

THE B&O MODELER



Number 55

January-December 2022 Issue - PUBLISHED DECEMBER 2022



Modeling the 1935 Royal Blue...p.4

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Editor—David Murvihill murvihill6303@att.net

Index Editor—Jim Ford jimford40@sbcglobal.net

Past Editor---John Teichmoeller Rmighpr@comcast.net

Modeling Committee Chairman--Greg Smith Publications@borhs.org

Committee Members— Jeff Birch

Bill Carl

Nick Fry

Travers Stavac

Brian Rochon

Ken Braden

Bruce Elliott

Joe Nevin

Mike Shylanski

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AN INVITATION TO JOIN THE B&O RAILROAD HISTORICAL SOCIETY

The Baltimore and Ohio Railroad Historical Society is an independent non-profit educational corporation. The Society's purpose is to foster interest, research, preservation, and the distribution of information concerning the B&O. Its membership is spread throughout the United States and numerous foreign countries, and its scope includes all facets of the B&O's history. Currently the Society has over 1500 registered members.

Members regularly receive a variety of publications offering news, comments, technical information, and in-depth coverage of the B&O and its related companies. Since 1979, the Society has published a quarterly magazine, *The Sentinel*, dedicated to the publication of articles and news items of historical significance. Other Society publications include monographs, calendars, equipment rosters, and reprints of original B&O source material. Their purpose is to make otherwise unobtainable data available to the membership at reasonable cost.

Membership in the Society is a vote of support and makes all the Society's work possible. It provides those interested in the B&O with a legitimate, respected voice in the railroad and historical communities. By working together, B&O fans are able to accomplish much more than by individual efforts. No matter how diverse your interests or how arcane your specialty, others share your fascination with America's most historic railroad. We invite your participation. Review membership options on the [Society website](#) print and complete the membership information and mail to:

B&ORRHS

ATTN: Membership

P. O. Box 1608

Sykesville, MD 21784-1608

FROM THE EDITOR

David Murvihill

Hello and welcome back to *The B&O Modeler*. After a one-year hiatus looking for a new editor the magazine is ready to start publishing again.

Introductions are in order: I am not a typical model railroader. Like everyone else, I always drool over the beautiful rolling stock passing realistic terrain in glossy-paged model railroading magazines. But when it comes to actual railroading I find myself attracted to old things, both prototype and model. My biggest joy is building vintage model kits, the older the better. I find turning scraps of wood, tin and cardstock into a decent railroad car the most rewarding aspect of the hobby. Steam locomotive kits are even more fascinating, although it is much, much harder to make them work right and most of mine seem to run better in reverse than forward (when they run at all).

My layout reflects that interest: The track is Kato Unitrack (although the freight yards are garage sale Atlas), electricity is DC and the scenery is incomplete and rudimentary. I started with a “Steam Only” rule, but that one is hard to keep in a world where Baldwin Centipedes exist, so I fell back to “No Automobiles”. If I ever find the B&O buses used to ferry New York City passengers to the Jersey City terminal in HO that rule will fall too. Boss Hogg’s Cadillac is an ever-present temptation.

On to business: As you can probably imagine from the above, I am not the sort of person to produce articles about super-detailed models that precisely copy the prototype, the standard for this magazine. In fact, the one article I threw together for this edition is about it. So, unless anyone is interested in reading articles about building 80-year-old tank car kits with zamac cancer (and if you are let me know, I’d be happy to write one) I see my role as sharing the successes of you the readers in your pursuit of modelling excellence. To do that you the readers need to write articles.

I can help with the verbiage and grammar, and we have some few experts on tap to help with historical context and fact checking. But we must have something to work with and that task falls to you. So, if you’ve produced something unique and interesting, found something cool on a store shelf and have comments or even think you have a good idea feel free to contact me and we’ll see if we can turn it into an article. It gives you a chance to share your expertise with others, increase the body of knowledge regarding the B&O and you can boast about being a published author.

You will note that the traditional “department sections” (Modeling in the Enthusiast Press, New Products) are absent for this issue as we evaluate some changes going forward.

I plan on putting out two or three editions per year, depending on received material. For more information feel free to contact me via e-mail (Davidmurvihill@gmail.com) or by phone (314-939-9028).

