

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

Enterprise Design 33' Offset-Side Twin Hopper Cars



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 just putting up with my countless questions on the design of these cars; Aaron Gjermundson for his gorgeous castings; Dave Campbell and Ken Soroos for the remarkable decal artwork which is taken directly from the prototype cars themselves, Bill Darnaby for testing and building the cars and for drafting 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. This kit has been designed for those who wish to build a fleet of such cars with a minimum of work. To save construction time, the body is a one piece casting with as much detail cast into it as possible, including the grabs. If you desire a more detailed model, just remove the grabs as you would any plastic car.

The pattern for this kit was created from a previous kit offered by Sunshine Models (It's "ok," as I did the original pattern). As such, the parts might not fit all prototype dimensions, as there is shrinkage/expansion between the various casting generations. The kit consists of a resin one-piece hopper body with sides and ends, a resin parts sheet, Accurail brake parts, A-Line stirrups, Elgin Car Shops photoetched eyebolts and decals. The modeler is to supply all the small wire and styrene bits, trucks, couplers, weight and any small screws needed to complete the model. The lack of the small wire and styrene "bits" is to keep the cost of the kit down and save packaging time so that time can be spent on other kit production.

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

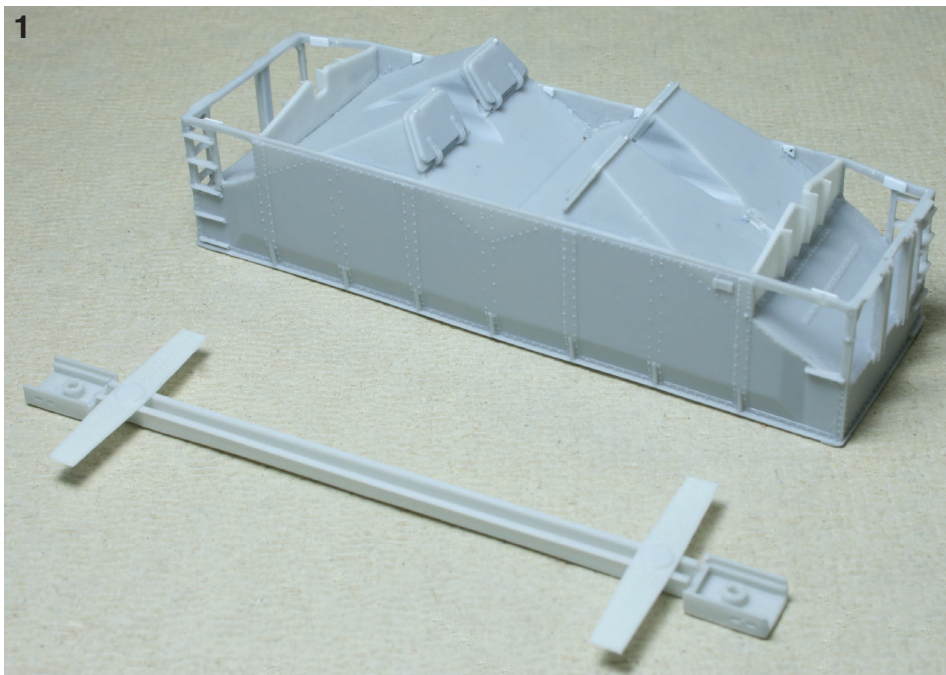
Resin Car works will not be responsible or held liable for any and all personal injury and/or health problems, short and/or long term that may result from the use and/or misuse of tools, adhesives, materials, castings, paints or any other product(s) used to construct and/or contained in this kit. This 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

The Illinois Central's use of the "Enterprise" design 33' offset-side twin hopper was unique among the railroad industry. The difference in design from other offset-side twin hoppers would not have been significant except that the IC fleet was so large at over 12,000 cars. While not as large as other fleets of 33' AAR design offset twin hoppers such as the C&O (27,490), B&O (21,300) and L&N (19,200), the IC roster was a major part of the nation's freight car mix, with cars being seen throughout the country.

