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

Kit 15.0

Chicago Milwaukee St. Paul and Pacific

80000 to 81034 Series 70-Ton 48'-6" Welded Composite Gondola

Milwaukee Road photo, John Greedy collection

All model, parts and construction photos by Frank Hodina

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 to provide unique and different equipment that isn't readily available. Several friends assisted with various production phases so it's not quite a one-man operation. To list a few who helped with the production of this kit I would like to thank: Tom Madden for his casting work; Mike Skibbe for the decal artwork and Dave Campbell for configuring that artwork for printing; Ken Soroos for his help with formatting the instructions; and Eric Hansmann the keeper of the website and blog. As for the patterns, those were done the old-fashioned way with styrene and rivets from an Athearn gon. We learned after several attempts to create this model in 3D, that the technique isn't very good for making realistic looking wood. On the other hand, the Klasing ratchet hand brake was done by my son Patrick using 3D modeling.

This is a "CRAFTMANS" level resin kit and its construction should not be attempted by anyone who has not built similar types of models or who doesn't have a knowledge of prototype freight car construction and components. The kit consists of a one-piece resin body, floor and detail parts; A-Line stirrups; Tichy AB brake set; assorted wire sizes and grabs; Precision Design Company decals; and Tahoe Model Works 70-ton truck sideframes. The modeler is to supply any small styrene bits, couplers, weight and small screws needed to complete the model.

Warranty

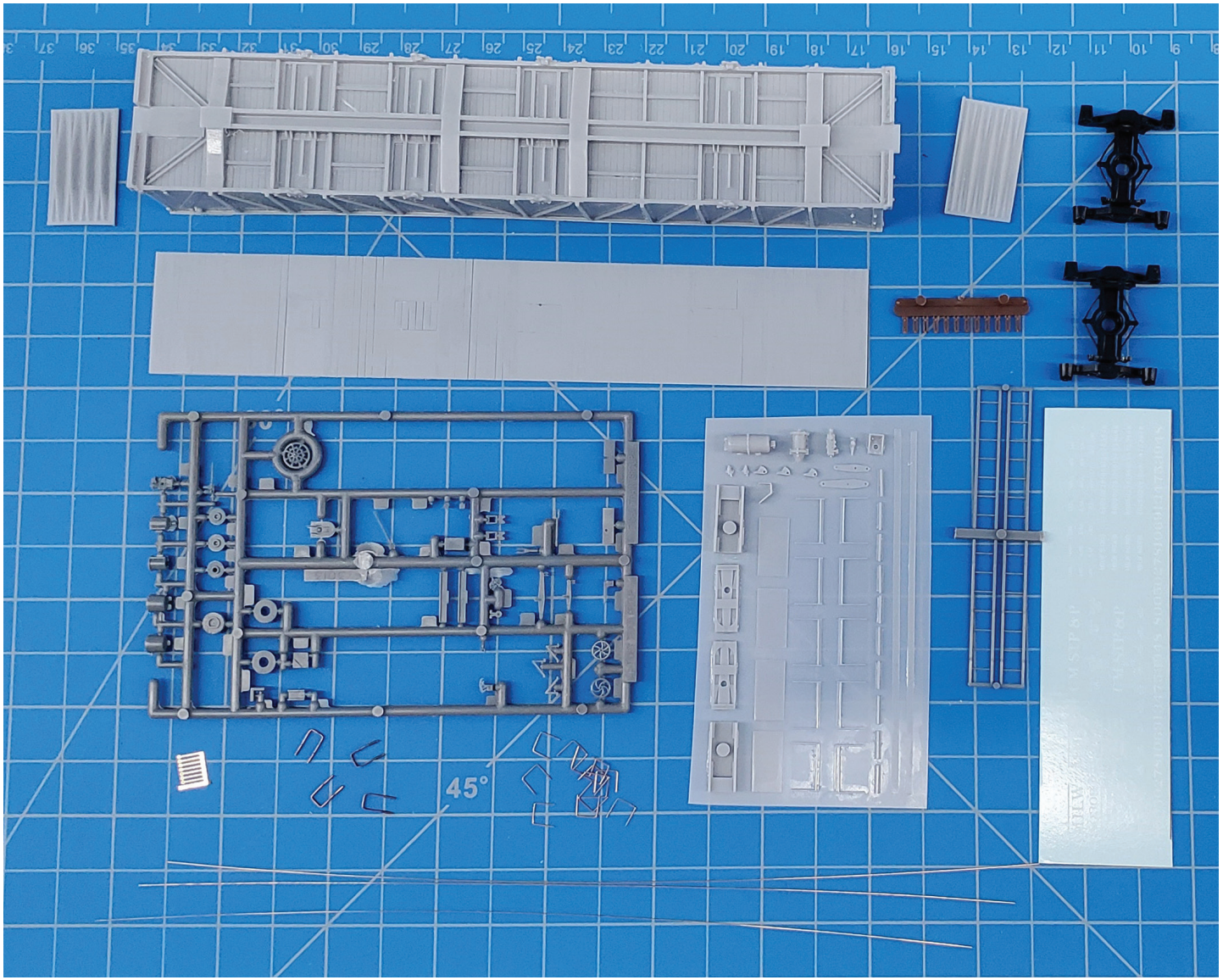
All sales are final. There will be no exchanges or returns. Resin Car Works will replace any part(s) found to be defective due to manufacturing or shipping to the original purchaser within the first 30 days after shipment. The damaged part(s) must be sent back with your request for replacement. As these are limited production kits, don't 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, that 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 their cured state, dust is created during filing, sanding and drilling. Air circulation and/or ventilation should be provided. Always work in a well-ventilated room. Wear a dust mask or respirator and safety glasses for protection. Always wash your hands when you're finished working.

