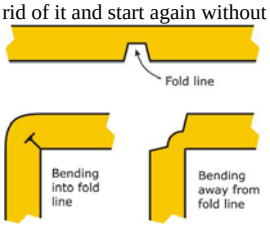
Yard Tower
N-Scale & HO-Scale

Before Starting

PREPARING BRASS The easiest way to remove the brass parts from the sheet they are produced on, is to use rail nippers. The brass is soft and won't affect their future cutting ability. This will reduce or eliminate the amount of filing to smooth the edge. The next best way is with small sharp diagonal cutters that will fit into the small areas between the part and the sheet holding them. *You should always use a file to remove the balance of the tie. This will ensure a perfect fit.*

GLUING BRASS Instant super glues, Cyanoacrylate, CA for short, are very prominent in model building today. They will work perfectly with brass, and they are instant. We recommend a thick CA glue such as "**Zap-A-Gap**" from Pacer Technology. As I have also been building R/C airplanes for over 33 years, I have many airplanes built entirely with CA glue and I can tell you that the wood will break before the glue joint. So it is great stuff! Besides being almost instant, thick CA glues will help create a small fillet and fill small gaps when applied to the inside of joints. Using a toothpick to apply the CA glue works really well for getting the glue into the interior areas and controlling the amount of glue used.

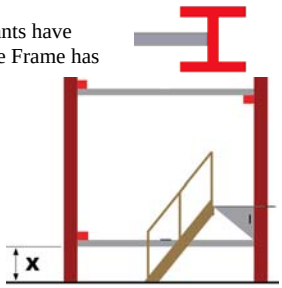
PAINTING BRASS Wash your completed assembly in warm soapy water. If it is really messed up with flux etc. you can clean it with a lacquer thinner first. *Do NOT bake the model if you used CA glue for construction*. This will set the paint to the brass as well as allowing you to paint over parts of it without the first coat dissolving as you spread on the second coat. One nice thing about painting on brass, if you don't like the paint job you can use paint remover to get rid of it and start again without hurting the brass.

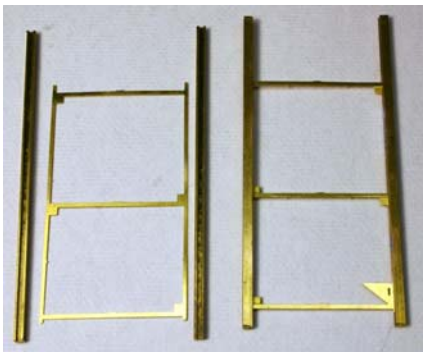


BENDING BRASS To control where a fold will be, we have put a Fold or Bend line into the design. This line is a small slot that has been etched half-way through the brass sheet at the point of the bend. Normally, you fold into a bend line when the bend is less than 135 degrees. Notice how bend into the line creates a nice corner and the metal pinches together at the bend line.

For bends of 135 to 180 degrees, you must bend against the bend line otherwise the two pieces of metal can not lay flat at the bend due to pinching each other. Other times, you bend outward for better positioning of the piece or better display. The ladder on Caboose kits are bent outward to expose and "pop out" the rungs.

