Southern Pacific C-30-4/6 Bay Window Caboose

N-Scale & HO-Scale

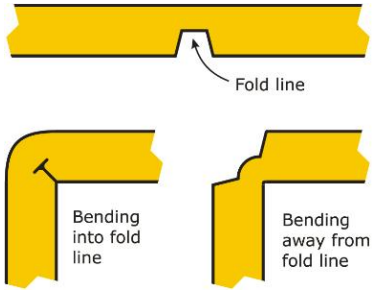
Before Starting

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



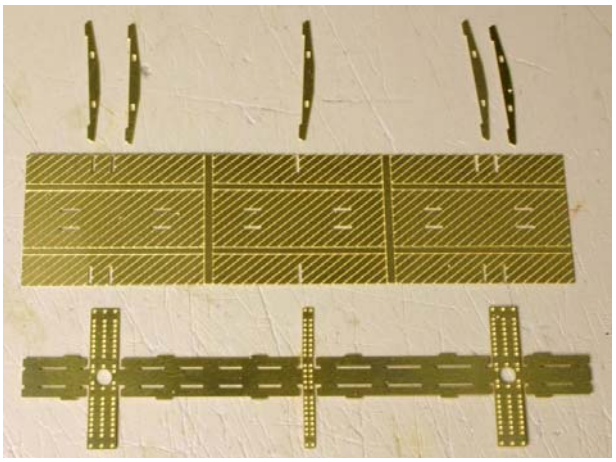
To control where a fold will be, we have put a Fold or Bend line into the design. This line is a small slot that has been etched half-way through the brass sheet at the point of the bend.

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 this Caboose build is bent outward to expose and "pop out" the rungs.

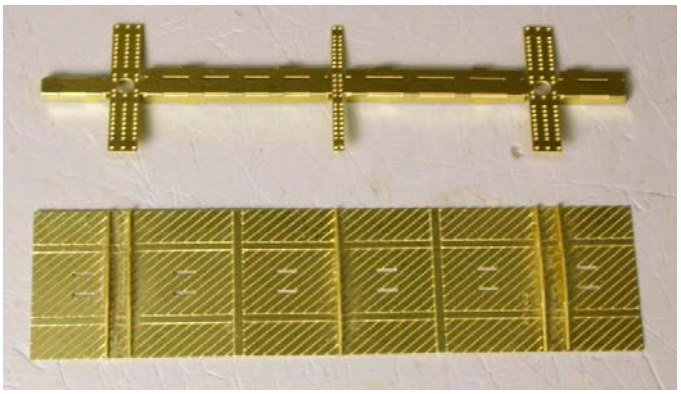
Step #1 – Building The Undercarriage Frame

First place the Outer Floor with the detail facing up. Get together all of the other components; I-Beam Webs A & B, I-Beam Cap Strips, Bolster Ribs & Plates, Air Line.

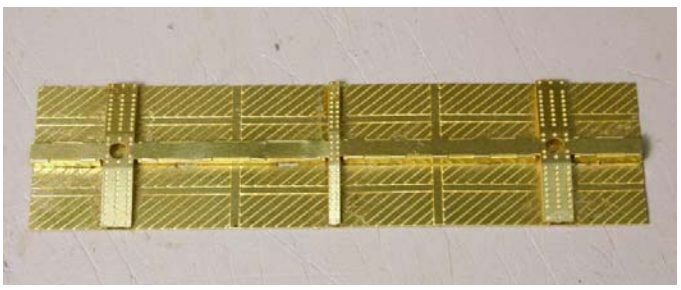


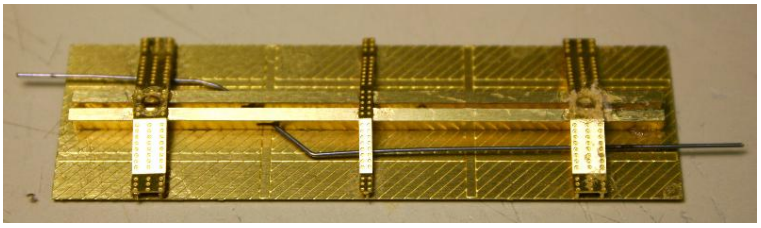
Secure the two I-Beam Webs to the center of the Outer Floor. Bend the Air Hose in a "Z" bend to fit the angle in the I-Beam Webs. Install the Air Hose.

