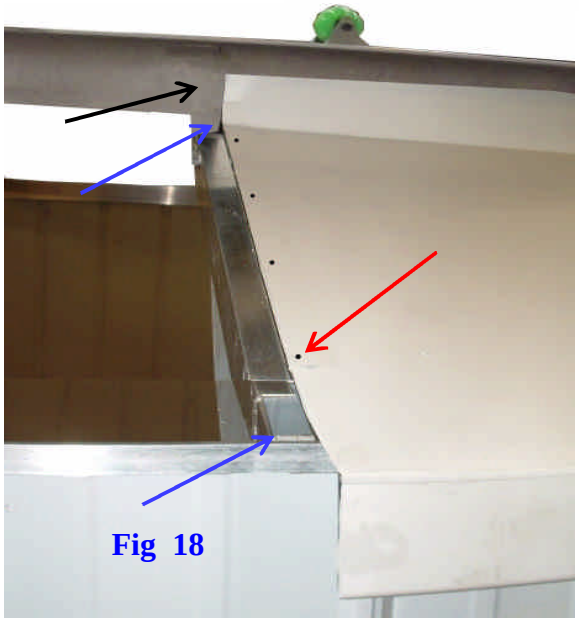


Fig 18

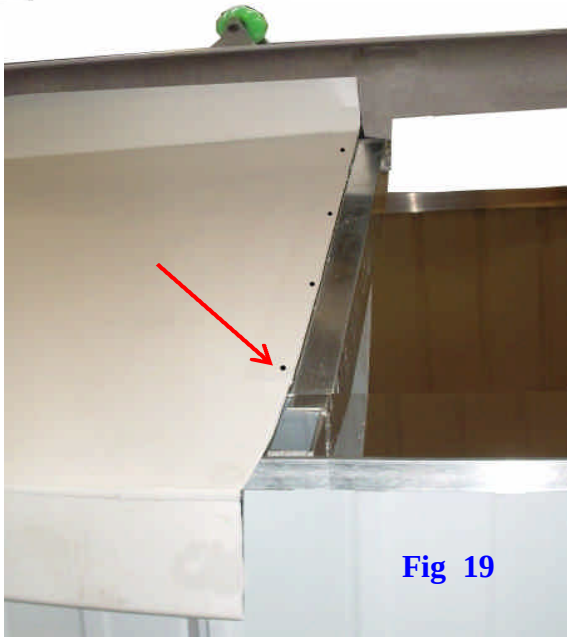


Fig 19

Installing the Roof Panels

It works best to Fit the roof panels in place and than go back and add the sealers.

Note: All the hole locations are ½" in from the edge of the roof panels,

Start by placing the first roof panel over the door, (Fig 17) Center the roof panel on the bottom of the support leg, (Fig 18 Blue Arrow) with the roof panel up tight to the mounting ring at the top of the support leg, (Fig 18 Blue Arrow) drill a 1/8" hole about 2" up from the end of the support tube about 1/2" in from the edge of the roof panel, (Fig 18 Red Arrow) then install 1- 1" white hex head roof screw, through the roof panel into the support leg, (Fig 18 Red Arrow Do not tighten down yet). Than check the other side of the roof panel and make sure it is centered on the support leg at the bottom, if it is to long, you will need to cut it off as necessary, than drill & screw it the same way as (Fig 18). With the lower edge of the roof panel screwed to the support leg, the arm of the support leg should be centered to the roof panel, if it is not than move as necessary and bolt it in place using the same bolts as you did on page 7. (Fig 18 Black Arrow)

Now drill the remaining 1/8" holes down the edge of the roof panel. spacing 1", 4" & 8" down from the top corner of the roof panel and install the 1" Hex Head white screws, (Fig 18 Do Not Tighten Down Yet) Do the same procedure on the left side of the roof panel (Fig 18) make sure the roof panel is still centered on the support arm, if it is ok drill the holes and screw in place also.

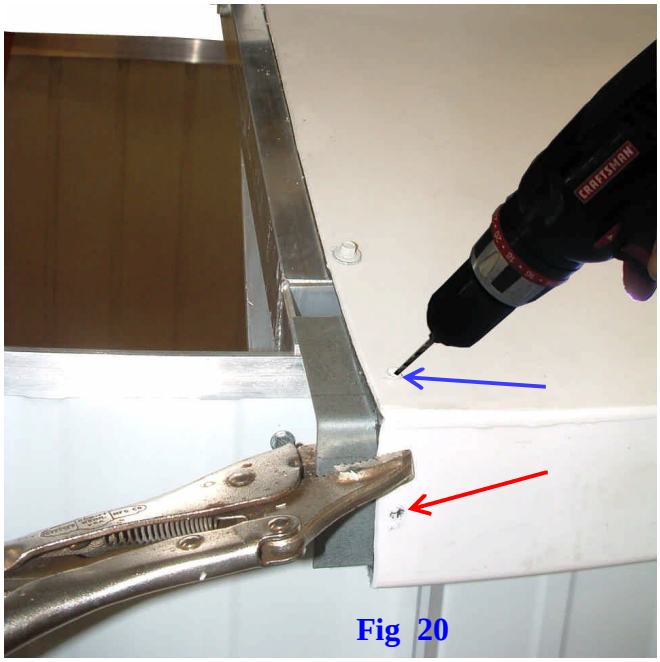


Fig 20

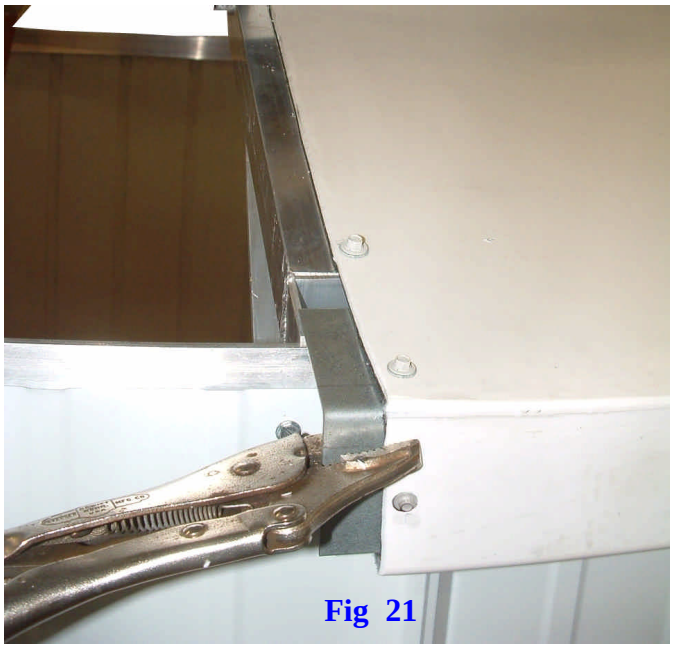


Fig 21

Fig 22

Fig 23

With the first roof panel in place install the outer roof joint plates (Fig 23) on the underside of the roof panel as shown in (Fig 20) using the same White Hex head 1" screws used earlier.

