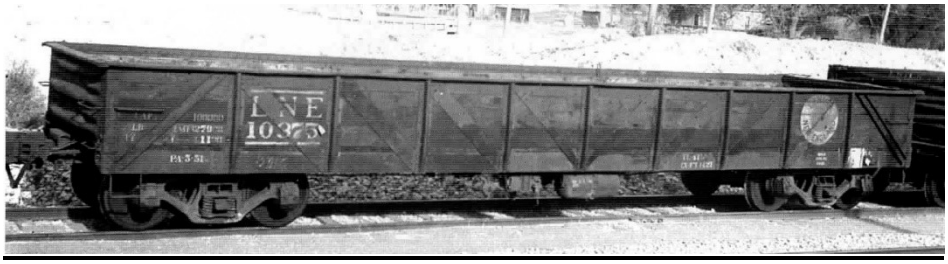
RESIN CAR WORKS
RCW
P.O. BOX 42
BYRON, IL 61010
Freight Cars of Every Description

Kit #15.1 Lehigh & New England
40' Short Side Composite Gondolas
Series #10298 to 10397



Introduction

Thank you for your interest in Resin Car Works and this kit. Resin Car Works is not a business in the traditional sense. Its purpose is to share in the fun of prototype railroad freight car modeling and their operations with others by providing unique and different equipment that is not readily available. Several friends assist with various production phases, so it is not quite a one-man operation. To list a few who helped with the production of this kit, thanks go out to Tom Madden for the gorgeous castings, Ken Soroos for the decal artwork, Jerry Hamsmith for drafting the instructions, and to Eric Hansmann the keeper of the website and blog.

This is a "CRAFTSMAN" level resin mini-kit and its construction should not be attempted by anyone who has not built similar types of models. The kit consists of a one-piece resin body, a resin floor and sheet detail parts, Tahoe Models truck sideframes, various Tichy parts, and decals. The modeler will have to supply all other parts to create a finished model such as couplers and wheels. See the Resin Car Works website (www.resincarworks.com) for kit instructions, more prototype information and photos.

Warranty

All sales are final. There will be no exchanges or returns. Resin Car Works will replace any part(s) found to be defective due to manufacturing or shipping to the original purchaser within the first 30 days after shipment. The damaged part(s) must be sent back with your request for replacement. As these are limited production kits, do not ask for replacement of parts that you damage or lose after the 30-day period.

Liability

Resin Car works will not be responsible or held liable for any and all personal injury and/or health problems, short and/or long term, which may result from the use and/or misuse of tools, adhesives, materials, castings, paints or any other product(s) used to construct and/or contained in this kit. This kit contains polyurethane castings. Although non-toxic in its cured state, dust is created during filing, sanding and drilling. Your workspace should have air circulation and/or ventilation. Always work in a well-ventilated room. Wear a dust mask or respirator and safety glasses for protection. Always wash your hands when you are finished working.

History

The L&NE was formed in 1895 and in October 1961, due to a steady decline in traffic, ceased operations. It served as a coal hauling railroad as well providing cement, slate, and some merchandise traffic to the Pennsylvania, New York, and New Jersey area.

The short side gondolas represented by this kit were built by American Car & Foundry in May of 1934. These 100 fixed-end, wood floor cars were numbered 10298-10397 and augmented the fleet of 100 similar cars built in 1923. These new cars had a 1421 cubic foot capacity and followed the ARA 1920's designs but were slightly modified to meet 1932 requirements. The cars had AB brakes when built and all the components were clustered on one side of the car. The trucks were Gould coil-elliptic double truss design. An Ajax hand brake was also used. The cars were initially painted black with white lettering and a red circle center herald. By the

middle 1950s, repainted cars had sans serif lettering replacing the original standard Railroad Roman. Also, at some point in the mid-1950s, a few of the cars (know numbers being 10301, 10311, and 10314) were given steel sides. The July 1961 ORER lists 91 of the original 100 cars still in revenue service.

A short article on these cars appeared in the October 1994 edition of the Railroad Model Craftsman. Author Eric Neubauer included drawings for the car, and they were used in the design of the kit. They also served as a reference resource the kit instructions to follow.

It's recommended that before you start construction that you familiarize yourself with the additional information and photos on the Resin Car Works website www.resincarworks.com that pertain to this kit. You should also read the entire set of instructions to familiarize yourself with all the steps needed.

- **First, give the resin parts a good cleaning with Dawn and a toothbrush to remove any mold-releasing agents. A light sanding of joints also helps parts to bond.**

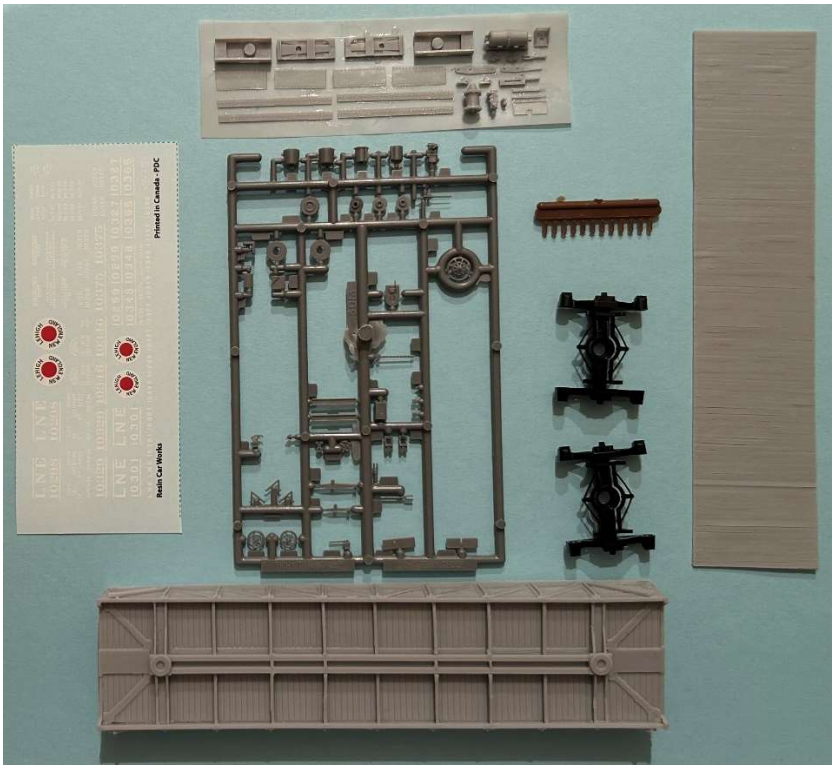
- **The cast parts are best attached with ACC. When the term "cement" is used in these instructions, it refers to ACC. ACC is a strong adhesive which dries quickly. It can easily attach a part where it is not supposed to be. It will glue skin. Be careful. Place a few drops on a plate of glass and use a wire or pin to transfer small amounts of ACC to the area to be joined. Always wear safety glasses. ACC debonder is a useful tool for removing smudges of ACC from surfaces where it should not be. Place a drop on the offending spot and wipe up.**

