

Scratchbuilding a PRR Class Uc Wooden Gondola

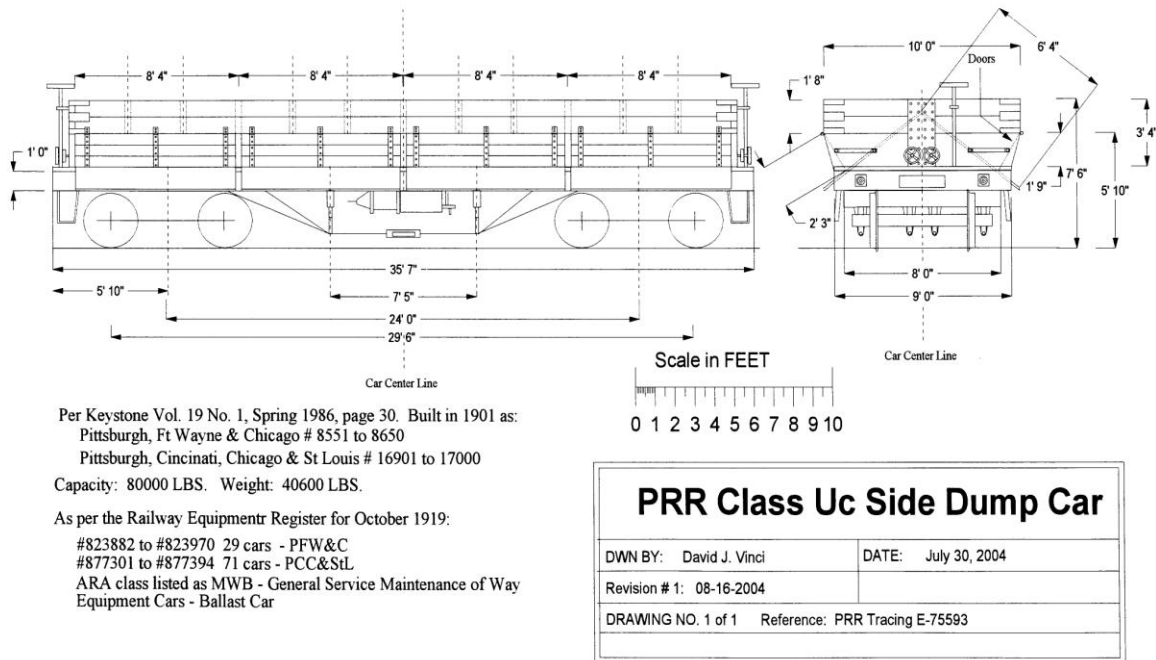
By David J. Vinci



[Figure1]

Ever come across information on a freight car that just begs to be modeled? Well, this is one of those stories. Side dump gondolas aren't all that common but they are really handy for spreading ballast and similar jobs. One of the cars covered in Ian Fischer's article in the Spring 1986 *Keystone* (Vol. 19 No. 1) on the Wooden Gondola Cars of the Pennsylvania System, is a class Uc side dump gondola. Some 200 of these cars were built for Lines West in 1901 by the American Car and Foundry Company at their Terra Haute, Indiana works. A few of these cars survived into the 1920's so, that did it for me, I wanted a model of one. Unfortunately, there were no photos of these cars with the article, only the E-75593 tracing. This drawing is available on line at the following address: <http://pr.railfan.net/diagrams/> Just look under Side dump Car Diagrams, then select UC. This is not a bad place to start but I've been hoping to find a photo of one of these cars but so far, no luck. These cars were referred to as "ore dumps" and given the relatively small volume of the car and it's 80,000 pound capacity, it may well have been built for hauling iron ore. In any case, they ended up as ballast cars with an ARA classification of MWB.

Well, since there is no kit for this car, it will be another scratchbuilding job. As I have done before, I used the tracing as the basis to create an EasyCAD[®] drawing of the car that I could print out full size for HO scale. That drawing is shown below.