Add the Bolster Ribs by sliding the slots in the Ribs into the slots in the I-Beam Web. Secure the Ribs to the Outer Floor.



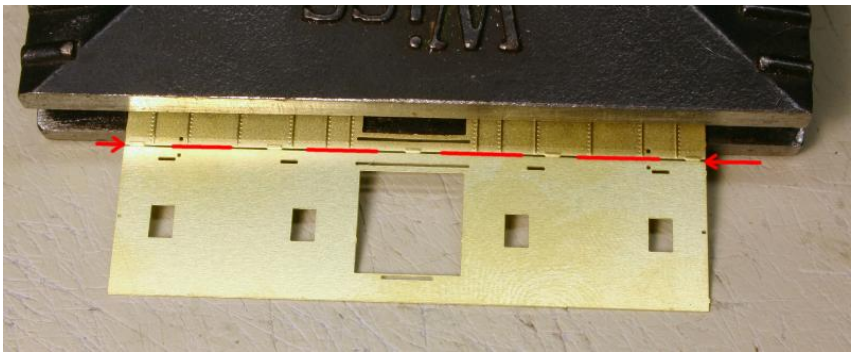
Set aside for now.

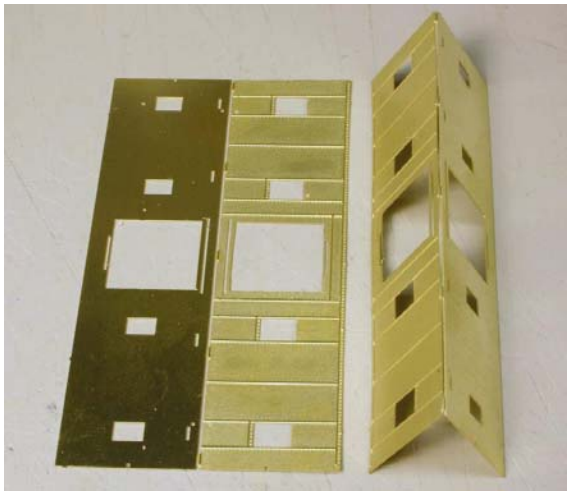




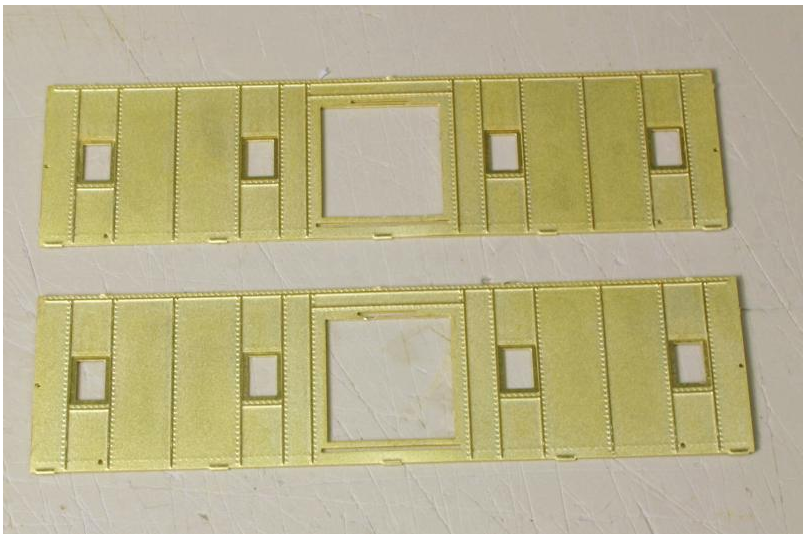
Step #2 – Building The Body Shell

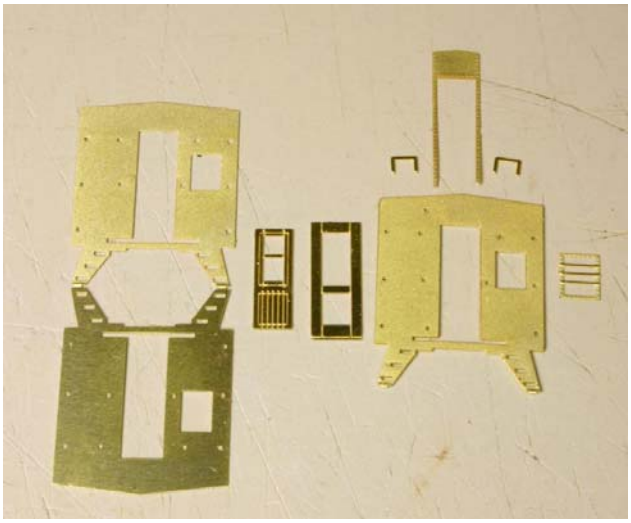
Remove the basic shell sections; Sides, Ends And Inner Floor. The Sides & Ends fold with a solid back and a half-etched detail outer layer. Each Side and End has a bend line that separates the two