Louisville & Nashville Railroad Historical Society

With

Southbound Model Works and Decal Company

Presents

Louisville & Nashville Railroad Company

Bay Window Caboose Kit

Thank You for purchasing this kit!

If this kit looks familiar, that's because it is! With the closure of Wright Trak Railroad Models, The Louisville and Nashville Railroad Historical Society was given an opportunity to secure the ownership of the L&N RR Bay Window Caboose Kit and rights to offer the kit for sale to members and non-members of the Society. An agreement was negotiated with South Bound Model Works and Decal Company to cast the kit from the original master patterns and the kit you now own is the result of this negotiated agreement. As the sole owner of the master patterns, The Louisville & Nashville Railroad Historical Society is the only source for purchasing this kit. Members receive a discounted price when purchasing the kit. There are a number of improvements to the kit including correction of the etched lateral walkway support and non-riveted window blank etched parts. Needed repairs were made to the master pattern by SBMW so that we can get the best castings for this kit. The kit remains a craftsman kit, but, as a means of allowing the society to offer the best purchase price available, only the cast and etched parts will come with the kit. A complete list of parts to build the kit in any of the five versions is included in the following instructions for building the kit. Assisting with the construction of your L & N Bay Window Caboose Kit, on the following pages you will find steps to build this kit with each step showing photographs of the steps in progress. The instructions will also have optional steps for the advanced modeler to not only build, but super-detail the model. There will also be version specific notes to help you as you go along. So, relax and enjoy your journey building this next generation model of the Louisville & Nashville Railroad's Bay Window Caboose Kit.

Prototype History:

In the November 1963 issue of the "L&N Magazine", an article appeared titled "Brand New Gray Caboose Behind the Train". The subtitle read "New South Louisville-built "cabs" will augment L&N's big fleet of "little red cabooses". A photo of the prototype caboose #1001, the second in this new series of cabooses appeared in this article. The first, #1000 was taller in body and featured an odd cupola and bay window combination which was rejected for the final design (it was later released sans cupola and due to the difference in height, was noticeably different in appearance than its successors). #1001 was inspected by various members of the current L&N operating staff and union brotherhood representatives for approval. The cab featured light blue (possibly robin's egg blue that faded toward a light green due to age and tobacco smoke exposure) interior walls and ceiling, maroon floor, and brown and/or black upholstery. These cabs included such modern conveniences as electric lights, oil fired heater with thermostat control, an ice cooler with compartments for food storage, two way train radio equipment, and running water. The 1001 was the first of 199 cabooses in this first production run from South Louisville Shops which consisted of cabooses 1001-1199. As delivered, these cabooses were painted a light gray with red lettering and numbers, with yellow grab irons, end railings, ladders, overhanging portion of running board and running board end supports, steps (all around), end sills, and end roof fascia. The side and larger bay windows at this time had screens applied which were mostly removed by the simple gray painted era. The underframe and trucks were black. The L&N used reflective type "paddle" markers on these cabooses. These were painted yellow on one side and red on the other. While on the main track with a train, the "paddles" showed red to the rear and yellow to the front whenever the train was occupying the main track. When clear of the main track, they were supposed to be reversed, showing yellow to the rear. After about a year or so in service, the yellow paint was removed from the running board ends and supports, the roof end fascia, platform and platform end sills. The steps were still mostly painted yellow, but the portions above the level of the inside middle steps were painted gray. By approximately 1971, L&N switched from gray to red as the standard color for the cabooses. Window frames were stainless steel. Various styles of yellow letters and numbers were used and still later, the number series' were changed from the original 1000-1099 to 6000-6099 to avoid conflicts and confusion with some of the road's diesel locomotives that carried the same number series. When the cabooses were painted red, the grab irons were still painted yellow as were the end rails and ladders. The step treads were still painted all yellow, however the ends of the steps were painted yellow only up to the level of the inside middle step (consult photos) with the remaining area painted red. The underbody remained black. In the mid 70's the running boards were removed from most all of these cabooses and the top two ladder rungs on the end railings were also removed to eliminate access to the roof.

As the Federal Railway Administration (FRA) mandated the use of bullet resistant safety glass in the mid 70's, the L&N began to look for a more economical way to meet the requirements and they chose to simply cover over side windows with steel plate rather than replace them with expensive safety glass. Not all windows were plated over at the same time (evidence the window at the furnace). Consult photos of the prototype to determine which, if any, windows you may wish to cover with included window blanks. In previous releases of this kit, the blanks insinuated that they were riveted to the body. Photo evidence of observed caboose windows that were blanked mostly show that the blanks were welded to the bodies and not riveted. There could be some that had riveted window blanks and if you want your model to represent this, numerous parts from previous kit releases are out there. You can ask around to other L&N modelers who would be more than happy to share these with you.

In 1979, the FRA also ruled that reflective metal markers were neither safe nor efficient for use as markers and mandated that railroads equip their cabooses with highly visible roof end electric markers. L&N complied and a simple red light marker was installed on the center of the end of the roof. The rules called for light to be of either the steady lit or flashing variety and could be either yellow or red.

(Narrative continues on Page 4.)

L&N CABOOSE #1137 E.ST.LOUIS ILL. AUG.1965 JIM PARKER PHOTO

On the prototype, these were powered by battery which was charged by an axle-pulley generator system located on the underframe. Most of these generators were already in place for interior lighting and the marker light electrical draw did not add significantly to the electrical load on the caboose system. Unfortunately this feature is not available on this kit. If your modeling era is after 1979, a red MV lens of the appropriate size will work best. Alternately, you may choose to use an appropriately sized red jewel instead of the MV lenses. .

By the time these cabooses were ready for retirement, most, if not all of the side glass was replaced with steel plates (with the exception of the bay window and door windows). Again we HIGHLY suggest consulting prototype photos when assembling, painting and decaling this caboose. For reference, **MC-4105 Louisville & Nashville (L&N) Cabooses 1963-1980** for decals is available from Microscale Industries, but there are other firms with decal sets, though maybe not as complete as these' If you should run into problems while working with this kit, we will be happy to provide consulting for you free of charge. Also, for a fee, your caboose can be custom built to your choice of era. To find out more, contact us through our website: http://www.lnrr.org or write us at: L&N Railroad Historical Society, 401 Kentucky Street, Bowling Green, KY 42101. If writing us, please be patient while awaiting return correspondence as we are a volunteer organization and do not staff this address 24/7.We hope you enjoy building this L&N Bay Window Caboose kit.

We would like to give thanks and credit for use of prototype photos to Steve Johnson, Allen Hicks, Jim Parker, Larry Platt, and Andre Vanvooren. If we have missed anyone, the omission was not intentional.

The L&NHS Modeling Committee wishes to thank member Rusty Evans on writing the most comprehensive set of kit instructions we have ever seen for any model railroad kit. We trust purchasers will agree and the society thanks you for supporting the efforts to produce this kit. You may find other information pertinent to the Louisville & Nashville Railroad on our webpage, www.lnrr.org.

Kit Information:

As mentioned previously, this is a craftsman kit. It is not impossible to build, but does require some skill and patience when building. This kit was produced previously by Wright Trak Railroad Models and was considered a complete kit, which included, trucks, wire and other miscellaneous items to assist in building. This version is being produced by Southbound Model Works and Decal Company and remains a high quality kit. As produced, this kit includes polyurethane resin cast parts and stainless steel etched parts **ONLY**. This was done to help save on production costs in order for us to offer this kit to you at a reasonable price. It will be necessary for you to provide any additional parts that are required to make this a complete kit. These additional parts include but are not limited to:

Additional Part	Recommended Manufacturer	Manuf. Part Number
Bettendorf Freight Truck	Tichy Train Group	293-3024
Bettendorf Caboose Truck	Tichy Train Group	293-3051
.010” Phosphor Bronze Wire	Tichy Train Group	293-1101
.0125” Phosphor Bronze Wire	Tichy Train Group	293-1106
.015” Phosphor Bronze Wire	Tichy Train Group	293-1102
.020” Phosphor Bronze Wire	Tichy Train Group	293-1103
AB Brake Set	Tichy Train Group	293-3013
33” Normal Tread Code 110	Tangent Scale Models	118
33” Semi Scale Tread Code 88	Tangent Scale Models	127
#178 HO Scale Whisker Metal Couplers and gear box	Kadee	380-178
.005" Clear Oriented Polystyrene Sheet	Evergreen Scale Models	269-9005
.010” x .020” Styrene Strips	Evergreen Scale Models	269-100
Round Aluminum Tube 1/16 x. 014	K&S	370-8100
Short 2-56 Steel or aluminum Screws	Your Choice Manufacturer	----
L&N Caboose Mini-cal	Microscale Industries	460-4105
Micro Set Decal Solution	Microscale Industries	460-104
Micro Sol Decal Solution	Microscale Industries	460-105

Some of these items you may already have in your workshop and others, since only small amounts are needed, you could barter from fellow model railroaders. All of these items may not be necessary due to the amount of detail or era you are modeling.

Era Specific Modeling of This Kit:

As you may have noticed on the Cover Page and from the History discussion, there were at least five versions of the L&N only caboose. These instructions do not cover the Family Lines nor Seaboard System L&N version cabooses, but these kit building instructions could be used to build those versions. Paint and decals of the Family Lines and Seaboard System versions will not be addressed here.

Versions that we will cover in these instructions include (by era):

Approximately 1963-1966 Gray with yellow trim caboose, yellow roof ends, platforms and steps.

Approximately 1966-1969 Gray with yellow platforms, grabs step treads and lower portions of the steps.

Approximately 1969-1974 Red with yellow grabs and platform railings. May have had round red and yellow rotating end reflective markers. Also, outer portions of the upper portion of steps were red and the lower outer portions and treads on steps were yellow.

Mid 1970's Same as red above except roof walks were removed.

Mid 1970's In addition to the removal of the roof walks, some of the cabooses were stripped and renumbered to two and three number series to become local cabooses. Three of these stripped cabooses had experimental solar panels. For a list of re-numberings to this version, refer to L&N Color Guide to Freight and Passenger Equipment, Volume 2 (Out of print-there is a computer version available).

Stencils:

Related to the above prototype information is the stenciling which includes lettering, numerals, safety banners/heralds, equipment description, lubrication (including COTS) and safety warnings. The easy part to remember is that red lettering and numerals went with the gray painted cabooses. Either of the yellow lettering and numerals (era specific) went with the red painted cabooses. As general rule, the following stencil measurements applied:

Large lettering regardless of color- 18"

Large numerals regardless of color – 18"

Safety Banner/Herald regardless of color scheme– 15"

Lubrication squares – 15"

Step safety lettering regardless of scheme – 3"

Brake and SLS lettering regardless of color – 2"

Suggested Supplemental Parts:

Now that you are aware of the different versions this kit can be modeled after, you may find the need to obtain some additional supplementary detail parts.

For paint, other than the body color which will be determined by the operating era you choose and yellow for the steps and grabs, you will need a light blue (or robin's egg blue) for painting the interior or for later eras, a light gray/green for the same, the underframe will be painted black regardless of era. You may possibly need some silver paint. The choice of paint manufacturer should be determined by your comfort level with the paint and experience with airbrush painting. Should you choose, you may also brush paint your kit.

NOTE: Do not purchase these parts unless OPTIONAL instructions indicate need!

Detail Parts:	Manufacturer:	Manuf. Part Number:
Black chain (40 links per inch)	A-Line	119-29219
Eyebolts	Detail Associates	229-2206*
17” scale grab irons	Your Favorite Manuf.	----------*

Thin narrow bar stock/etched parts sprue scrap

* **Many Detail Associates products are listed as unavailable. Try other manufacturers.**

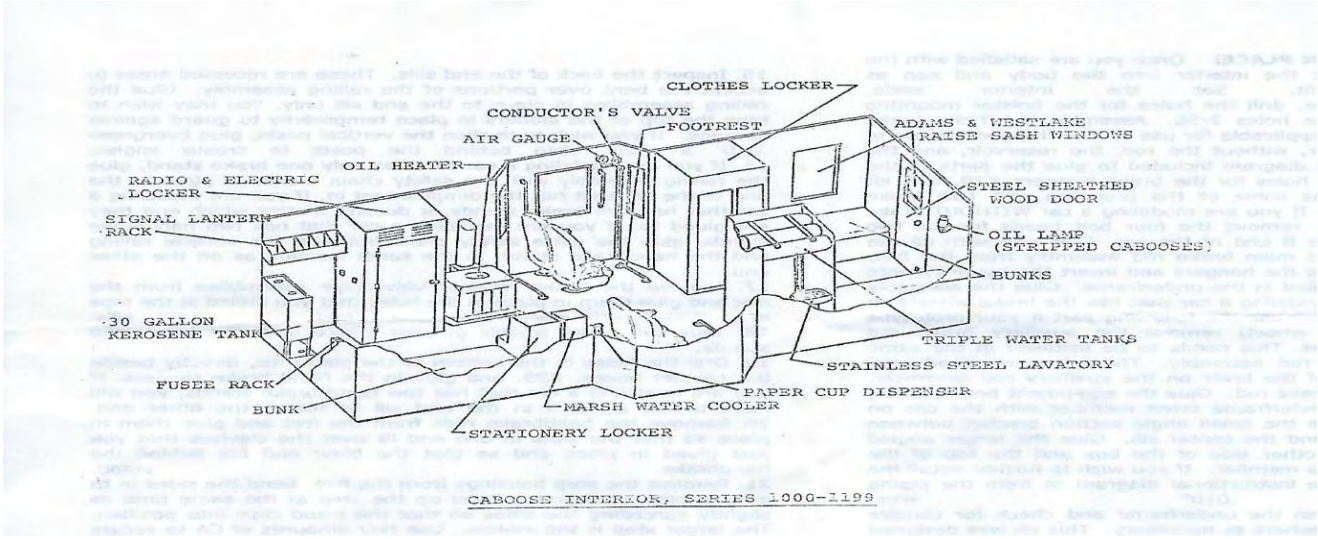
The etched parts sprues include small eyebolts. These should work in the event some are needed and the Detail Associates parts are not available.

Prototype Interior Information and Drawing:

The interior casting in this kit is begging to be included inside your completed caboose. Rather than use it as a source for holding weight, or just pitching it, consider including it in your build.

If you do decide to include the interior casting, painting information for the casting follows:

Early versions of the L&N Bay Window Caboose interiors were painted a light blue or robin’s egg blue. This includes the body interior as well as the interior casting. For later versions, from late gray through all red versions, a light gray/green color is suggested. Tamiya has an acrylic JA Grey paint available that almost perfectly matches light blue paint that has faded to tobacco smoke stained green. Seating should be painted either brown or black as your prototype directs. The stove/furnace should be painted brown with a silver/aluminum/steel color (heat weathered if desired) flue stack. The cup holder should be painted silver with the cups painted white. The foot rests should be painted black, and the entire floor painted maroon. Refer to prototype photos if you have any questions.



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Tools for Assembly:

Don't you wish that the Magic of Model Railroading extended to kit assembly? Wave your magic wand and ***POOF***, you have a perfectly built model. Well, since that kind of magic is not possible, ***YET***, we will have to do things the old fashioned way-------build it yourself! In order to accomplish that,some things are abolutely necessary. Below is a list, of recommended tools you will need to assemble your kit. These will be divided into **Required** and **Optional**. This list is not inclusive and you may find you need something not on this list.

Required:

Modeling knife with supply of #11 blades

Miniature drill bit set and pin vice

Thin, fast setting CA glue

Thick, slow setting CA glue

CA applicator (can be needle attached to .100" or higher square styrene strip)

Inexpensive jeweler's screw driver set (flat and phillips heads)

Smooth jaw curved tweezers

Smooth jaw and serated narrow head pliers

Wire cutting pliers

Etched part cutting pliers

Sanding sticks (100/180, 240, 320, and 800 grit assortment)

Good quality masking tape

Optional:

Project box (obtain from housewares dept. in variety store)

Plastic sprue cutters

Styrene cement

Optivisor or other magnifying aid

Dremel motor tool

Mini file set

Battery powered drill

Mill file

NOTE: One takeaway before we start constructing this caboose; You don't have to do things my way, but they are tried and true!

General Information:

This kit contains a cast polyurethane body with a roof, interior, underframe and underframe/platform miscellaneous cast parts and is considered a "*craftsman kit*". Only patience and basic hobby tools are necessary to produce a top quality finished product.

Warranty: Southbound Model Works and Decal Company will replace ***"free of charge"*** any part found to be defective. Small parts may have a few extras included in case you break one during clean-up or assembly. Large parts like the body, roof, interior and underframe may contain small bubbles created during the casting process. "Bubbles" are not considered defects since they can be filled easily with putty. A "defective part", justifying free replacement, applies to parts broken or damaged beyond repair due to improper packaging or shipping damage. Broken or damaged parts will be replaced by Southbound Model Works and Decal Company via the Louisville and Nashville Railroad Historical Society, 401 Kentucky Street, Bowling Green, KY 42101.

Liability: Southbound Model Works and Decal Company and The Louisville and Nashville Railroad Historical Society will not be held liable for personal injury or health problems, short term or long term, resulting from the use and/or misuse of tools, adhesives, material, castings, paints or any other product(s) used to construct this kit. This kit is recommended for builders over age 15.

Warning: This kit contains polyurethane castings. Although non-toxic in its cured state, dust created during filing and sanding may cause temporary respiratory problems if adequate air circulation or ventilation is not provided. Be sure to work in a well ventilated area. Wear a dust mask or respirator and safety glasses for maximum protection. Wash hands when finished. As the railroads say, "Safety First!" Please exercise caution!

General Instructions:

Before starting assembly, please read through the instructions. Occasionally there are steps where parts are test fit without adhesive or only temporarily tacked in place. Missing these steps can complicate assembly later on.

Casting gates and flash must be carefully removed prior to assembly. This is best accomplished with a sharp modeling knife or a small flat file. Remove parts from casting sprues by tracing around perimeter of part with a sharp knife. Obtaining and using a plastic cutting plier will make this process easier.

This model has been designed to position visible joints along naturally occurring seams as on the prototype. Test fit parts to ensure tight, gap free joints and proper alignment before cementing them together. Cyano-acrylate adhesive (CA) is recommended for assembly. Some of the brake detail parts can be assembled using styrene glue to prepare them for sub-assembly steps.

Prior to assembly, all cast urethane parts should be washed with warm soapy water. This step is required to remove any mold release residue and other oils that may interfere with the adhesives used in building the model. It also reduces the cleaning effort required before painting the model.

Etched parts are referred to by name (ex. ladder/end rails).

The urethane castings in this kit are referred to by name only. These include roof, body, interior casting, underframe and platform/miscellaneous castings such as brake wheel supports, battery box, etc.

Styrene brake detail parts are referred to by name and part ID starting with the letter **T (**Tichy). (T1, T2, etc.). The number corresponds to the number cast into the styrene brake parts sprue.

Due to the many variations of the prototype by era, it is strongly suggested you refer to photos of the prototype from the era you are modeling.

Instructions:

The Louisville and Nashville Railroad Steel Bay Window Kit Instructions are divided into the following Sections:

General Assembly:

Body Assembly:

Roof Assembly:

Interior Casting:

Underframe Assembly:

Sub Assemblies:

Final Assembly:

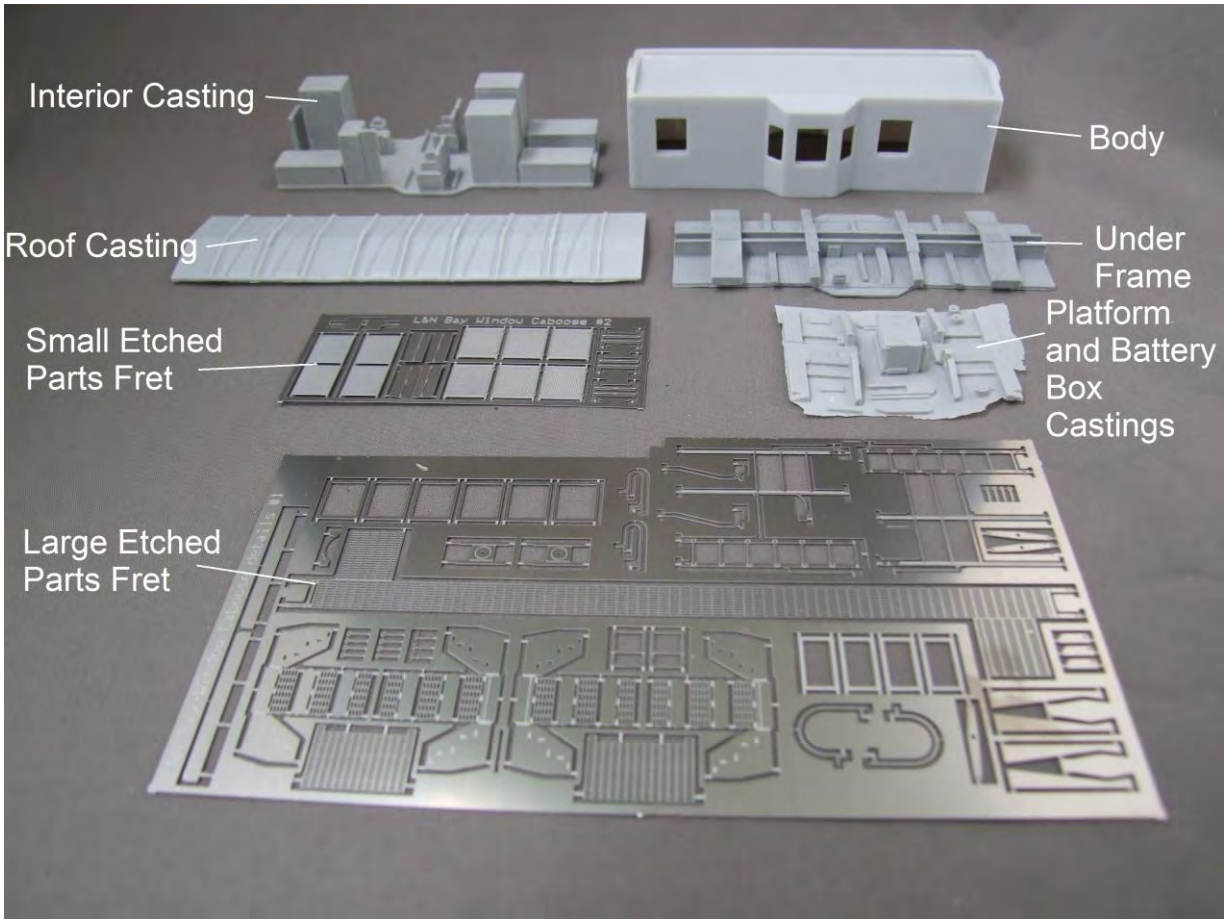
Before we begin: The following Instructions will feature the original body scheme/era (Gray body with yellow roof ends and platform/steps). Mention will be made in each section about differences between each era and any OPTIONAL steps that may apply.

Let's Get Started!!!

General Assembly:

You have read the Introduction which included History, Detail Parts, Eras and colors, Tools, Optional Parts and other necessary information. You have purchased your kit, so get ready! ***Let's Roll!***

By now you have had time to familiarize yourself with the parts included in the kits. ***Remember, Extra parts that were included in the old Wright Trak kits are no longer included in this issue of this Caboose Model Kit. The Introduction section included a list of suggested parts you will need to build this kit. There may be extra parts that were not suggested in the Introduction, but we will mention all extra parts needed as they come up in the following instructions.*** The castings and etchings in your kit should include all the items in the photo below. If your kit is missing any of the parts shown in the photo, please contact us via the L&NRRHS Store.

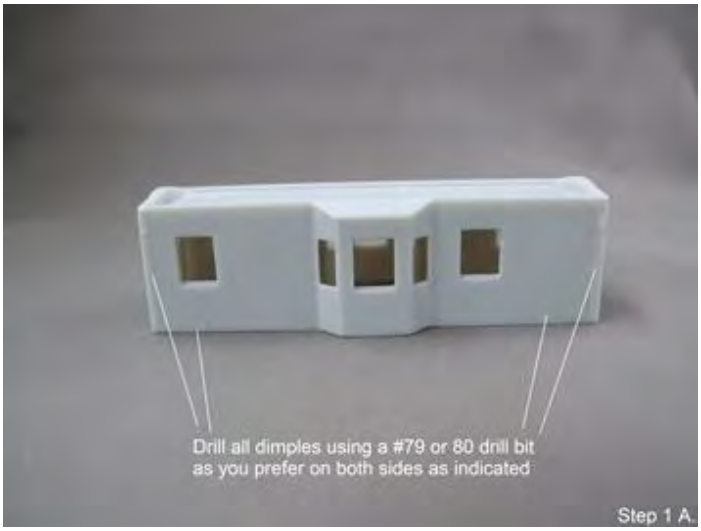


Veterans of building resin kits will recognize the first step in building this kit: Remove all flash from all parts and wash them thoroughly in warm soapy (dishwashing detergent) water. Set all parts aside to dry thoroughly then place them in a project box for keeping all parts not assembled and in one place while building this kit.

Body Assembly:

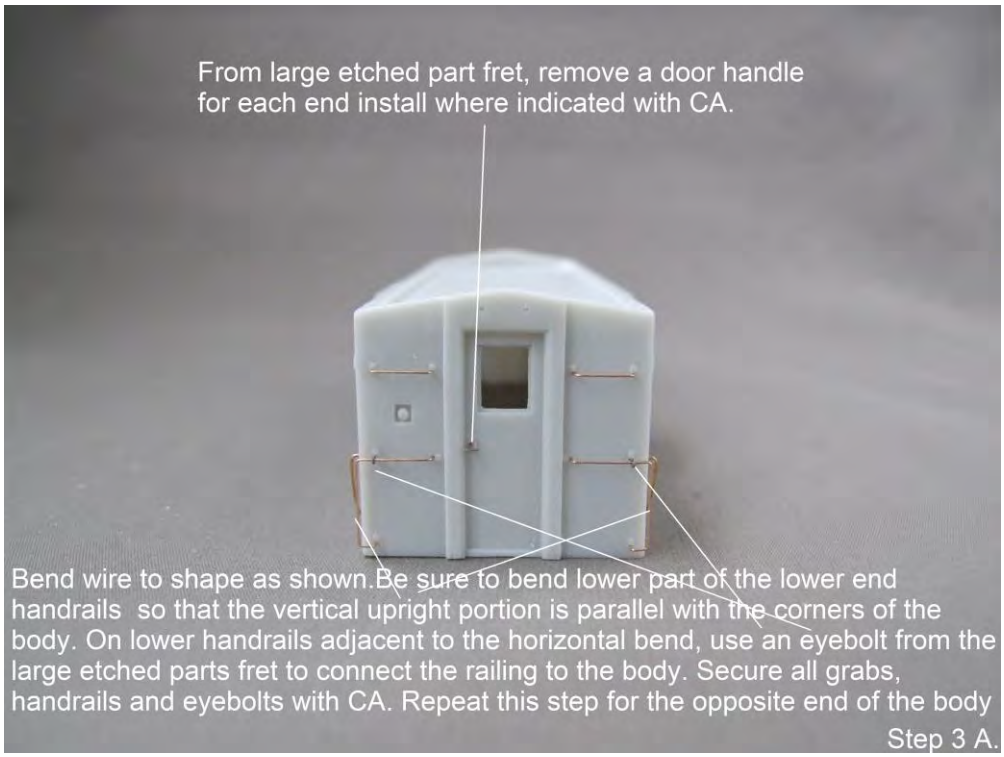
In this Section we will be drilling all the holes, mounting all grab irons and attaching the platform end assemblies to the Body.

Step 1. Locate the body casting in your project box. Note that there are dimples located in various places on the body.

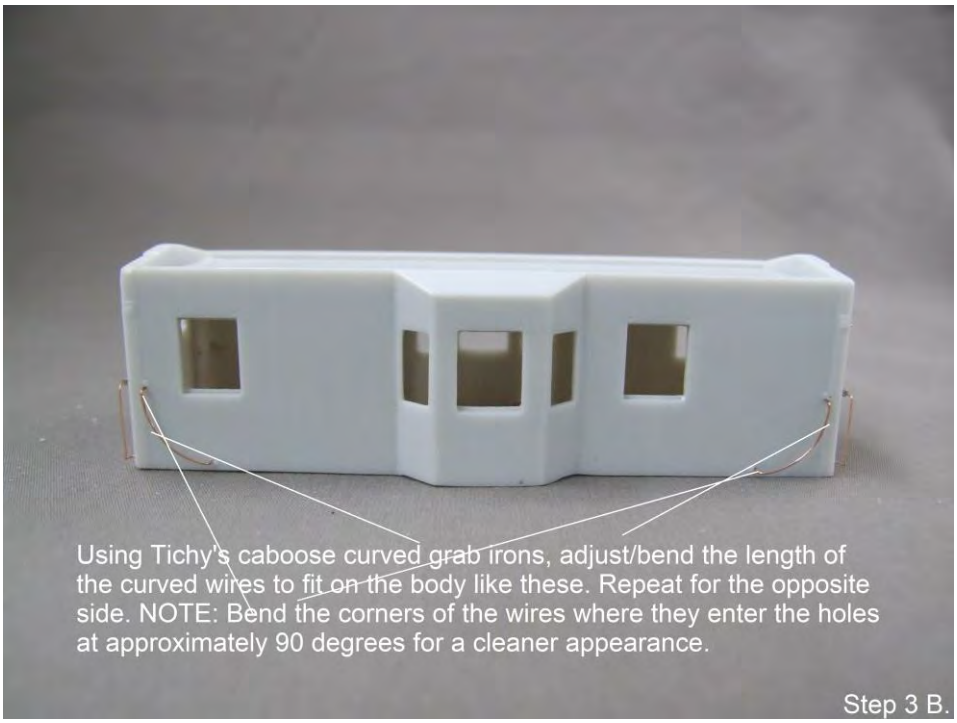


Step 2. Using either .010” or .012” wire, form grabs and handrails to fit in the holes on the body

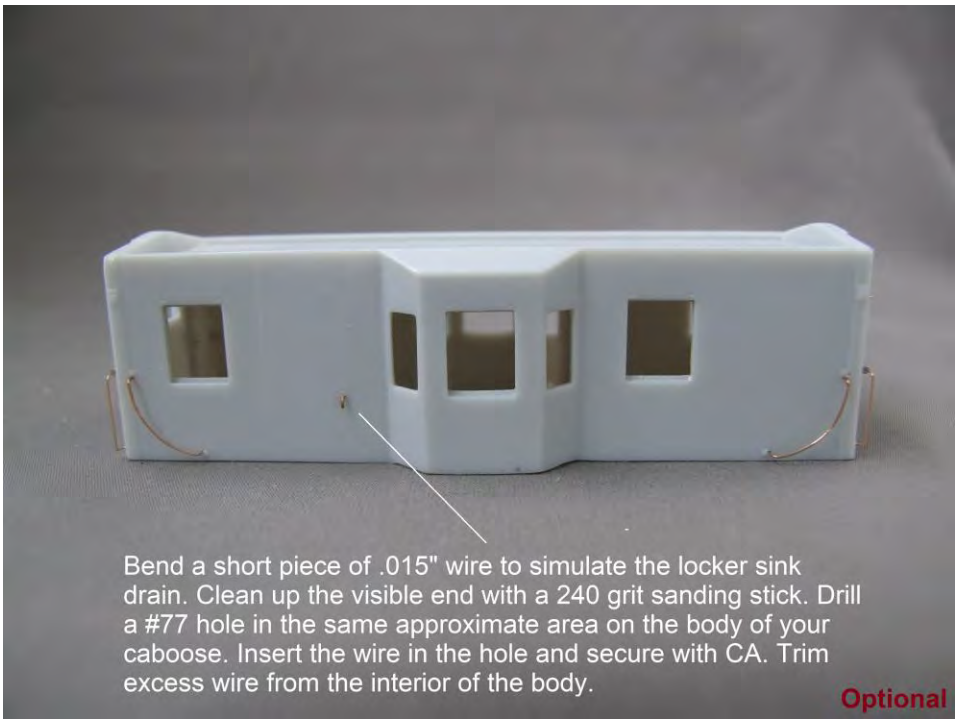
Step 3 A. Install the grabs and handrails where indicated in the photo below. Repeat for other end of body. When installed secure grabs and handrails using CA. You will need to cut two door handles from the large etched fret for each door and install using CA. Also, cut one eyebolt from the large etched parts fret for each lower handrail and install where shown in the photo with CA.



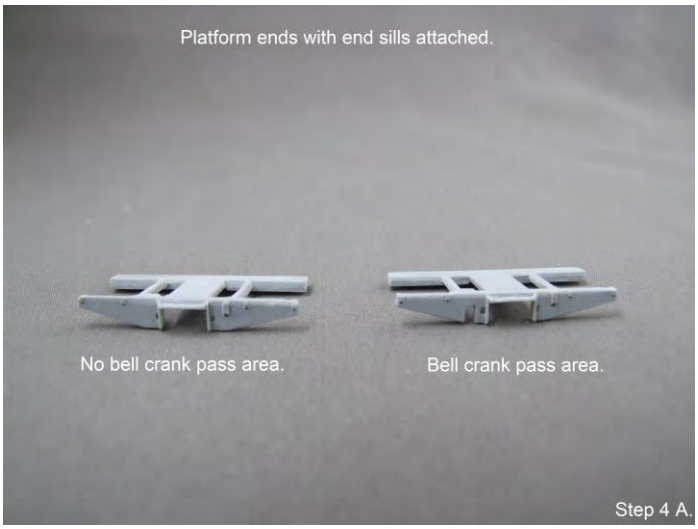
Step 3 B. Now that we have the end grabs and handrails installed, let's install the side grab irons.

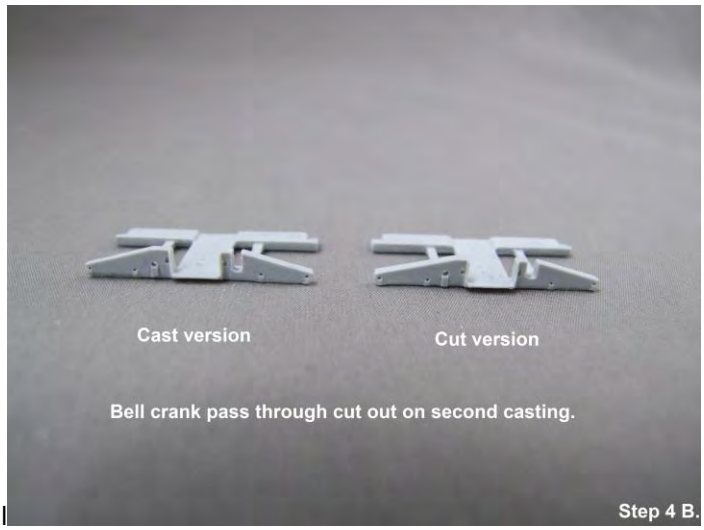


Optional Though not technically a grab iron, bend a short piece of .015" wire 90 degrees. Trim the wire on both ends so that it appears like the one in the photo. This is the water drain from the locker sink.