- **GOO or other such products are not recommended for construction except in small quantities, as it will soften the casting material.**

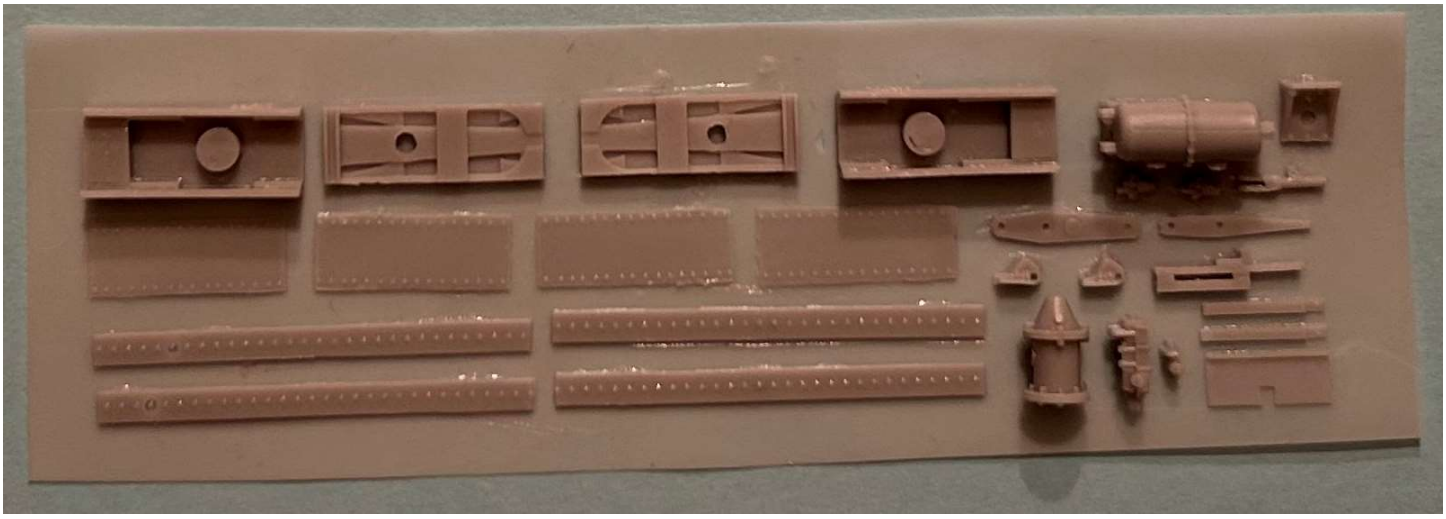
- **When a measurement is given, it is in prototype feet and inches.**

- **When the word "scrap" is used, it is referring to an item that the modeler is to supply.**

Construction



Check to be sure your RCW kit contains the resin car body, a resin floor, a resin parts sheet, some Tichy turnbuckles, a Tichy AB brake set, a pair of correct Tahoe truck side frames, and a decal sheet that contains both railroad roman and sans serif lettering.

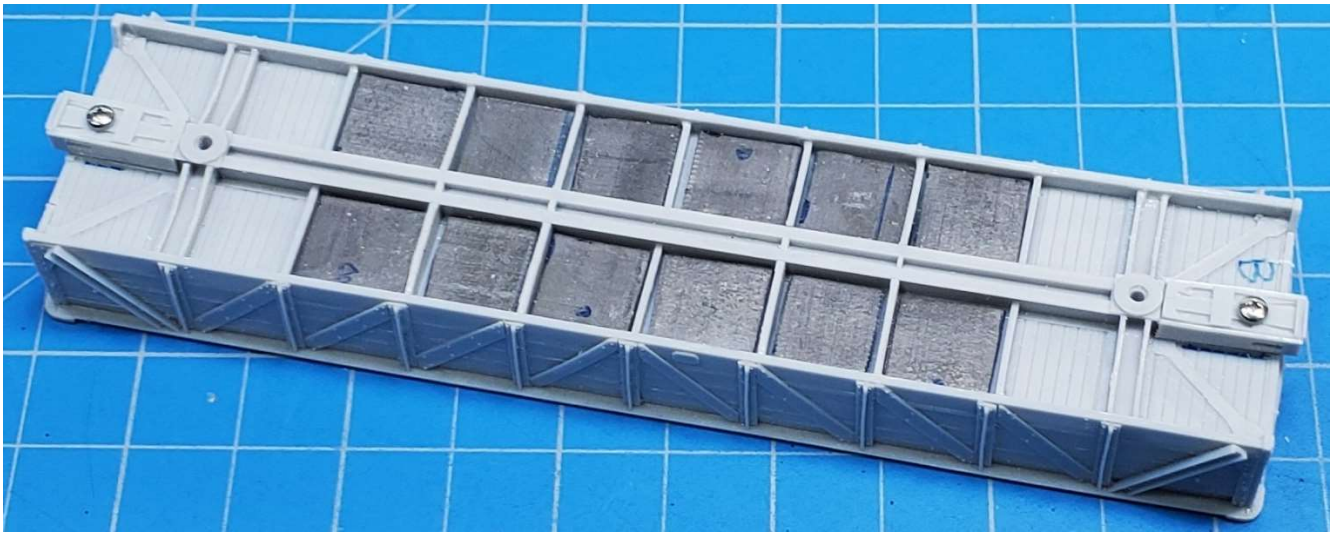


The resin parts sheet (starting in the upper left and going clockwise) contains coupler boxes and lids, brake components (reservoir, cylinder support, cylinder piston, retainer valve (two, only one needed) brake levers, a slack adjuster, brake housing/step brackets, brake step, dirt collector, control valve, and brake cylinder), pin lifter brackets, major cross bearer covers, and bolster covers. Many of the brake details are also on the Tichy sprue, so there is a choice of parts.

