

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.*

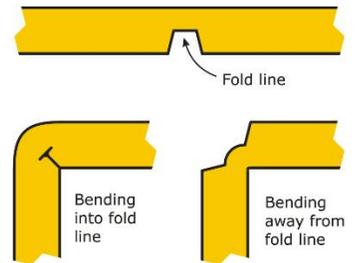
GLUING BRASS Instant super glues, Cyanoacrylate, CA for short, are very prominent in model building today. They will work perfectly with brass, and they are instant. We recommend a thick CA glue such as "Zap-A-Gap" from Pacer Technology. As I have also been building R/C airplanes for over 33 years, I 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

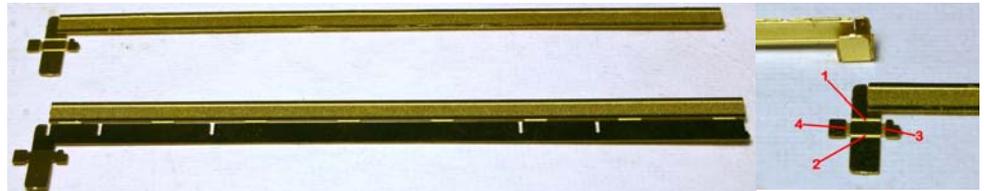
To control where a fold will be, we have put a Fold or Bend line into the design. This line is a small slot that has been etched half-way through the brass sheet at the point of the bend. Normally, you fold into a bend line when the bend is less than 135 degrees. Notice how bend into the line creates 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 this Caboose build is bent outward to expose and "pop out" the rungs.

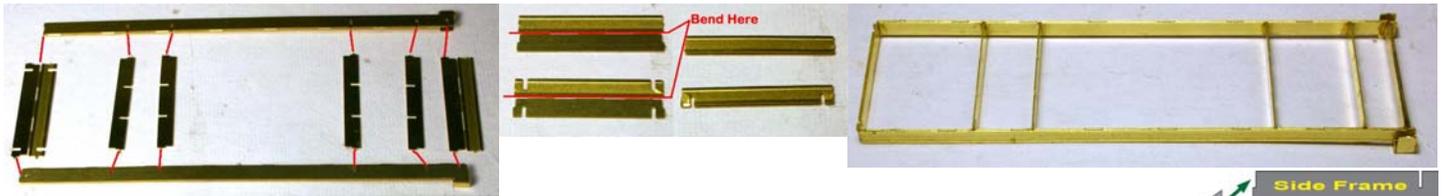


Step #1 – Building The Frame

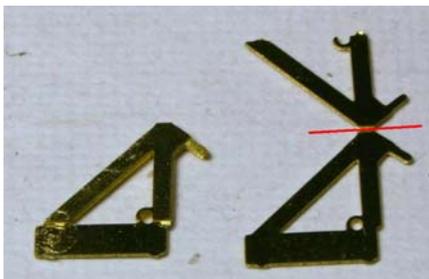
Begin with the Main Frame Side. Notice the half-etched tabs between the Inner Side and the Outer Side. Bend the Frame Side AWAY from the bend lines so the Outer detail Side can lay flat on the Inner Side. Secure the two Sides together.



Bend the Lower Hydraulic Pocket in the order shown. Secure all sides.



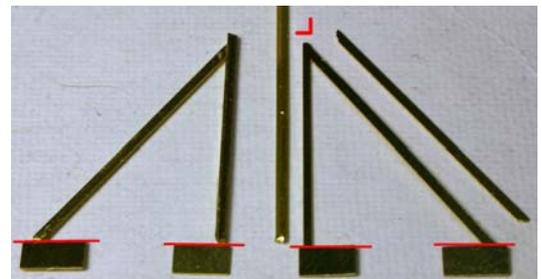
On the Inner Side, there are slots for the Cross Beams to be secured. Remove them from the kit and insert the tab into the slots on the Inner Side. Secure the Cross Beams. The Rear Frame and Front Frame need to be bent AWAY from the bend lines and secured together. The Rear Frame has a tab and a slot on each end that fits into the ends of the Side Frame. Test fit and become familiar with the assembly at these next points before securing anything. Once satisfied, secure the Rear Frame to the Side Frames. The Front Frame is secured to the Side Frames in the same method as the Cross Beams.



Angle Bracket for the vertical post.