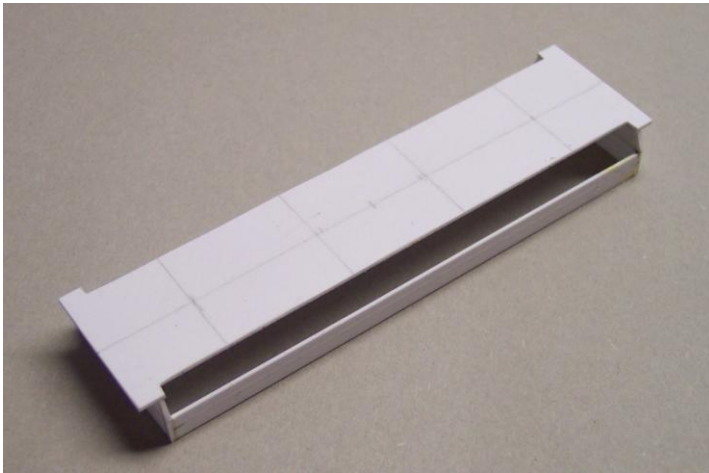


[Figure 2]

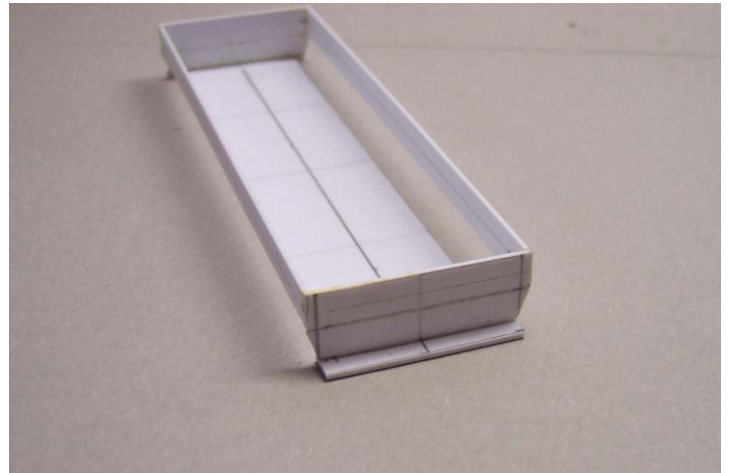
What made this car interesting for me was the unusual shape of the carbody that you can see in the end view. The floor of the car is sloped towards the sides of the car with 4 wooden doors on each side to dispense the load. The doors are apparently controlled by a mechanism located under the sloping floor and above the side sills. The pair of handwheels on the car ends are used to operate the mechanism. The doors have 3 strap hinges each that are attached to the lower side board above.

This car was a challenge because I had to make some guesses as to some details and I'll note those as I go along. I built this model from styrene with Kaydee[®] #501 Archbar trucks and No. 5 couplers. I first cut a floor from 0.040" plain sheet plastic 9' wide by 35' 7" long. Check the floor for squareness and then using a pencil, a square and your scale ruler, draw a center line from end to end on the bottom of the floor assembly and mark the truck centers and the trussrod bolster locations. If you make a copy of the drawing full size for whatever scale you're working in, you can lay the parts directly on the drawing and transfer the dimensions right onto the plastic. Turn the floor over and mark the topside of the floor with a centerline and the brace locations. Then using some more 0.040" plastic I cut out the ends and the sides. The sides are really low and are supposed to be just 2 wooden boards so after cutting them out you can scribe

the boards with a hobby knife with a No 11 blade. Do the same on the top of the ends as the top 1' 8" are wooden boards and the bottom is steel. Scribe both sides of all 4 parts. The floor has to be notched to allow the slope sheets to pass. This notch is about 9" wide and this is a simple score and break operation. With a strip this thin, I frequently use a needlenose pliers to grab the piece to start the break. You can see the final shape of the floor and the layout lines in figure 3 and figure 4. Once the floor is ready, glue the sides and ends together and make sure they are square to each other. This is best done on a piece of glass with the parts upside down. Then, glue the ends to the floor as in figure 4.



