

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

M.P. 50'-6" 50-Ton All-Steel Automobile Cars and Bx Express Box Cars

This is a special kit for us to produce, as the one-piece body pattern comes from some of the last casting work done by Martin Lofton, who was Sunshine Models. This car is also composed of the last set of patterns done by Charlie for Martin. The kit is a tribute to all the work Martin did to advance prototype modeling. And while the patterns could have been updated to better match some of the newer detail parts, it was left as Martin had cast them.



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 assist 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: Ed Hawkins for his research, data, plans, detail drawings and car history; Charlie Slater for the outstanding patterns; Aaron Gjermundson for his gorgeous castings; Dave Campbell for the remarkable decal artwork which is taken directly from the prototype cars themselves; Ken Soroos for his help formatting the instructions; and to Eric Hansmann, the keeper of the website and blog.

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This is a "CRAFTMANS" level resin 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, floor and detail parts, A-Line stirrups, Elgin Car Shops photoetched eyebolts and ladders, Plano Models etched running board, Tichy AB brake set; assorted wire sizes and grabs, and decals for the freight and early express paint schemes of this car. The modeler is to supply any small styrene bits, trucks, couplers, weight and small screws needed to complete the model. If the modeler wishes to paint the car in the Eagle passenger scheme, Microscale set #87-1378 (not included in kit) will provide the needed yellow and blue stripes and black lettering. Set #91134 (also not included) will provide for the 4" aluminum stripes. White data for the Eagle cars is included on the decal sheet provided with the kit.

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 its 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

On May 9, 1941, the Missouri Pacific Railroad placed an order for 100 50'-ton 50'-6" automobile cars with the American Car & Foundry Company. They were to become the first all-steel 50' box cars on MoPac's roster. The order was divided into three lot numbers depending on the interior arrangement. In December 1941 MoPac received the cars that were built at ACF's plant at Madison, Illinois.

Lot 2317, 40 cars, M.P. 88300-88339, equipped with Whitehead & Kales racks

Lot 2318, 35 cars, M.P. 88400-88434, equipped with Evans "Unitloaders"

Lot 2319, 25 cars, M.P. 86150-86174, without racks

The cars of 10'-6" inside height had an outside width of 9'-10 9/16" measured over the side sills. They came with a unique underframe that was atypical of the standard straight A.A.R. center sill design typically used on steel box cars during the early 1940s. Rather, a fish-belly center sill arrangement, 26" at the deepest point, was comprised of two built-up parallel structures

formed by a pair of fish-belly webs 13" apart supported top and bottom with angles. The deepest portion of the center sill extended 17' long, 8'-6" on either side of the car's center line. The fish-belly center sill required 26" deep crossbearers at the points they connected with the center sill. The pair of crossbearers were positioned 8'-0 15/16" on each side of the car's center line, about 5" inboard of the spots where the center sill began its upward taper to the bolsters. The fish-belly center sill provided the necessary longitudinal strength that permitted the use of straight side sills that were formed with 10" channels. Four Z-section stringers, two on each side of the center sill, extended between the bolsters and provided additional strength and support. Truck centers were 40'-9 7/8" apart.

The car's side panels were riveted with four panels to the left side of the staggered 15' clear door opening and six panels to the right. The door openings were covered with a pair of equal-sized (8' nominal) 4-section Youngstown Steel Corrugated Doors with Camel door fixtures. Ends were two-panel Dreadnaught with 5 major corrugations on

each of the top and bottom panels joined in the middle with a horizontal row of rivets. Each car received a Murphy raised-panel roof from Standard Railway Equipment Co. and a set of 8-rung side and end ladders.

Other specialty items included a set of Westinghouse AB air brakes with the reservoir located on the opposite side of the center sill as the cylinder and AB valve. A pair of pipes that connected the AB valve with the reservoir extended through holes in the webs of the fish-belly center sill. Each car also received an Ajax power hand brake, Apex Tri-Lok running boards and brake step, and bottom-activated A.A.R. Type "E" couplers. The cars originally rolled on spring-plankless Unit Trucks with 33" one-wear rolled steel wheels and 5'-6" wheel base.

When new the sides, ends, and roofs received a finish coat of synthetic freight car brown paint. Underframes and truck side frames were black. All stencils were white including 30" diameter Missouri Pacific Lines buzz-saw emblems. (See photo on first page.)