Start by clamping the bracket in place half under the roof panel and half exposed, as seen in (Fig. 20) once it is clamped in place drill 2—1/8" holes through the roof panel and through the bracket. 1 centered on the front down lip (Fig. 20 Red Arrow) and 1 about 1" back from the front edge of the roof panel (Fig. 20 Blue Arrow). Now install the 1" roof screws
(Fig. 21)

Now drill the 1/8" holes using the same pattern as (Fig 21) in (Fig 22)

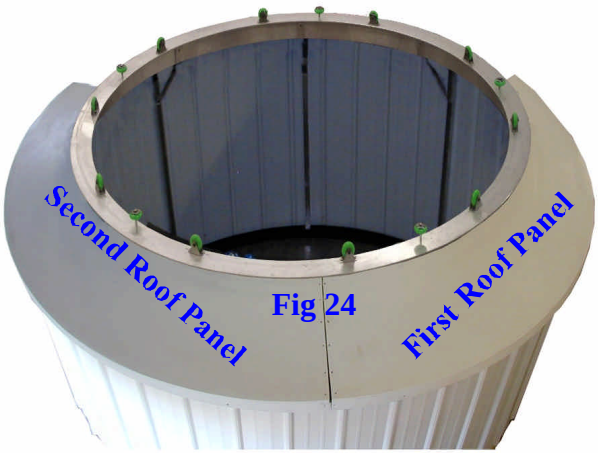


Fig 24

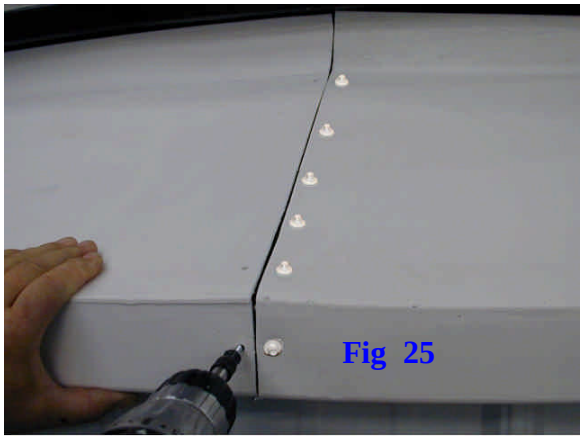


Fig 25

Fig 26

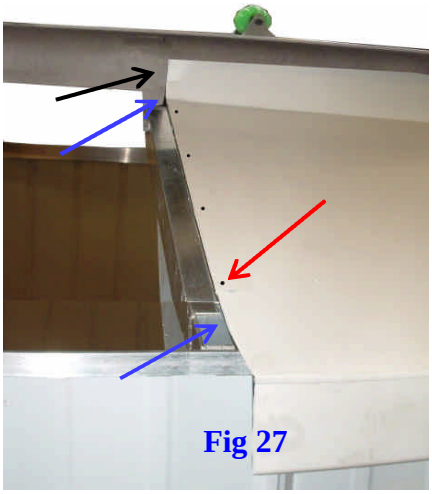


Fig 27

Now install the next roof panel making sure that the right side of the second roof panel is fitting up against the left side of the first roof panel installed already. (Fig 24)

(If the fit is not to your liking trim it as needed)

Now making sure it is as tight to the other roof panel as possible, push the roof panel down tight to the metal joint bracket, drill a 1/8" hole through the front of the roof panel and through the metal bracket, fasten in place with the white hex head roof screws (Fig 25)

Now drill the 1/8" holes in the top of the roof panel inline with the screws in the first roof panel, and install the remaining white screws . (Fig 26)

Now check the other side of the roof panel and make sure it is centered on the support leg at the bottom, if it is to long, you will need to cut it off as necessary than drill & screw it the same way as (Fig 27). With the lower edge of the roof panel screwed to the support leg, the arm of the support leg should be centered to the roof panel, if it is not than move it as necessary and drill and bolt it in place using the same bolts as you did on page 7. (Fig 27 Black Arrow)

Now install the outer roof joint plate on the underside of the roof panel as shown in (Fig 20 page 13) using the same White Hex head 1" screws used earlier.