History

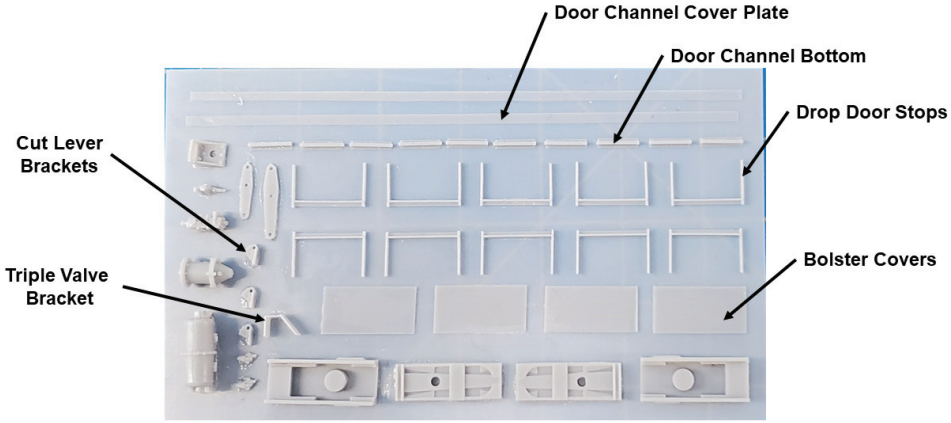
These cars don't have much of a history. They were built in Milwaukee's own shops in 1937, occupying the 80000 to 81034 series, some 1035 cars. Like all Milwaukee freight cars constructed at that time, they were of welded construction. Beginning in the mid-fifties the cars received steel sides and floors.



Construction

It's recommended that before you start construction, you familiarize yourself with the additional information and photos on the **Resin Car Works** website www.resincarworks.com that pertain to this kit. Especially helpful are a series of prototype drawings that show the placement of the various car parts.

- 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 shouldn't 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 they will soften the casting material.
- When a measurement is given, it's in prototype feet and inches.
- When the word "scrap" is used, it refers to an item that the modeler is to supply.