The cars had been in freight service for less than one year when on September 11, 1942, the railroad ordered from ACF 50 more 50'-6" steel-sheathed box cars that were intended to be used for passenger express service. The order (Lot 2415) was never built, likely due to steel restrictions imposed by the War Production Board, and the order was later canceled on March 2,

1943. In the meantime, MoPac pulled 50 of the steel auto cars from freight service and sent them to their company shops at Sedalia, Missouri, to be converted for passenger BX express box car service.

The 50 cars selected for passenger express service were M.P. 86150-86174 and M.P. 88300-88324. The other 50 cars, M.P. 88325-88339 and M.P. 88400-88434, re-

mained in freight service. In November 1942 the 50 BX express box cars were ready for their new service after receiving a number of modifications including Allied Full-Cushion trucks, steam and signal lines, auxiliary doors fixed in place (7'-7 1/4" clear door opening), and repainted in Pullman Green with Dulux Gold stencils including 30" buzz-saw emblems.

The Allied Full-Cushion trucks were found to be problematic and the cause of some derailments. This led to 25 BX cars (M.P. 88300-88324) receiving new A-3 Ride Control trucks with Timken roller bearings

in late 1946. In 1950 the other 25 cars received new trucks, this time Commonwealth BX trucks with 10' wheel base. Incidentally, the 50 cars used in freight service received Route of the Eagles slogans and larger 42"

buzz-saw emblems when repainted after June 1949. This scheme was applied until 1961 when the slogans were dropped and replaced with 60" diameter buzz-saw emblems.



The express box cars served the railroad well through World War II and the immediate postwar years. In order for them to blend in better with the new lightweight passenger cars in Eagle colors and modernized or rehabilitated heavyweight cars, which had largely been upgraded and repainted in Eagle colors by the early 1950s, the BX express box cars began to receive Eagle paint effective June 4, 1951. While the paint scheme was ornate, the stencil arrangement was simplified by dropping the buzz-saw emblems. Unfortunately, to date no one has located a company builder's photo taken of a car at Sedalia after receiving Eagle colors. All that has been found is an extremely limited number of in-service photographs taken by rail enthusiasts. Because the BX express cars were part of the head-end consist, they didn't stay clean very long after having been freshly painted in Eagle colors.

Per Missouri Pacific Painting & Stenciling drawing GF-26519, dated June 4, 1951, the cars received Eagle paint per the following dimensions of parallel bands or stripes (measured from rail to top of car):

- 3'-11 3/4" (measured from rail) – Gray
- 1" – Blue
- 2.5" – Yellow
- 2'-2 3/4" – Blue
- 4" – Aluminum
- 2'-7" – Blue
- 4" – Aluminum
- 12 1/2" – Blue
- 3" – Yellow

- From top yellow stripe to edge of roof – Gray
- Ends – Gray (see below)
- Roof color unspecified, possibly unpainted galvanized steel.
- End placards – Black
- Black stencils over Gray background.
- White stencils over Blue background.

Revisions:

- Gray ends changed to Blue (6-14-51)
- "B" speed restriction stencil added (6-14-51)
- Label holder added (6-12-53)
- Reporting marks bars removed per A.A.R. Standard (12-15-58)

Due to the short time of 10 days from the drawing's inception to the revision made on 6-14-51, it's likely that few M.P. BX cars received gray ends. The "B" speed restriction code, which restricted the cars' speed to 75 mph, was 5" high and located above the repack stencils. The label holder (7 13/16" x 13") was added to the lower right corner of the auxiliary door that was fixed in place. Previous to the reporting marks bars being removed on 12-15-58, 1" bars were included above the reporting marks and below the car number. The latter change was applied to the entire fleet of freight cars.

In December 1958 the 50 BX cars were renumbered to a consecutive series M.P. 4300-4349 (M.P. 86150-86174 to M.P. 4300-4324 and M.P. 88300-88324 to M.P. 4325-4349). Curiously, the renumbering came 16 years after the BX cars were

converted at Sedalia in 1942 and just four years from what would become the end of the express service and another renumbering when placed in freight service.

The BX express box cars were established to carry time-sensitive materials such as newspapers, magazines, packages, and storage mail all over the M.P. system where passenger trains with head-end equipment operated at no more than 75 mph. This excluded the first-class trains such as the Colorado Eagle and the first section of The Eagle. The BX cars were freely interchanged with other railroads and could routinely be found on the Santa Fe (The Fast Mail), the Pennsylvania Railroad (St. Louis to Pittsburgh, Philadelphia, and New York City), and the Baltimore & Ohio (to Cincinnati and Washington, D.C.), to name a few. Interchange agreements with other railroads were created such that BX cars from other roads were routinely found in the head-end consists of many MoPac trains.

