



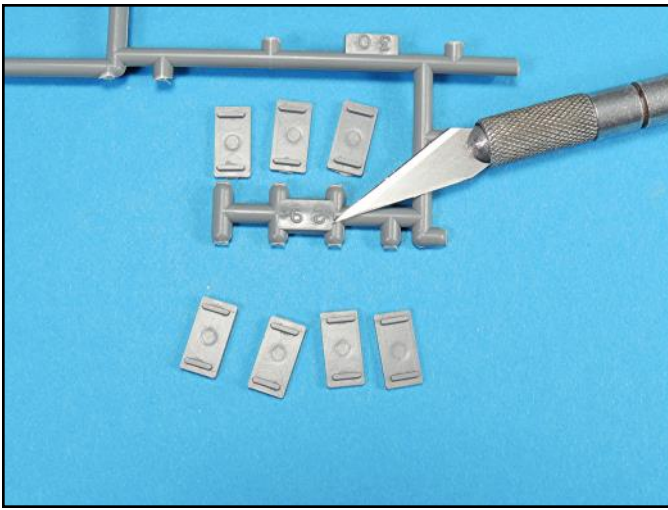
MIKE ASHEY PUBLISHING
COMPREHENSIVE SERIES SCALE MODEL RAILROAD MANUAL
NUMBER 3
BUILDING AND WEATHERING THE IHC HO SCALE
650 TON CHEYENNE COAL BUNKER

International Hobby Corporation kits are plastic craftsman models and although they require the application of model building techniques to address their flaws, their kit structures are unique and will enhance any model railroad layout. The 650 ton Cheyenne Coal Bunker is an example of their kits uniqueness and once completed this large industrial kit will add exceptional detail to any layout.

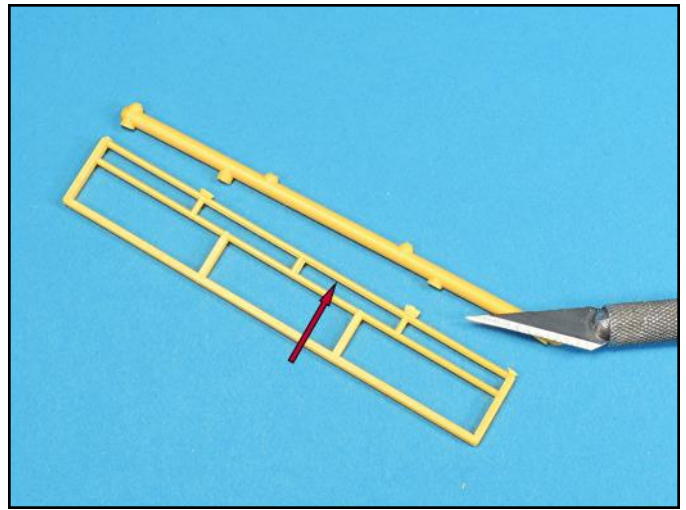
While IHC is no longer in business, their kits can be readily found on EBay.

IHC kit parts and sub-assemblies have few positioning pins and corresponding holes, part halves have fit issues and there are lots of surface dimples and mold punch outs. All of these flaws are perfect for demonstrating the basic scale modeling techniques and skills needed to assemble and paint this kit and turn it into a great looking representation of a Cheyenne Coal Bunker, which is why Mike chose to build this kit.

Although the model can be primed and painted with spray can paint, Mike used an airbrush to demonstrate how to use different shades of a base color to achieve an initial weathering effect. For additional weathering, Mike demonstrates how to use pencil pastel dust to achieve surface rust, grime and soot residue.



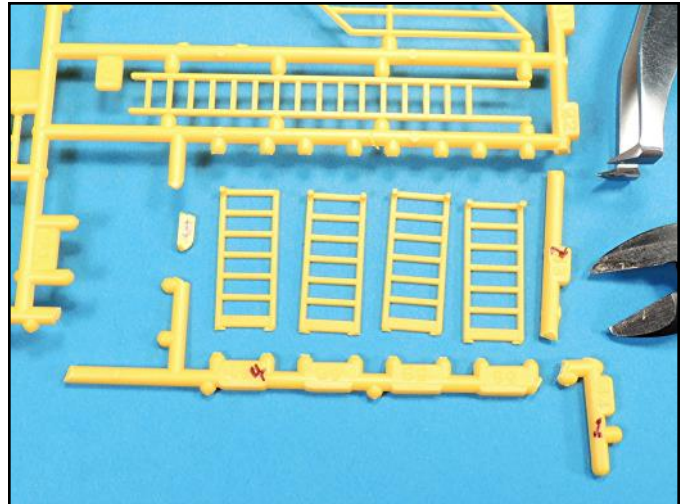
Some parts can be cut clean from their tree attachment points with a number 11 X-Acto blade.



The railings have thick tree attachment points. Cut them from the tree and leave some of the stub on the part and then carefully trim off the remaining stubs.



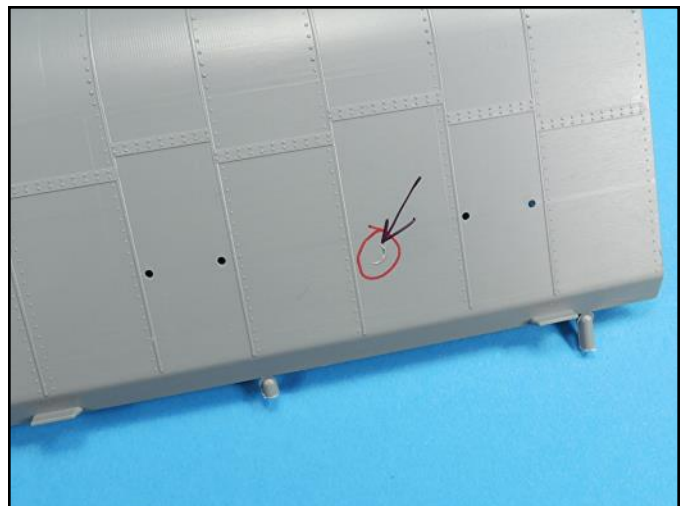
The railings have heavy mold lines that need to be scrapped off using a number 11 X-Acto blade. Hold the blade at approximately a 45 degree angle and carefully and lightly scrape off the mold lines.



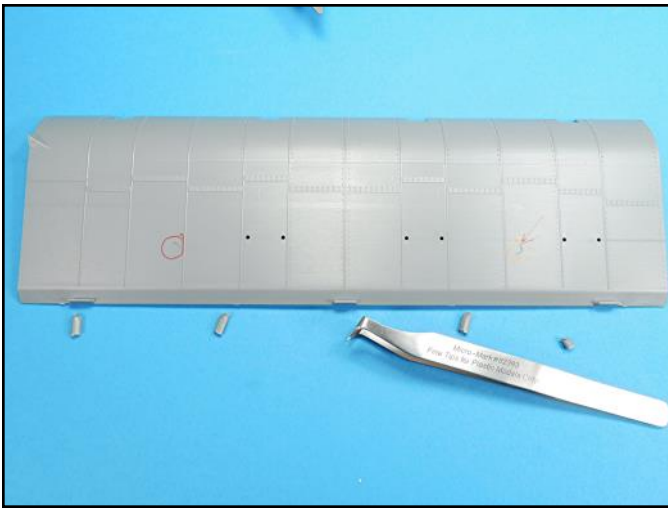
Some parts can get damaged when you remove them from their trees like these ladders. Carefully cutting the tree around the parts first helps prevent any damage to the them.



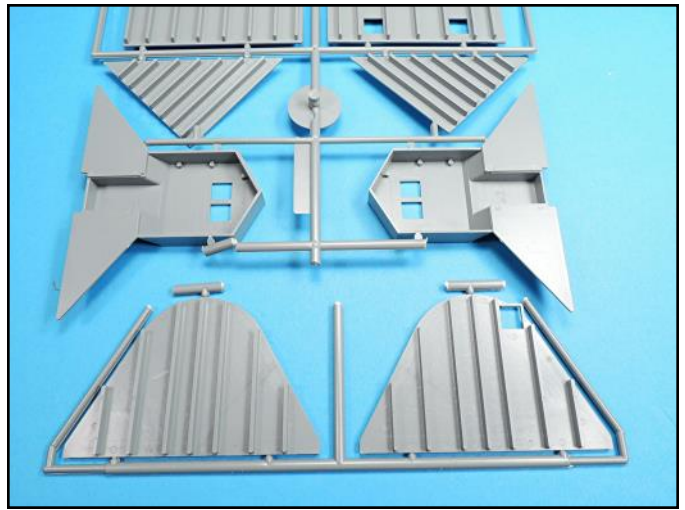
These tree attachment points were very thick and were cut with plastic cutters. The remaining tree stubs can now be carefully removed without damaging the edges of the part where they were attached.



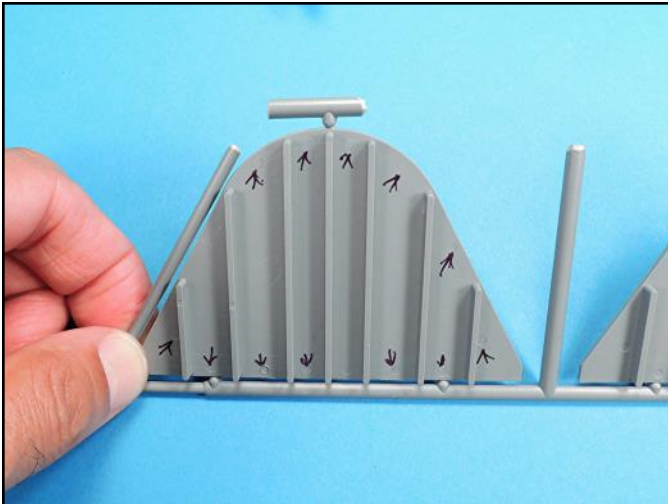
Some of the parts have surface blemishes which can easily be sanded out using a wet sanding stick or a section of wet sandpaper wrapped around a length of balsa wood.



Snippers were used to remove the remaining stubs without damaging the edges of the part.



Here is another example of cutting the tree around parts to get better access to the stub attachment points on each part.



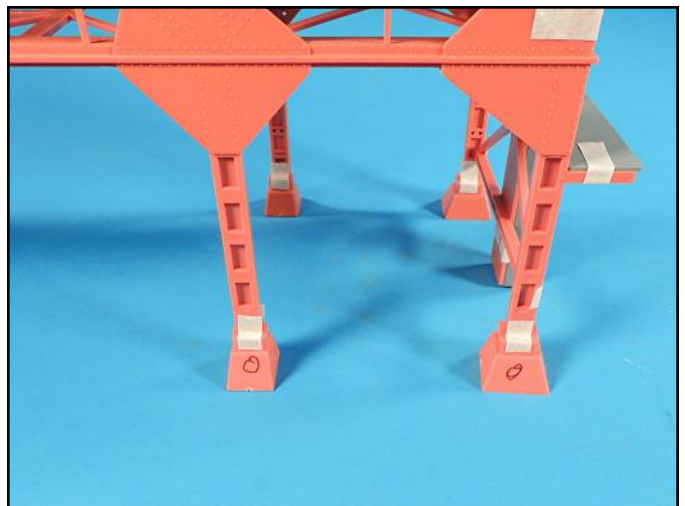
Note how close the stubs are to the bottom length of this part. There are also mold punch outs on the surface of this part that will be difficult to remove.



Using a cutter to separate the stub from the part resulted in damaging the edge of the part.



I decided to cut the stub with a number 11 X-Acto blade on an elevated wood block and that approach did not damage the parts edge.



The kits girder structure is pretty impressive. As I worked to assemble to kit with masking tape to check the fit of all the parts, I circled areas on the surface of parts that had imperfections that needed to be fixed.



Inspecting the surface of the office and control tower sides, I found more surface imperfections.



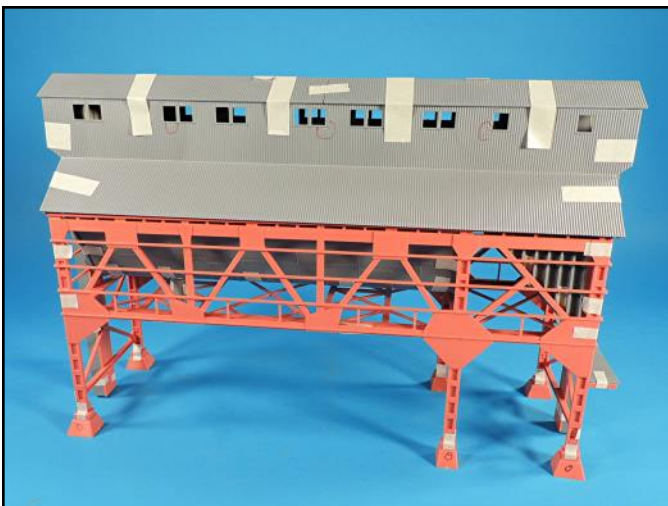
The roof comes in two sections and there is a gap which will need to be fixed.



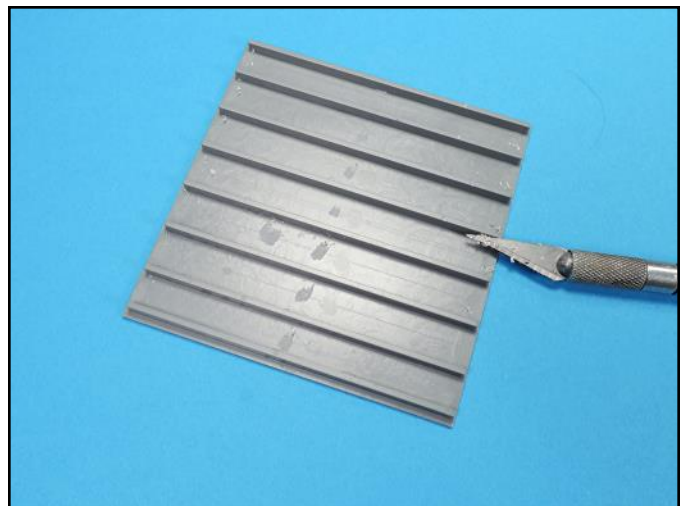
IHC kits are craftsman kits. They give you all the parts, but you need to modify and adjust them to get everything to fit. Some parts lack positioning tabs and pins and the fit can sometimes be a challenge.



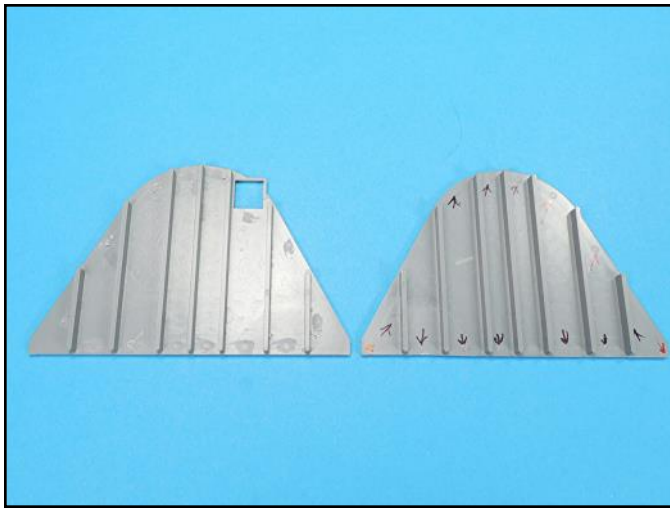
The front side looks okay, except there are no guide pins to attach the platforms for the stairways.



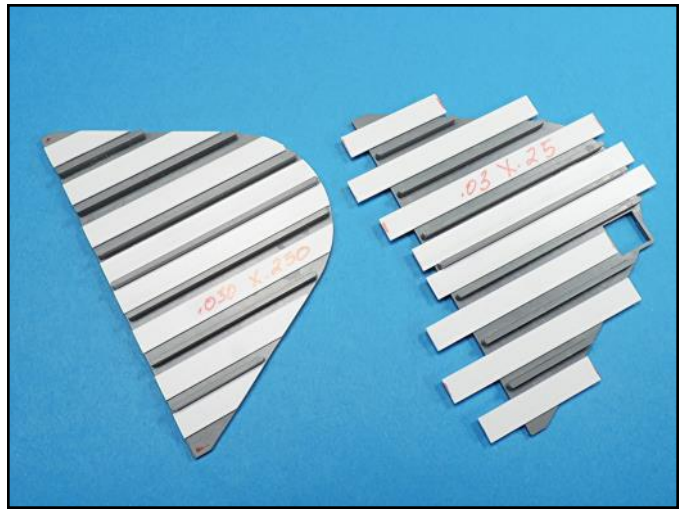
The backside of the structure looks okay too. The girder assembly will need some work in order to hide all the surface dimples.



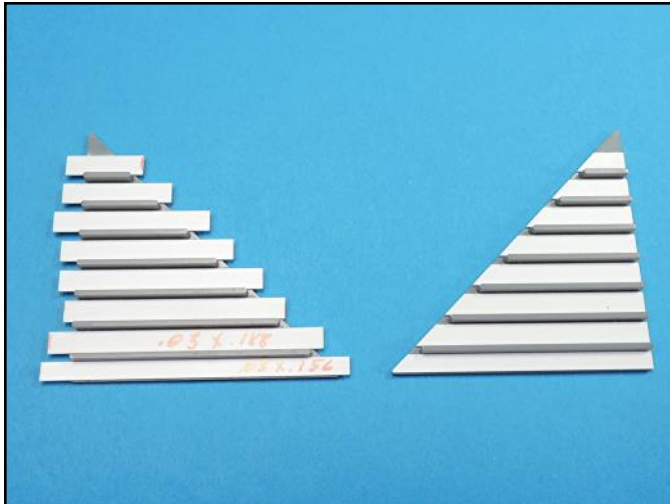
I tried to scrape down the mold punch outs, but it is very difficult to do this without gouging the parts surface. Another approach will be needed to fix these flaws.