THE 1935 ROYAL BLUE



(Railway Age 1935 edition, pg. 671)

Part 1: The 19th Century

Our story begins in 1857 when John W. Garrett, the president of the B&O decided to start running passenger trains from Washington DC to New York City. The benefits of running trains from the most populous city in the country to the nation's capital and connecting Philadelphia, Wilmington and Baltimore along the way were obvious, but there were a few problems to contend with:



John W. Garrett (from Wikipedia)

First, the B&O did not go to New York City. Later she had some track in the city to switch between wharf and warehouse, and in fact B&O's first diesel (Engine #1, called a gas-electric) was used to switch in NYC from 1925 until the late 50's. In 1857 the B&O mainline terminated at Baltimore. However, since there were several local railroads that B&O already partnered with to provide freight service between Baltimore and NYC, they could connect with passenger service as well.



B&O #1 (<http://www.northeast.railfan.net/images/bo1b.jpg>)

The second problem was that the B&O still did not go to NYC. The Hudson River separates NYC from New Jersey. The Delaware, Susquehanna and Patapsco Rivers all had to be crossed as well. Initially this was done with ferries, but each of the others were bridged (or tunneled) in turn. The only river the B&O never bridged was the Hudson. In 1857 this was a burden shared by all railroads, so it was inconvenient but didn't affect Garrett's plans.



The Hudson River (Photograph taken in 1932 by Fairchild Aerial Surveys, Inc. Source: New York State Archives. Education Dept. Division of Visual Instruction.)

The last problem was that joining the New York City market put the B&O in direct competition with the Pennsylvania Railroad. The railroads were bound to be rivals anyway due to proximity, but by running passengers to New York City Garrett was playing in the Pennsylvania's back yard, so to speak. Rivalry between the B&O and Pennsylvania railroads subsided finally after John W. Garrett died and railroad consolidation in the region was completed.

The B&O ran passenger trains to New York City for the next 30 years. They managed to remain competitive time-wise with the Pennsylvania, if always a little behind but travel times dropped from 16-19 hours to about six.

Over those 30 years the rivalry with the Pennsylvania found the B&O on the losing side of efforts to acquire connecting railroads between Baltimore and New York City. The final straw resulted in the Pennsylvania buying the Philadelphia, Wilmington and Baltimore Railroad out from under a standing B&O offer in 1887. This was the only railroad that connected the three cities and had previously run both rivals' trains equally. Once the Pennsylvania owned that railroad, they cut off passenger traffic and the B&O was stuck.

A lesser man may have given up the New York passenger market at this point but instead, practically from his death bed John Garrett, still the president of the railroad, ordered a new connection built between Philadelphia and Baltimore. B&O had the bulk of it in place within two years. The new line was modern and double tracked but went across rougher terrain. North of Philadelphia the B&O had partnerships with the Philadelphia and Reading Railroad and the Central of New Jersey to reach Jersey City where a ferry connected them to New York City.



Period advertisement for the Royal Blue Line (from Wikipedia)

The B&O could run passenger trains once again. The railroad reopened passenger service in 1890 with the Royal Blue Line. They purchased enough equipment to equip five passenger trains and bought only the best Pullman cars. The cars were garishly decorated and painted a shade of blue the president had found in Europe called Royal Saxony Blue. They were the height of technology too, with closed vestibules, gas lights and gas heat. For motive power the B&O ordered modern American 4-4-0 locomotives with the largest drivers ever used on the B&O to date, the M-1 class.



An M-1 Class 4-4-0 (<http://www.northeast.railfan.net/images/bo858sa.jpg>)

These were the gravy years for the Royal Blue line passenger operations. They could compete with the Pennsylvania with trips between five and six hours between the two cities. Where the Pennsylvania offered cheaper fares the B&O offered luxury. There was money in the market.

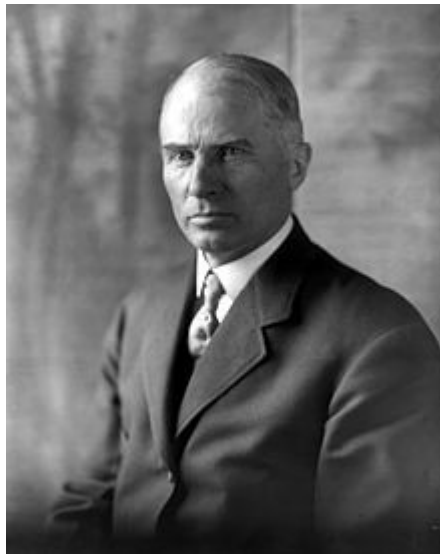
Part 2: the 20th Century

This plan worked for the B&O until 1910 when the Pennsylvania dug a tunnel under the Hudson River. The time lost and inconvenience of transferring to and from a ferry undercut the added luxury of the Royal Blue. The B&O lost market share but struggled on.

