The Keystone Modeler

Pennsylvania Railroad Technical & Historical Society

No. 91 Winter 2015

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The Keystone Modeler
Pennsylvania Railroad Technical & Historical Society

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The Keystone Modeler

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Please contact the editor for information and guidelines for submission. Photo files 800x600 pixels or larger in JPG format are preferred. Statements and opinions made are those of the authors and do not necessarily represent those of the Society.

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Disc 8	Spring 2011 to Winter 2012	*TKM* Nos. 76 – 79

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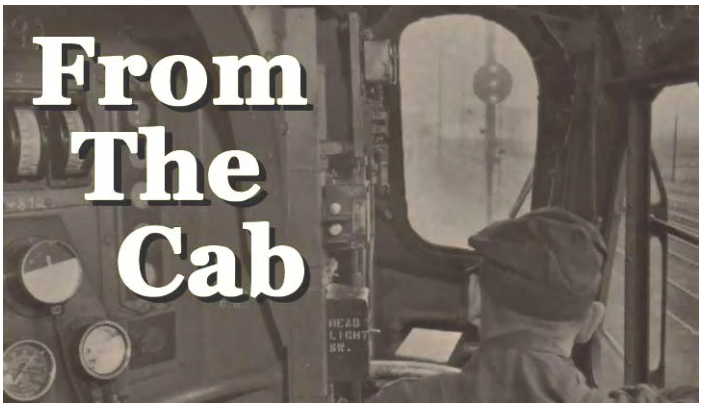

In the previous issue of *TKM,* I noted how pleased I was that *Railroad Model Craftsman* was still going to be published. I continue to be pleased as the most recent edition shows an attractive new layout that invites perusal of the magazine. There are large, colorful photos laid into the text that are not cut off in separate windows, and more space, with more photos, seems to have been allocated to new products. The *Test Track* product reviews are treated similarly.

Winter seems to be the time of year when more modelers go down to their work benches without the distractions of grass-cutting and home improvements. (Some of us, of course, model at all times of the year.) It also seems to be the time for train shows and conferences. Some of the readers of *TKM* will travel to Cocoa Beach in Florida or out to St. Louis to attend, while others may feel that those events are just too far from home to be practical for them.

There are also RPM conferences that are closer to home for those who can't make it to Florida or Missouri. For example, the Railroad Prototype Modelers Seminar – East, which will be held in Greensburg, PA on March 27 and 28. I mention this just to urge some of you to consider including one of these smaller conferences in your winter schedule. When I go, they always seem to increase my enthusiasm for my next project, or the one I haven't completed yet.

We have a variety of articles in *TKM* this time, which I hope will invite you to peruse these pages. Tim Garner reviews Walthers' Metroliners, while Jack Consoli reviews Walthers' latest version of the FM H10-44. Steve Hoxie discusses the variety of tenders used with the H10s, which is also a lead-in to an article for our next issue about kitbashing the tender that comes with the BLI H10s. Claus Schlund describes kitbashing Pennsy heavyweights in N scale. Finally, we are treated to another segment of Curt LaRue's modeling of Pennsy's trailer fleet.

Jim Hunter, Editor

The Pennsylvania Railroad Technical & Historical Society

The purpose of the Pennsylvania Railroad Technical & Historical Society is to bring together persons interested in the history and modeling of the Pennsylvania Railroad, its subsidiaries and its acquired companies. Our goals are to promote the preservation and recording of all information regarding the organization, operation, facilities, and equipment of the PRR.

The Society's quarterly illustrated journal, *The Keystone*, has been published continuously since 1968. Each issue of 64 or more pages contains illustrated original authoritative articles about locomotives, cars, other equipment, facilities, and operating practices of the PRR. The Society also publishes its own thoroughly researched books and other materials concerning PRR history. *The Keystone Modeler* is also a quarterly special 30-plus page online publication of the Society.

The Society meets annually, usually during a weekend in early May, providing an opportunity for its members to get together and learn more about the PRR. Local chapters around the country also provide members and guests with regular meetings that feature PRR related programs.

Information about our Society may be found on our website – www.prrths.com. To join the Society, send $35.00 to:

PRRT&HS
PO Box 54
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All memberships are for a calendar year, back issues of The Keystone for the current year are sent upon joining. Overseas membership has added postage fees.

PRRT&HS Interchange

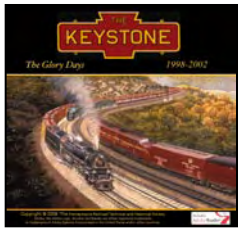
Selected Society Merchandise of Interest to Modelers

PRR Equipment Drawings on Microfilm

Copies of PRR equipment drawings are available from the Society's microfilm collection. To order drawings, you must know the drawing number and title. Ordering information and lists of arrangement drawings are available on the Society's website. Go to www.prrths.com, select National Society, and then The Interchange. If you require a printed copy of this information, please send your address and a check for $2.00 made out to PRRT&HS to:

Richard C. Price
779 Irvin Hill Road
McVeytown, PA 17051

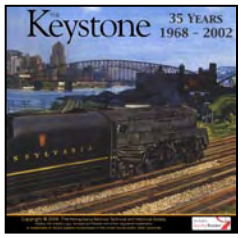
The Keystone CD 5



The Keystone CD No. 5, The Glory Days, covering 1998 to 2002, is now for sale at the price of $75 for members. New Jersey residents add $5.25 sales tax. Order CDs from:

Al Buchan
785 Cornwallis Drive
Mt. Laurel, NJ 08054-3209

The Keystone DVD 1



The Keystone DVD No. 1 covering 35 years of *The Keystone* from 1968 to 2002 is available. The navigation of this product is being upgraded as are some of the administrative notes and text. The improved edition will be ready for ordering soon. Those few who have already purchased the DVD will be able to trade it in for a new one when it's available. The price of this DVD is $375. ***This DVD requires a computer with a DVD drive. It is NOT a video disk that can be played on a DVD player for viewing on your TV.***

The Keystone Modeler
NEWSWIRE

With Steve Hoxie

PRR Product News

ATHEARN
http://www.athearn.com/
PRR GP9 and GP9B (EFS-17m) – HO Scale

PRR EFS-17m *(Athearn)*

PRR EFS-17m (B-unit) *(Athearn)*

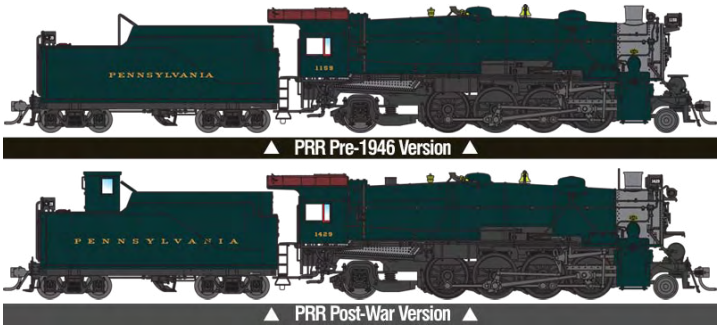
Athearn has announced a run of their Genesis series GP9 and for the first time the GP9B. These are Phase III units with 48" fans. Models will be available in DC or DCC/Sound with Tsunami sound. They are expected to be available in November 2015.

BLMA MODELS
http://www.blmamodels.com/
PRR G31 Gondola – N scale

(BLMA)

BLMA is developing this very nice model in shadow Keystone and plain Keystone schemes. The model will incorporate fine detail, correct trucks, and body mounted couplers. It is expected later in 2015.

BROADWAY LIMITED IMPORTS
http://www.broadway-limited.com/
PRR L1 2-8-2 Steam Locomotive – HO scale



(Broadway Limited Imports

The big, big, big announcement from **BLI** is their development of the L1, currently expected in July 2015. Available in pre-war and post-war versions, it will be available in several road numbers.

PRR K7A Stock Car – N scale

(Broadway Limited Imports)

BLI has decided to produce their K7A stock in N scale, too. It will be equipped with sound. Planned availability is June 2015.

Here are the latest **Expected Delivery Dates** for other **BLI** products:

- **H10 (Second Production) HO** – February 2015
- **H32 Covered Hopper N** – March 2015
- **Baldwin Sharknose HO** – March 2015
- **M1A/M1B N** – May 2015

Eastern Seaboard Models

http://www.esmc.com/

PRR Weathered X58 Boxcar – N scale

(Eastern Seaboard Models)

ESM is offering their X58 boxcar painted, lettered, and weathered.

Fox Valley Models

http://www.foxvalleymodels.com/

PRR H30 Covered Hopper – N scale

(Fox Valley Models)

Fox Valley has available in stores now this model of the H30.

Illinois Central Gulf Decals

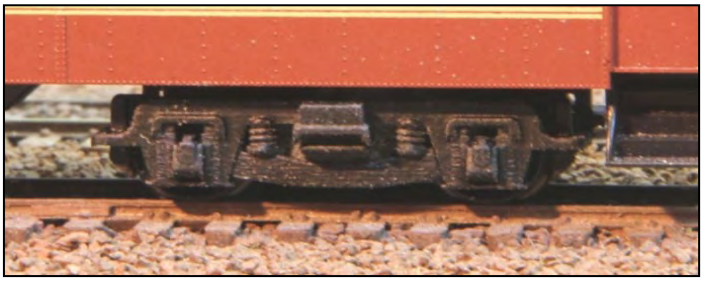
http://home.mindspring.com/~paducah/

PRR X58 Decals – HO scale

ICG Decals has developed decals for use on undecorated versions of the new **Tangent** X58 (see below). On the website, look for set SE-03.

Michael's Model Railroad and Parts

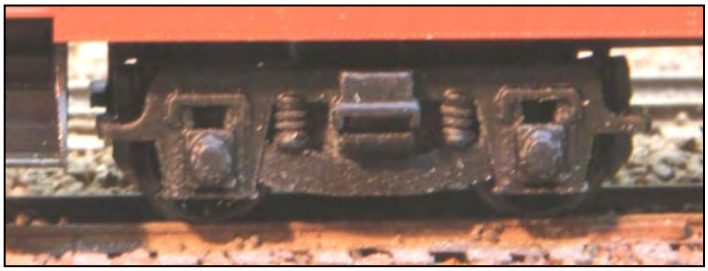
2D-P5 Friction Bearing Passenger Trucks – N scale



(Michael's)

http://www.shapeways.com/product/WTLPCSYMJ/n-scale-1-160-prr-passenger-truck-2d-p5-friction?li=search-results-1&optionId=40387887

2D-P5 Roller Bearing Passenger Trucks – N scale



(Michael's)

http://www.shapeways.com/product/LARWVJKM2/n-scale-1-160-prr-passenger-truck-2d-p5-roller-b?li=search-results-1&optionId=40387888

Michael's has used current technology to develop these trucks with 3D printing, offered through Shapeways, less wheelsets.

N Scale Kits

http://nscalekits.com/

N-Scale Flat Cars and Trucks

N Scale Kits has available some interesting models.

F39 Flat Car – N scale

PRR F39 Flat Car *(N Scale Kits)*

FD2 Depressed Center Flat Car – N scale

PRR Depressed Center Flat Car *(N Scale Kits)*

T1 Trucks for the FD2 – N scale

PRR Trucks (FD2) *(N Scale Kits)*

Available from Shapeways at http://www.shapeways.com/product/E5WMQPSTR/prr-railroad-trucks-for-the-fd2-railcar-x4?

TANGENT SCALE MODELS
http://www.tangentscalemodels.com/
PRR H41 Dry-Flo Covered Hopper – HO scale

(Tangent Scale Models)

The good folks at **Tangent** are at it again with very nice models. Unfortunately, we neglected to include this car last time, and it is available now. See the website for lots of info about the details.

PRR X58 Boxcar – HO scale

(Tangent Scale Models)

Tangent is taking orders for their just announced X58 boxcar. It is expected to be shipped to buyers February 23. This first run models the car as equipped with the Keystone underframe. Subsequent runs are expected to incorporate the Hydra-cushion underframe as well as the A, B, and C sub-classes. Again, check the very informative website for the details.

Upcoming Events

March 27-28, 2015 – Greensburg, Pennsylvania
RPM-East Railroad Prototype Modeler Seminar
http://www.hansmanns.org/rpm_east/index.htm

March 27-28, 2015 – Port Wentworth, Georgia
Savannah Prototype Modeler's Meet
http://www.savannahrpm.com/

March 28, 2015 – San Bernardino, California
Western Prototype Modelers
http://www.railroadprototypemodelers.org/sbdmeet.htm

April 11-12, 2015 – Timonium, Maryland
Brass Expo in conjunction with the **Great Scale Model Train Show**
http://brassexpo.com/index.htm

April 12, 2015 – Taunton, Massachusetts
Spring TRAINing, HUB Division, NMRA
http://hubdiv.org/springshow/index.htm

April 30-May 3, 2015 – State College, Pennsylvania
PRRT&HS Annual Meeting
http://www.prrths.com/conventions/PRR_Annual.html

May 29-30, 2015 – Collinsville, Connecticut
New England/Northeast RPM Meet
http://www.neprototypemeet.com/Welcome.html

Advance Planning

August 23-29, 2015 – Portland, Oregon
NMRA National Convention and National Train Show
http://nmra2015.org/

Look for coverage of the new Rivarossi General Electric U25C in PRR paint in an upcoming issue of *TKM*. *(Tim Garner)*

Product Review: WalthersProto® HO-Scale Metroliner

By Tim Garner

The WalthersProto Budd Metroliner Snack Bar Coach. This is model comes with as-delivered PRR striping and decals for PRR, Penn Central, and Amtrak patches. Walthers' "real metal stainless steel finish" is remarkably realistic.