The sides of the large coal bin and the smaller coal dump all had mold punch outs.



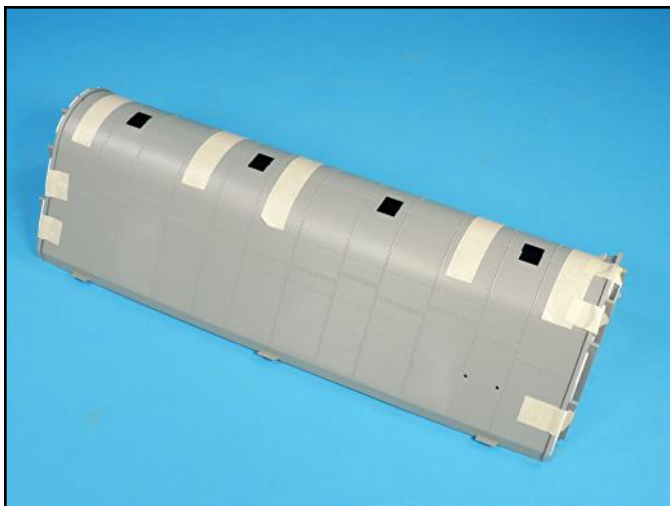
My solution was to laminate lengths of Evergreen and Plastruct strips onto the surfaces using small drops of super glue.



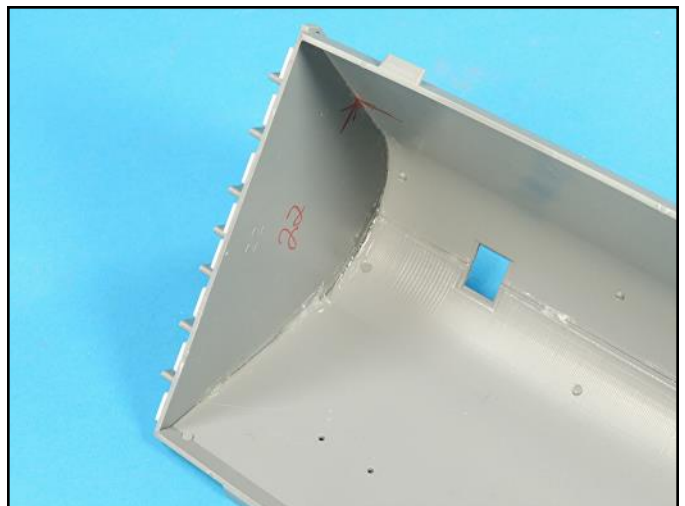
After the glue dried each length was carefully trimmed and then the entire edge carefully sanded smooth by running the surface across a wet stationary piece of fine grade sandpaper.



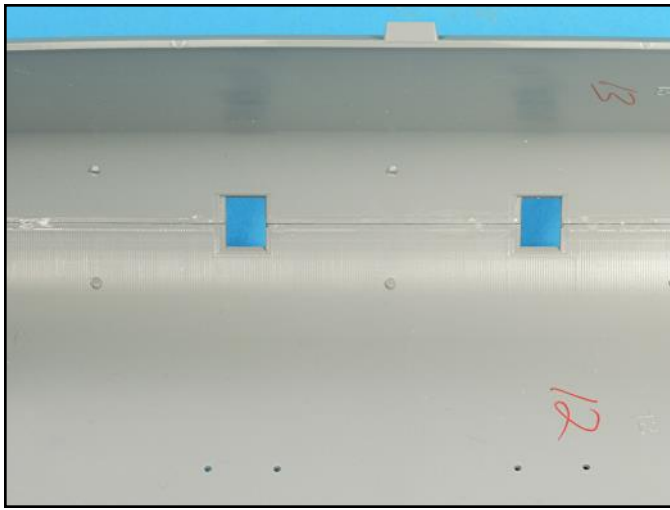
Be sure to set the plastic strips a tiny bit away from each of the coal dump tray openings so the strips will not interfere with the placement of the trays.



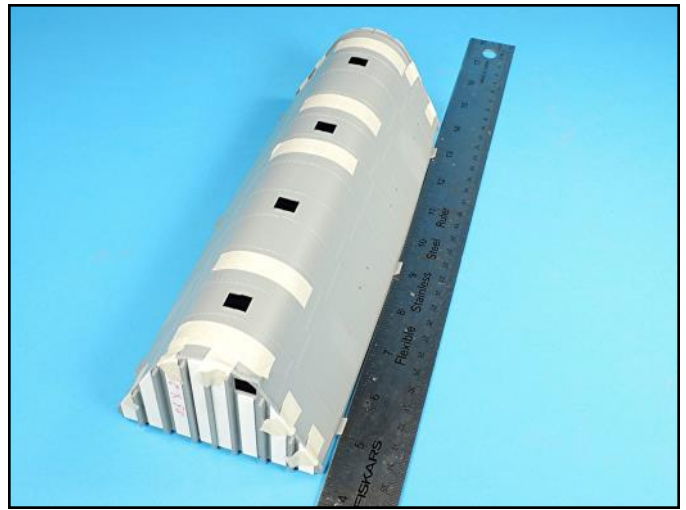
The coal storage bin was taped together and it took several attempts at adjusting the parts and masking tape before everything was positioned correctly.



Small drops of super glue were applied to the inside seam areas first to set the parts. The tape was then removed and additional super glue was applied along the seam lines.



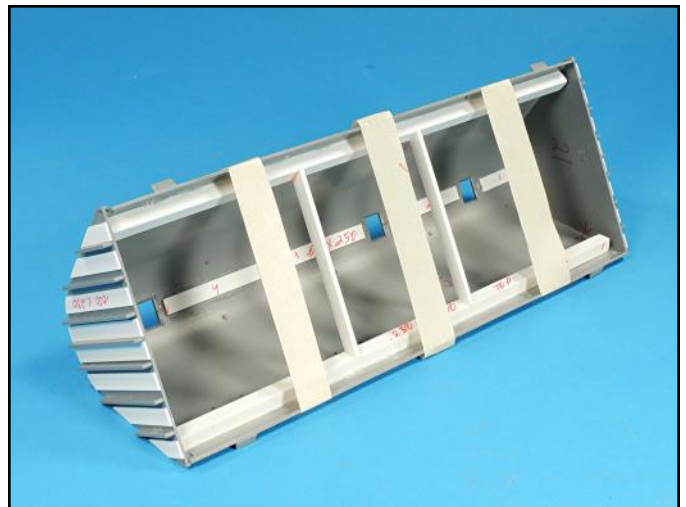
The bin's long seam will need to be reinforced from the inside to strengthen it and prevent cracking. The openings at the bottom were also misaligned. I was able to fix them with a small sanding stick.



The bin is bowed on each side so this will need to be corrected so that the bin will fit inside the girder structure.



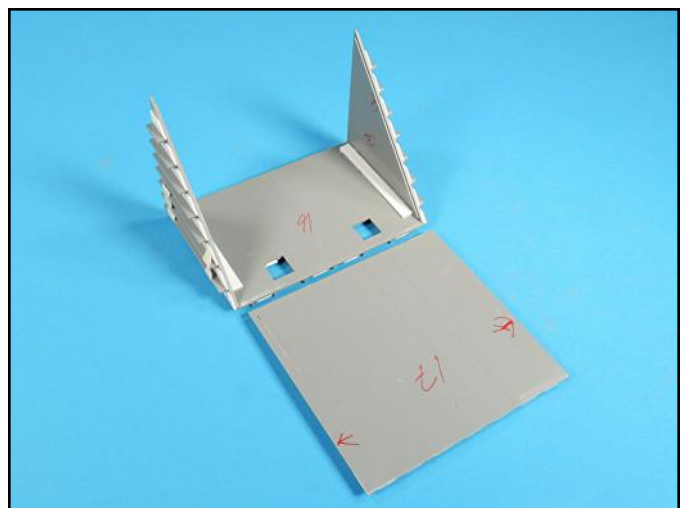
The seam was reinforced with $.03 \times .250$ inch strips and $.25 \times .25$ inch strips were laminated to the inside top edges as a first step to straightening out the bow.



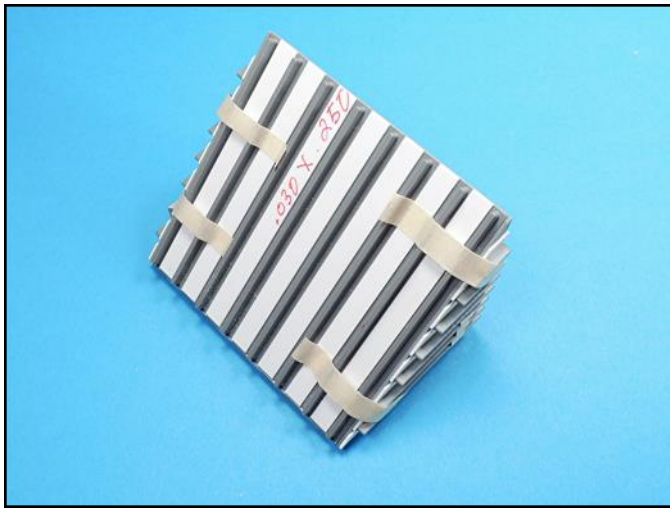
Tape was used to straighten out the bow and then two lengths of $.040 \times .250$ strips were glued into place to fix the bow. I let the super glue set for several hours before removing the tape.



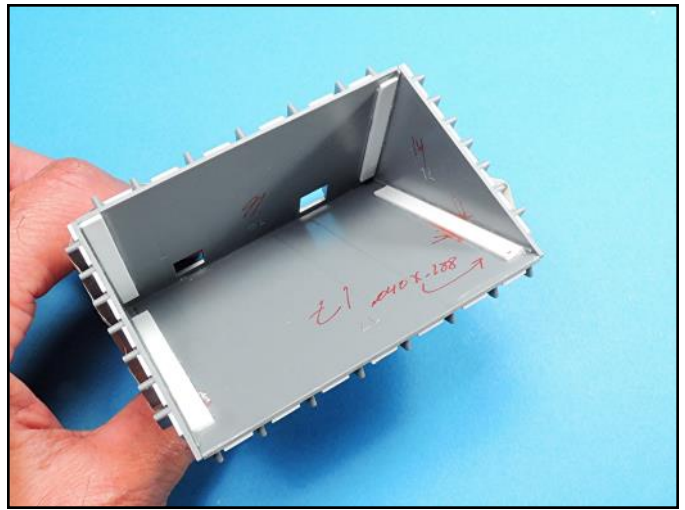
The smaller coal bin was taped together and super glue was applied along the inside edges of the sides of the assembly.



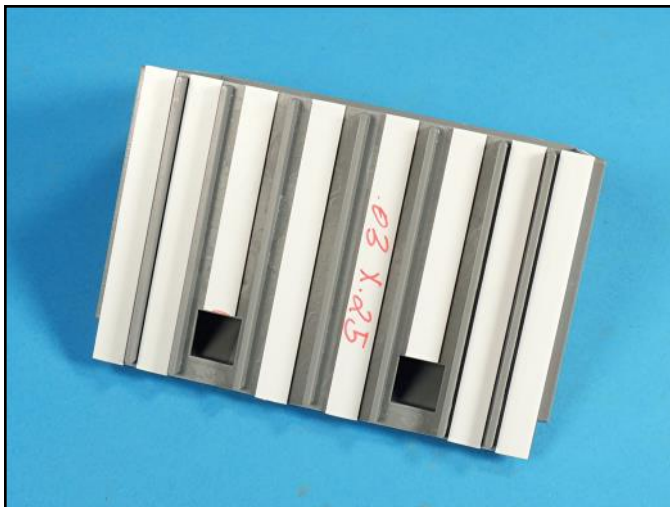
I added reinforcing strips to the seam line to make the assembly stronger.



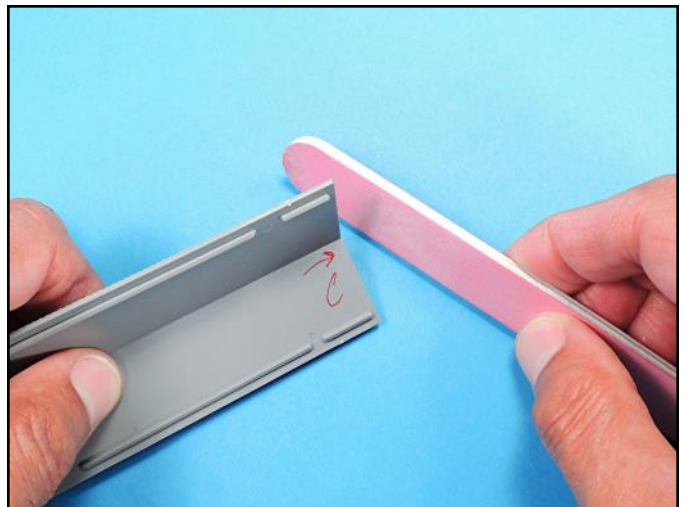
The remaining side was then taped into place and glued.



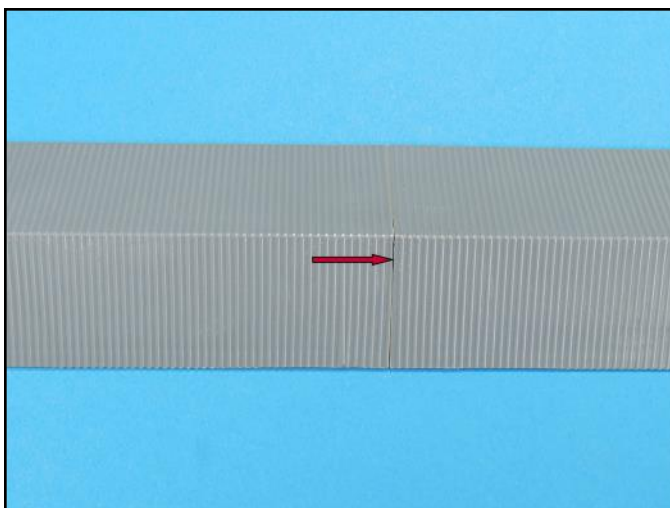
A second set of reinforcing strips were added to make the completed assembly very strong.



The smaller coal bin is now complete. Once the assembly is painted the added surface strips will be hard to detect.



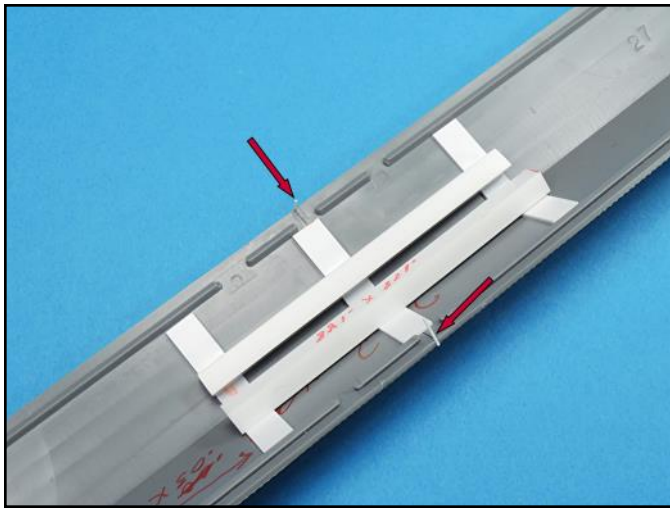
I used a sanding stick to flatten out the edges of the roof where they will be connected together to help close the gap.



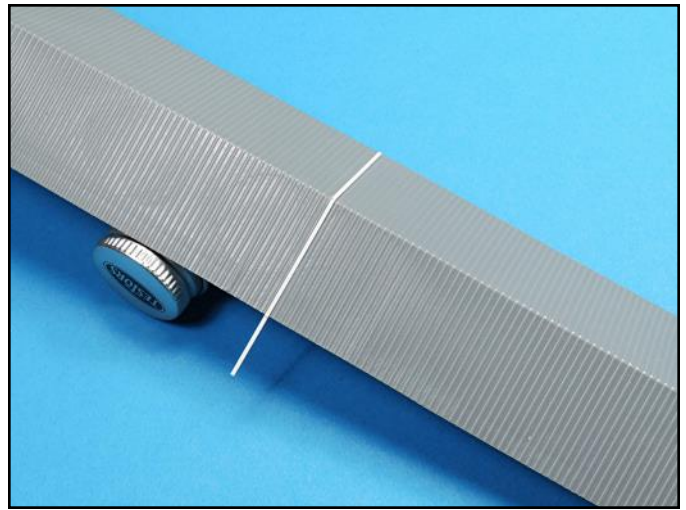
There were still tiny gaps, but the two roof parts fit together much better.



