

RESIN CAR WORKS  
**RCW**

P.O. BOX 42  
BYRON, IL 61010

*Freight Cars of Every Description*

Kits 14.01 (Map) and  
14.02 ("Ship and Travel")

**ATSF**

Fe-6 through Fe-20  
50' Whalebelly  
Box Car Rebuilds

## 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 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. First we would like to thank Charlie Slater for the use of his patterns. To list a few who helped with the production of this kit I would like to thank: Tom Madden for his casting work; Ken Soroos for the decal artwork (which is taken directly from the prototype cars themselves), and for help with formatting the instructions; and to Eric Hansmann, the keeper of the website and blog.

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, ladders and turnbuckles; assorted wire sizes and grabs; decals to letter the car in either the map or "Ship and Travel" scheme; and Tahoe Models Andrews truck side frames. The modeler is to supply any small styrene bits, couplers, weight, small screws and chain needed to complete the model. If the modeler wishes, Microscale set #87-216 offers additional train names for the map scheme.

## 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 circula-

tion 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

An excellent and complete history of these cars along with all other such ATSF equipment is available in **Santa Fe Railway Rolling Stock Reference Series Vol. 3 Furniture and Automobile Box Cars** by Richard Hendrickson, from the Santa Fe Railway Historical and Modeling Society Company Store, for \$40 each. For a general history please reference **Sunshine Models Prototype Data Sheet (PDS) #73.1 ATSF Fe-6 thru 20 50' Steel Rebuilds**, along with **Classes, Numbers and Assignments 50' Rebuilds, Fe-6 through 20 classes and Instructions ATSF Fe-6 thru 20 Rebuilt 50' Boxcars**, copies of which can be found on the extras page for this kit on the Resin Car Works web site. This kit represents 1209 cars rebuilt between 1936 and 1940 which had an interior length of 50'-6". Within the Fe-6 thru 20 classes there were also some 750 40'-6" cars in classes Fe-12, 15 and 19. Yes, It's confusing that 50' and 40' cars were mixed together.

## Construction

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](http://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. Body

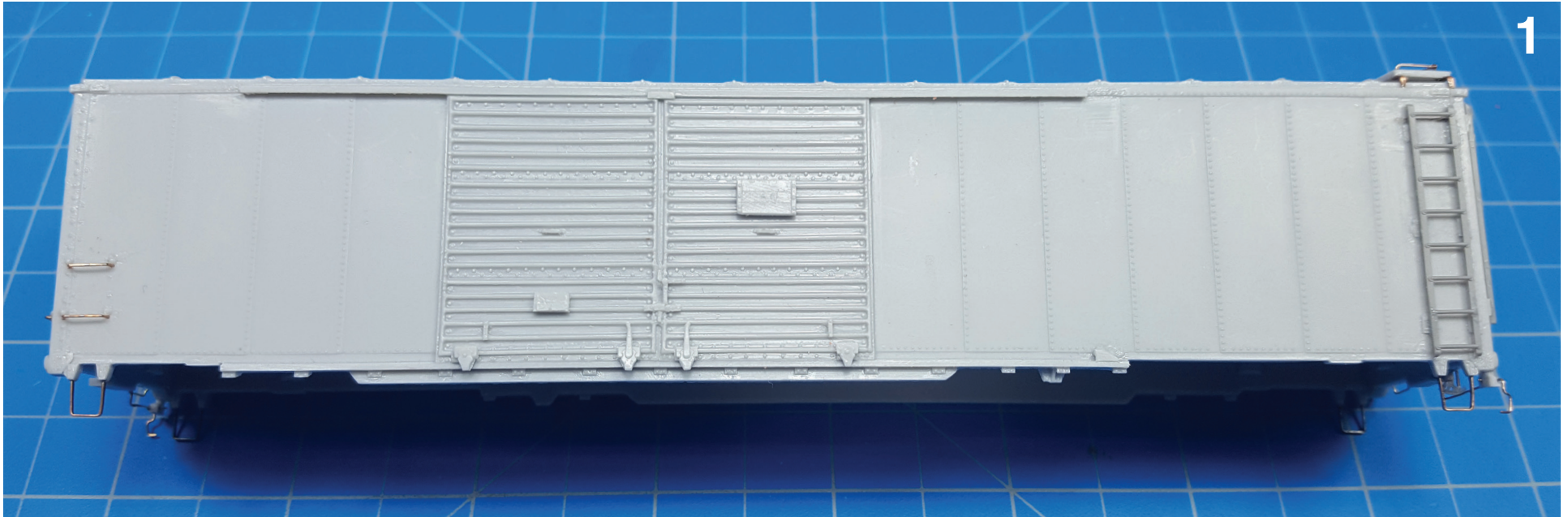
As this is a one-piece body kit, most of the hard work has been done in creating the basic car shell. As I like to get the nasty tasks done first, clean the resin parts of any flash and drill the holes for the various parts. I generally use a #78 drill for all the grabs and #76 for the stirrups. Refer to the prototype photos for the location of the grabs and stirrups and install along with the tack boards and door hardware.