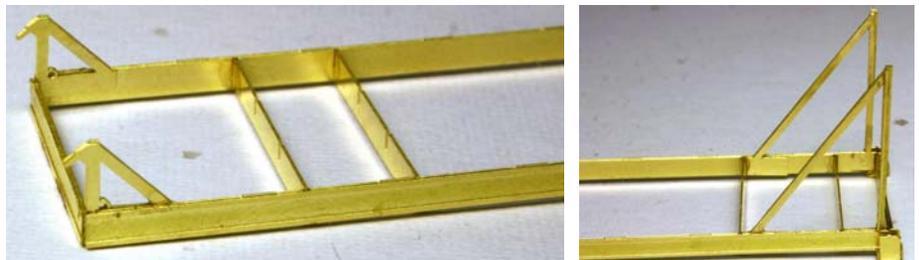
The Rear Pivot has two halves that must be bent AWAY from the bend line. Line up the two sections ensuring the Pivot Hole is unobstructed and secure. Make sure you make a Left and a Right.

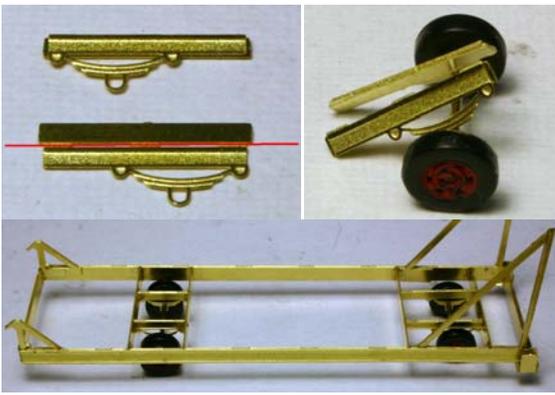
The Forward Lift Frame is comprised of three pieces each. Begin by securing the Diagonal Doubler to the frame. Be sure nothing protrudes below the line as shown. Use a section of 1/32in



Install the Rear Pivot to the rear corner of the Frame. The part of the Rear Pivot that was folded over goes on top the Frame. Secure the Rear Pivot to the inside of the Frame.

Do the same to the Forward Lift Frame. The vertical piece goes towards the front of the frame and is secured to the inside of the Frame. The diagonal is then secured to the inside of the Frame.





The Axle Beams must be bent AWAY from the half-etched bend lines. There are two sizes of Axle Beams, the shorter length will be secured to the two rear Cross Beams and the longer Axle Beams will be secured to the two front Cross Beams.

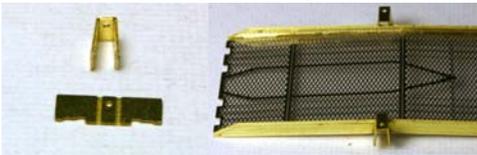
The Tires and Axels were acquired from a Classic Metal Works Tractor; which can be had very inexpensively. Remove the axels from the Tractor. The Axel is threaded through the hole in the Springs of the Axle Beams. Single Tires go with the longer Axle Beams and are mounted towards the front. The Dual Tires go with the shorter Axle Beams and are mounted to the rear.

Secure the Axle Beams to the Cross Beams.

Step #2 – Building The Ramps

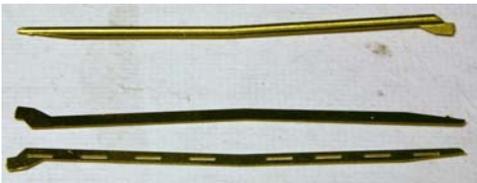
The long Ramp Sides must be bent AWAY from the half-etched bend lines as indicated in the image. Once bent, secure the two sides together, but try not to get any glue or solder in the slots.

Bend the long Floor Grating INTO the half-etched bend lines. As shown, the shorter left end panel is bent slightly upwards and the longer right end panel is bent downward. Take your time and work the tabs of the Floor Grating into the slots of a long Ramp Side. Since stainless steel can not be soldered, you will need to use thick CA to secure the Floor Grating to the Ramp Side. Using a toothpick from the underside, carefully secure the Floor Grating to the Ramp Side.



Bend the sides of the Upper Hydraulic Pocket INTO the bend lines. Secure the Upper Hydraulic Pocket to the Ramp Sides at the bend.

Secure the stainless Side Rails to the outer side of the long Ramp Sides.