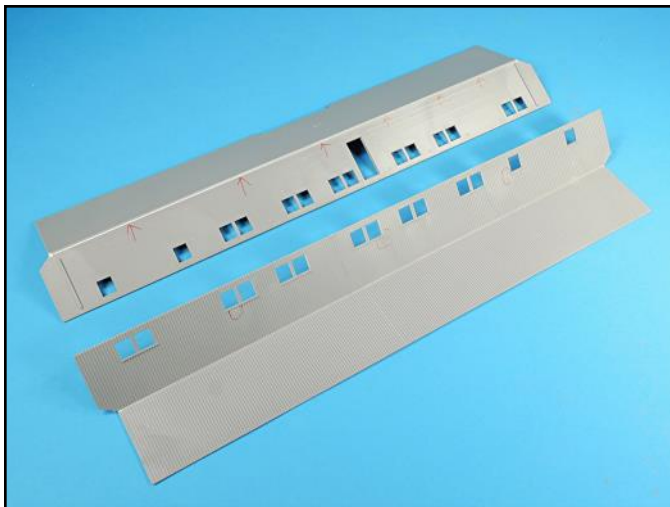
Before gluing the two roof parts together, I added two small strips on the inside lip to strengthen the assembly.



After gluing the roof sections together I found that the assembly was very flexible because of its length so I added more reinforcing strips. The seams outer edges had tiny indentations which were filled with thin plastic strips.



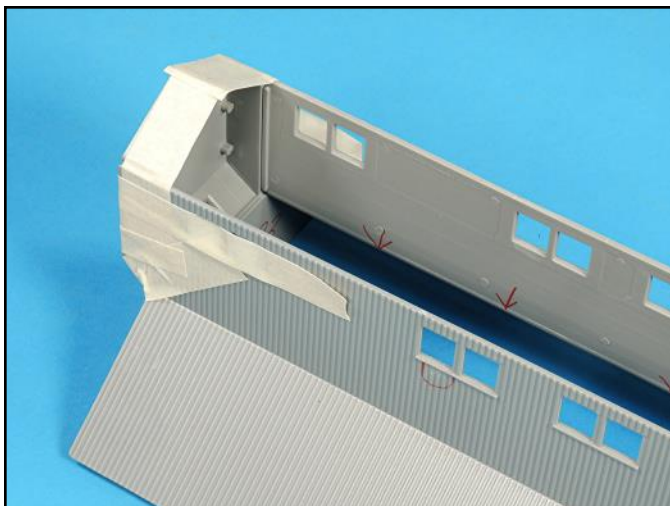
To hide the tiny gaps on the roof seam, I laminated two .01 x .02 inch strips over the seam.



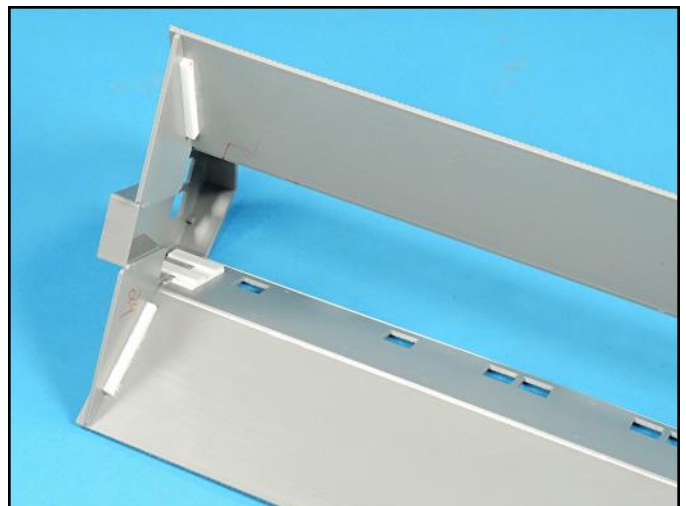
To bend these large parts, I set a metal ruler along the edge and bent the plastic along the inside indentation.



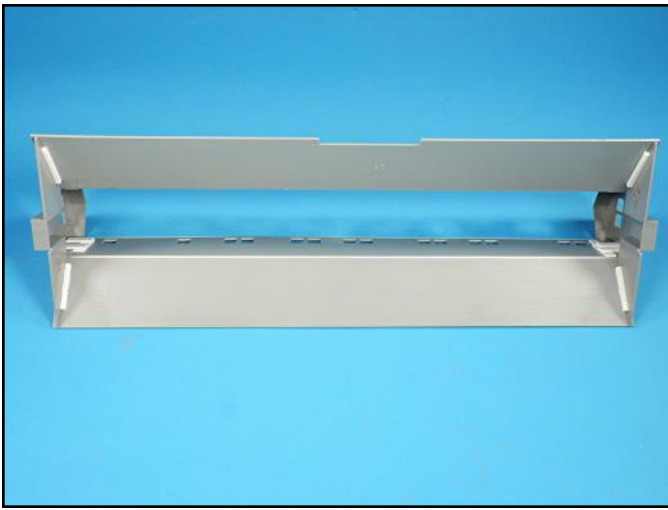
To set the correct angle of the building assembly's angled roofs, I tightly taped the assembly together. It took several adjustment iterations to get the assembly set correctly.



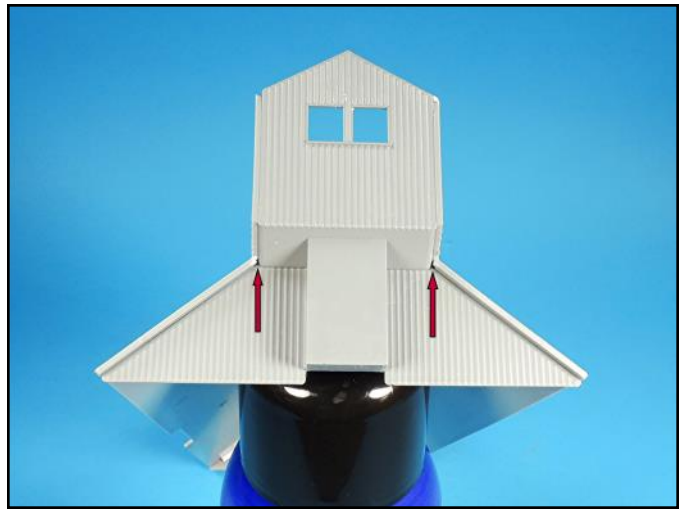
Lots of masking tape was used to assembly this large part. Tiny beads of super glue were applied along the interior seam lines.



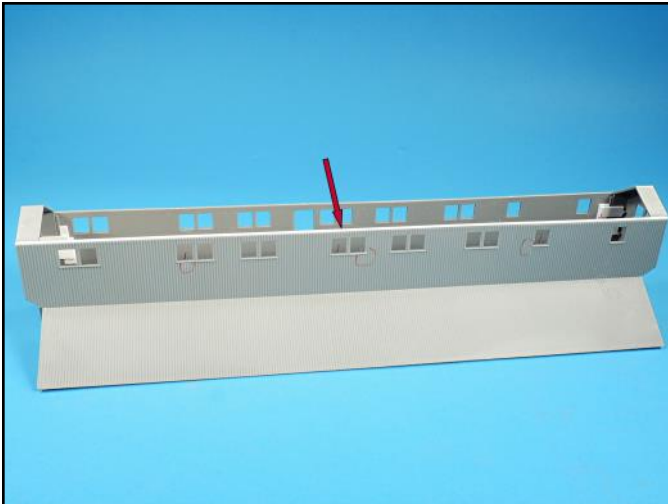
Once the glue dried I added additional strips along the seam lines to strengthen the assembly.



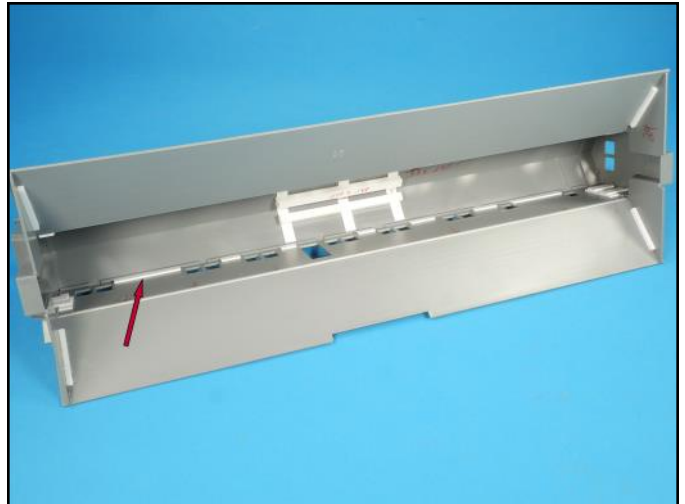
Now that all the seams have been reinforced the roof, can be glued into place.



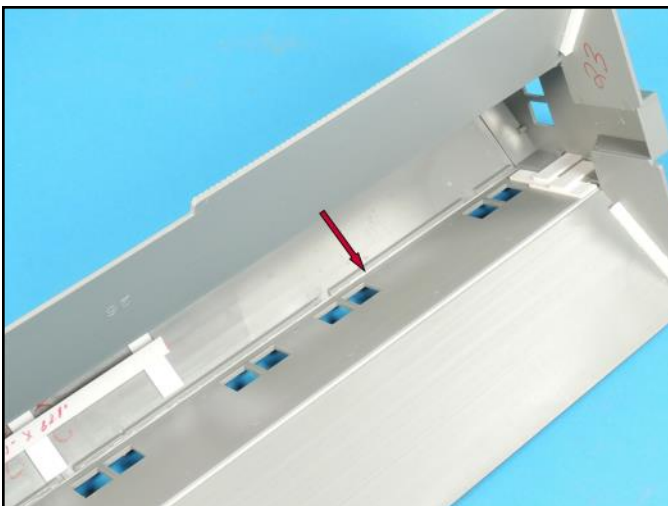
These small gaps will be filled with white glue after the assembly has been primed.



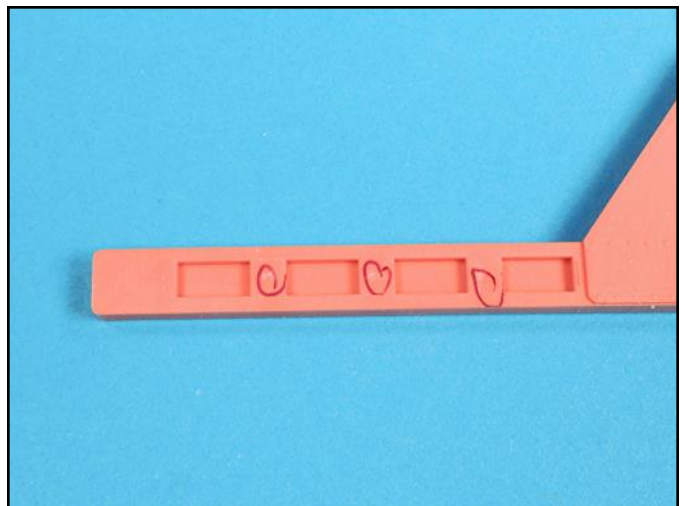
Test fitting the roof showed that the top of the back side of the building was lower than the front side. I added a length of .040 x .040 inch strip to fill the gap so that the roof would have a glue attachment surface on both sides.



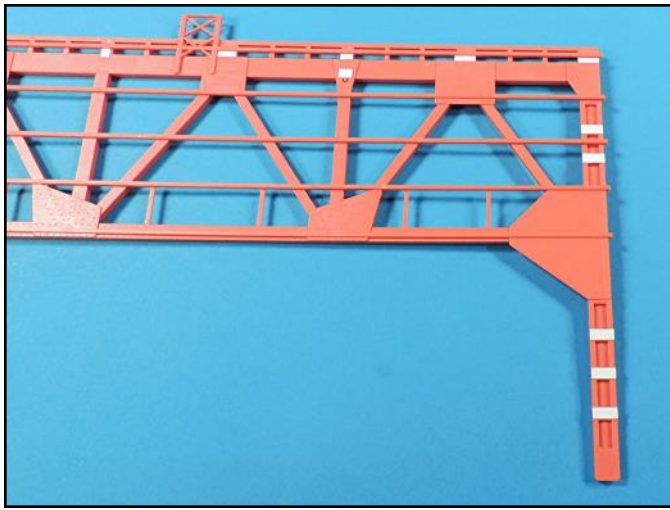
Strips of plastic were added to the wall-roof seam line to strengthen the assembly.



The .040 x .040 inch strip that was added to the top of the back wall provided a positive connection for the roof.



There a lots of dimples on the legs of the girder structure. Circle each dimple so that you will not miss any of them.



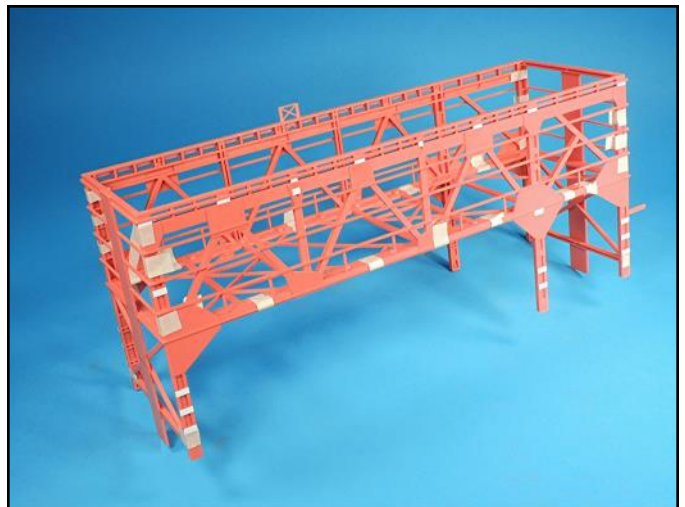
The dimples were covered with .015 x .080 and .015 x .125 inch strips. I used A Northwest Shortline Chopper to cut the strips all the same length.



The dimples on the front and back of the girder structure are covered and now its time to tape it together and glue it.



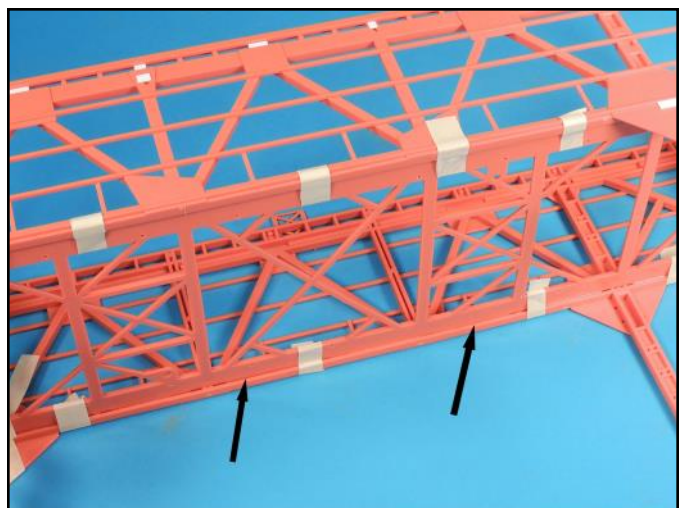
It took several iterations to get the assembly to fit together correctly.



The assembly is now tightly taped together but it can still twist.



I did not notice this until after I glued the girder assembly together but the bottom frame is upside down. The small square protrusions should be on the underside.



Super glue will be applied along this seam line on the underside of the girder structure first, then along the edges of the side framing.



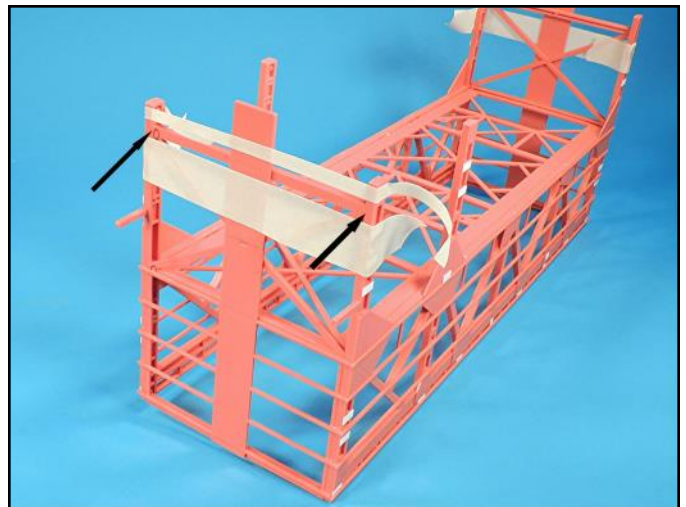
To keep the girder structure from twisting, I taped the building structure to the top.



There are lips on the top sides of the girder structure which lock the building structure in place and keep the entire structure square and true. Now its time to apply the glue.



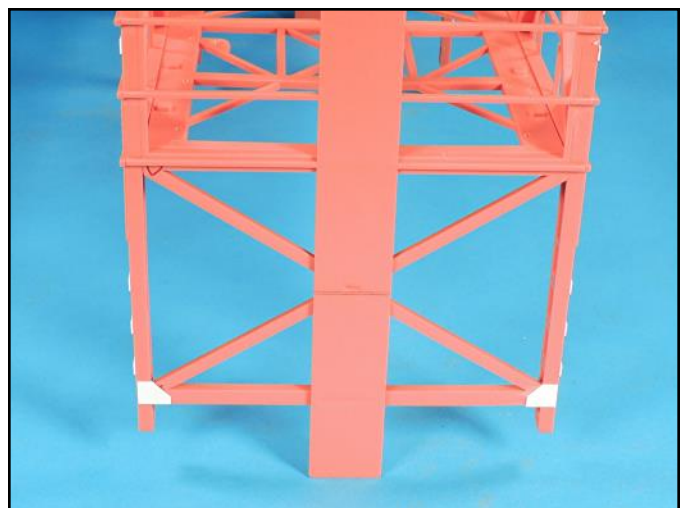
I set the structure on top of a plastic bin organizer to allow the glue to completely dry.