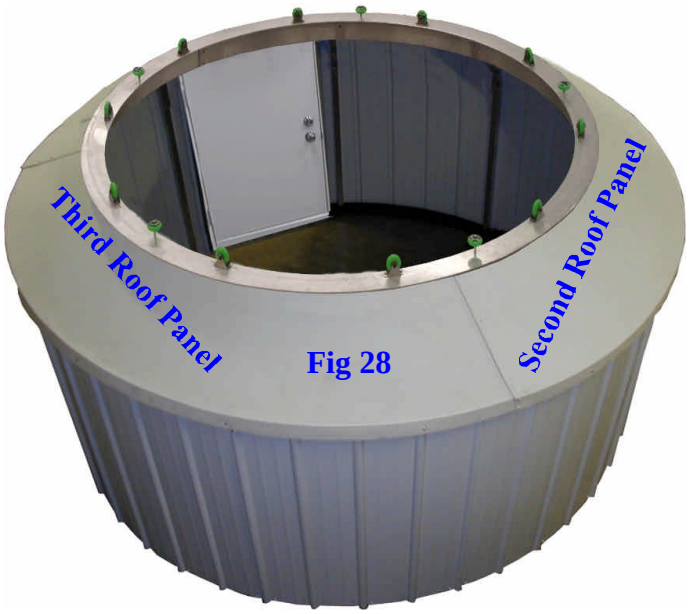


Fig 28

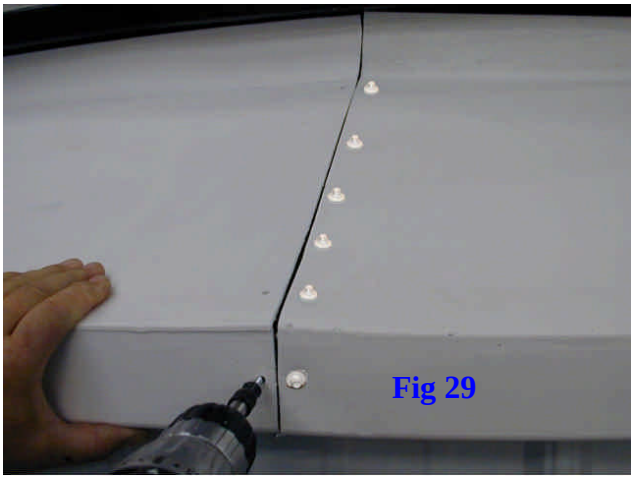


Fig 29

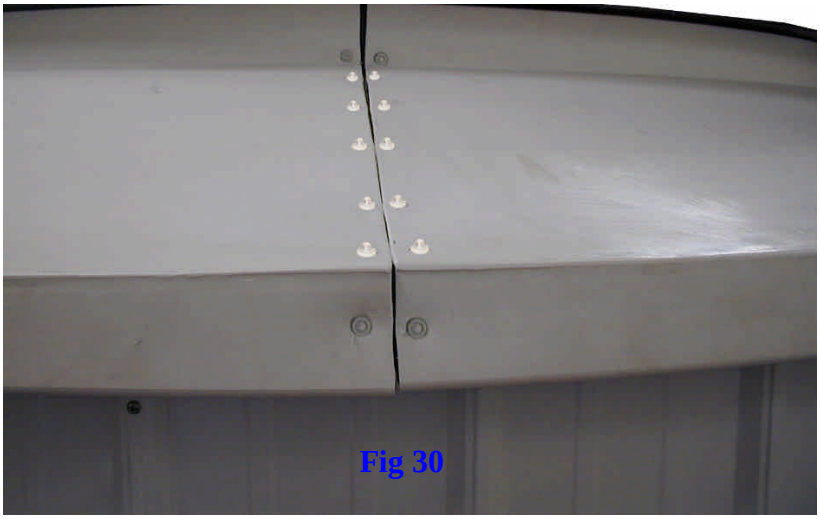


Fig 30

Now install the third roof panel, make sure that the left side of the second roof panel is fitting up against the right side of the second roof panel installed already. (Fig 28)

(If the fit is not to your liking trim it as needed)

Now making sure it is as tight to the other roof panel as possible, push the roof panel down tight to the metal joint bracket, drill a 1/8" hole through the front of the roof panel and through the metal bracket, fasten in place with the white hex head roof screws (Fig 29)

Now drill the remaining 1/8" holes in the top of the roof panel inline with the screws in the second roof panel, and install the remaining white screws. Do not tighten yet. (Fig 26 on page 14)

Now check the left end of the 3rd panel making sure it is fitting correctly to the end of the first roof panel, if it is not make the necessary corrections, than push the roof panel down tight to the metal joint bracket, drill a 1/8" hole through the front of the roof panel and through the metal bracket, fasten in place with the white hex head roof screws (Fig 30)

Now you can tighten down all the screws and caulk the seam now or proceed to the next page for more sealing options.

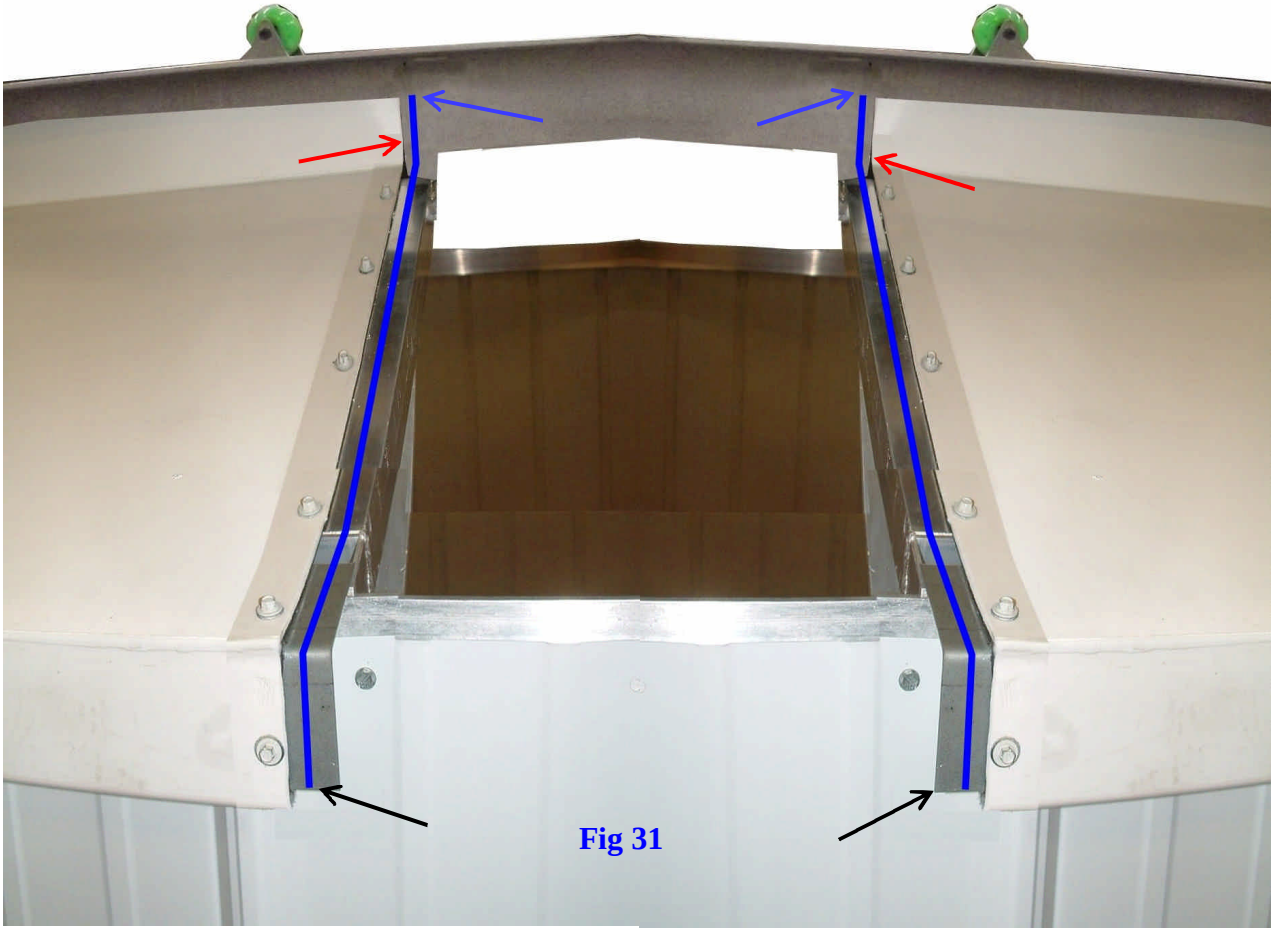


Fig 31

Fig 32

Sealing the Roof Panels to the building.