I find that it's easier to paint the model if the underframe is left off the car body and installed after painting. It's also easier to glue parts which go through the body from the inside.

Tichy ladders have been provided but an additional rung will need to be added for these cars. Trim the top of one ladder just above the bolts of the rung. Trim the bottom of another ladder just above the rung itself. Dress the edges up with a file to maintain spacing. Working on a plate of glass, cement the two sections together. There are small tabs on the underside of the Tichy ladder that need to be removed. Dress the lengthened ladder with a file, cut to fit and cement to the car on the taps provided on the body casting (*Photo 1*).

Pick an end to be the brake (B) end of the car. Install a brake housing bracket, brake housing, plastic chain and bellcrank on the end along with the retainer valve. The Santa Fe placed the retainer valve between the brake housing and running board. Run 0.010" wire from the retainer valve to the bottom of the end. Run 0.0125" wire from the bottom of the chain to the bellcrank. For the brake step I use a scrap A-line stirrup and scrap 0.010"





x 0.030" styrene to form the supports as per the prototype photos. There is no chance of the brake step breaking off using this method. Finally attach the brake step platform to the supports (*Photo 2*).

Place small amounts of Pliobond on the roof supports. Place the running board on the roof supports, equidistant between ends. Touch the roof supports with small amounts of ACC when the Pliobond is dry to set the running board.

For the end supports of the running board, cut the cast angle and cement to underside of running board. Cut pieces of scrap 1 x 3 styrene for diagonals and cement from the angle to just above the nut and bolt castings on the ends (*Photo 2*).

One of Richard Hendrickson's building techniques was using A-line style "A" stirrups to support the lateral running boards. The stirrups are cut in half and re-bent to form the corner supports (see photo). Cement the lateral running boards to the main running board and to the A-line supports. Form 0.0125" wire for the corner grabs and, with the etched eyebolts, cement to the laterals (*Photo 2*).

Cement the cut lever brackets to the left corners of the ends. Attach etched eyebolts to the cut lever brackets. Form cut levers from 0.0125" wire using the prototype photos to determine the shape and attach to the car

(*Photo 2*).

Attach the brake wheel to the brake housing. This completes the body details (*Photo 2*).

## 2. Underframe

Add approximately 3 oz. of weight to the floor. I use whatever is handy from the scrap box. In this case, eight steel washers did the trick. And since I don't trust any glues to hold the weight, I make a bracket using scrap styrene, which is attached directly to the floor over the weight (*Photo 3*).