end halves. Begin by folding the Sides and Ends along the bend line. Here, you will be bending *against* the bend line. Ensure that all holes are aligned and secure the two halves together.





When the Side and End halves are folded together, you can begin to see the layers of details.



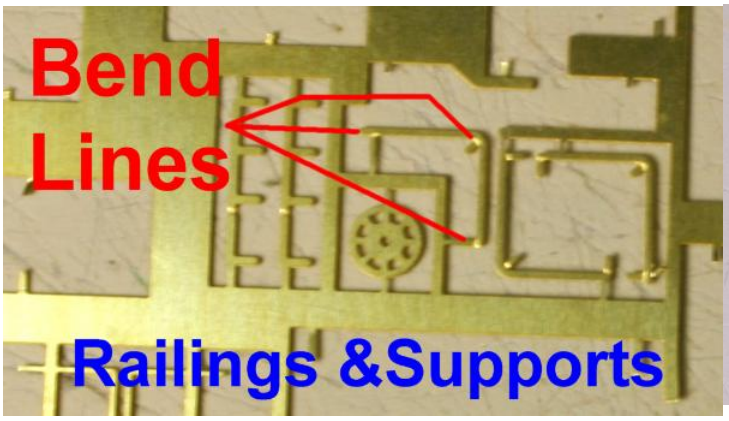


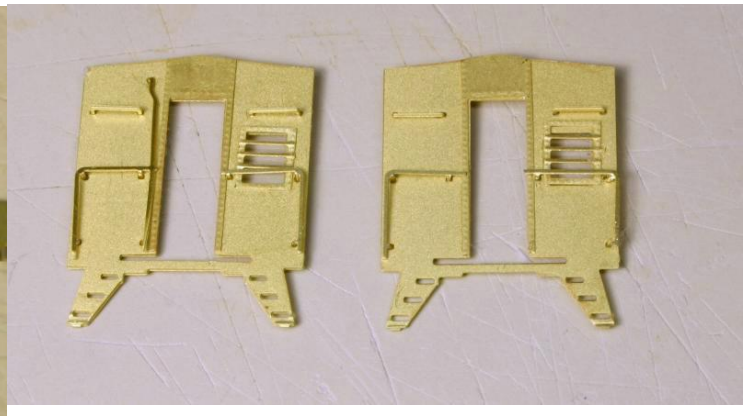
Secure the window grating over the window opening. Secure the door jam to the outer side of the end over the door opening. Secure the grabs from the inside of the End Panel.