In 2014, Walthers introduced the Budd Metroliner in HO scale as part of its WalthersProto line. This high-speed train was developed for the Pennsylvania Railroad, but did not enter service until after the ill-fated Penn Central merger was consummated. Overall, Walthers has done a fine job capturing the personality of the train.

History of the Metroliners

On January 16, 1969, the *Metroliner* made its first revenue run from New York to Washington and return. It would usher in a new tradition of 100 mile-per-hour Northeast Corridor trains that continues to this day.

At the urging of Rhode Island Democratic Senator Claiborne Pell (also the namesake of "Pell Grants"), The High Speed Ground Transportation Research and Development Act was signed by President Lyndon Johnson on September 30, 1965. It called for $90 million in federal funds toward high speed rail passenger service between Washington and Boston. For the PRR Washington to New York segment, the government contributed $11.5 million and the PRR $45 million for the equipment and right-of-way improvements. The project also included grade-crossing eliminations, new stations, station improvements such as high-level platforms, training, and improved on-board telephones.

Specifications for the equipment that would eventually be called Metroliner were developed by the Pennsylvania Railroad, the federal Office of High Speed Ground Transportation, and Louis T. Klauder & Associates. Further development and construction was by the Budd Company, General Electric, and Westinghouse.

The Cars

The Metroliners were multiple unit cars carrying the PRR classification MP85E4. As had been the standard for modern passenger cars, they were 85 ft. long. There was a cab at one end of each car. Stainless steel construction was the same as on all Budd-built passenger cars, but the profile was distinctive – almost pear-shaped – with curved sides. The windows were not as tall as on traditional streamlined passenger cars. There were vestibules with automatic doors at both ends of each car to facilitate fast loading and unloading. There were 31 coaches (#800-830), 20 snack-bar coaches (#850-869), and 10 Metroclub parlor cars (#880-889) constructed.

The coaches were constructed with Westinghouse 1461-A 300 hp DC traction motors on each axle. Westinghouse cars also carried Stemman pantographs. The snack bar coaches and parlor cars had General Electric 1254-A1 255 hp DCU traction motors on each axle and Faiveley pantographs on the roof. The drop-equalizer trucks were made by General Steel Industries.

The rated maximum speed on these cars was 160 mph, and a pair achieved 164 mph in a 1968 series of test runs around Princeton Junction, New Jersey. In service, they ran at a top speed of 125 mph.

Logos of companies involved in the design, construction, and operation of Metroliner equipment over their lives.

A New York-bound Metroliner crosses the Susquehanna River in Havre de Grace, Md. in March 1977.

The flat-face hook type couplers were designed by Symington Gould with a coupling box from Walton Products. This combination allowed for complete automatic coupling and was strong enough to keep cars upright in a derailment. Bob Watson, a long-time PRRT&HS member, was an important member of the PRR team that developed the Metroliners. He said, "The couplers by Symington were and remain unique and, so far as I know, they were the only hook type coupler ever developed to meet the full AAR requirement for strength. They were never used on any other equipment. They were very good mechanically, but the Walton electric heads were trouble from day one. They were eventually eliminated and replaced with conventional jumpers."

Cars were typically coupled in back-to-back pairs with one pantograph up per pair. This kept pantograph spacing at 170 feet to prevent arcing at high speed. Said Watson, "Originally it was planned to operate eight-car trains in the North East Corridor, but it was quickly discovered the sub-stations could not handle the high accelerating current."

The diaphragm passage through the cab end of each car was retractable creating a smooth face when leading or trailing a train set. Permanent marker lights were in the upper corners of the cab ends.

The horns on Metroliners were a distinctive loud, fairly unpleasant sound. As intended by its designers, you could tell a Metroliner was coming. As the units got older, the horns sometimes changed in tone. I heard some that sounded like an oversized peacock.

Initially they were built to run on the 11,000 volt A.C. line voltage completed by the PRR in the 1930s. They technically were able to operate on 25,000 volt A.C., but never did. The change from one to the other was not automatic. The cars were built with electrically controlled air and dynamic brakes.

In Service

When in development under the PRR, the paint scheme was simple. The car was left polished stainless steel with a white fiber glass cap around the cab (A) end. Watson said it was originally gray to approximately match the stainless steel carbody. "As the caps aged and faded, they took on the more white appearance. Attempts at painting them were not successful."

A narrow red stripe was painted above and below the windows, connecting on the side of the cab. Red and white PRR keystone decals were placed on the lower right face of the cab and on the window band immediately behind the front vestibule door. Lighted number boards were on the upper right face of the cab and on each window band to the rear of the last window.

By the time the cars were ready to enter revenue service, the PRR had completed its merger with the New York Central to become Penn Central. In this service, a black PC logo on a white background was placed below the windshield on the lower left face of the cab. Black PC logos with no backgrounds were placed in the window bands next to all four vestibule doors. Metroclub and snack bar cars were labeled above the window band next to each vestibule door. The red stripe of the PRR scheme remained.

▲ A four-car New York-bound Amtrak Metroliner led by Metroclub #880 is speeding though North Philadelphia Station without stopping. It is April 29, 1974 and this train exhibits the classic Penn Central scheme. ▼Another Amtrak train led by Metroclub #882 is in Prospect Park, Pa. on November 2, 1974. *(William D. Volkmer photos)*

(Top to bottom) A southbound Amtrak Metroliner on the center track passes an Amtrak maintenance crew and a Conrail local waiting to leave the Havre de Grace Branch. A southbound Metroliner passes under the now gone Route 7 Post Road Bridge in Havre de Grace. A three car Amtrak Metroliner speeds south through Aberdeen, Md. The train has just crossed one of the three remaining grade crossings in Maryland at this date. It would be replaced with an unsightly over-pass in the 1980s.

The first trains ran with two Metroclub cars and four snack bar coaches (all with GE equipment) because the coaches with Westinghouse equipment were not finished. Eventually, the norm would be one Metroclub, one snack-bar coach, and two or four coaches – four car or six car trains. To ensure the cars functioned well, Penn Central put an on-board technician on each run.

Regular *Metroliners* made the Washington to New York trip in one minute under three hours, stopping only in Baltimore, Wilmington, 30th Street in Philadelphia, Trenton, and Newark. A non-stop 2½ hour run was attempted in 1969, but didn't attract enough riders to continue. Service increased to six round trips per day in October 1969. Ridership reached 600,000 that year.

On May 1, 1971, Amtrak took over most of America's intercity passenger trains including all the *Metroliners* – its premier trains. Amtrak immediately increased the schedule to nine round trips and eventually to fifteen by 1973. Annual ridership grew to over two million per year.

Gradually, the PC logos were removed, with some cars running with no markings. On some equipment, an Amtrak logo on a white rectangle was added to the front of the cab and on the window bands where the PC logos had been. Eventually, Amtrak painted the face of the cab red white and blue with Amtrak spelled in white Helvetica type below the cab windows. The paint generally did not hold up well in service. At the same time, the window bands were painted white with Amtrak's "pointless" arrow at the cab end and red and blue stripes continuing to the end of the car. A white Amtrak was placed in the upper stripe at the center of each car.

Penn Central was financially unable to keep the Corridor in good shape. Slow orders forced Amtrak to lengthen *Metroliner* schedules.

In 1975, Amtrak began receiving new Amfleet cars. These were Budd-built locomotive hauled cars based on Metroliner tooling. They began to displace Amtrak's older conventional equipment on East Coast routes having overhead clearance restrictions.

Amtrak became the owner of Northeast Corridor lines from Washington to Boston and Springfield and from Philadelphia to Harrisburg (except for state-owned segments in New York, Connecticut, and Massachusetts) not long after Conrail took over most of the bankrupt northeastern railroads. A $2.5 billion Northeast Corridor Improvement Project commenced to restore the former PRR right-of-way. This project included extensive use of concrete ties and complete resurfacing of passenger trackage. The work would allow top speeds to increase to 120 mph. During the work, schedules were lengthened to as much as 3 hours and 45 minutes between Washington and New York in 1980 – the worst ever for the service.

In 1979 and 1980, Amtrak sent many of the Metroliner cars into the shop for modifications to improve reliability. They moved the dynamic brake grids, cooling air intakes, and other electrical equipment to the roof in a long streamlined housing. This was done primarily to eliminate problems with snow being ingested through the under-floor intakes. The cost was nearly $500,000 per car.

On October 25, 1981, service under three hours returned with stops only in Baltimore and Philadelphia, but not with Metroliner cars. New AEM7 electric locomotives with Amfleet equipment took over the runs. By the end of 1982, all *Metroliner Service* ran behind AEM7 locomotives.

In the mid-1980s, some of the Metroliner cars were given the name *Capitaliners* and were put to work on the Philadelphia to Harrisburg line. They didn't last long as reliability problems continued.

Gradually, the cars formed long dead lines at the Amtrak Wilmington and Bear, Delaware, shops. Several were rebuilt as non-powered cab-control cars for push-pull service. They ran on Amtrak's *San Diegans* and in Michigan. They have appeared on Amtrak's *Springfield Shuttle* and have been used on the *Vermonter* for the backing portion of the run between Springfield and Palmer, Mass. In 2007, six of the bodies were turned into cab-control cars for Amtrak's Keystone Service between Philadelphia and Harrisburg.

The cab-control rebuilds involved scrapping the retractable diaphragms on the cab end and replacing them with fixed diaphragms. Safety stripes on the cab end along with strobe lights on the roof are common.

PRESERVATION

One Metroliner snack bar car, #860, is preserved at the Railroad Museum of Pennsylvania. It retains some of its original interior. Most of the remaining Metroliner hulks were scrapped by Amtrak in 2010.

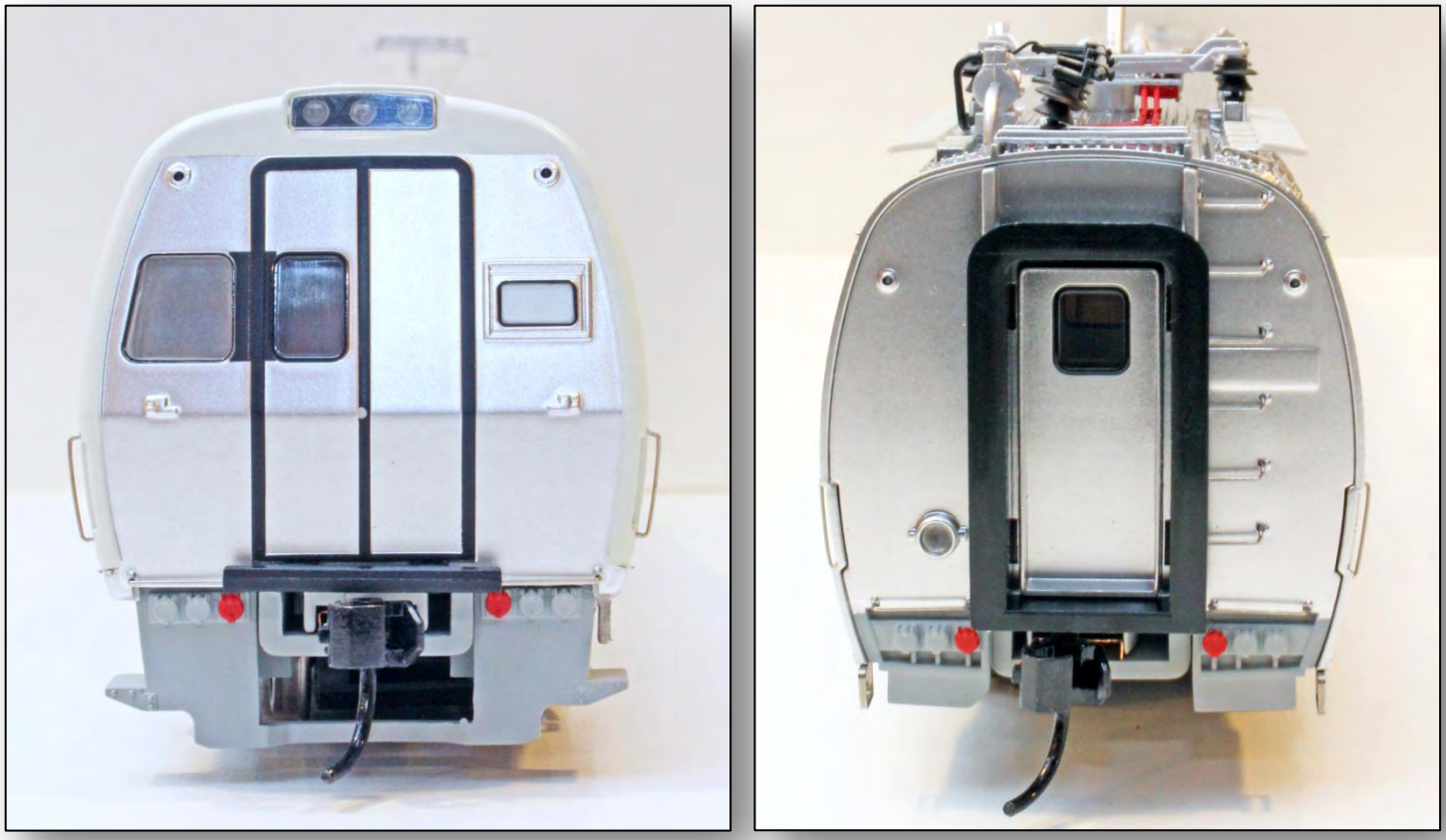
Newly rebuilt Snack Bar Coach #867 is on the GE test track in Erie, Pa. The roof blister contains electrical equipment formerly mounted on the floor of the car. Model Memories offers an etched stainless steel "roof vent" to fit the Walthers model. *(William D. Volkmer photo)*

From top to bottom, the Metroliner Snack Bar Coach, Parlor Car, and Coach. Each has the correct pantograph – Faiveley on the first two and Stemman on the last.