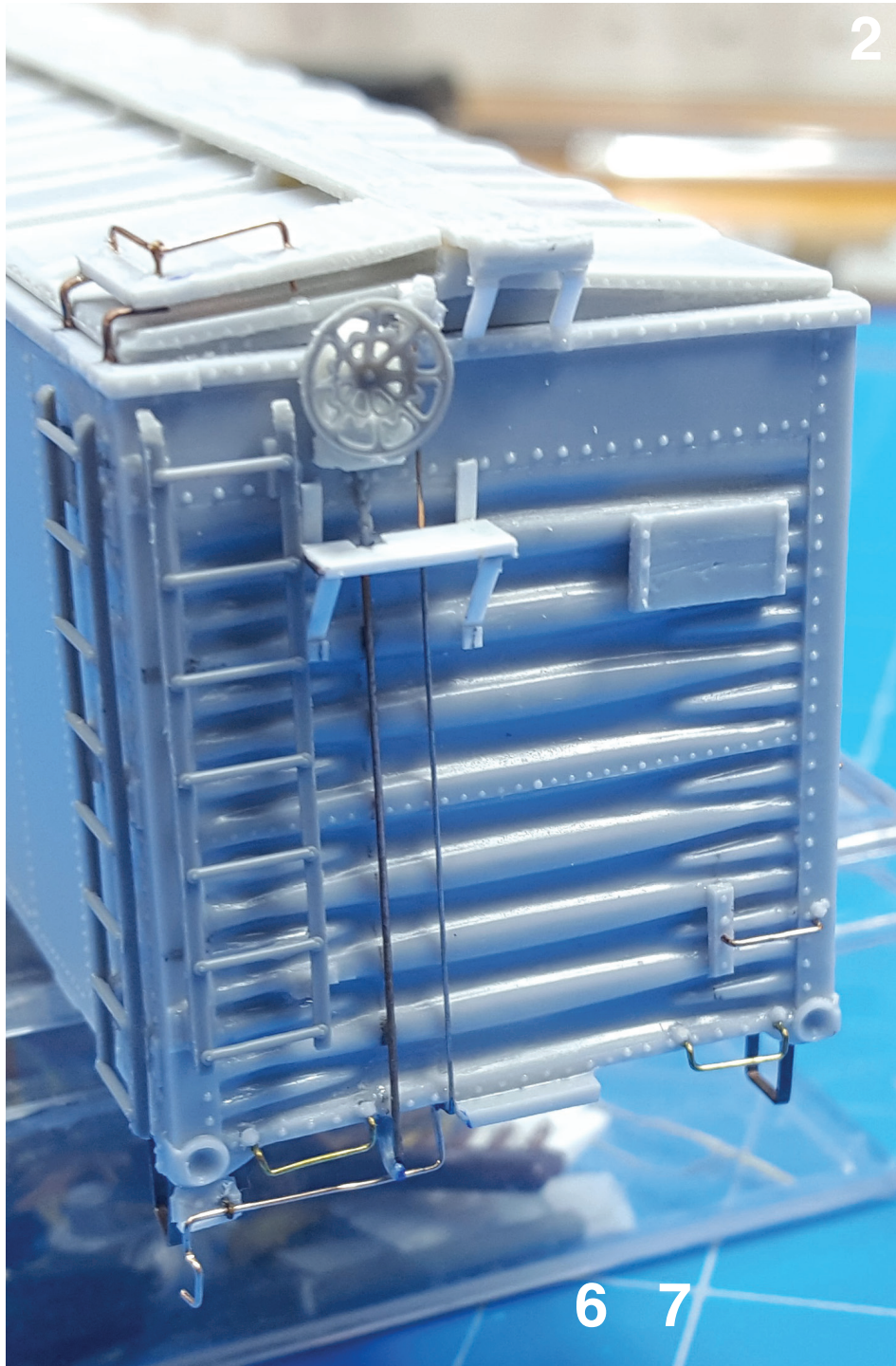
Attach coupler pockets to the underframe and drill and tap holes for 2-56 truck screws and 1-72 for coupler cover screws. The coupler boxes will accept only Kadee No. 158 semi-scale Whisker couplers.

Refer to the photos (*Photos 4 and 5*) to determine the location of brake components and bolster parts.

The underframes had several modifications over their lifetimes. Resin parts are provide for these changes. To provide additional wheel clearance, some frames were cutto install a special steel casting at either end of the outer sill near the bolster. Not all cars received this casting, so check prototype photos to see if the castings were on the car being modeled. In the