After washing the resin parts and removing the flash from them and all the detail parts, a decision needs to be made regarding adding weight to the car and the couplers to be used. The kit provided coupler boxes (draft gear) accept Kadee #158 couplers. If you do not currently (or don't want to) use that type of coupler, you need to replace those boxes with ones that accommodate your couplers. Also, after adding coupler boxes and drilling for the trucks (#50 bit for 2/56 screws) and the coupler boxes (#54 bit for 0/80 screws), the type of weight utilized should be determined. Below are photos of using the provided coupler boxes, a wider box that will accept Kadee #5s, and the Accumate box that will accept the Accurail couplers.

Choices for the weight could include the use of stick-on tire weights placed between the cross ties on both sides of the center sill. Or, using "Liquid Gravity" which is approximately .034"-.037" tungsten ball shot. A layer of the shot inside the car body, between it and the floor, raises the floor about .040". Additional shot could be placed "inside" the center sill (see photo below). Or, gluing a thin piece of lead cut to fit between the body and floor, with holes created to allow for the truck and coupler screws. Again, see the following photos.

No matter what method is used, it is very important to use screws short enough to allow the floor to fit into the car body without obstruction.

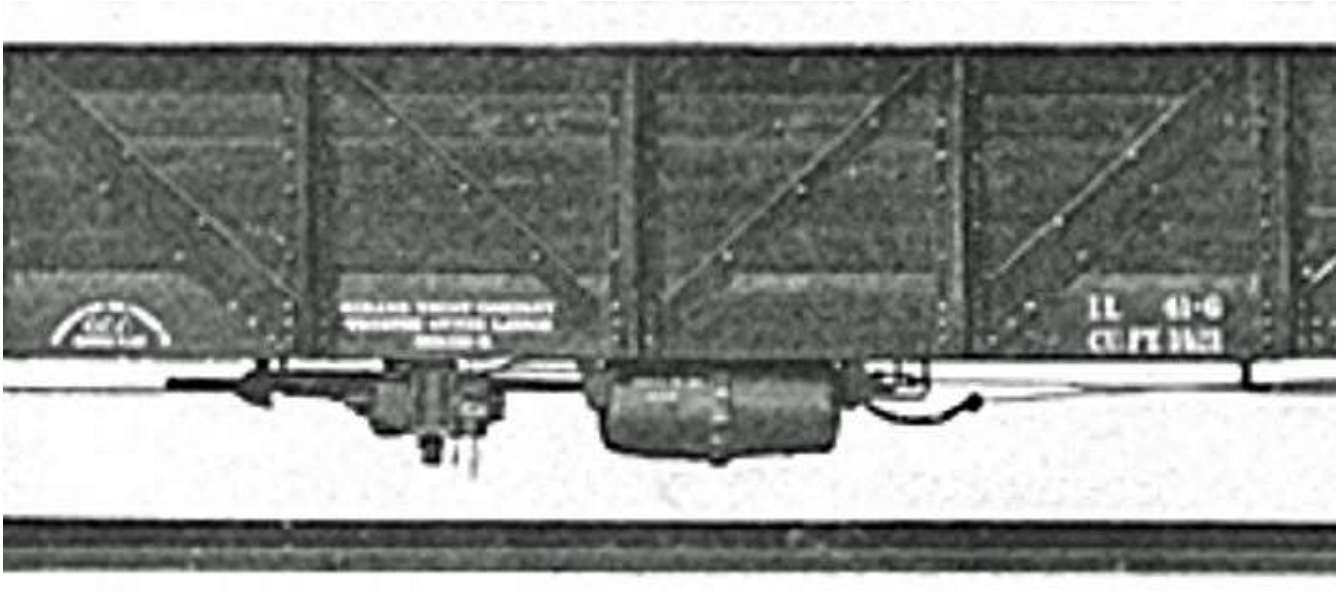


As the brake components are very prominent in any photo of the prototype cars, the addition of weight as shown in the above photo is not recommended.

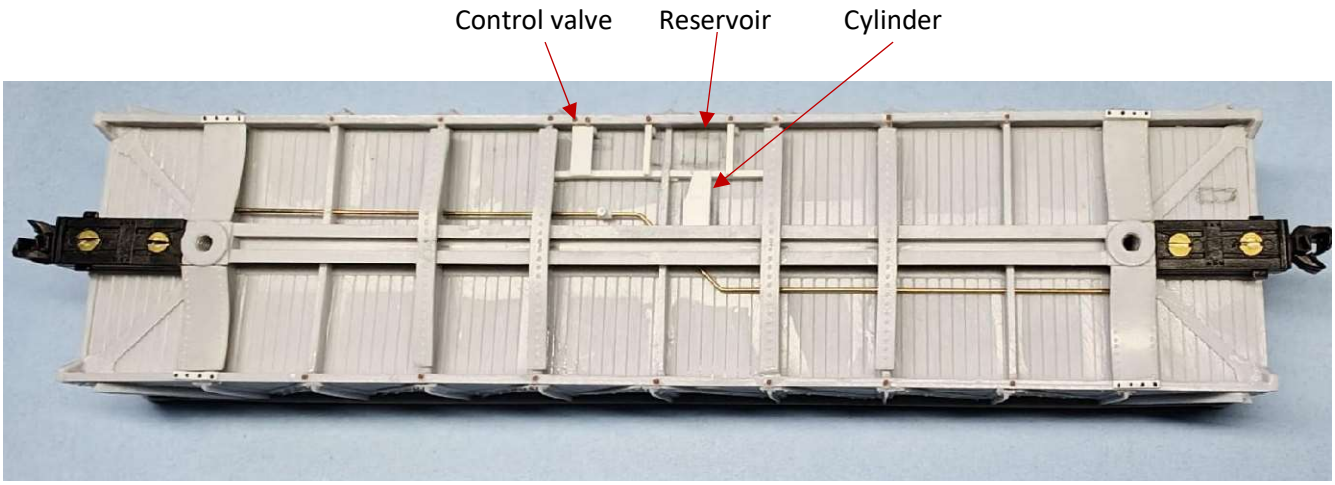
Once the choice of couplers has been made and the holes for the trucks and couplers have been drilled, add them to the car to check for proper coupler height. In the cars built here, the height was found to be fine.