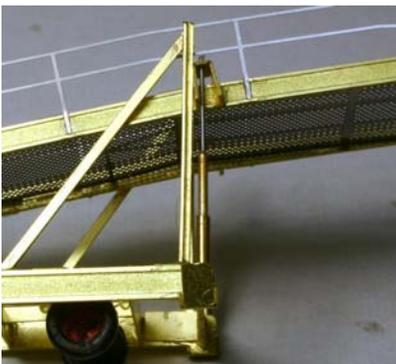


The short Ramp is built using the same techniques as the long Ramp.



Step #3 – Attaching The Ramps To The Frame

The long Ramp is attached to the Frame using a .015" Steel Wire. Through the Rear Pivot on one side of the Frame, through both Pivot Holes in the long Ramp and out the Rear Pivot on the other side of the Frame. This operation is . . . interesting! It will not go easily as the fit is snug, but it will go. Just take your time and use caution as not to damage anything. Once the Wire is through, trim the excess lengths.



Two different diameters of Tubing are provided. Since the Tubing has a very thin wall, the cleanest cuts are with an Xacto knife. Place the tubing on a hard surface and then the knife blade on the Tubing at the desired cut. Roll the Tubing while putting pressure on the knife. The tubing will make a clean snap.

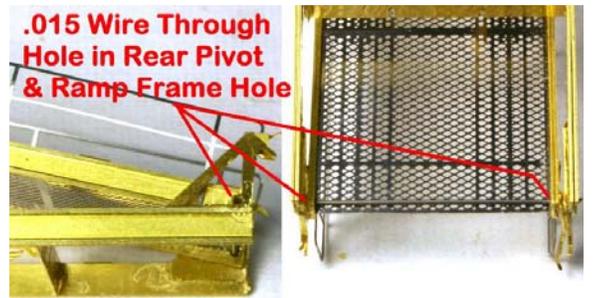
Cut two lengths of the largest diameter Tubing to 9/32in and the smaller tubing to 1/2in length. Cut two lengths of .015in Wire to 3/4in. Place the smaller diameter Tubing into the larger Tubing and then the Wire into the smaller Tubing. Place the Wire into the Upper Hydraulic Pocket hole and the larger Tubing into the Lower Hydraulic Pocket. Determine the desired height of the Ramp. The Tubing lengths will need adjustments if the Ramp is to be in the lowest position. Evenly distribute the smaller Tubing get the effect of three Hydraulic Cylinders. Secure the Tubings and

Wire together, secure the larger Tubing to the Lower Hydraulic Pocket. Once secure, secure the wire to the Upper Hydraulic Pocket hole.

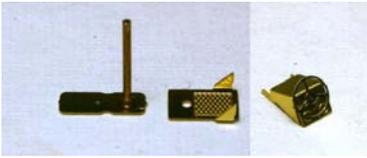
The builder should take notice of the large tabs on the end of the short Ramp. Place the Ramp tabs into the slots of the Rear Frame. Secure the Ramp to the Frame with the end resting on the building surface.

Step #4 – Adding Details

Begin by making the two small Ramps for the front of the long Ramp. Bend the both sides of the Ramp INTO the bend lines. Place a length of .015" steel Wire over the Hinge Straps and bend the upper surface over the wire and down onto the small Ramp.



The straps around the Wire create a hinge for the Ramp to pivot if desired. Secure the upper and lower Ramp surfaces together. The builder should notice that the Ramps are "handed". There is a left and right. Determine which small Ramp is left and right. The outer side of the Ramps, when on the correct side, are right against the outer side of the long Ramp. Secure the Wire to the underside of the stainless steel Grating. If the Ramps are not going to move (the easiest to do) secure the Ramps in the desire final position. Secure the Side Safety Rails to the small Ramps.