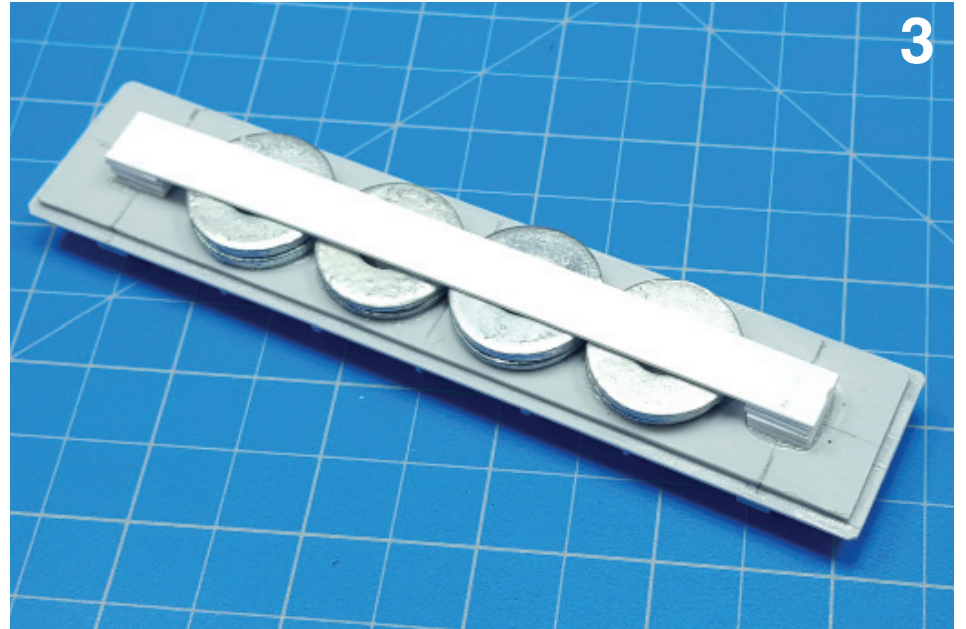


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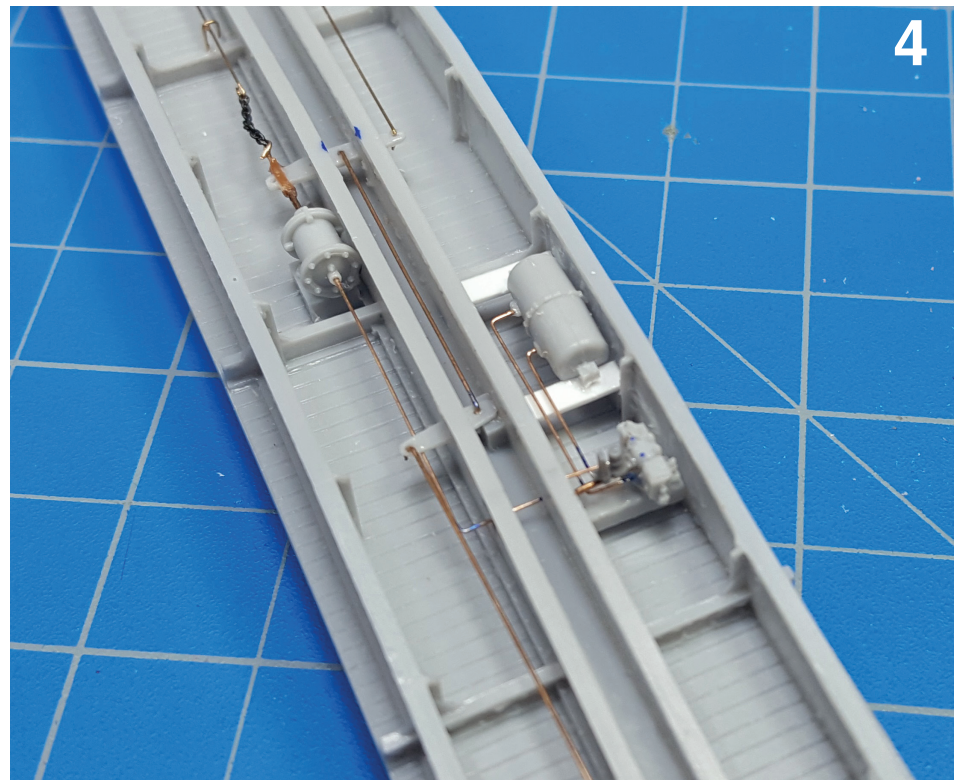