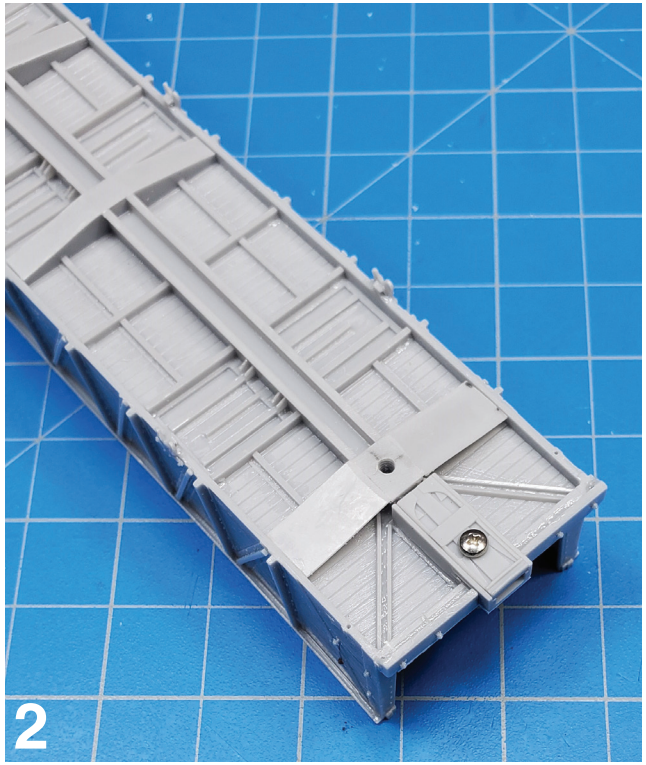
1. Basic Body

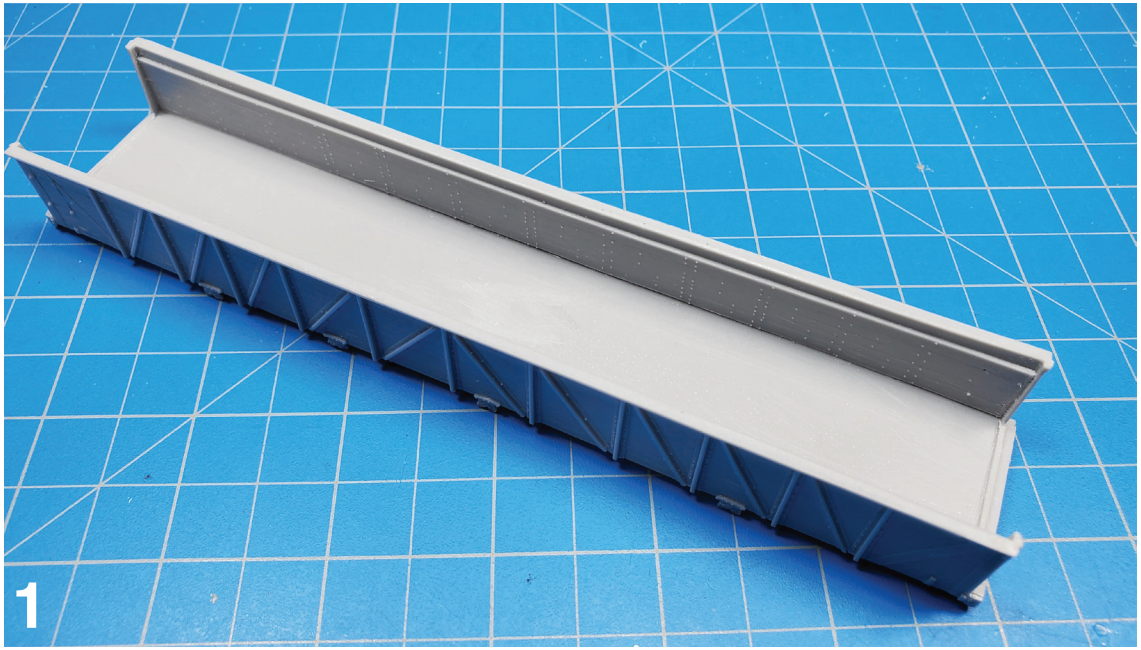
As this is a one-piece body kit, most of the hard work has been done in creating the basic car shell. Actually, other than creating the drop-door stops, the model is a snap to construct. As I like to get the nasty tasks done first, clean the resin parts of any flash and drill the holes for the various parts. I generally use a #79 drill for all the grabs and #76 for the stirrups. Refer to the prototype photos as to the location of the grabs and stirrups.