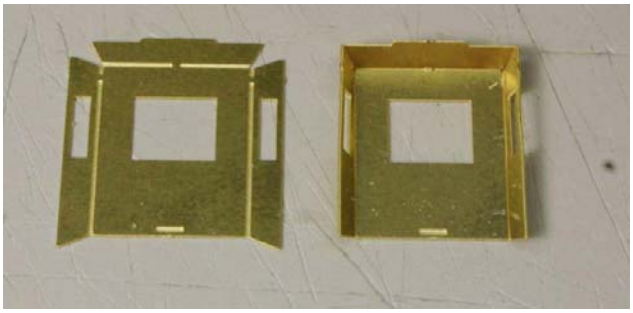
Install two "Large" grabs near the top of the doorway. The caboose ends are slightly different. Each ends has it's own type of end Railings. More on that in a minute.

What both types of Railings have in common is how they are designed and how they are attached to the caboose. Each Railing has a small support that must be bent 90 degrees to the Railing and then inserted in the appropriate hole. The supports are bent *against* the etched bend line. Study the photo.

There are three "L" railings and one "h" shaped railing. Use the "h" railing on the end that has a hole above and left of the end door. Use a pair of tweezers and bend the Railing supports 90 *against* the bend line. The Railings are different in that you bend the support away from the bend line instead of into the bend line.
Secure the railings to the caboose end. These tabs fit into the openings as shown. You may have to use a drill/pin vise if these holes are clogged with glue or solder.





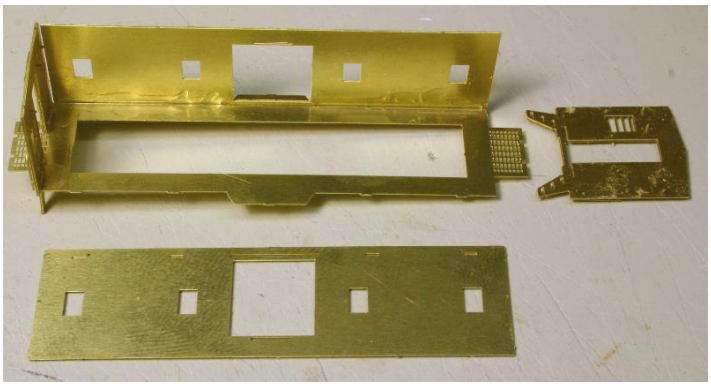


Begin the assembly of the Shell by removing the Bay Window from the sprue and bend the sides and top until the angles meet. Secure the joint from the inside and set aside.

The Inner Floor has tabs that go into slots on the back of the Sides. Begin attaching the first Side to the Floor.

Slide the Landing through the slot on the End and secure the End to both the Inner Floor and the First Side. Secure the caboose Sides to the Ends.

Important Note:
*Ensure that there is **NO** gap between the two halves of the Sides and Ends, especially at the sides. A gap at the sides would cause a bulky corner joint and the covering Corner Fascia will not look correct in later steps. A modification to the final kit has the center of the Inner Floor open for access from underneath the caboose. The means to secure the Outer Floor to the Body Shell is left to the builder.*

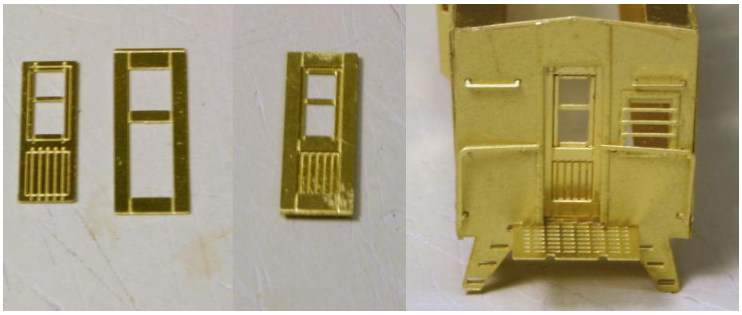


Continue attaching the second Side and End to the Inner Floor.

