

Chapter 8

Sheet Metal Covering

Finally, the ramp will get the sheet metal covering. Using a grinder, make sure all the welds on top of the Cross Supports are ground down to be close to flush.

This should be started at the top with a full 4x8 piece. Have at least 2 assistants to help you in this. Using a ladder and placing it at the Trailing End, have the welder stand on the ladder while the two assistants line up the sheet metal. This must rest $\frac{1}{4}$ " from the Trailing End side of Cross Support #1 [top] and equal distance from the sides of the two Side Rails. After everyone is sure this is properly placed, clamp both sides of the sheet metal to the Side Rail. Weld the sheet metal at the top at the center for about .5" long. Verify this is still sitting properly and if so, weld at the top 6" to the right and then 6" to the left of the first weld. Be sure the sheet metal is sitting flush to Cross-Section #1 and then tack-weld 6" further to the right and left of the two last welds using 1" welds. Continue this until this is welded all the way to the corners.

NOTE: All remaining welds on the sheet metal will be using 1" welds, unless otherwise stated. All sheet metal welds are under the ramp, not on top, unless otherwise stated.

Use your own idea on this depending on the resources available but it is safer and easier if you raise the Leading End of the ramp as high as safely possible so the angle is not so steep. Set this in the back of a pickup truck if available. This allows the assistant to not slide down the sheet metal, as it is very, very slippery without the expanded metal installed. I always have an assistant stand close to the weld locations to make sure the two pieces of metal are toughing. I also advise using a rope secured to both top corners to offer more support for the assistant so they will be more stable on top and not slide down the sheet metal and injuring themselves.

Next, weld the center of the Cross Support #2 on the high side and under the ramp while your helper is making sure the metal is tight and cannot warp away from the Cross Support.



Figure 29 – Welds should be approximately 1" long.

The next step is to weld at 6" from the center weld, towards the Side Rails on both sides of this weld, approximately 1" long. Do this again so you will have 5 welds on every Cross Support. Now, move down the Side Rails 6" from the top and squeeze the metal to the Side Rails using a 6" throat Vise Grip type pliers. Weld at these locations. Move the Vise Grip type pliers down to Cross Support #2 and weld this location.

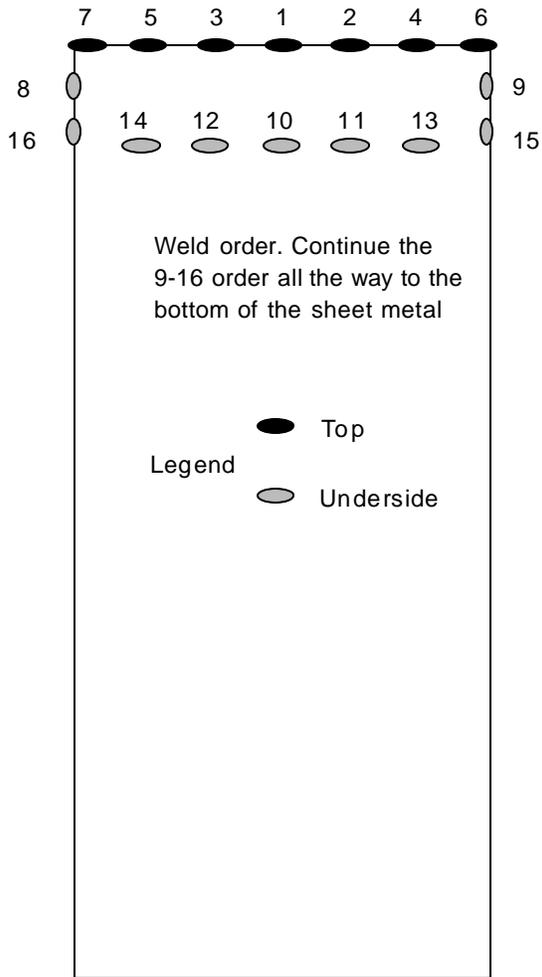


Figure 30 - Weld in the order shown above.

After this piece is fully welded, fill in between welds 1 – 7 at the far Trailing End. Failure to do this will cause the tires to “curl” the Trailing End of the sheet metal.



Figure 31 - I advise you to use 5 welds per Cross Support. On ramps I have built with only 3 or 4 welds per Cross Support, the ramp was noticeably nosier.

Cut the second piece of sheet metal to go from 1/8" below the first piece [1/8" space] to 1/4' from the Leading End of the upper 2x2 Cross Support at the 10' separation point. You will also need to cut out for the hinges in order for the hinges to weld directly to the framework and not the sheet metal. The hinge will be almost flush with the outside of the Side Rails so take this into consideration when marking for this. Align this sheet metal after it is cut to size and weld this in place in the same way as the first piece. The sheet metal gap needs to be welded in fully at this time. The expanded metal may have a joint at this same location so it is best to fully weld this in and then grind it flat when done so the expanded metal will lay flush.

