

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.

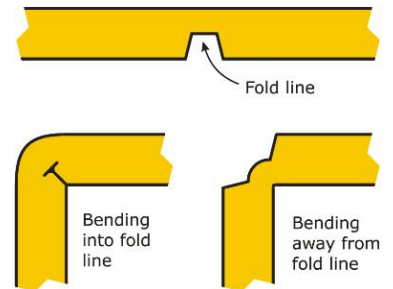
PAINTING BRASS Wash your completed assembly in warm soapy water. If it is really messed up with flux etc. you can clean it with a lacquer thinner first. *Do NOT bake the model if you used CA glue for construction.* This will set the paint to the brass as well as allowing you to paint over parts of it 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.

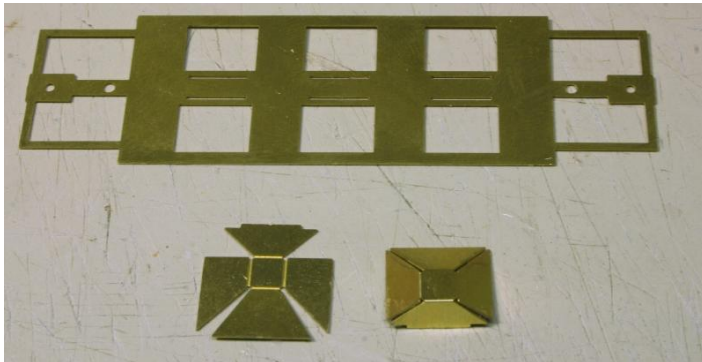
For bends of 135 to 180 degrees, you must bend against the bend line otherwise the two pieces of metal can not lay flat at the bend due to pinching each other. Other times, you bend outward for better positioning of the piece or better display. The ladder on this Caboose build is bent outward to expose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



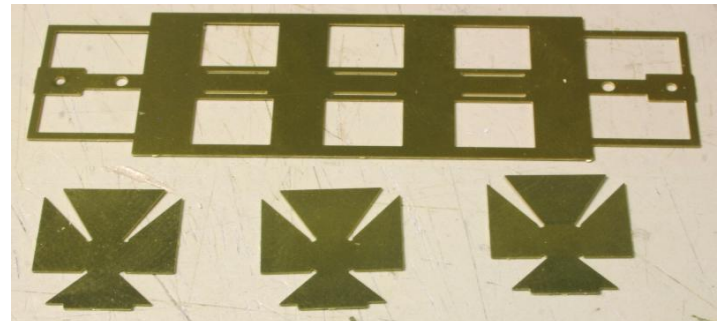
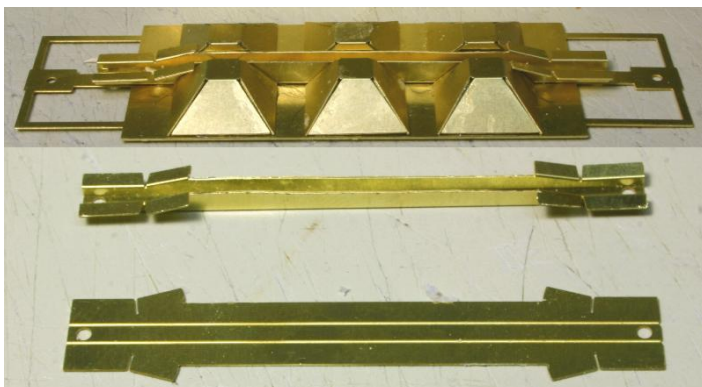
Step #1 – Building The Undercarriage Frame

Begin by removing the Hopper Frame and the six Hopper Chutes. Remove all tie remnants before proceeding.