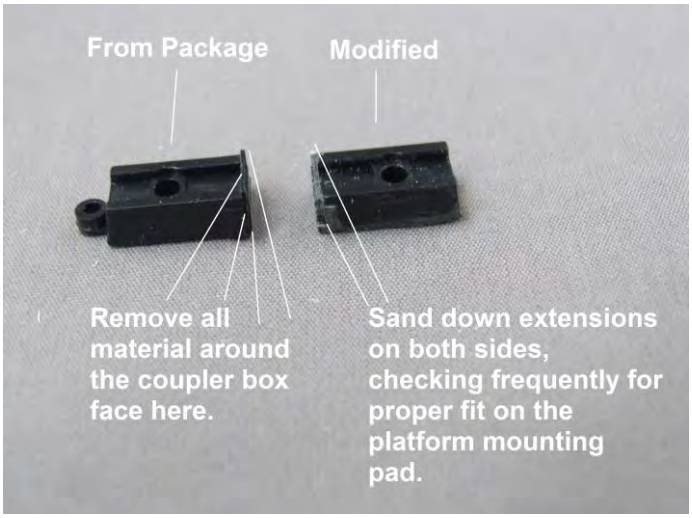
Step 4. The base body with grabs and handrails is now complete. Next step is to add the end platforms. Locate these parts in your project box. Take a close look at them. One has a gap cut out on the left side of the coupler mounting pad and the other does not. The reasoning behind this is that beginning with the gray with yellow grabs, rails and parts of the steps version, the cabooses only had a brake wheel assembly on the B End of the caboose. The original gray cabooses with yellow roof ends, platforms and steps had two brake wheel assemblies, one at each end. If you are building the original version of this caboose, you will need to cut out a gap on the platform casting without the bell crank pass through equal in size and shape as the original cast platform part. ***If you are not building this version, then this step is not necessary***. The reasons the A End brake wheel assemblies were removed vary but we have heard mumbles from our veteran railroaders that someone would always forget to take the brakes off one end when the train started moving. Wheels, no matter what they are on, do not roll very well with flat spots……

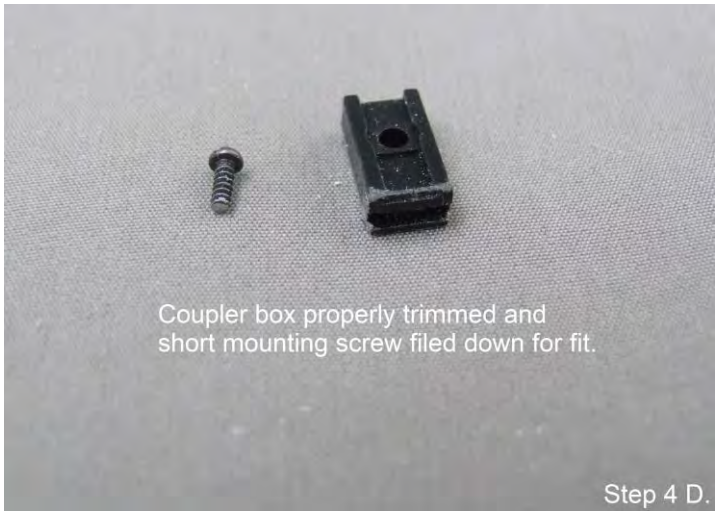




Next, we will mount the coupler boxes. Grab your Kadee #178 couplers with coupler boxes and let's get started!

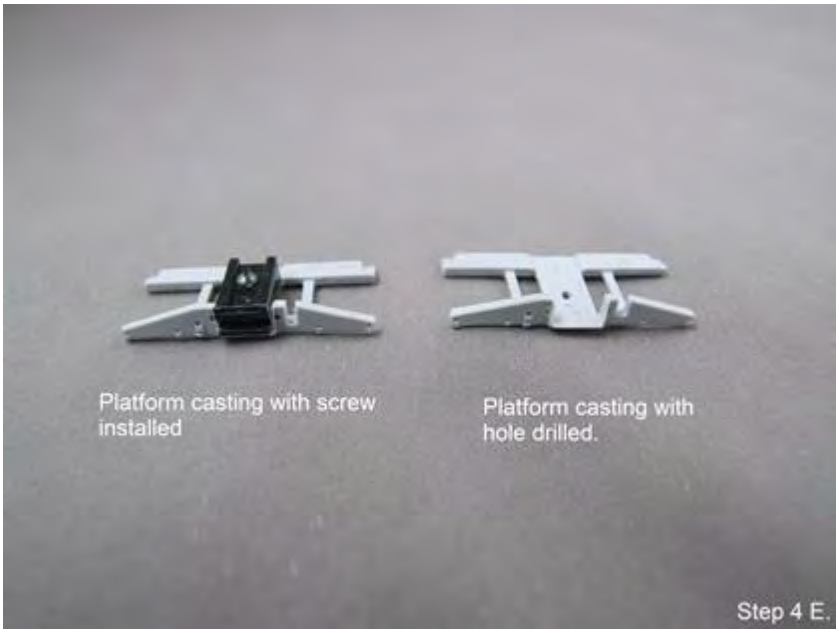
Assemble the two parts of the coupler and cut the side, bottom and top sections of the box off with a plastic parts cutter. Using one of the platform castings as a guide, and with a 100 grit sanding stick, file off the extensions on the sides, taking time to check for fit in the area between the platform coupler mounting pad. You will have to remove enough, but not too much material to be certain of proper fit. Proper fit is when the coupler box is installed, the "wings" on each side of the coupler box are perfectly horizontal. Too much material removed and the wings frown. Not enough removed and the wings smile. Think like Goldilocks and the three bears: Look for "Just right"!



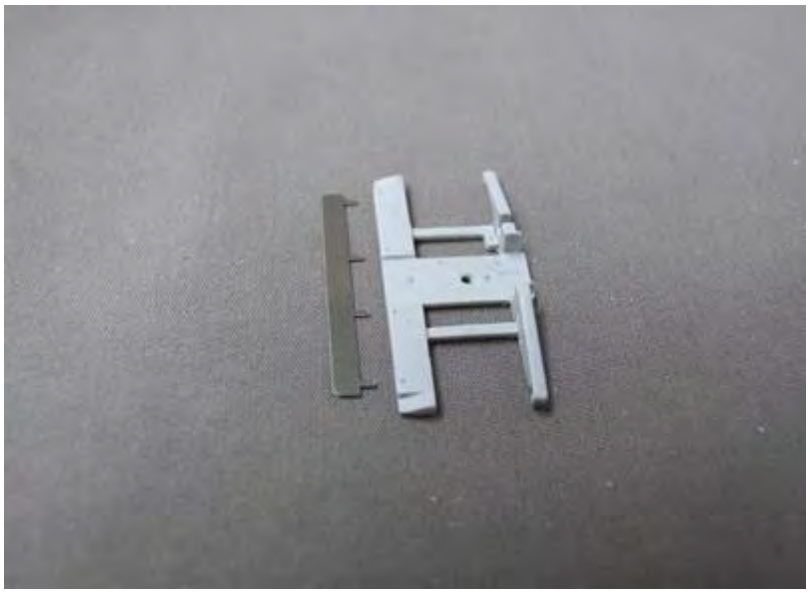


With this finished, we will attach the coupler boxes only to the mounting platform. Retrieve the platform castings and line the coupler box up on the mounting pad with the box opening flush with the mounting pad opening on the castings. When you are satisfied that the alignment is correct, using a #61 drill, drill a hole through the coupler mounting pad.

Use the short, small screws that came with your couplers in the Kadee envelope. The screws are self-tapping, so carefully drive the screw through the hole in the coupler box into the coupler mounting pad. Next check to see how much of the screw is exposed above the pad where the platform floor grill will have to be mounted. Remove the screw and using a mill file, file off the excess material, the same amount as that that was above the platform floor earlier. Check your progress frequently by re-installing the screw in the hole. Repeat the process until the screw when mounted is flush with the platform floor. When satisfied that the fit is correct and no excess screw is above the platform floor, leave the coupler box in place without the coupler installed at this time. The couplers will be installed after the body is painted in a later section. When completed, your platforms should look like those in the photo below.

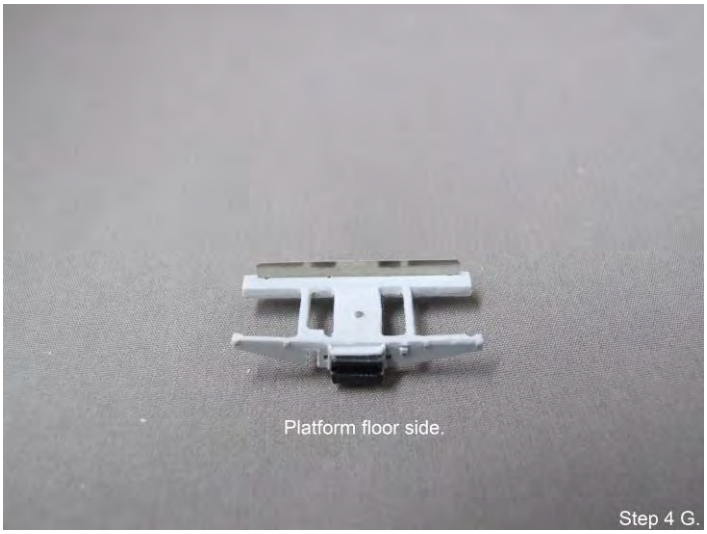


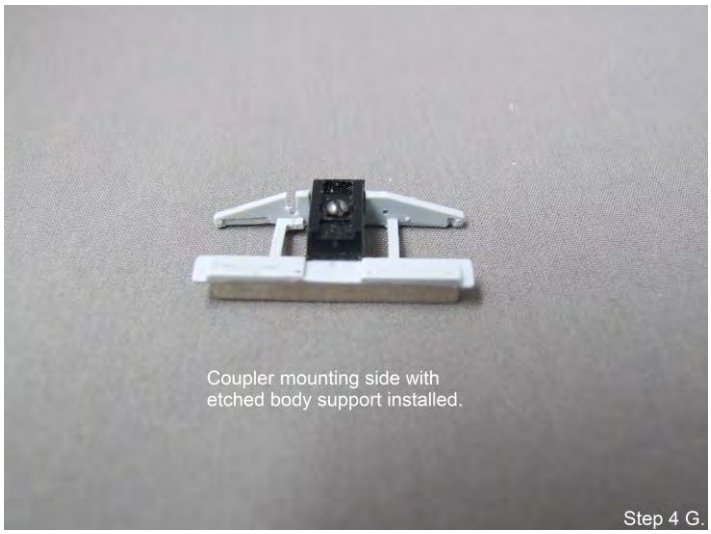
Before attaching the platform/coupler box assembly to the body, you will need to attach the etched platform-body support piece. The etched part is adjacent to the platform casting in the photo below.



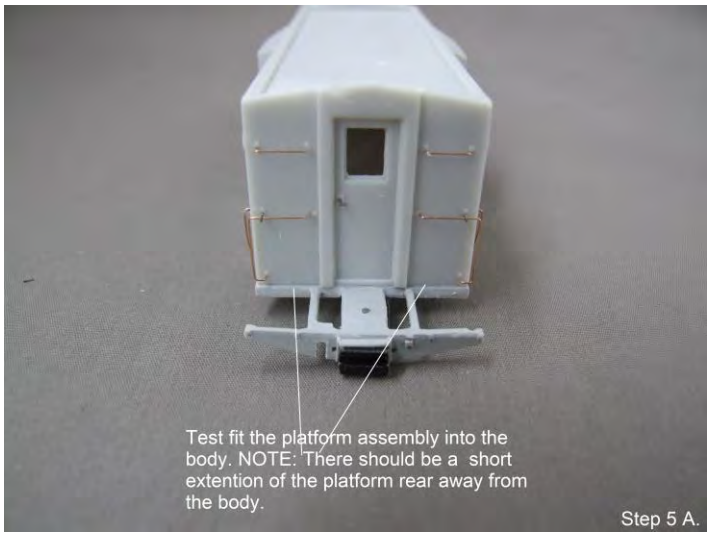
Note that the prongs on the etched part do not line up properly with the dimples in the casting. Place the etched part adjacent to the platform casting and mark the casting where the prongs line up evenly with the castings and as close as possible in line with the cast dimples. When you are satisfied that the etched support is evenly set on the casting, drill the places you marked, all the way through with a #77 drill. Mount the etched support on the platform floor side.

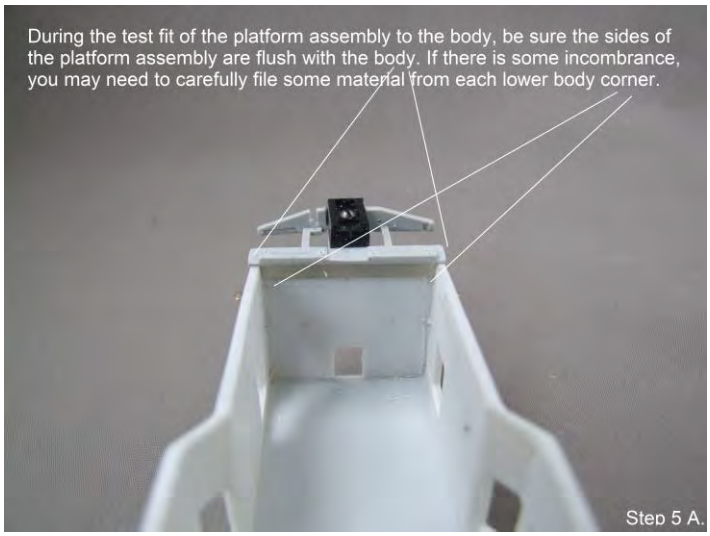
Photo below shows how the mounting should look.





Step 5. With this assembly completed to this point, it is time to install to the body assembly.Locate the body assembly and place it on it's top on your worktable. Test fit the platform assembly to your body assembly.

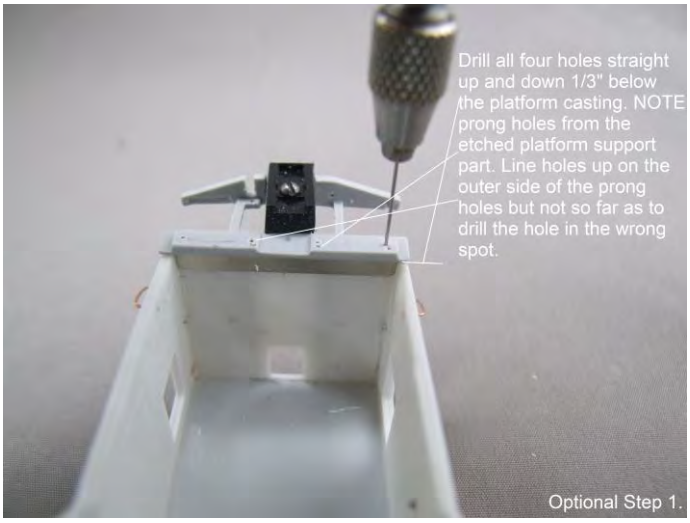


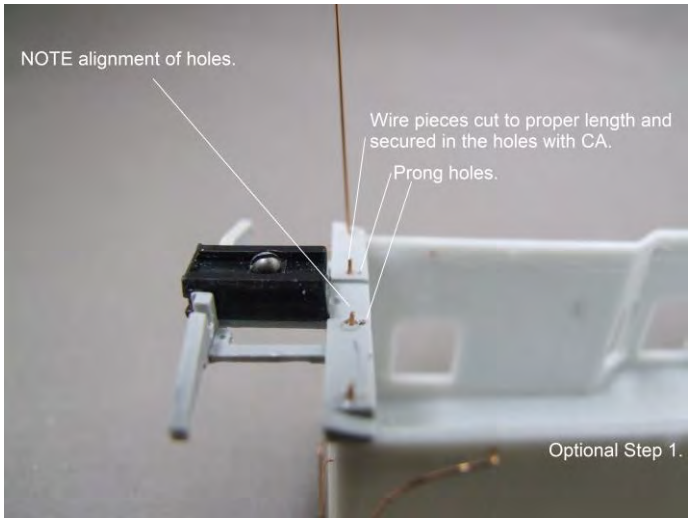


When you are satisfied with the platform assembly fit to the body, apply CA to the lower body by the corners and end side base where you test fitted the platform assembly. Apply enough CA so that it will be adequate enough to secure the two assemblies, but not so much that the CA squeezes beyond the intended joint.The angle between the body wall and the platform surface must be 90 degrees. Repeat for the other end of the body. ***Optional:*** Ordinarily, the CA applied where directed should be enough to adequately to hold the assemblies together. Considering some of the forces that can be applied to even a model train of any length, there is an optional way to make the joints more secure. The depth of the body casting is adequate to accept holes drilled by a #77 drill bit and not cause any body damage. You will need to line up your drill points up to go through both the platform assembly and the body without causing damage to the body.

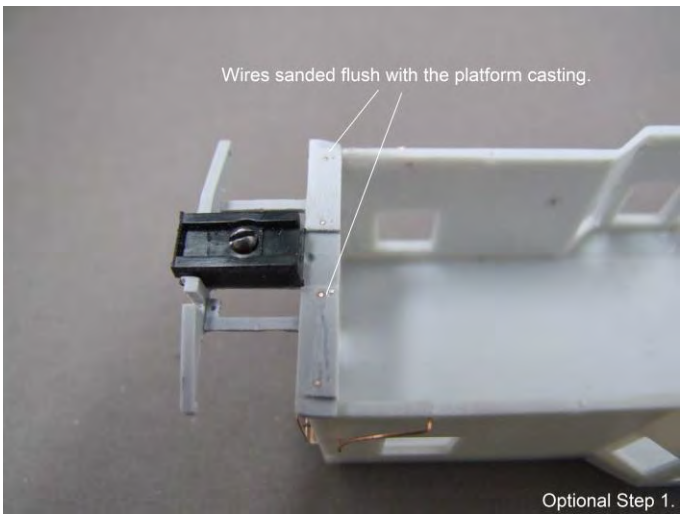
After setting the proper alignment, using a #77 drill bit, drill four holes in line with the holes with the prongs from the etched platform support part. Be sure to keep your drill perfectly straight up and down for each hole in order to not deviate the drilling and damage either the outer or inner body wall. Drill the holes approximately 1/3" deep into the body. When you think you are getting deep enough, remove the drill and check to see the depth you have drilled. When satisfied, move on the the next hole until you have drilled all four holes.

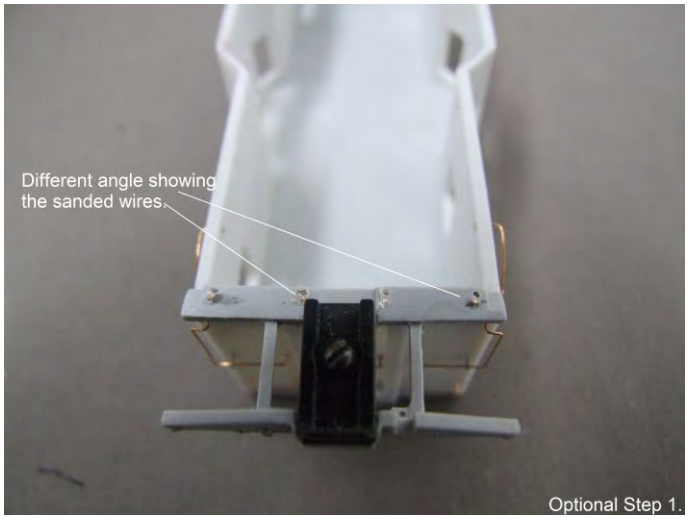
When you are satisfied with the drilling of the holes, locate your .015” phosphor bronze wire and cut four pieces long enough to fill the drilled holes, pass through the platform casting and with a little left over for good measure. Secure the wires in the holes with CA. Below are photos of this optional step.





When the CA in the holes is adequately dried, trim the wires as close to the platform casting as possible. Using a 100 grit sanding stick, sand down the wires until they are flush with the platform casting. Don’t overdo it and sand off too much of the platform casting.

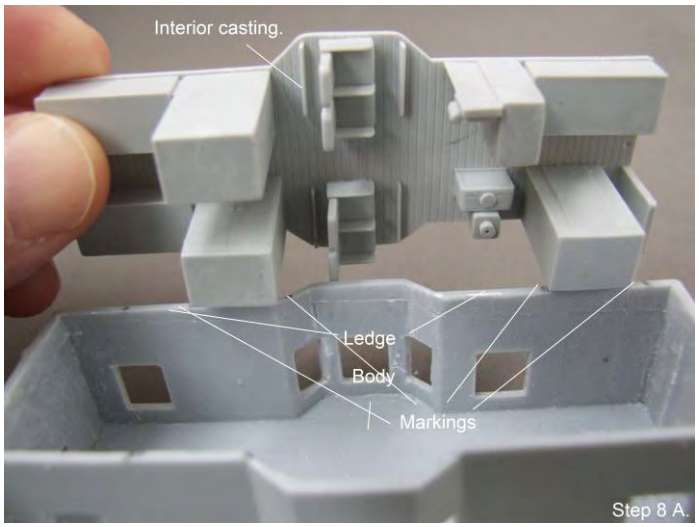


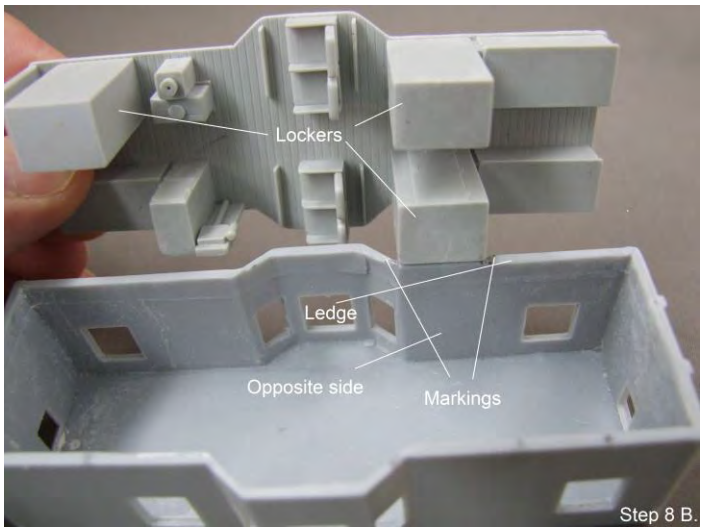


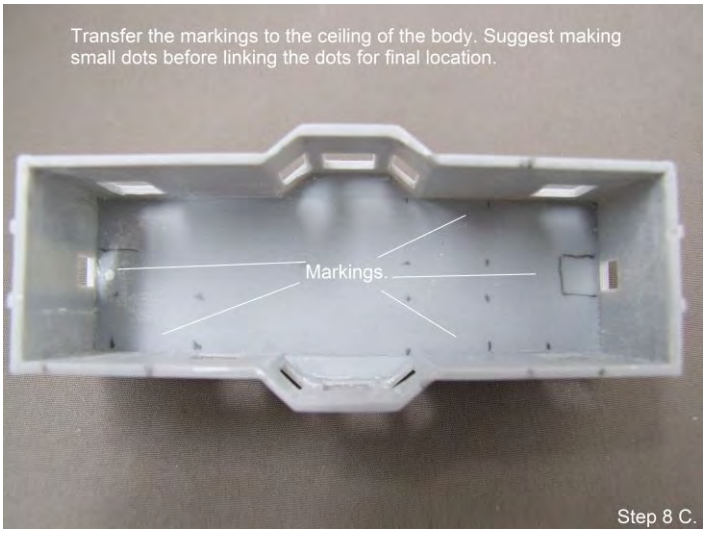
Step 6. Locate the etched platform grids from the large etched parts fret and using etched part cutters, cut the two grid etchings from the fret. Trim off any unnecessary flash and using a 100 to 240 grit sanding stick, clean up the flash removed area being sure not to sand too much off the part. Only sand enough to clean up the flash area so the removed flash area will not be noticeable. Test fit the part to the platform. This part needs to be secured evenly over the platform floor as the steps when attached will be slightly below the grid. Using CA, secure the platform grid to the platform casting floor in the area above the coupler box. You may need to hold the part on each side of the platform to be sure it is properly set. Homemade clothes pin clamps (reversed on the clothes pin spring with the narrow “handle” used as a clamp) are great for this type of chore. Repeat for the other end and allow the CA to dry.

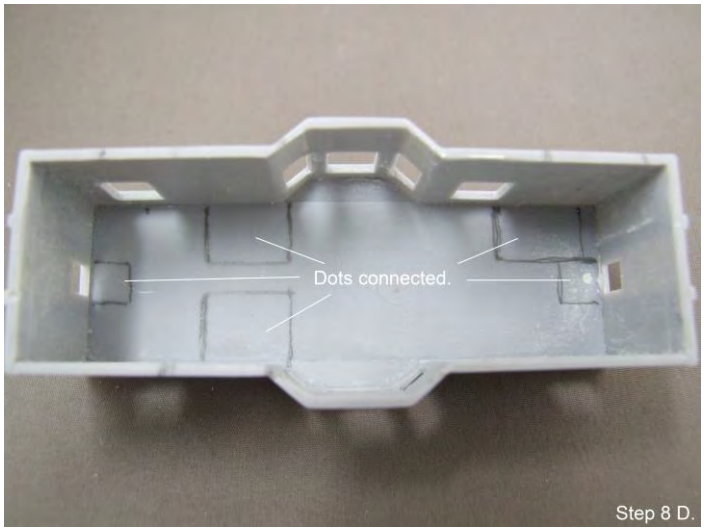
Step 7. Review of prototype photos reveals that these cabooses were equipped with a retainer valve adjacent to and approximately level with the top of the door jamb. This part can be made using the retainer valve casting located on the Tichy AB brake parts sprue. Remove the part from the sprue, Secure the part in a tool (we use a self-closing soldering tool). Remove excess sprue flash from the part. Holding the jaws of the tool and keeping the part secured in the jaws, using a pin or other sharp pointed tool, mark a hole for drilling with a pin. Using a #80 drill bit, drill a short hole in the neck of the part. When you are satisfied with the hole, using .010 phosphor bronze wire, secure the wire to the part with CA. Trim the base wire just longer than the distance from the top of the door jamb to just under the bottom of the platform. The retainer valve will need to be installed on the platform of the B end. With the platform grid installed and secured, using a #80 bit, drill a hole in the platform floor edge to the right of the B end door and in the grid slot closest to the body and the corner to the right of the door. Fit the base of the wire into the hole you just drilled. Keeping the retainer valve assembly in the area between the grabs/handrails to the right of the door and allow the valve portion to lie next to the door jamb. Drop the wire through the hole until the bottom of the valve is at the level of the top of the door. Then drop the wire through the hole about an additional 1-1/2 scale feet. Trim the wire at the base of the platform, add some CA to the tip of the wire and pull it back up through the hole just enough to have the wire approximately halfway between the bottom of the platform and the platform floor (top) and the wire still in the hole. Pull the valve by the door jamb away from the body and apply a very small amount of CA. With the CA applied place the valve back to the body by the door.

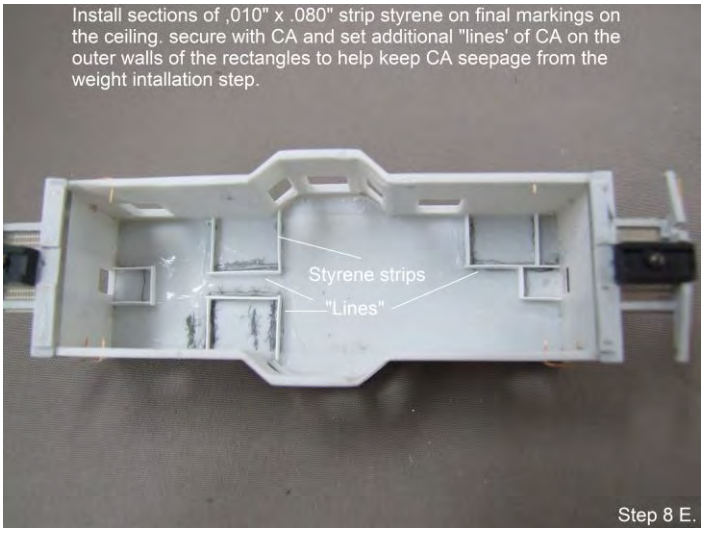
Step 8.This is the step where we add the weight to the caboose. If you have your own method and timing for adding weight to your L&N cabooses, proceed accordingly. This is how we do it: With the CA dried from attaching parts in the last two steps, flip the body casting on its roof. Locate the interior casting and grab a strip of -010” x .080” Evergreen Styrene. On the ceiling of the body of the caboose and on the floor of the interior, you will find dimples larger than what you found for locating drilling holes for grabs/handrails on the body. These designate orientation with the B End of the car. With the interior casting oriented with the body, mark with a pencil on the body interior, open ledge, where the lockers will be placed. Facing the B End, two lockers will be on the right side and one at the rear of the left side. The object here is to mark areas for the lockers to set inside the body when the weight has been installed. When you have marked on the lower rim of the body (open ledge) where the front and rear of the lockers are, transfer these markings to the ceiling area of the body. They say one picture is worth a thousand words, take a look at the photos on the next page. Once you have the ledge marked, then transfer those marks as dots to the ceiling of the body. When you have all the dots in place with the marks on the ledge, connect the dots to form boxes. With the boxes identified, use .010” X .080” strip styrene to form the walls for the boxes. When you have the walls properly measured and cut, attach them to the markings on the ceiling with CA. After the CA has dried, place “lines” of CA on the outer portions of the walls (next to the ceiling and be sure to cover the corners) to help seal the walls to help prevent excess CA from (Continued on Page 20.)

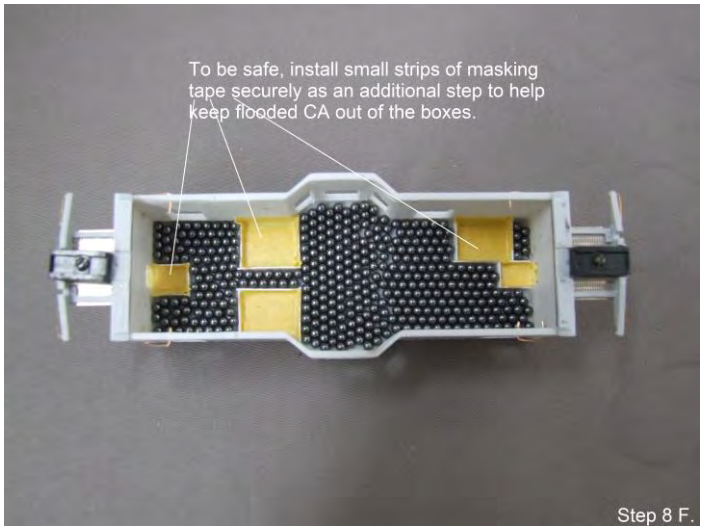

Interior casting.
Ledge
Body
Markings
Step 8 A.


Lockers
Ledge
Opposite side
Markings
Step 8 B.


Transfer the markings to the ceiling of the body. Suggest making small dots before linking the dots for final location.
Markings.
Step 8 C.

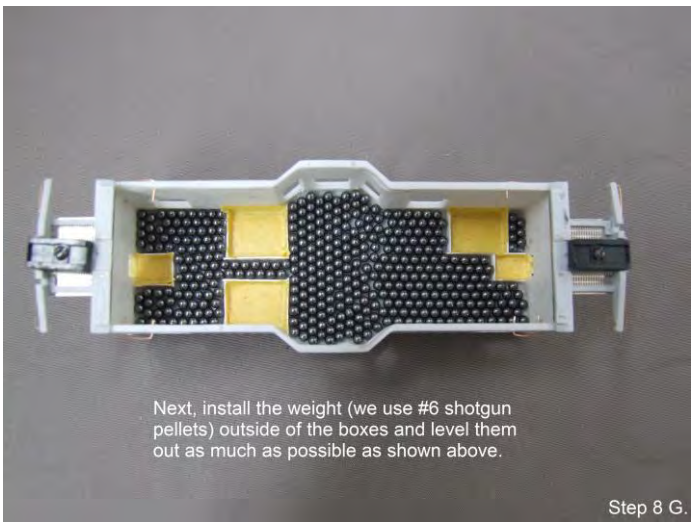

Dots connected.
Step 8 D.


Install sections of ,010" x .080" strip styrene on final markings on the ceiling. secure with CA and set additional "lines' of CA on the outer walls of the rectangles to help keep CA seepage from the weight intallation step.
Styrene strips
"Lines"
Step 8 E.

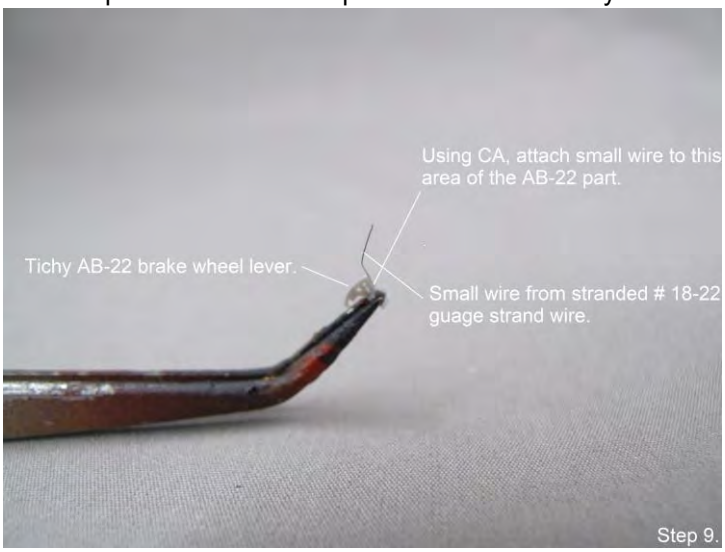

To be safe, install small strips of masking tape securely as an additional step to help keep flooded CA out of the boxes.
Step 8 F.

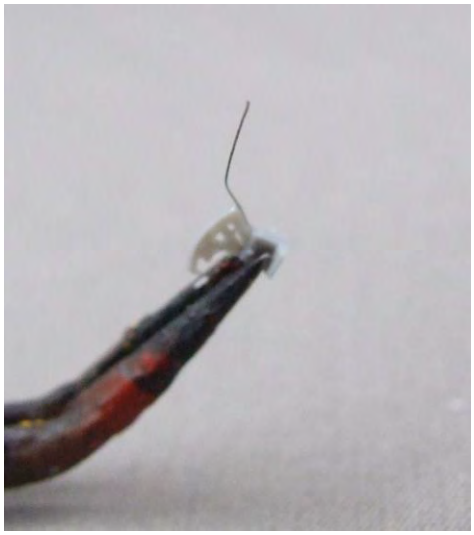
(Continued from page 18.)

getting into the boxes when “flooding” the ceiling after placing the weight in the ceiling area. When you have completed placing the “lines” and the CA has dried, place small strips of masking tape firmly inside the boxes including ceiling surface. This will also help prevent the CA from accidentally entering the boxes during flooding. Next, grab your weight. We use #6 shotgun shot pellets. Place the pellets in the areas outside of the boxes and spread and settle them as evenly as possible. Some gaps may occur, but you should try to prevent as many gaps in the pellets as possible. When you are satisfied that you have the pellets evenly placed throughout the ceiling, and you have the body placed on a level surface, flood the area outside of the boxes with enough CA to adequately cover the pellets without allowing any to overflow into the boxes. If that occurs, stop and use strips of paper towel to carefully remove the excess CA in the boxes without allowing any to remain in the boxes nor on the surfaces of the body. How much weight? It has been our experience that filling the areas of the ceiling exclusive of the interior locker boxes is approximately the same as the NMRA standards: length of car in inches times .50 plus 1.