The Models

Having grown up watching Metroliners from trackside, I'm impressed with how well Walthers has captured the look of these distinctive trains. Walthers initially offered a special four-car train set of one Snack Bar Coach, one Parlor, and two Coaches painted in as delivered PRR paint – something they never wore in revenue service.

Subsequently, they have offered the Metroliners in three other schemes. The Amtrak "phase I" scheme features wide red and blue stripes, Amtrak *pointless* arrows on the window band near the cab, and a small white "Amtrak" name on the red portion of the red, white, and blue cab front. The Amtrak "phase II" scheme features wide red and blue stripes, no pointless arrows, and a larger white "Amtrak" name. The third variation is the one I bought. It includes the red striping of the original PRR design along with decals to letter the unit as PRR, Penn Central, or with Amtrak logo patches to cover the PC logos.



The front and back of each variation are the same. Walthers did not model the Metroliners' unique couplers. The headlights, markers, and numberboards are lighted. Note the chip out of the paint on the nose door caused by the packaging. I found this on three of the four models.

DETAILS

With the exception of choosing and applying logo and number decals, the Walthers Metroliners are ready-to-run. Matching the construction techniques on their latest stainless steel passenger cars, Walthers built the Metroliners with a convincing plated stainless steel finish. All grab irons and details are factory installed which, if you've installed grabs on earlier Walthers passenger cars, saves money on broken micro drill bits.

Windows are tinted as on the prototype. The interior floor and seating are molded in a pale beige color. You can enhance the accuracy of the models by painting the interiors and adding figures. The only color interior photos I've found of Metroliner equipment show the parlor seats with a maroon color and white antimacassars (the protective fabric over the headrests).

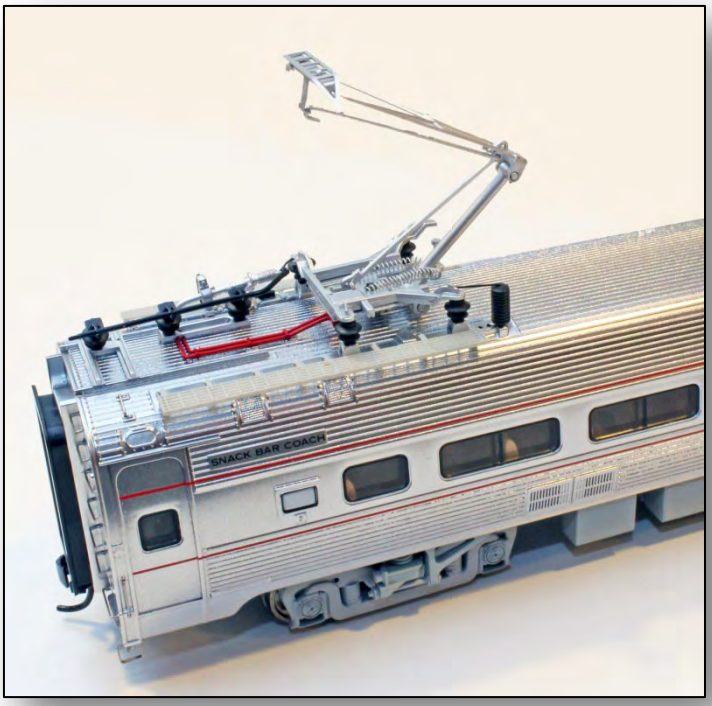
A portion of the interior is taken up by a motor which drives the front truck. The motor is visible through the side window which decreases the realism somewhat. Walthers could have taken a lesson from Con-Cor in their design of the drives on their MP-54 multiple unit cars. The MP-54 motor is housed under the floor where it is virtually invisible from trackside, but does not encroach on the interior detail.

The underbody details are somewhat simplified, but accurate for each of the three types of cars. Since what isn't modeled would not be visible in operation, I'm fine with that. The underbody and trucks are in gray as applied to the prototype. I only recall these trucks being used on the Metroliners and the Illinois Central's bi-level MU commuter cars built in the same era.

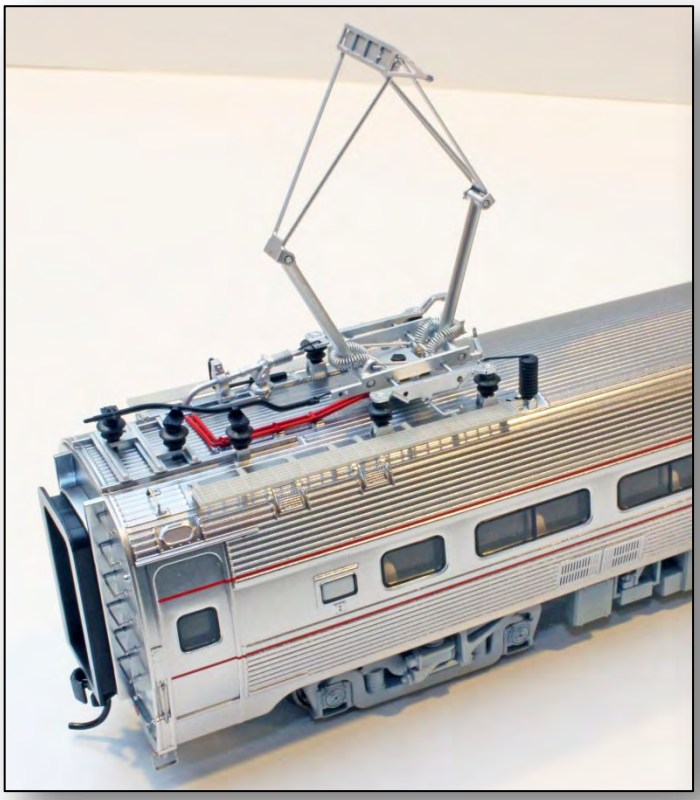
The couplers are Walthers Kadee-compatible metal Proto MAX™ metal couplers. Knuckle couplers are inaccurate for this model, but I would not expect Walthers to recreate the unique couplers of the prototype just for this model. I'm considering trying to create a convincing dummy version for the opposite ends of the train.

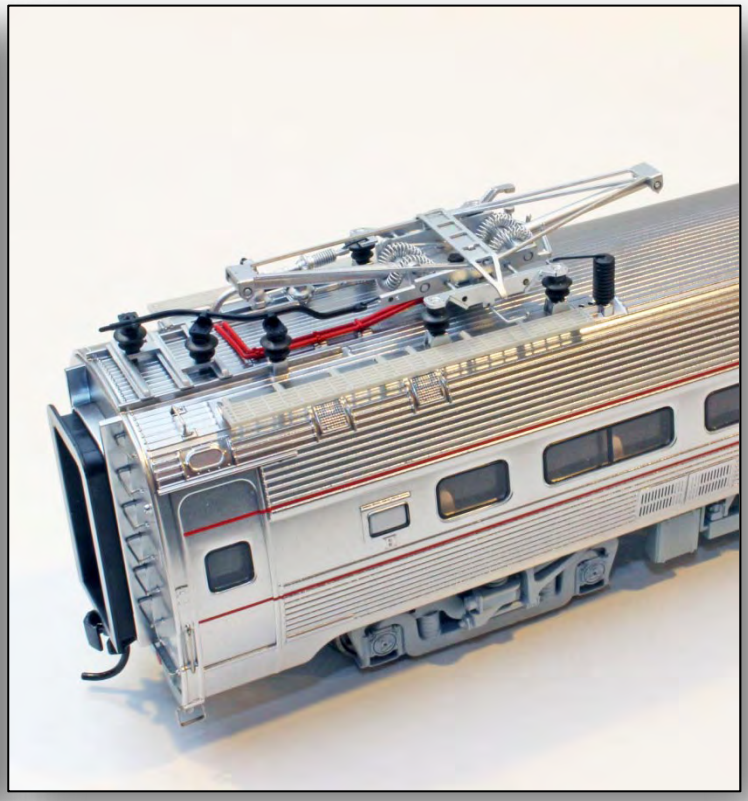
The blunt ends of the cars include Walther's standard operating diaphragms. However, Walthers chose not to offer reproductions of the open cab ends with diaphragms extended.

The Faiveley pantographs on the Snack Bar Coach and Parlor cars and the Stemman pantographs on the Coaches look accurate. Without catenary (yet) on my layout, I am unable to fully test how well the pantographs perform. The Stemman pantographs use light upward spring pressure to keep the contact shoe flat against the contact wire. A test against a piece of stiff phosphor bronze wire suggests this is enough. The Faiveley pantographs clip down on the roof when not in use. The Stemman pantographs are only held down by spring pressure when depressed.



The bunt end of the Snack Bar Coach showing the Faiveley pantograph in up and down positions. The detail around the pantograph is exceptional including see-through tread on the servicing roofwalks.





The blunt end of the Coach showing the Stemman pantograph in up and down positions. The light upward spring pressure appears sufficient to keep the contact shoe flat against the catenary contact wire. The numberboards are lighted and turned on by function keys in the DCC/sound model.

The Metroliners include working twin headlights, Gyralight, reversing A-end red marker lights, numberboards, and interior lighting.

Lighting and Sound

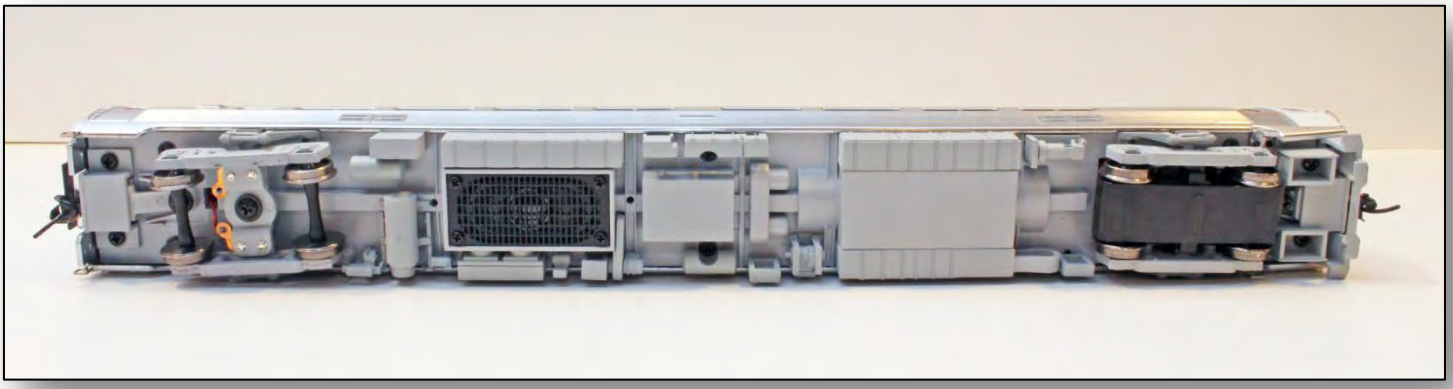
To save a little money, I purchased one model equipped with the factory-installed Soundtraxx Tsunami decoder and the other three models DCC-ready. The DCC-ready units have 9-pin plugs built in to which I fitted relatively inexpensive silent Digitrax decoders.

While the four cars operate fine as a train, I gave up some control on the lighting effects. Using the function keys on the sound-equipped car, you can independently turn on and off the two outer headlights, a simulated gyrating headlight in the center, lighted number boards on the cab front and sides, and interior lights. I've not found a way to control more than the headlights using the after-market decoders. When set up as a consist, the red marker lights on the cab front at the back of the train come on when the headlight on the front of the train is on – very nice.