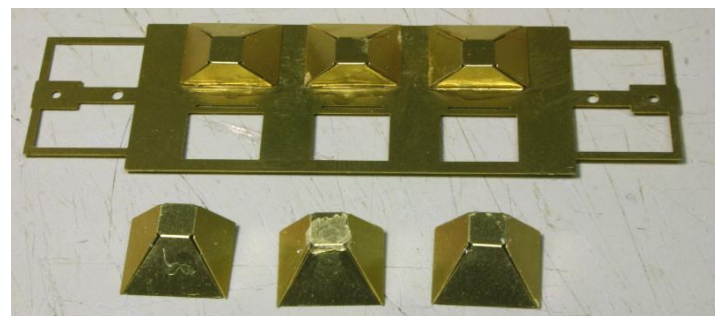
Each Hopper Chute side is bent into the etched bend line starting with the vertical side that has a location tab. Bend this side 90 degrees to the Chute



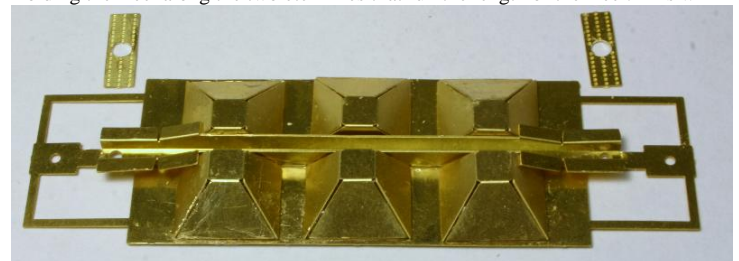
Insert the location tab of the vertical side on the Chute into the Hopper Frame. Secure all six Chutes.



bottom. Next bend the adjacent sides to the angle of the vertical side. Lastly, bend the remaining side. Using glue or solder, secure all joints. Repeat for all Chutes.



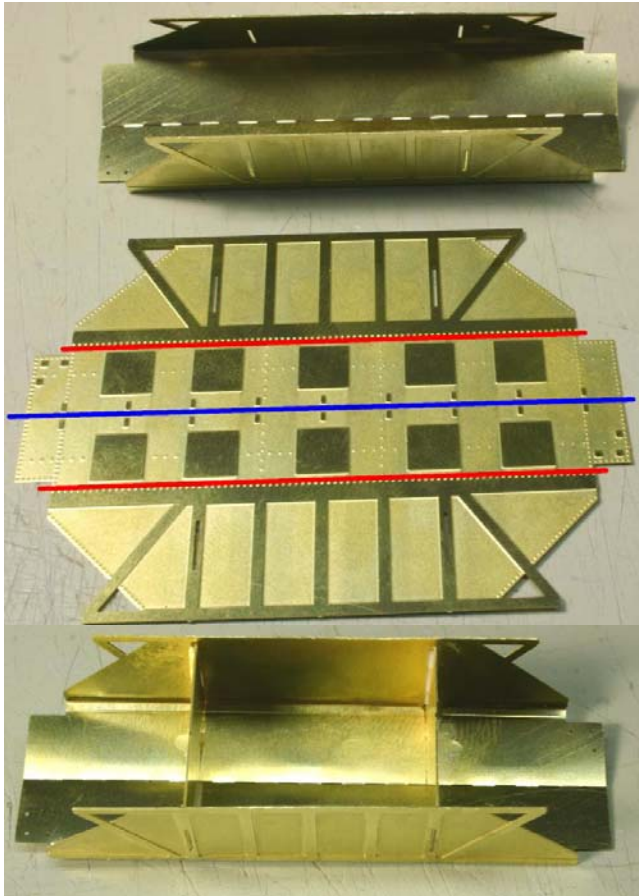
The Frame Keel is a single piece that has etched bend lines on both sides. Begin by folding the Keel along the two etch lines that run the length of the Keel. This will



create a U-shaped assembly.

Next, bend the Keel along the other smaller bend lines to create the flanges for the portion of the Keel that is exposed. Do the angled bends first followed by the flat bends. Study the photo if needed. Secure the Keel between the Hopper Chutes aligning the holes for the Bolster Pins. Add the detailed Bolster Plates to the Keel flanges. Align the Bolster Pin holes. Set the assembly aside for now.