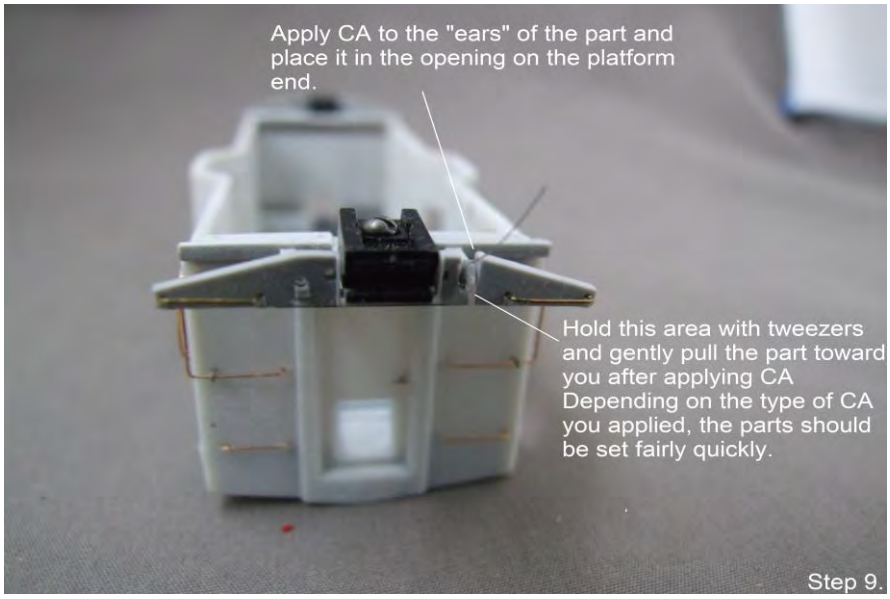


Step 9.With the weight installed in the ceiling and allowed to adequately dry, you can now install the brake bell crank. Grab your Tichy AB Brake parts sprue. The part you are looking for is AB-22. When building this version of the L&N Bay Window Caboose kit, two of these parts are required. Other versions of this kit only require one part AB 22 as they only have one brake wheel set. The main reason we prefer to use this part, other than it looks great, is that it can be modified to attach 40 links per inch chain to it and thus accurately model the caboose’s brake system. Locate a short piece of either #18 through 22 (any number of guaged wire in this range) guage stranded wire. Remove the insulation from a small part of the wire. Separate the strands of wire and cut off a ¼” to ½” section of this strand. Using the photo below as a guide, apply CA to the area designated and using tweezers, attach the wire to the part where CA was applied. You can hold the part with a heatsink plier. Set this assembly aside to dry.

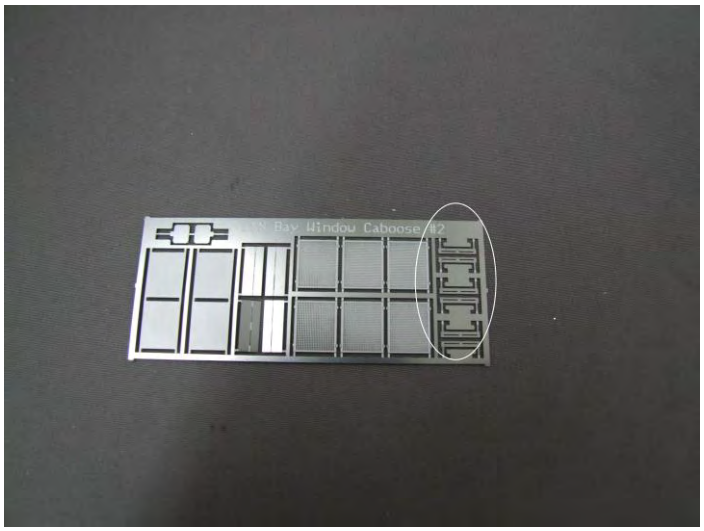


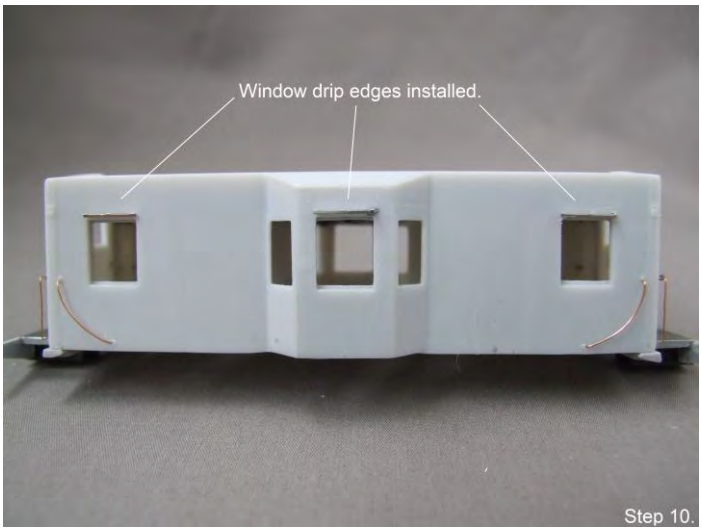


When the brake bell crank assembly has dried properly, install the assembly in the narrow opening on the end of the platform. Apply CA to the “ears” of the part and using tweezers, grab the front of the part and gently pull the part toward you while simultaneously placing the part in the area designated. Set the assembly aside to dry.

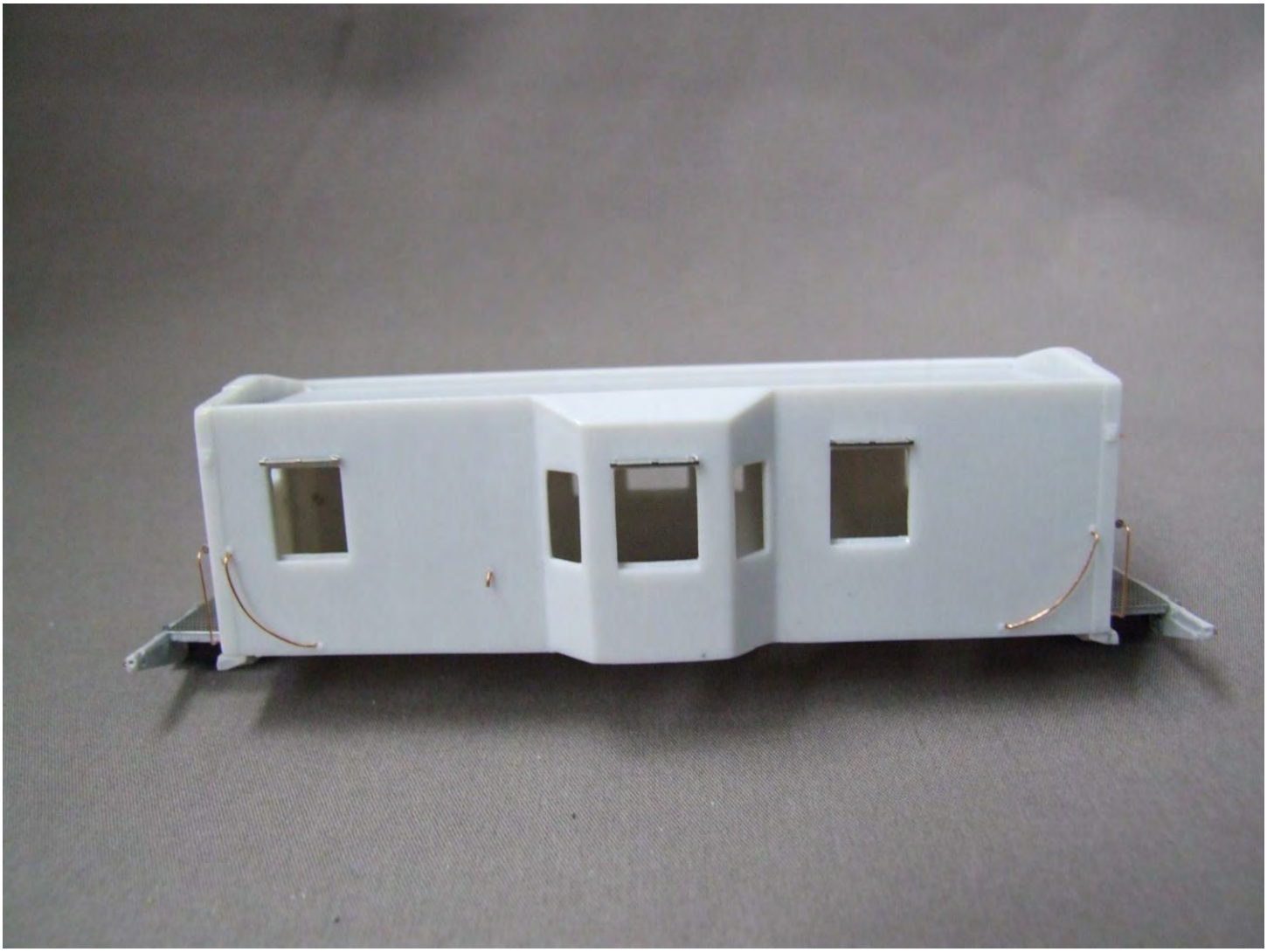


Step 10. In this step we will install the last parts on the body before painting the interior of the body. Locate your small etched parts fret. Locate the window drip edge parts. Cut off one part and with the body resting on its side, place the part on the body. Line up the “legs” of the part evenly between the dimples above the windows. You will notice that they do not line up perfectly. You will need to drill your installation holes slightly to the left of the left dimple and slightly to the right of the right dimple. Use a sharp pen to mark your new holes and make sure the new holes perfectly line up with the dimples.





Using a #78-80 drill bit, drill the holes in the corrected dimple area above the windows (we suggest drilling one window set at a time). Install the drip edge etched parts with the edges bent downward. Check the part before bending to be sure you bent the part correctly. When you are satisfied that the drip edge part sets in the holes correctly, apply a small amount of CA to each leg of the part and place it in the holes. Make sure the parts are flush with the body when the drip edges are installed. Repeat this process for all large windows on both sides of the body.



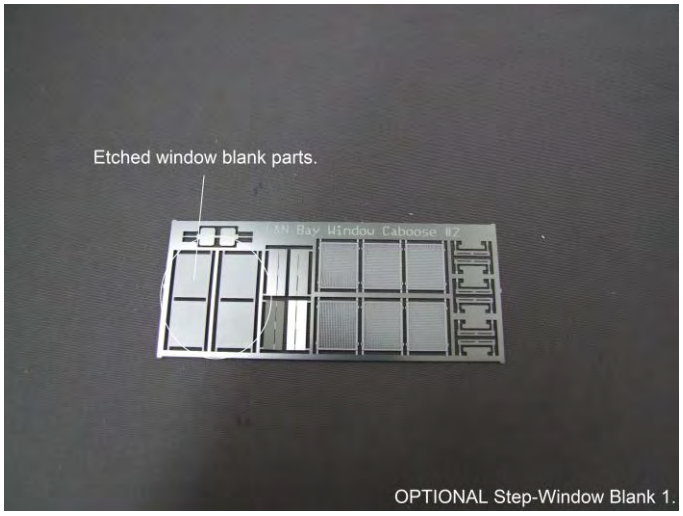
This concludes the building portion of the body casting assembly. Take the whole assembly and wash it with warm soapy water. Set it aside to dry. When adequately dry, paint the body interior a light blue or Robin's Egg Blue color. When dry, set the interior painted body assembly aside for a later step.

OPTIONAL:

We mentioned in the beginning of this set of instructions that the narrative is written for building the earliest version of the L&N Bay Window caboose. This is the only version that had two sets of brake wheels (one on each end of the caboose), but many things changed during the lifetime of this series of cabooses. One was the blanking of the windows especially the one located where the furnace was placed. At least this was the first window on all the bay window cabooses where the blanking of windows with steel sheets were used to cover unnecessary windows. Since this is the section where the body construction takes place, we felt that at this point we should cover the window blanking topic.

OPTIONAL Step, Window Blank 1. Locate the small etched parts sheet. Identify the blank parts, cut one off the sheet using your etched parts cutter, cut off the flashing and using a sanding stick, smooth the flash remnants so that they are not noticeable.

OPTIONAL Step, Window Blank 2. Measure the inside of the window not only length by width, but also depth. You may need a digital caliper or you can cut and fit the window blank interior support by guestimating depth. When you properly identify these measurements, cut the measurements out from a piece of sheet styrene. When you are satisfied with the length width and depth cut of the styrene support, install it with CA to the outside window mounts. Be sure it is flush.



OPTIONAL Step-Window Blank 1.

OPTIONAL Step-Window Blank-2.

OPTIONAL Step, Window Blank 3. If it is your desire to have the interior side of the window flush with the body sides, repeat the above step, except install the cut blank inside of the window opening. Finish the install by gluing the part with CA and sanding the styrene smooth with the interior of the body.

Please note that depending on the era of your model railroad, when doing this optional step, the color of your interior will need to be a faded shade of the original robin's egg blue. The older the caboose, the more fading and nicotine staining will be.

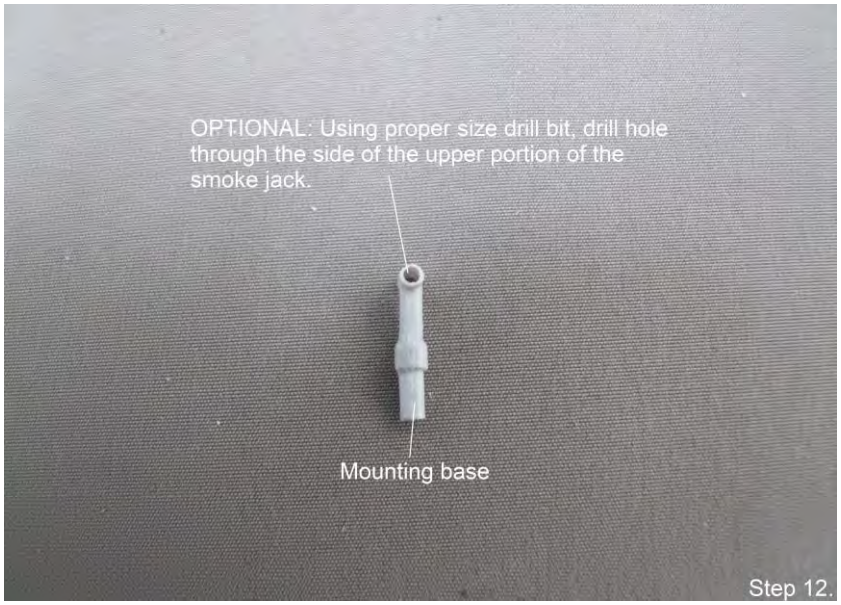
In the next section, we will start working on the roof casting!

Roof Assembly:

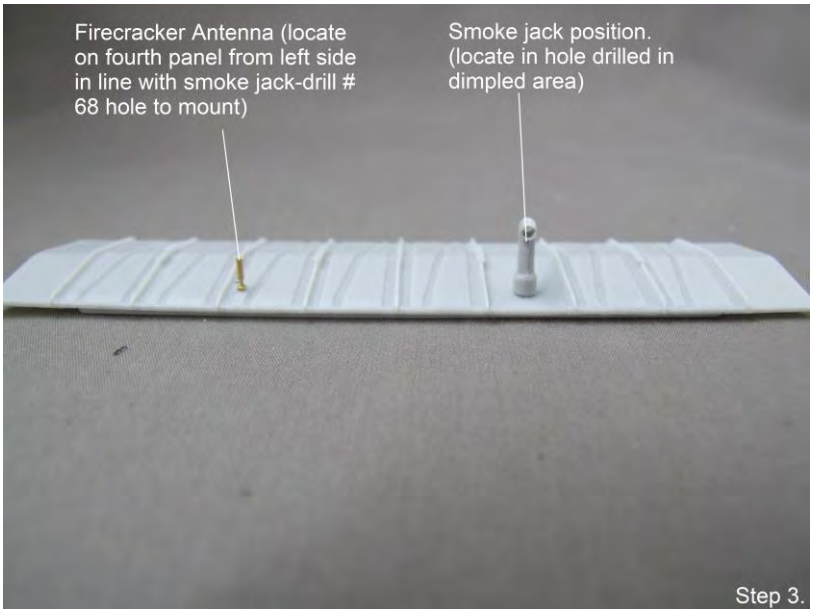
In this Section we will be drilling holes for the smoke jack, and antenna on the roof casting in preparation for assembling the roof to the body.

Step11. Locate the roof casting from your project box and place on your workbench. Look the casting over for any unremoved flash and remove it as needed. Also look the casting over for any damage or blemishes. Your roof casting should look like this:

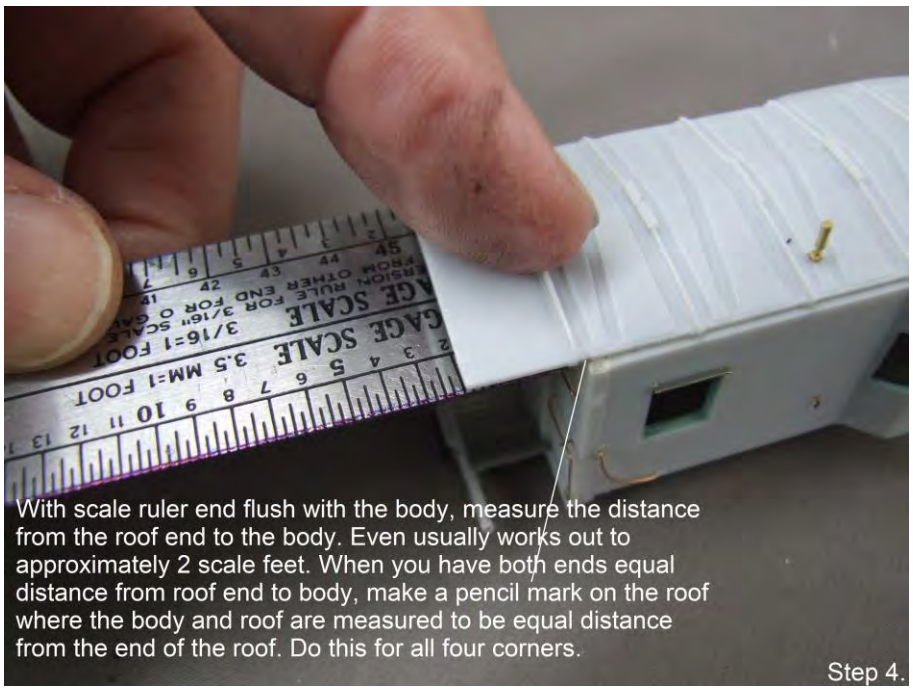
Step 12. Locate the smoke jack in your project box and place on your workbench. Using a digital caliper (if you have access to one), measure the diameter of the mounting base of the smoke jack. If the mounting base is irregular or not quite round, using a sanding stick, carefully sand the base until it is round and re-measure the mounting base if necessary. From the measurements taken, select a drill size and drill a hole through the roof casting where the dimple is located.



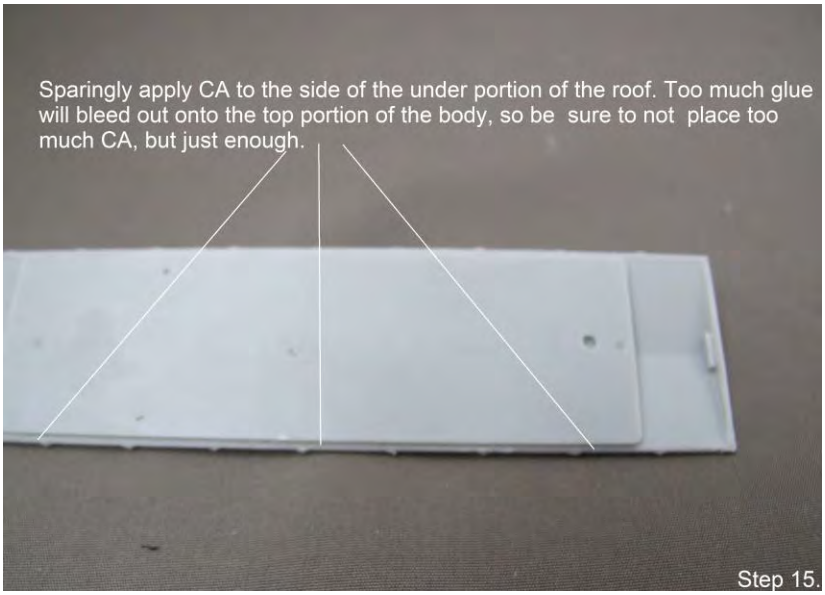
Step 13. Though the kit includes a base for a whip antenna, our research has shown that the majority of the bay window cabooses had firecracker antenna installed. Details West part #157, Firecracker Antenna is highly recommended. Locate antenna on same side of roof as smoke jack, on fourth panel from left end (see photo). Use #68 drill bit and drill hole through roof level with hole drilled for smoke jack. Secure the Antenna and smoke jack to the roof with CA.



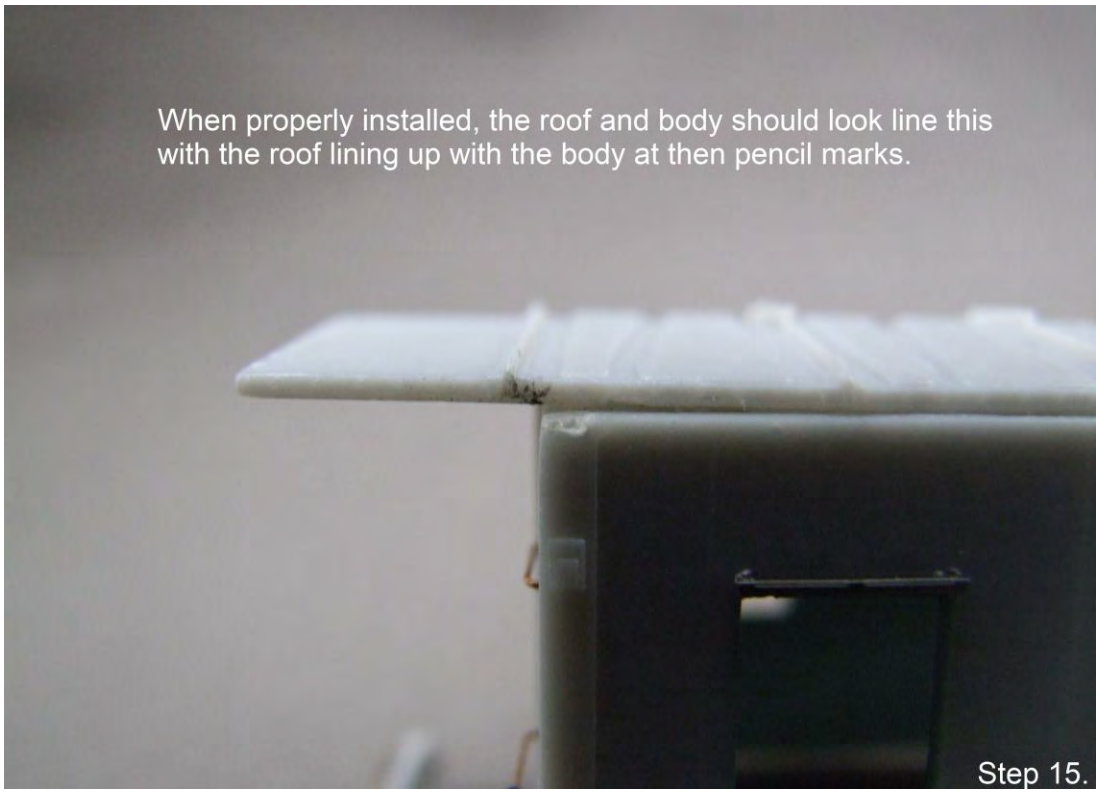
. **Step 14.** With the smoke jack and antenna installed, it is time to install the roof on the body. Locate body from where you left it at the end of the body assembly section. In most cases the roof casting is not a perfect fit to the body. Usually the end to end fit needs to be set. Place the roof casting on the roof, orienting the roof on the body with the smoke jack above the side window closest to and to the right of the bay. With the roof centered widthwise on the body and using your scale ruler, measure the roof placement from each end. Adjust the roof so that each end of the roof is even with the other end, thus making the measurements from the roof end over the platforms equal on each end.



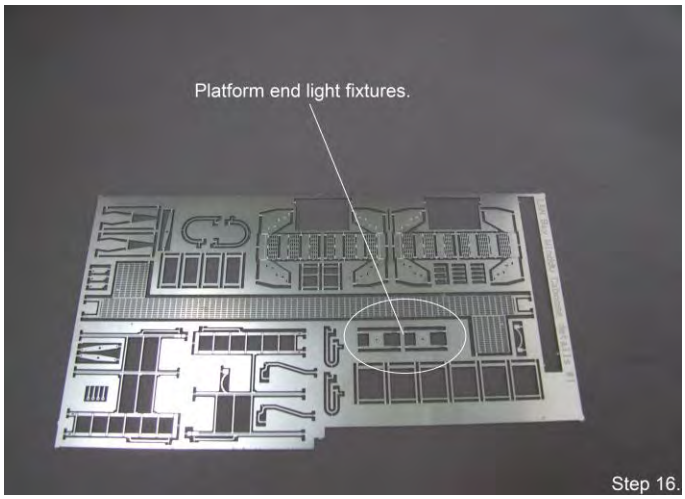
Step 15. Now that we know where the roof fits the body, let's attach the roof to the body permanently. Invert your roof casting and apply CA sparingly along the edge of the underside of the roof (see photo). Place the glued side of the roof on the body being sure that you have lined up the pencil marks on the roof with the edge of the body and have the roof properly oriented with the body. Also, be sure to line up roof properly side to side.

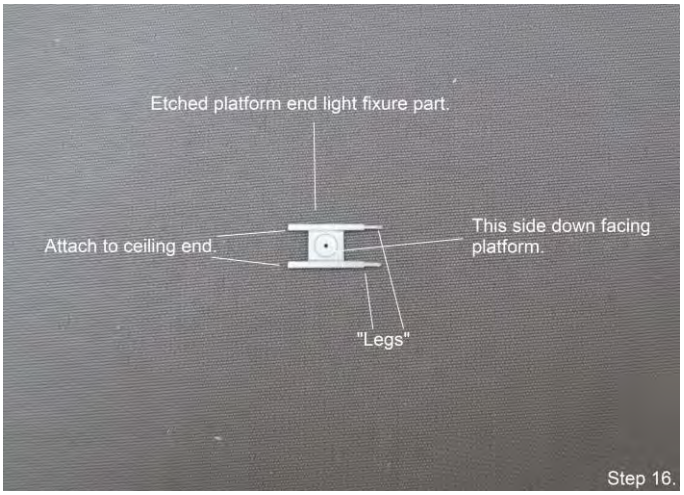


When the CA has dried on the first side, apply glue to the other side in similar fashion as the first side being certain to line up the pencil marks with the body side. When complete, the body with attached roof should look like the photo below.

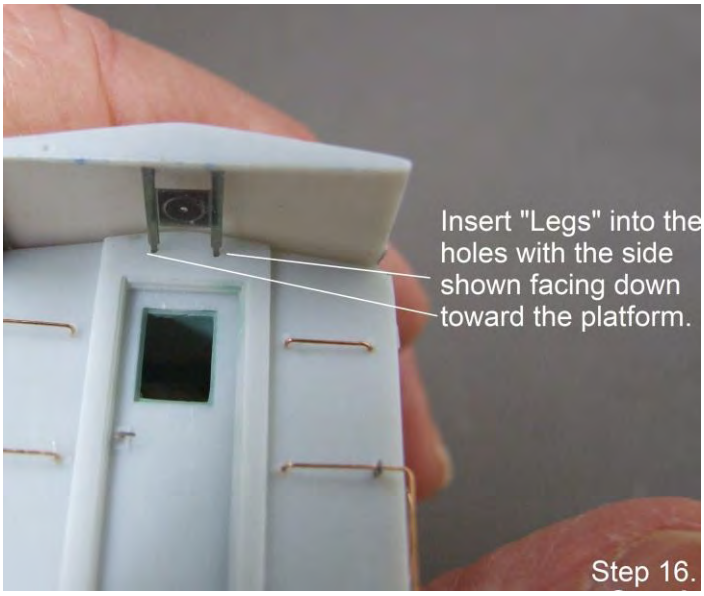


Step 16. With the roof installed, we will now install the etched platform end light fixture. Locate your large etched parts sheet and look for the parts identified in the photo below:

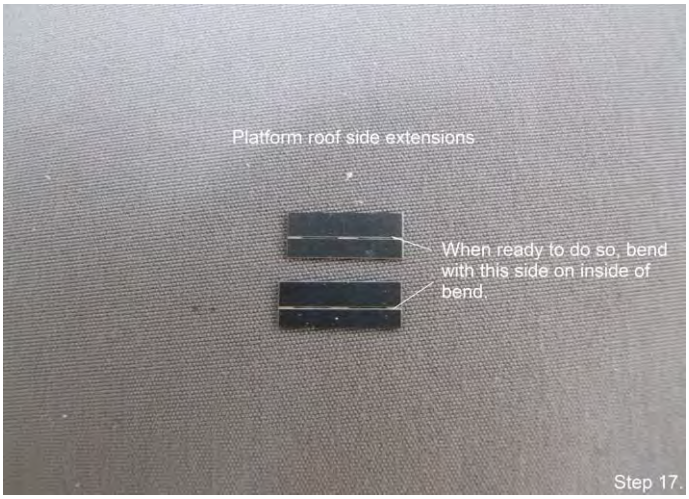




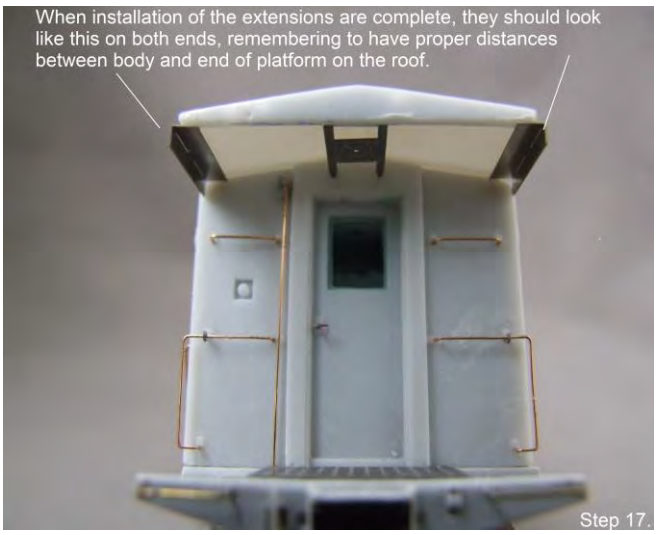
Using your etched part cutters, cut the end platform light fixtures from the sheet. Looking at the body/roof assembly, locate the holes above the door where you drilled two holes with a #78 drill. Install the longer “legs” in the holes shown in the photo below. Then glue the short “legs” to the support on the end inside the platform roof. You may need to shift the fixture part toward the roof end to fit the support.



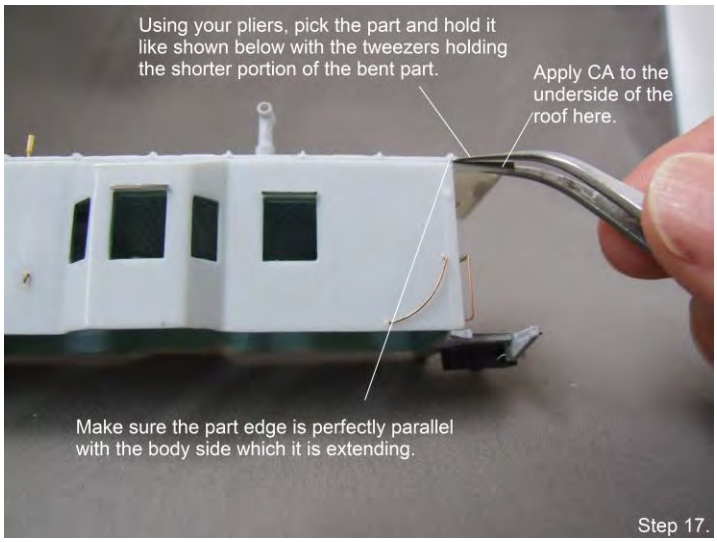
Step 17. Next we will add the four platform roof side extensions. Locate the extension parts on the small etched parts sheet. Using your etched part cutters, cut the four parts from the sheet. Remove the “flash” from the parts and smooth the flash remains with a sanding stick. Before you bend and install these parts, check the parts against the roof/body ends on both ends of the platforms to see if any of the parts extend beyond the edge of the roof. If any do, measure the amount of excess extension and trim using your etched part cutters. After that, bend each part to 90 degrees making sure both ends are bent to the same degree. See photos below.



When you are satisfied that you have all the parts properly bent, it is time to install the parts to the body.



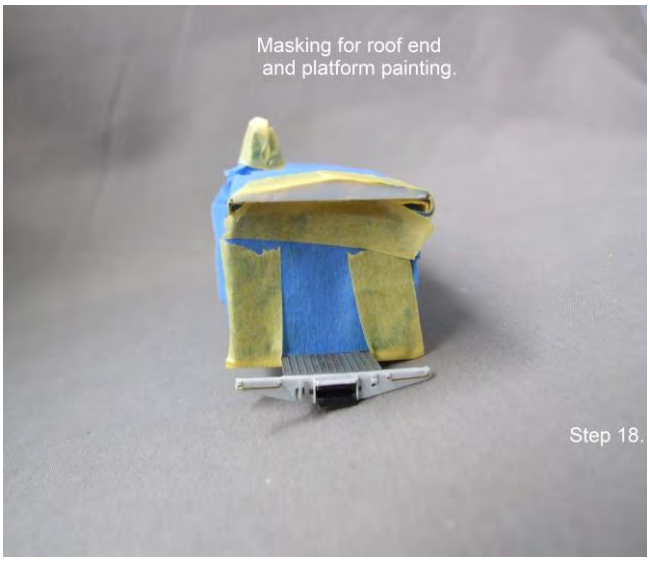
Apply CA to the edge of the underside of the platform roof from the body out to the edge of the roof. Locate one of the extensions that will fit the area where you are installing it. Using your tweezers, grab the part by the shorter side of the part. Viewing the photo upper right as a guide, line the part up with the part flush with the junction of the roof and the body and the edge of the roof where you applied the CA. Make certain that the part is perfectly parallel with the roof and body line. Repeat for the other areas where the extension will be installed being sure to remember to reverse the mount for the part directly across from the first part you installed. When you are satisfied with the fit of the parts to the roof line and that they are perfectly parallel, set the body aside for the CA to fully dry before moving on to the next step. Additional photos of this step are shown at the top of the next page.