Start by removing the first roof panel from the building, than starting about ¾" off to the side of the roof panel **(Red Arrow)** and even with the top of the remaining roof panel **(Blue Arrow)** run a bead of caulking down the mounting ring, down the support leg and down the roof bracket,
(Black Arrow) do this on both sides of the removed roof panel. **(Fig 31)**

Once you have the caulking in place reinstall the roof panel back in place, use a scratch owl or small screw driver, **(Fig 32)** through a hole in the roof panel to realign the hole in the roof panel to the building, than start one of the roof screws back into the hole, (Do not tighten yet) repeat this procedure on all remaining holes, once all screws are back in place and the roof panel is fitting properly than retighten all screws.

Repeat this process on the other 2 roof panels the same way.

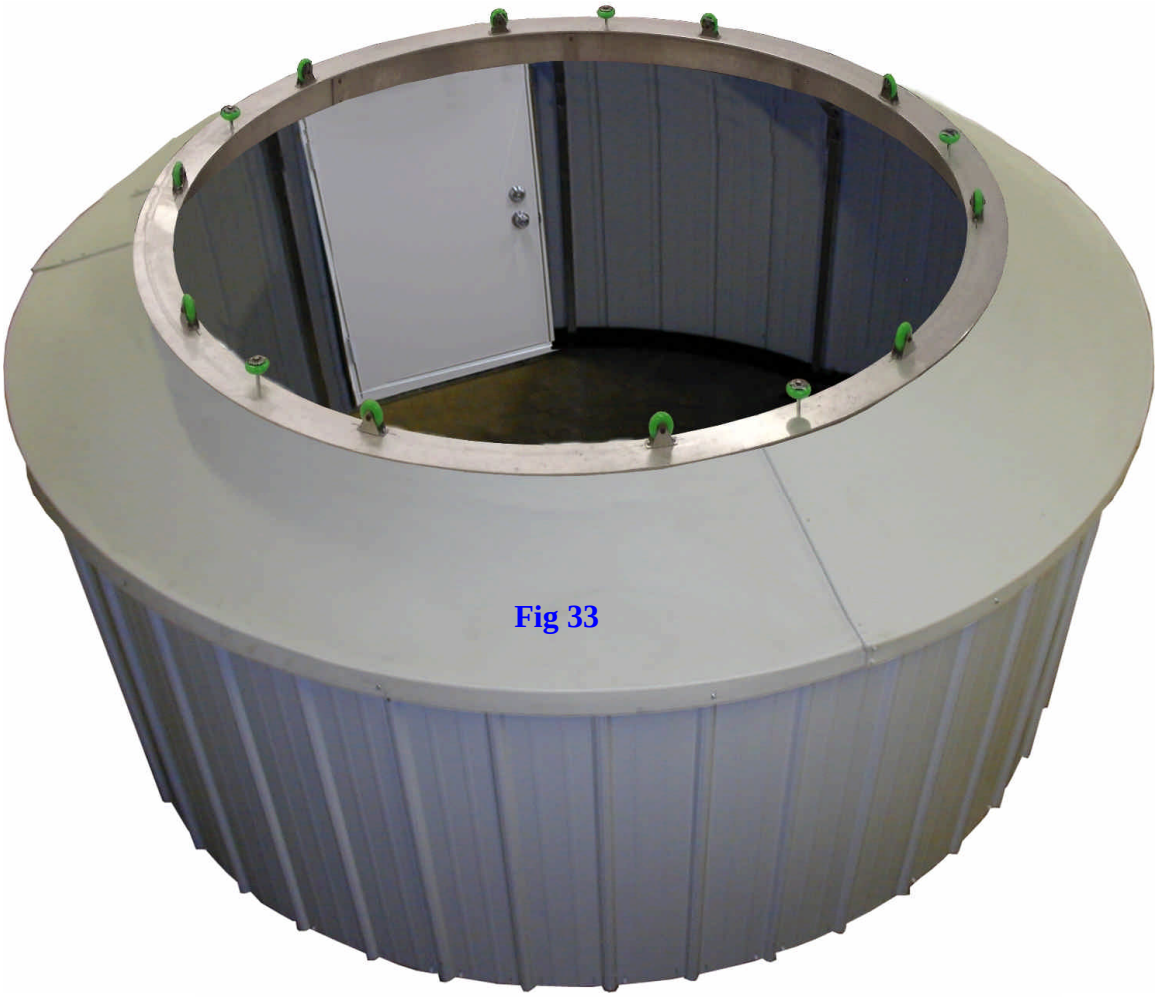


Fig 33

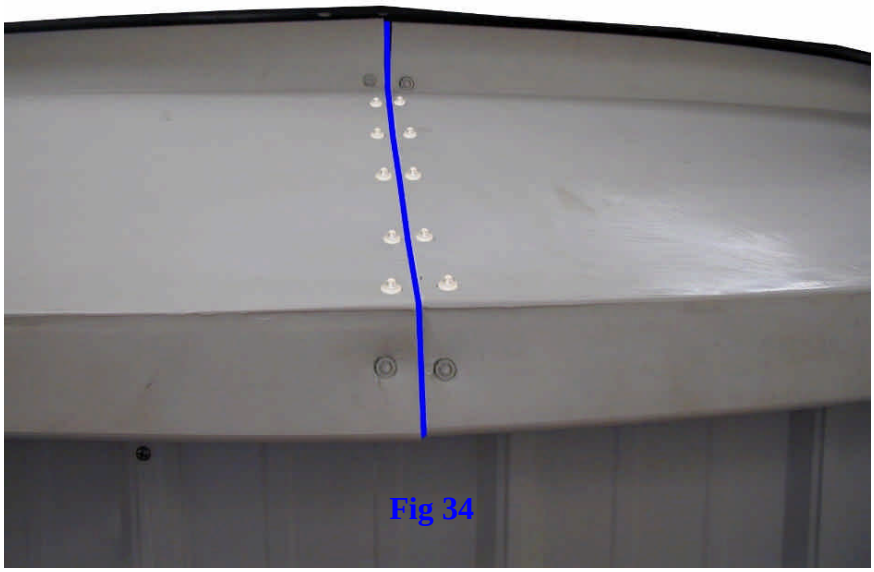


Fig 34

Now with all 3 roof panels back in place, **(Fig33)** Run a bead of caulking down the seam of all 3 roof panels and flatten out as needed **(Fig 34 Blue Line).**

