Bethlehem Flush Deck TOFC



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.

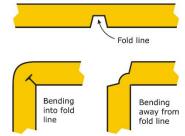
GLUING BRASS Instant super glues, Cyanoacrylate, CA for short, are very prominent in model building today. They will work perfectly with brass, and they are instant. We recommend a thick CA glue such as "**Zap-A-Gap**" from Pacer Technology. As I have also been building R/C airplanes for over 33 years,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



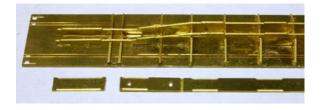
Step #1 – Building Car Frame

Remove the Frame Base and the 17 Ribs from the kit sprue; 4ea of #1 Rib, 2ea of #2 Rib and 11ea of #3 Rib. On the Frame Base, there is etched in "LB" and "RB" which stands for Left Bottom and Right Bottom. Place the Base on the building surface with the etched LB & RB facing



Begin securing the #1 Ribs into the two slots on each end of the Frame Base. Ensure the Rib is flush with the Frame Base before securing. Continue securing all Ribs on to the Base

Remove the two Keels from the sprue. The builder should notice that the two Keels have "L" and "R" etched in to them. The "L" goes with "LB" and "R" with "RB". Push the Keels so their slots engage the slots in the Ribs. Make sure the etched "L" & "R" are on the inside. Tabs on the Keel will engage slots on the Frame Base. Secure the Keels to the Base and Ribs.





the Bolster Capstrips.

Clean off all tie remnants from the three Keel Capstrips. The tabs on the Keels will go into the half-etched slots on the Capstrips. Secure the two end Caps first. The center Capstrip has two bend lines. Bend the ends of the Center Cap INTO the bend line and secure to the Keels. Install

The Top Deck comes with the sides pre-bent. The Ends of the Top Deck must be bent 90 degrees by bending INTO the bend line. Bend one End to 90 degrees and leave the other

using the diagram above.

End unbent. Lay the Top Deck down on the building surface with the pre-bent sides and the one End facing up. The Frame Base is then slid in between the Frame Base sides (do not secure the Frame Base to the Top Deck yet). Slide the Frame Base up against the bent End. Bend the other End to 90 degrees to lock the Frame Base in. Secure the Frame Base to the Top Deck.

Place the Stirrups into the corner slots and secure them. Add the two Grab Irons to the End and then the two Grab Irons to the corner side of the Top Deck. Secure your favorite Truck at this point.



Install the Brake Castings as shown. The Air Reservoir is mounted to a Holding Stand which is bent as shown. Piping and rods are done with the .010 phosphor bronze wire that has been provided.

The three Bellcranks have a built-in mounting bracket that must be bent 90 degrees downward. Once bent, mount as shown.

The small Bellcrank is for the Actuator while the two long Bellcranks are mounted to the car Side and extend into the slots of the Keel.



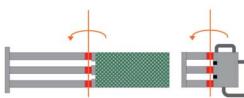




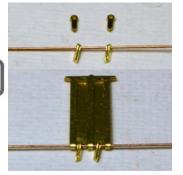
Secure the Upper End Ladders to the right corner of each Side, and a Grab Iron on the left of each Side

Secure the center Rub Rails to the Top Deck bending the ends of the Rails inward.





Long Ramps are attached to the left of each Side while



Optional: The two styles of Ramps are half-etched in the center where the Hinge Wire will fit into the recess. Place two Hinges onto a piece of .010 wire. Place the Hinges into the openings of the Ramp such that the Wire is recessed into the half-etched area. Fold the halves of the Ramp 180 degrees holding the Hinge Wire in place. Secure the Ramp haves together ensuring the hinges are still free to move.

the Short Ramps are secured to the right of each Side.