From 1937 to 1949, thousands of IC offset twin hoppers were manufactured by a variety of builders, including the railroad itself. The "Enterprise" design became the IC's standard for hopper car design for twelve years. The first cars from Pressed Steel Car Company's Hegewisch, IL plant (formerly the Ryan Co.) came in 1937 and were originally numbered in the 209000-209999 series. Another batch of cars in 1937 came from GATC in the 219000-219999 series. Both orders of cars were quickly renumbered into the 68000-69899 and 69000-69999 series. The next blocks of cars came from Pullman: 750 cars in 1940, the 71000 series, and 100 cars in 1941, the 72000 series. Prewar cars lacked the slope sheet brace and were equipped with ladders instead of grabs at the corners.

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The big expansion of IC “Enterprise” offset twin hoppers came after World War II. The IC built 450 cars in its own shops in 1947, the 74000-74449 series, and 500 in 1948, the 74500-74999 series. The series 86500-86999, 87000-87999 and 88000-88999 also came from IC shops in 1948 and 1949. In the meantime, the IC ordered the 90000-90999 series from Pullman and the 91000-91999 and 70500-70999 series from General American. ACF also delivered cars in 1948 in the 70000-70499 series. In 1949 cars arrived from General American in the 80500-80999 and 93750-93000 series; from Pullman in the 92000-93749 series; and Mount Vernon in the 86000-86499 series. It seems that the IC was covering its bases and purchasing cars from all the builders in the area that it served.

For a complete history of these offset twin hoppers along with prototype drawings and tables listing the car types and associated details, please see PR CYC Publishing Company’s “Railway Prototype Cyclopaedia,” Volume 25.

Construction

Before you start construction, it’s recommended that 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. Clean off all of the casting flash from the car body, hopper openings and ladders, including the casting

risers on top of the bulb angles. A good tool to use for this task is a sharp hobby knife or razor blade. Touch up with a file if necessary.

Install the end slope sheet supports so that they line up with the vertical portion of the side sheets. The top edges will need to be sanded or filed to match the slope sheet angle so that they will seat properly. Install the center slope sheet support with the flange facing the B end. Install the slope sheet braces. The cast rivet strip on the underside of the slope sheet forms an “L” with the top of the brace that will face in-board and down (See prototype general arrangement on the website). The lower end of the brace attaches to the end sill flush

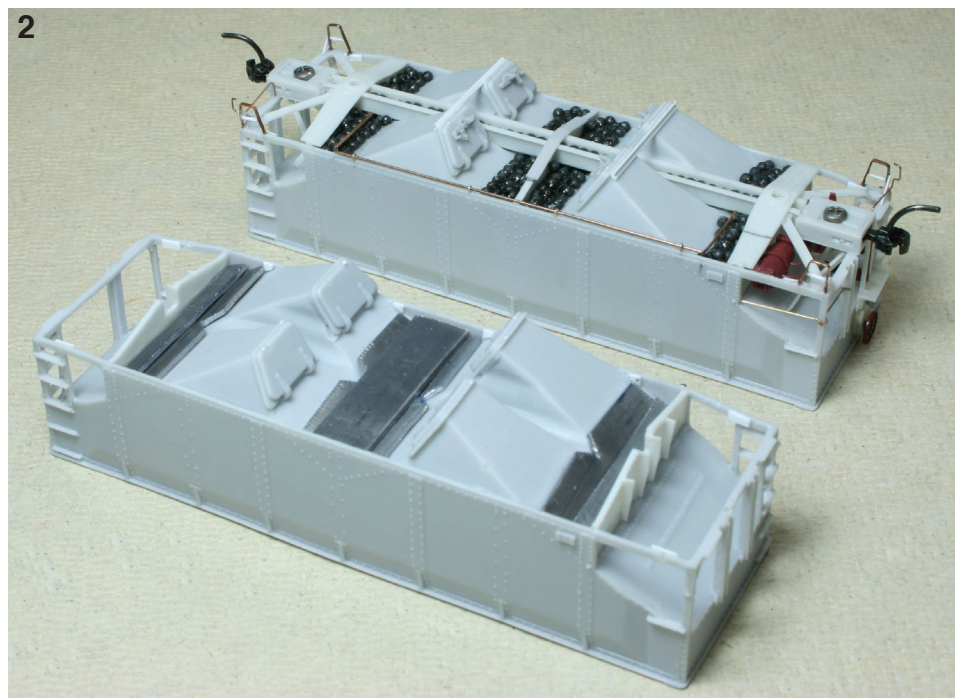
with the lower edge of the sill. Sand the braces at the top and bottom until they fit properly and check that they are centered in the body.