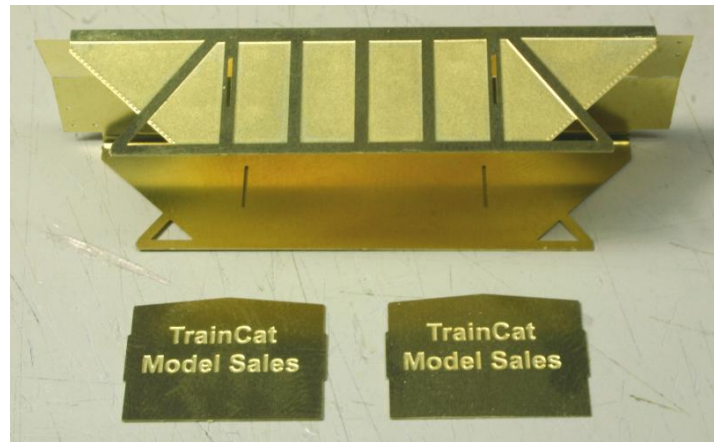
Step #2 – Building The Body Shell



Remove the Body Shell from the sprue and remove all tie remnants. Notice the colored lines indicating where the three bands are. The red lines indicate etched bend lines on the inside of the Shell and the blue line is where the Shell has a dashed line etched all the way through the Shell.

Bend the Shell sides to just less than 90 degrees from the Shell roof. Remember that you will be bending into the etched bend line on the inside of the Shell. Repeat for the other side.

Using the Body Forms as a guide, bend the Shell on the center dashed line to the proper angle. I used a steel rule placed vertically right on the dashed bend line, held one half of the Shell roof to the table and bent the other half of the Shell roof upwards.



Install the Body Forms into Shell from underneath. Each Body Form has tabs on it's sides that fit into slots on the shell. Depending on how well you bent the sides, you may need to file the sharp edges at the top to fill the bend. Secure the Body Forms to the Shell.

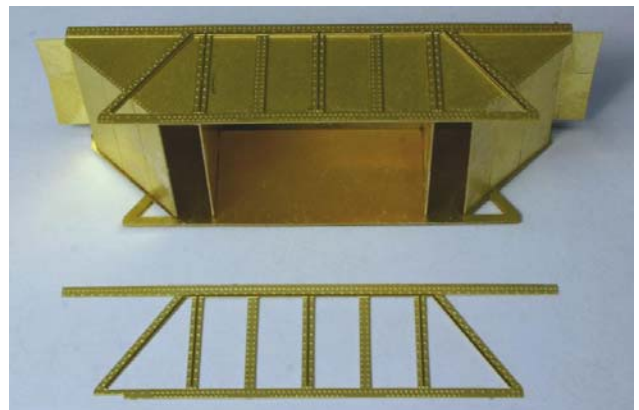
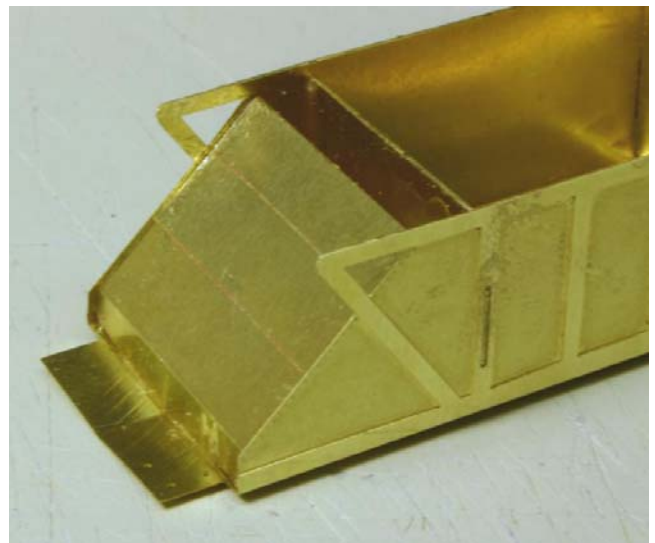
The sloped End Panel has one bend line on the inside of the panel. Bend the End Panel to match the angle of the Sides as shown. Secure the panel once satisfied with the fit. Repeat for the other End Panel.