World War 1 saw the end of the name “Royal Blue”. Monarchies were not in vogue after four of them started the war so the B&O trains were renamed to exclude the word “Royal”. For example, the Royal Limited became the National Limited.

On the other hand there was a silver lining for the B&O because after the USA joined the war the government established the US Railroad Administration (USRA) to ensure transportation efficiency of war materials and within six months of its creation it ordered the Pennsylvania to share the tunnel to NYC. This breathed life into the Royal Blue line until 1926, when the Pennsylvania refused to extend the contract. You can't blame the Pennsylvania; even if the acrimony and pettiness subsided they were still rivals.

At this point the B&O did the best they could with what they had but lost 45 minutes to the Pennsylvania because of the ferries again used between Jersey City and New York City. Trying to make lemonade out of a lemon, the railroad offered dedicated busses to several different ‘terminals’ in downtown Manhattan, storefront waiting rooms adjacent to the most popular hotels in the city. Instead of a train behind the building there was a bus that took passengers across the ferry directly to the trains at Jersey City. There were even turntables to turn the busses around. Advertisements proclaimed the travel time but subtly included the fact that they were to Jersey City and not Manhattan.



Daniel Willard (From Wikipedia)

Ten years later the current long-term president Daniel Willard was ready to resurrect the Royal Blue name, this time as a specific train. To do so he ordered two brand new train sets and three new locomotives for the NYC-Washington run. Just as before the 1935 Royal Blue was to be the height of luxury and technology.

Two of the locomotives were steam, and while steam was hardly revolutionary at the time, the locomotives built in the Mount Clare shops were unique to the B&O. First was Lady Baltimore, a Reading type, 4-4-4. By tradition the first railroad to have a locomotive in a new configuration was entitled to name it in the Whyte notation, and the Reading Railroad built the first 4-4-4's. They built three of them in 1915 and immediately found them to be unstable, so converted them to 4-4-2 Atlantics.

The names given in the Whyte Notation were not hard and fast rules though, so when the Canadian Pacific built 25 4-4-4's they called them Jubilees instead. Jubilee was the name the B&O preferred (since I built a Reading 4-4-4 I still to call them Readings). The B&O stole the engine number 1 from their NYC switching diesel and gave it to Lady Baltimore.



Lady Baltimore (<https://www.railarchive.net/randomsteam/bo1.htm>)

The other steam locomotive built for the Royal Blue was the Lord Baltimore, a 4-6-4 Hudson given the number 2. This class was named by the New York Central who ended up buying 275 of them for their own and subsidiaries' use. Hudsons were less popular on the B&O who only built four, three converted from 4-6-2 Pacifics and the Lord Baltimore.