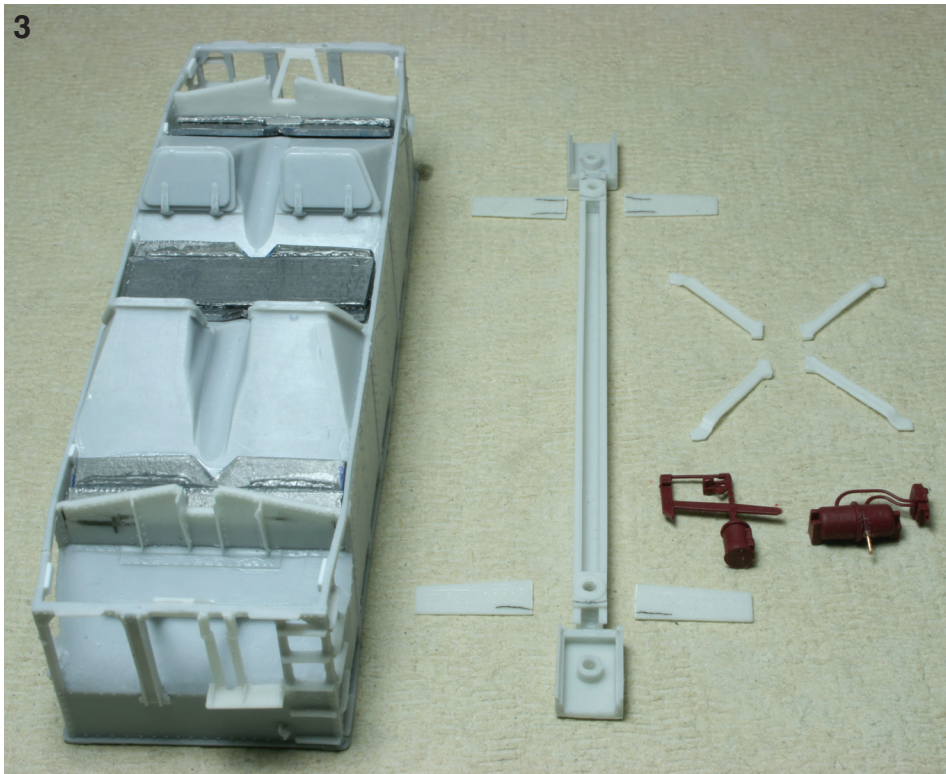
It is at this stage of construction that the modeler will need to determine which method will be used to weight the car. One way is to cut small pieces of thin lead sheet to fit in the vacant areas between the hopper bottom and the top of the center sill. This needs to be done before the center sill is glued in place. The other method is to complete the car and fill the underneath voids with lead shot. One source for both materials is McMaster-Carr at www.mcmaster.com.

Attach the corner braces between the end and side sill corners and the end slope sheet supports. The channels face down. The long edge of the riveted plate is towards the center sill; the short edge against the end slope sheet support. The braces should be flush with the lower edge of the end sill and extend level with the rail back to the end slope sheet support.