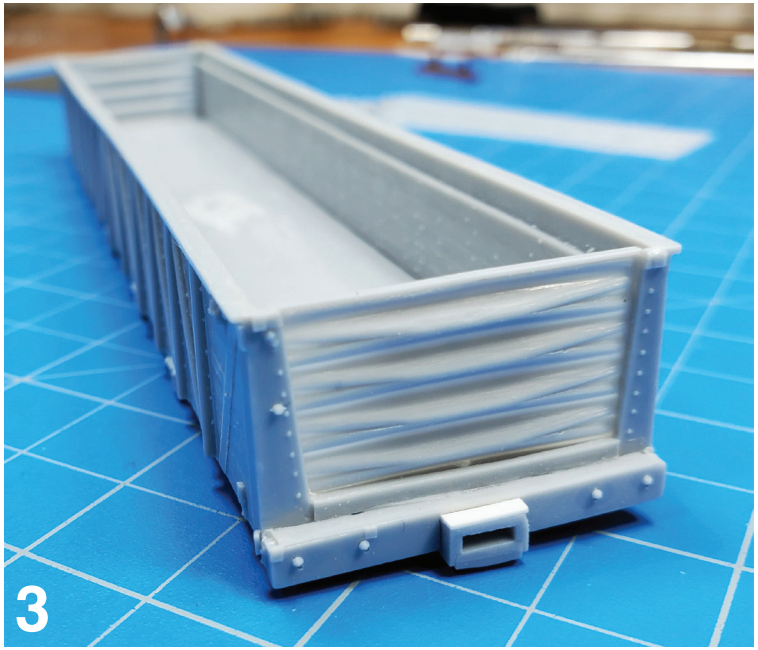
Photo 1: Remove the pour gate in the center of the car and file smooth. Score and snap out the false ends.

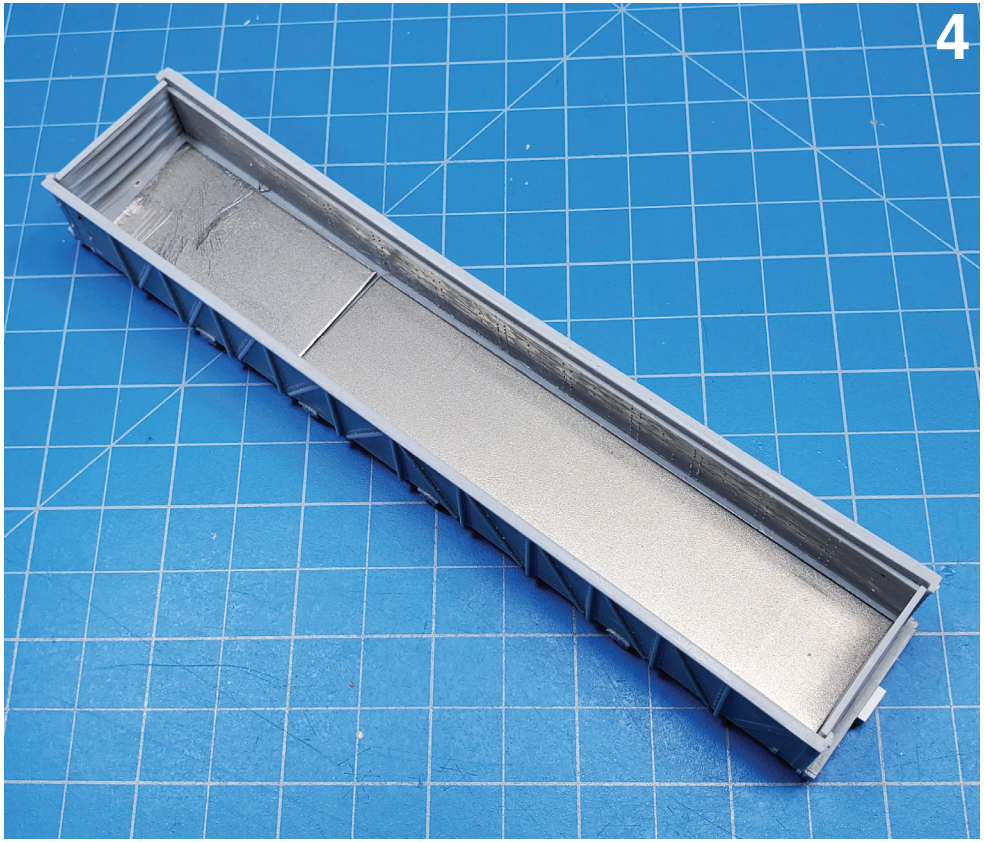
Photo 2: Install coupler boxes and bolster cover plates. Drill and tap coupler boxes for 1-72 screws and bolsters for 2-56 screws.