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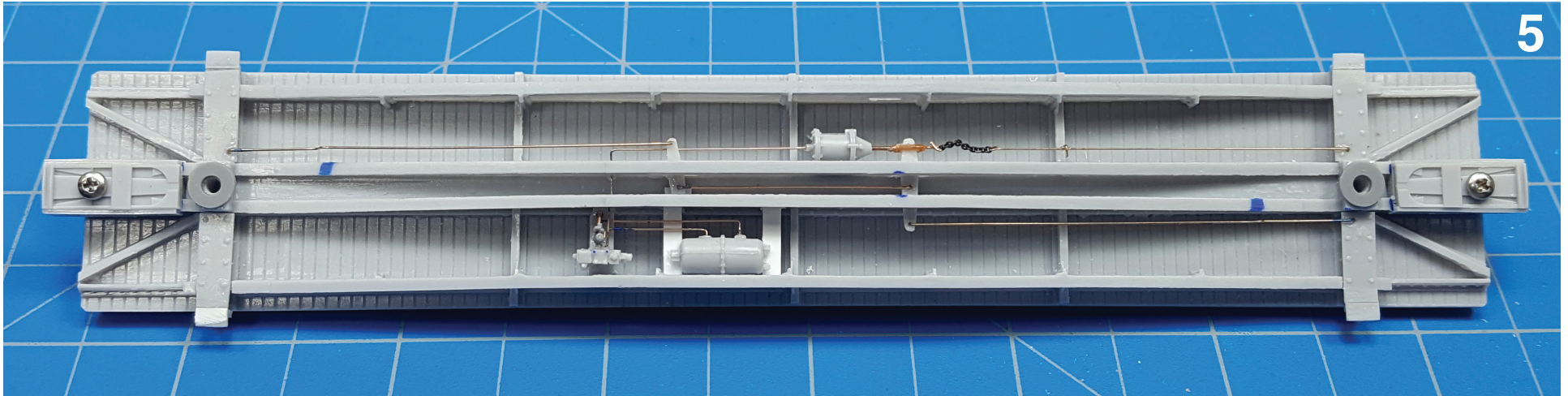
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late 1940's, cracking began showing up in the bolsters and draft gear as a result of age and fatigue. To correct this, the end underframe and bolster were replaced with new steel parts. Cars so modified had a shallow channel end plate at the bolster.

If you are modeling a car with an unmodified underframe, fit and cement the "T" end bolster sections to the four bolsters. Then fit and cement the bolster cover plates. If you choose to model the rebuilt bolster and draft gear, remove the small pad on the lower edge of car side at the bolster. Then cement the four channel end plates.

Now you'll have to decide whether or not to model the brake gear. With the four deep sills, no part of the brake gear will be visible when the model is on the layout. If you choose to model the brake system, cement the cylinder bracket onto the center sill. Then cement the brake cylinder on top of the bracket. With the flange facing the car floor, cement the control valve platform on the pads on the side and center sill. Add two reservoir mounting flanges on the pads next to the control valve pad. Now install all of the other brake components and connecting piping using the 0.010" wire (*Photos 4 and 5*).

Install the brake levers and rods 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 chain or chain at the brake cylinder (*Photos 4 and 5*).

Cement the Tichy plastic washers from the brake set on top of the bolsters.

This completes the underframe.

### 3. Painting and Lettering

Before painting, wash the car again with Dawn; rinse and let dry.

When rebuilt the cars were painted mineral red overall with black roofs and trucks. As for the color and types of paint, that's an individual choice. I used Scalecoat 1 #1144 ATSF Mineral Brown. As it's a gloss color, no glaze is required prior to decal application.

Once the decals are on and everything is dry, I give the car a good coat of Scalecoat 1 Flat Glaze. Attach the frame to the body and then install the trucks. After weathering the model is ready for the layout. And don't forget to make the car/card for your new piece of freight equipment.

### 4. A Note on Trucks

The original Andrews L-section trucks were overhauled and equipped with snubbers in each spring group to improve riding qualities. Tahoe Model Works #112 USRA 50 ton Andrews sideframes are provided in the kit as a good match for the prototype's trucks. Later rebuilds received new ASF trucks of an AAR design with integral journal boxes. A good match for these is Tahoe Model Works #107, double-truss AAR 50 ton trucks.