Add the bolster slope sheet support cover plates to the center sill. It is helpful to sand these as thin as possible to help bend them onto the slope sheet supports once the center sill is attached. Drill and tap the cover plates and center sill for 2-56 screws for truck mounting and the coupler pockets. The trucks are on 24’ centers. Install the center sill and the center slope sheet support cover plate. The center sill fits in the “U” shaped openings in the slope sheet supports and against the lower edge of the end sill. Check to insure that the draft gear pockets are centered at the ends of the body. The sides of the slope sheet openings may have to be sanded to allow the center

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sill to be centered at the ends of the body.

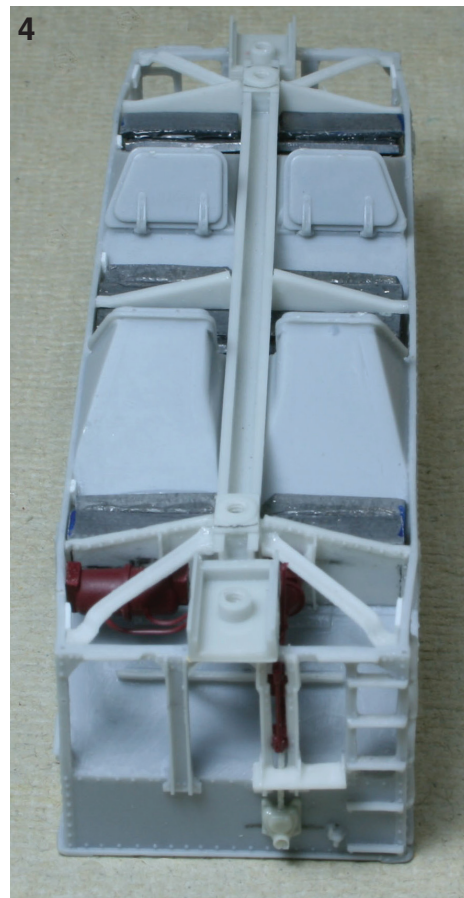
Add the brake reservoir and valve assembly. Cut off the cast mounting pins. Trim the cast inboard reservoir support pad even with the bottom of the reservoir. Place a bit of contact cement on top of the draft gear and set the valve and reservoir assembly in place. Adjust its position so that the inboard reservoir support pad rests on the corner brace and the outboard pad rests against the inside surface of the side sill. When satisfied, secure the assembly with ACC. Alternately, drill the back of the reservoir for a .020 inch diameter wire to serve as a mounting pin. Insert this pin into a corresponding hole in the end slope sheet support.

Add the brake cylinder assembly. The inboard end of the lever pivot support needs to be trimmed to match the angle of the slope sheet where it butts against the slope sheet. Cut the mounting pin off the bottom of the cylinder. Slide the assembly into position. The back of the cylinder will rest against the end slope sheet support and the bottom on the corner support. The lever will touch the side of the draft gear. Attach the end brace/brake platform assembly. The platform will touch the side of the ladder and the brake fulcrum and chain will fit between the end braces. Secure the cylinder assembly. NOTE: The styrene cylinder assembly casting has the lever pivot support mounted horizontally (parallel with the rail) instead of parallel to the slope sheet as on the prototype. Change this if you wish.

Anneal the A-Line sill steps in a small flame such as a lighter. Form them in the