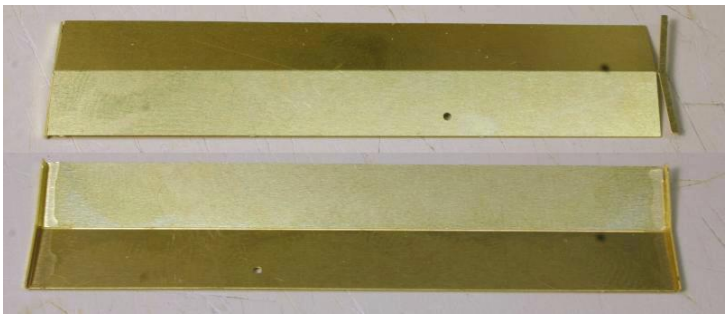
Add the Sub-Roof sections. These sections are to be installed at the top of the caboose Sides following the Roof angle of the End Panels. Secure both Sub-Roofs.

The End Doors are two layers that need to be assembled. Place door assembly in the End Panel door opening and ensure that the Door is centered. Secure the Door to the End Panel..

Once the doors are built, install the doors into opening from the inside. If you are going to paint or add details, do it now because the next steps will seal it tight.

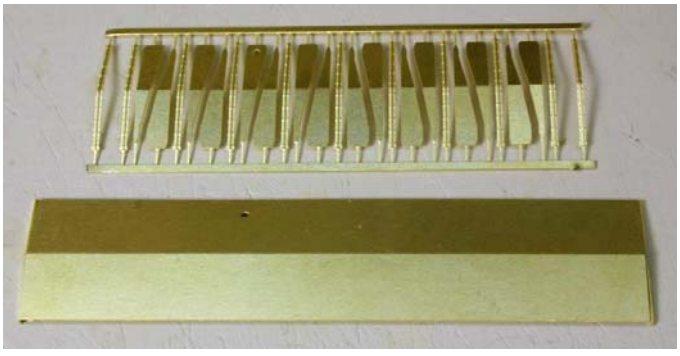


Step #3 – Detailing and Attaching The Roof



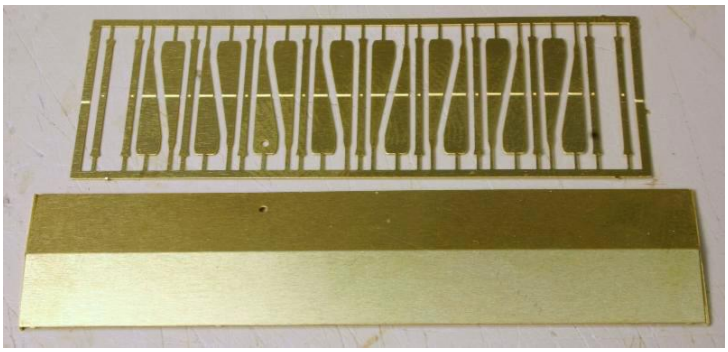
Remove the Roof from the sprue and clean off all tie remnants. Bend the Roof into the etched bend line using the End Fascia as a guide. Once satisfied, secure the End Fascia to the Roof.

If building the C-30-4 Smooth Roof version, these next steps can be skipped. The Roof detail for the C-30-6 version is a separately applied piece

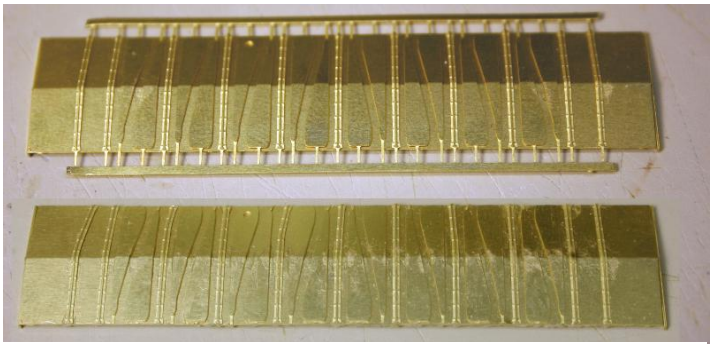


Begin by bending the entire detail into the etched bend line to meet the Roof angle. Remove the ends of the sprue.