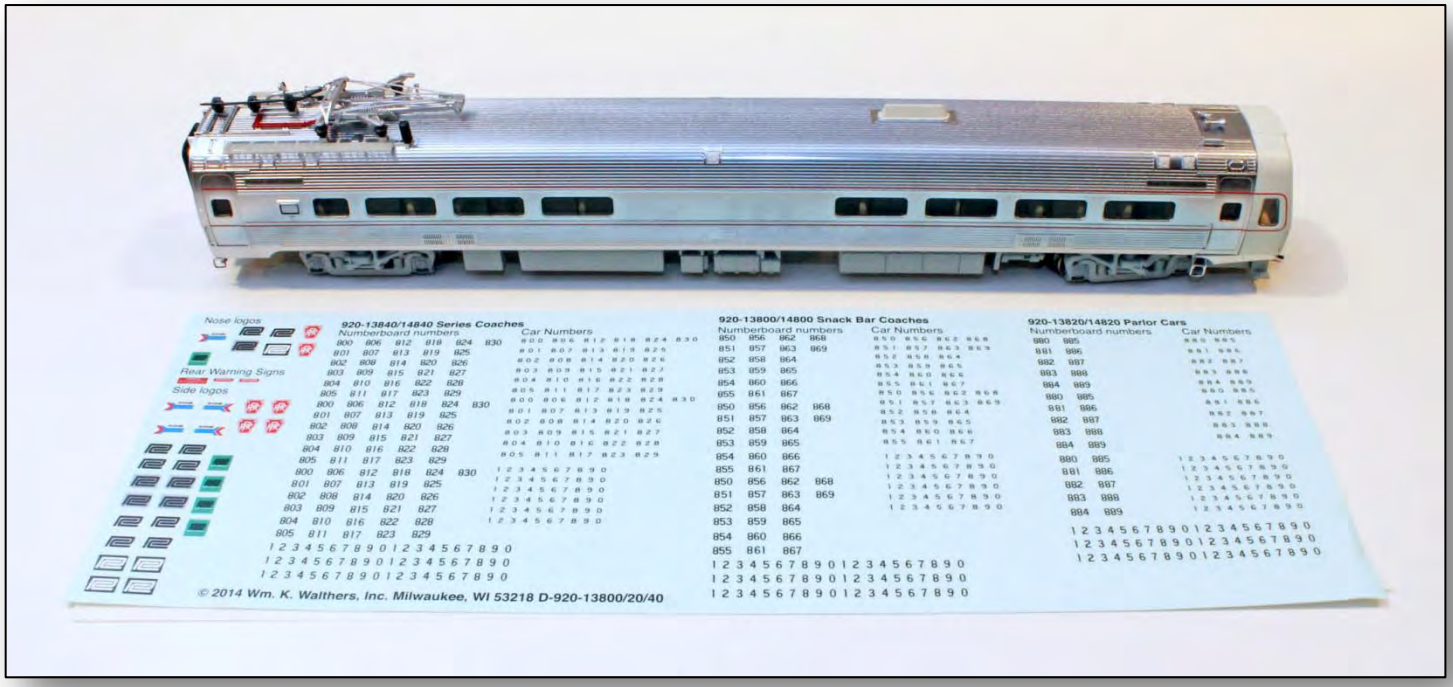
The sound is the only disappointing aspect of this model. There are several sounds activated by function keys for various compressors and blowers. I've not been able to find any of them identified in Walthers or Soundtraxx documentation with the package or online. The horn, on the other hand, is just plain wrong. There are three selectable horns on the decoder. I can't identify what models they are, but none of them is correct for a Metroliner.

I would guess the PRR and the federal Department of Transportation, which had a role in the Metroliner project, were concerned about safety since no trains had operated as fast as the Metroliners were expected to run. There were still a few grade crossings left in the Northeast Corridor so they installed a horn that sounded like no other.

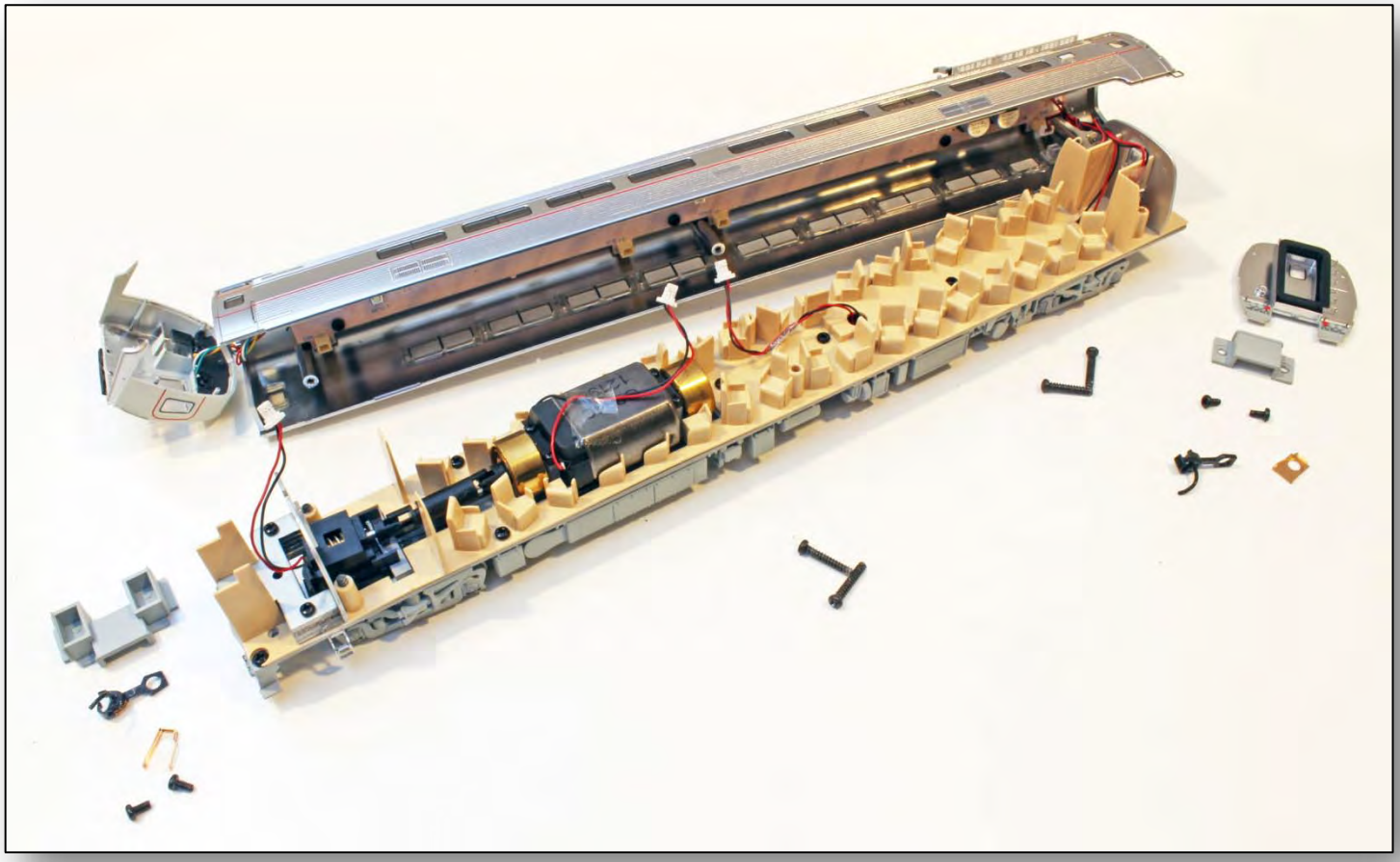
In my younger days as a railfan, I recorded Penn Central trains at speed past the west end of the former PRR Bush River Bridge near Edgewood, Maryland on a battery-operated cassette recorder. You can hear what Metroliner horns sounded like at the New England Chapter web site. Go to http://prrths-ne.org/sounds/sounds-index.html.



Underside of a DCC/sound unit showing the speaker grille, underbody detail, the trailing truck on the left, and the powered truck on the right.



▲ The Snack Bar Coach with a sheet of decals. ▼ The Parlor Car with the body removed showing the motor, interior, and various plugs for interior and exterior lighting.



Metroliner in a typical train of one Parlor Car, two Coaches, and one Snack Bar Coach.

Operation

Each Walthers Metroliner car has a powered truck and a dummy truck. This is more than enough for the car to power itself. The skew-wound motors with helical gears are quiet and smooth running. While I have not calculated the speed on my layout, it seems more than fast enough to simulate the prototype's top speed.

Model History

Before these exceptionally accurate Metroliners from Walthers became available, there were only two choices in the used model market. Bachmann's Metroliner first appeared in their catalog in 1972 in HO not too long after the prototypes entered service. The original production set has one powered car and three "dummies". They were connected by drawbars instead of couplers. All body styles were the same and all had a simulated Faiveley pantograph. The detail around the pantographs was actually quite good and ahead of its time. They have been out of production since the 1987 catalog, but can be found on EBay occasionally. Bachmann also made them available in N. I still have my HO set in Amtrak colors.

Around the same time Gem imported undecorated plated brass models of the Metroliner in two-car sets – one powered and one dummy. Gem imported a plated Silverliner commuter MU model at the same time.

Conclusion

For a PRR modeler, the Metroliner arrived at the very end of PRR history. But, nostalgia is a powerful thing. If you ever stood trackside when these speedsters blew by, or had the good fortune of riding them or, as I did, helped send off a family member on one, you'll want one in your collection. Except for the sound, well done Walthers.

Sources and Recommended Reading

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- John Fellow, "Is this the way to Washington?" *Trains*, August 1970.
- Arthur D. Dubin, More Classic Trains, Interurban Press, 3rd printing, ©1974.
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- Paul Carlton, Under Pennsy Wires, D. Carlton Railbooks, ©1977.
- "Budd Metroliner," Wikipedia.com, 11-26-2011.

▲ Two cars coupled. Metroliners operated with one pantograph raised for each back-to-back pair of cars. ▼ From left to right, the Snack Bar Coach, Coach, and Parlor Metroliner cars from Walthers.

Product Review Update: WalthersProto® PRR FS-10 in HO-Scale

The Fairbanks-Morse H10-44 Switcher

By Jack Consoli – Photos by the author unless noted

Latest release of Walther's PRR class FS-10.

Walthers has re-released their HO scale version of the H10-44 Fairbanks, Morse & Co. 1000 horsepower switching locomotive in their WalthersProto line with detail and feature changes relative to their prior, 2008, version. As to specific details, their ad copy regarding the PRR units states:

HO WalthersProto® FM H10-44

- Limited Edition – One Time Run of These Road numbers!
- Road-Specific Detailing
- Available with Tsunami® Sound for DCC and Standard DC Layouts
- All-Wheel Drive and Electrical Pickup
- Machined Brass Flywheels
- Constant and Directional Headlights
- Heavy Die Cast Chassis
- 5-Pole Skew-Wound Motor
- RP-25 Metal Wheels
- Proto MAX™ Magnetic Knuckle Couplers

Based on engines from about 1952 to 1956 with:

- 3 Stanchion Sill
- Sunshades
- Cab Wind Deflectors
- PRR-Specific Long Hood w/Stamped Steps and Non-Operating Class Lights
- Additional Grab Irons on Pilot Faces
- WABCO A-2 Air Horn

(Modeler-applied F-M medallion and builder's plates are also included, as on the previous run.)

The major differences between these units and the previous release are the incorporation of the SoundTraxx Tsunami® Sound system on the DCC units, the now-standard Proto-Max couplers and the detail specifics for a different order of units and details that match the units to the appearance a few years after delivery.

Their current offerings include two PRR locomotive road numbers with Tsunami Sound and DCC:

- **Pennsylvania Railroad #5983 (Brunswick Green),** Walthers Part # 920-40830
- **Pennsylvania Railroad #5985 (Brunswick Green),** Walthers Part # 920-40831

And two units set up for standard DC operation:

- **Pennsylvania Railroad #5980 (Brunswick Green),** Walthers Part # 920-47830
- **Pennsylvania Railroad #5981 (Brunswick Green),** Walthers Part # 920-47831

These units feature three-post end railings and the correct corresponding Trust Plate series lettering. As was the case with the previous release, these are excellent models.

The circa 1952 photo of prototype #5983 shows the unit in the brief period after the yellow handrails were added, but before the edges of the steps and footboards were painted yellow. This is the earlier style end railing configuration with three support posts and an integral lower horizontal full-width grab iron. As built, the units had bare metal frames around the front and rear cab windows. Cab sunshades and visors have been added and the F-M nose emblem is already missing. *(Martin Zak)*

The Prototype

For a full detailed background, see the previous review in issue 62, September 2008, of *TKM*. The summary information pertinent to these units is that they represent a group of 7 units, road numbers 5980-5986, built in June 1948 of the total PRR fleet of 55 units out of Fairbanks, Morse & Co.'s total production of 197 model H10-44 locomotives. In PRR terms, they were best known under the locomotive classification system introduced in June 1951 as class FS-10.