Staying with the underframe, the bolster and major cross tie caps should be added next. There are four major cross ties on this car. When removing the flash from these parts, thinning these parts helps to allow them to conform easier to the curved surfaces for gluing. Each part is slightly too long and needs to be trimmed back. If planning to add the train line, do so before adding the bolster and cross tie caps. (See photo below for placement.)

The major construction feature of this kit is the underframe brake system. The photo below (from the Car Builders Cyclopedia) shows how prominently the AB brake system extends below the side sill of the car. The model kit floor is approximately .100” below the bottom of the side sill. In order to have the components extend below the sill as per the prototype, supports and pads need to be added under the floor.



The brake components on this car occupy a very small space. Looking carefully at prototype photos and the drawing in the Neubauer article, the car floor was marked for placement. Also, the reservoir is situated on top of one of the cross ties. Therefore, a section of that cross tie needs to be notched to allow for this.

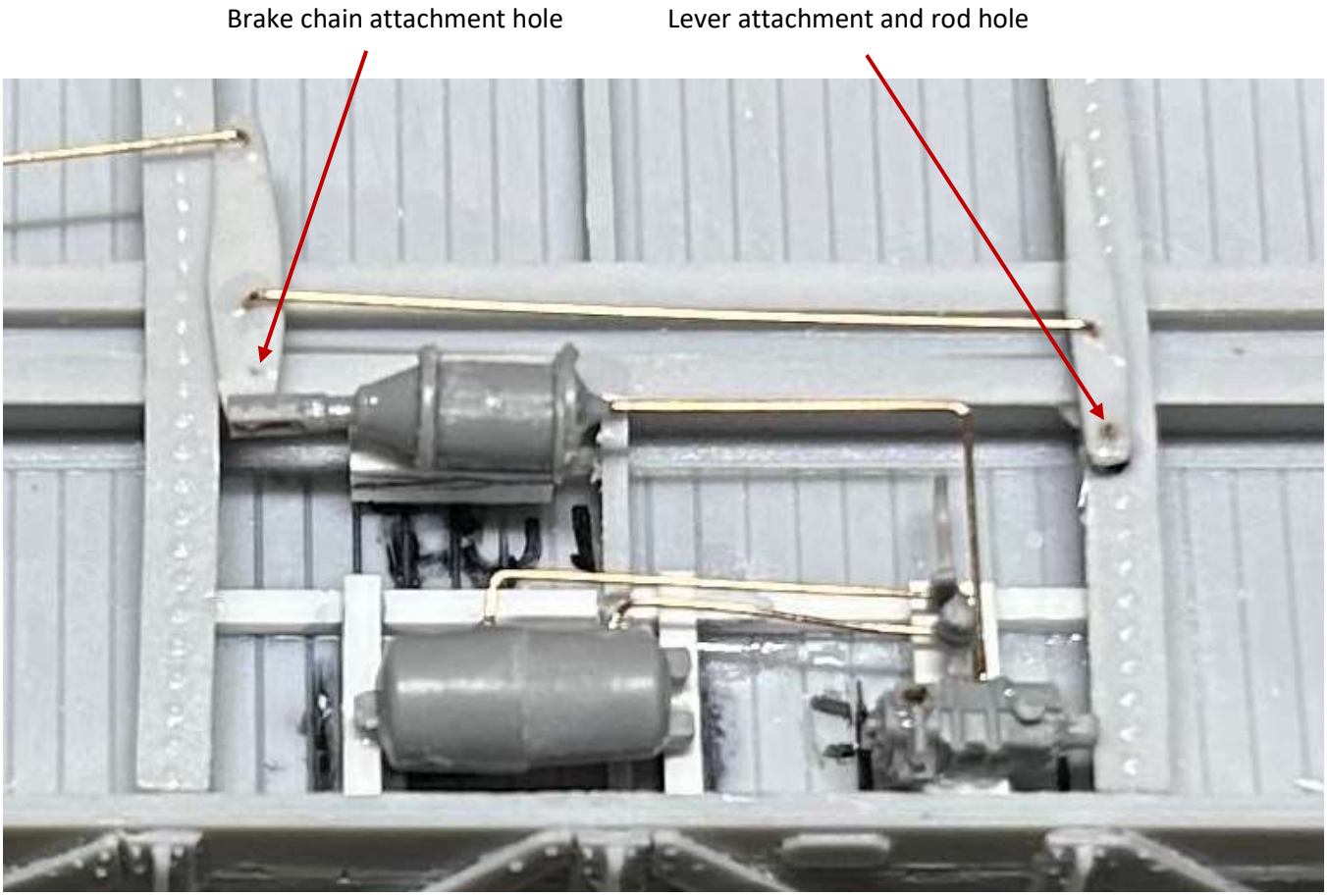


The pads created for the components were made from styrene scrap and create an approximately .080" distance from the floor. Experiment with these pads/supports to get the prototype look you want. Both the cast

resin detail parts sheet and the Tichy AB set include parts for the brake components. Choose those that you feel the most comfortable working with and prepare them by drilling #78 holes as necessary. An order of attachment is necessary as the parts are very close together.