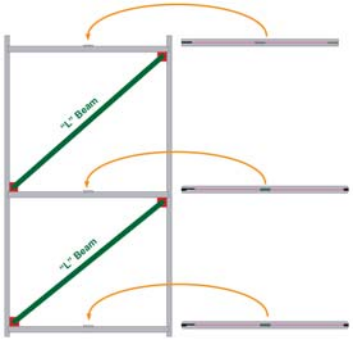
Step #1 – Build the Standing Frame

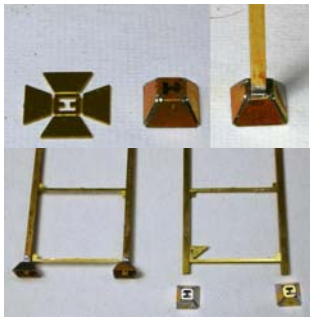




Begin by removing the two Side Frames from the Kit sprue. Be sure that all tie remnants have been filed off. Depending on the artwork version, the builder may notice that one Side Frame has a triangular piece at the bottom of one side and the other Frame does not. When building the Side Frame, the triangular piece must be in the lower right corner. Position a Frame on the building surface as shown. The tabs on the Horizontal Cross Member must face upward. Time to secure the "H" Column to the Side Frames and solder must be used for this. Begin by ensuring that one bottom end of the "H" Column is filed square. Using the back edge of your Xacto knife, scribe a line 3/32" for N-Scale or 5/16" for HO-Scale (X) from the squared end. This is where the bottom of the Side Frame shall be on the "H" Beam as shown.

The Side Frame is inserted into the channel of the "H" Column as shown. The bottom of the lower Horizontal Cross Member should be right at the scribed line made earlier. Solder just the bottom of the Side Frame to the "H" Column with the Side Frame. Now solder the top of the Side Frame to the "H" Column. Finally, solder the Side Frame to the "H" Column directly below the center Horizontal Cross Member. Repeat for all remaining "H" Column.



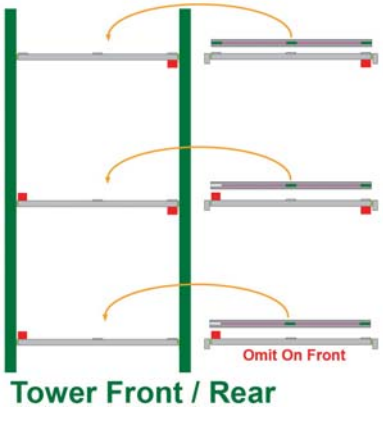


Remove the Horizontal Capstrips, clean them up and separate them as shown. The bottom and center Horizontal Capstrips are the same, but the upper Horizontal Capstrips is different. Once separated, test fit the Horizontal Capstrips. Depending on how well you soldered the "H" Column to the Side Frames, the ends of the Horizontal Capstrips may require trimming. Secure the Horizontal Capstrips on the Horizontal Cross Member as shown. Cut lengths of "L" angle (HO) or .016 phosphor bronze wire (N) and secure as shown them to the half-etched gussets.

Depending on the artwork version, the builder may have Column Pedestal included with the kit. The Pedestal sides are folded *into* the bend line until the sides come together and are soldered as shown. The opening at the top of the Pedestal accepts the "H" Column. Test fit the "H" Column into the opening and ensure the Pedestal is snug up against the bottom of the lower Horizontal Cross Member. The "H" Column should not protrude below the Pedestal. Trim the "H" Column if it is too long.

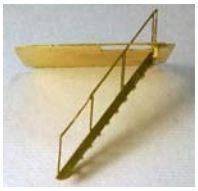
The Horizontal Cross Members for the front and rear of the Standing Frame are separate pieces that must be soldered between the two Frame Sides. Study the image to the right very carefully to recognize the pieces and where they are to be installed.

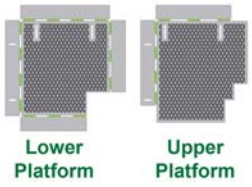
Start with the center Cross Member as it has the half-etched gussets on both top and bottom. ***Carefully*** bend the solder tab 90 degrees *into* the bend line and secure the tab to the "H" Column at the same level of the center Cross Members on the Frame Sides. Next, attach the upper Cross Members between the Frame Sides. The lower Cross Member will be attached to the rear of the Standing Frame. If neither of the Frame Sides

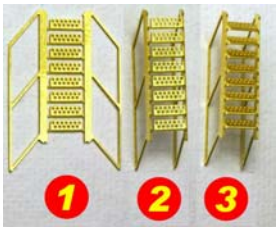


had the triangular piece, then pick which will be the front and install the Cross Member to the rear. If one of the Frame Sides did have the triangular piece, then it is in one of the rear corner columns and the Cross Member should be installed there. Reference the picture above left to see the placement as described. Depending on how well you soldered the Cross Members to the "H" Columns, the ends of the Horizontal Capstrips may require trimming. Secure the Horizontal Capstrips on the Horizontal Cross Member as shown.