[Figure 3]



[Figure 4]

Next I fitted the end sills using 0.125" by 0.125" stock, allowing space for the coupler boxes. The truck bolsters are made from 0.040" thick sheet stock cut 2' wide and as long as the floor is wide. I cut 3 squares 2' by 2' and laminate them together and glue them in the center of the bolster strip. It's a good idea to drill and tap these for the 2-56 brass truck screws before you glue the bolsters to the floor. I did it after on this car, but trust me, it's easier and better to do it beforehand. The finished bolsters were then glued to the floor. I then glued 2 lengths of 0.125" by 0.125" stock in place to act as center sills and stiffen the body as shown in figure 5. I know these aren't accurate, but since they can't be seen unless the car is turned over, that's fine with me.

[Figure 5]

I really don't pay much attention to underbody detail because I figure, if you can't see it, why go to the effort to put in the detail. I frequently do that with structures on the layout too, that is, delete the details on the structure backsides that can't be seen so I can use them elsewhere. This is one of the great things about scratchbuilding; you get to decide how much detail you want to include.



Next I cut out the sloped floor sheets from 0.015" styrene sheet. I'm not sure if these were steel, wood or wood clad with steel so I picked steel. Before installing them, I added some weights along the car centerline and put scrap styrene bracing between them to support the sloped floor as shown in figure 6. I figured this was the perfect place to hide some weight.



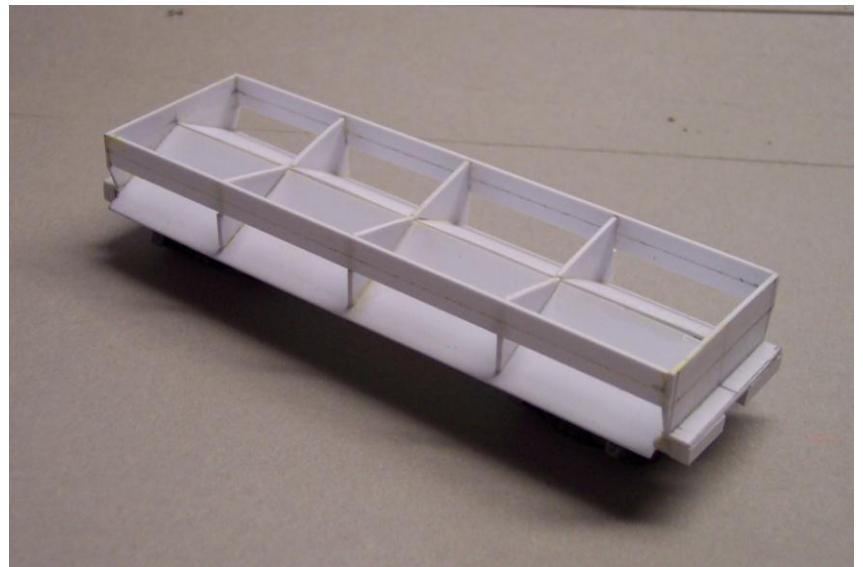
[Figure 6]

Once the sloped floor was cemented in place, I turned to the side braces. The tracing wasn't very clear and so I had to guess what these braced looked like. What I could tell, was that the side boards were bolted to the top part of the brace and the bottom part of the brace poked out between the doors at the bottom of the carsides. What I also don't know is what they

actually look like, so I guessed that they sloped towards the peak of the sloped floor and didn't go straight across the carbody. Maybe they did though, that's one of the reasons I wish I had a photograph of the real deal. So here's how they came out:

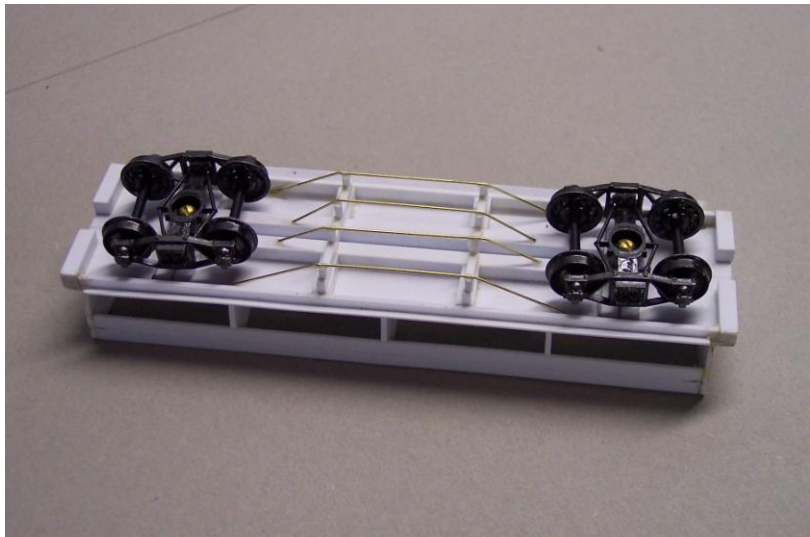
[Figure 7]