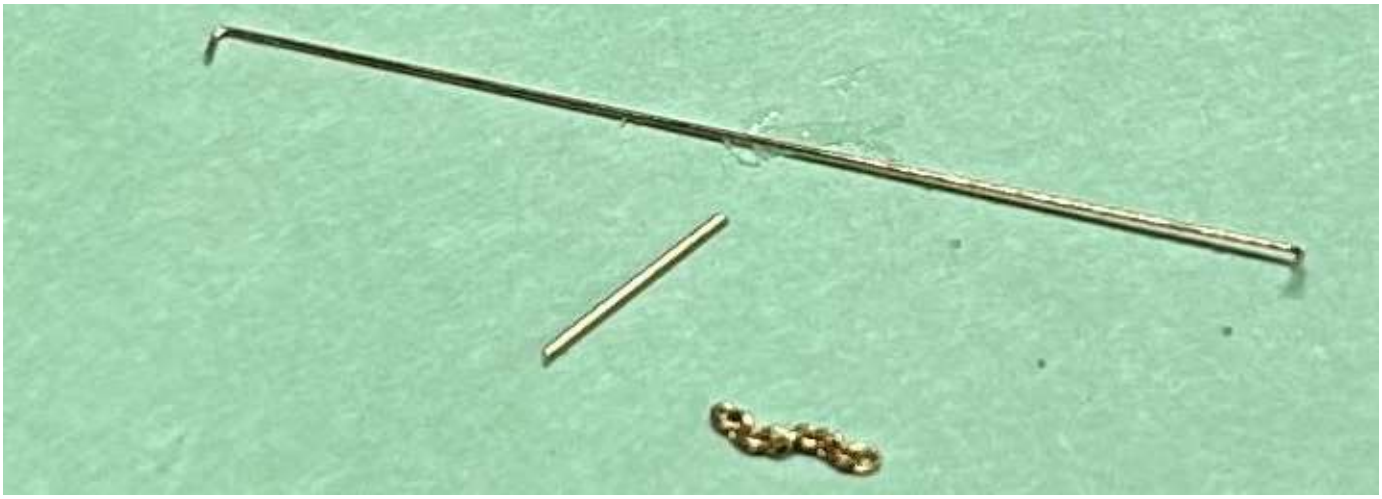
First add the reservoir and the control valve. The plumbing between these two is added next. The kits built here used Tichy .010" Phosphor Bronze Wire (PBW). Next add the brake cylinder (without the piston rod). Again, run the plumbing to the control valve. If desired, add the dirt collector next – the one here came from the Tichy sprue. The resin brake levers were used and holes drilled in them for the brake rods. If desired, you can use the Tichy turnbuckles (cut in half) as the connections instead. The uniquely shaped brake lever is to be used with the slack adjuster (included with the resin detail parts).

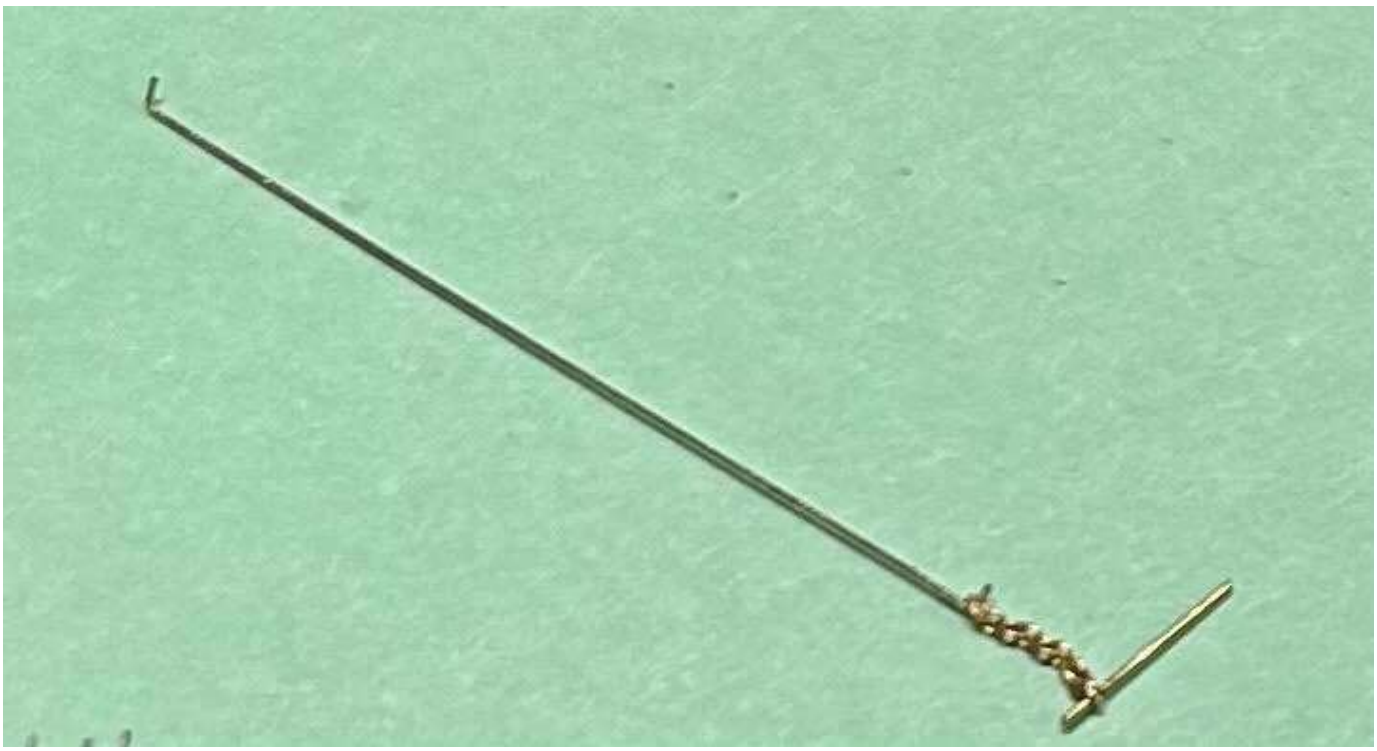
The cylinder sits up against the center sill and "high" enough so that the piston rod clevis clears the sill. The brake lever shown above attached to the piston clevis had holes drilled in it for the two brake rods and also for the attachment of the chain next to the piston. The lever should be thinned on the clevis end so it will slide into the clevis (the Tichy cylinder and rod were used), leaving the hole exposed. See the photos above and below. Once everything is aligned, glue the rod into the cylinder and the lever to the clevis. The other brake lever, the floating lever, will need to have the resin slack adjuster added to it. This could be done before adding the lever to the car or after. Shown here is the after approach. A small bit of scrap styrene is glued to the major crossbearer for the lever to sit upon (approximately .030" tall). Two holes are drilled into the lever – in the middle and one end for the eventual addition of the brake rods.



The resin slack adjuster needs to be modified by opening up the slot in it so it can be slipped over the floating lever and rest on the center sill. The photo below shows this placement. The chain can be added as the modeler desires. One possible method is described below.