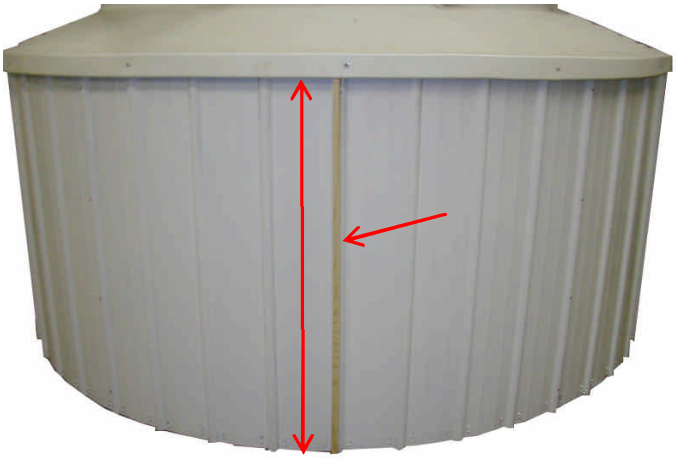


Fig 35

Fig 36

Fig 37

Fig 38

Installing the Outer Bolts in the Roof Panels & Installing the Screws in the Front of the Support Leg Bracket.

Now you are ready to fasten the outer edge of the roof panels to the building. First thing you want to do is pull the out side edge of the roof panel down so it looks straight to the roof line it self, than measure the distance from the deck to the bottom of the roof panel and cut a spacer stick. (Fig 35) This is to make it easier to evenly place the edge of the roof panels around the building.

Now starting inline with the corner of the Door frame and with the spacer stick in place between the bottom of the roof panel and the deck, drill a 1/4" hole about 1" up from the bottom edge of the roof panel, (Fig 36) drill through the roof panel and the steel siding and the band behind the siding. Place a 1/4 X 3" Philips head bolt through the hole and put a 1/4" nylon lock nut on it and snug it up. (Fig 37) Do the same above the other corner of the door.

You will do this same procedure all the way around the building in line with every 3rd high rib starting from the one above the door. (About 27" apart) (Fig 38)

Remember to move the spacer stick with as you go.

Installing the Wheel Ring to the Mounting Ring installed on the building

Now that you have the building assembled you will install the wheel ring to the mounting ring. Set the wheel ring onto the mounting ring, with all the guide wheels and roller wheels on it from page 3. spin the wheel ring to make sure it spins freely.

Go to the following page before you mount the Dome to the building

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.

Installing the Retainer Ring

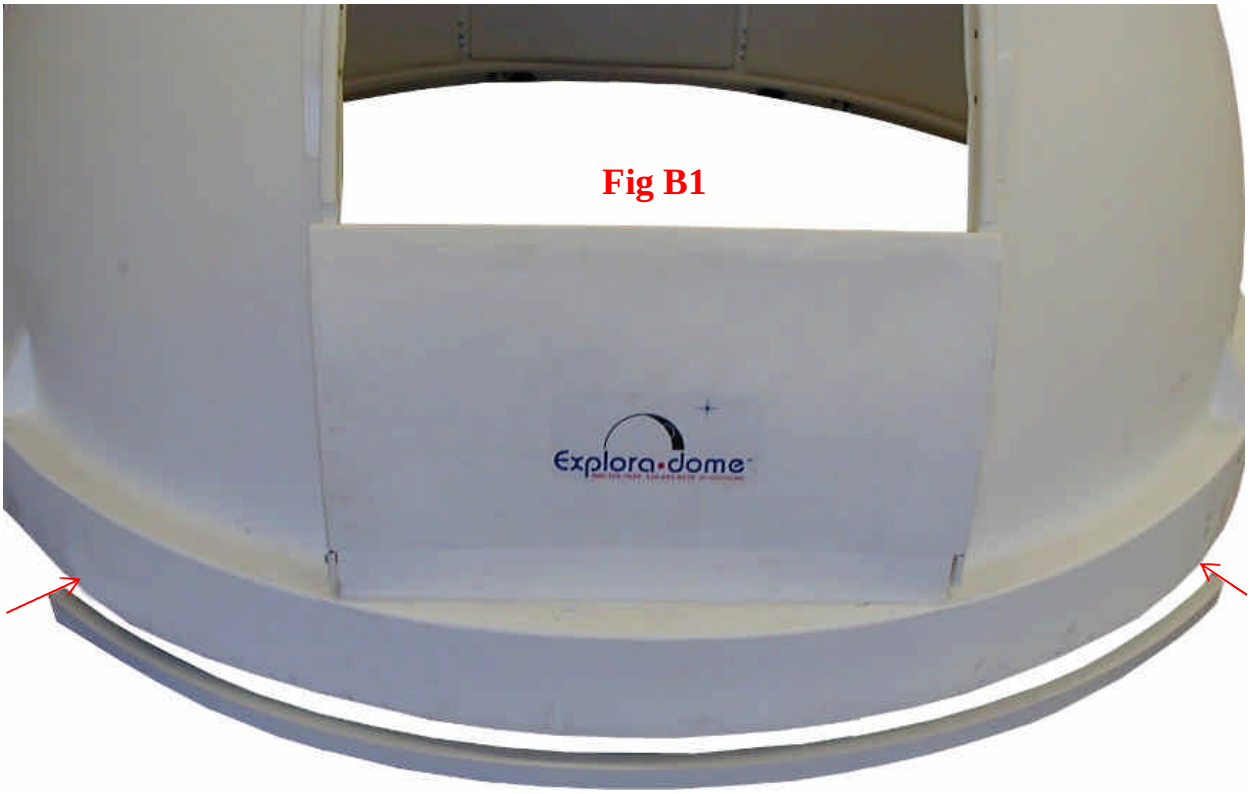


Fig B1

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.