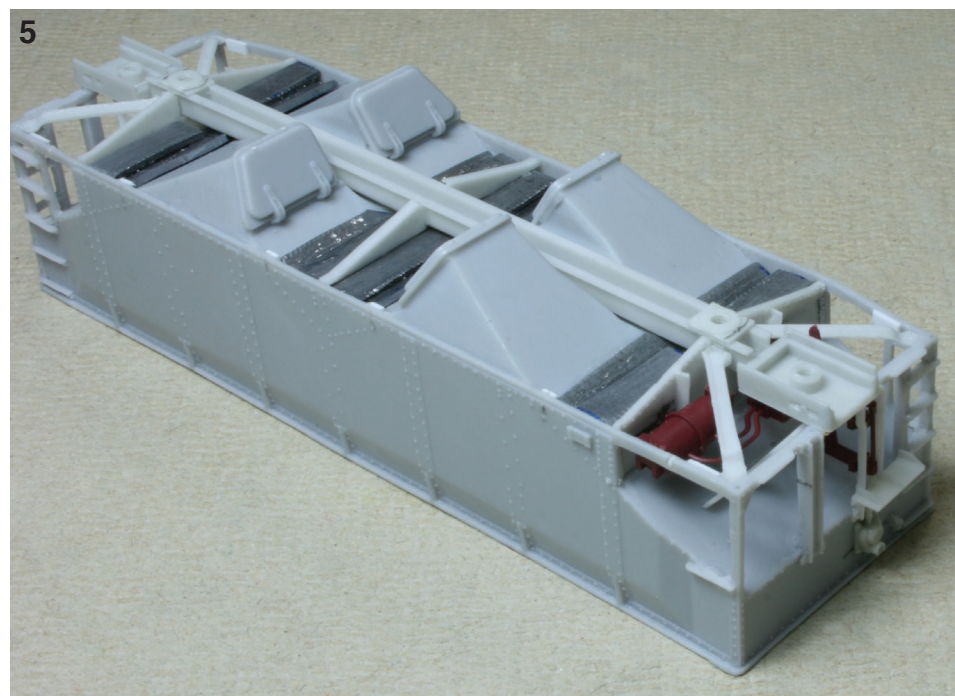
resin sill step form provided on the parts sheet. Trim the ends as necessary to fit in the form. Drill .020 inch holes in the sills to accept the steps and install them. If the sill castings are too narrow, the widths can be increased by attaching bits of styrene to the inside edges with ACC. Add the resin step braces between the steps and end sill. Attach pieces of .010 x .030 inch styrene inside each step to create the intermediate steps.

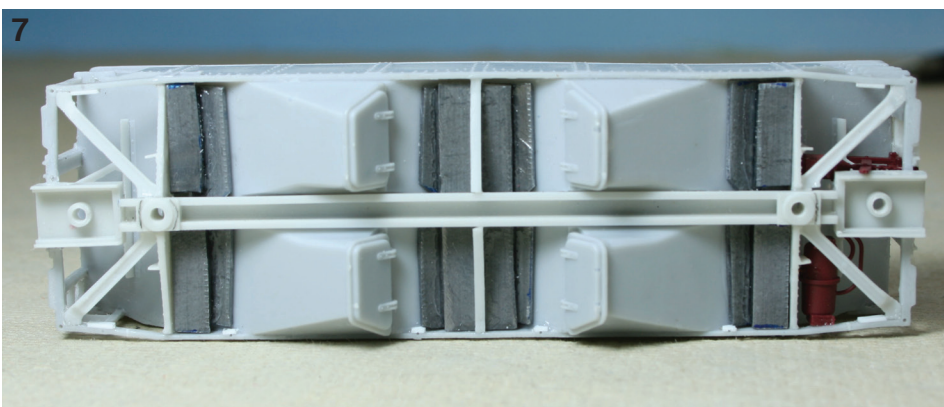
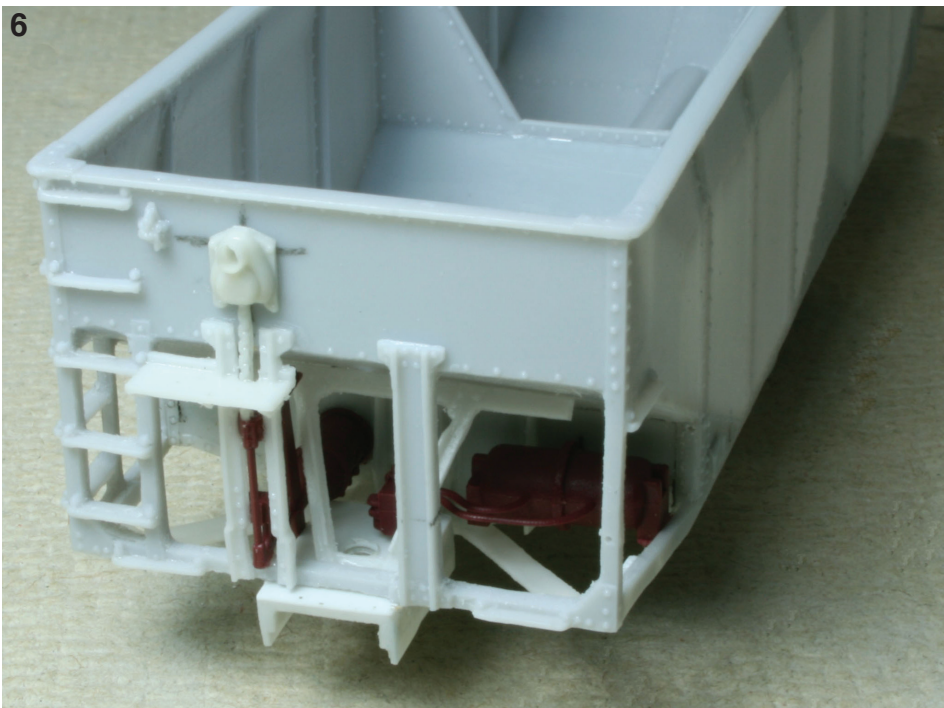
Form the trainline pipe out of .020 inch diameter wire. Drill four holes in the sill on