The BX express passenger service lasted until circa September 1962, at which time the 50 cars were returned to freight service, received A-3 Ride Control trucks, and renumbered. However, the cars did not receive their original freight numbers. Refer to the table for renumbering's that occurred in 1962 and 1966, the latter being a system-wide renumbering program. Even though the cars reverted to freight service, many of the cars continued to wear Eagle colors into the 1970s.

Original Nos.	Renumberings		Post-1966
	12-58	9-62	
86150-86174	4300-4324	88300-88324	353000-353024
88300-88324	4325-4349	88340-88364	353040-353064
88325-88339			353025-353039
88400-88434			353065-353099

In October 1963 and nearly 22 years of use, all 100 cars remained in service. In October 1966, soon after the renumbering program had begun, just four cars had been renumbered to the M.P. 353000-353099 series while 89 cars carried their 1962 numbers. In January 1970, 58 of the original 100 cars remained in service with 42 renumbered in the 353000 series, 6 in M.P. 88300-88364, and 10 in M.P. 88400-88434. By October 1972 the number of remaining cars had declined to 22 (all in the 353000 series) and by July 1976 to just 3 cars (353000, 353002, and 353080).

Construction

Before you start construction, it's recommended that you familiarize yourself with the additional information and photos that pertain to this kit on the Resin Car Works website, www.resincarworks.com. 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 detergent 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, so 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

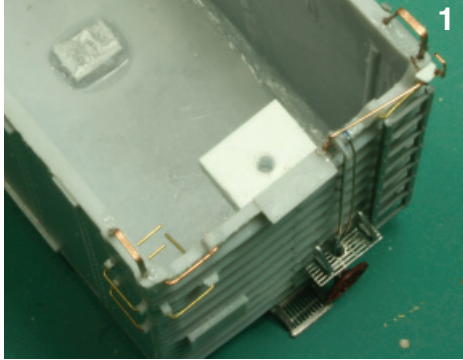
As this is a one piece-body kit, most of the hard work has been done in creating the basic car shell. As I like to get the nasty tasks done first, clean the resin parts of any flash and drill the holes for the various parts. I generally use a #79 drill for all the grabs and #76 for the stirrups. Refer to the prototype photos for the location of the grabs and stirrups, and install (Photos 1, 3, 4, 9).

As the underframe is to be painted black, my choice is to leave it off the car body and install it after painting. To attach the floor, create two pads with whatever scrap styrene you may have (I used two pieces of 0.125" square glued together). Attach to the inside of the body with the bottoms of the floor stops located inside the body shell (Photo 1).

To give the metal running board a little more material to attach to, I sand the tops of the supports down and attach pieces of scrap 0.010" x 0.030" styrene to the tops (Photo 2). Then, there's this trick from Richard Hendrickson 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 (Photo 2). Don't attach the running boards yet, as this will be the last step in the body's construction.

Two types of ladders are provided in this kit to get the correct eight rungs with 16" spacing. It's up to you to decide which one to use on the model. The etched ladders are from Pierre Oliver of Yarmouth Model Works. Pierre describes ladder construction as such: "Run a #78 drill through all the holes to insure clearance and then cut the stiles from the fret. Fold the stiles into angles. We very much recommend the Hold & Fold from The Small Shop (www.theshmallshop.com). It's the best etching tool out there. Use the supplied 18" grabs for the ladders. Clip the legs very short and assemble. We've found that a strip of styrene, 0.040" thick and 0.190" wide to support the stiles while inserting the rungs to be very useful."



If you choose the Tichy ladders, an additional rung must be added. 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 up the edges 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 ladder with a file, cut to fit, and attach to the car.

Install side and end grab irons along with corner stirrups.

Cement tackboards and route card boards to doors and ends.

Using the drawings available on the website for dimensions and the prototype photos, install the brake housing, plastic chain, and bellcrank on the end along with the retainer valve. 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 (Photo 4).

For the brake step supports, I use bent staples, which is another trick I learned from Richard. There's no chance of the brake step breaking off using this method. Drill #76 holes through the ends, bend staples and attach in the location as shown on the prototype drawing (Photos 2, 4).

A benefit of having a separate floor is that cement can be applied inside the body to attach parts. Finally attach the etched brake step platform to the supports.

Cement the etched running board to the roof, ensuring that it is centered on the car. There are many methods to attached etched running boards to roofs. My method is to initially attach the etched part to the roof with Pliobond and then go back and place small dabs of ACC at the running board supports. I have models that are 20 years plus in age where the metal running board is still attached at all the supports. Form 0.0125" wire for the corner grabs and, with the etched eyebolts, cement to the running board. Cement end running board supports between it and end.