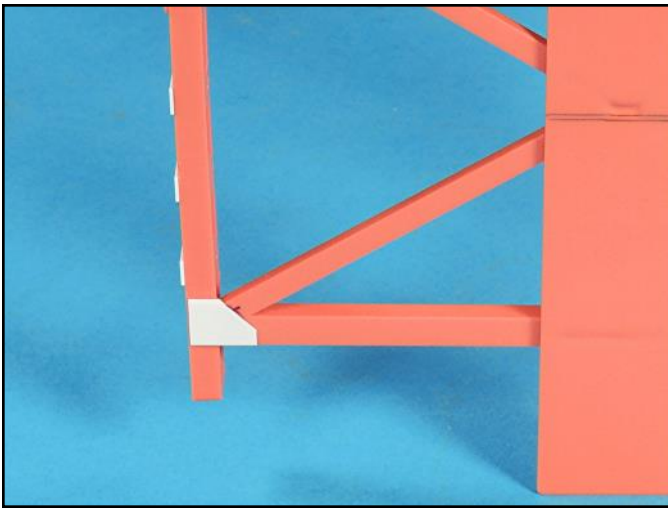
The connection points for the outer legs of the girder structure are very weak so they will need to be reinforced.



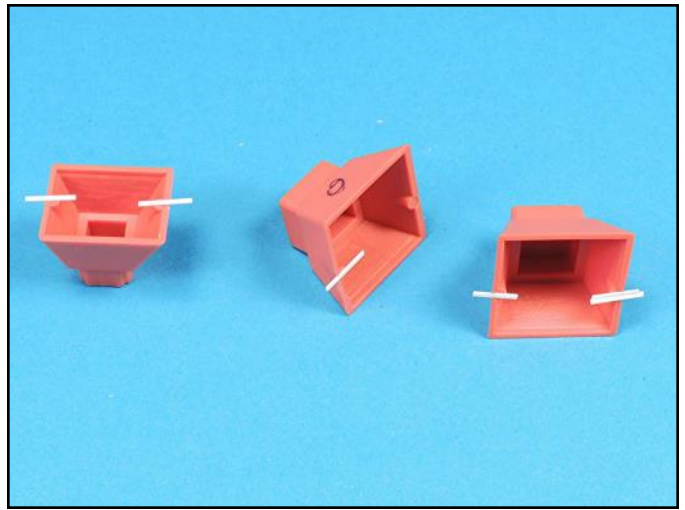
I made gusset plates from .015 x .250 inch strips for the base of the girder structure with my trusty chopper



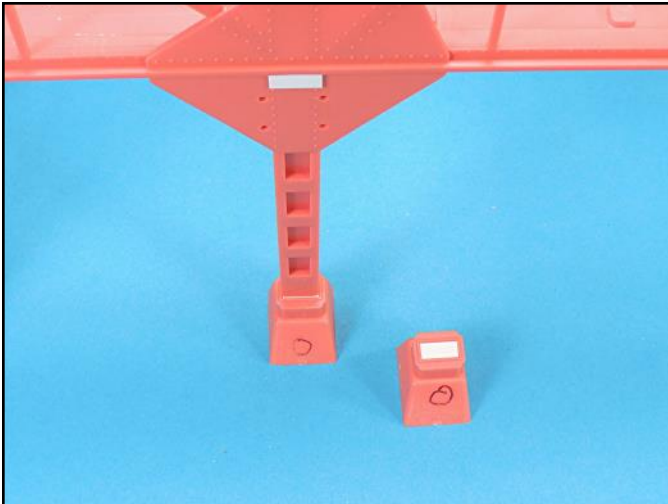
With the gusset plates glued into place the outside legs of the girder structure are now very strong.



Note the positioning of the gusset plate.



The concrete foundations for the girder columns had some slight indentations which were filled with .02 x .02 inch strips.



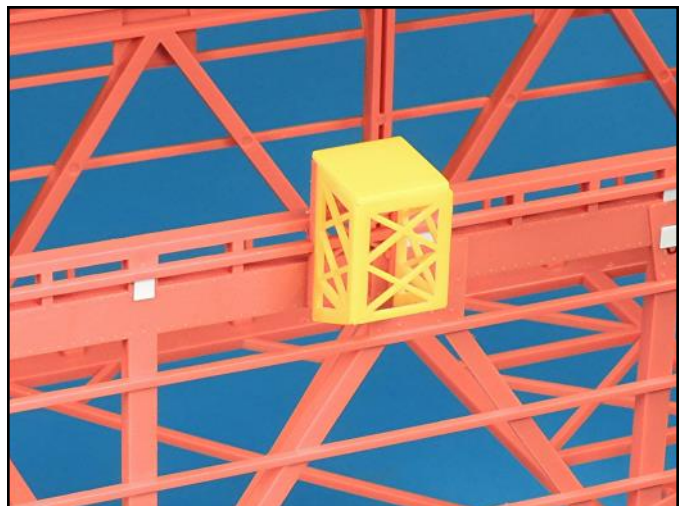
Some of the concrete foundations needed an insert added so that the vertical girders could be glued to the foundations.



The inside framing of the structure also had dimples which needed to be covered.



There were mold punch outs on the surfaces of the upper level stairway platform. They were removed by running the parts across a wet stationary piece of fine grit sandpaper.



The upper platform was carefully taped together and then taped to the girder structure. Tiny beads of super glue were then applied to the platform and then between the platform and the structure.



Note the positioning of the lower stair way platform. The platform was glued together first, then taped to the structure and then glue was applied along the inside areas of the platforms frame.



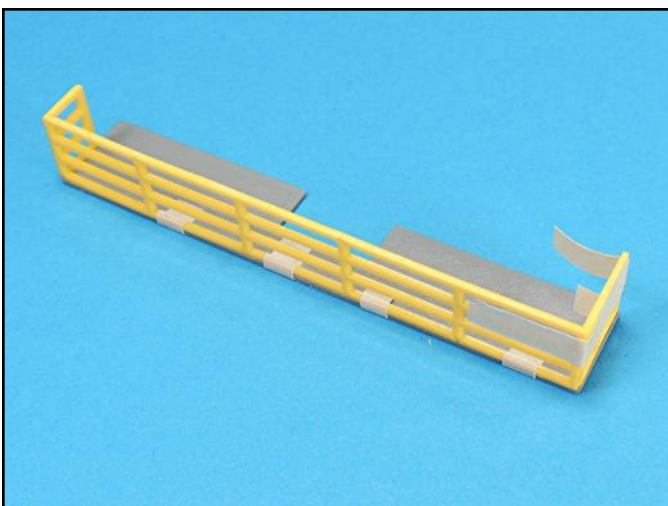
The smaller coal bin was positioned inside the structure and taped into place. The support girder was then positioned and glued into place.



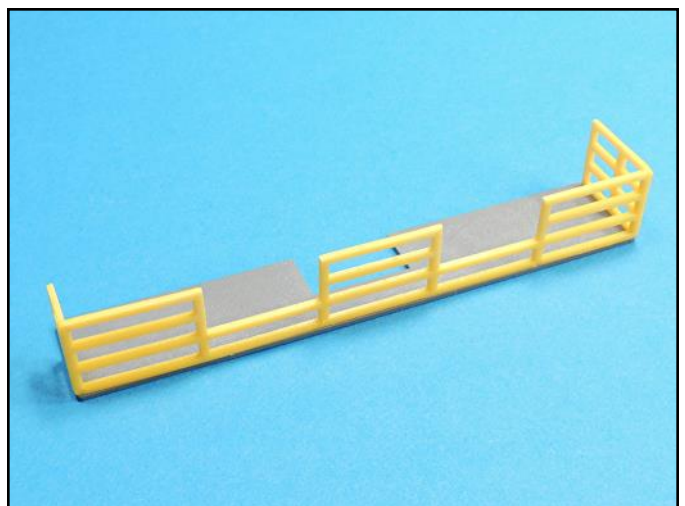
The bin has been removed and triangle shaped support plates were added to the girder to strengthen the assembly.



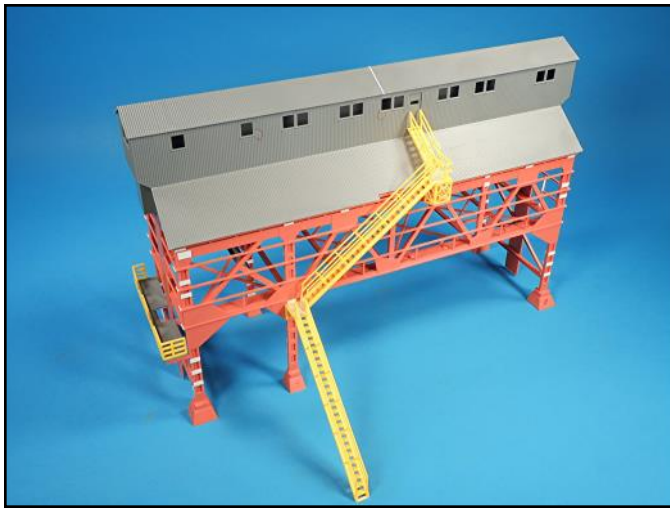
The seams on the sides of the structure were covered with .040 x .040 inch strips all cut to the same length with my Northwest Short Line Chopper.



The railings for the small side platform were taped into place and then small beads of super glue were applied along the bottom railing where it touched the platform.



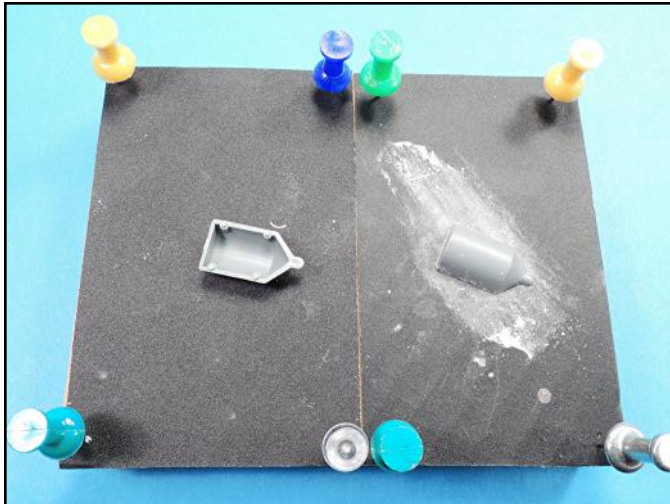
The side platform is now ready to be painted. I had to cut out the top two horizontal railings to accommodate the two coal chutes.



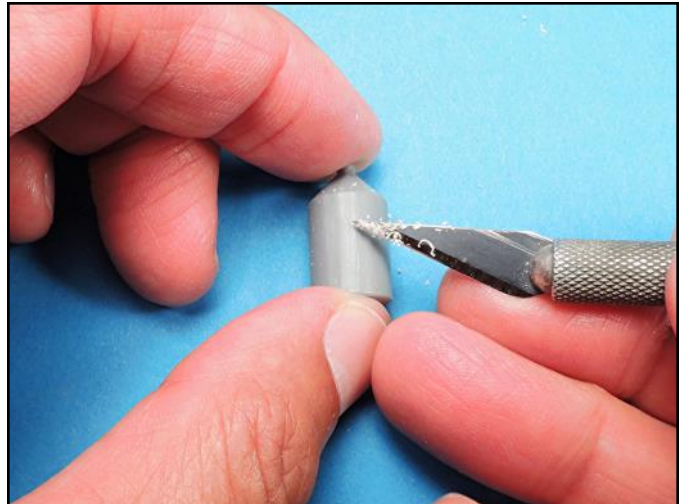
The stairs and railings were all test fitted to be sure that everything lined up correctly.



The outer stairway handrails at this location will need to be modified so that they connect with the horizontal handrails on the platform.



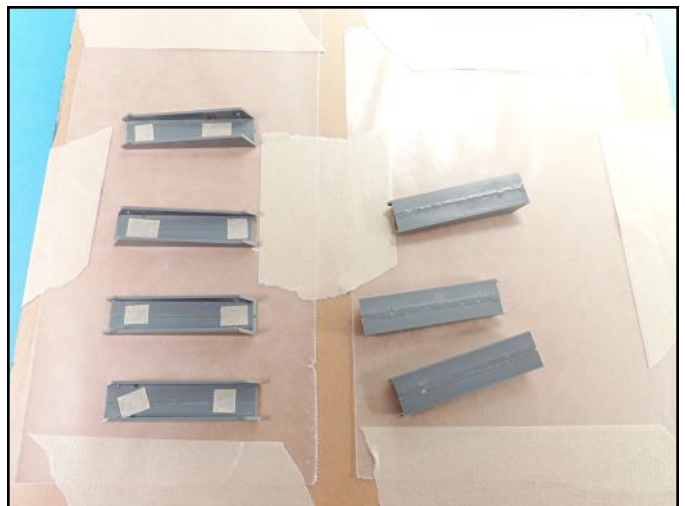
The canister's positioning pins were removed and they were run across 400 grit sandpaper to get a better fit between the part halves.



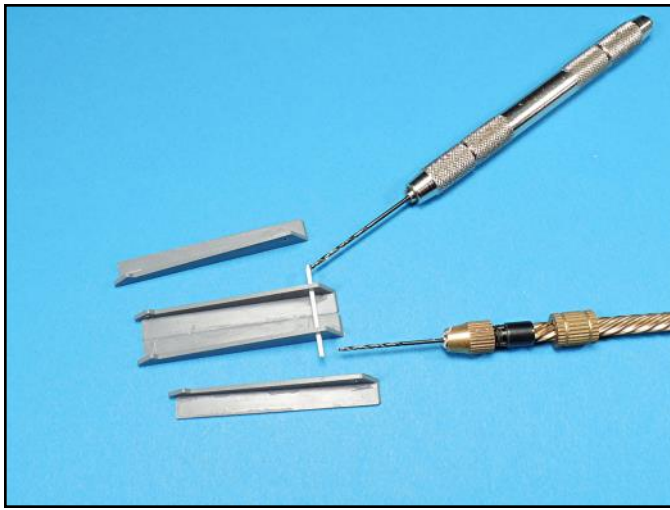
The canisters were taped together and then beads of super glue were run along the seam lines. The seams were then lightly scrapped and then wet sanded smooth with a Flex-I-File to restore their round shape.



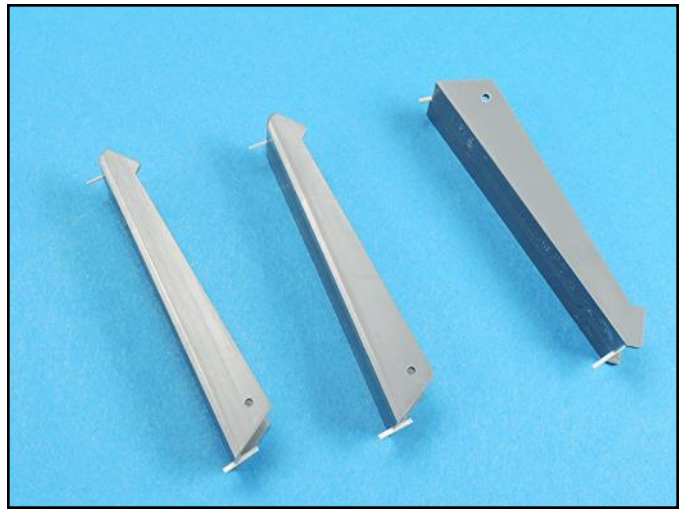
The coal chute parts were removed from the trees with some of their stubs left on the parts. The remaining stubs were removed and the surfaces carefully scraped flat.



The coal chute halves were taped together and beads of super glue were run across the seams on both sides. The gluing was done on a wax paper covered surface as super glue will not stick to the paper.



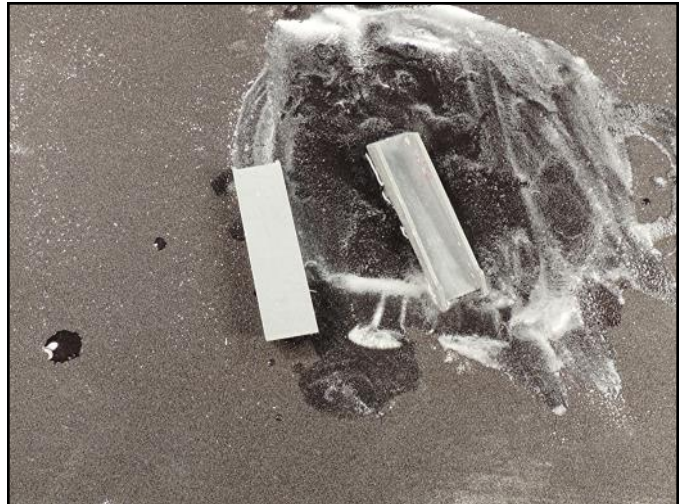
The pins on the chutes were removed and holes drilled so that .040 inch rod could be slide through the shoots for attaching them to the storage bin.



The seam tips had slight indentations so small lengths of .02 x .02 inch strips were added to fill these tiny gaps.