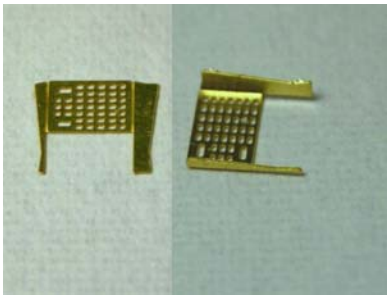
Carefully place the Roof Detail on the Roof aligning the smokestack hole. Secure the detail to the Roof using thick CA glue and a toothpick.



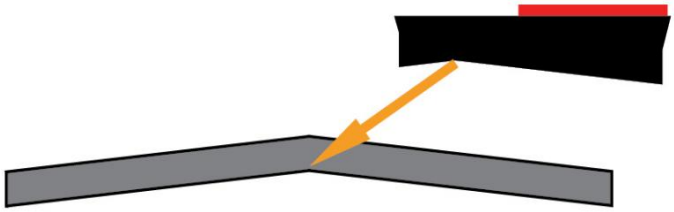
Trim the ties off the Details and clean up any imperfections. Secure the Roof to the Shell assembly centering the Roof in all directions.



The Roof Decks that hold the Stairs are next. This piece has two different sized sides that must be folded 90 degrees into the etch line.

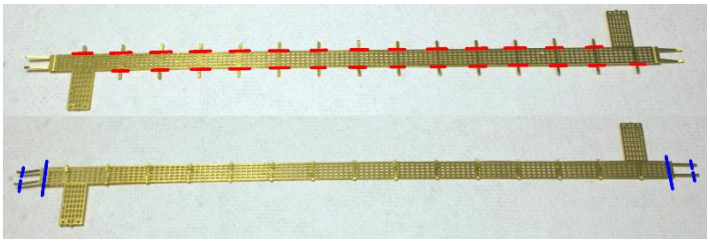


The larger Deck side is shaped to fit the bottom contour of the Roof Eve. The larger Deck side is secured over the Roof Eve.



The smaller Deck side sits atop the Roof. The rectangular holes in the top of the Deck is where the Stairs are secured.

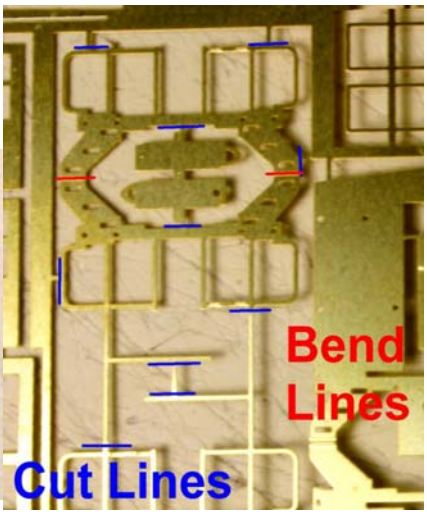
Begin by placing the Roofwalk on the building surface with etched bend lines for the ends facing up. The bend lines for the supports will face downward. Bend the supports 180 degrees away from the bend line as shown with the read lines on the upper image. These supports are the attach points to the Roof.