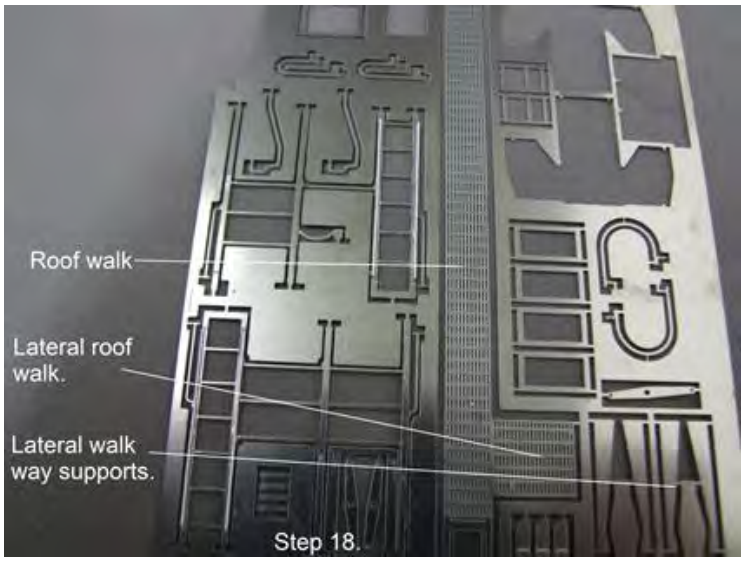


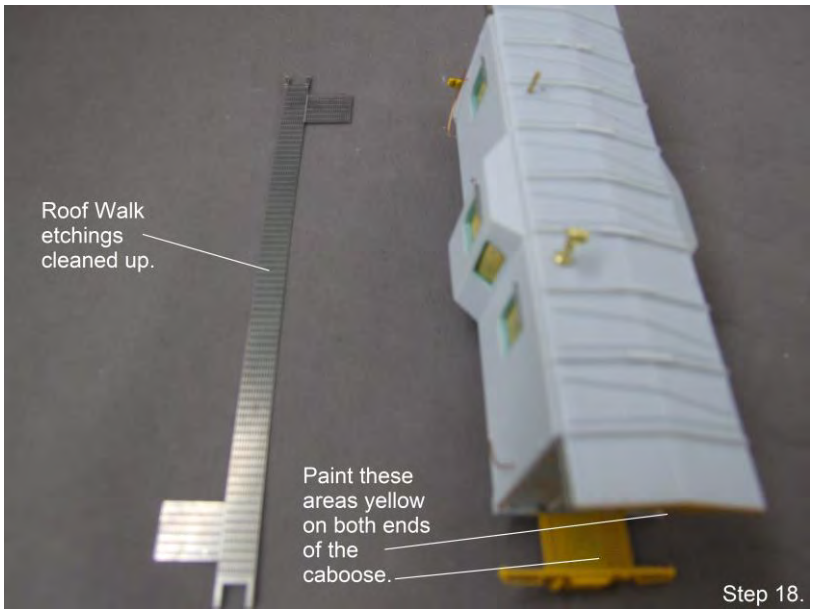
Step 18. Now that we have all the roof line and lower body parts installed to the roof/body assembly, we will move on to the final portion of the roof/body assembly which is the roof walk and lateral supports installation. **OPTIONAL Please note: If your era does not require or allow a roof walk, this step is not necessary!**

First mask the entire body with the exception of the roof ends and the platforms. Using your favorite yellow color (we use Tamiya lemon yellow) paint the exposed areas. When complete, allow the painted areas to adequately dry. You can use flat paints for these areas as no decals will be applied. The flat paints dry faster which allows us to move on to other steps.

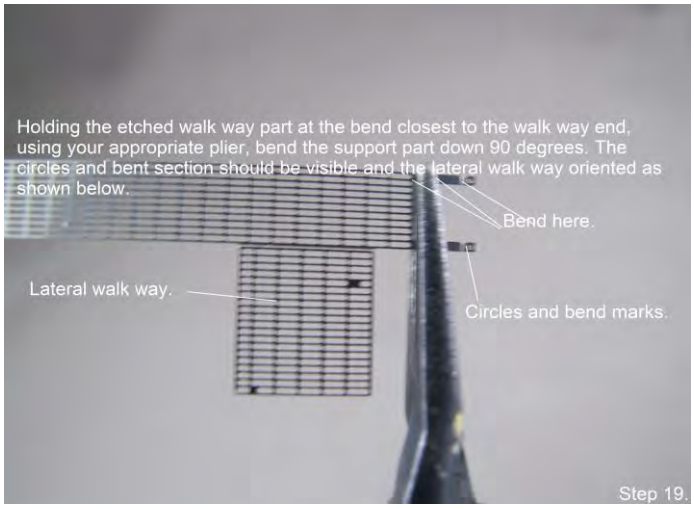
When your paint has adequately dried, locate your larger etched part sheet and using your etched part cutters, cut off the entire roof walk from the sheet. Remove flash from everywhere you cut off the part and using a sanding stick, smooth off the areas where you cut the flash off. Next, locate the lateral walk way/platform supports and using your etched parts cutters cut the parts off the sheet, remove flash and smooth where you cut the flash off.

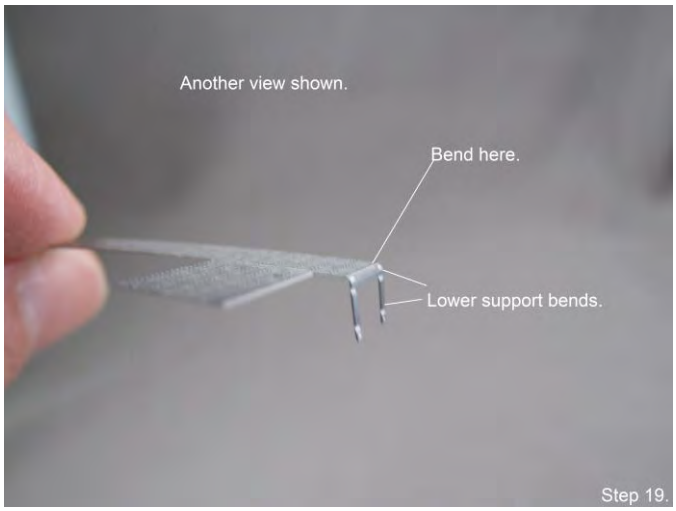




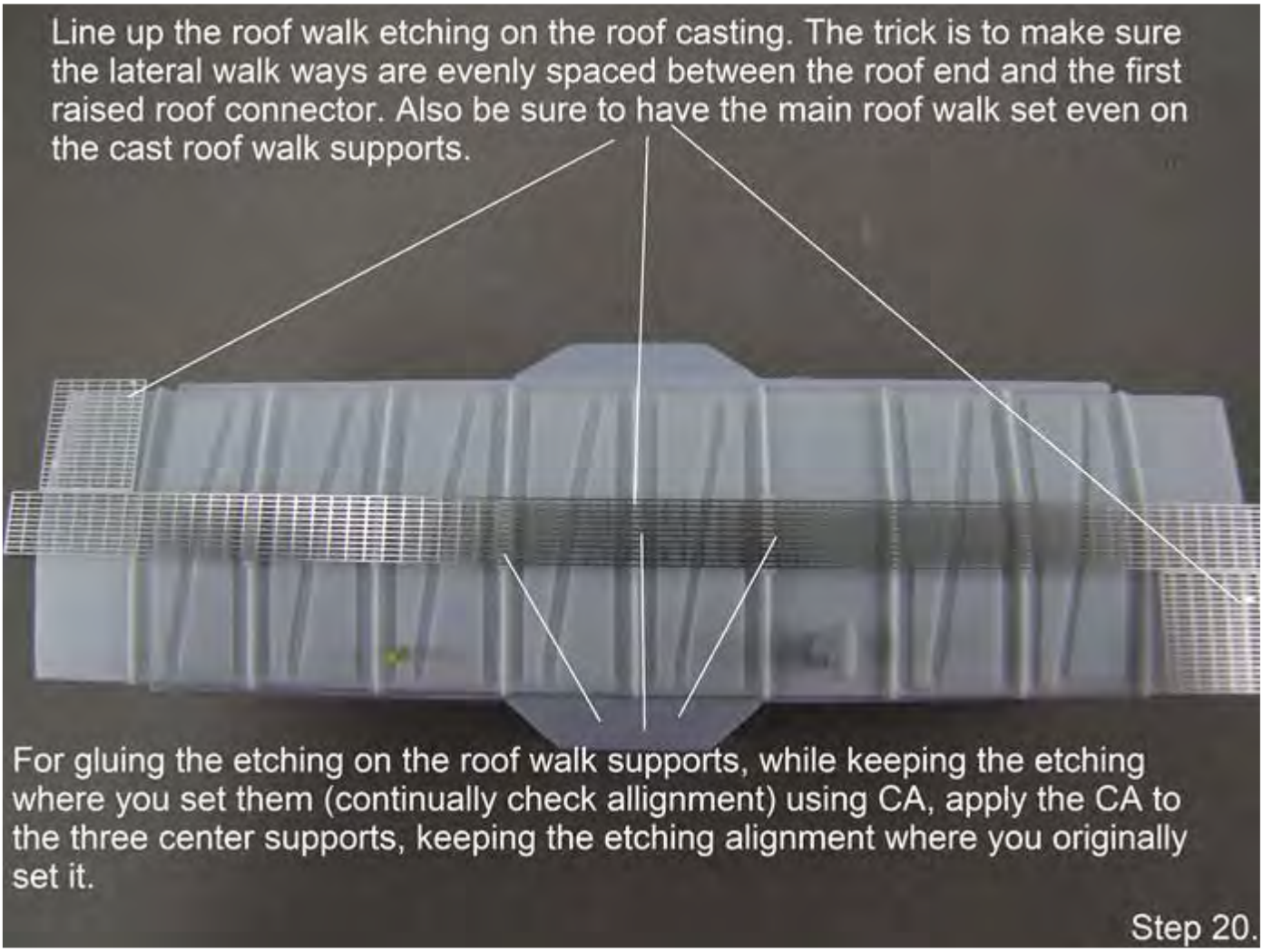


Step 19. When you have cut the roof walk etching from the large etched parts sprue and cleaned up the flash, using flat jawed pliers or flat etched parts bending plier, bend the roof end supports 90 degrees down in preparation for installing the walk way onto the roof. See photo below for guidance.

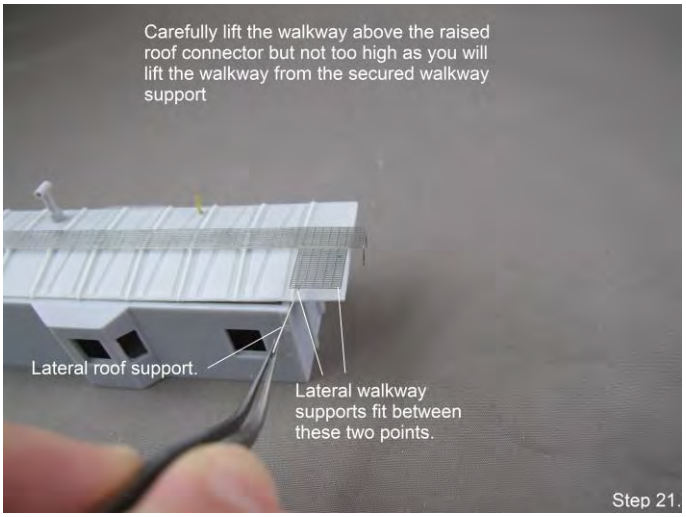


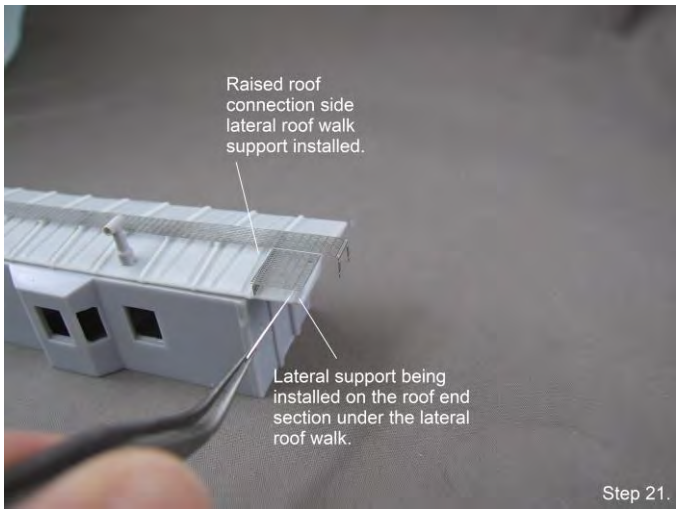


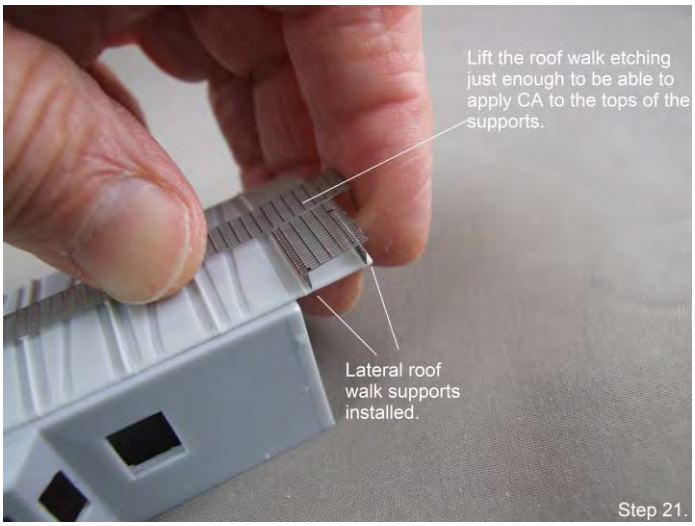
Step 20. Next we will attach the roof walk to the roof, Using the photo below as a guide, and making sure that the alignment of the roof walk is correct (lateral roof walks between the raised roof panel and the end of the roof evenly placed and the main roof walk centered on the roof walk supports) apply CA to the center three roof walk supports, place the etched part on the supports keeping in mind your original alignment (**very important**) and hold in place until the CA dries. Any excess CA that leaks through the etching to the surface, once dry, can be removed using a sanding stick. Once the first attachments have dried, repeat this step for the two outer supports on each side of the original attachments. Four more supports remain to be attached to the roof.



Step 21. The last attachment to the roof will be the lateral roof walk supports. Remove these parts from the large etched parts sprue (see above large sprue photo) and remove as much flash from the cutting as possible with a sanding stick. Install these supports between the raised seam of the roof and the edge of the roof. Target the parts to fit under the edge of the lateral walk way so that they are perfectly vertical. **Note: On older kits the supports were larger than those supplied with this kit. They had a fold over piece that was supposed to help with the locating of the support to the roof. The only problem was that these parts made the roof walk appear severely swayback and thus unusable for installation on the roof unless seriously modified. The new parts do not have the fold over and fit easily under the lateral walkway. Installed correctly, these supports are more accurate and look better.** Using CA, apply with a needle or wire to the underside of the part, (Notice the part was made to fit with part of it beyond the roof gable). The top side of the part is flat. Work the CA applied part under the roof walk/lateral roof walk on the raised panel section until the part is flush with the walkways and perfectly vertical, Do the same for the end of the roof side of the lateral roof walk, installing the part perfectly vertical and directly under the lateral roof walk. When the CA applied on the lower lateral roof walk supports has adequately dried, lift the ends of the roof walk just enough to apply CA to the tops of the lateral roof walk supports, then place the roof walk/lateral roof walk back onto the supports and hold the glued parts in place until the CA sets up. If any CA leaks through the etchings, clean it up with a sanding stick. Repeat this step for the other end of the caboose. Photos of this step are below.







Opinion! Now that you have completed the installation of the roof walk, lateral roof walk supports and lateral roof walk/roof walk, you will need to mask the interior of the body, the roof ends, the roof walk and end supports, and the platforms (everything painted yellow plus the end of the roof walk supports in preparation for painting the body L&N gray. Depending on your era, you may need to paint the body including roof ends and platforms gray or red and for the local/later era red painted cabooses, you would need to skip the roof walk installation process.

In order to be efficient for future steps, you should go ahead and paint the body gray, allowing it to be adequately dry by the time you need it for future steps.

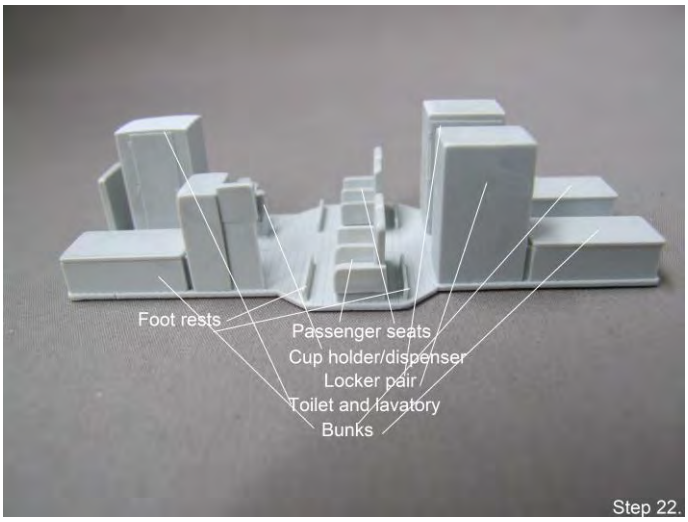
Next Up: Interior Casting!

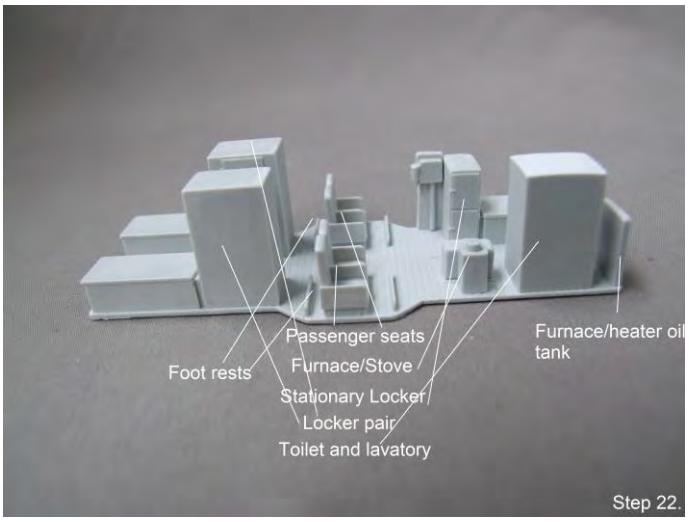
Interior Casting

The interior castings in resin caboose kits seem to create the most discussion of any other subset parts. Usually there are three categories of resin kit modelers who have opinions about the interior caboose castings. One is “don’t want it, don’t need it can’t see it!” Two is, “Eh, it’s included but can’t be seen, so let’s put it in but waste no time painting or detailing it!” and Three, “It’s cool! Let’s detail the heck out of it!” Wherever you see yourself in this scenario, just know that if you’re number one and two, you can skip this part and move on to the underframe. However, we do hope that you will join us at least to see what we do and who knows? Maybe we can convince you to join us!

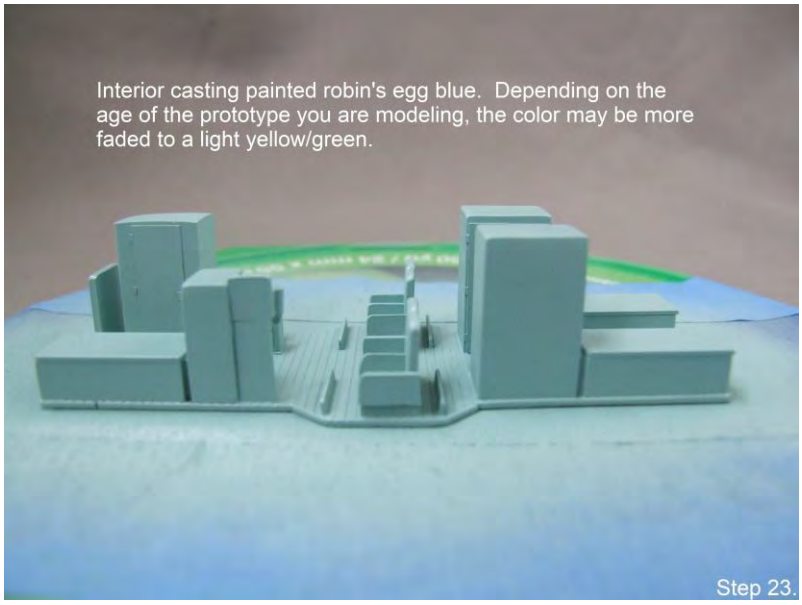
Having said all that, let’s get back to work.

Step 22. Locate your interior casting and follow the important parts description in the photo below:

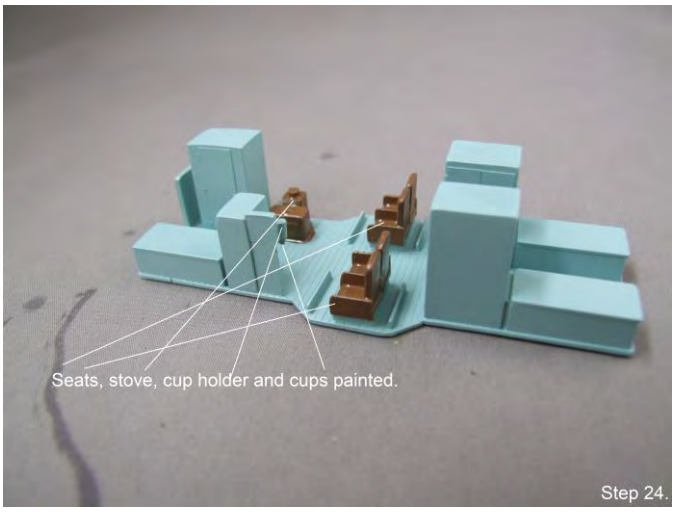


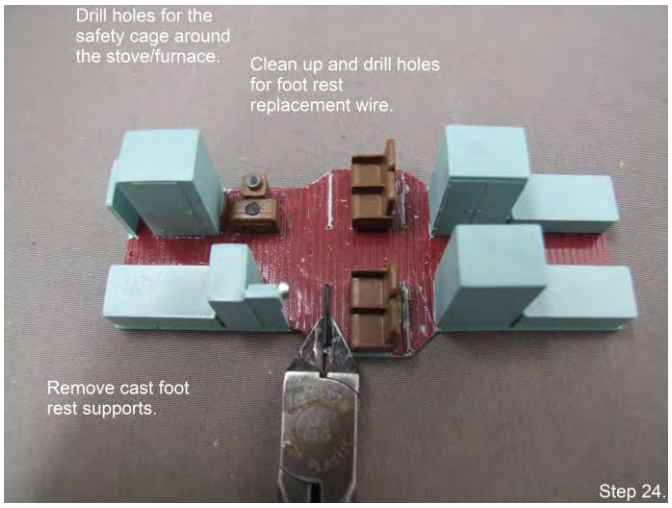


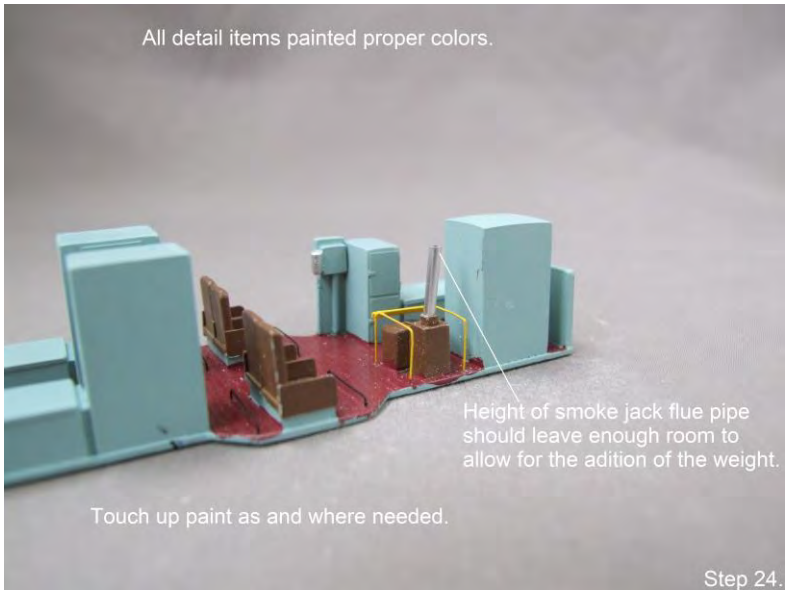
Step 23. Paint your interior casting the same color you painted the body interior. **Reminder: The older the caboose prototype, the more faded and stained the interior paint gets. The gray of the prototype of the newer version after the prototype of this pilot model would be close to as painted but slightly yellowed. The walkway roof red and later red versions were faded the most and were more yellowed. Hint: Tamiya JA Grey is a great choice to show the most faded/yellowed color.** Once you have painted your casting, set it aside to dry.



Step 24. Once your interior casting is painted and the paint has adequately dried, it is time to decide just how much more painting and detailing you want to do. For sure, the passenger seats and cup dispenser need to be painted as they will be visible through the bay window. In addition to the heater/furnace the floor needs to be painted. Paint the seats and stove the same brown color. The cup dispenser is aluminum/chrome silver. The cup at the bottom of the dispenser is white and the floor is a maroon shade. If you want to modify the foot rests, all you need to do is carefully carve the foot rest casting off AFTER you have marked the sides of each foot rest with a needle to mark the place to drill the holes to place the wire which will resemble the threaded steel piping. The piping for the foot rest appears to be .between ½" to ¾" in diameter. We suggest using .0125" to .015" wire to install for the foot rest pipe. You may also consider modifying the footrests BEFORE you paint the floor. The footrests should be black or gun metal to simulate aged steel. The last suggested modification is the addition of a stove pipe to the oil furnace. Look for a piece of styrene or aluminum rod that is about the size of the casting at the rear of the furnace. Paint the smoke stack a faded steel or gunmetal color.







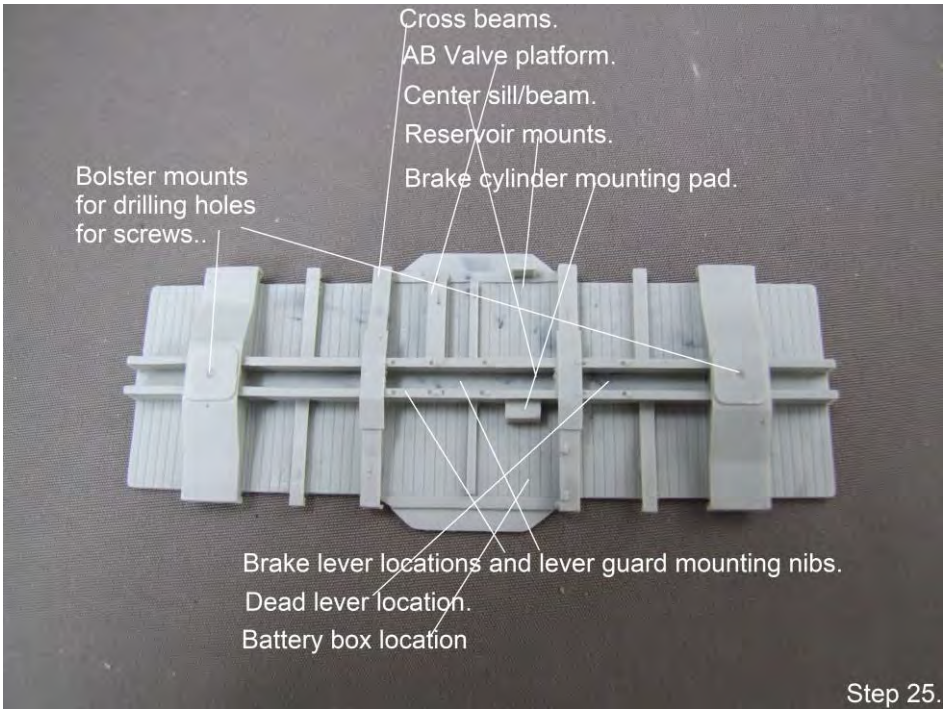
When all details have been added/painted, set casting aside to dry. **NOTE: Don't forget to flush cut or file/sand off the protruding wire on the underside of the casting from the stove and foot rest installations. Be sure to check alignment of the parts once you finish. You will need all the clearances possible so please don't forget this important step!**

Next we will start the underframe!

Underframe Construction

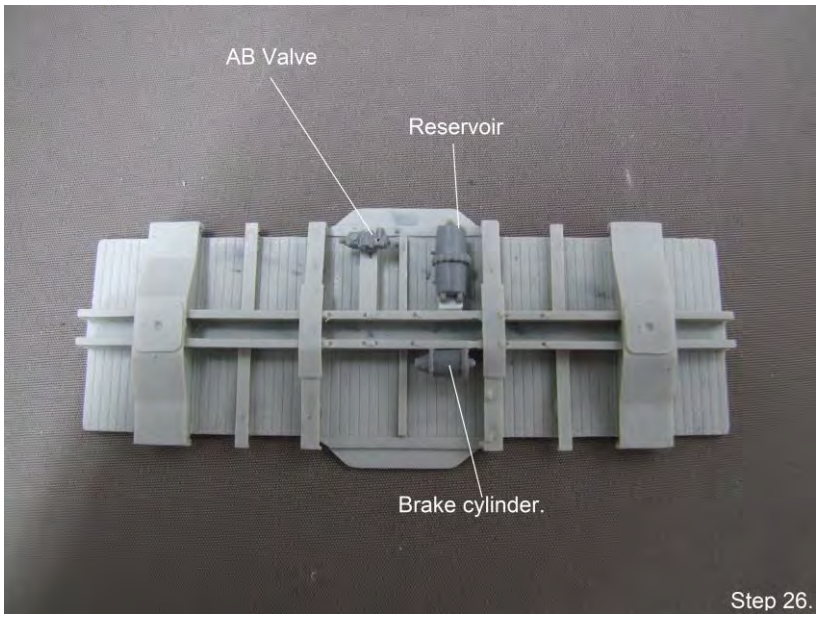
We will now embark on one of the more complex parts of building this kit. While complex may not be the proper term to use for this section, you can make it as complex as you like. For the sake of showing what can be done, we will be highlighting this section to show all the detail and changes that you need to make your kit a resin model copy of the prototype. You can do as little as you want as far as detailing the underframe, but do keep one thing in mind: The body of these cabooses sit high on the rails and most of the underframe detail is visible from the sides. However, how much you choose to detail is up to you. Use as much or as little what of we will be showing you. Remember, this build is based on the first version of the bay window caboose built by South Louisville Shops.

Step 25. Locate your kit's underframe casting. We will show you the major parts and areas of the underframe.

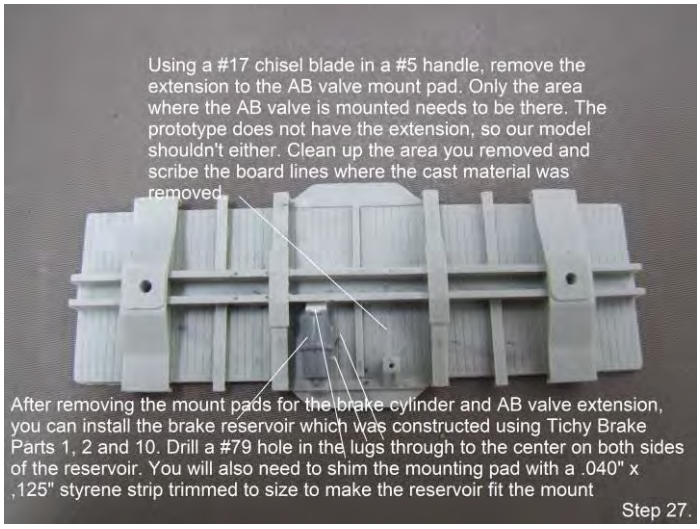


If you happen to own an older kit and are using these instructions to assist your assembly, you may need to notch the center sill to get the underframe casting to fit on the body. See photo: NOTE: This will not be applicable to the castings made by Southbound Models!

Step 26. If you want to do the barest application of brake parts to the casting, see photo below. The parts can be identified on your Tichy Brake Part Fret as Brake Cylinder parts # 3, 8, & 9; Reservoir parts # 1, 2, & 10; and AB valve, part # 5. You can add brake plumbing/piping as you wish or none at all.

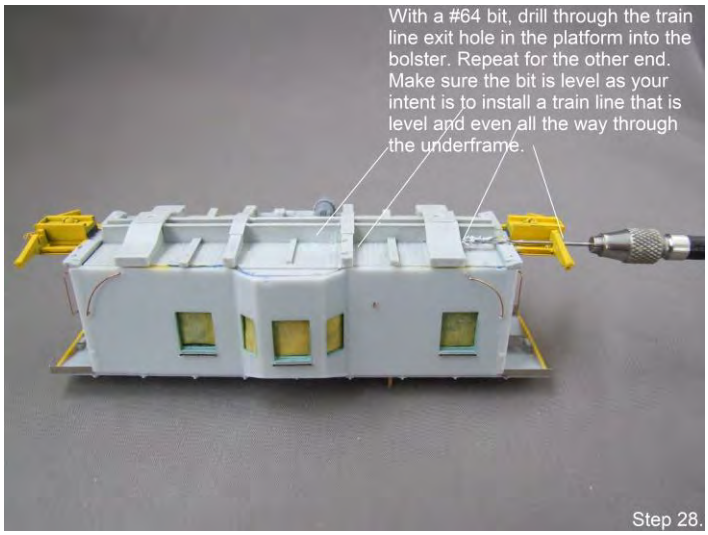


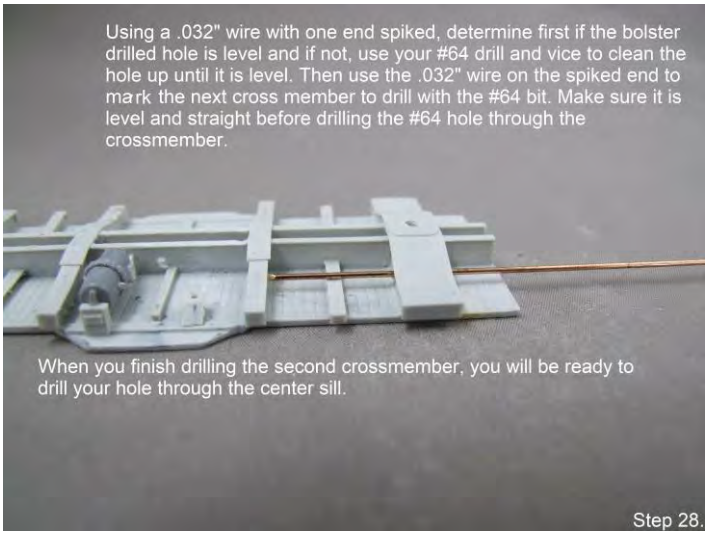
In order to build your underframe to reflect how the prototype appeared, or as close as you desire, you will need to modify the underframe before you start installing the brake gear. We will show you the modifications we made to the casting to do this.