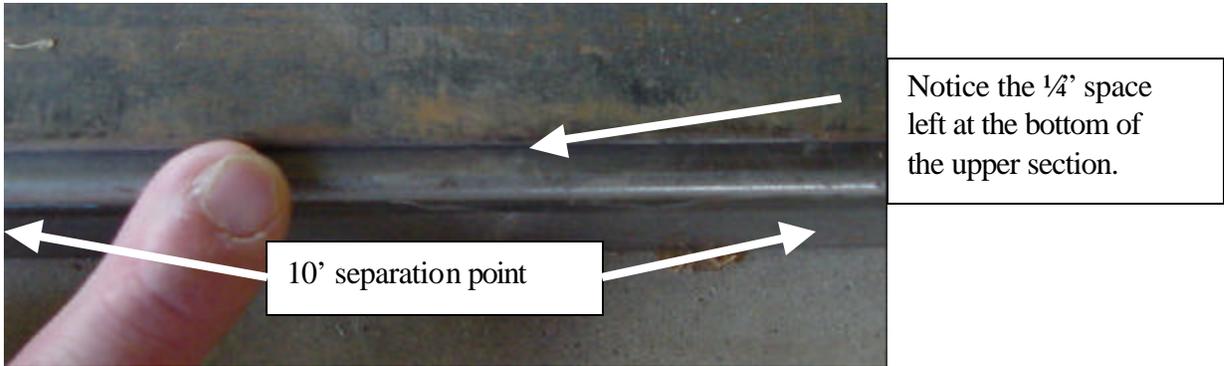


Figure 32

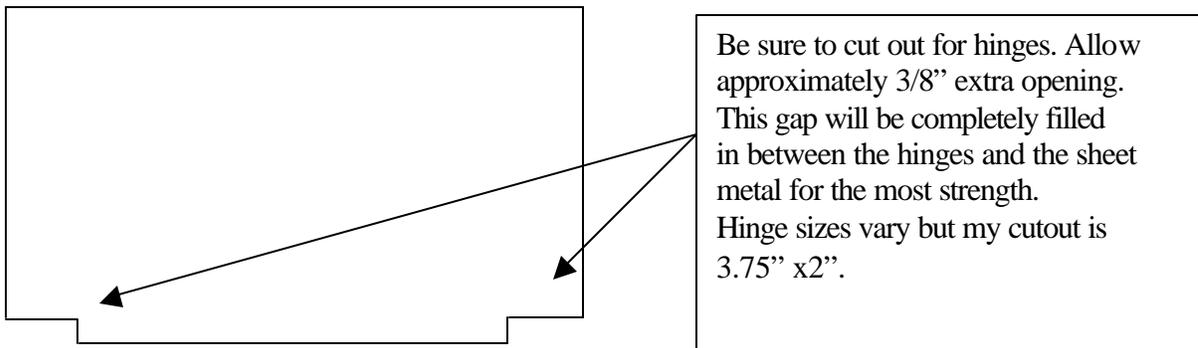


Figure 33

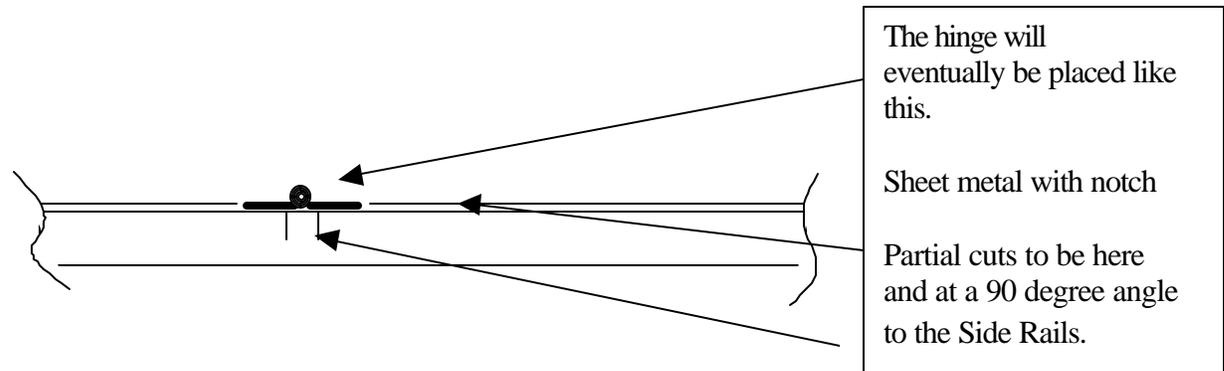


Figure 34

Next, place another full sheet of sheet metal from below the 10' mark and, like the first piece at the top, place it about 1/4' from the Trailing End of the lower 2" x 2" Cross Support. Align as needed and remove this sheet. You can now weld the final 2x2 Cross Section in place. Be sure to weld this in place in the same manner as the first piece of sheet metal. Cut this to fit and be sure the Leading End of the sheet metal is approximately 1/4' from the Leading End of the 2x2 Cross Support. This will allow for a cleaner weld.

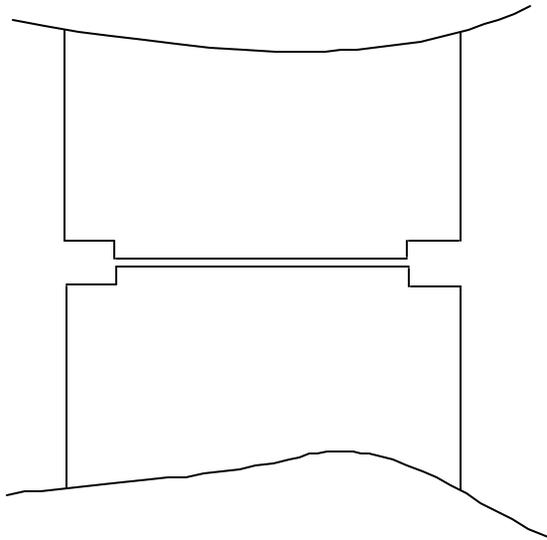


Figure 35 - The notches will appear like this. The hinges will eventually be welded in the notched areas. Make sure the notches are larger than the hinges. I prefer about 3/8" larger on the two sides by the sheet metal. The hinge will be almost flush with the outside of the ramp frame so take this into consideration when marking for this.