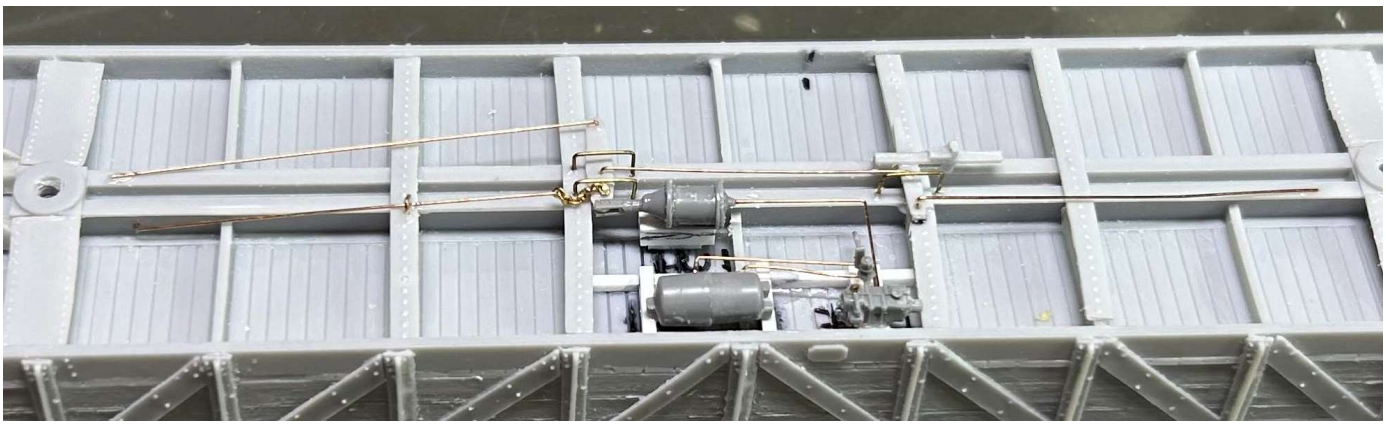
As shown in the photos, a small scrap section of .010" PBW is used along with a section of about 10 links of 36-links-per-inch chain (Campbell #256). The chain was glued to the scrap section and then to the brake rod.





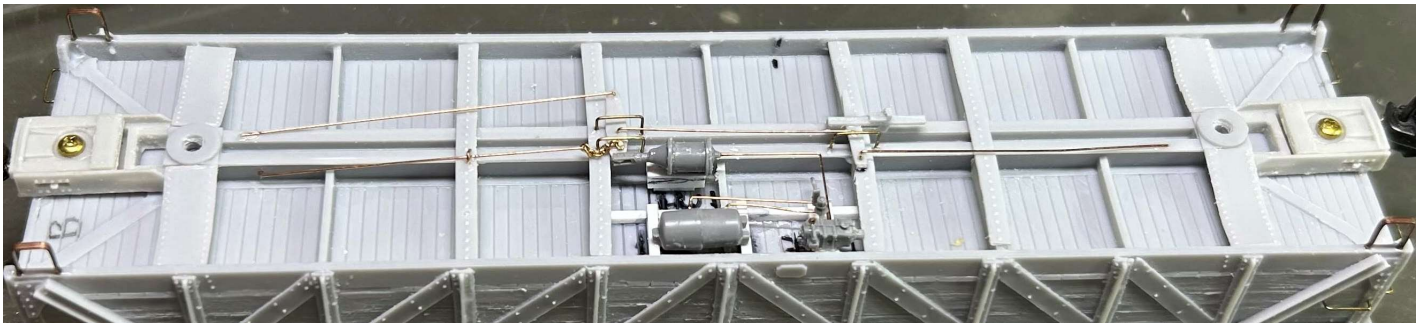
The scrap piece of .010” was inserted into the hole next to the piston and, once glued into place, the excess wire trimmed off. The other end of the brake rod was glued to the center sill.

Once all the rods are attached, the rod guide and lever carriers can be added. In the photo below, the guide is a scrap piece of .010” PBW bent to shape and the carriers are 18” grab irons.

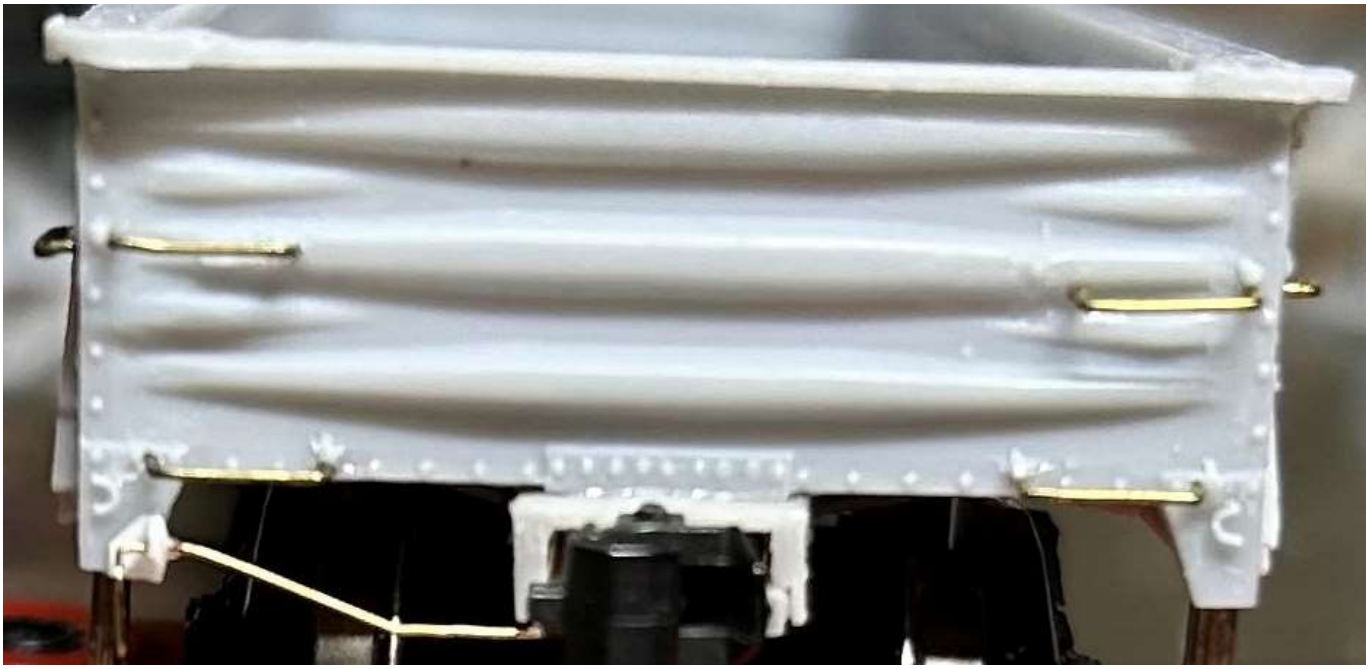


The last piece of the brake system would be the pressure release rod. An eye bolt connection to the AB valve can be added at this time, but the actual addition of the rod could wait until painting. The photo above shows this eye bolt, and the hole drilled (#78) opposite in the car side sill.