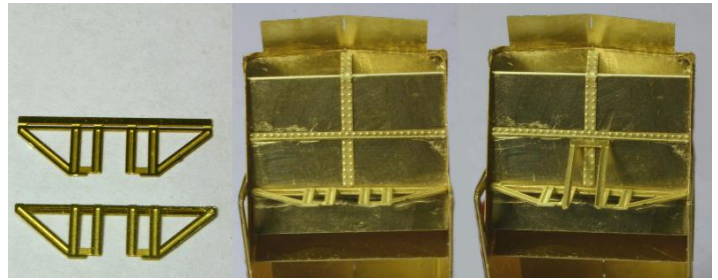
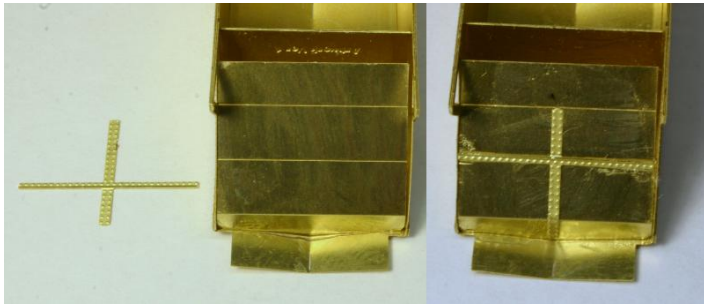
Using care, remove the two side Detail Overlays from the kit sprue and remove all tie remnants. This piece is thin and could be distorted if handled roughly. Add the Detail Overlay onto the Shell Sides over the raised portion.

Both ACC or solder works for detail like this, but I prefer a thick ACC. Using a toothpick, spread a thin layer of thick ACC onto the back of the Detail Overlay for the bottom section, the vertical sections and the diagonal sections. Align the bottom of the Detail Overlay to the Shell and secure. A tissue makes quick work of excessive glue.

Repeat for the other side.

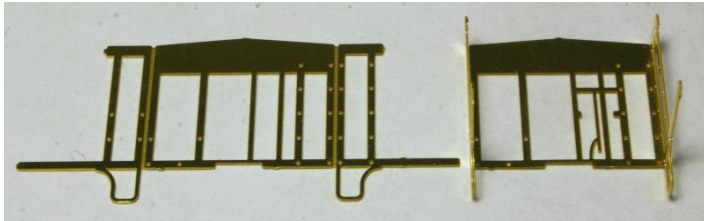


Place the Shell assembly top down. The builder should notice that there are two etched lines on the End Panels. These lines will aid in the placement of End Details and components. Remove the End Rivet Detail from the sprue. The smaller section of the Rivet Detail begins at the first etch line. The full width cross piece is aligned at the second etch line. The longer section continues down the middle, over the bend up to the Roof.



The large End Brace has a doubler that must first be bent to the back of the Brace (front has etched details). Secure the large End Brace to the Shell End Panel on the etch line where the Rivet Detail ends. The large End Brace should have the same angle as the side.

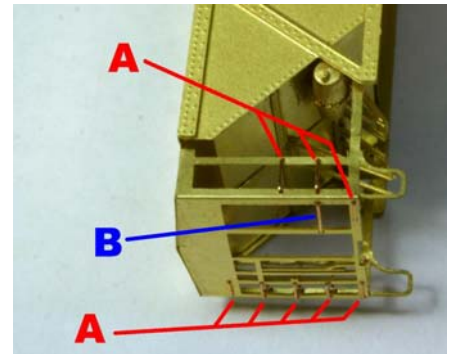
The small End Brace has a notch that allows it to be placed over the Rivet Detail as shown with the etched reliefs facing outward. Add the Air Reservoir. *Although not shown here, newer artwork has a small triangular piece added to the diagonal to simulate the Reservoir support.*



Now is the time to decide which way you will build the End Frame. Both ways have pros & cons.