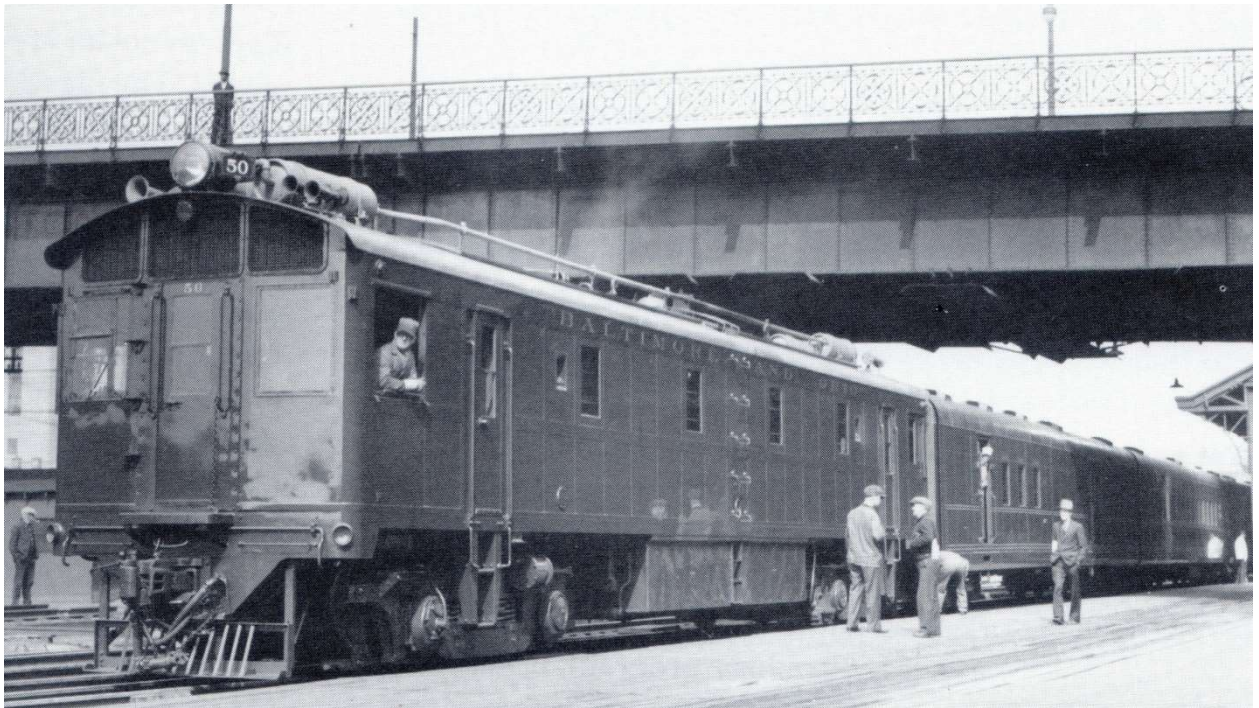


Lord Baltimore (<https://www.american-rails.com/v.html>)

The steam locomotives were both unique to the B&O in that they featured the largest drivers on the railroad at 84" and European styling. They were painted blue with gold stripes matching the cars that chased them and the tenders had diaphragms to enhance the smooth appearance of the train.

The diesel engine was revolutionary, being the first successful road diesel in the USA, the EMC 1800 B-B. It was the source of inspiration for my research into the 1935 Royal Blue:

When General Motors decided to enter the railroad locomotive market they did it by simply purchasing Electromotive Corporation, a company that was producing gas-electric railcars and Winton Engine Company, a diesel manufacturer. At first they produced switchers and streamliners but when Winton produced a 900 horsepower diesel the possibility of producing a locomotive with sufficient horsepower to be a road engine arose. By putting two diesels in the same housing they were able to produce 1800 horsepower, sufficient to pull the lightweight Royal Blue.



B&O 50 on the Royal Blue at Philadelphia, Pennsylvania, August 1935. (Photograph by W.R. Osborne, H.H. Harwood Collection. Image Courtesy of the B&O Railroad Museum.)

The train sets ordered were also revolutionary. Each consist had eight cars:

- 1 postal/baggage car
- 3 reclining chair cars- 64 seat capacity
- 1 dining/lunchroom car- 32/10 seats
- 2 chair cars-29 seat capacity
- 1 observation/chair car- 32 seat capacity

Total seating capacity was 283 passengers. The cars were 70 feet long. One of the trains was manufactured of steel and the other using aluminum extensively by the American Car and Foundry company. Both trains were built to weigh as little as possible, with the steel train 40% lighter than an equivalent heavyweight train and the aluminum train 46% lighter. They also featured air conditioning in all cars and streamlining.

The reclining chair cars had four chairs to a row; each could recline separately. The Chair cars had two armchairs to a row that could both swivel and recline. The lounges had chairs as you'd see in a living room or hotel lobby. The dining car featured 32 seats at tables on one end, a central kitchen and a 10-seat lunch counter at the other end. The cars and engines were painted Royal Blue with grey roofs.



The Chair Cars Have Unusually Comfortable Rotating, Reclining-Back Seats

(Railway Age 1935 edition, pg. 672)

Part 3- Post 1935

Unfortunately, when it came to actual performance the 1935 Royal Blue trainsets were a disappointment. The Lady Baltimore exhibited excessive slippage and was relegated to local service within a couple years. Lord Baltimore continued to pull the train set but the Hudson class did not gain popularity with the B&O.