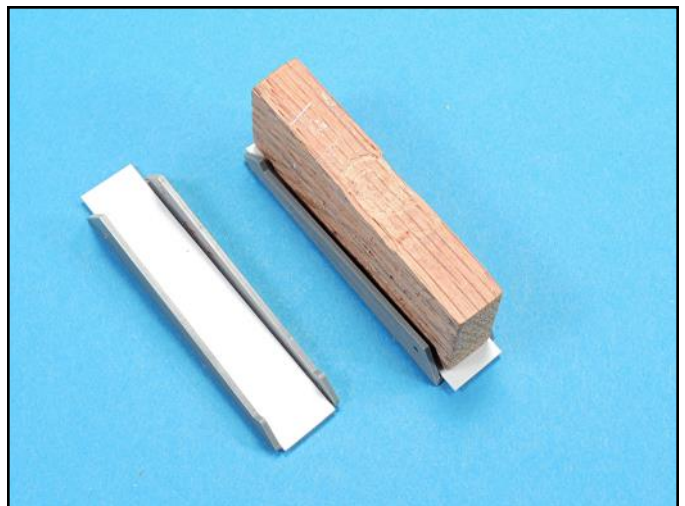
The chutes are now ready for the seam removal process.



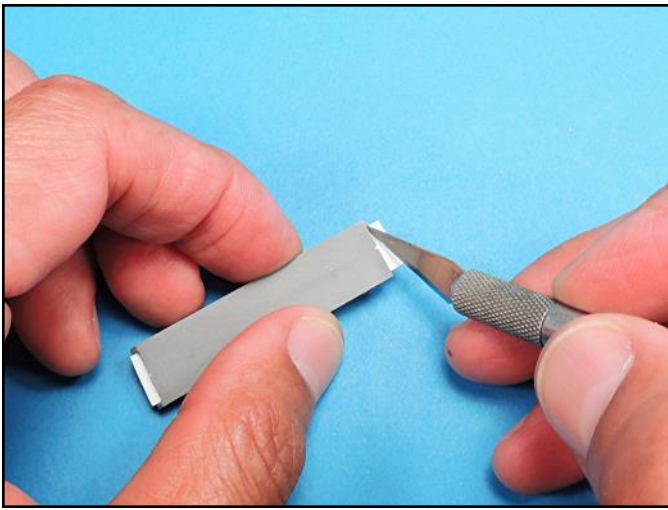
To smooth out the outside seams on the chutes, they were run across wet 400 grit sandpaper. The plastic was then polished with 0000 steel wool pads.



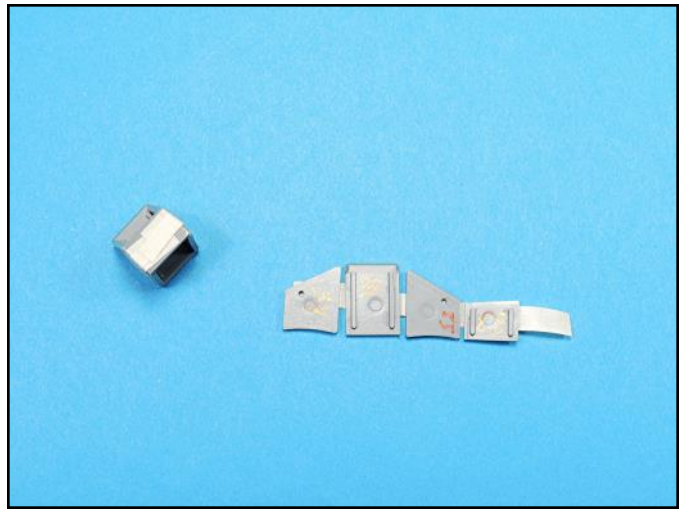
The inside seam needed to be hidden so strips of .015 inch thick plastic strips were laminated to the inside area. Each strip was approximately 3/8 inches wide.



As each strip was laminated into place a wood block was used to press the sheet down onto the chutes surface.



The excess plastic was carefully cut off. Beads of super glue were then applied along the edges of the laminations and then sanded smooth.



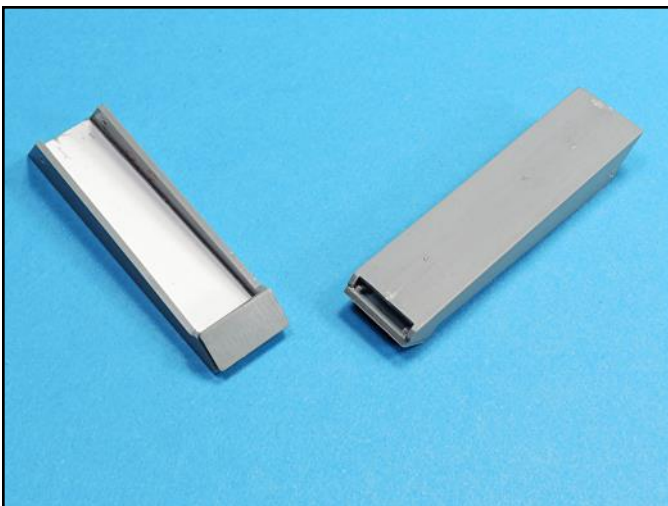
The upper chute assemblies were taped together and then the box was tightly closed. After adjustments were made, beads of super glue were applied along the seams. The parts were run across wet fine grit sandpaper to smooth out the seams.



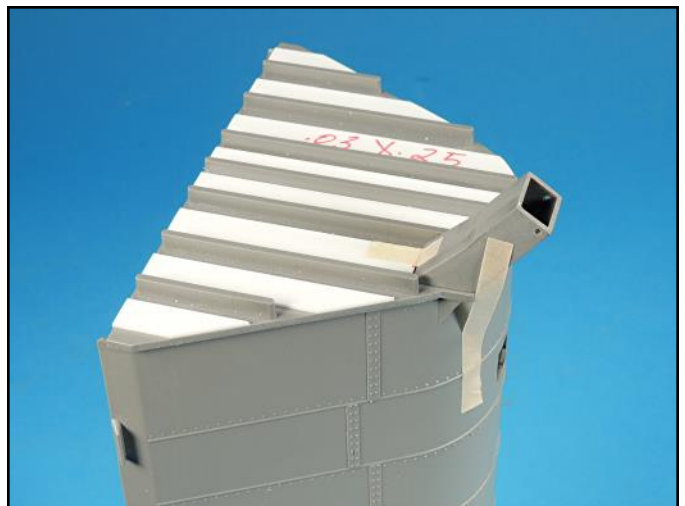
These chutes were also taped together, super glue applied along the seam lines and then the seams were carefully scrapped and sanded smooth.



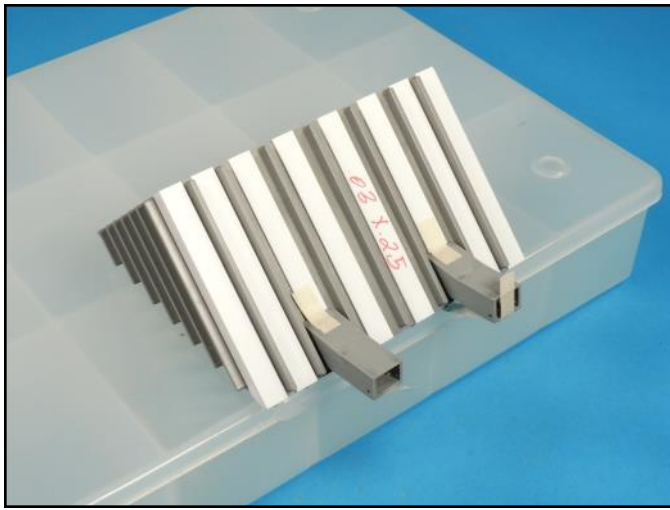
Always check seams with Testors silver paint as it will highlight flaws. Apply more super glue to any identified flaws and then sand smooth.



The chutes have their tips glued into place and now they are ready for priming and painting.



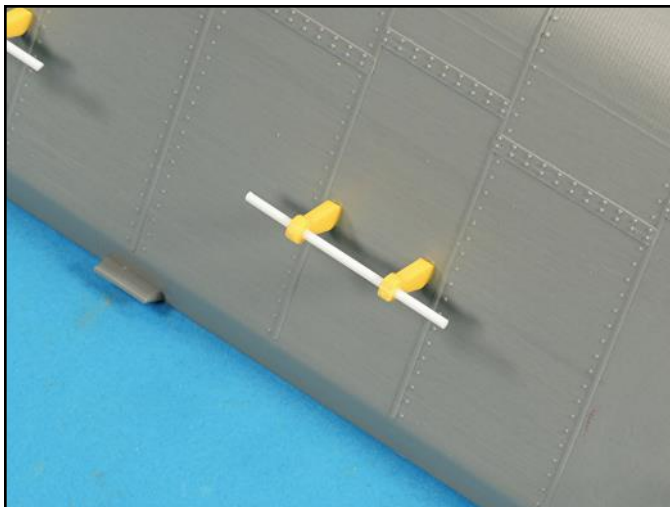
This chute was positioned with strips of masking tape and then super glued into place.



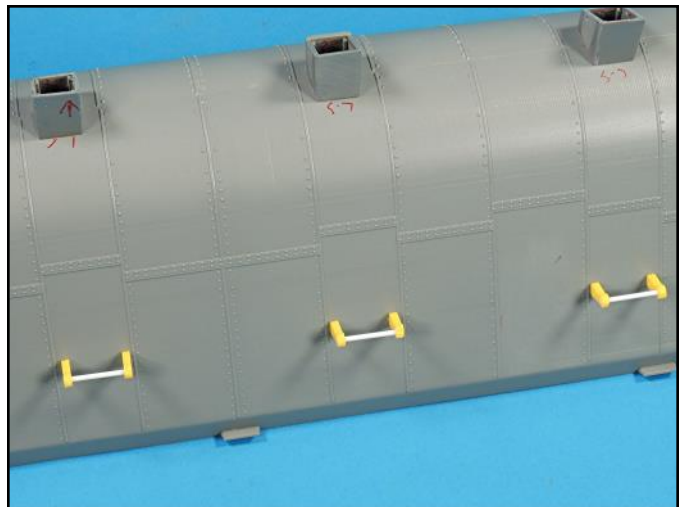
When positioning these chutes be sure they are set straight and at the same angle before gluing them into place.



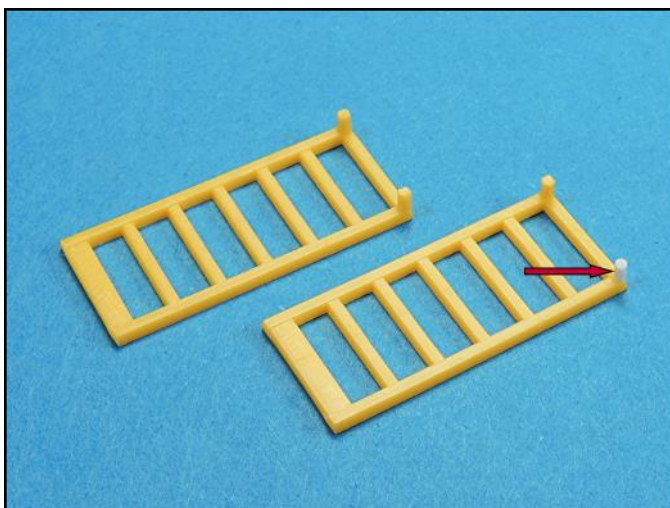
These small yellow parts had half a rod attached to each one. The rods are the ladder supports. They were cut off and holes drilled to accept .030 inch rod.



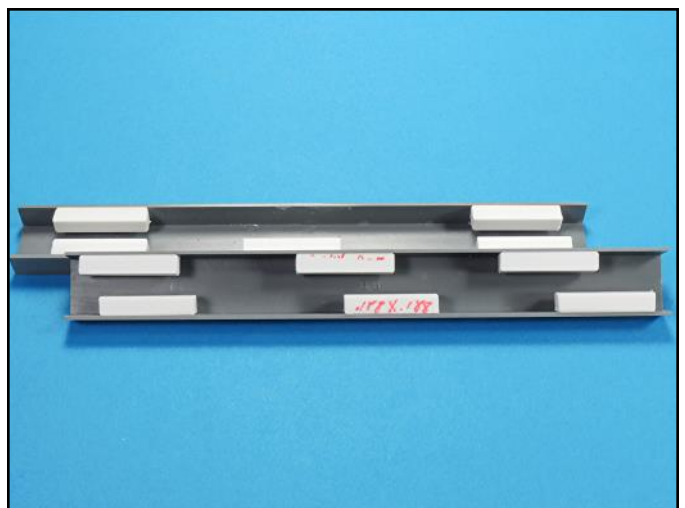
If you drill each hole slightly larger than .030 inches the rod will slide into place and the slightly larger hole also allows you to better position the rod.



The ends of the rods were trimmed with a sharp number 11 X-Acto blade.



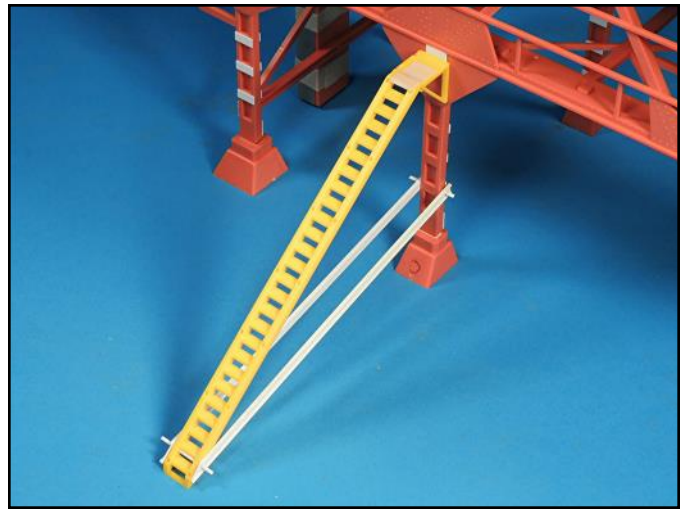
A few of the positioning stubs on the ladders were broken off so small lengths of rod were glued into place to replace them.



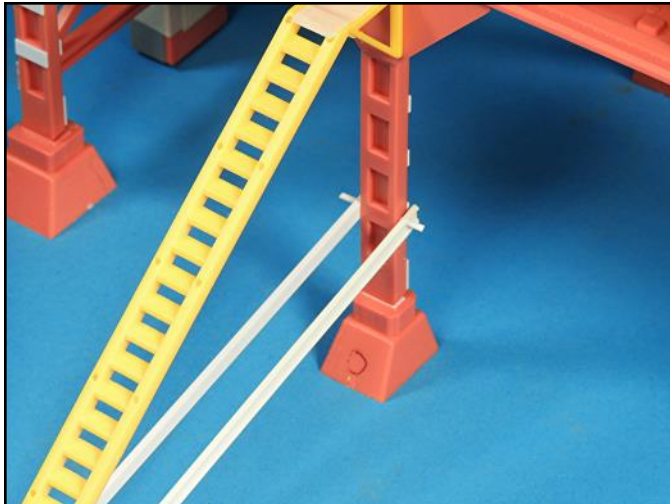
Extra gluing surface were added to these parts using lengths of .188 x .188 inch strips. Be sure the strips are flush with the edges.



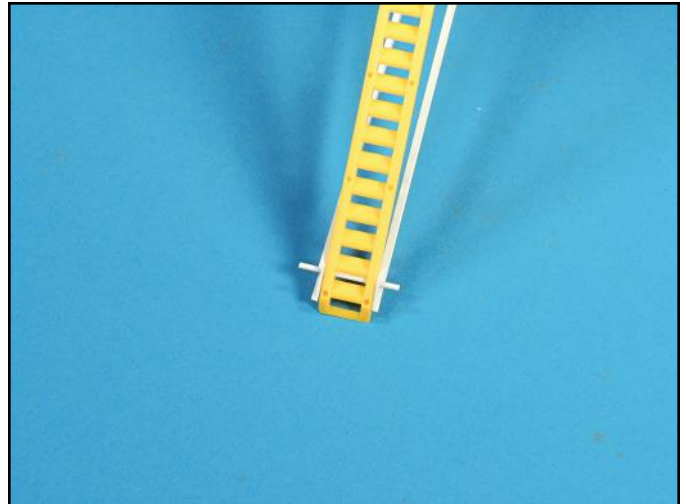
With the extra gluing surfaces added, attaching these parts was much easier to accomplish. Use Testors tube glue to set the part into place and then add the strips of masking tape to tightly hold the assembly together while the glue dries.



To make the lower stairway stronger I added these two lengths of .125 inch channel beams.



The channel beams were pinned at the frame with .040 inch rod.



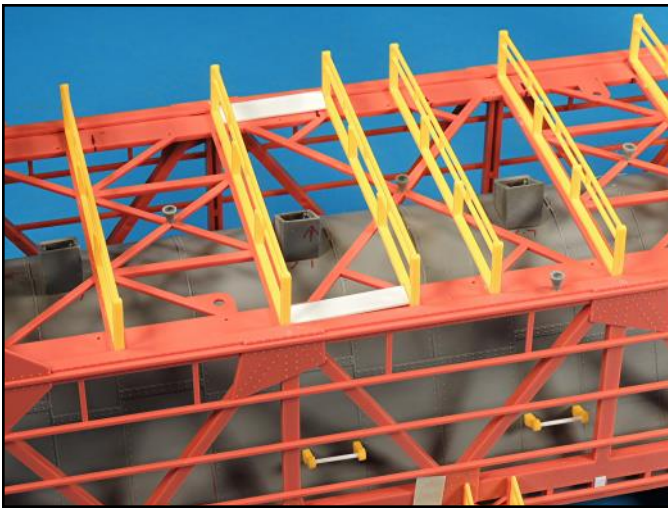
I used .03 inch rod to pin the channel beams to the base of the stairway.