A) Bend End Frame first then install Grabs. Easy to get a crisp bend in the Frame corner, difficult to install and

trim Grabs at the corners. B) Install Grabs first then bend End Frame; Easier to install and trim Grabs, much more difficult to bend the frame.

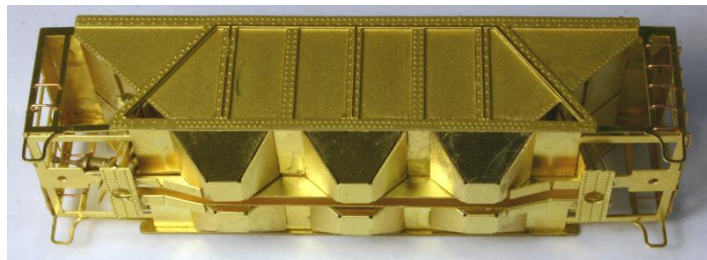


There are two sizes of Grabs on the End Frame. The larger Grab [B] (one) is to be installed in the right hand End.

All other Grabs are the smaller size [A]. For added realism, the builder can use provided .010" wire instead of etched Grabs. The builder should leave off the two bottom Grabs until the bottom Undercarriage Frame is installed.

The two End Frames are slightly different. One End Frame has the Brake Wheel linkage and the supports for the Brake Platform. Be sure that the correct End Frame is secured to the end with the Air Reservoir installed.

Secure the End Frame to the Roof aligning the Frame to the edge of the Roof. Secure the upper side of the Frame to Roof. Ensure the End Frame is perpendicular to the Roof. Do not secure the bottom off end Frame to anything. This must be unsecured until the next step.

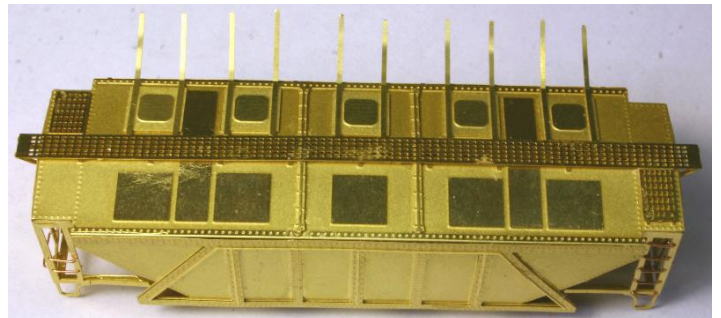
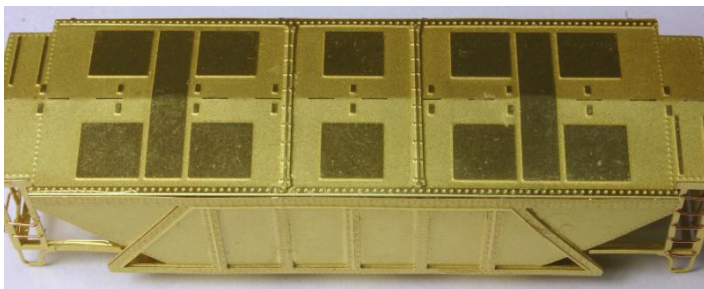


Fit the Undercarriage Frame into the Shell Assembly. The Undercarriage has tabs on the ends that fit into slots on the End Frames. The Keel fits into both small and large End Braces. Use care and take your time to work the Undercarriage into

place and the End Frames are vertical to the Roof and Undercarriage. Once satisfied, begin to secure the Undercarriage to the Shell around the Chutes. Then work out to the End Frames. Be sure that the entire bottom of the End Frame is secured to the Undercarriage. Add the two Grabs at the bottoms of the End Frame that were not installed.