Begin building the staircase by removing Stairs #2-4. Count the number of treads to help locate and identify the stair to be used. Fold Stair #2's Sides/Railings upward *into* the bend line. Turn the Stair over and bend the Tread so it is 90 degrees to side Railing posts.

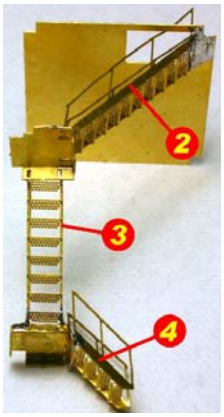






Start with the Lower Floor and bend the Stair Attachment 90 degrees *into* the bend line. The top of Stair #2 has two small tabs that fit into the slots of the Stair Attachment. Secure Stair #2 to it's attachment.

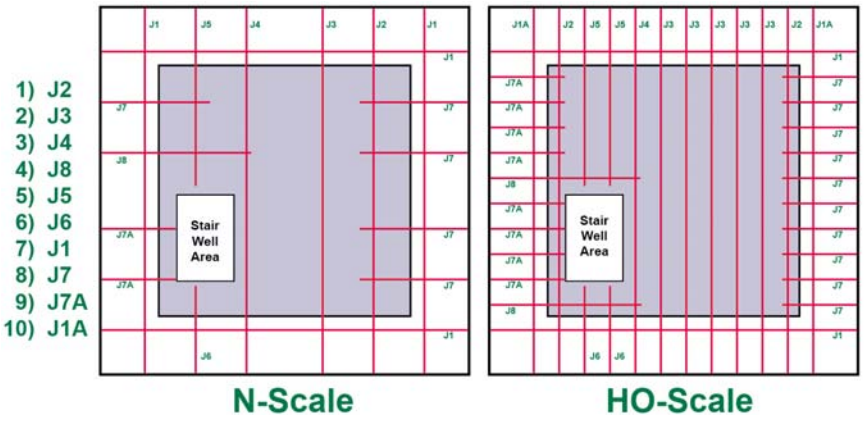
Locate the Upper Platform and bend the Side Panels downward *into* the bend lines. The bottom of Stair #2 has two small tabs that fit into the slots of the Upper Platform. Secure Stair #2 to the Upper Platform ensuring that the Upper Platform is 90 degrees to the vertical Railing Posts of Stair #2. Fold Stair #3 like done with Stair #2. The top of Stair #3 has two small tabs that fit into the slots of the Side Panels of the Upper Platform. Secure Stair #3 to the Upper Platform ensuring that the Upper Platform is 90 degrees to the vertical Railing Posts of Stair #3.



Locate the Lower Platform and bend the Side Panels downward *into* the bend lines. The bottom of Stair #3 has two small tabs that fit into the slots of the Lower Platform. Secure Stair #3 to the Lower Platform ensuring that the Lower Platform is 90 degrees to the vertical Railing Posts of Stair #3. Fold Stair #4 like done with Stair #3. The top of Stair #4 has two small tabs that fit into the slots of the Side Panels of the Lower Platform. Secure Stair #4 to the Lower Platform ensuring that the Lower Platform is 90 degrees to the vertical Railing Posts of Stair #4.

If one of the Frame Sides did have the triangular piece, then install the second triangular piece into the slot and 90 degrees to the first triangle of the Frame Side. Install the Staircase into the Standing Frame. The Upper Platform fits into one of the rear corners of the Frame and rests on the center Cross Member Capstrips. The Lower Platform is attached to the other rear corner and rests on the triangular pieces if included in the kit.