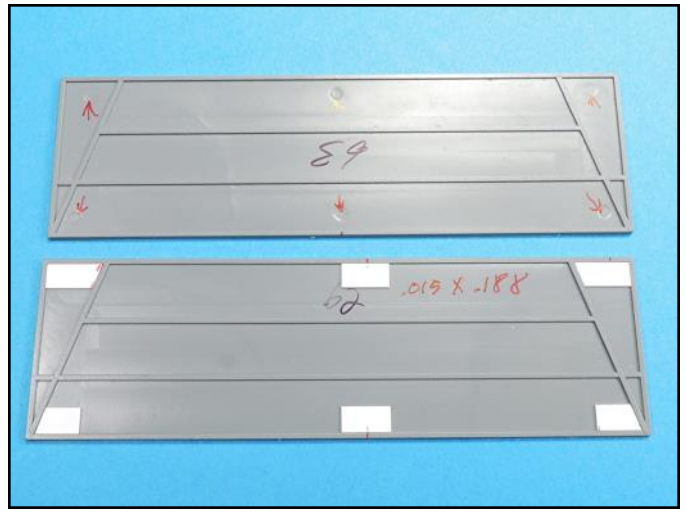
When I test fitted the large coal bin, the horizontal girder framing interfered with the chute opening so it was removed and a vertical frame added. Small strips of plastic were also glued around the tower to hide the seam.



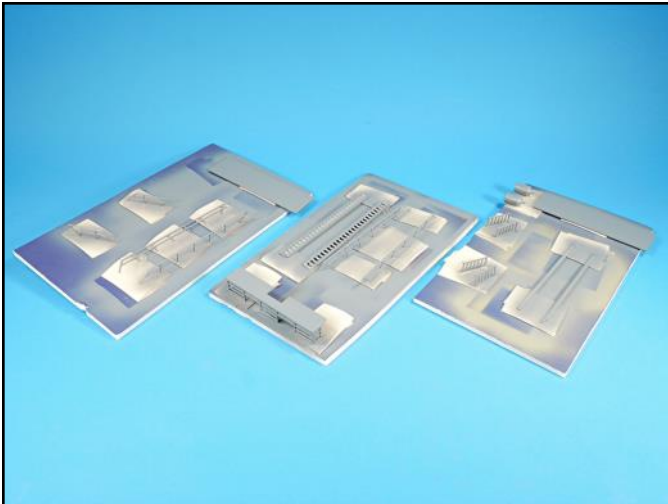
The office area needed a floor so I made one from .030 inch thick plastic sheet. The approximate dimensions for the floor were 1&19/32 inches wide and 12&3/4 inches long.



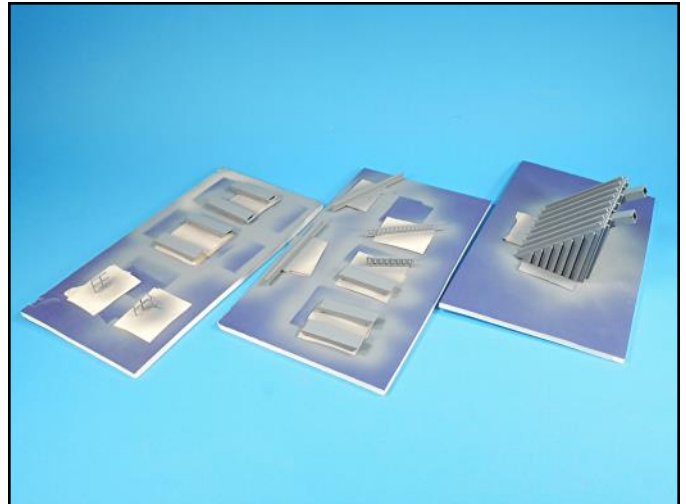
I glued the first guide rail frame in place being very careful to be sure it was straight. Then spacers were measured and cut for the placement of each additional rail.



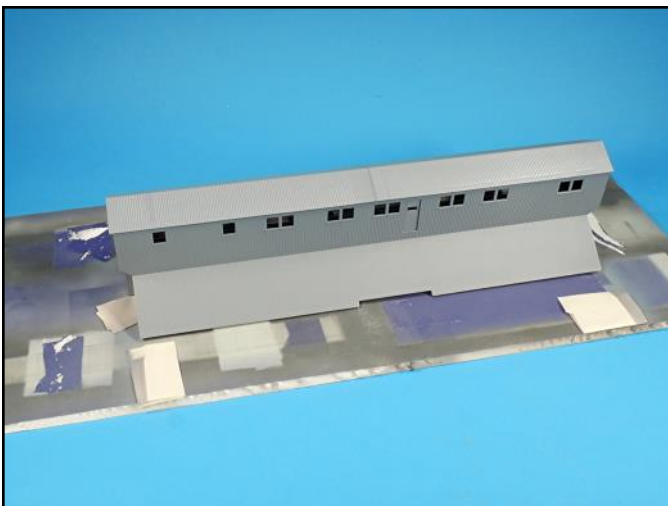
These guide plates had mold punch outs that were covered with .015 inch thick strips.



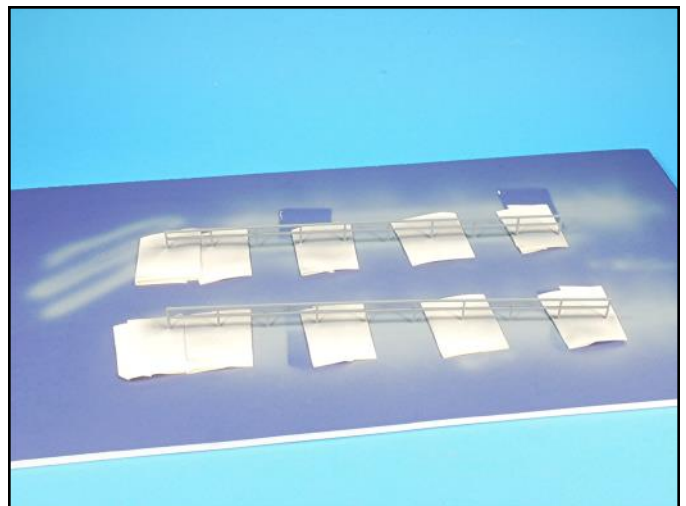
Foam board cut into manageable sections are perfect for painting parts.



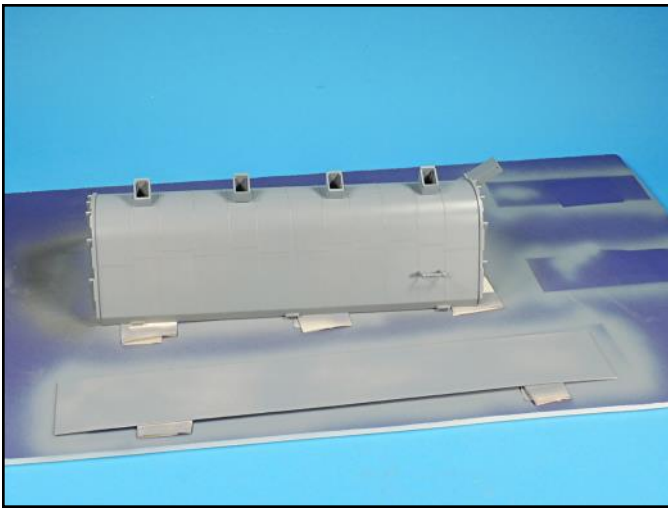
All the parts should be primed and the surfaces checked for flaws before applying the final colors.



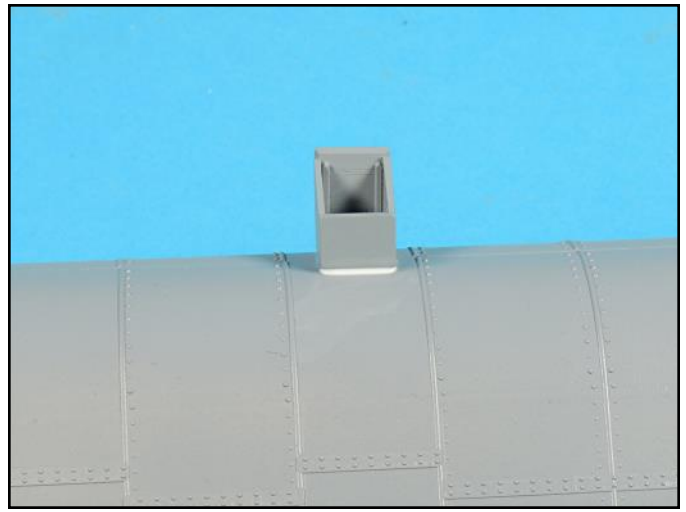
Take your time when painting large surfaces. Several thin coats are much better than one thick coat. It took three painting sessions to prime the outside and inside of the building.



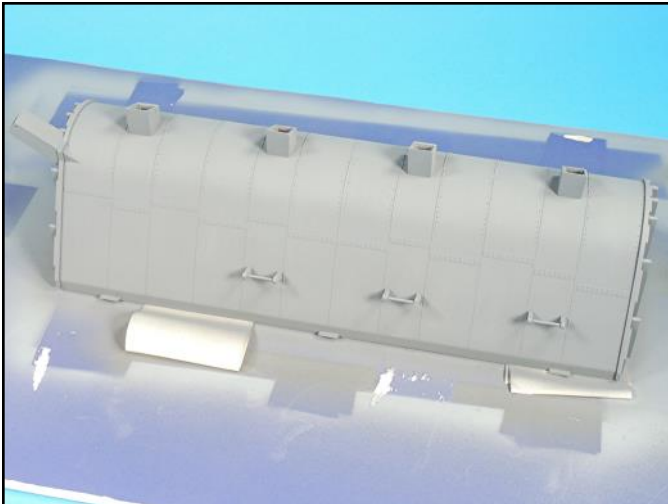
The hand rails will need to be flipped so that the undersides will also get a coat of primer.



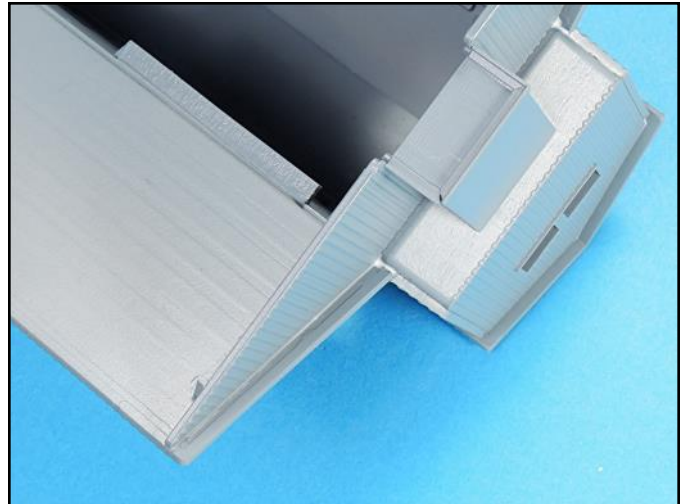
Priming also provides a good surface medium for white glue to stick too when it is used as a gap filler.



White glue was applied to this gap and it will take several applications to get the gap completely filled it. Use damp Q-Tips to remove excess glue and to contour the wet glue.



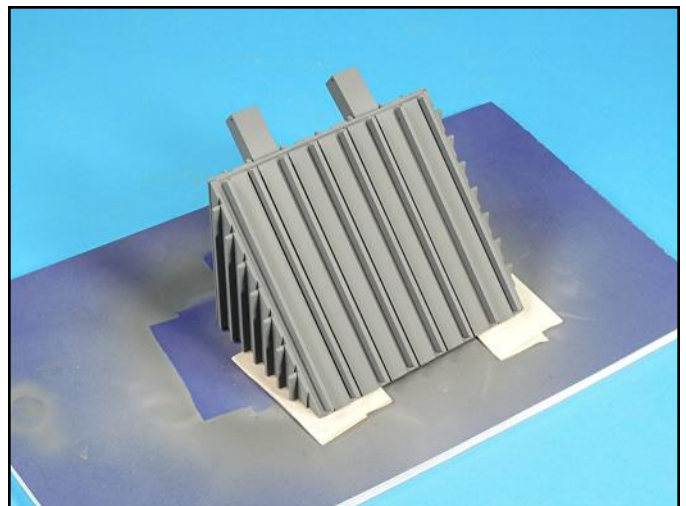
Once the gaps were filled these areas were also primed.



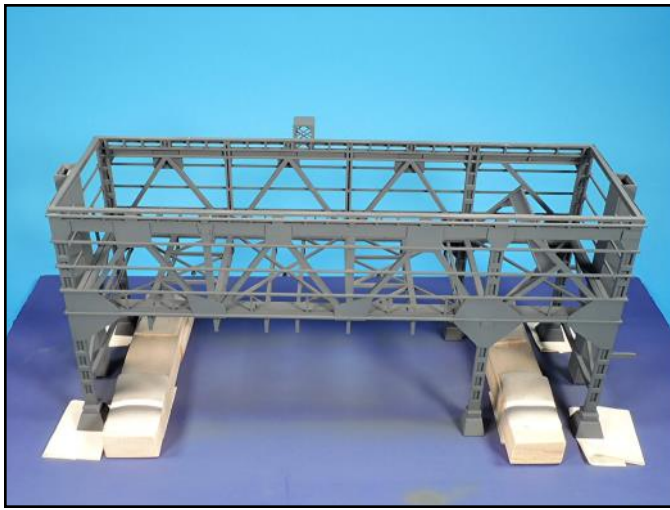
Here is another example of using white glue to fill gaps.



Priming the girder structure took several painting sessions to be sure that all the surfaces were covered.



Painting surfaces that have lots of ridges also takes time. Go slow and do not rush a paint job.



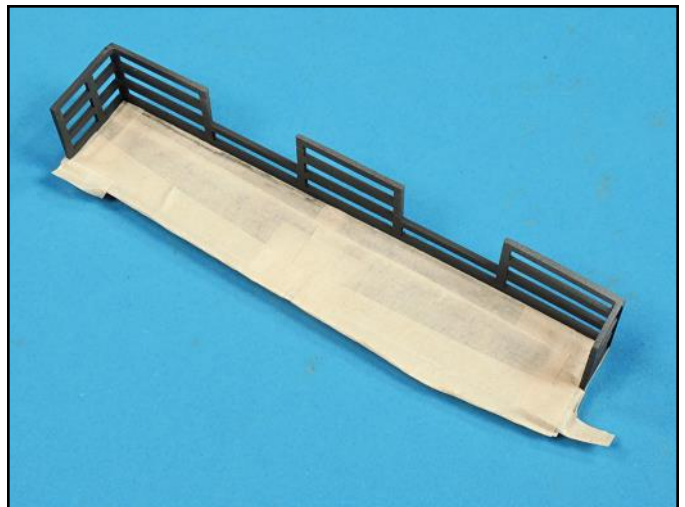
The girder structure was airbrushed with Testors flat black with a few drops of flat white added to lighten up the color. A thin strip of making tape was applied around the top perimeter of the structure to protect the gluing surface.



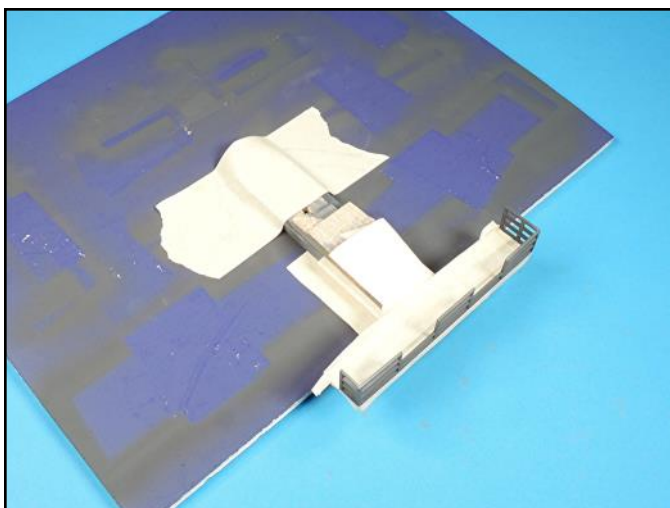
The building was airbrushed with Testors flat gull gray with a few drops of flat black added to darken up the color.



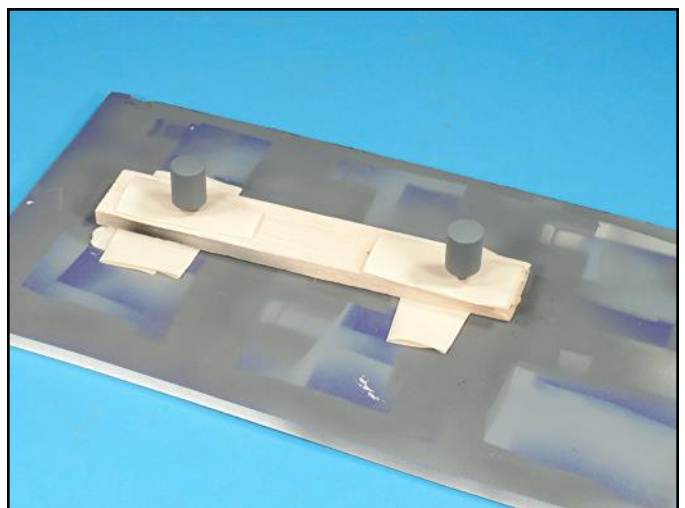
The railings for the stairways were airbrushed with Testors light gray color.