The sill steps are the final piece of the underframe detail. Use A-Line Type A Stirrups (#29000) and set them so that they extend a scale 15” below the sill.



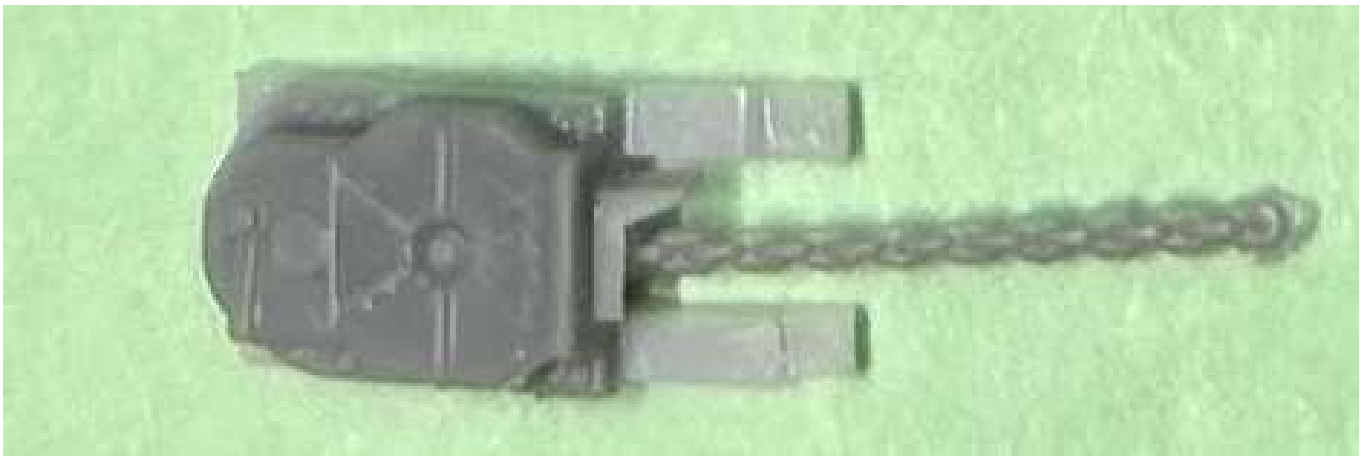
The car body has 10 grab irons that need to be added. All grabs are 18” straight grabs. There are two per side and four on each end. The grabs can be spotted below the cast on rivet detail in each case. Be careful when doing so as some of these rivets are slightly misplaced. This makes some items uneven or off in distance. I finally used my dividers to mark each hole and, using a #78 bit, drilled “close to” the rivet detail as needed. The photo below is of the A end of the car.



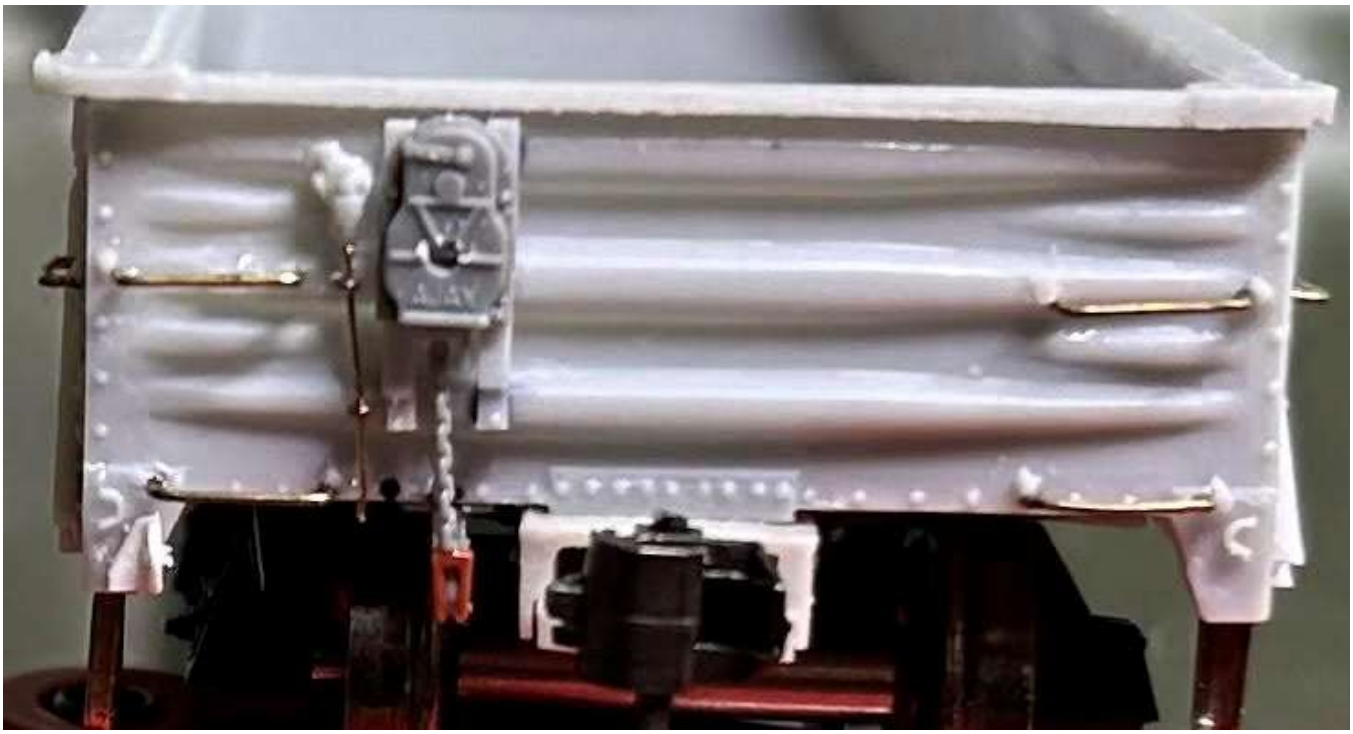
The kit contains resin castings for the cut lever attachments. You can use them or make your own. The cut levers themselves are made from .010” PBW bent to match the prototype levers. The car kit does not have cast on push pole pockets. The prototype does and you could add them if desired by cutting off a section of a Detail Associates lift ring (DA 1106) and gluing it in place at all four corners of the car.