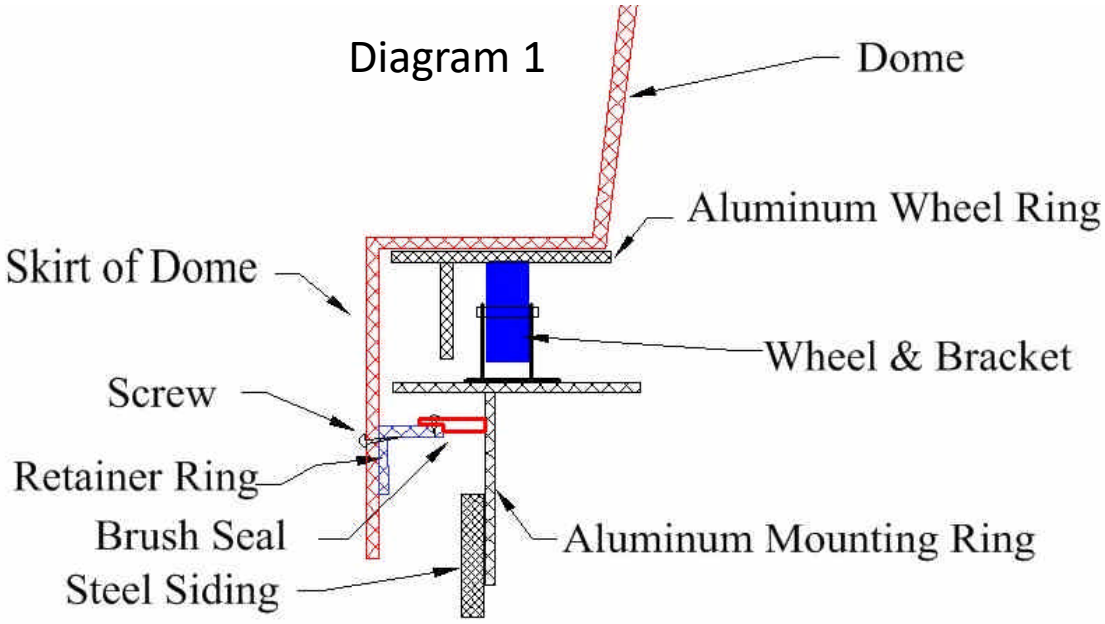
Now repeat this procedure on the next 3 sections of retainer ring.

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

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.



Installing the Brush Seal on the Wheel Ring

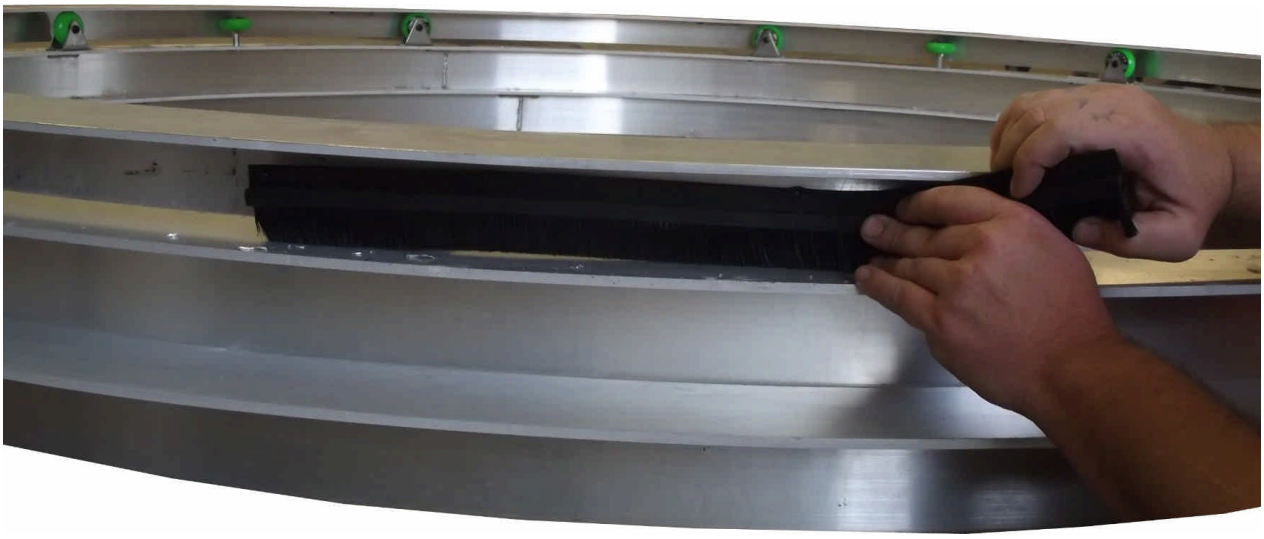
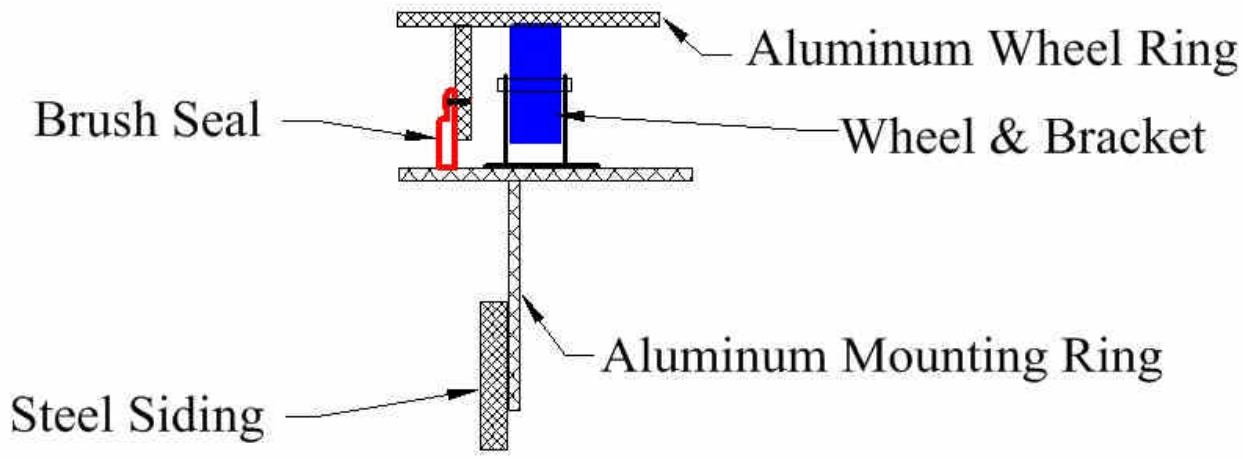