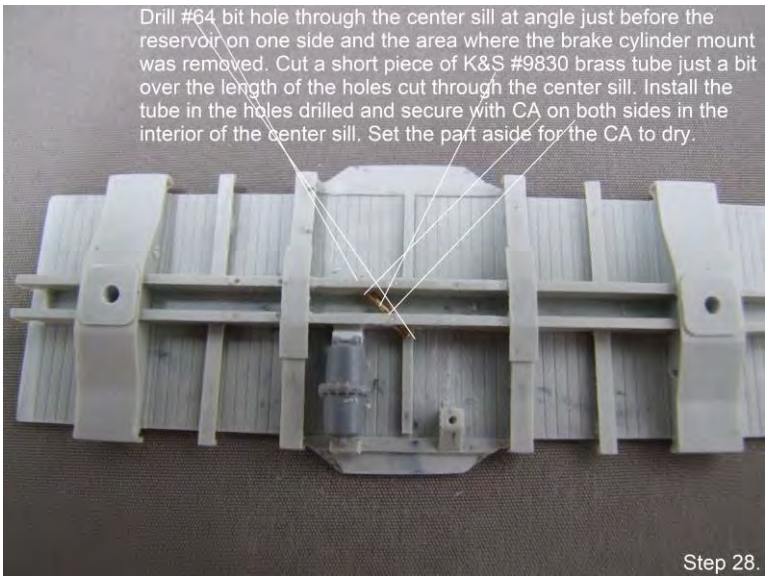


Step 27. Using a #17 blade in a #5 handle, carefully remove both the brake cylinder mounting pad and the extension of the AB valve mounting pad from just back of the mount to the center sill. Clean up the areas you chiseled off with file/sanding stick/sand paper and scribe the boards using the back of a #11 blade in a #1 handle. After you finish the clean-up/scribing, you can start installing the brake reservoir part. This part is assembled using the Tichy Brake Parts, # 1, 2 & 10. Note the nubs on each side of the center of the parts. You will need to mark a center spot with a sharp needle and using a #79 or 80 bit, drill holes in each one clear through to the center. The holes are for the wires used to resemble air lines for the car. Test mount the reservoir. You will see that there is a gap of about .040” between the reservoir part and the center sill side of the mount. You can fill this gap using a strip of Evergreen Styrene strip .040” x .125”, trimmed to be flush with the sides and top of the center sill side of the mount. Before installing any of the other brake parts, we will drill holes for the train line wires.

Step 28. With the modifications and clean up completed and the brake reservoir installed, before we move on the installing the remaining brake parts, we will drill #64 holes in the bolster and crossbeams so we can install the train lines. Though some do not feel it is necessary to install a bridge to connect the train lines where they cross at the center sill, it does make the connection look better. We use K&S #9830 1mm x .225mm Thin Wall Brass cut to size and cleaned up to fit .020" wire that simulates the train line. Before we drill the bridge line, we need to be sure that our train line is properly lined up on the underframe with the body/platform ends. Temporarily install the underframe in the body being sure that the underframe is lined up with the cast holes that denote the "B" end of the frame (there are also holes in the interior and ceiling of the body). All these indicate "B" end. With the underframe in the body, drill the end of platform train line hole with the #64 drill bit on each end of the car. You will need to install the bit in your pin vice only a short distance into the tool so that the bit will reach from the platform end to the bolster face. Start drilling your train line holes where desired (your bit will not be long enough to get through the bolster from the end platform). Repeat for the other end of the car.

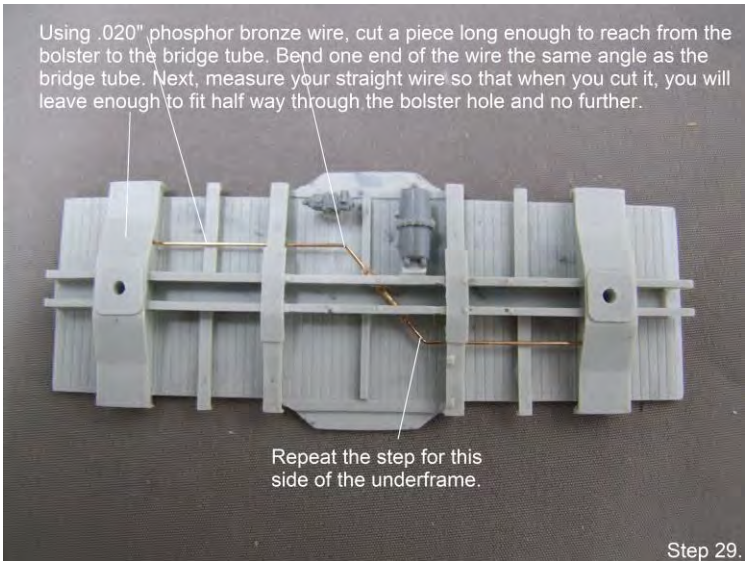




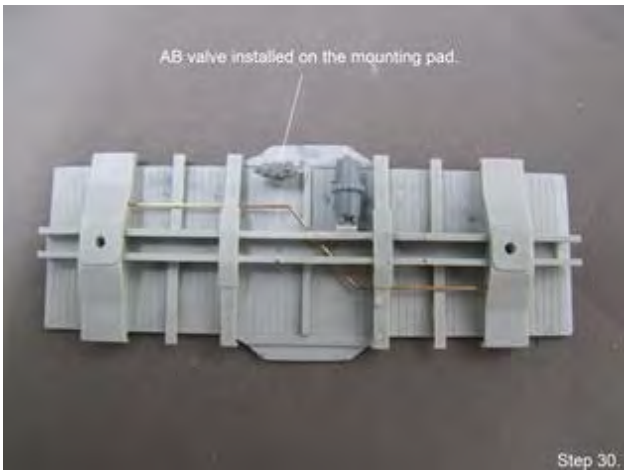


When you have completed drilling #64 holes in the first side of the underframe, on the same level as the other holes, drill a #64 hole at a slight angle through the center sill, keeping the hole on the other side of the sill in line with the holes you will be drilling on that side. Obtain a K&S #9830 brass tube and cut a piece of the tube just longer than the hole you just drilled through the center sill. This hole will be for your tube/train line bridge. Install the tube in the holes and secure with CA on each side of the bridge inside the center sill. Next, repeat drilling the #64 holes on the other side through the bolster and cross member. Be sure to also keep this side as straight and level as the other side.

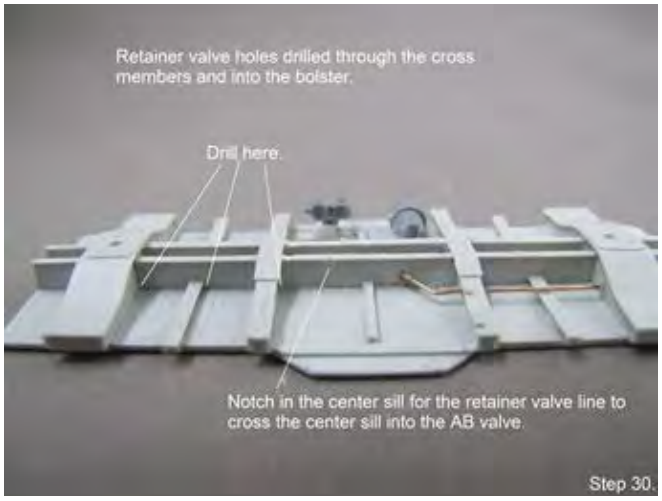
Step 29. When the CA securing the bridge tube has adequately dried, it will be time to install your train line. Grab your .020" phosphor bronze wire and cut two pieces long enough to reach from the bolster to the bridge tube. Bend one end of each wire the same angle as the bridge tube hole was drilled. This angled end will need to be only long enough to fit just a short distance into the bridge tube. The hole in the tube should be the same size to accept a #75 bit. In order to clear the wire into the tube, or in the event you use another size tube, you may need to drill out both ends. Install the angled wire straight line first through the holes in the cross members and only half way into the bolster. You will need to measure and cut the straight wire before installing it inside the bolster.



Step 30. Next, we will install the remaining brake gear appliances. Grab your Tichy part #5, AB Valve. Though this is a single part that does not need to be assembled, you will need to drill the holes for mating the piping to the reservoir, brake cylinder and retainer valve. The following photo identifies where each hole is to be drilled and for what appliance. You will be drilling an extra hole for the retainer valve which will be in the center of the face of the valve. Drill all the holes using the bits identified. If you didn't install the retainer valve next to the B end door, you don't have to drill a hole in the AB valve for the retainer valve connection. When you are finished drilling the holes in the AB valve, using a #68 bit, drill a mounting hole on the AB valve mount. If you don't think your AB valve part will be secure enough only CA'd to the mount, you can drill a #80 hole in the mounting lug of the valve for a short piece of .010" wire. Drill another hole inside the short #68 hole through the casting. Install the wire first in the lug on the AB valve with CA, then apply CA to the lower wire and install kit into the hole through the casting and trim excess wire on the flat area of the underframe casting.

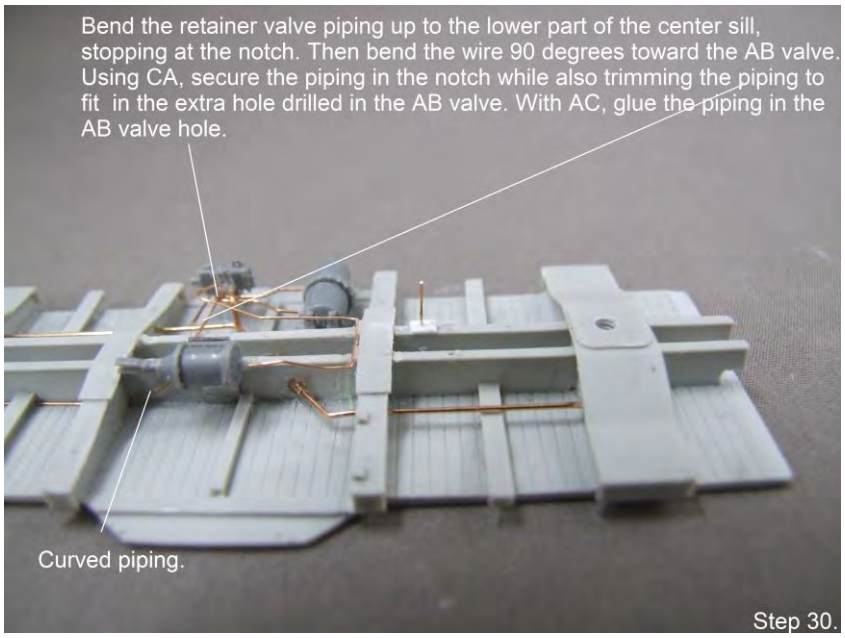


Before building and installing the brake cylinder, you will need to drill #80 holes for and install the retainer valve line (.010” phosphor bronze wire). On the prototype, the line goes from the AB valve across the center sill and up to the floor of the underframe, through cross members and into the bolster. On the other side of the bolster, you will need to drill #80 holes and install a short .010” wire to the connection on the platform connection on the B end of the cab. This later part will be installed during the Final Assembly Section of the instructions. When drilling the holes through the cross member and into the bolster, you will need to install the #80 drill only a short distance into the pin vice housing. This will allow some flexibility in drilling the holes needed, but you need to take care as the drill bit can break easily when you try this.

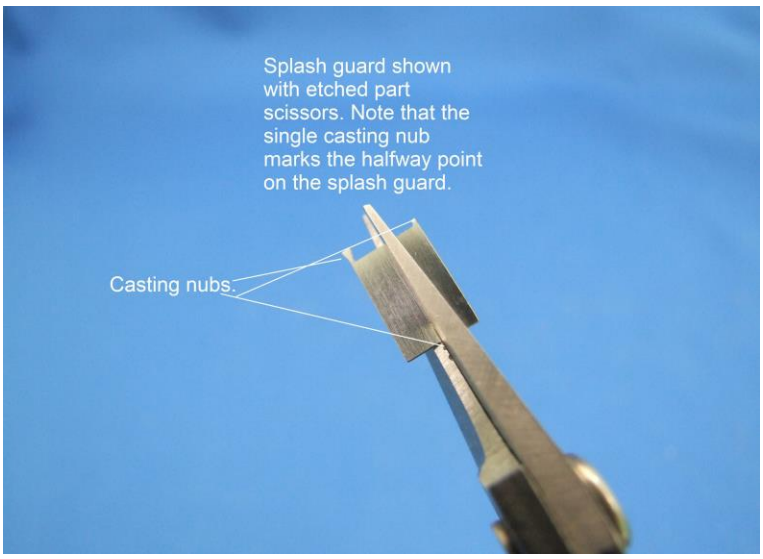


Install the piping from the AB Valve to the reservoir first before installing the retainer valve piping. Once you have completed the lines from the AB valve to the reservoir, start feeding a length of .010” phosphor bronze wire into the holes drilled next to the floor and center sill. You need to do this before installing the brake cylinder.

Next, start bending the retainer valve piping up toward the lower part of the center sill making the piping circular ending on the notch in the center sill. At this point, bend the wire 90 degrees toward the AB valve. Secure the curved wire with CA in the notch on the center sill while trimming the end of the wire to fit it in the retainer valve hole drilled in the AB valve. Fit the end of the wire in the hole in the AB valve and secure it with CA.



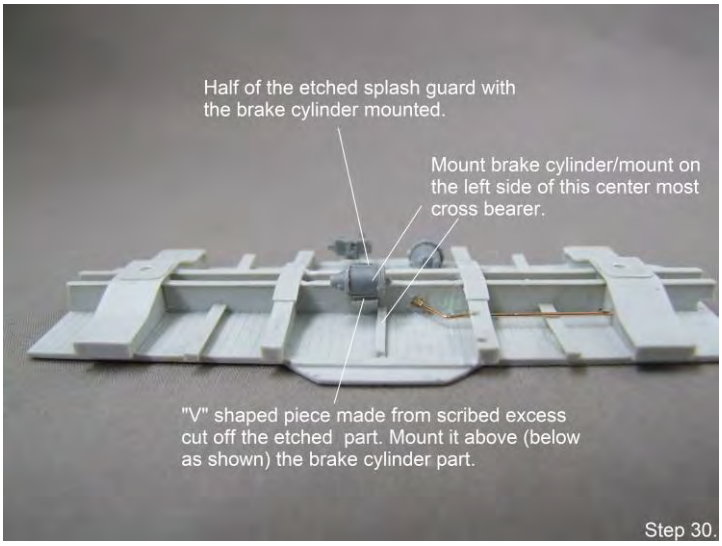
Now, on to the brake cylinder. We are very fortunate as custom builders to have at our disposal parts boxes with the most unusual leftovers ever seen. One such part actually came from the Wright Trak Southern Railway Re-Built caboose kit. On the extended etched part fret where the window frame etchings were located, there were what appeared to be etched splash guards. While I cannot consider myself a total expert on the Southern Rebuilt Bay Window Caboose, looking at all the photos in all the collections reviewed never revealed splash guards on these cabooses. We thought, well another useless etched part for the box, BUT, experience has shown that cutting exactly in half, these parts make excellent mounting supports for brake cylinders. Check out the photo below to see where you cut this part.



Be sure to cut this part exactly halfway of the part. Doing this makes the etched part fit snug with the brake cylinder mounting pad. Cut the part, clean up the flash and test measure the area where the brake cylinder needs to be mounted. Place the non-scribed end on the floor by the center sill on the side opposite the reservoir and AB valve. Measure to the bottom of the center sill (remember, you are looking at the part upside down) and add enough for the brake cylinder to mount on the support right at the bottom line of the center sill. Cut off the excess of what you measured but DO NOT discard it,

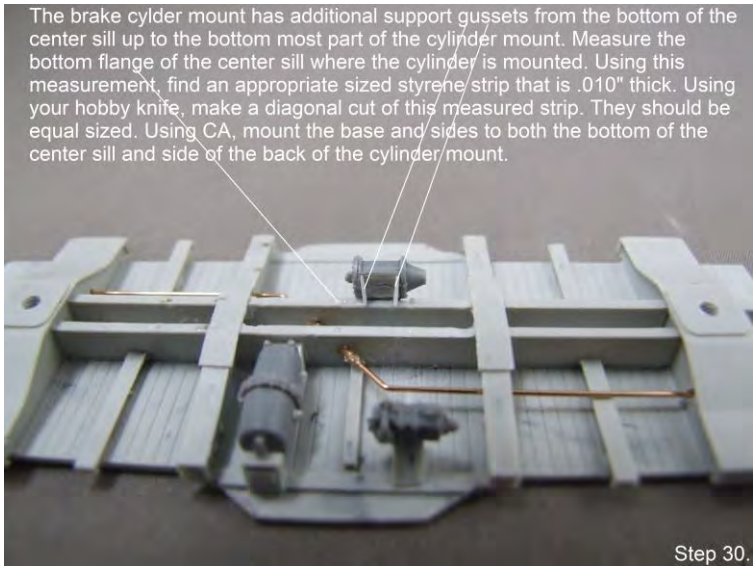
With the measured part in place, notch the bottom of the center sill on either side of the support and clean up the cut so that it is even with the cut on each side and even with the side of the center sill. Using CA mount your brake cylinder at the bottom of the part (top looking it). Test fit to the center sill. You may need to remove extra material. If so, do so now. If you come up a bit short, not to worry.

Now take the excess of the part you cut off. Find the scribed line and measure from the scribe line. Cut the longer side so both sides of the scribe line are equal. Bend the new part with the scribe line inside. Mount this “V” shaped part using CA above the brake cylinder on the center sill side.

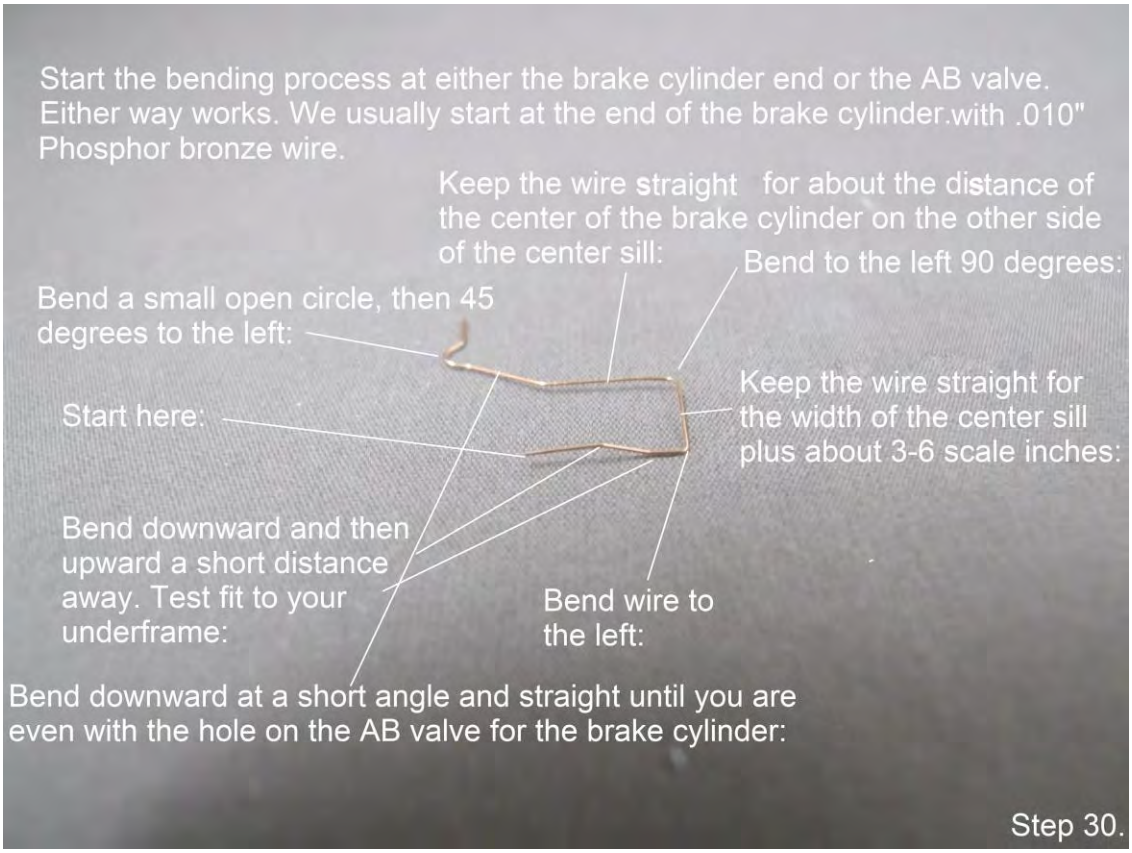


When the CA from mounting the “V shaped part to the brake cylinder/mount assembly has dried, using additional CA, mount the brake cylinder/mount assembly to the center sill side on the left side of the center most cross bearer. The retainer valve piping should be on the left of the brake cylinder assembly. Hold the glued part in place making sure the part is secured to the side of the center sill all the way up the part along the side of the center sill.

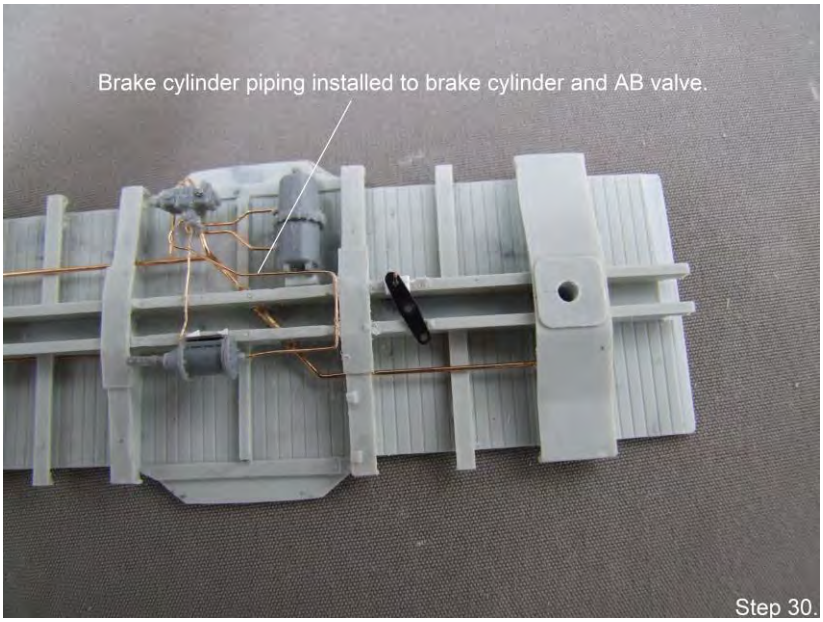
Remember that the cylinder mount/brake cylinder mounted a bit above the bottom of the center sill. There are additional supports shaped like gussets. Measure the flange of one side of the center sill and find an appropriate sized .010” thick strip of styrene. Cut it the height of the cylinder mount above the center sill bottom. Using your hobby knife, diagonally cut the strip so that both sides are equal. Mount them on the back side of the cylinder mount by applying CA to the bottom and side of the strip. Place these gussets equal distance apart on the cylinder mount.



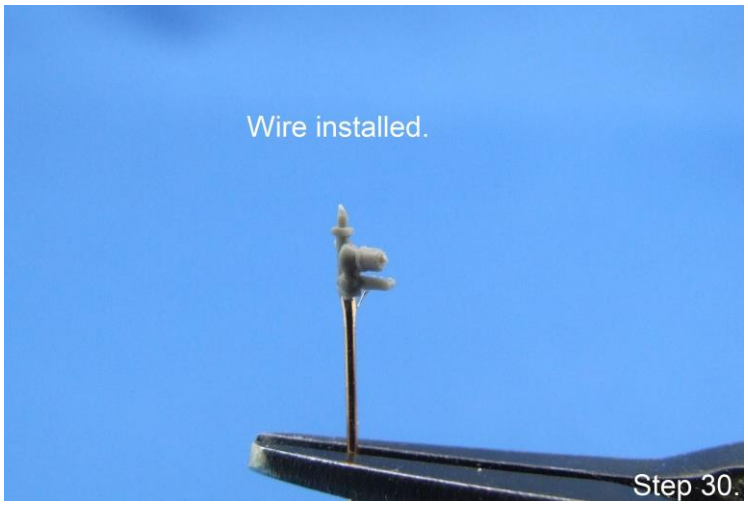
You have now installed most of your brake appliances and piping. We still have some more piping to install to complete the job. This set of piping is probably one of the most complex. The best way to start it is at either the brake cylinder or the AB valve.



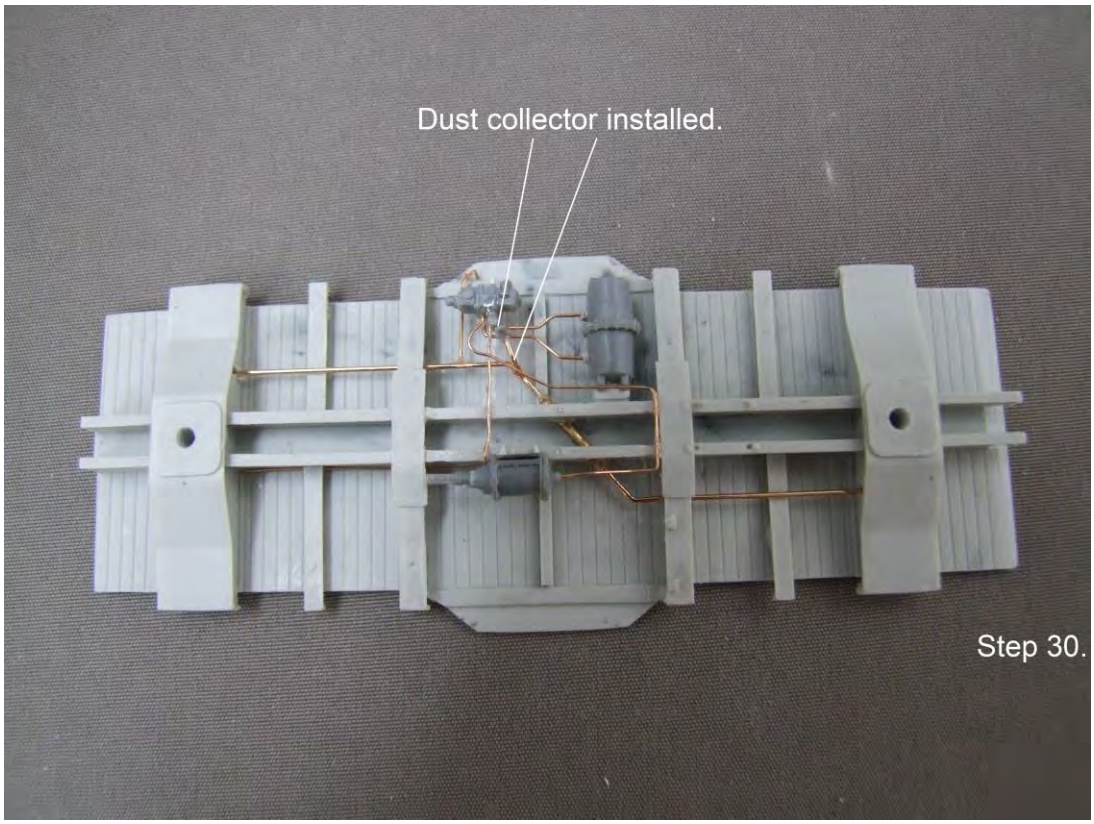
It may take a bit of practice, but keep at it until you are happy with what you bent. Once you are happy with your efforts, install the brake cylinder end into the hole at the rear of the brake cylinder and the other end into the brake cylinder hole on the AB valve.



After completing the AB valve to Brake cylinder piping, you have only one more brake appliance to install: The dirt/dust collector. Grab your Tichy brake parts sprue and look for #6. Remove the part from the sprue, trim off the flash and cast on piping. Using a 245 grit sanding stick, smooth off the end where you removed the cast on piping. With a sharp needle, mark a hole in the center of the area you just sanded. Drill a started hole with a #80 bit about one scale inch into the part. Then, using a #75 bit, enlarge the hole so that a .020" short piece of wire can be installed. Install the wire with CA and set it aside to dry. Once the CA has dried, using a pair of pliers, bend the wire approximately 90 degrees down toward the train line. Test fit and cut/adjust (using two sets of pliers to avoid damaging the plastic part) the assembly until you have the part where you want it.

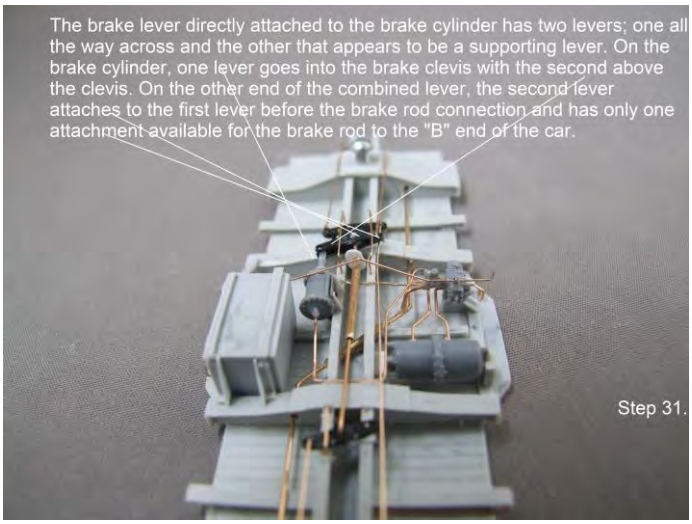


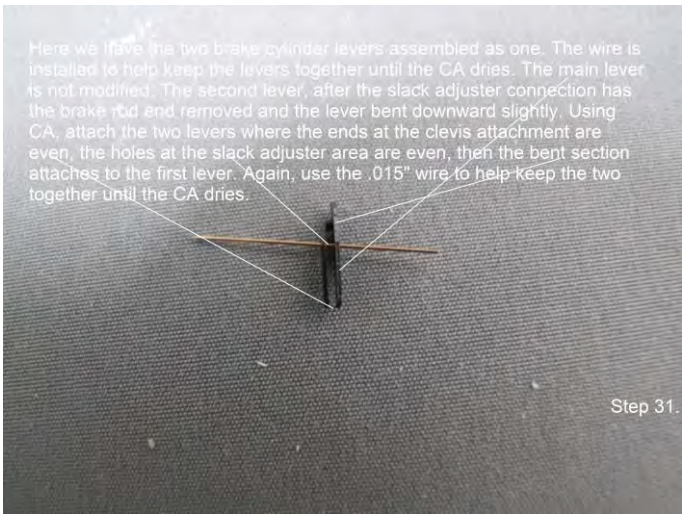
Dust collector installed:



This completes the installation of the brake appliances and piping for this caboose. Next we will install the large clevis (Part # 25 on the Tichy brake parts sprue.) into the front opening on the brake cylinder, brake levers and slack adjuster. Be sure the large clevis is in the same position as shown in the above photo-perfectly vertical.

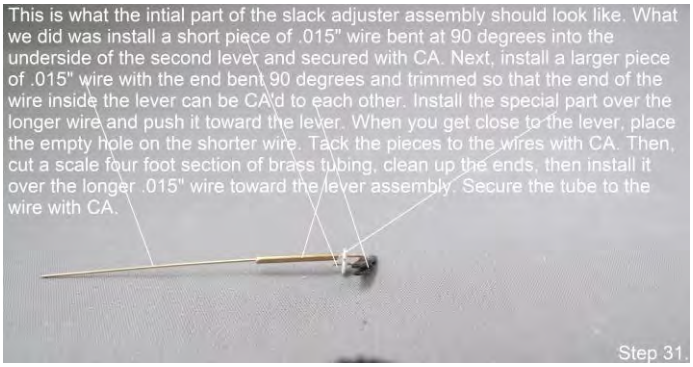
Step 31. Most cabooses with brake mechanisms on both ends have three brake levers; the dead lever toward the “A” end, the brake cylinder brake lever, and the front brake lever that is attached to both the brake cylinder and the “A” end brake mechanism. Due to the L&N design for the bay window cabooses, this one has four (After this version, all gray to red L&N cabooses have three levers including the main lever) . The brake cylinder lever has a complex two lever set that are attached to each other. The photos below show one installed and the other starts the construction of the lever.

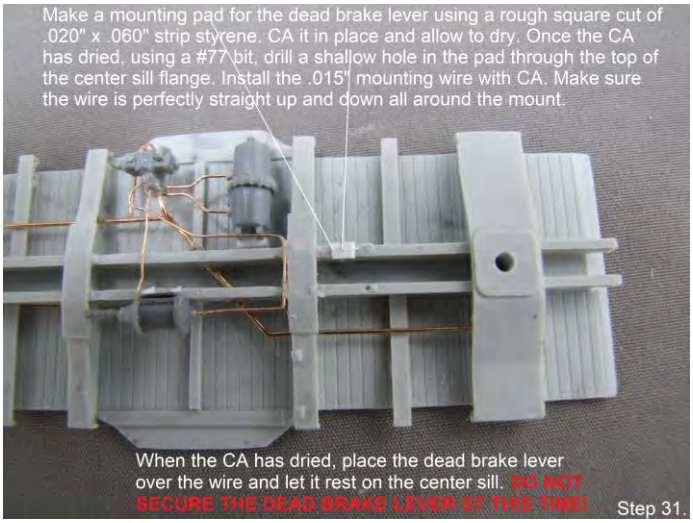




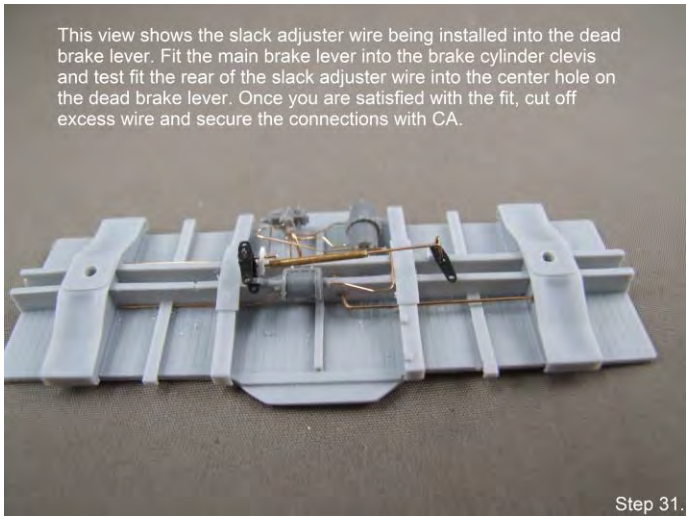
Once the CA dries on the brake cylinder brake lever assembly we start the process of bringing it all together with the slack adjuster. There is a part we do not know what to call it, but it is made by using a .020” x .060” styrene strip. Using your 245 grit sanding stick, shape the top and bottom of this part semi ovals so that when finished it looks like an oval. Then, measure the area of the brake lever assembly at the slack adjuster connection. Using this measurement, drill two #75 holes spaced to the measurements you took and centered in the oval. Photo below shows how the part should look.

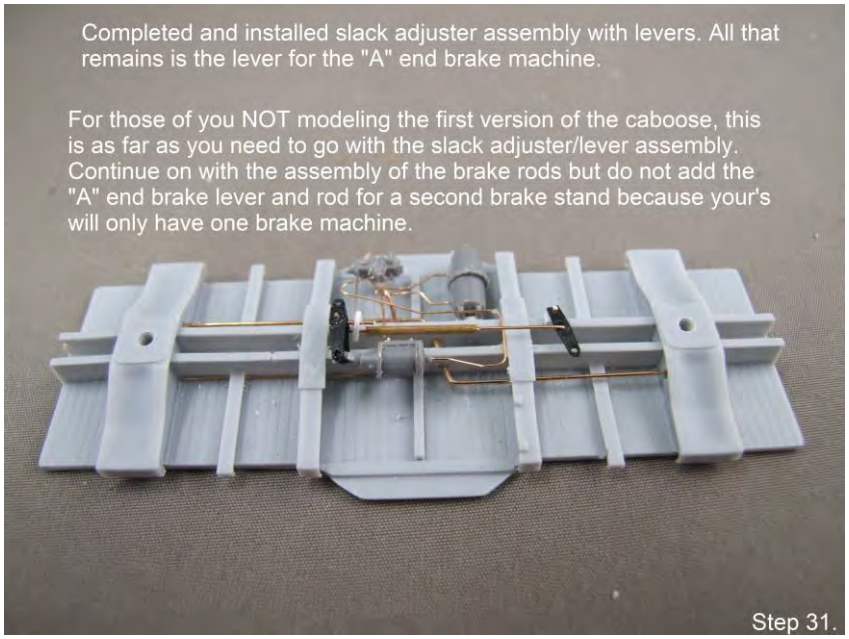
Next, we will start the slack adjuster, main brake lever assembly, and dead lever process. The photo below shows you what to do with assembling the slack adjuster rods, main brake lever assembly, special part and brass tube together. Fabricate a dead lever mount on the “A” end of the underframe where the dead brake lever will be installed. Drill a #77 hole in the center of the mounting base. Install a short piece of .015 wire and allow it to dry while keeping it perfectly straight up and down all the way around the base. When the CA used to secure the wire has dried, slip the short end of the dead brake lever over the wire. **DO NOT** secure it at this time.