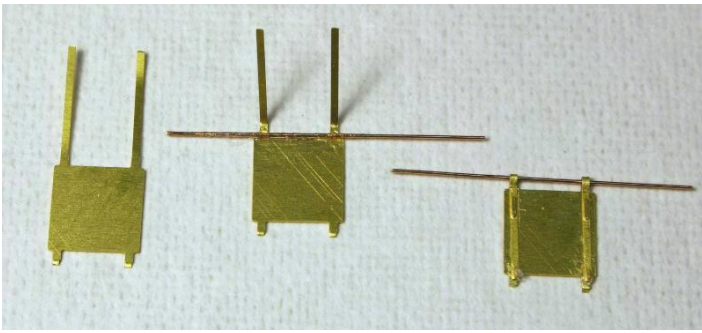
Step #3 – Detailing The Hopper

There are several differences in the H30 and H30 Hoppers. Almost all differences are in roof details. In the following steps, the difference will be pointed out as applicable. If building the H30A, the builder must add two Rib Detail Overlays

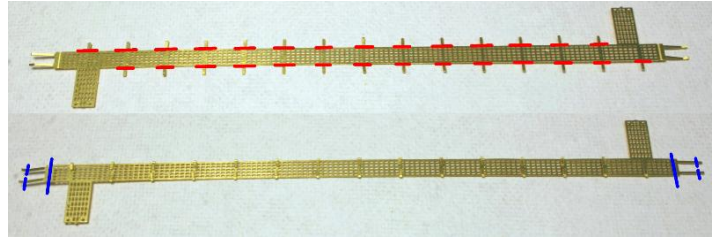


on either side of the center hatch. Although the square pads for the Hatches are the same for either version, the Hatches themselves are different for each version.

Hatches for the H30A have a raised panel in the center. Hatches for the H30 do not. Remove the 10 Hatch Covers from the sprue and clean off all tie remnants. You will also need a length of the supplied .010" wire *equal to the length of the hopper* for each side of Hatches. Please note that the arms of the Hatch have detail on the bottom of the arm. Secure five Hatches on one side of the Roof with the detail on the Hatch arms facing down and the arms to the outside of the Shell. This is done so that when the arms are bent over the wire, the detail will be facing up.



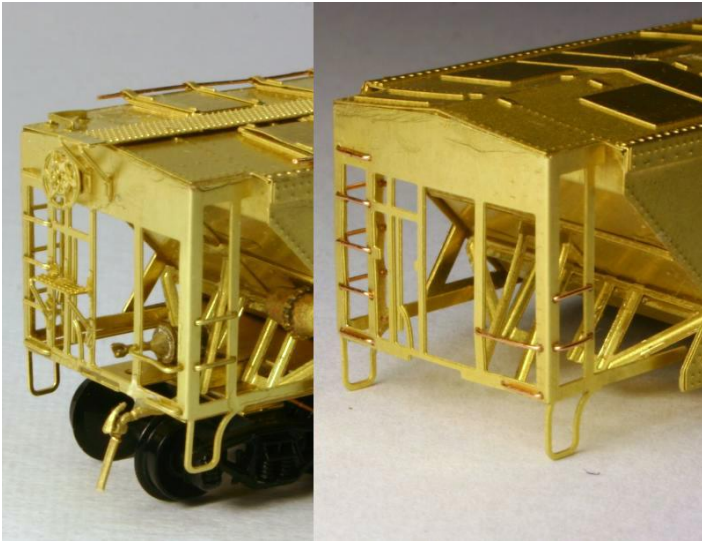
Shown here are the steps on how the Hatch are built. After securing all Hatches on one side of the Roof, secure the .010" Hinge Wire as shown to the arms. Bend the arm over the Hinge Wire. Use a knife blade to wrap the arm around the Hinge Wire. Secure the arm to the Hatch.