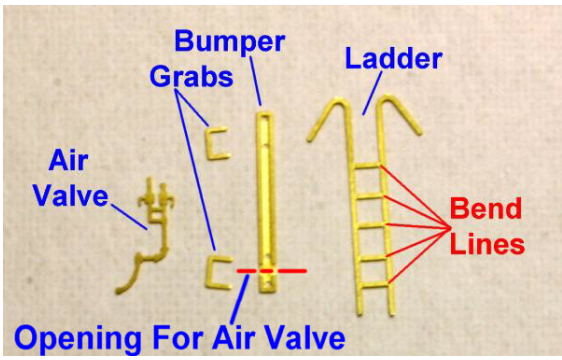
Bend the ends of the Roofwalk 90 degrees into the etch line on the large bend line. Don't worry about the bend on the support arms just yet. Secure the Roofwalk to the Roof by the bent supports under the Roofwalk. Bend the overhang supports until they contact the Roof Eve and then bend the remaining Support behind the Roof Eve and secure.

Step #4 – Detailing The Caboose Ends

Study the photo for the End Railings. The blue lines indicate where to cut attachments. The red lines show where to find the half etched bend lines. End Railings are also different in that you bend the two halves away from the bend line instead of into the bend line.



Time to add the Steps. Remove then from the sprue. Notice the ends of the Steps have tabs and the Stair Braces have notches. The Stair tabs are handed. One tab is slightly (.005") wider that the other tab. The Wider tab will go into the notch of the caboose End. The smaller tab will go into the notch of the End Railing.



The End Railing goes up under the Porch Landing with the two center Stanchions going into the notches in the Landings. Secure the End Railing to the Landing. Secure the upright to the Roof Fascia.

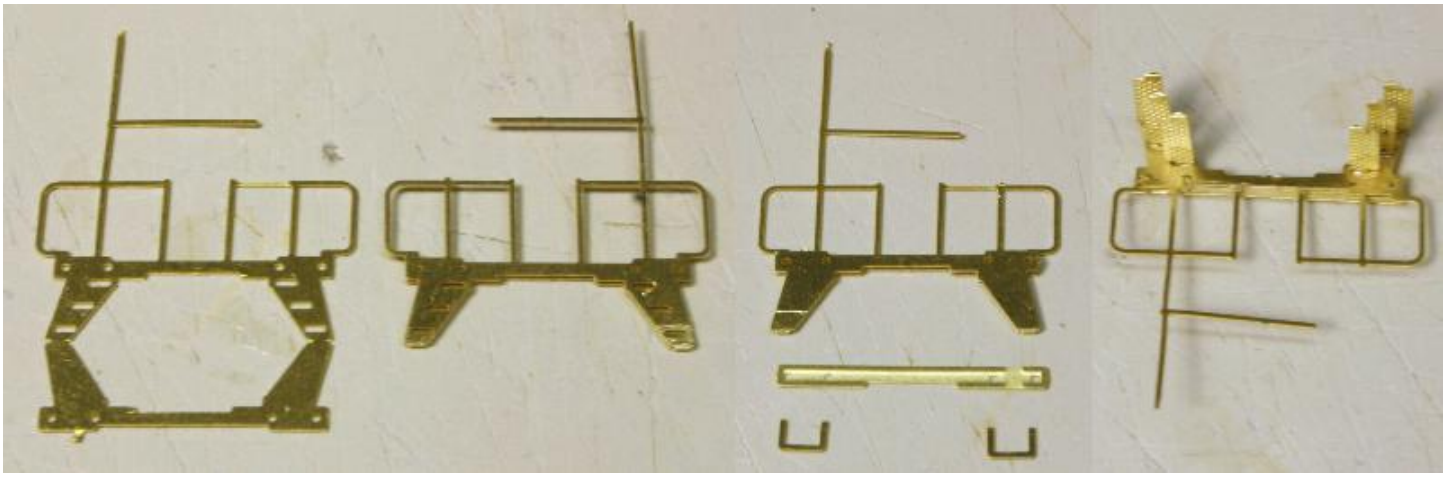
Place the tabs of the Steps into the notches of the Stair Braces. Secure them.