Diagram 2



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)

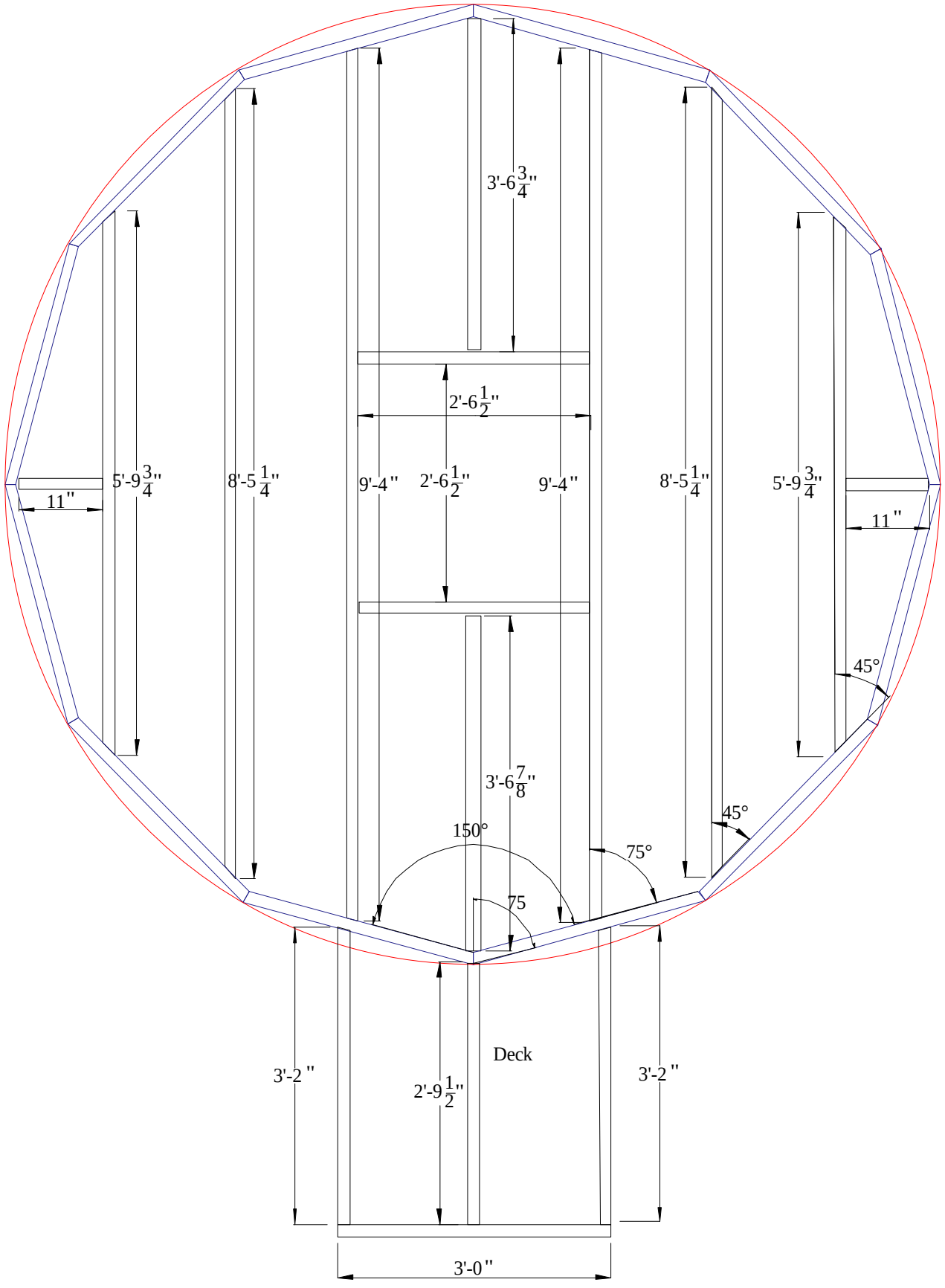
Now set the Dome on to the wheel ring, most times you do not need to fasten the Dome to the wheel ring, but if you like you can fasten it down with 1 or 2 ¼” X 1” SS flange head bolt with a ¼” ss nylon lock nut on the inside.

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

10' 6" Round Building Deck Framing Lay Out

Black = Deck Framing Blue = Outter Deck Doards Red = Plywood Floor

The Plywood of the Deck is 122”