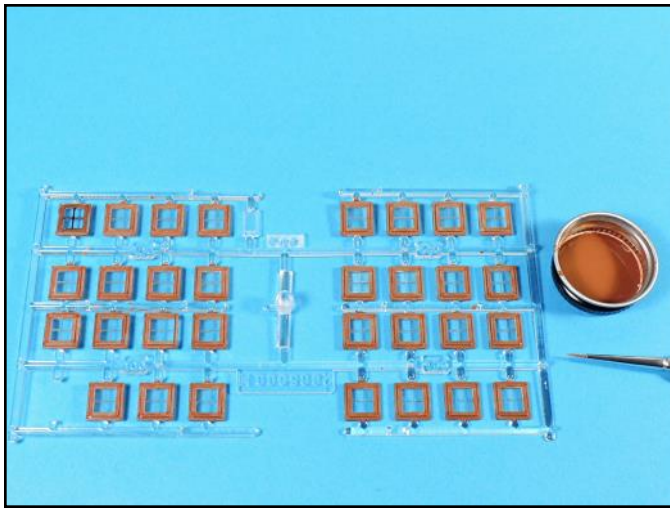
The platform was airbrushed with the same color as the girder structure and then masked for the next paint application.



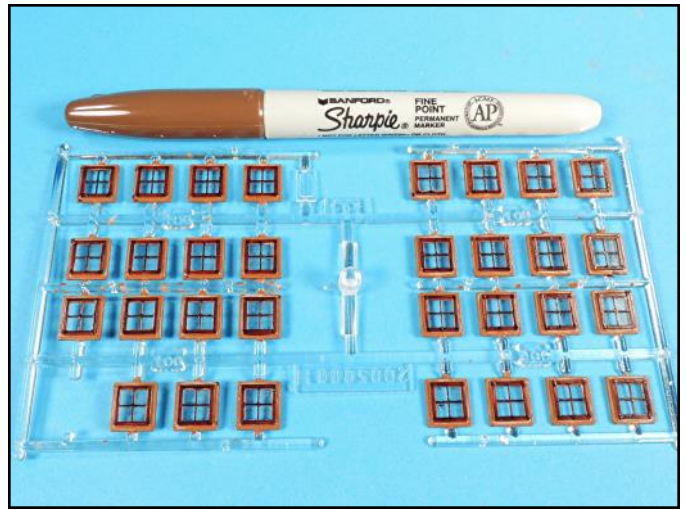
Several lengths of balsa wood were taped together so that the platform would hang over the edge of the foam board. This allows the platform's railing to be airbrushed in one session.



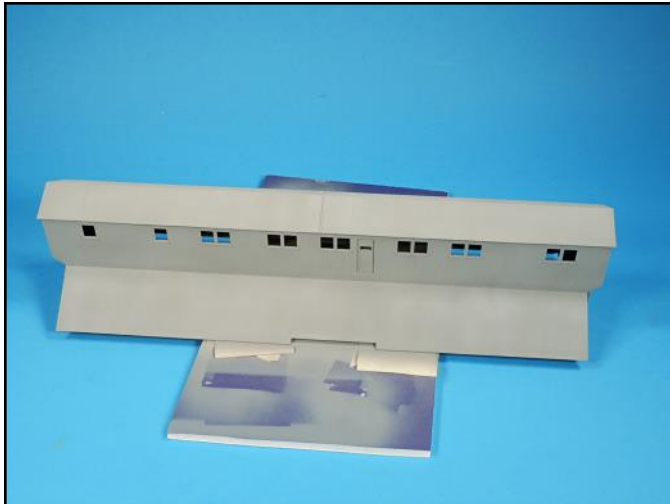
The canisters were airbrushed with Testors flat black with more flat white added than the girder structure color. This slight variance in color will allow the viewer to more easily pick out details located inside the structure.



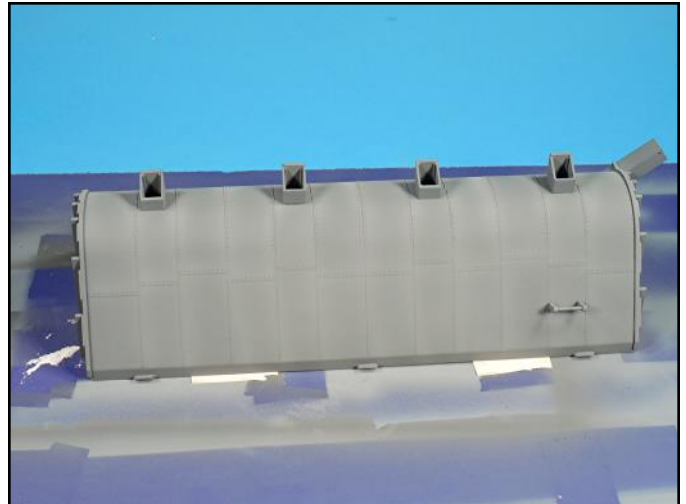
The outside perimeter of the windows were carefully hand painted with Testors leather color.



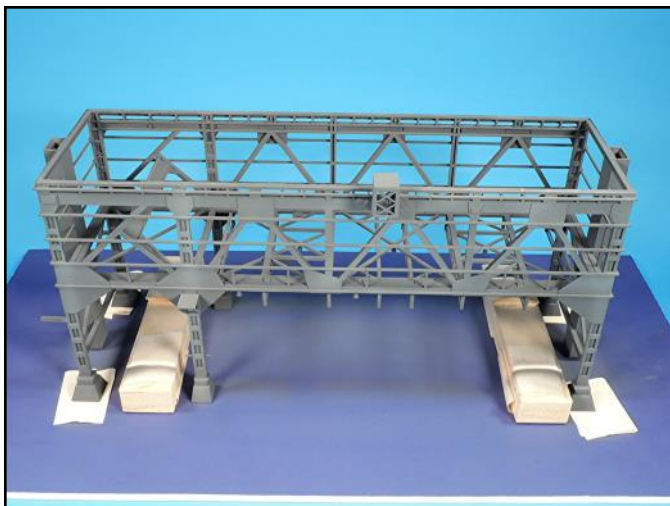
The thin frames between the window panes were inked with a brown sharpie. It took several coats to cover the plastic. The same color was then used to ink the perimeter of each window frame so the colors would match.



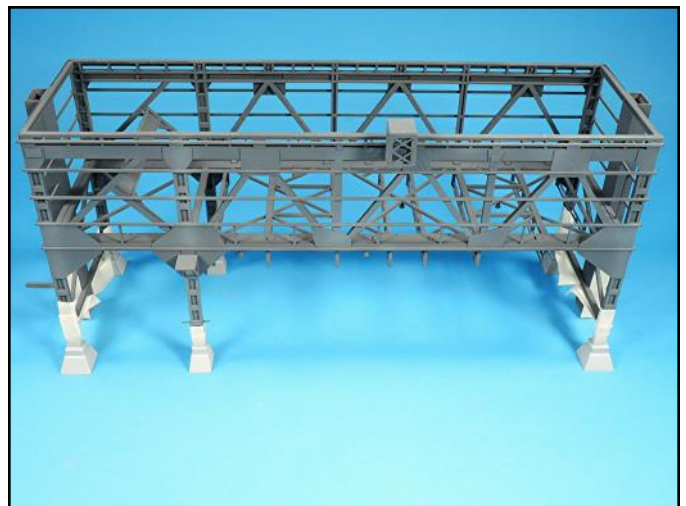
A lighter shade of the building color was streaked from the roof, down the sides and then across the angled surface at random locations.



A lighter shade of the coal bins color was streaked along the rivet detail.



A slightly lighter color for the girder structure was used to streak from the top and down the sides in random locations. The application of lighter shades of the base color is the first step for the weathering process.



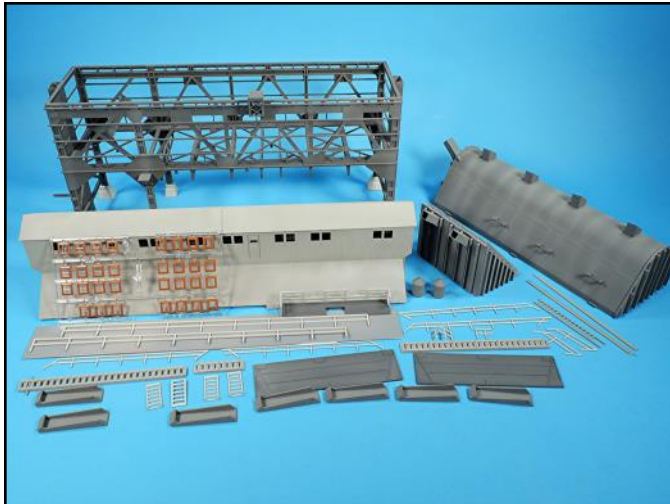
Masking tape was applied around the bases of the girder structure legs and then the concrete foundations were then airbrushed Testors light gray.



Areas around the foundations were also masked to protect them from overspray.



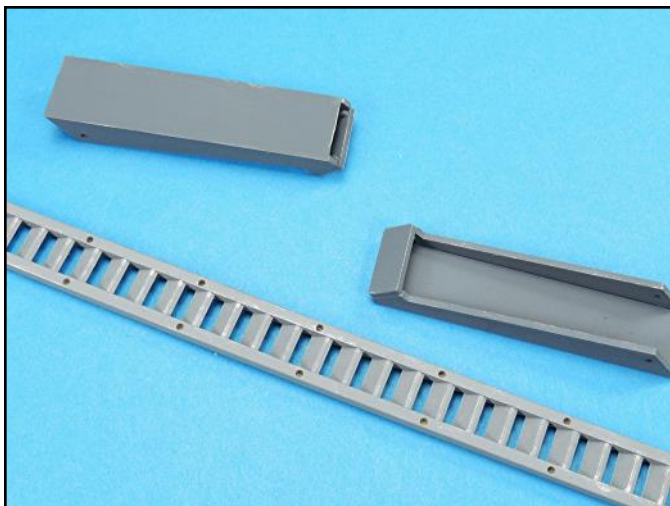
The girder structure is now complete and it looks impressive. Note how the lighter colors give more depth to the structure and smaller pieces of the structure also stand out.



All the subassemblies are now painted and its time to begin part two of the weathering process.



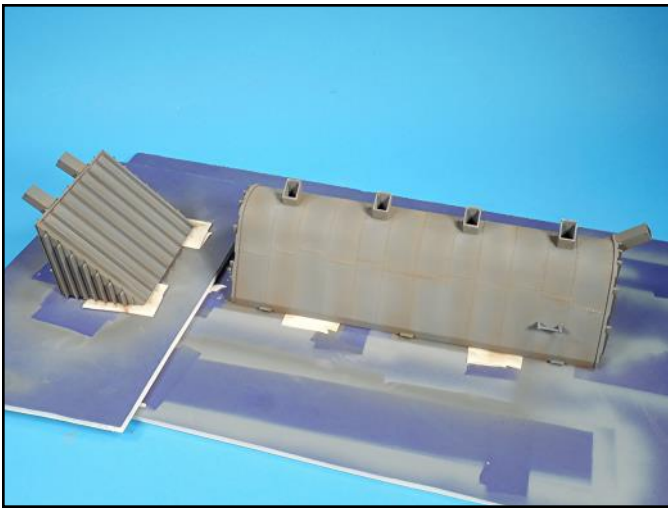
To “dry brush” you use a small flat brush, dip it into the paint color you want to use and then wipe off almost all the paint until just faint amounts remain on the brush.



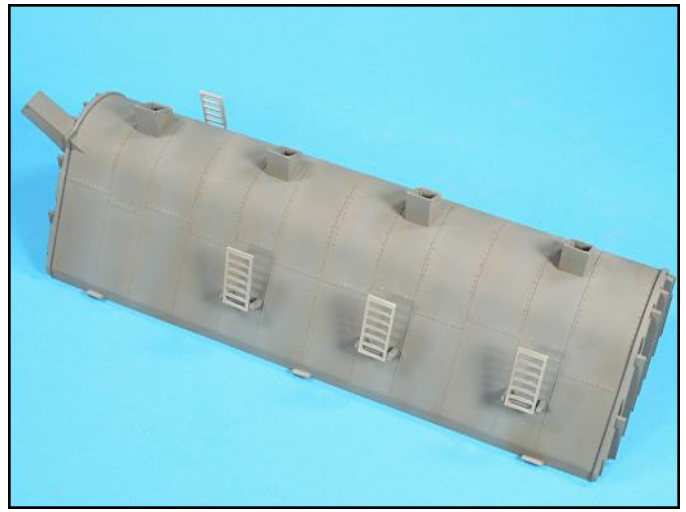
Testors silver was dry brushed onto the edges of the stairways and the edges of the dump chutes. This subtle effect gives the appearance of paint that is worn down to the metal.



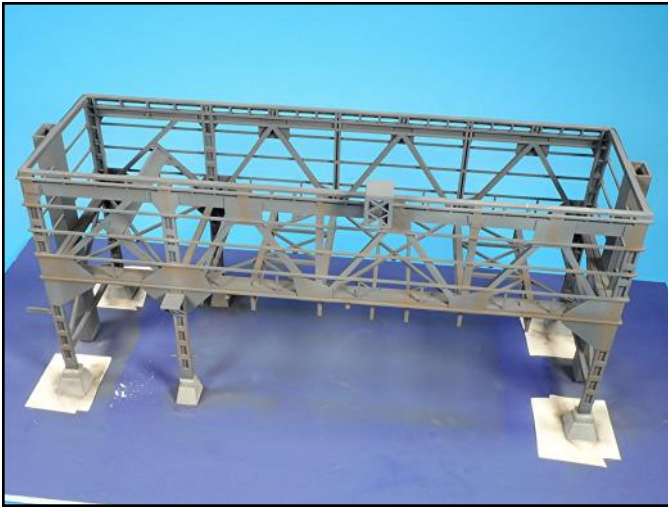
The building was streaked with brown pastel dust from the roof top down the roof, down the sides of the building and onto the angled surface. Note the greater deposits where the building side transitions to the angled surface.



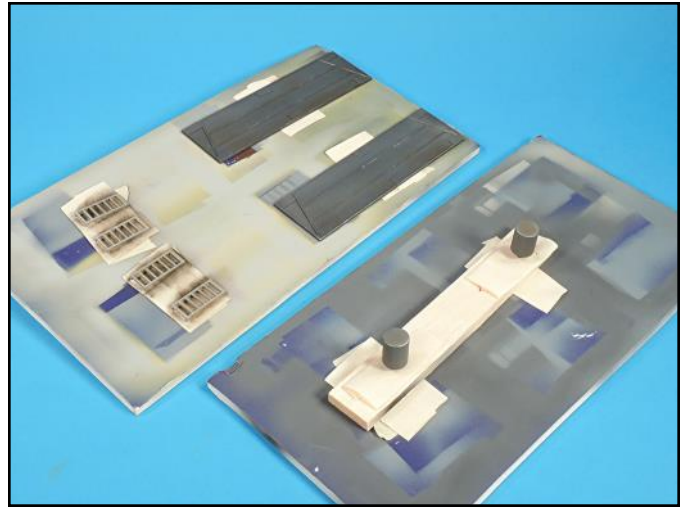
The bins were also streaked with brown pastel dust which is a great rust color. The pastel dust was sealed with Testors dullcoat from a spray can.



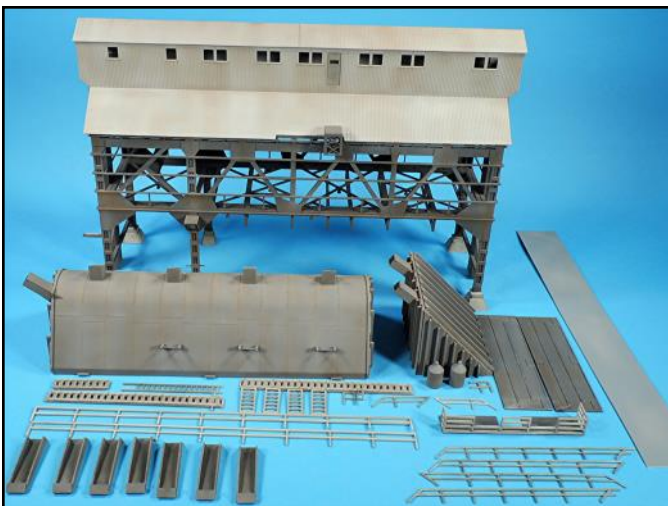
The large bin is now assembled and ready to be glued into place. The ladders were attached with drops of white glue because their position will need to be adjusted once the bin is set into place inside the girder structure.



The girder structure was also randomly streaked with brown pastel dust and then sealed with Testors dull coat.