Make cut lever brackets from scrap pieces of styrene angle and attach to the faces of the corner gussets. 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 4).

Attach the brake wheel to the brake housing. This completes the body details for now. Hold off on the installation of the air hoses and brackets until the model is complete.

2. Underframe

Add approximately 2 oz. of weight to the floor. I like using old washers. And since I don't trust any glues to hold the weight, I

make a bracket using scrap styrene. This is attached directly to the floor over the weight (Photo 5).

Refer to the prototype drawings and photos to determine the location of brake components.

Attach coupler pockets to the underframe and drill and tap holes for trucks and couplers.

Make up the AB brake cylinder using the flat-back cover. There's an oval on the back cover, which is where the airline is attached. This oval is to the outside of the car. There's an extra clevis on the Tichy sprue, which is cemented to the back cover (See prototype drawings and Photo 7). Then pre-drill the AB brake cylinder, reservoir, and triple valve using a #78 drill. We believe that the Tichy reservoir is a little undersized, so a resin one is also provided. Use whichever one that you think is best.

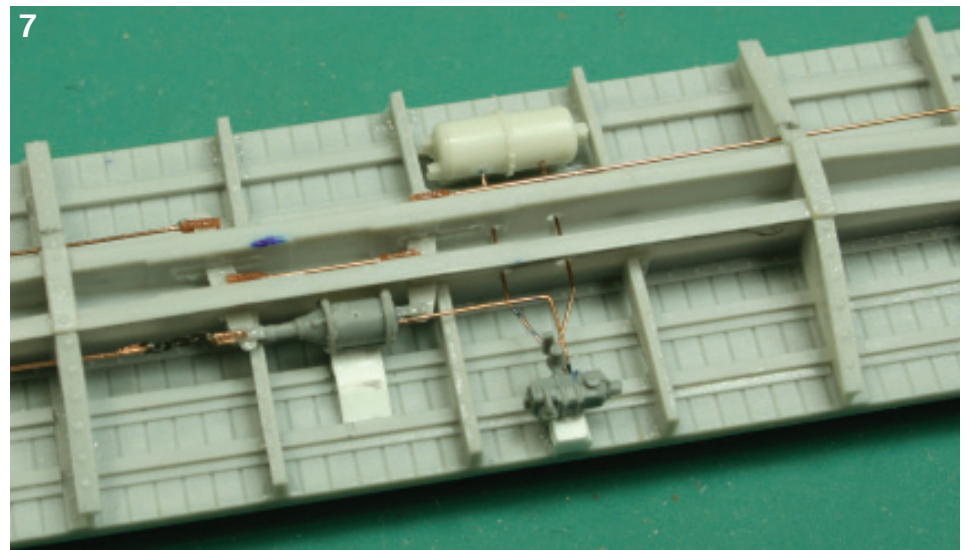
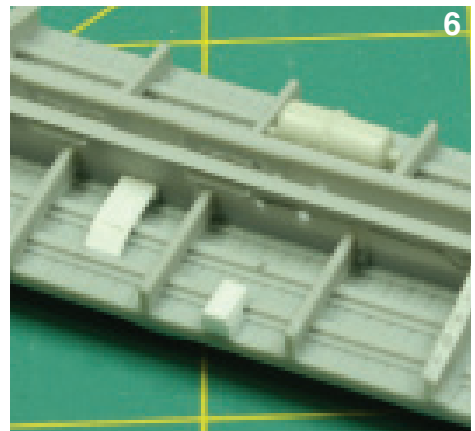
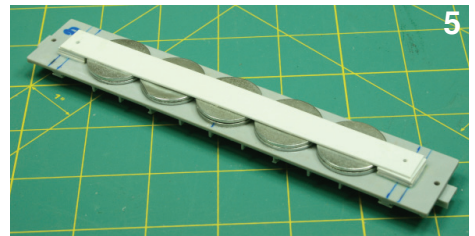
Clear the slots in the fishbelly center sills for the brake levers. You'll also need to drill a couple holes through the center sills for the lines from the reservoir to the triple valve. Use a small guide made from scrap styrene to locate these holes (Photo 6).