Retrieve the following parts; Air Valve, Bumper, Small Grabs(2), Ladder and a length of etched Chain. Begin by bending the vertical pieces of the Ladder on the bend lines. The Ladder is different in that you bend the vertical piece *against* the bend line instead of into the bend line.

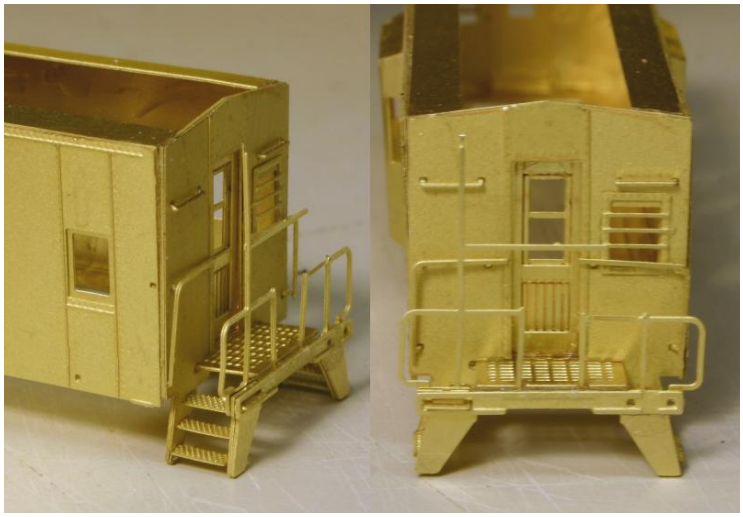
Look where the Ladder will go into the End Railing. Trim enough of the Railing away using rail nippers to fit the Ladder. Secure the Ladder first up top on the Roof Walkway, then secure to the Railing. Secure the horizontal bar to the Ladder.

Secure a length of chain across the center opening of the Railing.

The builder should have noticed a opening for the pipe from the Air Valve to pass through the Bumper. This goes on the right side of the caboose. Place the two Small Grabs in the Bumper and then place the Bumper on the caboose. Secure the Bumper on the LEFT SIDE ONLY. Once secure, remove the right Grab and secure the Air



Valve to the Railing. The down pipe of the Air Valve should go through the opening in the Bumper. Once secure, re-install the Small Grab into the Bumper over the down pipe.

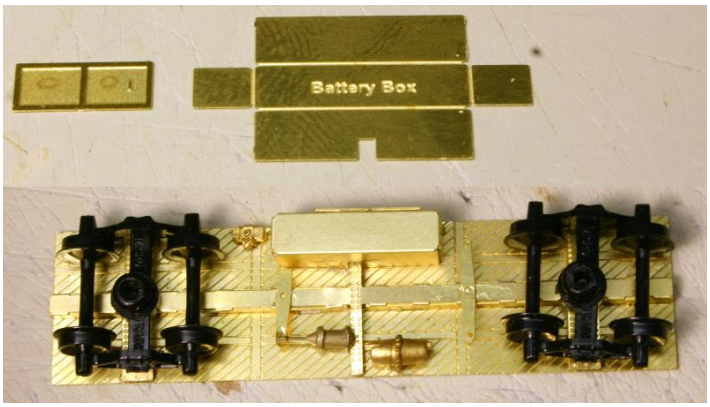


Step #5 – Detailing The Undercarriage

Using the supplied castings, etched brass arms and .008 brass wire, install the Brake System using the diagram. The Reservoir, Brake Actuator and Selector Valve are castings. The actuator Arms are etched brass.

The Coupler plates are mounted under the End Landing. Secure the Z-Scale coupler to the Coupler Plate after it has been secured to the Caboose.

The Trucks are mounted to the bolster using a kingpin provided by the builder. The supplied Bolster hole will accommodate either a Atlas or Micro-Trains plastic Kingpin. The user may have to drill through the I-Beam Cap Strips for the Kingpin.



Secure the Outer Floor with details to the Inner Floor of the caboose.

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