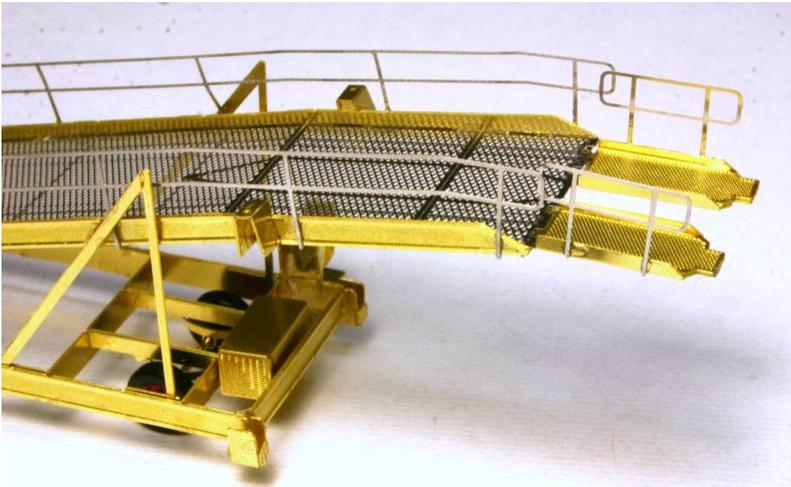
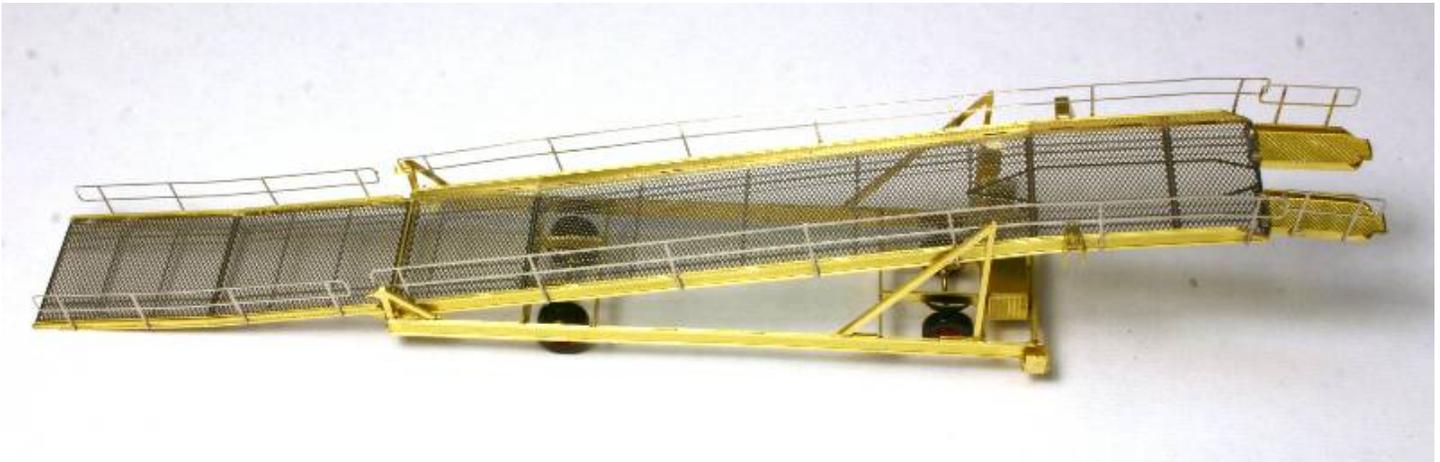
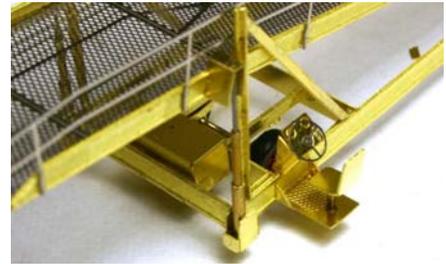
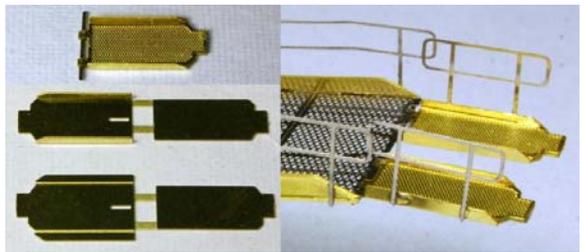


Secure a small length of the small diameter Tubing into the half etched hole on the bottom of the Drivers Chair. Bend the Support Wings of the Drivers Platform AWAY from the bend lines as shown. The Drivers Console has three bends that are made INTO the bend lines where the sides are secured to the top. Secure the Drivers Steering Wheel to the Console.



Secure the Drivers Platform to the side of the Frame as shown. Install and secure the Console from the inside of the Frame. Next, add the Drivers Seat and secure to the Drivers Platform. Trim off excess Tubing.

The Engine Support is secured to the front of the Frame and centered from side to side. The Engine has four bends INTO the bend lines crating a rectangular box. Secure the Engine to the Engine Support.



**TrainCat
Model Sales**

TrainCat Model Sales ♦ 3709 Heron Ridge Lane ♦ Weston, Fl 33331 ♦ sales@traincat2.com