This is what the intial part of the slack adjuster assembly should look like. What we did was install a short piece of .015" wire bent at 90 degrees into the underside of the second lever and secured with CA. Next, install a larger piece of .015" wire with the end bent 90 degrees and trimmed so that the end of the wire inside the lever can be CA'd to each other. Install the special part over the longer wire and push it toward the lever. When you get close to the lever, place the empty hole on the shorter wire. Tack the pieces to the wires with CA. Then, cut a scale four foot section of brass tubing, clean up the ends, then install it over the longer .015" wire toward the lever assembly. Secure the tube to the wire with CA.
Step 31.


Make a mounting pad for the dead brake lever using a rough square cut of .020" x .060" strip styrene. CA it in place and allow to dry. Once the CA has dried, using a #77 bit, drill a shallow hole in the pad through the top of the center sill flange. Install the .015" mounting wire with CA. Make sure the wire is perfectly straight up and down all around the mount.
When the CA has dried, place the dead brake lever over the wire and let it rest on the center sill. DO NOT SECURE THE DEAD BRAKE LEVER AT THIS TIME!
Step 31.

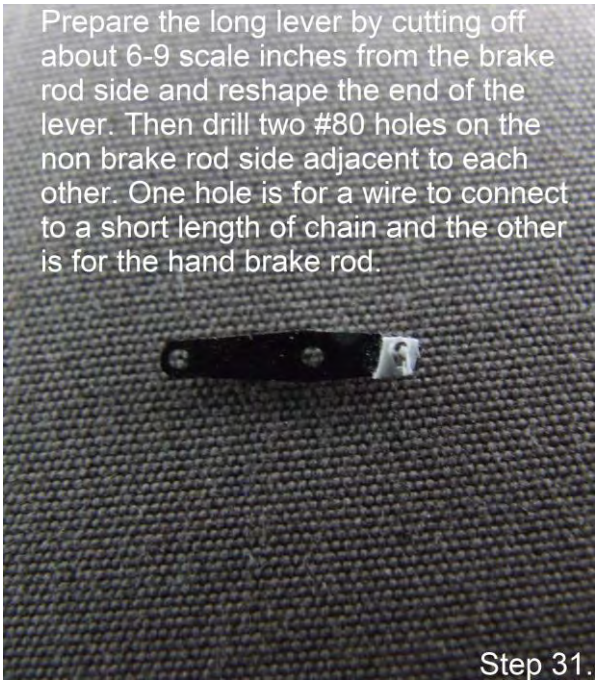

Dead brake lever placed over mounting wire. DO NOT SECURE DEAD BRAKE LEVER AT THIS TIME!
Step 31.


This view shows the slack adjuster wire being installed into the dead brake lever. Fit the main brake lever into the brake cylinder clevis and test fit the rear of the slack adjuster wire into the center hole on the dead brake lever. Once you are satisfied with the fit, cut off excess wire and secure the connections with CA.
Step 31.


Completed and installed slack adjuster assembly with levers. All that remains is the lever for the "A" end brake machine.
For those of you NOT modeling the first version of the caboose, this is as far as you need to go with the slack adjuster/lever assembly. Continue on with the assembly of the brake rods but do not add the "A" end brake lever and rod for a second brake stand because your's will only have one brake machine.
Step 31.

Continuing with the brake lever installation, there is one more lever to install and it is only used on this version of the L&N Bay Window Caboose. Having brake wheels on both ends of the caboose requires this lever.

Look for an area of the center sill just ahead of the main brake lever. It does not have to be immediately adjacent to the main lever, just close enough. Close enough can be 1-2 scale feet. Since we use the Cal Scale Brake levers, choose one of the long levers. Remove about 6-9 scale inches of the rod end of the lever, reshape the end and drill a #76 hole for fitting the "A" end brake rod. On the non-brake rod end, using either a #79 or 80 bit drill two holes parallel to each other on the end. One hole is for a wire to connect to a short length of chain and the other is the brake rod to the brake wheel on the "B" end.



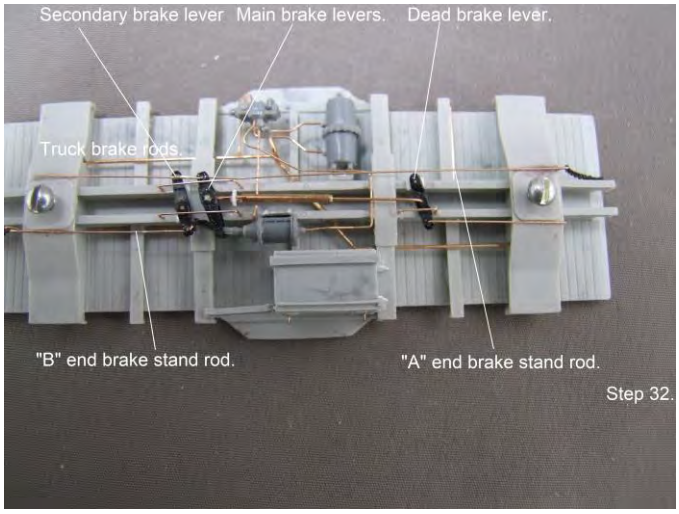
To prepare for the installation of the lever, cut a strip of .020" x .060" styrene just long enough to fit between the flanges of both sides of the center sill. Secure it with CA. When the CA has adequately dried, drill a #75 hole in the center of the strip. This hole will be filled by a short length of .020" wire. Secure the wire to the hole in the strip with CA and allow it to dry. When adequately dry, place the lever over the wire to the strip, (the wire/chain side goes on the brake cylinder side of the center sill). Secure the strip with CA. With all brake levers installed and secured, we will now move on to the brake rods.

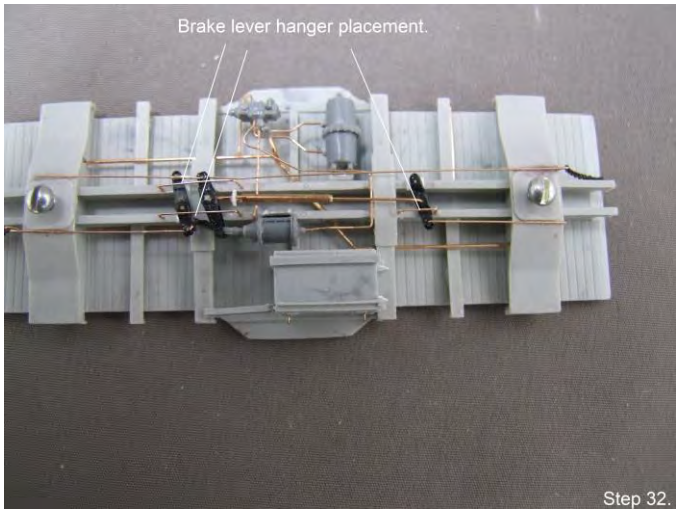
Step 32. As the name suggests, the brake rods connect to the holes in the brake levers with the other end attached to the side of the bolster. This is to simulate that the brake rod from the lever attaches to other levers on the truck that makes the brakes apply when pressure releases in the brake system. We simulate the rods with .010" phosphor bronze wire. The other brake rods (there are two on this version of the caboose), one from the brake cylinder connection and the other from the second brake lever to the "A" end if you have two brake wheel stands. If only one brake stand, then the one from the brake cylinder to the brake stand applies.

Let's start with the truck brake rods on the "B" end, measure the distance from the main lever to the truck bolster. Make a short 90 degree bend in the main lever side of the rod. Insert the rod in the hole and secure with CA. On the bolster end, dab a little CA from the end of the wire up to the lever side of the bolster and place/hold the rod in place until the CA starts to dry. Repeat this process for the short "A" end rod.

The brake stand rods are a bit more complex. First, make a small "U" bend in a length of wire. On the opposite end of the wire, place an open link of chain (just long enough to go from the "U" to the top side of the underframe where it can be secured with a piece of tape) on the wire end and run it down the wire to the "U". Trim what you determine to be excess wire and bend the remaining length closed on itself. Measure from just past the bolster on the coupler side of the bolster back to the bolster and to either the "A" end lever front hole (for two brake stand cabooses) or, with a very short chain attached to the brake cylinder clevis. Secure the wire at the bolster and the clevis with CA and allow to dry.

For the “A” end rod, take a length of wire and make a “U” shaped bend. On the other end of the wire thread an open length of chain (also just long enough to go from the “U” to the topside of the underframe to be secured with a piece of tape) on the wire end and run it down the wire to the “U”. Trim what you determine to be excess wire and bend the remaining length closed on itself. Measure from the secondary lever (on the bolster side of the main lever) to just past the bolster on the coupler end of the bolster. Bend a short section of the wire 90 degrees to fit into the hole of the secondary “A” end lever. Install the bent section on the lever and the other to the bolster with CA. After the CA on both brake stand rods, secure the chain to the topside of the underframe for later painting of the underframe.

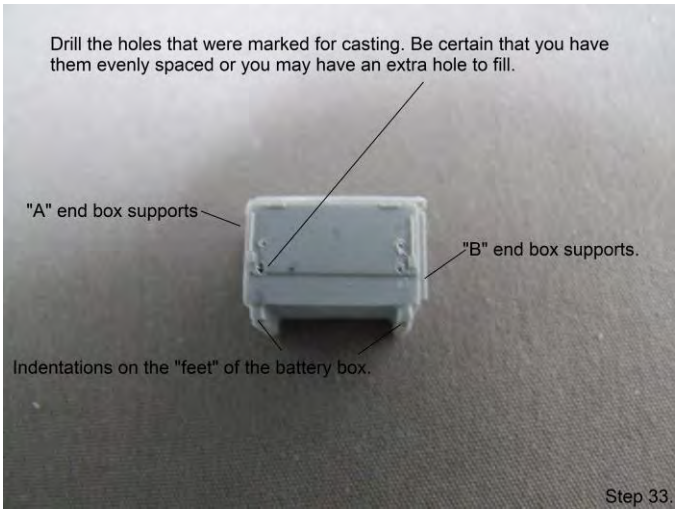


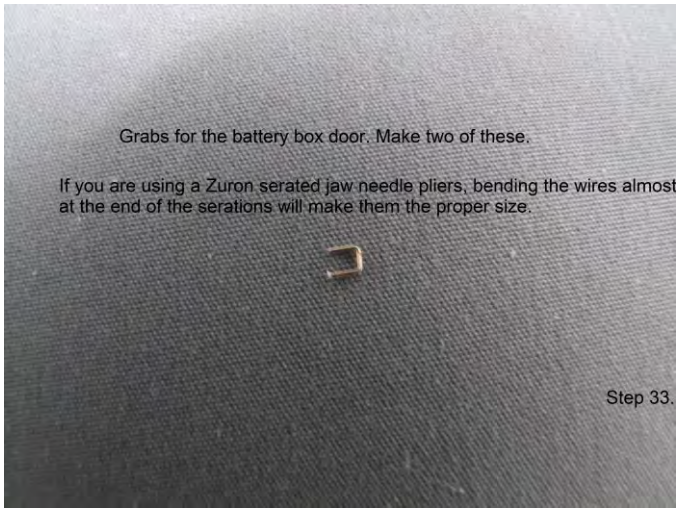


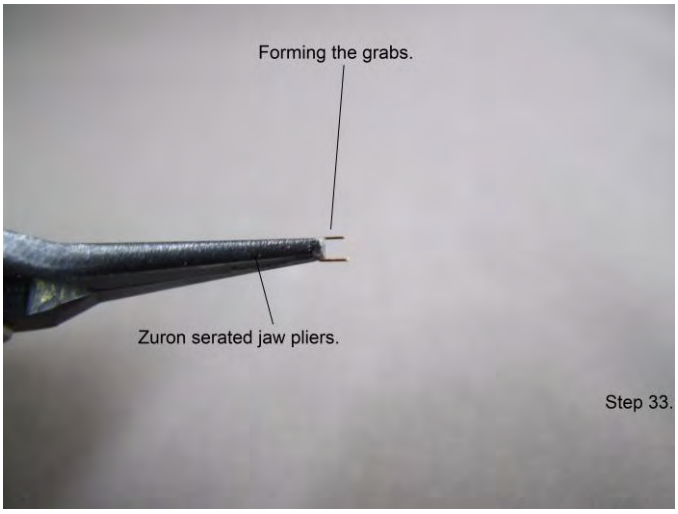
With both the truck and brake stand rods installed, it is time to drill holes in the center sill stands for installation of the lever hangers. The dead lever holes are marked with nubs, so using a #79/80 bit, drill two holes approximately one scale foot each into the flange of the center sill then into the side of the sill. Bend a .010” phosphor bronze wire to the size of the space measured between the drilled holes. Install the hanger making sure it is squared with the lever and secure with CA. The front hangers do not have nubs for drilling as we eliminated them to change the cast brake cylinder placement. Using a sharp needle, make some starter holes approximately where you see the hangers on both sides of the center sill by the main and secondary levers. Drill the started holes with #79/80 bit, measure and bend two wires long enough to fit square in the drilled holes. Install them making sure they are square with the levers and secure with CA.

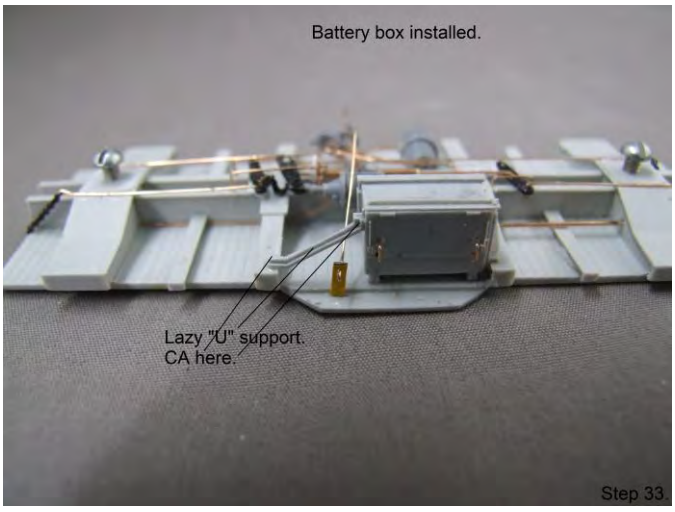
Two more parts remain to be installed on the underframe before we are finished with this section. One is the preparation and installation of the battery box and the other is the air brake release rod.

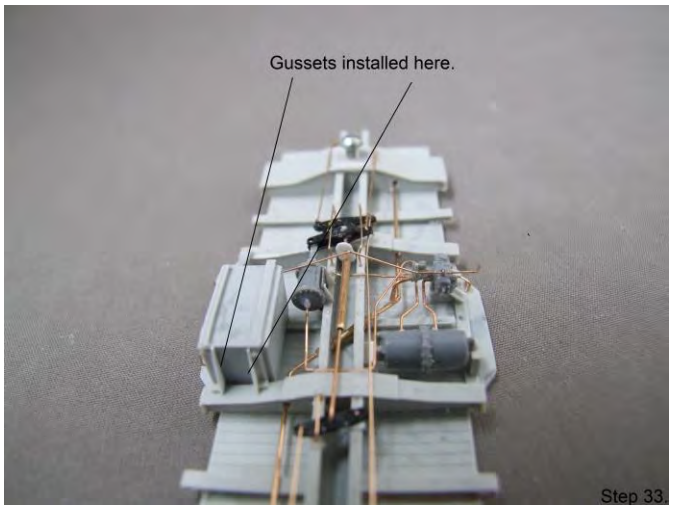
Step 33. Though this version of the caboose didn’t have roof mounted marker lights (they weren’t mandated until 1979), the battery was still important in running the caboose. Without interior lights and radio, where would we be? Fortunately, this kit carries on the tradition of including the battery box, though there has been a change. The old ones were cast with flash that made it appear that the battery door had grabs, but the casting didn’t have that WOW factor! What we have done is removed the “flash” and added starter holes for drilling and installing your own grabs. All you need to do is drill out the holes using a #80 bit to a depth of approximately 3-6 scale inches, bend a couple of wires either .008” - .010” in size, install them to the battery box and CA the grabs to secure them. Once you finish the grabs, install the battery box by applying CA to the “feet” of the box and placing the box adjacent to the cast mounting lugs in the area of the underframe that formerly held the cast on brake cylinder mount. When you applied CA to the “feet” you notice that there is an indentation to the “feet”. This indentation allows the box to set close to the edge of the line marking where the bay juts out from the rest of the body. Be sure to take advantage of this indentation to make your battery box look correct. After the CA has properly dried, there is a support piece shaped like a lazy “U”. The detail faces to the outside of the cab and installs with the first bend installed close to the top of the front battery box floor supports. Use CA to connect the piece to the box and the other side should be attached to the opposite cross member. Secure this also with CA. The last item on the battery box preparation and installation is the installation of gussets on the “A” side of the box. Grab a short piece of .010” x .060” styrene strip, measure the height from the cross member to the top of the box. Then cut the strip into two diagonal gussets. The cut has to be perfect for the effect to look right. Using CA, install the gussets by the “A” end side box supports, immediately next to the supports (both go inside the two supports next to the supports). This may sound complex, but the following photos will answer any questions you may have.





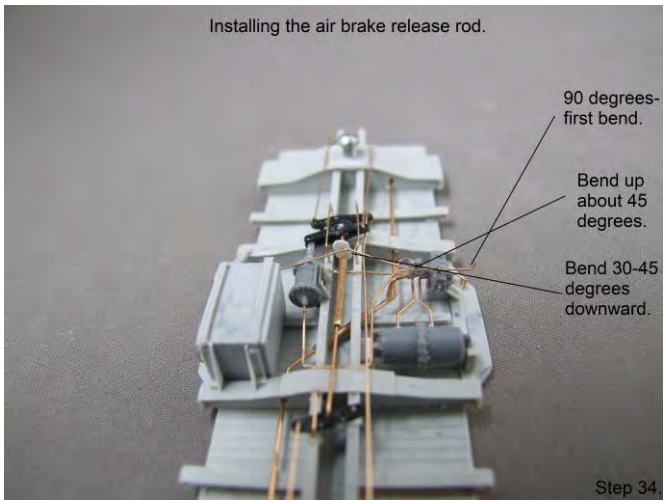


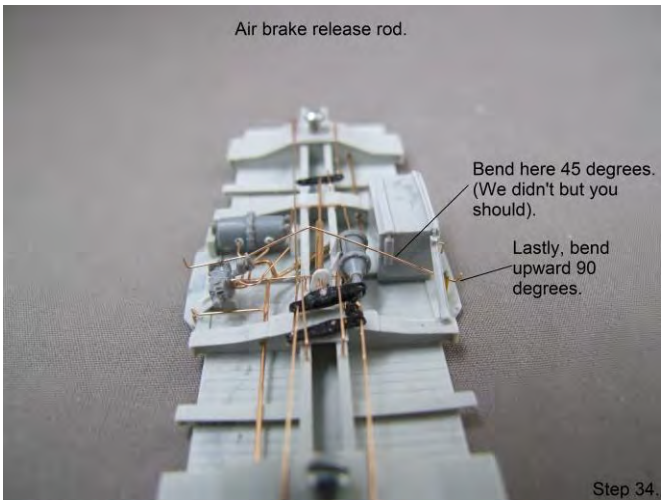


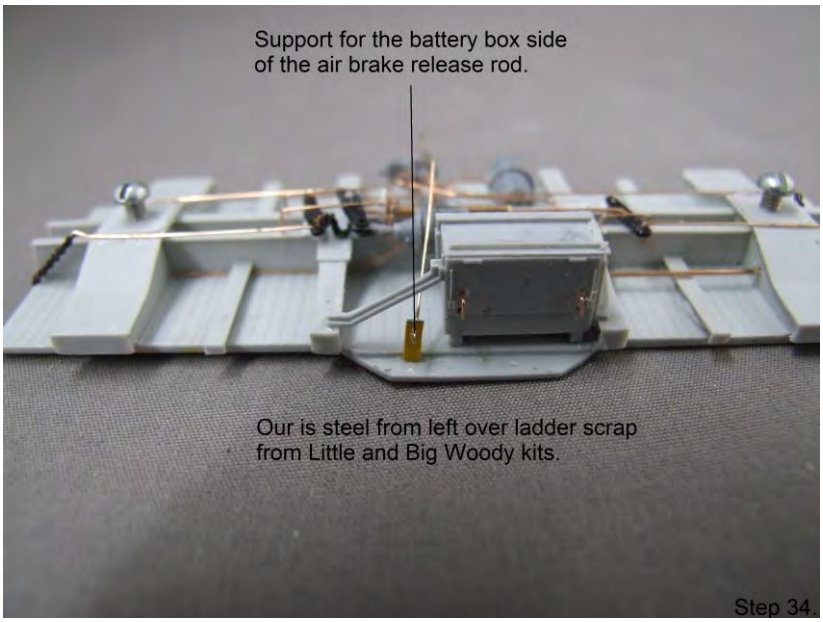


Step 34. The air brake release rod is one of the most under modeled parts of freight cars and cabooses. We are a bit unusual in that we detail the underframe as much as we do, however once you see it, and you can see it on an L&N Bay Window Caboose model, you will never build another caboose kit without detailing it all! If you drilled a #80 hole on the AB valve bottom and installed the lift ring, you are ahead of the game. If you did not, now is a great time to do so. Next using a .010” phosphor bronze wire, make a bend at the end of the wire 90 degrees down. Then make a 45 degree bend up about 2 scale feet from the first bend. After those bend, and while holding what you have done so far, make another bend 45-90 degrees down toward the battery box support. Bend another section of the wire about 3

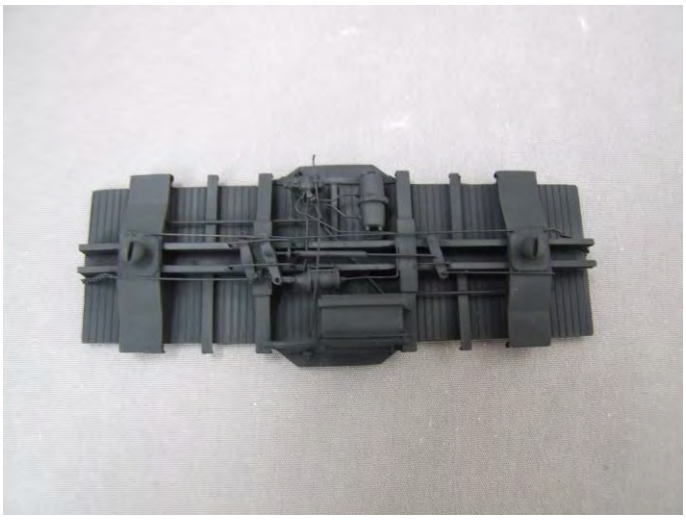
scale feet from the edge of the car inside of the bay part casting about 45 degrees or parallel to the floor of the underframe. Check the fit of the bends you made by holding them where they will be installed. Then, take a short piece of .020 x .030" styrene strip and drill a #75 hole close to the top of the strip. Using CA, secure this strip between the "B" end cross member and the battery box, under the lazy "U" shaped support on the outside lip of the underframe casting and allow the CA to dry. (We used a steel strip trimmed to size with a hole already drilled at the top-left over ladder pieces from building Little and Big Woody kits). Start inserting the wire you formed (you may need to trim the end by the battery box support to make it easier to thread the wire) from the AB valve side of the underframe, over the brake gear and through the hole you installed under the battery box support. Carefully line the bent wire assembly up and using pliers, grab the end of the wire and make a 90 degree bend upward. This may take practice as it is very hard to get this perfect. Trim the wire to look like it did on the prototype. See photos below.

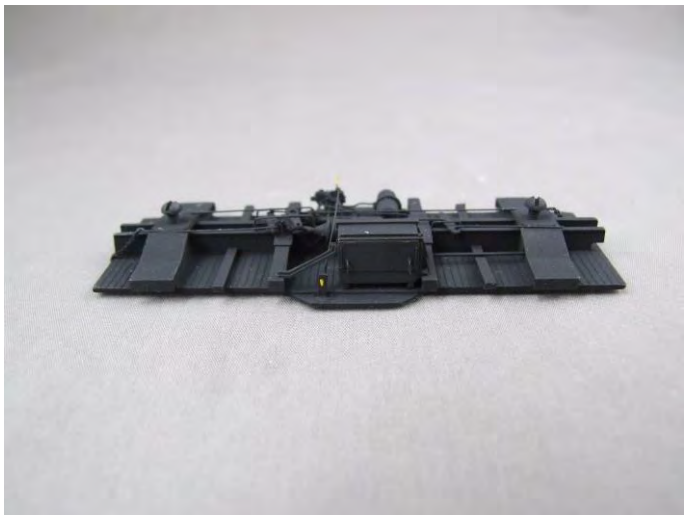


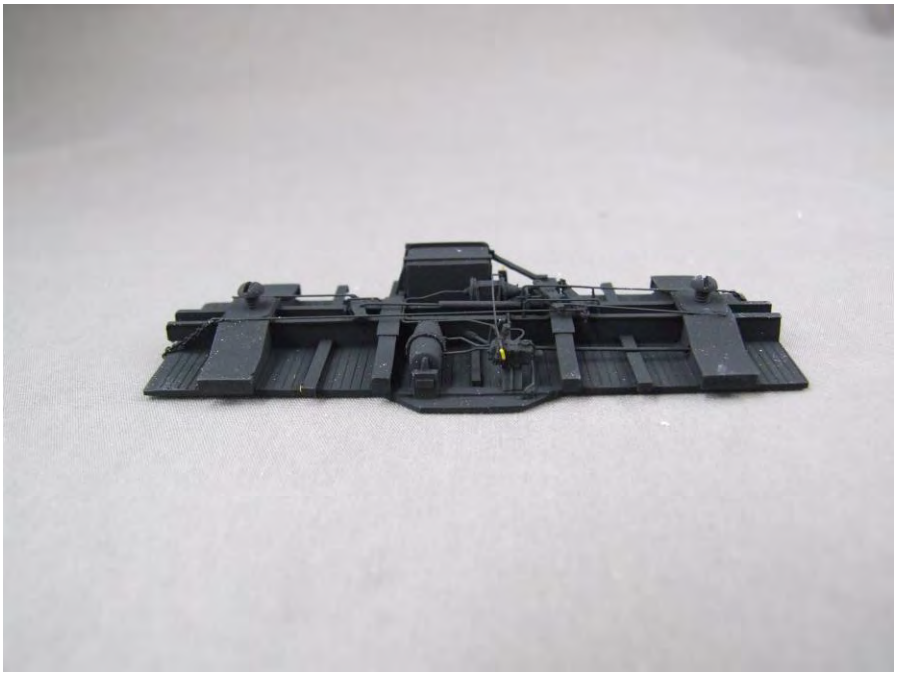




Last step is to paint the underframe assembly either gloss or flat black from paint of your preference.







Our next section will be Sub -Assemblies! See you there!

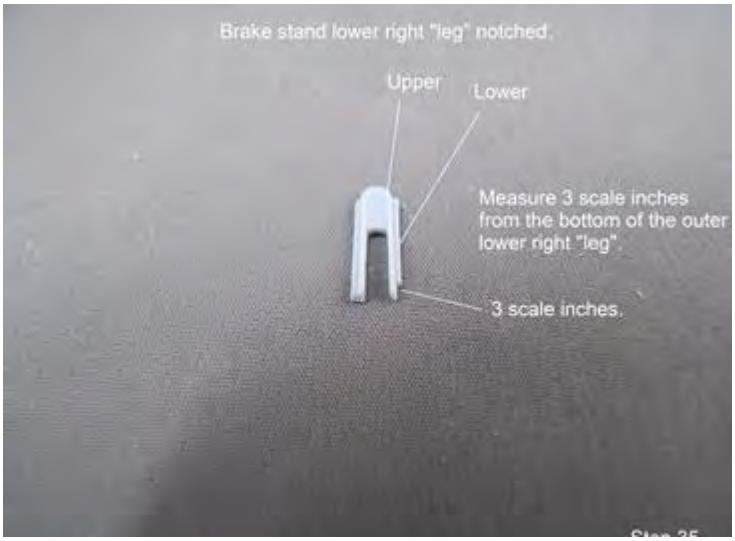
Sub-Assemblies

We are getting closer to completing this kit. All we have left, except for the final assembly are the Sub-Assemblies which include, Brake Wheel gear, Steps and end platforms, and Decal installation. With so little left, let's get started with the Brake Wheel Gear.

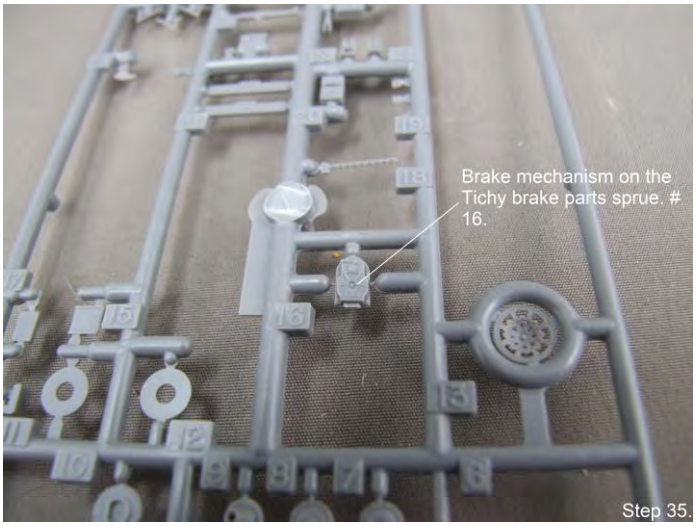
Brake Wheel Gear Assembly

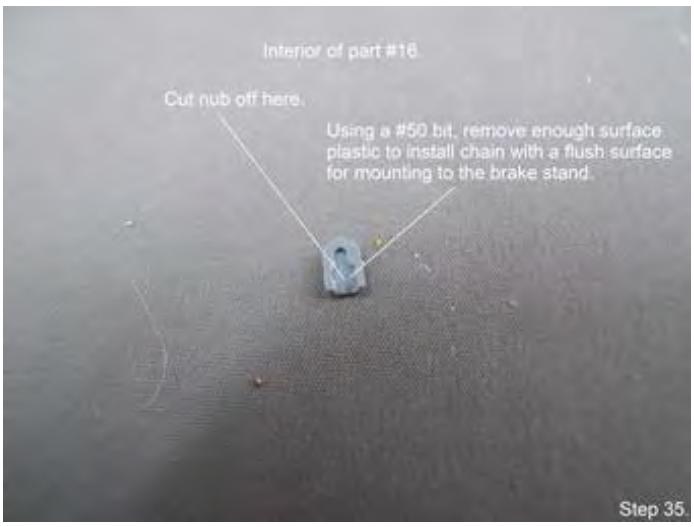
Step 35. Almost everything was visible and important on the prototype of this model, but none more important than the brake wheel gear. With this version, that statement is doubly so important. Remember, this version of the L&N Bay Window Caboose was the only one to have two brake wheel sets; one for each end.

The brake stands are located on the flat set of parts which includes the battery box. Locate what remains of this set of parts as you have already installed the battery box and the end platforms. Trim all the flash from the parts and take a look at the end of the platform. In order to keep the brake stand in line with the bell crank, we will have to modify one "leg" of the brake stand. If we didn't make this modification, the coupler box would interfere with the lower mounting of the brake stand over the bell crank. The simple solution is to cut a portion of the right brake stand leg off the lower outer portion. Looking at the right lower leg, measure approximately 3 scale inches and mark the spot. Then, using your hobby knife with a #11 blade, carefully notch the "leg" first on the side of the lower outer portion to the upper portion adjacent to the leg. Then, from the bottom of the "leg", cut the remainder off the "leg to form a notch. Set the brake stand aside for a moment.



The brake wheel mechanism is next. Locate the remains of your Tichy Brake Gear parts sprue. Look for part #16 which is the Ajax brake mechanism. Cut this part off the sprue and clean up any flash. Turn the part over and look at the interior of the part. There is a small nub on the lower portion of the interior that needs to be carefully removed. Next, using a #50 bit in a pin vice, carefully force the bit on its side against the lower exit of the part and remove enough , but not too much, material from the inside of the part. What you are wanting to accomplish is removing enough plastic material for installation of a short portion of chain. When you are satisfied that you have cleared enough but not too much material from the part, locate your 40 links to the inch chain. Cut a short piece, approximately 6 scale inches. Using CA, install the chain on the inside of the brake mechanism. When the CA has dried, if you see that you didn't clear enough plastic from the brake part, using a 124 grit sanding stick, remove enough chain material to have a flush surface for mounting the mechanism to the brake stand, but not so much that the chain falls off. When you are satisfied that you have a flush surface for mounting the brake mechanism to the brake stand, turn the part over. There is a smooth circle toward the top of the mechanism. Mark the space with a sharp pin and using a #62 bit, drill a hole through the part. This hole is for mounting the brake wheel.





There is one additional part to add to the brake stand. It is an "L" shaped .010" or smaller wire added to the right side of the brake stand facing the platform. This wire needs to be mounted up high enough to be even on place with a similar wire on the platform column of the platform railings. Photos of the completed part are on page 65 in the Final Assembly section.

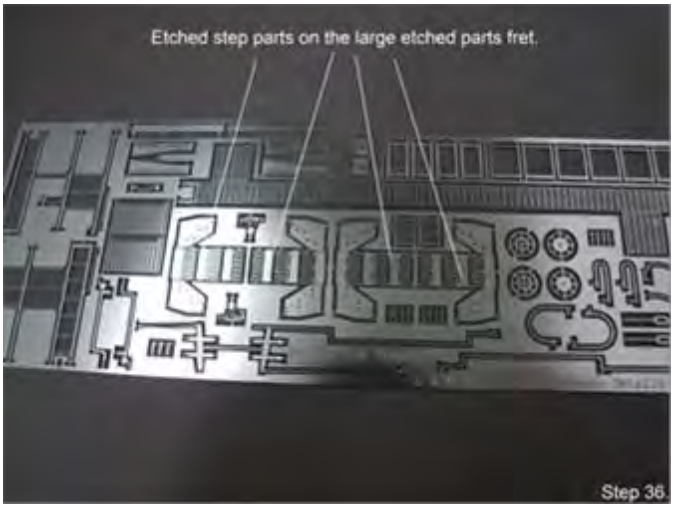
The assembly is ready to paint and after that, final assembly. Next up, steps and platform railings!