the right side for the etched eyelets that will simulate the pipe brackets. If necessary, the width of the sill can be increased by attaching pieces of styrene to the inside surface of the sill. Thread four eyelets on the pipe and install on the body.

Add the two horizontal handholds made from .012 inch diameter wire at each corner.





These cars used a variety of handbrakes and hopper door locks. Before installing any brake housing and door locks, refer to the prototype data on the website and various RR CYC's to ensure that the number series matches that handbrake and lock type. Parts are provided for Ajax, Universal and Miner handbrake housings. The modeler is expected to provide his own brake wheels, preferably those from Kadee. Attach the appropriate housing to the B end of the car. The parts sheet has a short piece of cast chain. Remove this from the sheet, trim to length and attach below the housing. Attach the appropriate wheel to the housing. Drill a number 80 hole just under the retainer casting to accept a .010 inch diameter wire for a retainer line. The wire can be bent to disappear just behind the brake step. Or, more correctly, the wire can be bent to run across the end of the car behind the end supports and angle down to the AB valve. Refer to the construction photos.

Parts are provided for both unit and side Enterprise door locks, Wine door locks,

and Keystone door locks (See parts sheet). The Keystone lock is a one-piece casting that spans and is attached to the back of

the hoppers. A small slot needs to be cut in the flange of each hopper door to accept the part of the lock that extends under the doors. The four small ball-shaped parts are attached to the top of the ends of the lock mechanism. See the photos. There is a cast locking bar for the Wine locks which is attached to the door faces. The Wine locks are attached to the hopper sides and engage the ends of the locking bars. The backs of some hoppers had a small angle attached between the hoppers when Wine door locks were used (See photos). This can be modeled with a piece of Evergreen 0.060" angle (not supplied in kit). The Enterprise Unit door locks attach to the hopper face. Please note that this style of lock has right and left components. If the Enterprise side locks are used small pieces of Evergreen 0.060" and 0.080" channel supplied by the modeler will be needed. The small channel faces down and is attached across the doors. The large channel goes over the small one and faces up. The locks are attached to the side of the hoppers on the left side of the car only. Some cars have the hoppers connected on the back side with a section of angle. Styrene angle has been provided for this. Refer to the photos.

Add cut levers made from .010 inch diameter brass wire. The hinge point can be made by inserting a DA eyelet in the step brace. Alternately, the pivot support can be made from a piece of styrene angle and an eyelet which are then attached to the step brace. Refer to the photos.

Paint and letter the cars. The IC cars are painted a reddish shade of boxcar red. Refer to the chart to correlate the number series with the handbrake and lock combinations. The USAX cars are painted olive drab.