The units were generally assigned "out west" on the PRR system. As an example, the May 1952 form M.P. 229 shows the following monthly maintenance assignment points for this group: WESTERN REGION, Cincinnati Division: #5980-5985; Chicago Division: #5986.

Model Review

The models are very similar to the previous release except in some detail specifics. More in-depth detail regarding these differences will be provided here. Please refer to the prior review for more comprehensive discussion of the model features in general. These models are intended to be representative of the PRR units in the approximate period advertised: 1952-1956.

Trainphone Antenna – As with many switcher classes, these units did not have the distinctive PRR Trainphone equipment installed.

Horns – Single chime WABCO, forward-facing, small switcher horns were applied on the right side of the hood in front of the cab and these are represented well on the model.

Windshield Wipers – The PRR units had windshield wipers applied to the upper pair of rear cab windows as well as the front window on each side of the cab. The Walthers model has wipers only on the rear windows.

Builders Plates – Small, circular brass or bronze F-M builder plates were located on both side sills near the front, directly behind the PRR trust plates. From inspection of photographs, these plates appeared to have remained on the units well into their service lives. It appears that all the units also had the large iconic cast aluminum F-M fist-holding-a-weight medallion applied under the nose headlight when built. For whatever reason or reasons, these nose plates seemed to disappear quickly from the units in the first few years of their existence. Many of the units however, continued to display the traces of their existence by an array of four bolt heads/studs on the nose door at the 3, 6, 9 and 12 o'clock positions. Because of their "temporary" existence on the units, these three plates are supplied as separate plastic parts with the model, to be applied at the modeler's discretion.

Trust Plates – PRR equipment Trust plates were applied to the units near the front of each side sill. These plates stayed in place until the 15 year financing was paid off and thus should appear on these models. The models have the correct series "T" Girard Trust graphics applied.

Electric Marker Lights and Flag Brackets – All units were built with two standard PRR electric circular red marker lights on each end. The markers were mounted near the upper corners of the front end of the nose and under the eaves of the rear cab roof overhang. As noted on the previous run, this is possibly the only instance in which a manufacturer has actually applied these PRR-specific front marker lights to a plastic

◄ Horn detail on PRR #5983. Also note "DANGER 600 VOLTS" stencils on hood doors, the bare metal window frame and windshield wiper. ▲ Circular builder's plate, Girard Trust series "T" plate as well as "F" marking on #5983.

diesel model. They did not, however, incorporate the similar lights at the rear up underneath the cab roof overhang as it was impractical, due to molding considerations. The PRR units had flag brackets applied to the front corners of the nose near the top of the nose door and to the rear corners of the cab. The model has brackets in these locations although they are not necessarily the exact geometry of the PRR brackets.

Headlights / Numberboards – The models incorporate the large single beam front and rear headlights and small flush-mounted numberboards with illuminated white road numbers on a black background near the upper front on the hood sides of the prototypes.

Hood Vents / Grilles – All the PRR units had the normal three groups of seven large louver slots high on both hood sides in front of the cab plus one rectangular screened opening in the first hood door on each side behind the radiator grille. Walthers offers two different opening styles in the hood doors behind the radiator grille across this product line. All the PRR units have the correct, single opening. The units also feature a see-through etched radiator grille with fan.

Nose "Ladder" – The fleet of PRR units exhibited two embodiments of the four different versions offered in the full line of the Walthers models: no grabs; two steps plus one grab; three grabs; and five grabs. All units delivered through April 1949 had the two fixed steps below the hand rail and one normal drop-style grab above including the units in the 59XX series. The last order of units, the 90XX series, built July through November 1949 had the three grab "ladder": two normal drop grabs below the hand rail and one inverted drop grab above the rail.

Handrails – The PRR units were delivered with two different styles of end handrail configurations. The early units had railings with three support posts attached to heavy pilot-mounted brackets. The handrails curved downward in a simple large radius towards the step well attachment points below. An integral, full width, straight, horizontal grab iron was mounted through these mounting brackets just above the walkway. The later units had four support posts anchored with much smaller brackets to the pilot face and the handrails turned downward first through an arc, then at angle before bending to the full downward vertical. These units featured a separate full width grab iron that was bent upward from its attachment points at the base of the two outer railing posts and had an additional center support. The grab iron had two curved sections where it passed in front of the two intermediate support posts. All the early units in number series 59XX and 91XX, had the three post railings. Most of the units in later two orders, in number series 92XX and 90XX, had the four post railings. However, the first unit of the second order, 9288, was built with the three post railing. Special note must be made of the beautiful work done to recreate the scale size of the handrails and associated details such as the downward curved hood handrail brackets and hood door handles on this model – they are terrific.

Front sill details of model with correct Girard series "T" trust plate. Circular builder's plate is included for modeler to apply if desired.

H10-44 #5983 nose detail illustrating the PRR flag bracket below the grab iron and the PRR marker light above. The 6" end number is above the headlight. This unit had the nose arrangement with two fixed steps (out of view) and a normal drop-style grab iron above the hand rail. Note the bolt stubs on the nose door where the F-M medallion used to be mounted.

Thus the breakdown in body details per number series can be refined to three different configurations:

- **Style 1:** 5980-5986, 9184-9199 & 9288: 3-post railings; 2 steps + 1 normal grab nose ladder.
- **Style 2:** 9289-9299: 4-post railings; 2 steps + 1 normal grab nose ladder.
- **Style 3:** 9080-9099: 4-post railings; 3 grabs (top one inverted) nose ladder.

Walthers has configured their model offerings in the 59XX series correctly.

Corner Steps – All the style #1 units above appear to have been delivered with a full height diamond tread plate riser above the top step up to the walkway. All the other steps had a partial opening above the step treads. Style #2 & #3 units appear to have not been built with this feature and instead had the partially open risers above all the steps. However, most, if not all, of these full height risers were removed (or cut away) fairly early in the lives of these units. The Walthers units have all open style risers, so the modeler may or may not need to apply full height risers to the 59XX units depending on the particular date and unit being modeled.

Pilot footboards – all units had a pair of footboard steps attached to the pilots at both ends. These consisted of a footboard attached by two vertical straps which were spanned by a steel plate. On the 90XX, 92XX and (most of) the 59XX series units these vertical straps attached to the outside faces of the pilots. The 91XX series and some of the 59XX series units had them attached behind the pilot face. Walthers has rendered the units offered with the rear-mounted straps which based on photos, is correct at least for 5983.

Underbody Details – The trucks, fuel tank, air tank and piping arrangement on the models generally follow what appeared on the PRR units. On the sound-equipped models, the air tanks are only half round and adjoin the fuel tank because the fuel tank is oversize across its width. This is apparently a compromise to fit a downward-facing speaker inside the tank. The non-sound units appear to have full round air tanks with a correct width full tank. The first units delivered, 5980 to 5983 (plus possibly 5984) had different underframe jacking pads than all the later units: an inverted "T" shape vs. an upright "T". Thus these details are incorrect on 5980, 5981 and 5983 as the models all have the more common upright "T" shape features.

Modifications – Early in their service lives, first cab sunshades, then wind visors were added to both cab side windows. Some or all of the units had four additional grab irons added at some point, probably in the mid-1950's. These were straight horizontal grabs just above and on either side of the coupler on the pilot faces. Walthers has applied these details to the models to be correct for the intended period.

The PRR appears to have added a single row of four horizontal louvers across the tops of the battery boxes along the walkways in front of the cabs to many of the units, probably starting in the mid 1950's. Some units received spark arresting screens over the twin exhaust stacks in the 1960's and some units had an equipment door added to the lower part of outside cab wall on the engineer's side during their service lives. The May 1952 M.P. 229 notes that on that date units 9081, 9082, 9090 & 9292 were equipped with a "whistle and acknowledger" - the engineer's interface hardware on units equipped with cab signals. This list may well have changed over time – that would need to be checked to verify. This equipment door was likely added as part of the cab signal equipment. These modifications are not provided for on the models and are up to the modeler to incorporate if desired/required for their particular unit/modeling period.

Painting and Lettering – As far as paint schemes used on the PRR H-10-44's, there were "early" and "late" schemes that were only slightly different: the "late" scheme appeared starting in 1966. All units were painted Brunswick Green (Dark Green Locomotive Enamel).

Prototypically sparse roof details of the FM switchers are evident in this view illustrating the well-executed etched grille, cooling fan and exhaust stacks.

The models are decorated to follow the "early" scheme in which the roadname, numbers and "F" initial (designating the front of the locomotive) were PRR Buff colored. The cab numbers were 6" high and the roadname was in 8" letters. For the intended period represented, the units had 6" end numbers applied above the nose headlight and to the right of the rear headlight and 5" white numberboard numbers. Walthers has decorated the units accordingly.

The diagram states that the all outside surfaces below cab and engine hood, including trucks, fuel tanks etc., and also handholds and handrails were to be painted black enamel. It appears from careful inspection of some clean, early photos of units that more specifically: the cab, hoods, sills, walkways, platforms, step wells and pilot sheets were all painted green, and that the trucks, fuel tanks and other underbody equipment between the end step wells were painted black. Color photos of #9195 and 9291 show that the handholds (along the hood body), grab irons and the free standing handrails were indeed painted black originally on these units. The cab front and rear window frames and window frames on the cab doors were unpainted metal initially. Later photos indicate that in subsequent repainting of the units, some or all of the window frames, grabs and handrails were painted the green body color. Walthers has followed the as-built prototype accurately in these green/black matters. My view of their choices for the always controversial interpretation of the PRR DGLE and Buff colors is that the green is darker than the previous run and thus closer to "correct" for a unit several years old, but that the Buff color has unfortunately become considerably more yellow than the previous run, almost becoming indistinguishable from the Chrome Yellow color on the safety appliances.

Model shows the style #1 body configuration and the rear-attached footboards, correct for this unit. The PRR-added set of hand grabs on the pilot face straddling the coupler are correctly painted yellow along with the other stock safety appliances.

Detail view of #5983 shows the yellow painted handrail ends, but as-yet unpainted step edges. Additional details here are the two staggered, fixed steps below the handrail constituting the bottom half of the nose ladder, the short-lived, full height top step riser plate and the added pilot-front horizontal grab irons are also visible.

A modification was made to the original PRR scheme in October 1951 when the "safety appliances" were specified to be painted Chrome Yellow. These included the ends of the handrails and grab irons marked with the letter "Y" on the paint diagram. An additional change was made in September 1952 when the edges of the steps and footboards were also to be painted Chrome Yellow. Note that the prototype yellow used for the various handrail sections and footboard edges was a bright Chrome Yellow, different than the paler prototype Buff lettering color. Walther's correctly applied Chrome Yellow to the safety appliances and the edges of the footboards and steps except for omitting the two steps from the rear platform up to the cab door, which appeared yellow in most prototype photos. They also applied the yellow to the edges of the steps on the walkways along the sides of the hood. Prototype photos show some units had this treatment, others did not.

The small hood and frame markings were, as typical on many PRR diesel locomotives, moving targets. As to the hood markings, they were supposed to be 1.5" high white letters as per the paint diagram, but some appeared on early locos in Buff, and there was much variation over the years as to what, where and how many places some of the markings appeared. Walthers chose a representative early-to-mid life arrangement with 1.5" high white letters: on the fireman side 2 danger + 1 fire extinguisher stencils; on the engineer side 4 danger stencils. There are many "right" answers here.

It is not clear exactly when the white monthly maintenance assignment markings were added to the pilots on these units, and they are almost never noted on the paint diagrams. They appear in photographs on some units as early as 1950. Not all units were so marked at all periods of time. At least some of the units had the markings on the rear pilots. Additionally, the symbols were changed as the units were moved around the system and the system organizational structure changed. The PRRT&HS Modeling Committee's suggestion to manufacturers is generally to leave them off such that the individual modeler could add the appropriate symbols of their choice based on the photographs, if desired. Walthers followed our recommendation.

Electronics – The DCC/sound equipped units come with constant intensity directional front and rear headlights and lighted front numberboards. The prime mover sounds seem closer to the distinctive FM opposed-piston emanations than the prior run which employed a different sound unit. There are several options for choices of horns and bell characteristics with the Tsunami® sound module, but after cycling through them, the as-received selections seem to be the most appropriate of the options available. As was the case with the previous run, the drives on these units are quiet, smooth and well-behaved.

Rear cab view showing the out-of-the-box interior details and crew.