Next I finished up the underbody work. I added some more of the 0.0125" square stock to support the trussrod bolsters. I used a strip of 0.060" by 0.100" as the basis for the trussrod bolsters with a small length of styrene rod for each of the rod support points. I used 0.020 brass rod for the trussrods and held them in place with some ACC.



[Figure 8]

Next I made the doors. For these I used some Evergreen siding that is made for carbody sheeting. I could have just as easily used plain sheet and scribed the boards but I had some of this stuff in the scrapbox so, I used it. I cut out each door roughly to shape using the old score and break method and then carefully sanded the door to an exact fit.

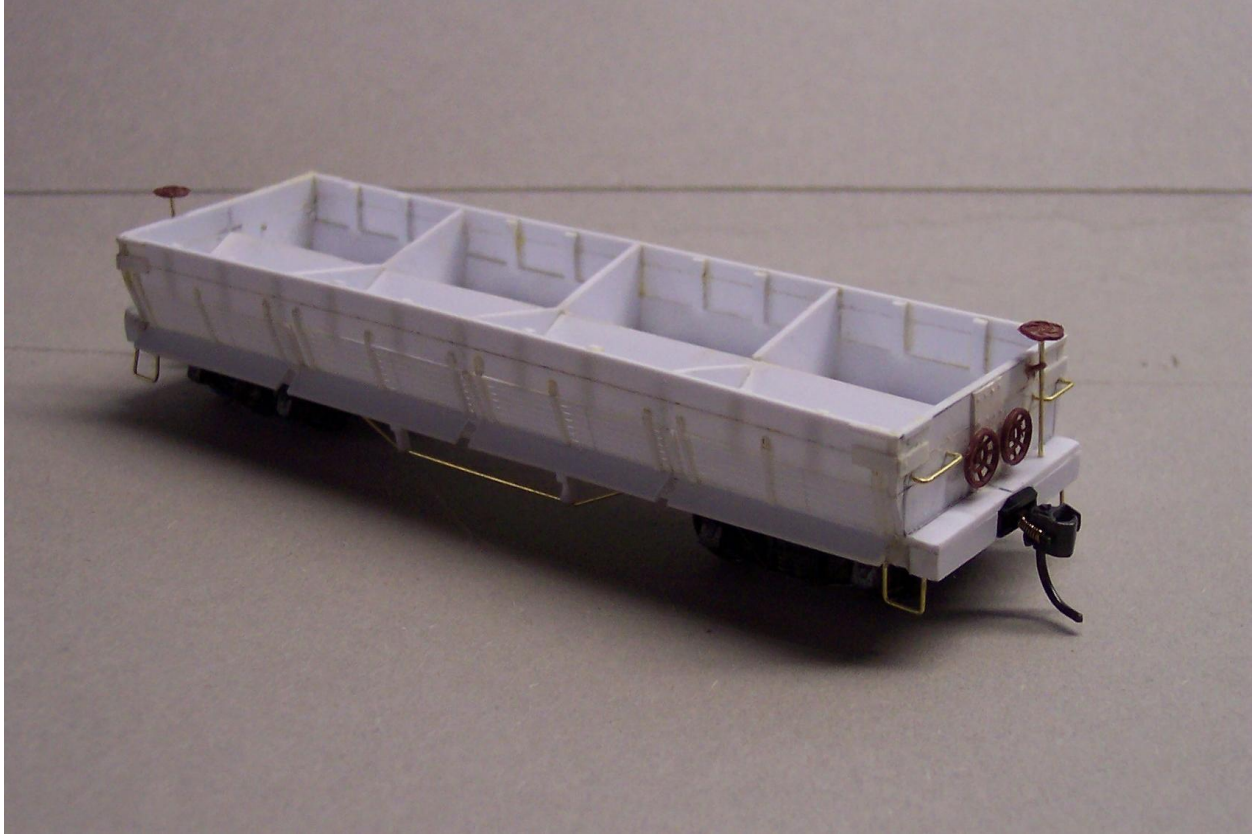


To simulate the three straphinges on each door, I used some pieces of scale 1 x 3 plastic strip just glued in place. You could emboss some rivets on each hinge but I didn't think it necessary. I've noticed as my eyes have gotten older, these tiny details are becoming less critical to me.

[Figure 9]



I made up a K brake cylinder and reservoir from some tubing and rod scraps from the scrapbox and glued that to the underbody. Then I cut a strip of 0.040" plastic to make the side sill. The thing here is to make it match the height of the end sills and travel along the joint between the sloped floor and the flat floor. You can see it in figure 9.



[Figure 10]

Next came the body details. It looked like each part of the sloped floor was separate as it exited from the doors, so I notched the edge as shown in figure 10. I made the metal reinforcements that were present on the corners with some 0.010" thick strips that I cut 1 foot long and glued in place. I used 0.020" brass rod for the grabirons, steps and brake staff because it's what I had on hand and again, you could use flat stock for the steps and 0.015" or smaller wire for the grabirons. Using this rod is pretty straightforward, make a hole with a No.76 drill in your pin vise, cut the rod, bend it to suit, and acc the part in place. The brakewheels were some leftover Bowser[®] parts and the handwheels for the doors were also Bowser[®] AB brake parts. Then I added some nut,bolt & washer castings on the endsills to simulate the ends of the trussrods.