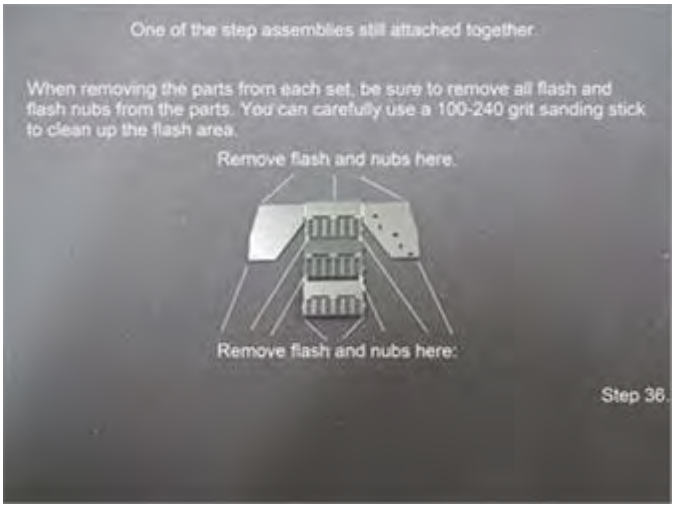
Step and Platform Railing Construction

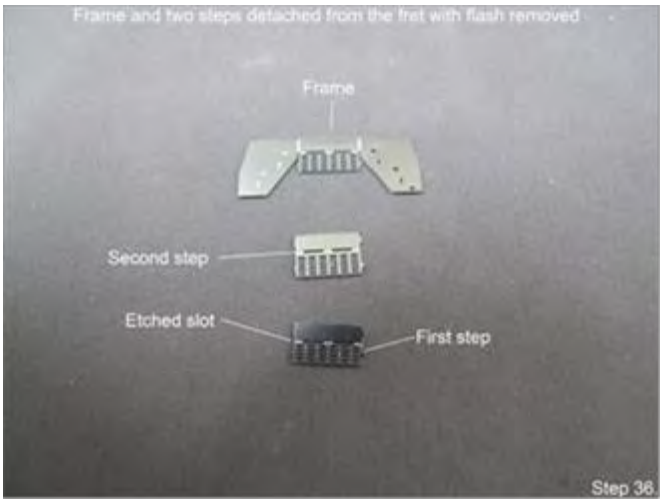
Step Construction

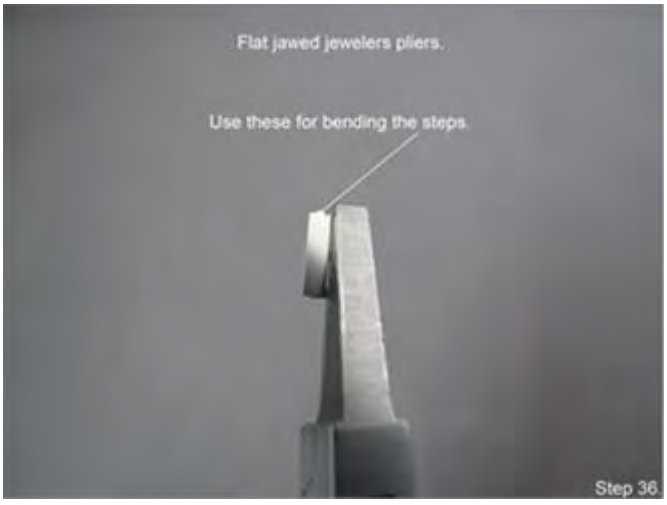
Because these two separate parts are etched and painted the same color, we felt like it would save time to categorize them together. First up are the steps!

Step 36. Locate your large etched parts fret. The step etchings are right in the center of the fret. Using your etched parts cutter, remove the sections of the steps one at a time. While removing them, you may want to go ahead and remove the two smaller steps from the larger frame and clean up all the flash in preparation for bending and assembly and set them aside. Please be aware that two of each step assemblies are either right or left and when you remove all the steps from the fret, store them accordingly. While you are considering this information, please notice that the first step is smaller than the second step. We call it first only because it is the bottom step in the assembly. Another note: There are no differences in the step per version/era of the caboose for construction purposes only. There are however differences in painting the steps for each era. We will cover that difference at the end of this narrative. For bending the parts, we highly recommend a smooth jawed flat plier. They should be available at most arts/craft shops in the craft jewelry section.





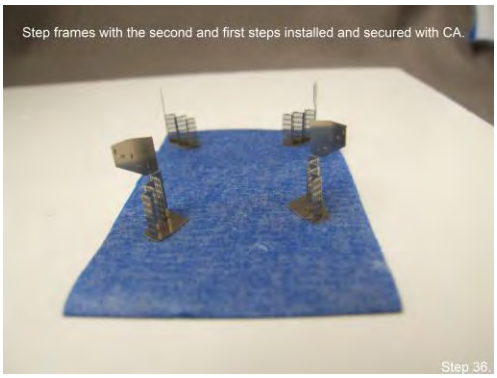


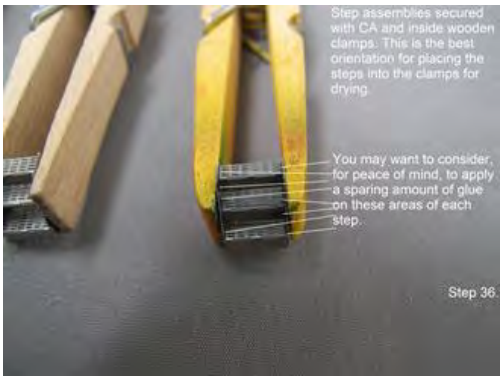


Now that you have all the four sections of steps removed from each other and flash removed, it is time to start bending the top step/side frame large part in preparation for assembly. Begin by bending each of the frames on one side only. Bend only the sides that have the open notches to begin with 45 degrees, apply CA to the nubs on the notched side, then slowly bend the side the remaining 90 degrees. Then, carefully bend downward 90 degrees the third step which is attached to the frame. Remember, all bends will not be made on the same side. Two are left and two are right sided. There is no easy way to do this and patience is more than a virtue while doing the bending of this step. Just be sure to bend it evenly, mostly for appearances, but it could affect the fit into the notches and slots if not done evenly.

Once you have applied CA to the step on the large frame, using some homemade clamps by reversing the sides on a wooden clothes pin, place one jaw of the clamp on the side you just bent 90 degrees and the other side of the clamp on the side of the step. Make sure your clamps are not excessively tight, but just tight enough to hold the bend that you just glued. See photo below. Set the clamped assemblies aside to dry overnight.

In preparation for the next part, using wide sized masking tape, fold the tape to make it similar to double sided tape. Place the tape on a smooth flat surface. After the frames have dried overnight, remove them from the clamps and place them on the tape as in the photo below. Right side on one side and the left on the other. The order is up to you. This is in preparation for adding the individual steps. Next, bend the first and second steps for each frame assembly perfectly 90 degrees using your etched parts bender. Bend them with the slot etched into the part with the slot facing you. If you don't see an etched slot, consider that you have the back side of the part. Using tweezers or your favorite tools and CA, apply the CA to the slotted side of the second step and install the slots into the notches remembering that you have right side and left side steps. Finish installing the second steps into each of the remaining step frames and repeat for the first steps being sure that each step is lined up when you glued it (even spacing between first second and third steps). Set the assemblies aside overnight for the CA to properly cure. When the assembly to this point has dried overnight, starting with one assembly and move to the next and so forth, apply CA to the nubs on the other end of the





steps you installed the day before, fold the upper frame side down over the nubs into the slots, making sure the steps are in the slots and the others installed the day before have not come loose and are even (looks like properly built steps) and again using the wooden clothespin clamps. Carefully place both sides of the assembly just glued into the clamp and set aside to dry overnight. Repeat for the remaining three sets of step assemblies. For peace of mind that the steps are properly secured, place a sparing amount of CA on the backside of the steps where shown in the photo above.

After the step assemblies have dried overnight, you may carefully remove the steps from the clamps. Keep in mind that some of the excess CA may have bonded with the clamp jaw. If this happened, using your hobby knife, carefully pry the step loose from the clamp. Then, using a sanding stick, carefully sand any residual CA from the side of the steps. **WARNING:** If any of the joints were not made and secured properly, this will be when you will find out. If you have to rebuild the steps, please be mindful of the fragility of the step assemblies and that the sides of the frames could break easily. If this happens, usually you will need to purchase another etched part fret from the society and try again!

The next part of this step is to prepare the steps for painting. Initially, this entails adding two parts to the left side step (facing the end platform) that are mounts for the cut levers. You will be able to recognize the part because it will have an indentation that will fit the part being added. See photo below.

Painting the Steps

Painting the steps of the L&N Bay Window Cabooses was not very complex. The first version/era (The one we modeled for these instructions). Had solid yellow steps on the steps and front. The side facing the bay and the rear of the steps were painted black. The next era, solid gray with yellow on platform railings, maybe the brake stand (check prototype photos, some may have had gray brake stands with yellow brake wheel), and part of the steps. This version had gray on the top of the platform side of the steps with yellow painted in line with the tops of the second step tread. Again, the bay side and rear of the steps were black. All red versions, whether they had a roof walk or not were all red with yellow platform railings, brake stand (check prototype, some may have had red brake stands with yellow brake wheel), brake wheel, and the steps were red at the top of the platform side step sides with yellow at the tops of the second step and down to the bottom of the steps. The bay side and rear of the steps were painted black.

Below are photos of models showing the steps from the platform ends. This will complete our Step and Platform Construction section. After painting, set your steps aside to properly dry. They will be ready for the Final Assembly Section.

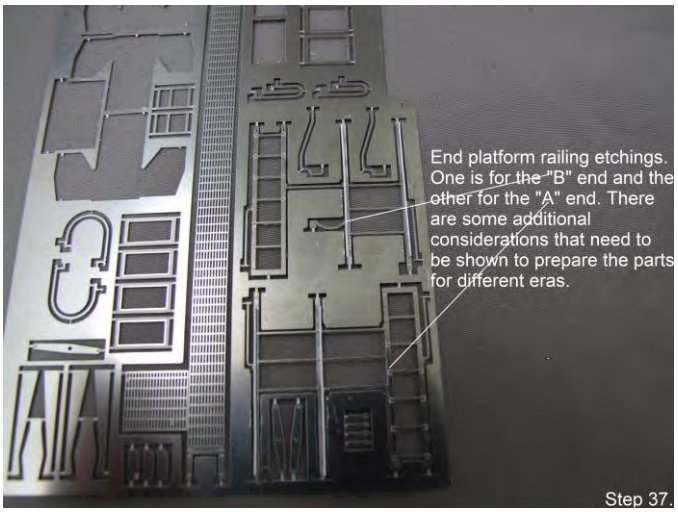

All gray version with yellow platform railings, brake stands, brake wheel, and bottom of the steps.
Step 36.


All red bay cabooses had yellow on platform railings, maybe brake stands, brake wheel. and steps with bottom portion of the platform sides painted yellow.
Step 36.

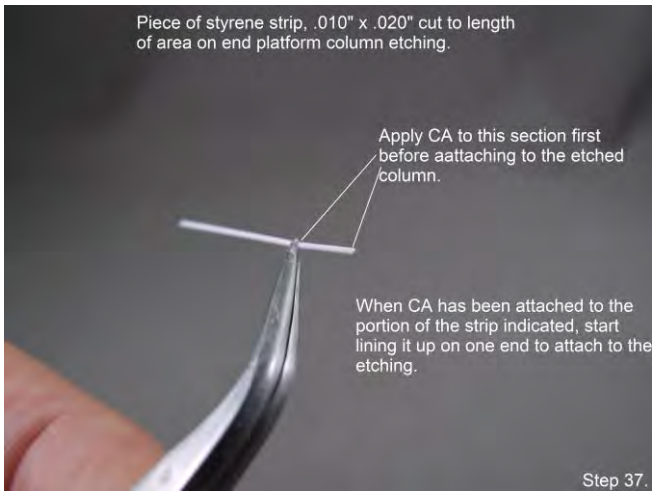
Platform End Railing Construction

Step 37. As the kit comes, the platform end railings are fine to install after painting as is. But there is something to consider when comparing the model to the prototype. If you do, you will find that the two right side facing the caboose end vertical supports have what appears to be angle iron construction with the angle facing outward. Naturally, you would expect the ladders to be built up on the sides with the corner supports behind the ladder. That is just the way they should be. So, whether to add the extra support angles or not is your decision. Doing so is not era specific, so this is a step you could skip if you desire. However, if you do want to install the angles, stay tuned!

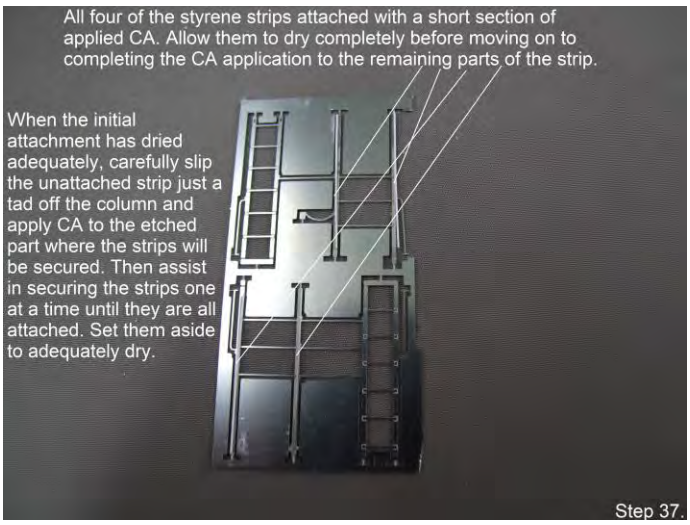
The photo below shows the large etched parts fret with the end platform railings. They will have to be very carefully removed with etched part cutters. This is because the two end columns have a double bend piece that mates with indentions cast into the end platform step mounts These are extremely fragile!! Any handling, whether you choose to install the extras or not, should be with **EXTREME PATIENCE AND CAUTION!!** It doesn.t take much handling, much less rough handling to break these supports. Unless you are a very talented craftsman modeler, replacing these bends should not be attempted! The only other available solution if you do destroy these bends is to order another large etched parts sprue and start over. So, please approach this step with **EXTREME PATIENCE AND CAUTION!!** If you are interested in installing the angle supports, we will start that now.

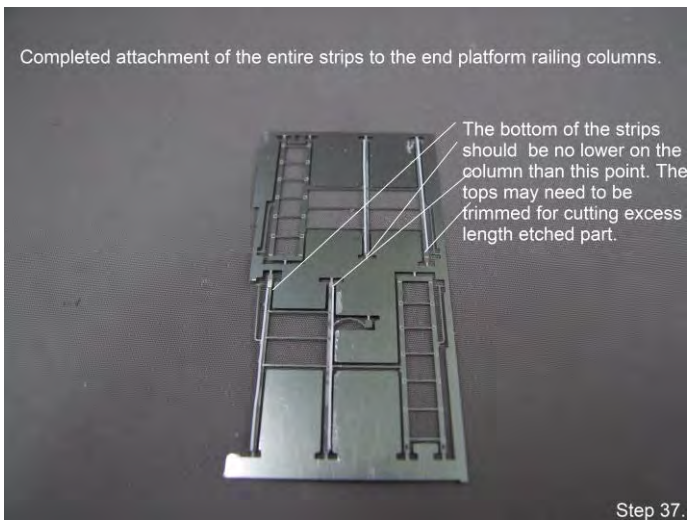


OPTIONAL Step 37. Following along from above, you should already have the large etched parts fret on your work table. **DO NOT REMOVE THESE PARTS FROM THE FRET YET!** All you need now is a package of Evergreen Styrene .010” x .020” strips. We will start with the right two columns on each part. Orientation of the fret should be with the ladder detail up.



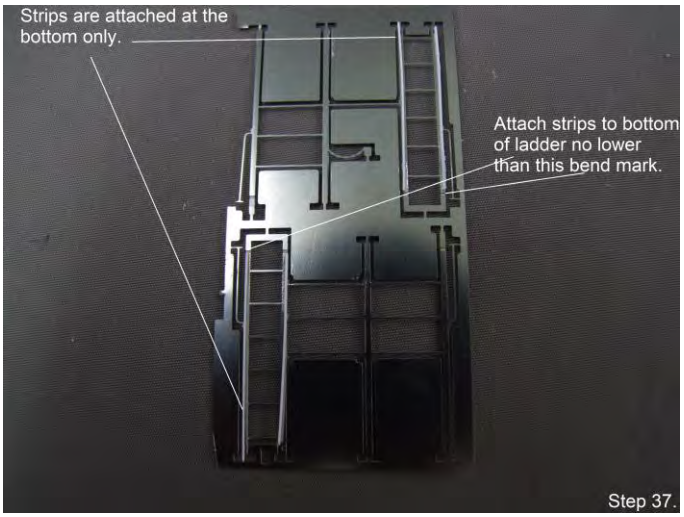
The purpose of applying the CA to a short section of the strip instead of the whole strip allows us to control this short section's application before finishing the remainder of the strip's attachment. Do this to all the strips on the right column side of the end platform railing etched part and attach them to either the top edge of where your measured or the bottom. It doesn't matter. The placement of the bottom of all the column strips should be no lower than the bend area on the back side of the part. The center column and the tops of both may need to be trimmed for mounting to the caboose later. Set the parts aside to adequately dry.

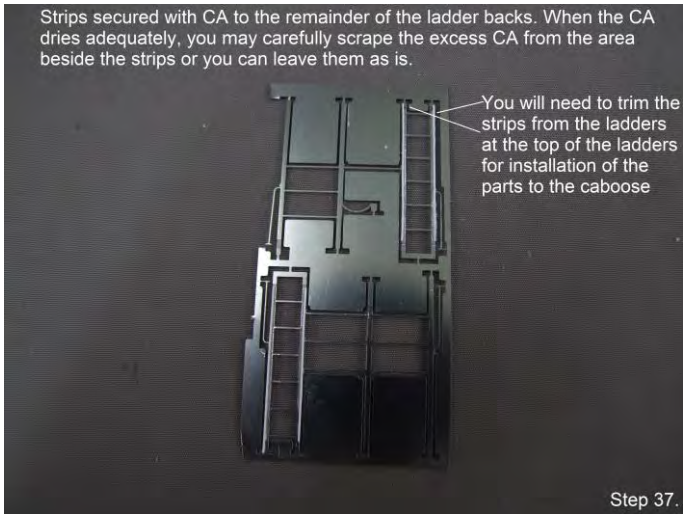




With the etched columns' strips applied and when they have completely dried, you can either carefully scrape off some of the excess dried CA on the part or leave it alone. If you do scrape the excess CA off the part, do it carefully as you could accidentally loosen the secured strip.

With the styrene strips attached to the vertical etched columns dried, we can turn the parts over and repeat the process for the ladders. Do everything to the ladders exactly like you did to the vertical columns. Mounting the bottoms of the ladder strips should be no lower than the top bend on the other side of the part. The tops of the strips will need to be trimmed for attachment to the caboose later. Set the parts aside to adequately dry when finished. When the CA has completely dried on both sides where strips where attached, if you desire, carefully scrape off excess dried CA. There is another item that needs to be added to the middle column on the platform ends. It is the mirror "L" shaped .010" wire for the chain that will mate with the "L" wire on the brake stand. Be sure you match the "L" shaped wire on the platform railings with the brake stand. Please refer to the photo on page 65 to see how they should look when finished.





Next, paint both sides of the fret with attached parts with your favorite bright yellow color. When the paint has dried set the parts aside for the Final Assembly section (**DO NOT REMOVE THEM FROM THE FRET UNTIL YOU ARE READY TO INSTALL THEM ON THE CABOOSE!**).

NOTE: Some additional work will need to be done before installing the end platform etched parts to the red cabooses without roof walks. The upper ladder rungs need to be removed (at least three of the rungs from the top). On the “B” end of the car on the gray and red cabooses, if you don’t like the appearance of the etched chain, remove the etched chain using your etched parts cutters. Additionally, on the red cabooses without the walkways, on the “A” end you will need to remove the two lower horizontal railings between the coupler and brake stand. This will make way for the round red and yellow reflective markers to be attached to the caboose. More about this in the Final Assembly section.

This completes the Etched End Railings section of the instructions.

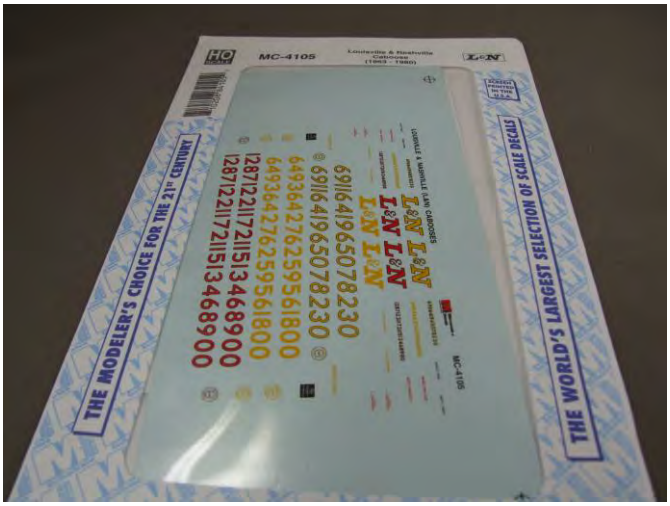
Decal Application Process

Step 38. Wrapping up the Sub-Assemblies, it is time to discuss the decal process. The first rule of decaling is refer to photos of your prototype. Once you have done that, the next step is finding the best decals for what you need to show on your model. While there are many makers of L&N decals, considering what is available and how deep in the weeds you want to get (example: SLS, accurate COTS labels, and so forth) the decision on what to buy is all yours! We have been using Microscale’s MC 4105 for many years. It has most of what is visible on the prototype, though not all, but it is a good collection of what was found on L&N cabooses.

The second rule of decaling is to make sure you have a clean and dry surface. A wise counsel once told us what he thought about painting and dealing. It was to wash, wash and wash again and you might get all the oils off the model for painting and decaling. Take it for what it is worth, but a good clean model, great paint, and good decals make for a good completed model.

As far as solutions, Microscale is good there too, but Walthers also has a good setting solution that can be used for tough applications. The lesson here is to choose what works for you and don’t look back. A little patience helps too!

Below are some photos of the decaled model we used for putting this document together. After that, it will be time for **Final Assembly!**


MC-4105
THE MODELER'S CHOICE FOR THE 21st CENTURY
THE WORLD'S LARGEST SELECTION OF SCALE DECALS


L&N
1134


L&N
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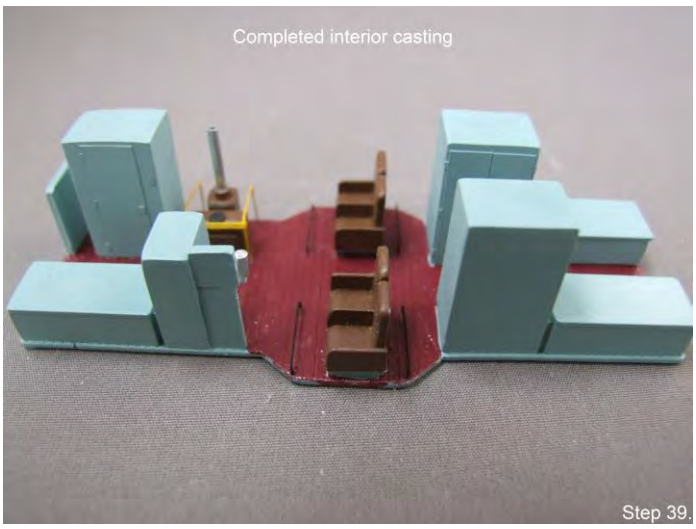
Final Assembly

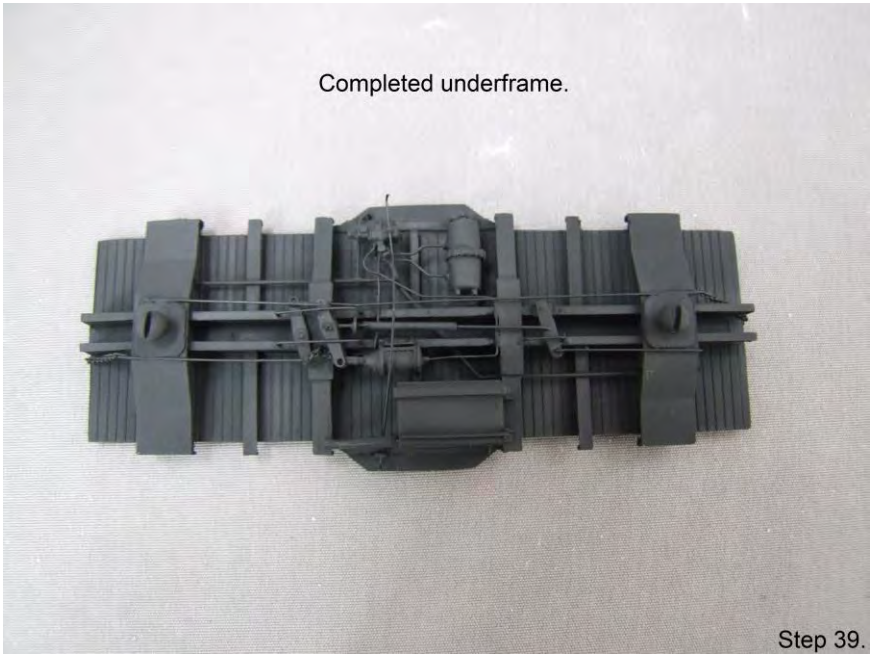
Thanks for staying with us. This section wraps us everything we worked so hard to build up to this point. From the body, to the roof, then interior, underframe, sub-assemblies, and now, putting it all together! It has been a long journey, but we are about done. So let's get started:

Step 39. Locate the part where it all started: the body. Grab the completed body and look it over to make sure all that was done previously is still in good shape. Now, locate the interior casting assembly and do the same. Next, insert the interior casting into the body. You may want to either pull back the curved railings on the body or temporarily remove them. Be careful doing this as you could mar the paint. Once you have the interior snugly inserted and in the correct orientation (with the weight installed in the roof, the only way the interior casting can be installed is correct), place the curved railings back in place.

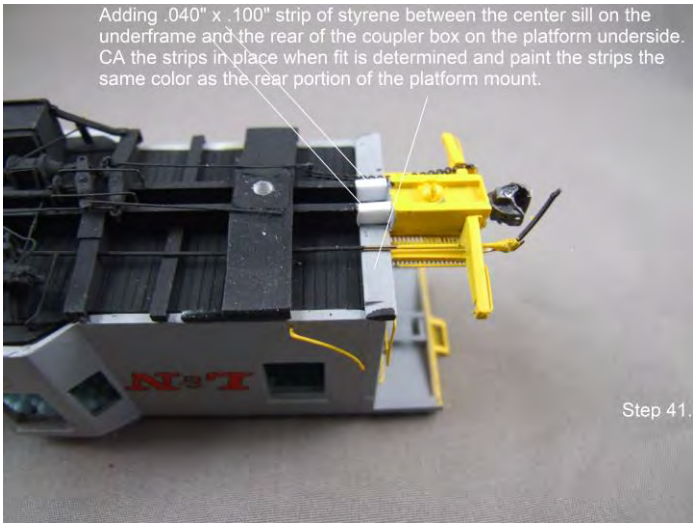


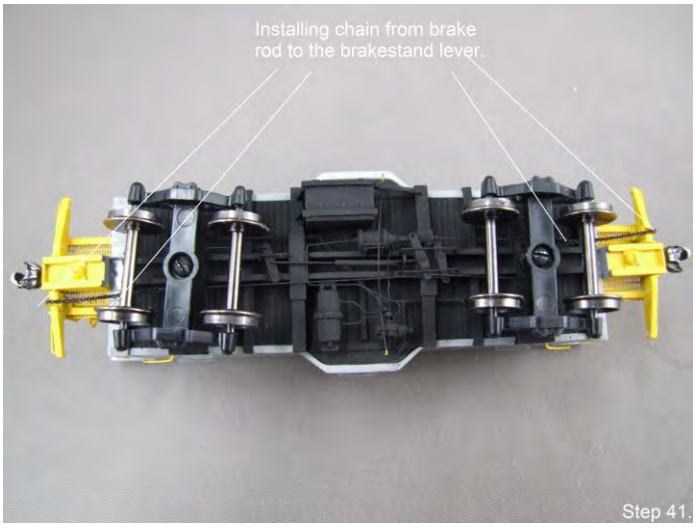
Step 40. When you are satisfied with the fit of the interior in the body, locate the completed underframe assembly. Take a last minute look at the underframe assembly to be sure everything is still satisfactory. When you have had time to check the underframe, let's prepare to install it. Remove the underframe side of the curved handrails. While you are doing this, make sure that the attachment hole is visible. The reason for doing this? Remember when we initially installed the curve grab irons that we left the end at the bottom of the body a bit longer that they were out of the bag? Well, with the lower installation point for the curved grabs open and with room to install the underframe, place the underframe in the body oriented properly with the "B" end facing the platform end with the retainer valve and fuel

tank filler cap and make sure the fit is perfect. When satisfied with the fit, using a #79-80 bit, drill a hole through the installment point for the lower part of the curved grab far enough into the underframe for the curved grab to go through the installation point and into the underframe. You may need to trim the end of the wire a bit to get it to fit properly. Test fit the grab first, then, if you are satisfied that the distance between the body and the curved grab, secure it with CA and make sure the distance between the body and the curved grab is consistent with the upper installation point. Repeat this process for the other three curved grabs. Doing this step allows you to better secure the underframe in the body.

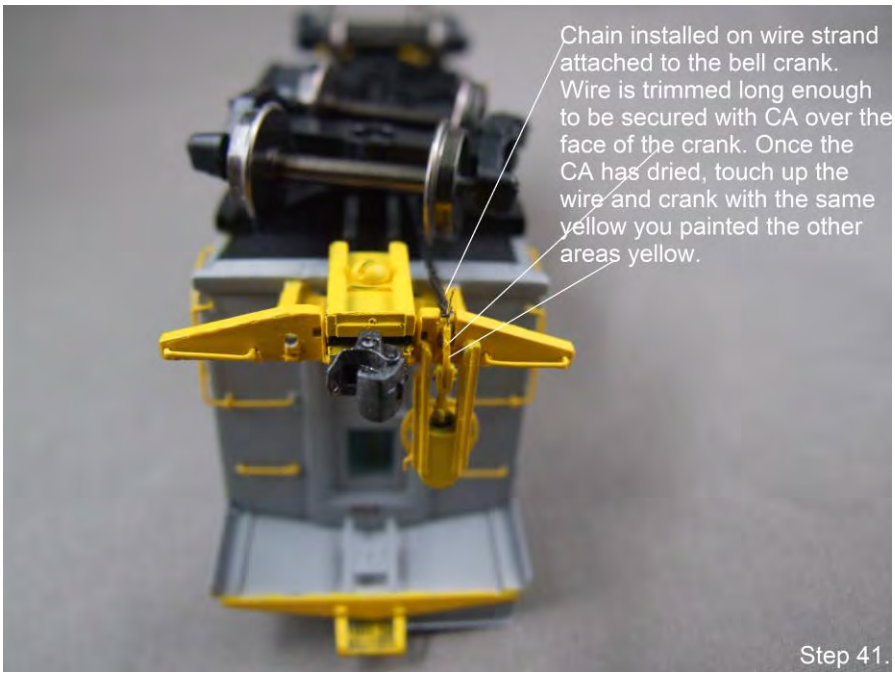


Step 41. With the underframe now installed in the body, there are several parts/attachments that need to be added at this time. The first addition is optional. Since the coupler box on the platform and the center sill on the underframe leaves an empty space when we install the underframe to the body, we fill the space by cutting sections of .40” x .100” styrene strip to fill the void. Adding the strips improves the detail of the underside of the car and could help the coupler/platform end survive a stronger than normal coupling. Measure or test fit the four styrene center sill extension sections so they are snug between the center sill and rear of the coupler box. When satisfied with the fit, secure them in place with CA. When the CA has dried, brush paint the strips the same color as the end of platform mount to the body.





The second addition we have to make on the underframe to the platform is to connect the chain from the brake rods to the bell cranks. You will recall we added a piece of stranded wire to the bell cranks and then the lever to the platform during the body section of the instructions. Now it is time to connect that chain to the bell crank by way of the stranded wire we added during that step. Take the loose end of the chain and measure the distance from the brake rod to the rear of the bell crank. Once you have the measurement, after taking a careful look-see to be sure the chain, when cut will reach the wire strand secured to the crank. When you are satisfied, cut the chain. Next, carefully bend the wire strand toward the end of the wire until you can slip the last chain link over the wire strand. When you have the chain over the wire, while carefully holding the chain, slowly push the chain down toward the lever. When the chain and crank are as close as you can get without pulling the wire strand loose, trim the wire so that it will cover a portion of the bell crank and apply a bit of CA on the bell crank surface. Then pull the wire over the lever with the applied CA and hold the wire in place until the CA holds it. (You can carefully slide the jaws of your tweezers back and forth across the wire until you can see that the wire will stay in place where secured.) Repeat this action for the other end of the caboose. **PLEASE NOTE: If you are working on later era cabooses beginning with the gray without the yellow roof ends through the red versions, a second brake stand, lever and chain will not be necessary, but please be sure to apply the chain, and crank to the "B" end of the car.** After the CA has adequately dried, apply the same yellow you painted all the yellow on your caboose as touchup to the lever you just installed the chain to. (If you wish, you may wait until all additions have been made to the caboose, regardless of color, and then touch up all areas that need touching up.)

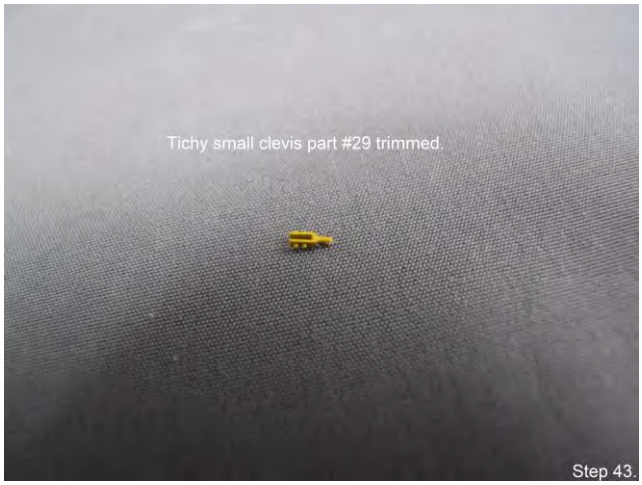


Step 42. By now you have noticed that we have not yet installed the remaining portion of the train line: the air line from the bolster to the glad hand. It is now time to take this chore on. Grab your .020" phosphor bronze wire and cut a length, by measurement, from the bolster to a distance enough beyond the end of the coupler box face. (You may want to remove the truck/wheelset assembly to make this easier.) Why beyond the face? Since we recommend installation of and use Hi Tech Details' rubber glad hands on all our models this extra distance is so you have enough space in which to cut the wire on a diagonal to make a "spear" so to speak. The best one of the several glad hands that HI Tech Details offers for our circumstances is the #6038. Cut two off the rubber sprue and then trim the airline casting to just where the air line connects the glad hand assembly. Then, carefully "spear" the diagonally cut wire into the center of the rear of the glad hand and push it into the casting far enough, but not too far, to secure the wire into the casting but not beyond the front of the glad hand. Then apply a dab of CA around the area where the wire meets the casting and afterwards, set it aside for the CA to dry. Once it has dried, insert the assembly into the hole drilled for it on the platform face, through to the hole you drilled through bolster. You do not want this wire to go past the bolster. When you have the part in position, (with the glad hand in proper position) secure it with CA and allow it to dry. Repeat for the other end of the caboose and paint according to the prototype photos or as you choose.