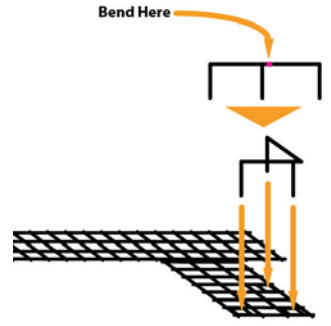
Although the Roofwalks are of different materials for the H30 vs H30A, the basic construction is the same. Begin by placing the Roofwalk on the building surface with etched bend lines for the ends facing up. The bend lines for the supports will face downward. Bend the supports 180 degrees away from the bend line as shown with the read lines on the upper image. These supports are the attach points to the Roof.

The bottom Roofwalk image shows where the bends are for supporting the Roofwalk overhang at the ends.

The H30A has Grabs on the platform of the Roofwalk (The H30 has the same Grabs directly on the Roof at the same location since the H30 has no Roofwalk Platforms).

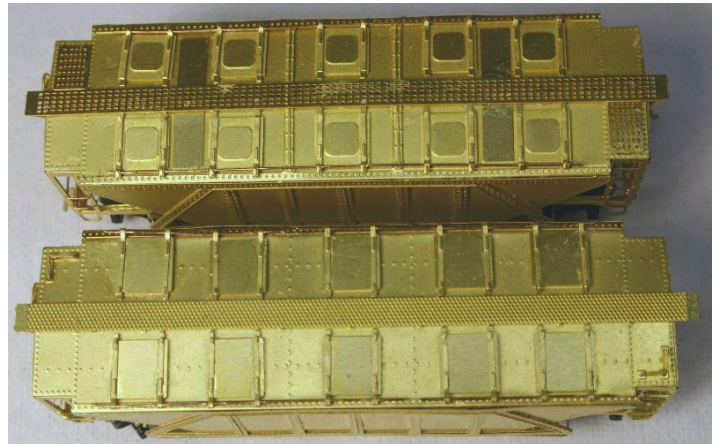


Bend the ends of the Roofwalk 90 degrees into the etch line on the large bend line. Don't worry about the bend on the support arms just yet. Secure the Roofwalk to the Roof by the bent supports under the Roofwalk. Bend the overhang supports until they contact the End Frame. See image before securing.

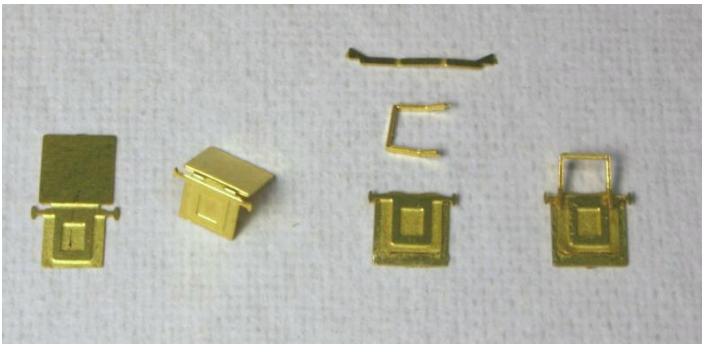


Add the Brake Wheel, Brake Platform and Air Hoses.

Also seen in this image is the Brake Actuator on top of the Keel.



The following sequence shows how to make the Chute Hatches. The Chute Hatch is bent away from the etch line and secured together. Remove the Hatch Bracket and bend into the etch lines to create a U-shaped bracket. Secure the Bracket to the Hatch as shown. Repeat for all Chute Hatches then install onto the bottom of the Chutes as shown.



The kit includes four small triangular pieces that secured to the inside of the Sill to hold the Air Line which is made from the provided .010" wire. Secure the Supports to the Sill and then the Air Line to the Supports.



**TrainCat
Model Sales**