Photo 3: Install the ends with the top angle pointing inwards.









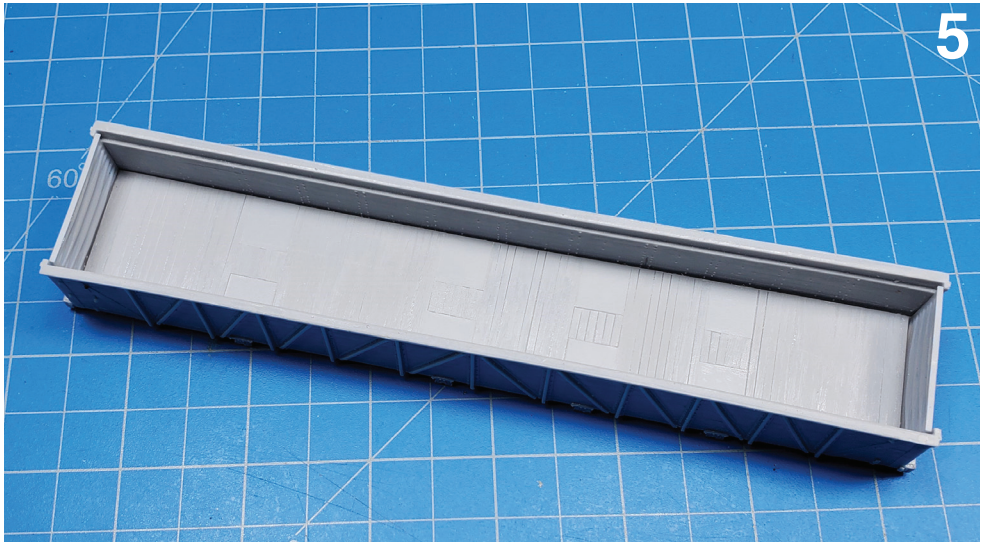
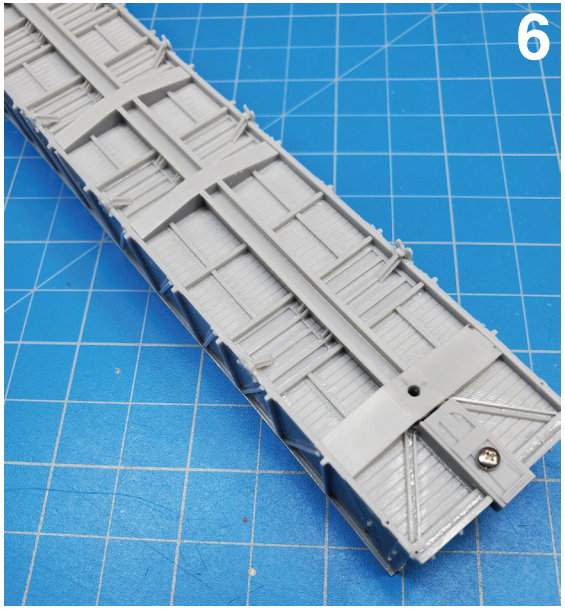
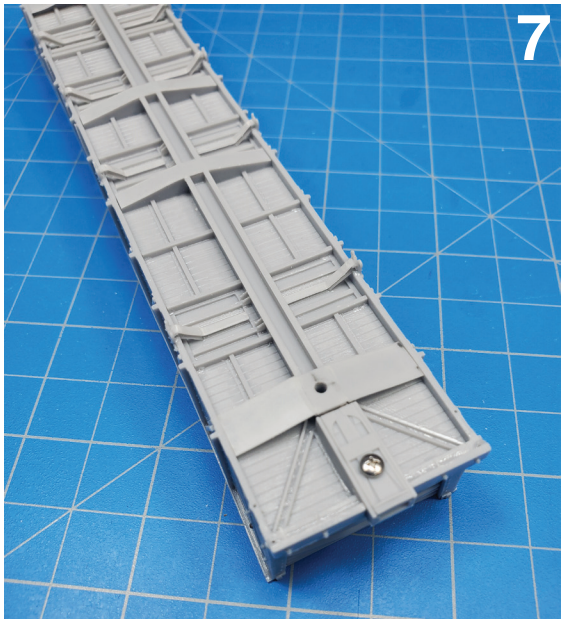