Potential Upgrades to the Model

As described above, there are some minimal changes or modifications that could be implemented to make a very "correct" model, some of which are specific to a particular locomotive at a particular time. My suggested steps for taking the detail level up a bit notch on these units would include:

Cab Interior

- Paint the inside walls of the cab PRR's "Suede Gray"
- Paint the control and brake stands and the handbrake gear black
- Paint the cab floor "Indian Red Floor Enamel"
- Augment the painting and weather the cab figures
- Add a fire extinguisher to the inside cab wall behind the engineer

Cab Exterior

- Add circular handles to the angled sand fill doors on the cab rear wall
- Add A-Line #29200 windshield wipers to the front cab windows
- Fashion a set of rear PRR-standard marker lights from styrene rod and small "L" brackets on which to mount them to the bottom rear inside edges of the cab roof overhang

Hood

- Add the provided cast F-M nose medallion and two circular builder's plates onto the side sills behind the Trust plates if desired after thinning them down
- Modify the jacking pads to match the inverted "T" style details on the prototype

Underframe/Drive

- Drill casting holes in the outer corners of the main truck sideframe castings to look like the PRR units
- Add bits of .020" wire to the ends of the brake rigging on the truck sideframes to represent the slack adjuster bolts.

Finishing

- Add white assignment symbol decals to the pilots as appropriate
- Apply yellow to the edges of the rear cab door steps
- Apply appropriate weathering for your modeling situation

In summary, this is another PRR variation of a fine model from Walthers.

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- *Pennsy Diesel Years 1*, Robert Yanosey, Morning Sun Books, Inc., 1988; pg. 150, 151.
- *Pennsy Diesel Years 3*, Robert Yanosey, Morning Sun Books, Inc., 1990; pg. 104.
- *Pennsy Diesel Years 4*, Robert Yanosey, Morning Sun Books, Inc., 1991; pages 113, 120.
- *Pennsy Diesel Years 5*, Robert Yanosey, Morning Sun Books, Inc., 1993; pages 91-93, 120.
- *Pennsy Power II*, Alvin F. Stauffer, 1968.

▲ Rear ¾ view and a ▼ left side view of the stock Walthers model.

Tenders Used with the H10s after World War II

By Steve Hoxie

H10s #7347 with 70F81 tender. *(Arch Kantner photo from the Morning Sun Books* Trackside on the PRR in Central Pennsylvania, *used with permission)*

Let me begin my discussion with some considerations for the post-war period.

As always, the first consideration is the timeframe. Bob Hess has provided an excellent source for this project with the results of his efforts posted in the Files on PRR-Fax. For the H10s, assignment data are compiled for specific dates in 1939, 1944, 1949, and 1954 by division and include stoker-equipped or hand-fired. No H10s appear in the data in the East before 1949. The Files section also contains a well-detailed listing of engines and tenders which underwent the post-war stoker conversion.

Where were the H10s assigned, and how were they equipped? If we start with 1949, we can see that stoker-equipped engines were assigned to the Atlantic, Philadelphia Terminal, Delmarva, Middle, Williamsport, Wilkes Barre, Buffalo, Cincinnati, Ft. Wayne, Chicago Terminal, and St. Louis Divisions. The largest concentration was on the St. Louis Division. In the East after July 29, 1949, no hand-fired H10s were assigned. However, 12 hand-fired engines were split between the Renovo and Buffalo Divisions. Not much migration of hand-fired engines occurred, with only four moving East by 1954. Thus, if we are interested in H10s in the East, stoker-equipped engines were much more common.

Among the non-stoker H10 engines in the East, tender class 70F81 was on at least two engines in 1954. Now we get to which tenders were used on stoker-equipped H10s. There were three classes: 90F81, 90F81a, and 80P81a, in increasing numerical quantity order.

Before your eyes glaze over at the thought of deciphering the tender classes, let me try to convince you that it isn't that hard. For our purposes here, don't worry about any distinction between P (equipped for Passenger) and F (equipped for Freight); for the H10 it doesn't matter. The first number, 80 or 90, is an approximation of the gallons of water capacity. The last number, 81, is the deck height of the tender. The deck height is important because for the fireman to work efficiently the height of the tender deck, at the front of the tender, had to match the height of the cab deck at the firebox; the joining deck plate had to be level. If a stoker mechanism is to be installed in the tender, there has to be room for it above the frame. All of the H10s chosen for stoker installation originally had a crude stoker when they were first built, so they were built with a cab deck height of 81 inches. This device, the Crawford stoker, proved to have insurmountable service issues and was soon removed.

It was much simpler to modify the tender deck height than the locomotive cab floor. Taking the simplest conversion first, the I1's short tender, the 90F82 with which we are all familiar, already stoker- equipped, required lowering the deck only one inch to match the 81 inch height of the H10, becoming 90F81. As best we can determine, three H10s had this tender. However, one was renumbered, so four engine numbers were involved: 8014, 8259, and 9422 (renumbered to 9963). All three were assigned to the Middle Division. As so often happens, there is a bit more to this story. 8014 eventually made its way west, finishing its days on the Sandusky Branch.

H10s #8014 with 90F81 tender. *(From North East Rails, used with permission)*

H10s #7371 with 90F81a tender. *(Collection of Bud Laws, North East Rails, used with permission)*

There is also a photo of 7138 with a 90F81 sitting in Columbus. Records indicate this engine was converted in 1952 and received an 80P81a tender. Obviously, some tender swaps occurred.

The next slightly more difficult conversion took tenders from L1 engines, 90F75, and raised the deck to 81 inches. Since there already was a 90F81 class from the I1 tenders, this one gets the "a", 90F81a.

Now came the most complex conversion. When the H10 engines were brought to Altoona and Columbus for stoker installation, they came with their 80P81 Crawford hood tenders. These had plenty of room above the frame for the stoker mechanism, but, for whatever reason, the hood was removed and different sidesheets installed. The result was the 80P81a, a tender that was very close in appearance to the 90F81a, which had been obtained from the L1 tenders. The only visible difference was that the 90F81a was a little longer, carrying an additional 1000 gallons of water.

Some, but not all, tenders in all three classes were equipped with doghouses.

▲ H10s #7688 with 80P81a tender converted at Altoona. *(Larry Hanlon, used with permission)* ▼ H10s #8903 with 80F81a tender in Chicago, October 27, 1946. (*Charles T. Felstead from* The Keystone *Vol. 20, No. 1. Used with permission.)*

Close inspection of photos reveals that not all 80P81a tenders were the same. It seems tenders converted at Altoona had a different appearance than those done at Columbus. If you will note the photo of 7688's tender, below, the bead along the top chord of the tank curves upward and runs horizontally midway on the coal bunker side extensions. The upper, bent in section of the extension is a separate panel, welded to the one below. This was an Altoona converted tender.

In the photo on the previous page of H10s #8093's tender, the bead along the top chord of the tank continues on a horizontal line, ending at a point near the tender front. The side sheet extension was a single piece, bent in about halfway up. This tender was converted at Columbus.

Mimicking what the Railroad did by modifying the 80P81 tender that Broadway Limited has provided will not be a simple endeavor. In case you were wondering, there was no known tender class that resulted from simply removing the hood. Modifying the tender will involve either carefully (and skillfully) shaping and gluing an extension on the side sheet or completely removing the sidesheet and fabricating a new one. In either case, new rivet lines will have to be attached. Chuck Cover has done this and will have an article on these pages in the next issue.

An additional tender variant also started out as the Crawford hood 80P81. Presumably to gain additional coal capacity, several of these tenders received rounded extended coal bunker sides. This was class 80P81b. At least one of these migrated out of the Lines West area. H10s 8675 could be found at Renovo on the Northern Region.

There was also some variety in the trucks used on H10 tenders. Generally, when the 80P81 tenders were brought into Altoona or Columbus for conversion, the trucks were changed. This original truck is the one Broadway Limited has modeled: 2E-T1. However, at least the 80P81a tender with engine 8093, as shown above, had the original 2E-T1.

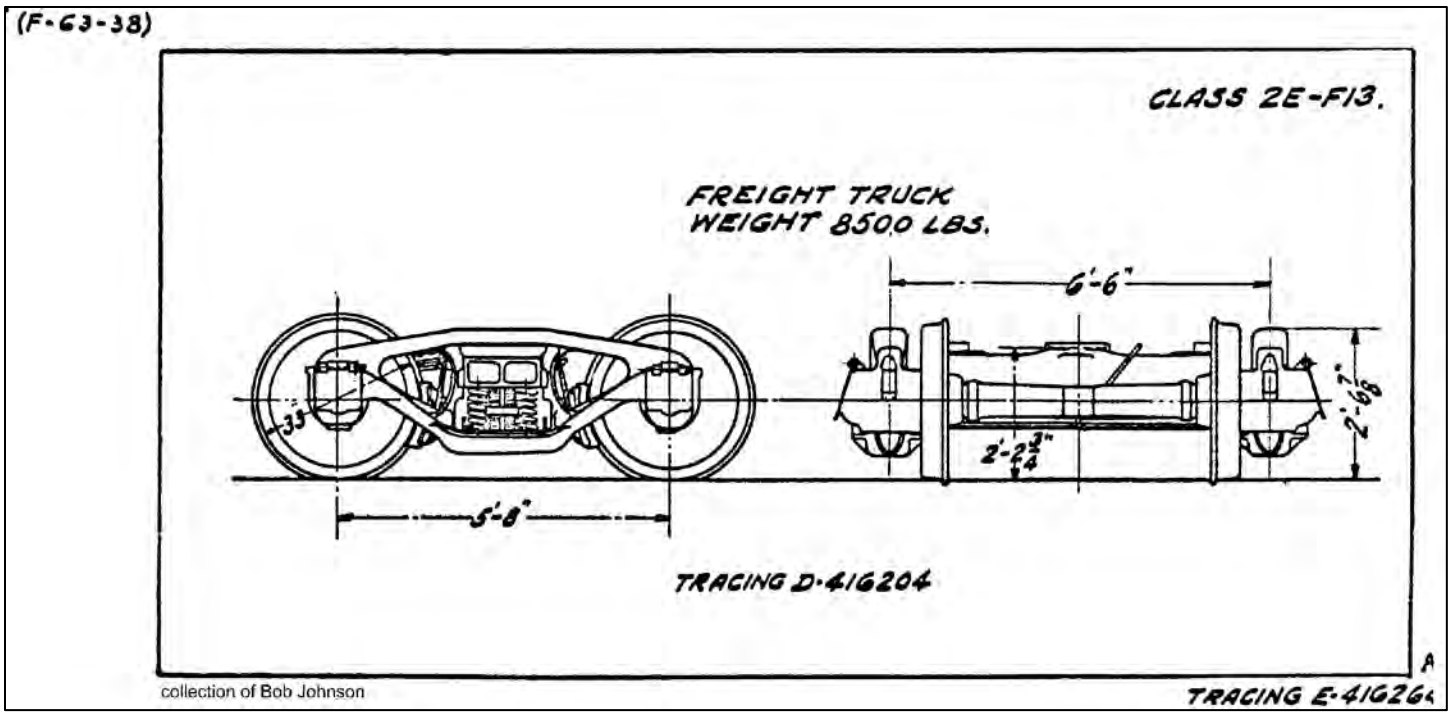
Most Converted tenders eventually received the newer 2E-F13, but initially the Form 109J (May 48) still listed as normal the original 2E-T1. By the time Form 109K, June 52, was issued, the assigned type was listed as 2E-F13. A diagram is on the next page.

However, several tenders are shown in photos to have used the 2E-T2. The photo of H10s #7688 above shows this truck. This is known as a Crown-type, and is the same truck used with the 90F82 of the I1s and the 90F75 used with the L1s. A diagram for the similar 2E-F2 is on the next page.