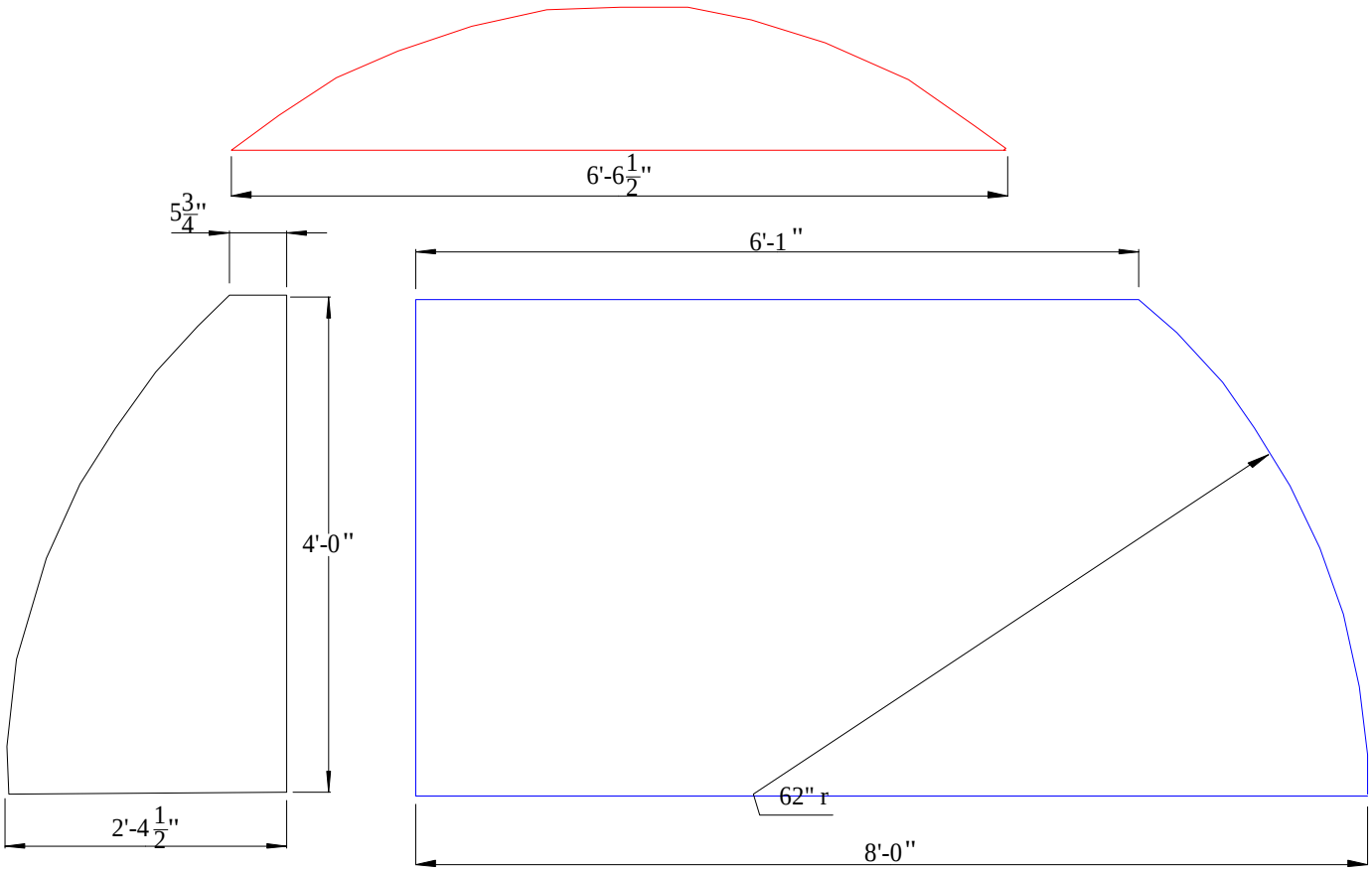
Preasure Treated Plywood Needed

2 - 1' 2" X 6' 6 1/2"

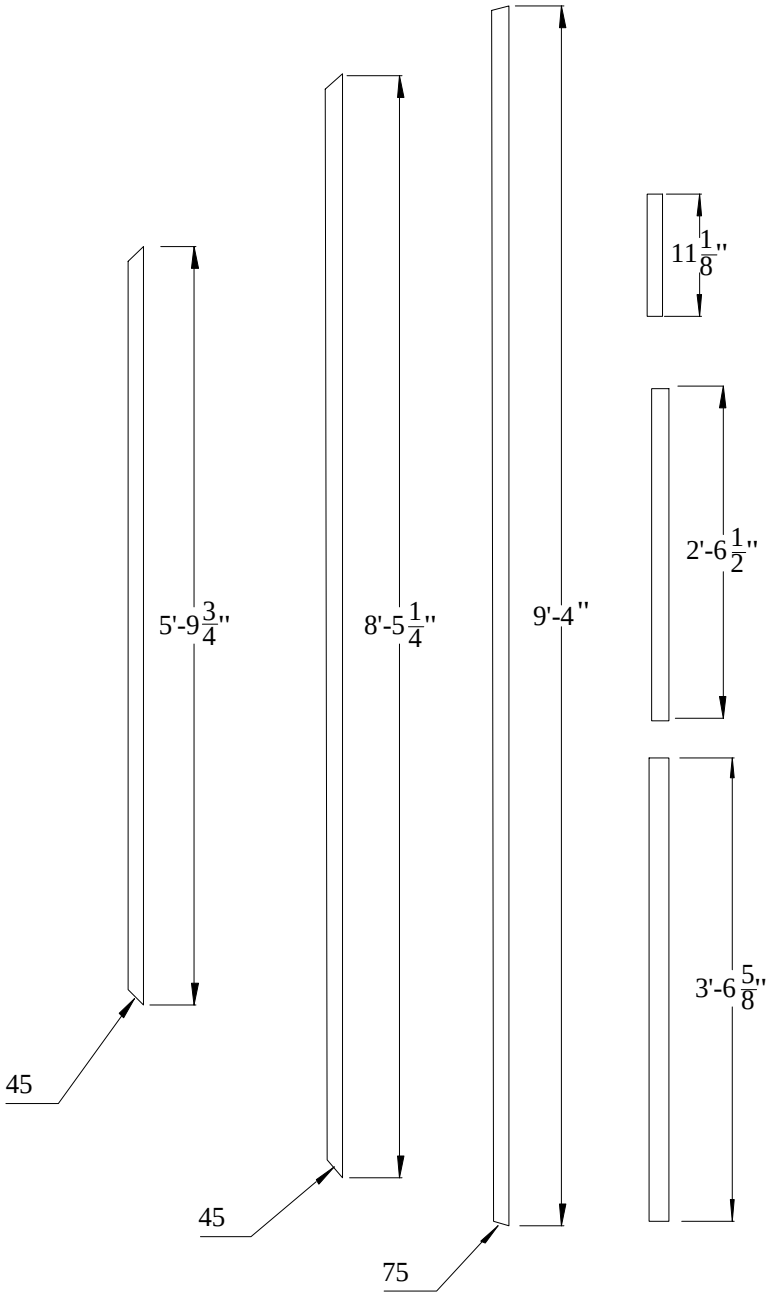
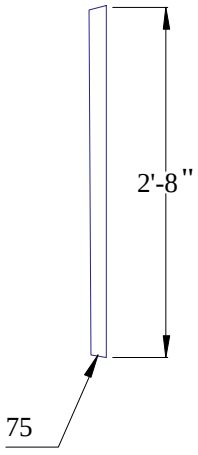
2 - 4 X 8 X 3/4 Plywood

2 - 4 X 2' 6 1/2"

Preasure Treated Plywood Cut To Needed Sizes



2 X 8's Needed To Make The Deck You Will Need 2 Of Eack



You need 12 of the 32" outter boards