Step 43. With the chain attached to the brake stand lever, the glad hand and remaining train line installed and painted, and other areas' paint touched up, turn the model over onto the wheels.

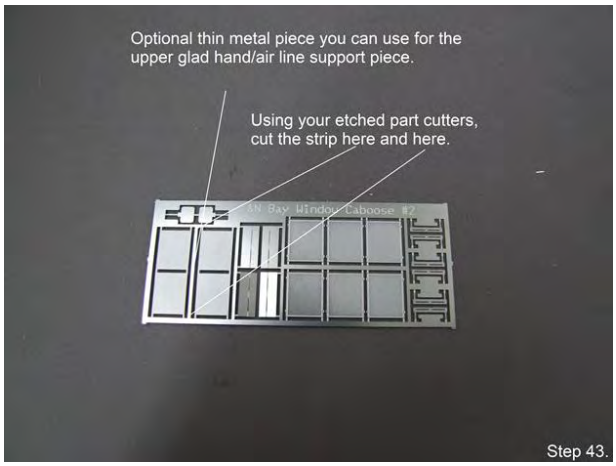
If you have not installed the brake stand yet, do so now. Locate your brake stand and scrape paint off the area where you will install the brake stand and off the rear bottom of the stand itself. Before securing the brake stand to the platform, drill a #80 hole on the right side of the stand toward the top, just below where the second horizontal railing will match it. Bend a short piece of .010" wire in the shape of an "L", trimming any excess and using CA, install the "L" shaped wire into the hole on brake stand. While we are here, locate your platform end railing assembly and install a similar "L" shaped wire to one on the stand just below the horizontal line of the second horizontal railing. Repeat this for the brake stand and railing for the other end of the caboose. **NOTE:** For the red versions of this caboose, you will not install chain, but should install the red and yellow disk markers instead of the chain. You should add the chain to the "B" end as above on the other gray version of the caboose, but the "A" end railing will not be modified. To be sure, always check photos of the prototype. Using CA, install the brake stand evenly to the left of the coupler box. Check to be sure the brake stand is perfectly vertical on all sides. (See photo above)

We will now apply brake stand small clevis (Tichy Part # 29 on the brake sprue.). Locate this part and remove it from the sprue. You will need to trim the end of the part up from the clevis to shortly above the clevis. Using CA, install the clevis on the brake stand lever, keeping it perfectly upright with a small lean toward the platform. When the CA has properly dried, measure the distance between the bottom of the brake machine and the top of the clevis part. Trim the chain from the brake stand to the measured distance and test fit the chain to the clevis to be sure the chain and clevis will meet properly. When you are satisfied with the fit, using CA, attach the chain to the clevis part and allow the CA to properly dry. Repeat this step for the other end of the caboose.



Before we start installing the end platform railing, we will need to install the upper train line/glad hand support. The L&N Bay Window Cabooses had this short upper support for the air line at the glad hand. We will simulate this by cutting a piece of etching from the small etched fret that is scrap. You can find it on the small etched parts fret between the four window blank parts. It the scrap part from the fret close to each end. Now measure the distance from the platform end sill above the glad hand/air line where you notched the strip above the hole for the air line. Using this measurement cut the scrap part to the distance required. Apply CA to the notch on the strip and end of glad hand and place the scrap part on it, keeping the part straight and level with the air line.

To end this step, we suggest touching up all the parts mentioned with appropriate yellow colored paint. For gray without the roof end and platform painted yellow and red cabooses, paint these parts appropriate colors.



Step 44. Locate the end platform assembly you completed earlier. Before bending any mounting pins on the railing, you will need to trim the lower and middle horizontal railing adjacent to the brake stand completely off the assembly. This will allow clearance for the each brake stand with chain. For second paint scheme gray and early red versions, the only trimming you need to do is to remove the etched chain off the “B” end railing part. For later red versions, trim the railing assemblies just like we did here. Doing this for the late red version allows us to install the disk yellow/red reflector markers.

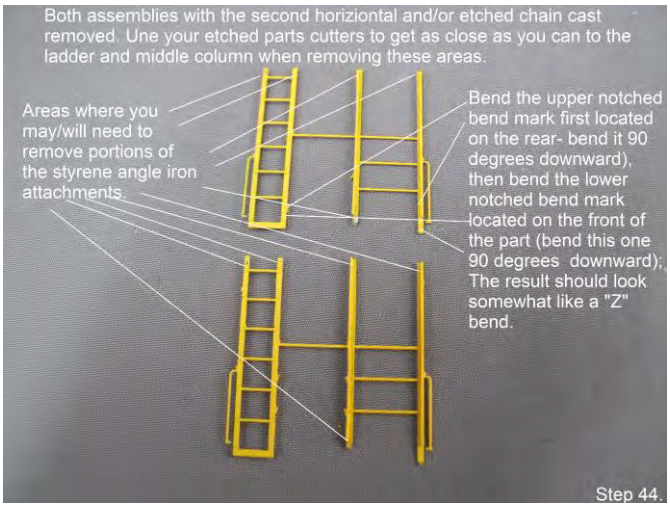
SIDEBAR: If you are modeling the later red versions, this kit does not include the parts needed for the disc reflective markers. If you are or know someone who models Southern Railway and has built the Southern Re-built bay window caboose and did not use the parts, they may be willing to share the parts with you. Also, the best mounting parts we have seen are cut up versions of the L&N Big and Little Woody ladder side etchings. These can be purchased from the L&NRR HS. You will need to inquire with the store for information regarding parts availability. Step 36 in the Subassemblies section has a photo of a model of a red version with the markers installed. There are also paddle markers that need to be painted red/yellow on each side that can be installed on the earlier versions. They can be found on the small etched parts fret.

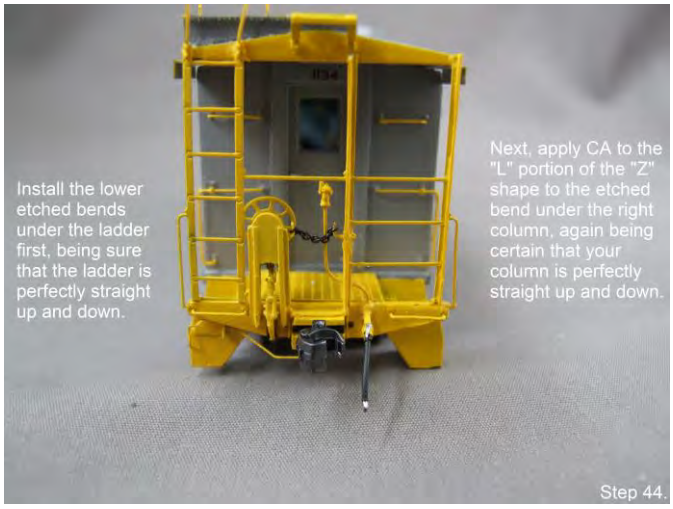
Back to the platform end railing. Once again, before bending any sections of the railing assemblies, test fit the assemblies to the end platforms to see where and how much you will need to trim for mounting. If the area you need to trim has some of the angle iron attachments, carefully trim these off with a side cutter or hobby knife. After you locate and trim ALL areas of the platform end railing assemblies, you can prepare to install the railing assemblies.

CAUTION! Make your bends carefully as the notches thin the parts and if you are not careful, you can seriously damage the parts beyond being useful. Begin with the upper notched bends. Using your etched parts bending pliers, **CAREFULLY** bend them downward 90 degrees. Then, again, think carefully, bend the lower notched bend point 90 degrees downward/outward. The result of your bends should make the bent parts resemble a “Z”. Repeat for the other part.

When installing the parts, it really doesn’t matter which assembly goes on which end. Just be sure you place the assembly you tested for material removal on the same end you tested for initially!

Using CA, apply it to the bend under the ladder on the resulting inverted “L” portion of the “Z” shape. Notice the notch on the back side of the left platform step “wing”. It matches the etched bends. You may need to use your tweezers

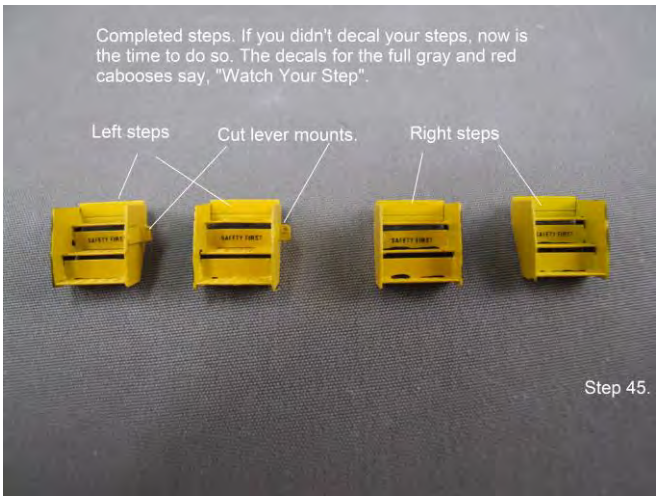


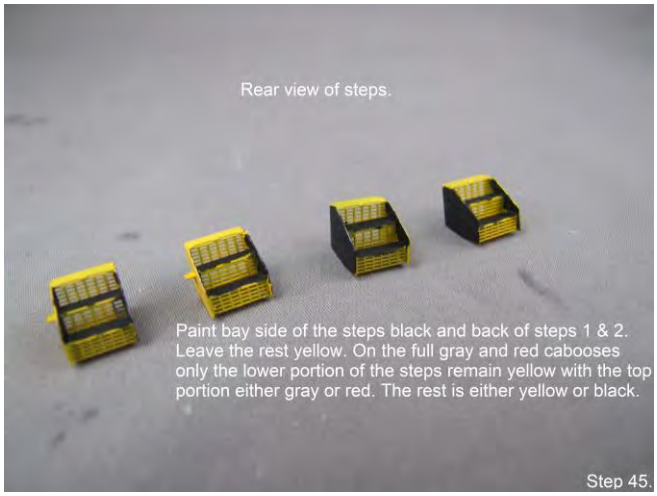


to hold the bends in perfect place while the CA is setting up. Repeat the process for the right side column. You will know you have the bends properly installed when the top horizontal railing is perfectly horizontal with the rest of the railing assembly. You should have a short portion of the center column that needs to be secured with CA. Take care of that at this time.

Now, if your test fit was successful, the top portion should fit right in. If it doesn't, make corrections now but keep in mind that you need to be careful since the "Z" bends could still be damaged. Pull the top section away from the end of the roof just enough to be able to apply CA. Apply a dab to each column and the tops of the ladder. The holes in the ladder top should be in line with the hole you will need to drill for the roof safety handrails. Before we drill those holes, you need to repeat this step for the other end of the caboose. Also, we should install the steps too.

Step 45. Locate the assembled steps and place them on your work table. You will remember that two of them (left side facing the platform) have mounting connections for the cut lever. The right side step facings do not have any additional features. If you didn't decal your steps, please do so before we install them. The full gray and red caboose steps are different only by the decal saying "Watch Your Step" in red and the upper portions of the platform end of the steps is either gray or red. The dividing line for the color difference is the bottom of the second step.



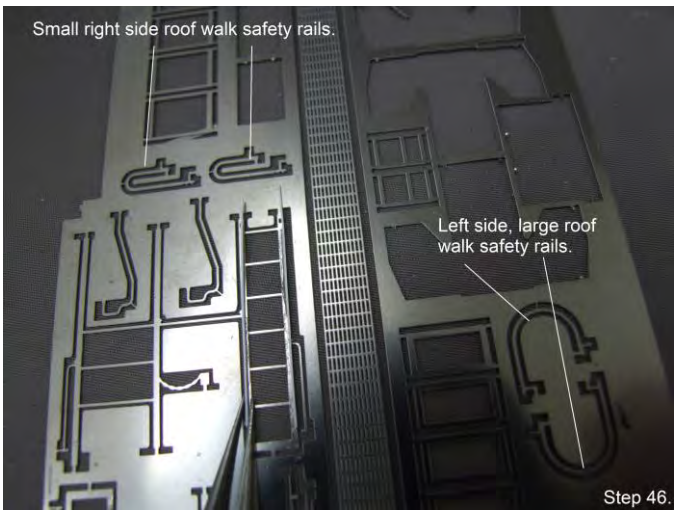


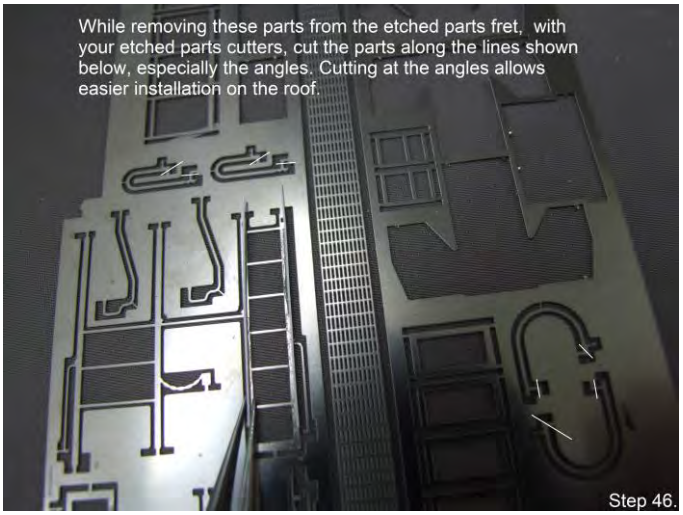
Now that your steps are ready, let's install them. Test fit the steps in the orientation where they will be installed. If there is a problem installing the steps, search for the problem and correct the cause. Using the photos below as a guide, taking one step at a time and remembering orientation of the steps, slip the steps into the area between the platform "wing" and the end of the body, using the sides and platform at the coupler site as you guide. You will also need to look at the car ends while you're are installing them to make sure they are parallel to the platform top. Repeat this for the other three steps. Next, while we are here, we need to form and install the cut levers.

Again, looking at the photo above right, you will see how the cut lever should look installed. Start with carefully drilling a #79-80 hole in the lower lip of the coupler box. When you have this done, set your caboose aside. Bending wires take practice but is not difficult nor impossible to do. Using a piece of .010” phosphor bronze wire, start at the step side of the cut lever. Bend the wire to look like the one in the photo below. Again, it may take practice, but before long you will be a pro. Unfortunately there are no commercially available detail parts for cut levers like these, so practice until you get the hang of it. Next, bend the wire from the area past the mounting apparatus. You will make two angles to get the wire low enough to bend and install the wire into the coupler box bottom lip. The last bend is 90 degrees left, once you are satisfied that the other bends make your cut lever look like the one in the photo. When done, secure with CA at the support and the coupler box and repeat for the other end of the car. When the CA has dried, touch up all areas, including the cut lever, painted yellow that need it.

Next step, we will install the roof walk safety railings.

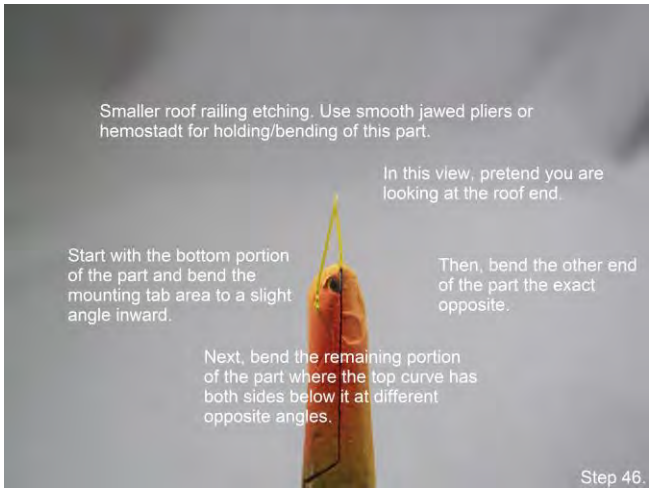
Step 46. Locate your roof walk safety railings. If you haven't painted them yet, you should do so now while they are still on the etched parts. Allow the paint to dry according the paint manufacturer's specification. There are two sets of two, located on the large etched part fret. Using at your large etched part cutters, remove these parts from the fret.





Let's get to work installing them, but before we do, we will need to clean them up a bit. Using your etched parts cutters, cut the parts off the fret on the lines drawn. Be sure to leave enough of the angle cut for proper mounting. You can do this either before or after painting. Your choice!

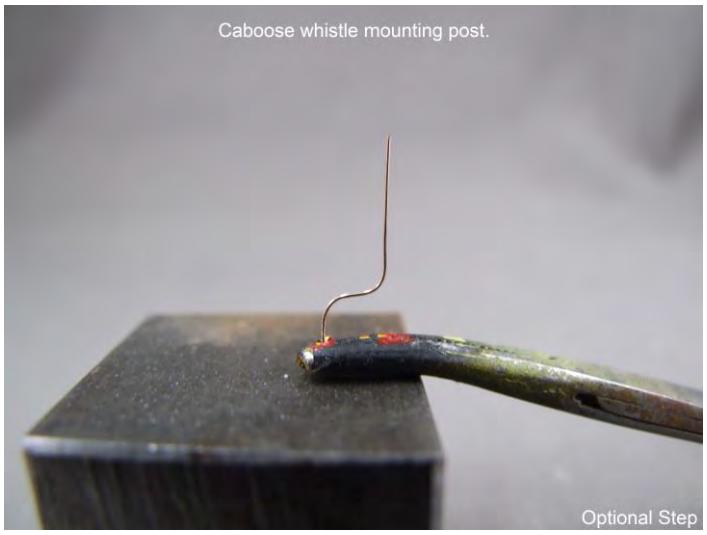
With the parts properly cut and if painted and waiting for the paint to properly dry, (Do not mount them until they have been painted) you will need to start drilling the holes in the roof at the ladder for mounting them to the caboose. Take a close look at the top of the ladder etching on the platform railings part. The end sections have pre-cast holes. These holes should line up with the dimples on the end of the roof casting. If for any reason the etched holes do not line up with the dimples on the roof, take a close look at how you can still drill the mounting holes and fit the railings on them or, you could cut off the mounting tab of the lower portion of the railing and CA it to the ladder part. This is not optimal, but it can save your model if need be. Other than the possible cutting of the mounting tabs, there is a need to properly bend the shorter railing to match the prototype.



Place the smaller part in a smooth jawed plier or hemostat and bend the lower roof mounting side at an inward angle. Next, bend the opposite side mounting pin also at an inward angle. Then, bend both sides outward until it looks like the part in the photo. Test fit the part from the mounting on the end of the roof to the roof walk mounting. The way we have to bend this part makes the intended mounting hole no longer suitable. Mount the upper bent mounting pin as close to its intended position as possible. Repeat for the other end of the caboose and touch up the paint on the ladders/railings where necessary. Set the car aside for the touch up paint to properly dry.

Completing this step mostly completes the assembly part of this project. Other than flat coating, window gazing installation and window frames installation, there are only three small optional parts to complete: end of car chain, caboose whistles and route card board.

Optional Step 47. Caboose whistles were on both ends of most cabooses mainly to warn passersby and traffic that the train was backing. To my knowledge, there are no commercially available parts of caboose whistles. After looking at the Tichy brake parts sprue, I found that the retainer valve makes a pretty believable stand in for a part that is not made. Using the same process as you did for installing the retainer valve on the “B” end of the caboose by the door, find another one of these parts and using a #80 bit, drill a short hole into the mounting end of the part. Before mounting it on a piece of .010” phosphor bronze wire, bend the wire into the shape shown on the photo below. Test fit the wire on the platform leaving enough to mount the lower end through the platform to directly over the train line and the same for the mounting of the retainer valve on the top end. (See end of caboose photo on page 68.) When you are satisfied that you have the wire bent sufficiently, install the retainer valve/whistle onto the top end. Paint the assembly, set it aside to properly dry and drill a #80 hole in the platform above the train line (again check the photo on page 68.) When the assembly is properly dried, install it in the hole with CA making sure that the mounting end does not extend below the train line under the platform. Repeat for the other end of the car.



Next, end of caboose chain. Remembering the mounting wires we installed on the brake stand and the platform end railings, you should now install the chain. Using 40 links per inch chain, cut a portion of chain just a tad longer than the distance between the railing and brake stand. Carefully work the chain end links over the wire. You may have to scape some of the paint off the wire to assist in installing the chain. When the chain is installed, secure each link end with a bit of CA. When the CA has dried, you can touch up the area you scraped paint from. Repeat for the other end. If you have any questions about mounting this chain, refer to the end of caboose photo on page 68.

Route card boards were a steel rectangular piece with a wood piece attached to tack a route/switching tag on the caboose in order to help get the proper caboose on the correct train. This piece is located on the platform/battery box cast sheet usually between the “wings” of the end platform castings. If you happen to lose the cast one, you can cut a piece of appropriate sized styrene strip to replace the part. It is suggested that you paint the part before installation. You can even brush paint it, just don’t be too heavy handed applying the paint. After the paint has dried, lightly scrape or sand the paint off one end and top of the part. Using CA, apply a small bit to the end and side and install it directly beside the bolster and in line with it. Allow the CA to dry and touch up the black paint if necessary. Repeat for the other side of the car.

Optional Step 47.

Step 48.

Step 48. Now that we have assembled the caboose and made sure that all the parts we want to attach are on it and painted, we can flat coat the model. Using your favorite flat coating paint, cover all portions of the model until you have a flat to matte finish that covers the glossy finish and decals. Set the caboose aside for the flat coat to properly dry. Next, we will install the window glazing and frames.

Step 49. We have arrived at the last step we have to do in building this kit: installing window glazing, etched window frames, and window screens. If you are modeling the full gray and red versions of this caboose, some of the full gray may have still had their screens, but none of the red versions had them. To be certain, check photos of the prototype you are modeling.

The window glazing we install is .005” thick clear sheet styrene. You can use thicker clear styrene if you choose, but we use the .005” size because it appears more prototypical. You will need to measure the window openings with either your scale ruler or digital calipers. Be prepared! We have found some of the larger window sizes to have slightly different measurements. The reason for this is unknown to us, but may be either from the original master pattern or through any of the resulting castings of a casting that were done. We wanted to bring this topic up, not to complain, but to make you aware of the issue so you can plan for it. If you have an office or school bayonet paper cutter, you can cut the most common window measurements which appear to be the top and bottom. Make this measurement and then place your clear styrene sheet on the bayonet cutter, feeding the styrene under the cutter to the edge of the deck. This is where you will need to, using the measurements from the top of the window to the bottom, start moving the styrene sheet placed on its long side to the edge of the cutter deck. Measure and check up and down the edge of the cutter until you consistently get the same measurement that you need to start cutting the glazing. Nothing is perfect, so once you cut your first length of styrene, check the measurements on each end. If you are on or very close to what you measured on the caboose, then proceed to measuring the windows side to side.

With the measurements you took from side to side on the windows and using an NWSL Chopper or other straight/angle cutting tool, set up your cutter to those measurements. Once you are satisfied with the measurement set up, feed the strip you cut on the bayonet cutter to the straight stop on the Chopper and then make your cut. If the cut doesn't appear clean, you may need to change the cutting blade. Test fit the first cut to several of the windows to see where you may have to make corrections to the Chopper cutter set up. Use this method to cut out all the larger windows, test fitting regularly to be sure the set-up has not shifted. You will need six of these. To install them, you will need to consider what your best choice in adhesives should be. You have at least three options that will not craze the clear glazing. First is simple Elmer's Glue All. Second is any brand of canopy glue. It is very similar to Glue All, but has some added chemicals to it, and last is CYPOX. CYPOX is a CA/Epoxy formula that when used sparingly will not craze your glazing but will secure the glazing to the caboose body. Regardless of your choice of adhesive, you should apply the adhesive sparingly. Too much adhesive will spill over onto the surface of the caboose body and potentially ruin the painted surface. We recommend micro brushes for applying Elmer's or canopy glue and a sharp needle or small wire for applying small bits of CYPOXY.

On the windows you will find that of the larger windows on the caboose each have cast backstops for the glazing and frames. These are on the bottom and top sides of the openings. Now apply the adhesive to the backstops and, using tweezers or other favorite tool for this work, settle the glazing on the top and bottom back stops. Checking the remaining windows for fit and making any necessary corrections, repeat this process with the remaining five large windows. On some of the full gray and red versions of the L&N cabooses, the window glazing is not installed on the window adjacent to the furnace. That opening should be filled with an etched blank mentioned earlier in the instructions. Even later red version cabooses may have had more windows covered with blanks. Refer to photos of the prototype to be sure.

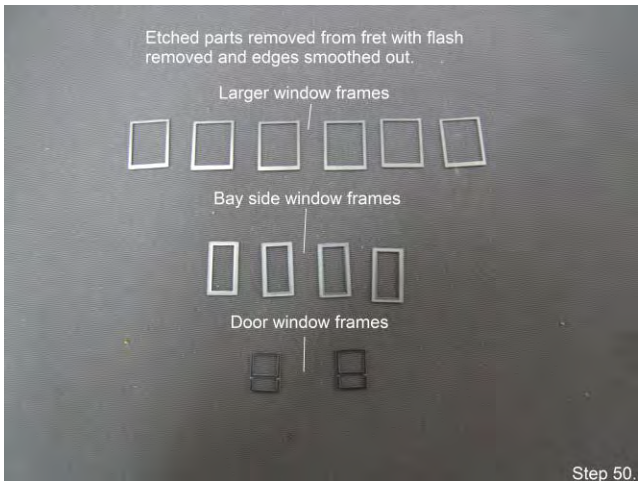
Now that you have the larger windows glazed, it is time to turn to the four bay side windows. Being narrow, they are also slightly longer than the larger windows. If the larger windows top and bottom measurements are close enough, you can just measure the windows to see how wide the cuts should be. The reason for this discussion is that the bay side windows do not have a back stop for installing the glazing. You will also notice that the frames on these windows mount on the body, not indented into the body like the larger windows. Another way to be sure of your cuts is to use an etched small side window frame, cut from the large etched parts fret, with all the etched flash removed and smoothed out. Measure the etched part and set up your Chopper to cut this measurement or just slightly smaller. When you have made your glazing cuts for the bay side windows, set them aside for later.

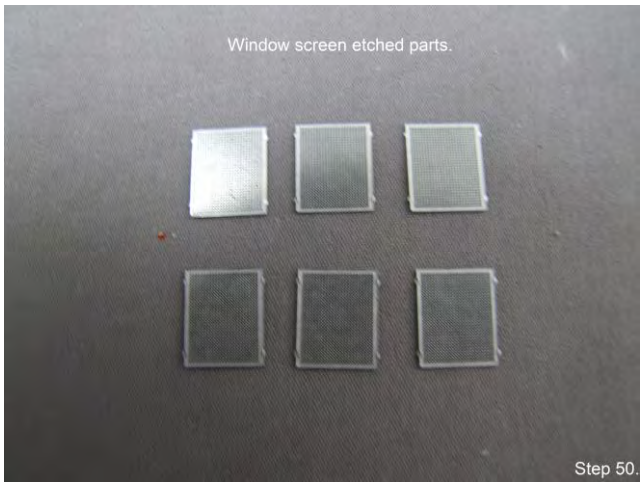
Next, we have the door window glazing. Like the bay side windows it is best to work off the measurements of the etched frames, testing and trimming as you go to get the best fit since these openings have a small indentation for the glazing so the frame will fit flush once installed. Again, set these aside once you are satisfied with the cut and fit of the glazing. Next, we will start working on the frames.

Step 50. Before starting this part, we want to remind you that extra care is required to be sure you don't damage the body and other parts of your caboose installing the frames into the window openings. Remember! Some of the window openings may be slightly smaller than the etched frames, especially on the larger windows.

Locate your large and small etched parts frets. The window frames are all on the large parts fret with the window screens located on the smaller fret.

Remove all window frame etched parts, remove all flash and clean up the areas where flash was removed and store them in a small box for use as we get to each type.





Start the window frame installation process by first test fitting a large window frame to one of the windows. If the frame fits, secure the frame in the window with your adhesive of choice. The more likely scenario is that the frame will fit snugly and no adhesive will be necessary or even likelier, the frames will need to be trimmed using a file to slowly and carefully remove enough material, cutting and fitting as you go until the frame fits snugly. When you are inserting the frames into the openings, you may/will have to use your tweezers to help pressure the frames evenly into the opening. Do this one corner at a time until the frame is in as far as it can safely go. Be extremely careful doing this so that you don't force the window glazing out trying to get the frame installed or worse, damage the paint finish. Repeat for each large window, keeping in mind that you probably will have to file the sides or top or both on some of the frames to make the frames fit the window openings. Use a medium mill file for filing the sides of the window frames. Patience is required for this step!

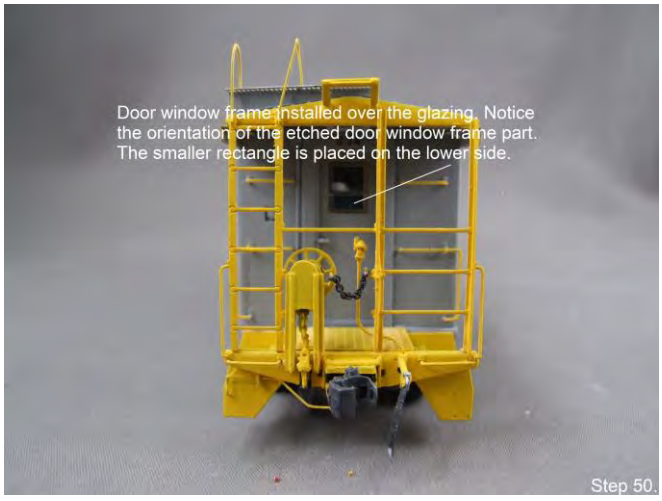
Once you have installed the frames in all of the large window openings, the next area to tackle are the bay side windows. These will be much easier to work with after the large window frames. If you recall, we cut four glazing strips using a side window frame as the pattern. Now is the time to either install the gazing on the frame as cut, or to carefully trim off minute amounts of the glazing so that the gazing will fit inside the outer walls of the frame and not show when installed on the bay. Your choice! When you are finished installing the glazing cuts on the back side of the bay side window frames, set the assemblies aside to dry.

When the window glazing/frame assembly has dried, using tweezers or another of your favorite tools for this type of work, apply some Elmer's or canopy glue sparingly to the glazing just inside the edge of the frame, but not on the visible part on the window. Install the assembly to the bay side over the window opening. Using the adhesives we

mentioned allows you to make some corrections in placing the assembly in the correct place.

Repeat this process for all the side bay window glazing/frame assemblies' installation.

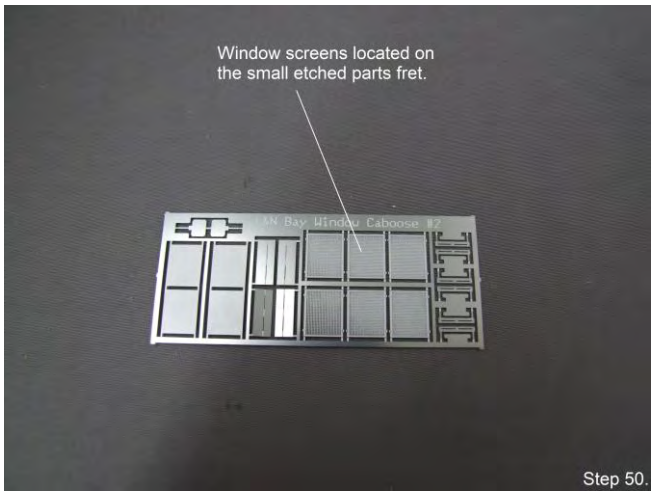
Last. We will install the window glazing to the door windows on each end of the caboose. If you cut your glazing pieces in Step 49 as instructed, this part will be easier than either of the above assemblies. Using a sparing amount of Elmer's or canopy glue, apply the adhesive to the door window area cast for the glazing installation. Using your tweezers or other similar tool for jobs such as this, install the glazing in this area, being very careful not to break the railings from the caboose ends, and repeat for the other side of the caboose.

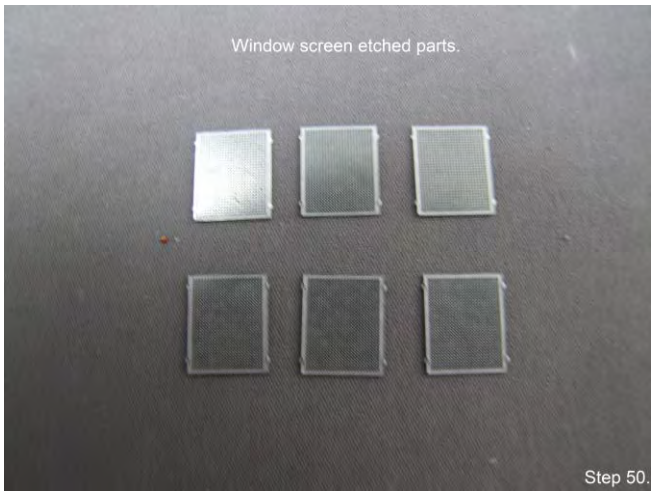


Next, apply the same adhesive on the back side (there are no etched separation lines on the back side) like you did on the bay side window frame assemblies and with your tweezer, again being very careful not to break the railings from the caboose ends, and install the door window frame with the smaller window rectangle facing the platform. If necessary, adjust the frame to fit in the proper place before the adhesive dries. Repeat this process for the other side of the caboose. Congratulations! You are almost finished building your masterpiece. All that is left to complete is the installation of the window screens.

NOTE: L&N Bay Window cabooses after the version we are featuring in these instructions, including the earliest full gray and all red versions but possibly excluding some of the few early full gray versions did not have window screens installed. If you are modeling any other version except the earliest gray/yellow version, you can skip this last section. However, always refer to photographs of the prototype you are modeling for accuracy.

Locate the window screens on the small etched parts fret. Using your etched parts cutting pliers, remove all six screens from the fret. Clean any flash off with the cutters and smooth out any remains of the flash with a sanding stick.





To install the screens on the caboose, start with one window, grab your screen with tweezer, or any other tool you may have appropriate for doing this section, holding the screen part at the side opposite of where you will be installing it, and on the back side of the screen, apply some Elmer's or canopy glue using a micro brush on the frame of the screen and not the screen surface. Next, hold the screen in place over where you will be installing it and make sure you are even with the window and the drip edge. Then place the top of the screen directly under and against the drip edge and slowly lower the remainder of the screen in place. If the screen was not set in place evenly, you have time to go back and adjust the screen where you want it to be. We must caution you that if the initial spot you installed the screen was not where you wanted it, stop and clean the adhesive off the caboose before trying again. The white glue adhesives mentioned are water soluble. The photo below shows you all the screens installed on one side of the caboose. Use this photo as a reference to see where we place the screens on our model. When you are satisfied with the placement of the screen on the window, allow the adhesive to properly dry and then repeat the process for the remaining five screens.

This concludes the text for building the L&N Bay Window Caboose kit. The photos that follow are of the model we built for this project.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Thank you for allowing us to show you how we built our L&N Bay Window caboose kit. These instructions were prepared by L&NRRHS Modeling Committee Member Rusty Evans and if there are any errors or omissions, they were not intentional.