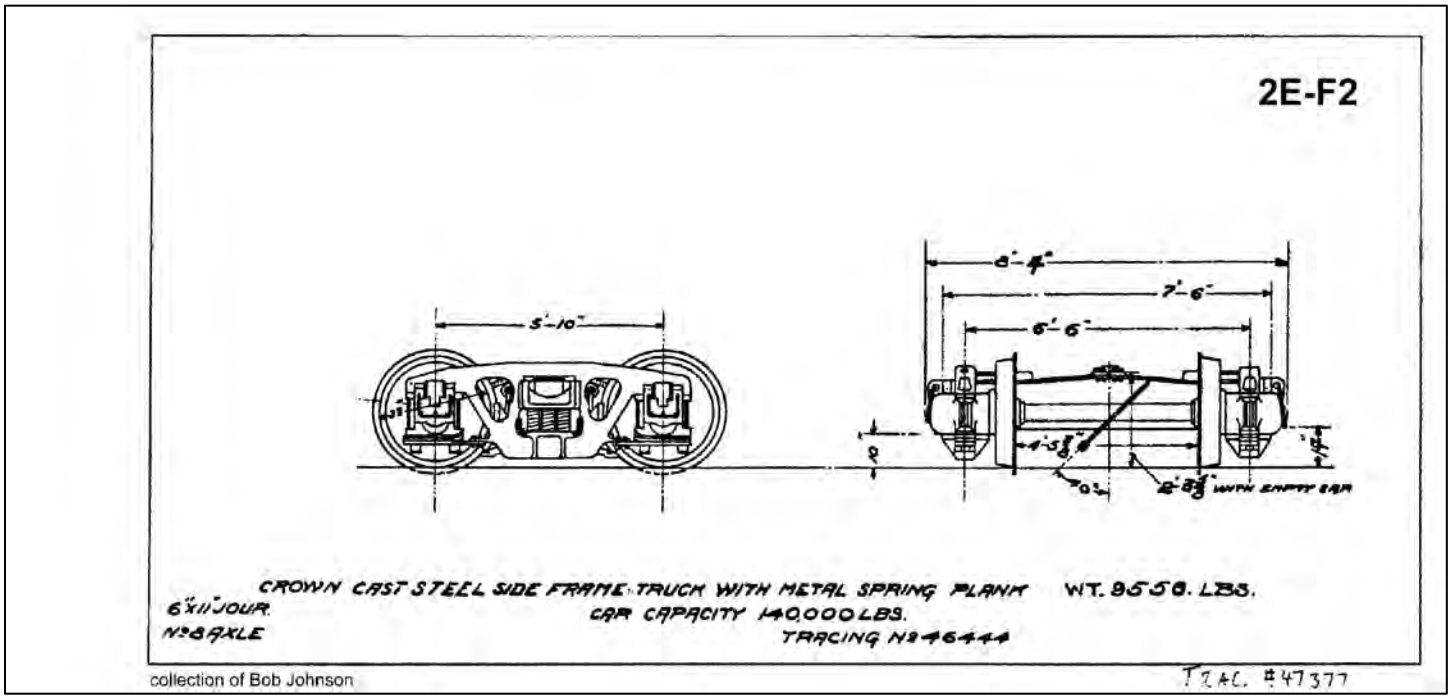
Determining which type of truck is installed as shown in a photograph can be difficult. With the low tender side sill, the upper part of the truck is often hidden. If the angle is right, a distinguishing feature on the lower part of the 2E-T2 is the bracket extending between the journal box and the main body of the sideframe. The cast steel 2E-F13 does not have this style construction.

In the spring edition of *TKM,* Chuck Cover will show how he modeled the 80P81a tender.

H10s #8420 with 80P81b tender. *(J. Schmidt, North East Rails, used with permission)*



PRR arrangement drawing of 2E-F13 truck. *(Collection of Bob Johnson, www.railfan.net, digitally enhanced by Tim Garner)*



PRR arrangement drawing of 2E-F2 Crown truck. *(Collection of Bob Johnson, www.railfan.net, digitally enhanced by Tim Garner)*

Pennsy TrucTrain Trailers Part 3 – 32' Insulated Tandem Axle Van Trailers

By Curt La Rue – Photos by the author unless noted

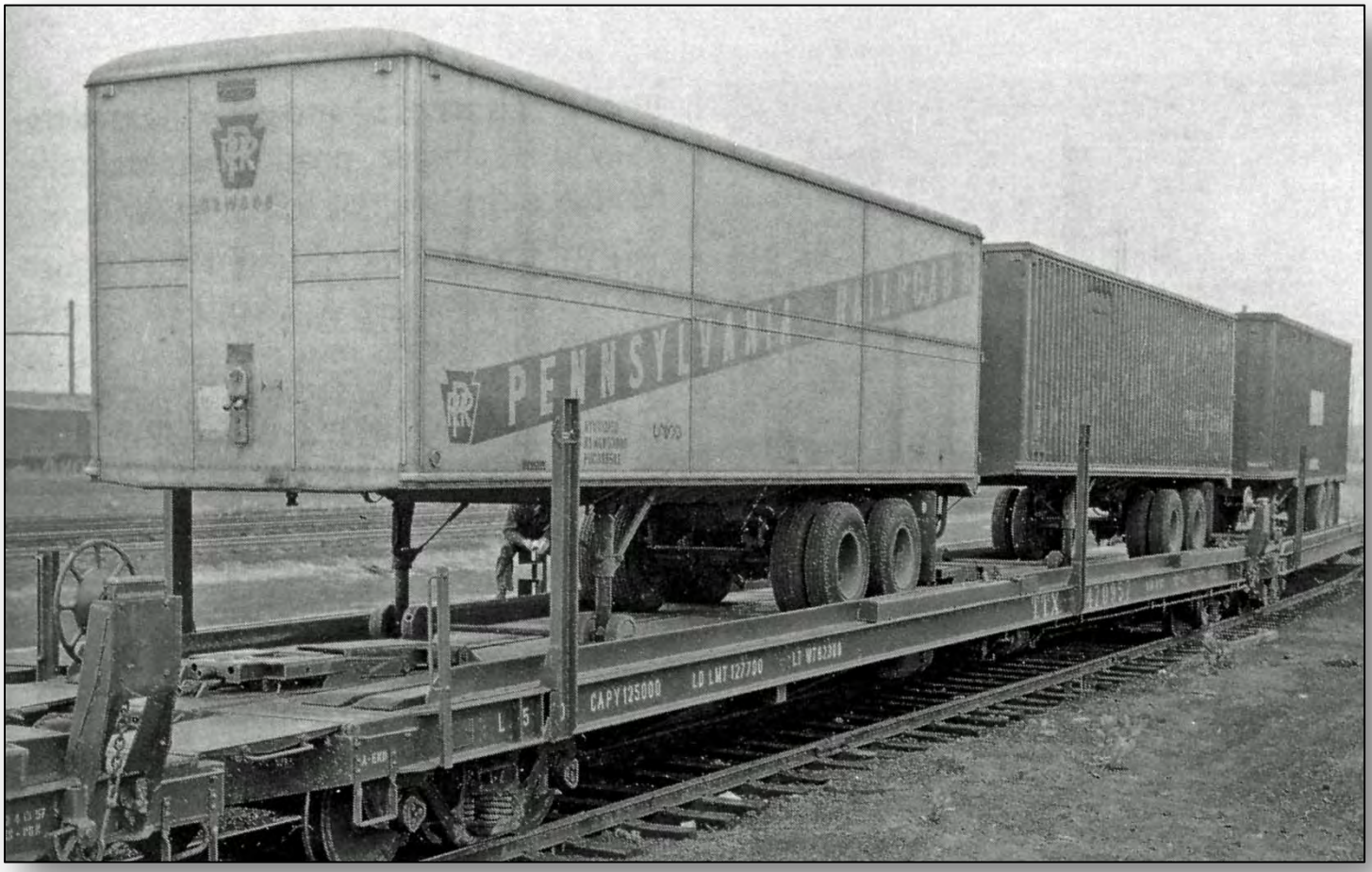


Photo 1 – Front ¾ view driver side of 32' insulated tandem axle van trailer #32W868. *(Curt La Rue collection)*

As time passed the demand from customers for higher capacity trailers and the relaxing of length and weight rules by the ICC resulted in ever longer and higher capacity trailers. The next step from 30' single axle trailers were 32' tandem axle trailers. This is first article in this series on a tandem axle trailer.

These insulated trailers were designed to carry temperature sensitive lading with 3"of insulation in the sides, nose, rear doors, and floor. The construction date is unknown for these trailers. In 1959, there were eight of this type of trailer in the number series 32W862 to 32W869, according to the "PRR Directory of Pennsy TrucTrain Service dated April 1, 1959".

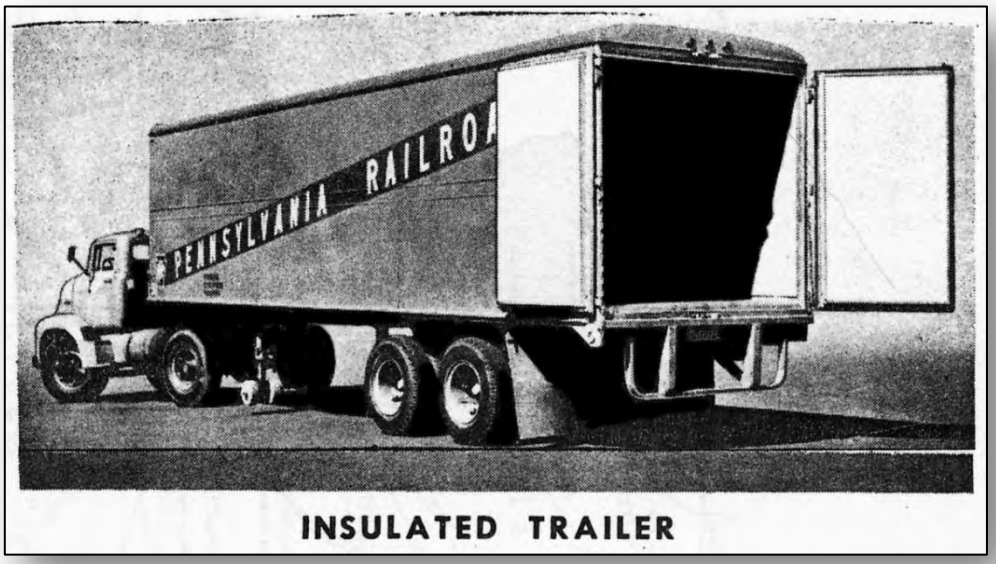
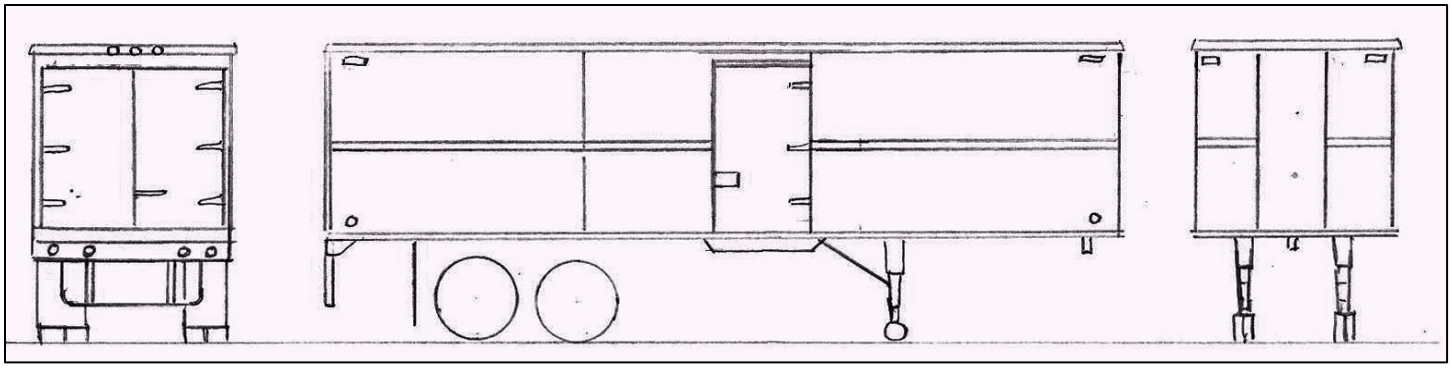


Photo 2 – Rear ¾ view driver side of 32' insulated van trailer. Open rear doors show the thickness and covering of the door insulation. *(Curt La Rue collection)*



Sketch 1

In addition, there were two other number series, 32E94 thru 32E102 and 32C453 thru 32C460, with identical general specifications. It couldn't be verified if the two additional trailer series had the same appearance as series 32W862-869 since there are no photos to compare them to. I have never seen a trailer of this type, so all dimensions and specifications are from the 1959 "PRR Directory of Pennsy TrucTrain Service". Included in this article is a page from this directory listing the TrucTrain trailer fleet by trailer type, number series, and specifications as of April 1, 1959.

Trailer Description

Length: .....32'
Width: .....8'
Height: .....11'10"
Nose: .....rectangular
Sides: .....smooth with feature battens
Roof: .....full length shallow taper
Kingpin setting: .....18"
Side door: .....Curbside
Rear doors:.....Swing type
Floor:.....Wood w/ 3" insulation
Insulation: .....3" sides, ends, ceiling, and floor
Weight:.....12,150 lbs. unladen
Brakes:.....Vacuum
Rear axles:.....Tandem
Wheels: .....cast spoke
Tires:.....9:00 x 20 tube type
Electrical system:.....6 volt

Bethlehem Car Shops Kit #868

Bethlehem Car Shops produced a model of a 32' insulated tandem axle van trailer. This was a resin kit with some plastic parts and A-Line wheels and tires. It was available in PRR and DL&W livery. Bethlehem sold the molds to another company, but I have not been able to get a response about its current availability. If you are lucky, you may find one at a flea market or on the internet.

Bethlehem Car Shops kit #868 for a 32' insulated tandem axle van trailer.