B end brake items are included as both Tichy sprue parts and cast resin parts. Choose the ones you are most comfortable with when detailing the B end. The ones used here were the resin braces for the brake housing, the resin retainer valve, the resin brake step, the Tichy fulcrum, the Tichy chain, and the Tichy Ajax housing. (I had planned to use the Tichy Ajax brake wheel as well but did not like the way it looked after I cut it off the sprue.)

After adding both of the resin braces to the back of the Tichy housing, add the chain. Note there is a front and back to these braces. The braces needed to be shortened slightly - cut them off immediately below the rivet detail at the bottom. The chain will be shortened to fit as well.

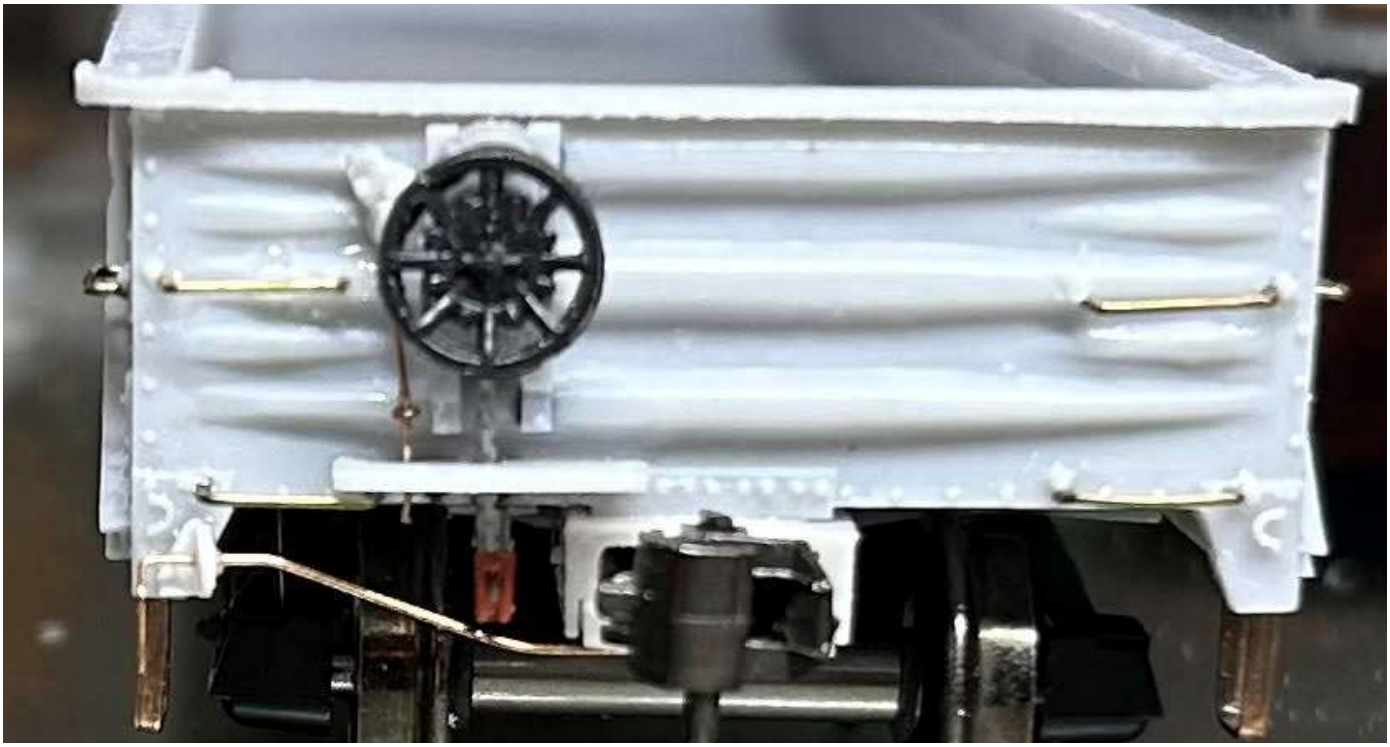


After measuring and marking the position of the housing, add the fulcrum to the bottom edge of the end. In the photo below, a collar from an Intermountain kit is used as the attachment for the chain. Shorten the chain to just reach the collar and glue the housing to the car and the chain to the collar. Test fit the Tichy wheel. The photo shows the use of a CalScale wheel. The hole in the housing was opened up for its attachment.



The cast resin retainer valve should be added next. After gluing it in place, add .008” PBW as the retainer line. Yarmouth eye bolts were used as guides for the line, which was slipped through them into place, nipped to the correct length, and glued into place. As on the A end, add the cut lever bracket and the cut lever.

The final steps are to add the brake step and brake wheel. The resin step was modified slightly to fit over the chain and the retainer line and glued into place. You may wish to add a support bracket under the step. Finally, the brake wheel was glued into place.



If desired, air hoses and brackets can be added to the ends of the car's lower sill. Use the materials you are familiar with to do so. The car should be washed again before painting. The two photos below were contributed by Ed Rethwisch.

The prototype cars were painted black. The decals included provide both railroad roman and sans serif lettering. The change away from railroad roman occurred on the railroad in the mid-1950s. See the Extras pages for prototype photos to aid with decal placement. http://resincarworks.com/extras/extras_kit15-01_LNE_gs.htm

After painting, the pressure release rod can be added to the bottom of the car. Touch up can be done with a brush.