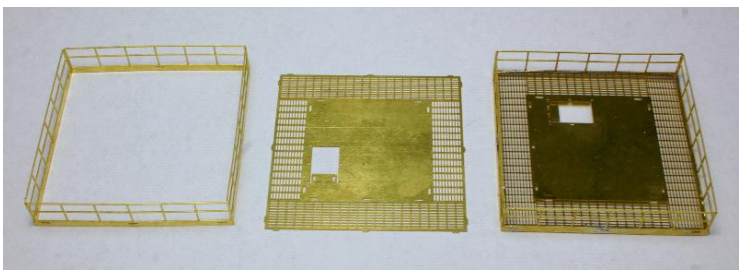
Carefully bend the Base Siding at the corners into the bend lines. It is recommended the builder refers to the "How To Bend Brass" tutorial on the TrainCat website and use one of the tools described. Test fit the Base Siding on to the Standing Frame. It is designed to be a tight fit so the two ends of the Base Siding will meet exactly. If required, bevel the outer corners of the "H" Columns above the Lower Floor with a Dremel tool (flat surface of a cut-off wheel is great for this). Attach the Base Siding to the Standing Frame so that the Stairs are visible through one of the windows.

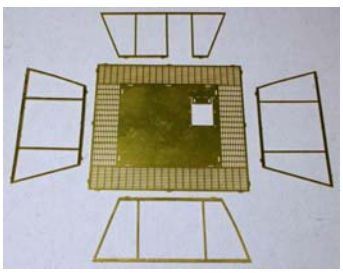


Install the Joists onto the Base assembly using the diagram for the correct scale. Follow the order as shown. The builder should decide on which side of the Base Assembly the Upper Stair Well will be located. Although it does not matter, it will look best if the Upper Stair Well is on the same side as the Lower Stair Well.

Step #2 – Build the Tower Platforms

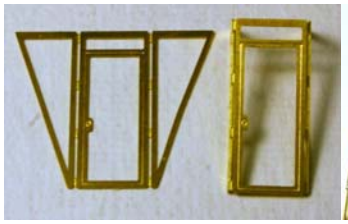
Prep the Upper Floor, Walkway Railing and the four Enclosure Frames by removing any tie remnants. Fold the Walkway Railing *into* the bend lines at the corners.





The Upper Floor has three small tabs on each side and the Walkway Railing has corresponding slots. Fit the Walkway Railing on to the Upper Floor and then secure it. Position the Enclosure Frames as shown while noting that the Frame that has a doorway does have a different tab pattern than the other Frame Sides. Place two Enclosure Frames into the slots in the Upper Floor and position the two Frame Sides so that the beveled corners meet. Secure the two Side Frames together at the corner and to the Upper Floor. Add the remaining Side Frames to the assembly one Sides Frame at a time.

Bend the angled Door Frame Sides *away* from the bend lines and secure to the Side Frame that has the Door opening. Bend the Railing into a U-shape and secure to the Upper Floor around the opening for the Stairs. Bend the Stairs as described. Bend the Stair Attachment 90 degrees *into* the bend line. The top of Stair #1 has two small tabs that fit into the slots of the Stair Attachment. Secure Stair #1 to it's attachment.
Bend the Roof eves downward *into* the bend lines and secure together. It is suggested at this point to paint and install the window glazing (not provided) before securing the Roof to the Tower Platform assembly.



Install the Window Trim around the Windows and then secure the Window Ledge at the bottom of the Window opening. At this point, the Base assembly is ready for painting.

Step #3 – Final Assembly

The open Grated Floor of the Tower Platform assembly sits directly onto the Joists of the Base assembly with the Upper Stairs through the Upper Stair Well. The Joists around the Stair Well may require trimming to fit depending on how the model was built. Secure the Tower Platform to the Joists of the Base assembly.