Photo 4: Install weight of your choice. I used some 0.030" thick stamped sheet steel from the scrap box. One choice would be thin lead sheet which is available from McMaster-Carr at http://www.mcmaster.com. As it is lead, remember to wash your hands after installing the weight.

Photo 5: Install the inside floor. Note that the drop doors are not symmetrical and that the two closest drop doors are at the "B" end of the car.





Photos 6 and 7: The prototype's drop doors are locked in place by two channels, which are welded back-to-back on the bottoms of the drop doors. All of the door details have been cast as part of the body except for these channels. To complete the angled part of the channel, file the bottom portion to fit between the channel on the drop door and the Wine door lock on the car side. The channel is finished using the 6" wide cover plate material. A 4'-3" piece is enough to cover the channel.

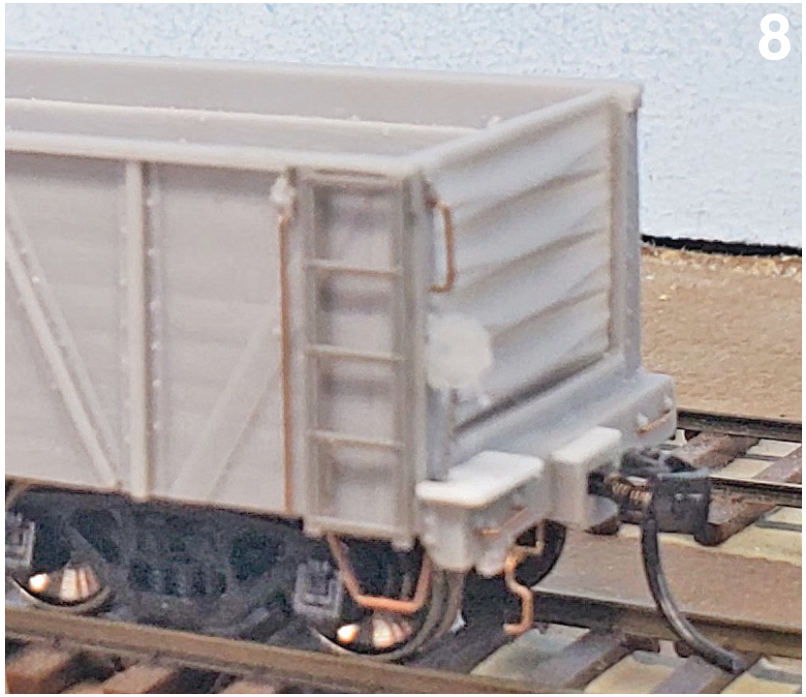
Photo 8: Now's a good time to install the grabs, side ladders and stirrups. The ladders are cut down from the Tichy part provided, so that only five rungs are left. The stirrups will need to be re-bent to match the prototype.

Note again that there is an "A" and "B" end to the body casting. Install the Klasing ratchet hand brake on the "B" end. Place a piece of the chain from the Tichy brake set between the brake housing and the top of the end sill. Cut a 2'-3" length from a piece of scrap 2"x12" styrene. Notch one end as shown and then install on top of the end sill.

Run 0.010" wire from the retainer valve to the bottom of the car side.