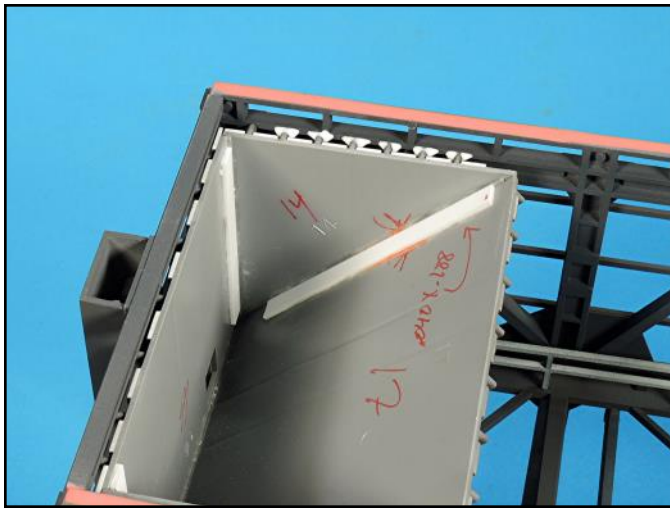
The edges of the canisters were dry brushed with silver paint and the stairs got dustings of black and dark gray pastel dust. Once all the parts were dusted they were sealed with Testors dullcoat.



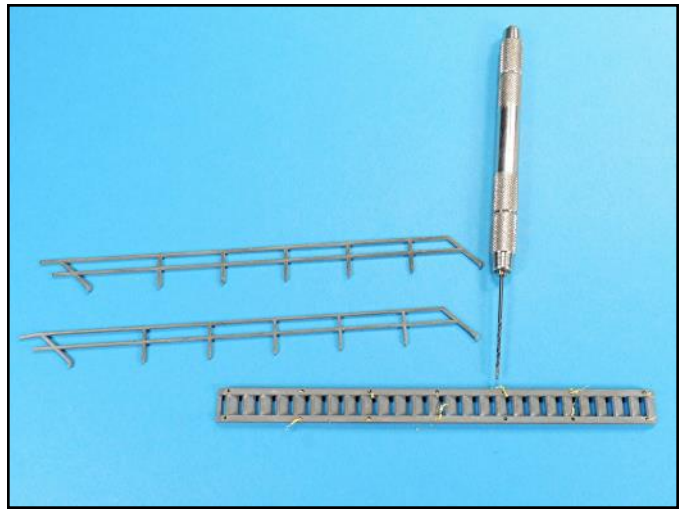
Now that all the sub-assemblies have been completely weathered and sealed it is time to assemble this monster of a kit.



The tape was removed from the top of the structure and then the interior railings and the canisters were glued into place. The small coal bin was then positioned into place.



White glue was used to attach the small bin to the girder structure.



The positioning holes for the railings needed to be slightly enlarged so that the railings vertical posts would fit into them.



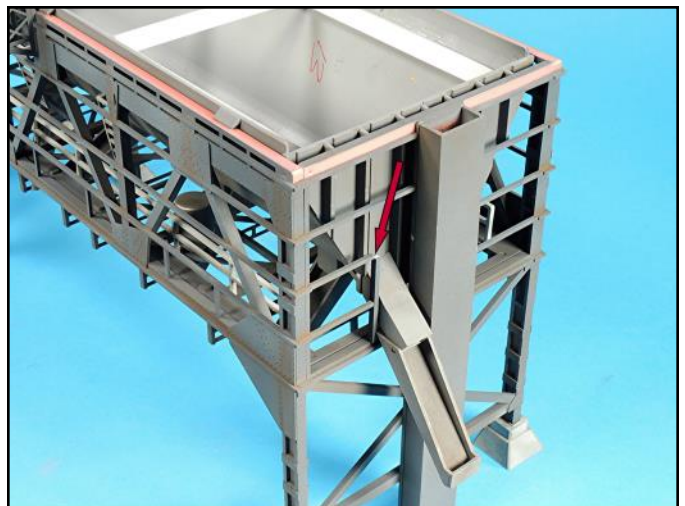
All the railings are installed and these assemblies are ready to be attached to their platforms.



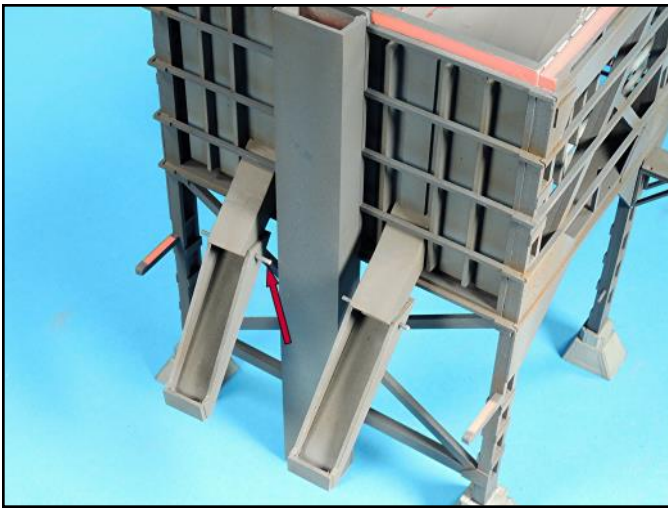
The chutes were pinned into place with lengths of .040 inch rod. The ends of the rods were then cut off and touched up with the same paint color as the bin.



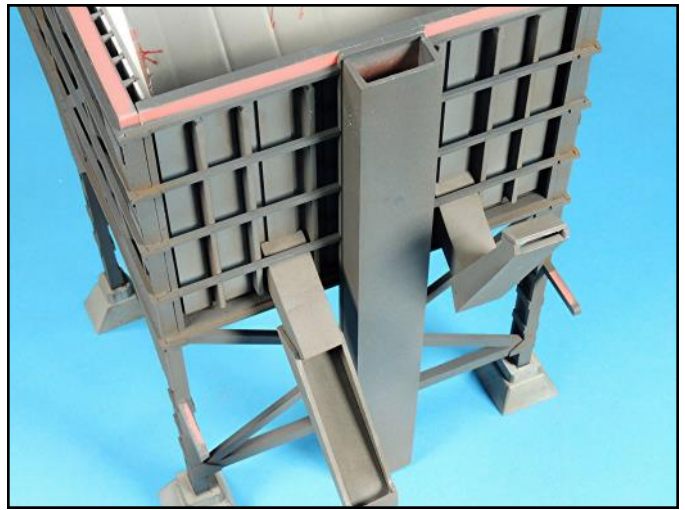
The large bin is now glued into place.



Because the chute was installed after the bin was test fitted, it also interfered with another horizontal cross member. It was carefully cut off so it could be reattached once the bin was glued into place.



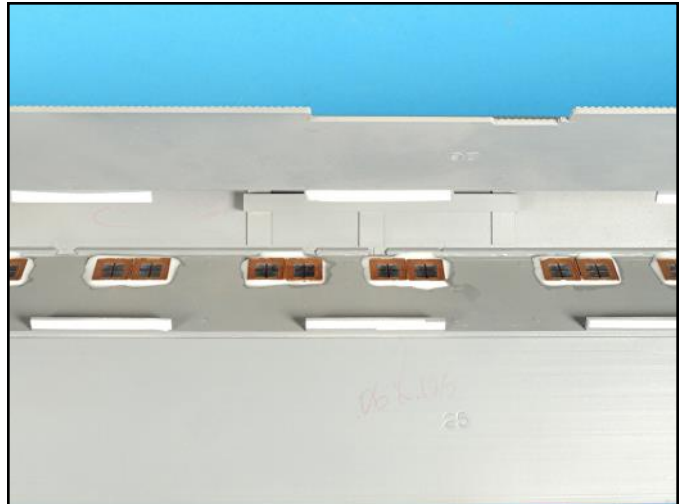
The chutes on the smaller bin were installed after the bin was glued into place. Here again .040 inch diameter rod lengths were slid into place, the ends cut off and then the exposed white plastic was touched up with the same color as the bin.



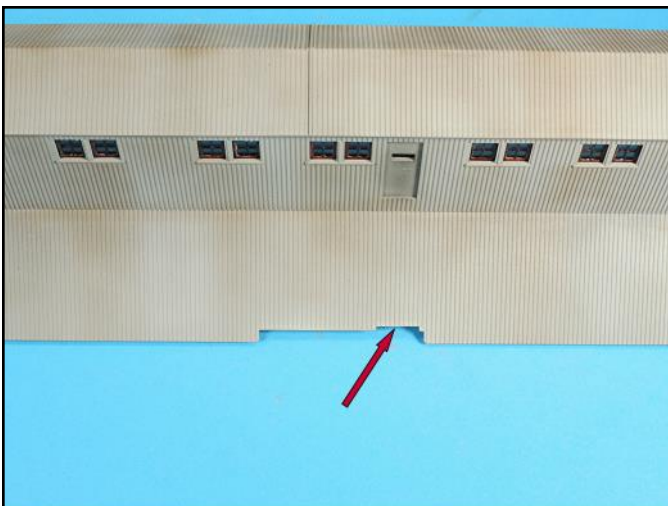
With the chutes pinned, they can be positioned just like the ones located at the bottom of the large bin.



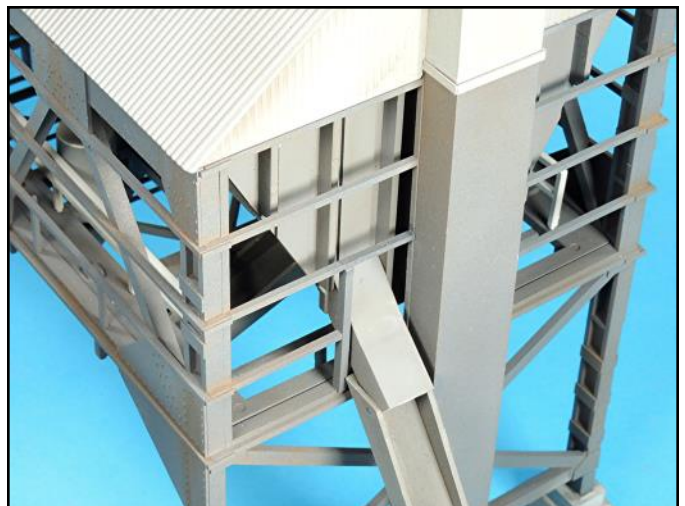
Both bins are now in place. The ladders on the large bin were also re-positioned so that they almost touch the railings located on the inside area of the structure.



The windows were set in place one at a time and white glue was applied around the perimeter of each window.



The edge of the roof interfered with the upper stairwell platform so I used a file and a sanding stick to create a slight indentation so that the building would sit correctly on the top of the girder structure.



The cross member that was cut out was carefully positioned and then glued into place with small drops of Testors tube glue so that it could be adjusted.



The stairways were all attached with white glue so their positions could be adjusted. The top outer railing on the platform was sliced and bent down and a new lower railing was installed.



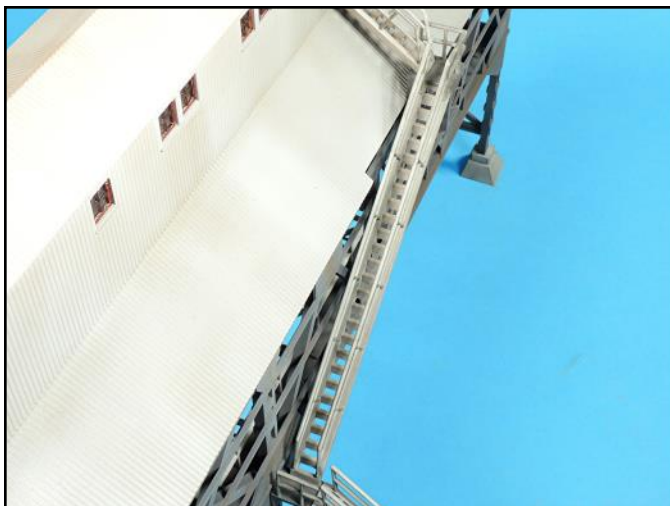
The modified railings were touched up with the same railing paint color and then weathered with pencil pastel dust.



Be sure the top stairway is straight with respect to the lines along the angled section of the building.



The top level platform railing is not very well designed and adjusting it so that it is straight and level is a challenge. Using white glue to attach it allows you some working time to adjust the part.

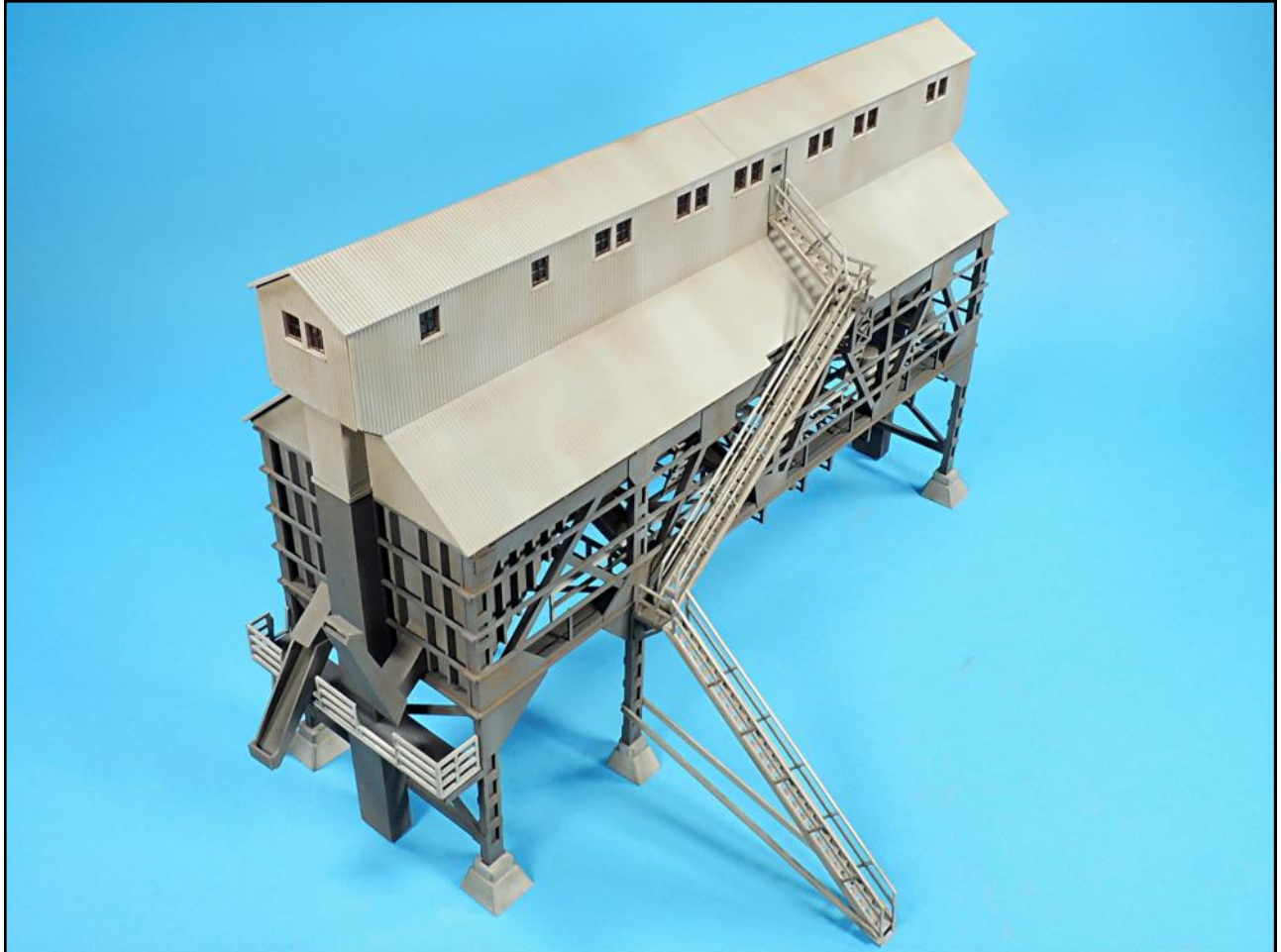


Be sure the mid level stairway is the same distance away from the girder structure along its entire length.



The modification on the lower stairway allows the model to be picked up and moved around without breaking this part off.







PAINTS

(All paints listed are Testors enamels)

Primer - 2 bottles.

Flat black - 1 bottle

Flat white - 1 bottle.

Leather - 1 bottle.

Flat gull gray -2 bottles.

Light gray - 1 bottle.

Dullcoat - 1 spray can

Silver paint - 1 bottle.

PASTEL PENCILS

Brown

Black

Dark gray

TOOLS AND SUPPLIES

X-Acto number 11 blades.

Waldron punch set or generic punch set.

Northwest Short Line Chopper.

Snippers & cutters.

Flex -I-File & various sandpaper strip grits.

Tweezers & hobby files.

Plastic bin organizers .

Drill bits (#46 - #80).

Twist drill, pin vice and scribing needles.

3M masking tape #2050 (2 inches wide) 1 roll.

Brown & black indelible markers.

Various sizes of plastic strip &rod.

Medium set super glue.

Testors red tube plastic glue.

Elmers white glue.

0000 steel wool pads.

Sandpaper & sanding sticks.

Metal sewing ruler -6 inch.

Foam board & balsa wood strips.

Small wood block.

Wax paper.

This picture was on the back of the IHC kit box. It is an actual photo of a 650 Ton Cheyenne Coal Bunker. Note that the entire structure is black. We decided to paint the model various shades of black and gray so that it would stand out on our model railroad layout and allow an observer to pick out the details on the structure.