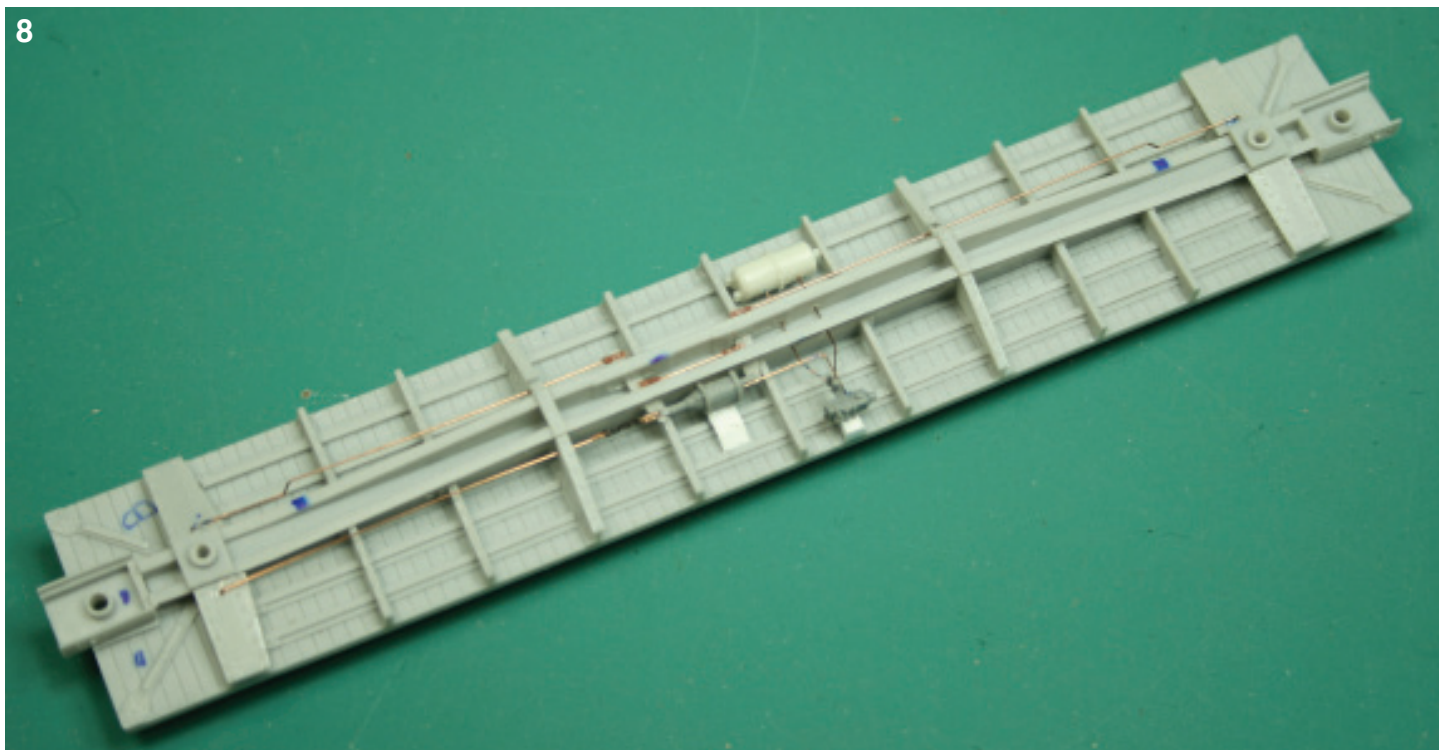
Cement crossbearers to the center sill on the side of the vertical rivet strips toward the middle of the car. The middle crossbearer is toward the "A" end (Photo 6).

Cement the four covers on the bolsters and the cover plates on the crossties (Photos 7, 8).

The triple valve goes on a pad made of scrap styrene that's 8" above the floor. A bracket will also be required from scrap for the brake cylinder. Follow the prototype drawings and model photos for location. Now install all the brake components and connecting piping using the 0.010" wire (Photos 6, 7).

Install brake levers along with 0.0125" wire, using the Tichy turnbuckles with one end removed as clevises. Holes will need





to be drilled through the crossies to run the brake rods from the clevises to the bolsters. Also install the connecting rod from the brake cylinder to the bolster with a small piece of chain at the brake cylinder (Photos 7, 8).

3. Painting and Lettering

As noted above, these cars had four paint

schemes during their lifetime: freight with small shield, freight with large shield and slogan, express service in green with dulux gold lettering, and express service painted in Eagle colors. The choice is yours. Before painting, wash the car again with Dawn, rinse, and let dry.

As for the color and types of paint, that's an individual choice. I use Scalecoat and Testor's Model Master Paints. For this car I

used Scalecoat Boxcar Red #2 for the body and #10 black for the underframe and trucks. The flat glaze is also Scalecoat.

Once the decals are on and everything is dry, attach the frame to the body using the coupler screws 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.