All that's left is to mount the couplers of your choice and it's time for paint. I like Kaydee[®] No. 5s. as they seem to perform better. I have tried some of the plastic couplers but I like the metal ones. Lots of folks insist on mounting the couplers with screws but I frequently just glue them in. Maybe it's because my trains are typically pretty short (less than 12 cars) they don't get the abuse. Years ago I was told that using 1/8" thick balsa wood for car floors was a mistake because the screws would all pull out and the couplers would fall off. I built those cars in the late '70's and they've been on the layout in continuous service to this day without a single failure. I should also point out I don't have a working hump yard either, so maybe you should use the methods appropriate to the environment on your layout.

Here's another grey area (sorry), but I don't know if these cars were painted MOW grey or freight car red (FCR). I decided to go with my version of FCR for the exterior which is a blend of Poly S[®] Special Red Oxide, Reefer Orange and Caboose Red. The interior is a combination of materials that are subject to substantial wear. I suspect that unless repairs were made, the insides of the cars didn't get repainted. So, based on that, I painted the steel surfaces with rail brown and the wood surfaces with grey. I added some rust stains along the metal seams and joints with diluted Poly S[®] Rust. I used some diluted Weathered Black on both surfaces in a

streaky fashion. I did this with some Rail Brown too. Oh yeah, I brush painted this car. I have an airbrush but I use it mostly to paint locomotives, passenger cars and add weathering.

These cars were Lines West cars and carried the reporting marks of either the Pittsburgh, Fort Wayne and Chicago Railway (PFW&C) or the Pittsburgh, Cincinnati, Chicago & St. Louis Railway (PCC&StL) as well as the Pennsylvania Lines lettering. I selected the former and used some leftover Westerfield XL decal sets for most of the lettering along with an alphabet set for the class letters and reporting marks. After giving the lettering a spray of Dullcoat to seal in the lettering, I drybrushed the cars with a bit of Rail Brown and then with light grey.



[Figure 11]

The Trucks I painted Rail Brown, with some Rust and Oily Black stains followed with a light drybrushing with Grey. I usually remove the trucks for painting and replace them after they are dry.



[Figure 12]

This isn't too bad a photo of the car's interior. Notice that the part of the floor extending out past the doors was weathered a little heavier than the rest of the outside of the car.

[Figure 13]