I suspect that at its heart the issue with these two locomotives was that extra axle in the trailing truck: while it made a smoother ride at high speeds, it also robbed the engines of traction in rough terrain. Readings and Hudsons were flat country locomotives and the B&O was not a flat country railroad. Both were scrapped during the dieselization of the railroads in the 1950's.

The EMC 1800 B-B was a qualified success. Weighing against its success is the fact that only five were built, only three sold and they were modified extensively over the years. In the EMC 1800's favor were two facts, first that all three locomotives pulled trains for over 15 years, B&O #50 over 20. While not a record they certainly earned their keep.

The other fact is that if you take the EMC 1800, change the trucks to Commonwealth A-1-A and put on a fancy streamlined body you have the EA, E1 and E2 series. Put in bigger diesels and you can follow the design up through the E-9, with a total of 1550 units produced. So, like the Wright Flyer the locomotive itself wasn't great but it was a first that spawned a whole series of famous engines.

B&O #50 was uglified with a shovel nose by the Chicago and Alton, restored to her former beauty and renumbered 1200 by the GM&O then donated to the National Museum of Transportation in St. Louis after celebrating EMD's 50th anniversary in 1972. There it sits, fading and rusting to capture the imagination of a 60-year-old man.



B&O #50, still in the 1972 repaint provided by EMD.

The cars too proved unsatisfactory. They were simply too light and did not provide the comfortable, luxurious ride the railroad wanted. Management was not happy. They immediately refurbished some heavyweight cars and bought a dozen EA and EB's to replace the train sets on the Royal Blue.

Now the railroad had two train sets they spent considerable money on with no job. The Chicago and Alton Railroad was a B&O subsidiary and Chicago to St Louis was only a little further than the NYC-DC run. The two trains were shipped off to pull the Abraham Lincoln and Ann Rutledge, at first even retaining the B&O paint scheme.

The train sets continued in service on the Abraham Lincoln after the C&A was absorbed by the Gulf Mobile and Ohio and were retired when passenger service was taken over by Amtrak. One observation car still exists at the National Museum of Transportation in St Louis.



The somewhat dusty observation car at the National Museum of Transportation, in GM&O colors.

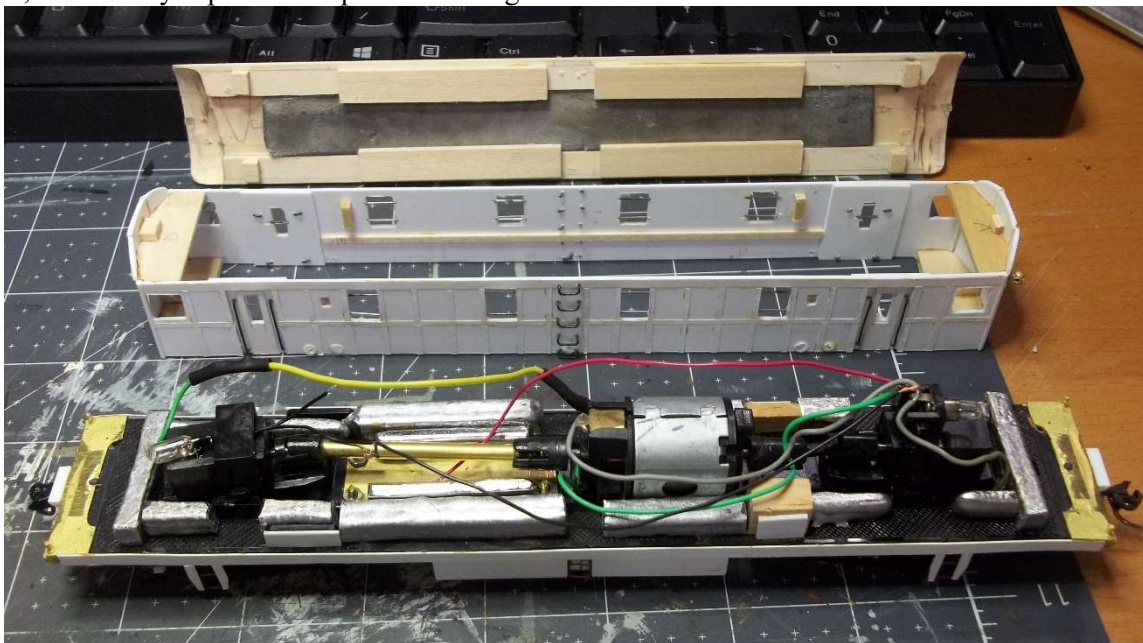
The Royal Blue on the NYC-Washington run eventually went the way of all B&O passenger traffic, surrendered to the automobile and airplane when the B&O ceased passenger operations in 1958.