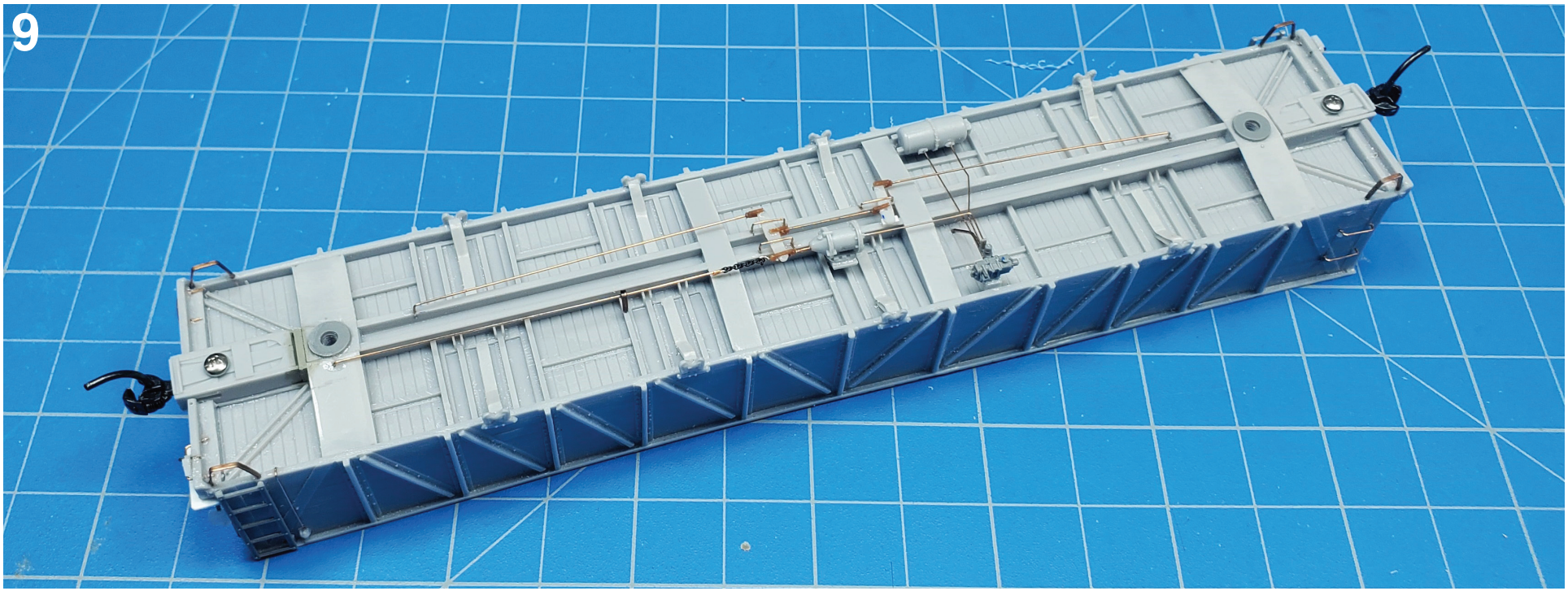
Install Kadee #158 semi-scale Whisker couplers into the coupler boxes.

Cement the cut lever brackets to the left corners of the end sills. Attach etched eye-bolts to the cut lever brackets. Form cut levers from 0.0125" wire using the prototype photos to determine the shape, and attach them to the car.



2. Underframe

Photos 9, 10 and 11: Reference the location of the brake components. The triple valve goes on a "C"-shaped bracket from the parts sheet. Brackets will also be required from scrap for the brake reservoir. Now install all the brake components and connecting



piping using the 0.010" wire.

Install brake levers with 0.0125" wire using the Tichy turnbuckles with one end removed as clevises. Also install the connecting rod from the brake cylinder to the bolster with a small piece of scrap chain at the brake cylinder.

Photo 11: Use the "Through Drop Door" cross section drawing for the placement of the drop door stops (See Page 8). The drop door stops are as wide as the drop doors, which means that they're a little narrow for the distance between the cross bearers. Cement each drop door stop to one cross bearer. When dry pull over slightly to the next cross bearer and cement. Be careful, as the drop door stops are fragile.

This completes the car's construction (**Photo 12**).