Part 4- Building the 1935 Royal Blue in HO

Modelling the 1935 Royal Blue is problematic. I haven't been able to locate any blueprints, so my sources are limited to photographs found on the internet, the 1935 *Railway Age* which has an extensive article on the train (thanks Jim) and visits to the museum (I go there once a week anyway to run the trolley).

Lord and Lady Baltimore exist as brass models, showing up in the 1980 NJ Custom Brass catalog. #50 shows up in the 1984 Hallmark Brass catalog but I've never seen one for sale (I have seen the ATSF EMC 1800, once). I haven't found any other HO scale models of these engines.

I ended up building my copy of B&O #50 by modifying an old AHM RS-3 model. The chassis was stretched by 1 1/4", the drive rod for one of the trucks cut and extended with a brass tube. The shell was made with plastic and a wood roof shaped from 1/4" bass wood. 1/4" square lead ingots both provided weight and support for the bottom of the shell. The hardest part was inferring the detail on the roof in 1935 based on the side view photographs I was able to find. The result isn't perfect but is (hopefully) close to the 1935 engine; it definitely captures the spirit of the original boxcab.



I'm still tempted to install DCC and sound, LED lights then add paper photos of the powerplant behind the side windows, backlit so they are visible from the outside. I think there is room inside the shell for it.

After building the EMC 1800 I started looking for HO scale cars from the Royal Blue, only to find none. I decided to scratchbuild the set. Other than a civil war-era boxcar I had not built a car completely from scratch, but I'm very fond of the old wood and cardstock kits and believed I had enough experience to make something that would fit the bill. After extensive searching on the internet and visiting the observation car several times I was ready to start.

Roof- I started with a 1/4" chunk of basswood, used a belt sander to curve it to conform to the shape of the end sills. Vents are Garland from Kit Bits, rivets from Archer Fine Transfer. The roof is secured to the body of the car with screws in the end sills near the top. They are under the diaphragm so I doubt anyone will notice them.



Roof and sides with rivet decals.

Ends-Precision Scale Castings have end sills for a UP passenger car that are good for this car. I used American Limited Full Width diaphragms. The sills had to be filed in places to fit the diaphragms

Bottom- 1/8" bass wood. My goal was not a modeler-quality reproduction of the undersides but something that looked right from the side as the car streamed past you. I put a center beam under there for support, not because I know there is one. Detail parts are all from PSC: air conditioning, battery box, generators and tank. The trucks are from Labelle, but I picked the wrong catalog number and got Pennsylvania trucks instead of the right ones, I'll be replacing these when I start building the rest of the train. The trucks did have roller bearings. The brake cylinders were added per a photo in the article on these cars.

Sides- the sides are a sandwich of .02" Styrene on the inside, a solid sheet of clear plastic .01" thick in the center and a sheet of .01" Styrene on the outside. Inside and outside were cut for windows by drilling the corners in a drill press then cutting out the middle. They didn't come out arrow-straight, I'll need to think about that. I taped all four sheets together to at least get all the holes in the same spot, that part seems to have worked OK though I may put a bolt through a center window while drilling to keep the sides from bowing. All the rivets are from Archer, the inside was spray painted Ivory above the window line and light brown below it per the prototype.



Test-fit of all parts.

The bottom skirt was added afterwards, copied from a later picture of a car during the GM&O days. Older pictures show this skirt to be straight across the bottom so I'm going to need to revisit that. I used Scalecoat Royal Blue and left it shiny, though I'm informed it's a bit brighter than the actual paint.

Because the cars had stairs that lifted out of sight when the train was in motion I didn't include them, though I grooved the outer sheet for the doors. Decals were from microscale. I chose the length of the railroad name based on counting windows on a picture of a real car.



Now that I have a prototype the remaining seven cars will be built en masse. With luck I'll have them finished in a year or two...

COMING IN MODELER NO. 56:

We invite your submission