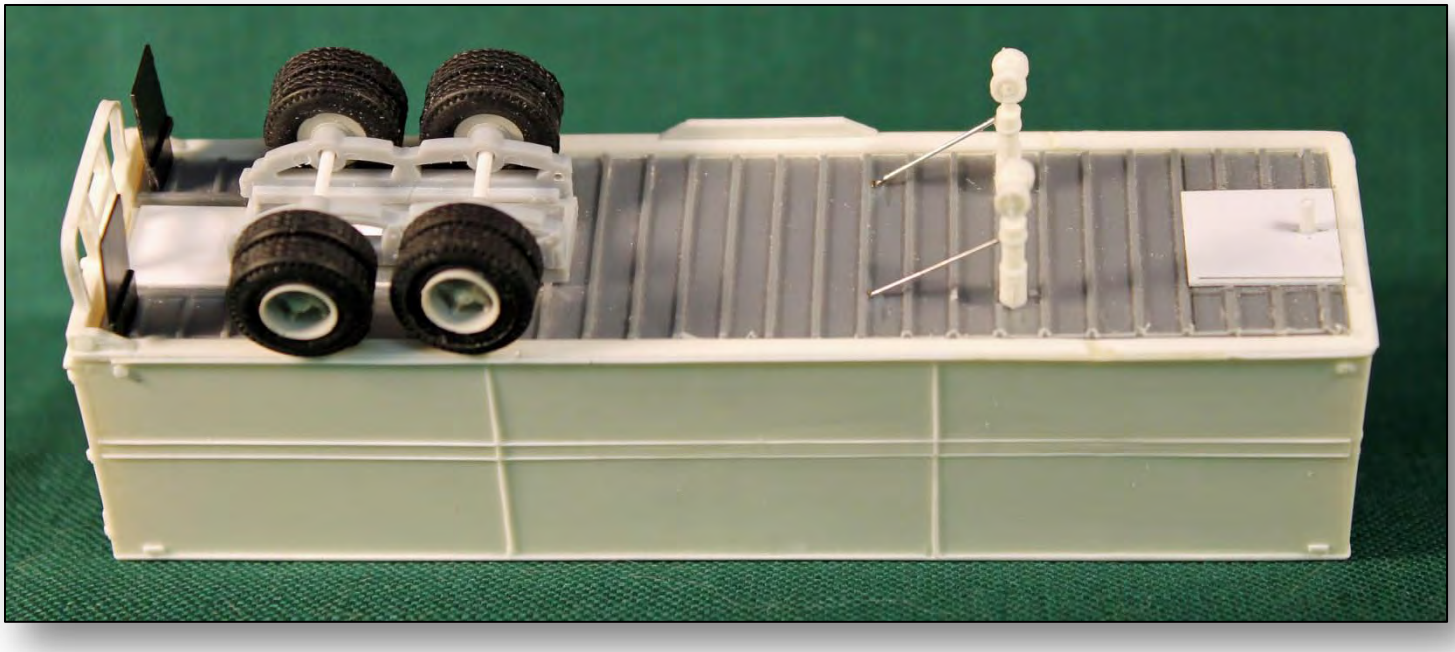


Photo 4 – Modifications to underframe using an A-Line chassis container underframe. Note the positioning of the new upper coupler and kingpin, landing gear supports, kit-supplied suspension and wheels, mudflaps, and rear bumper.

Trailer Body

The trailer body is a high-quality one-piece hollow resin casting. The body requires little modification. I shaved off the top center marker light on both the right and left sides. Photo number 1 shows only two rectangular marker lights on the upper front and rear of the sides. I also shaved off the rectangular marker lights on the lower front and rear of the sides. I replaced them with round markers made from thin slices of .040" Evergreen styrene rod stock placing them per photo #1. This completed the trailer body. As an added detail you could fabricate the tractor/ trailer connections per photo #1 and cement in place. I omitted this detail since this is a layout model and I have plenty to do to complete my model railroad.

Curbside Doorspan Reinforcement

I cemented the kit supplied part in place.

Chassis / Underframe

I had trouble fitting the kit-supplied resin floor casting in place after much filing. I decided to replace the kit floor and underframe with an A-Line container underframe since I had several spares. I shortened the A-Line underframe to 30½' and narrowed it to 7' width to fit inside the kit body. Alternately, you could use an Athearn 5100 series trailer kit underframe.

Upper Coupler Modification

I made a new upper coupler for the fifth wheel from .010" styrene 3½ ' wide x 4' long. To make a flat space for the new upper coupler, I shaved off the first three underframe cross members to the width of the upper coupler (3½') and cemented the upper coupler in place. Drill a hole 18" from the nose of the trailer to accept a .040" diameter styrene rod for the kingpin.

Rear Suspension

I removed 18" of the suspension mounting flange so the suspension would fit into the A-Line underframe and give 6' spacing from the center of the rear axle to the end of the trailer body.

Wheels and Tires

I used the A-Line wheels and tires which came with the kit.

Landing Gear

I cemented the kit supplied landing gear with dolly wheels 9' from the nose and cemented a kit supplied wire brace in place diagonally from the rear of both the right and left landing gear to the underframe.

Rear Bumper

I used the very nice kit supplied curved ICC style rear bumper.

Mudflaps

The kit comes with A-Line mudflaps which were cemented in place.

Paint

From distant color photos, it appears that the trailer body was aluminum or light gray in color. I airbrushed the body with Testors Aluminum. I painted the wheels caboose red. The underframe may have been red, but not being sure, I painted it black.

Lettering

The kit came with very delicate decals and I had problems with them breaking apart. Luckily I had extra decal sets and was able to piece them together. As mentioned in earlier articles, Mount Vernon Car Shops is working on a new decal set for TrucTrain trailers. The Pennsylvania Railroad red band with a keystone at both ends should be placed diagonally from the lower left hand corner to the upper right corner of the trailer body. A 17" keystone should be placed down about 12"from the roof and centered on the nose. The trailer number should be spaced about 2" below the keystone. We don't have any photos of lettering on the rear of these trailers, so I placed a 17" Keystone down 24" and centered on each rear door. Most likely the trailer number was also placed on each rear door.

Marker and Tail Lights

The nose and side marker lights should be amber. I used Testors gloss orange. I used a small piece of .040" diameter styrene rod, dipped it into the orange paint, and carefully and lightly touched the tip to each of the round lower body marker lights making a perfect round marker. Practice this first on a scrap piece of styrene. The rear tail lights should be red. I used Testors taillight red.

MINI METALS 32 FOOT VAN TRAILER KITBASH

Since the Bethlehem Car Shops kit has long been out of production and may be hard to find, I looked around to see what model is readily available short of a scratch build. The Mini Metals 32' Van Trailer model became the closest candidate. It has similar smooth sides with horizontal body side batten strips, a curbside door, and rear swing doors. On the minus side, it has a round nose instead of a rectangular nose, a taller rounded roof, front & side decorative "wings", and the underframe had a round nose in place of the rectangular nose. These are the major issues that needed to be addressed, but there would also be minor modifications to the suspension, landing gear, vertical side battens, bumper, and marker lights. Parts would be needed from two trailer models, but, fortunately, I had two undecorated trailers to work with. I had some difficulty getting Testors liquid plastic cement to hold properly in some places, so you may need to use ACC cement joining larger pieces.

Trailer Body

The trailer body easily detaches from the underframe by chiseling off the bottom mounting lugs with an Xacto chisel blade. To prepare the body for modification, the roof will need to be removed. Do this by scoring both sides at the top of the roof eave using a hobby knife and a straight edge as a guide. Score 4 or 5 times to make a deep groove. Do the same on the nose and rear of the body. Next, using a razor saw, carefully cut through the body in the grooves until you can remove the roof.

Photo 5 – Modifications to the Mini Metals 32' Van Body include removal of the round nose, insertion of 2' flat nose panel, removal of rounded roof and the new replacement roof, new vertical side battens, new side markers, repositioned landing gear, new curbside doorspan reinforcement, repositioned suspension, new mud flaps, and rear bumper.

Photo 6 – Front ¾ view showing new nose, roof, new upper markers, and horizontal nose battens.

Using the same technique, cut off the round nose which is approximately two scale inches. From the second or "donor" trailer body cut out 2' aft of the side door on both sides and remove the roof section joining both sides. Cement this 2' section to the front of the trailer body to make the sides 32' long and create rectangular nose. After the cement is cured remove the side "wings" with a chisel blade and smooth with a file and fine sandpaper. Make a new nose panel from .010" styrene 7'-6" wide x 7'-3" high. Scribe two vertical nose metal seam lines 2'-6" from the right and left sides of the nose panel. Cement the new nose panel in place. The nose has horizontal battens that line up with the side battens. I fabricated these from Evergreen 1"x 2" styrene strips cut to fit and then cemented in place.

Roof

Make a new roof from .060" styrene 7'-6"wide x 32'-3" long. File and sand the roof edges front, rear and both sides into a curved bevel shape keeping the rectangular corners. Cement the roof into place snuggly against the body.

Vertical Side Battens

The sides have a raised center and depressed front and rear panels which are supposed to indicate vertical body panel seams and battens. To improve their appearance and minimize the unrealistic appearance, I cemented 1" x 2" styrene vertical "battens" in place on the depressed panel up against the raised panels. The battens run from the roof eaves down to the top horizontal body side feature and the lower horizontal body side feature to the lower sill of the body. The battens should pass thru both of the horizontal body side features. I didn't model this feature because I didn't feel confident that I could hide the meeting of the seams very well.

Marker Lights

The upper marker lights should be rectangular, and the lower marker lights should be round. I sliced off all of the body side marker lights with an Xacto chisel blade and smoothed out the surface with 600 grit sand paper. I made new upper and nose markers from 1" x 3 " styrene 5' long. I cemented the replacement upper markers in place 2" down from the roof batten and in 2" from the nose and rear of the body. I also spaced the upper nose markers down 2" and over 2". To simulate the round lower body side markers, I made thin slices of .040" diameter styrene rod and cemented them in place 2" over and 1" up. The upper rear marker lights are also round. I made three of them in the same manner and cemented them in place centered on the roof above the rear doors as in Photo #2.

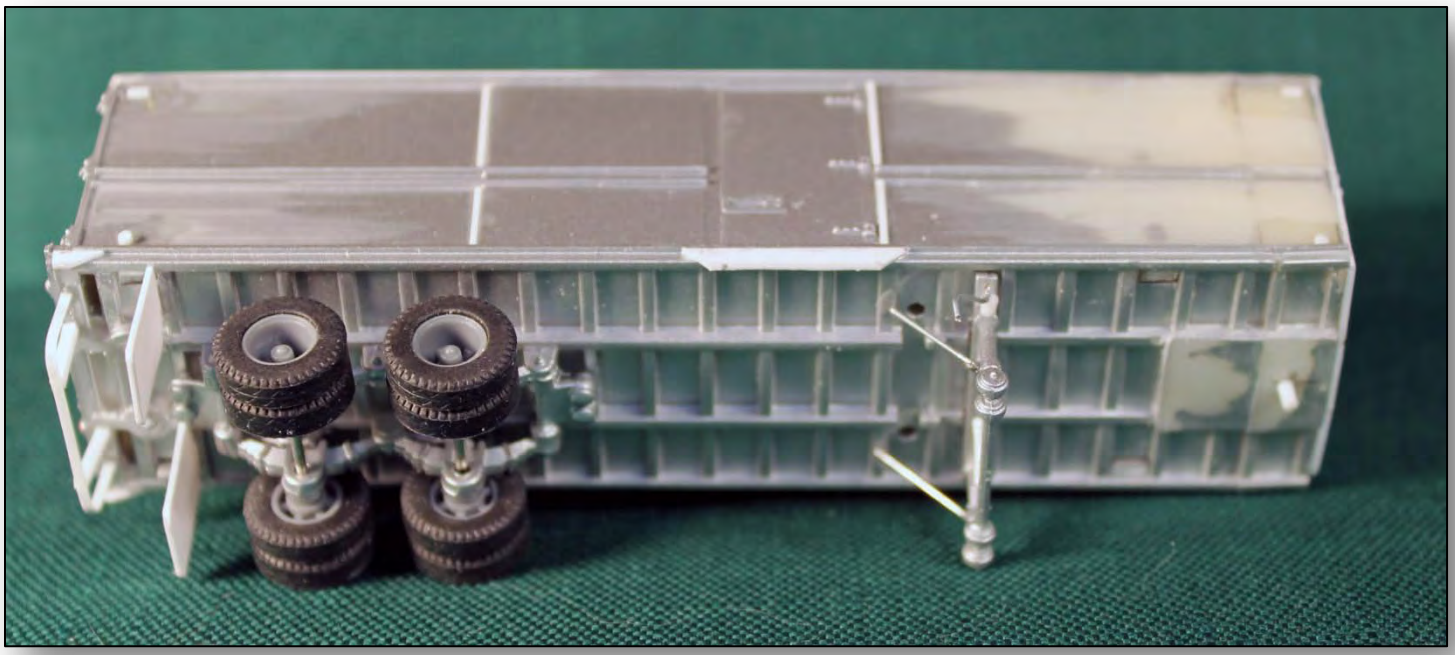


Photo 7 - Shows removal of round nose and replacement rectangular section, new upper coupler and kingpin, repositioned landing gear with diagonal supports, doorspan reinforcement, repositioned suspension, new mud flaps, and new rear bumper.

Rear Stop Lights

I was uncertain about the type and placement of the stoplights so I left them alone.

Trailer Underframe

The Mini Metals model has a round nose, and we need a rectangular nose. Again we need to resort to a little "surgery". Cut the rounded nose off both the model underframe and the "donor" underframe. This will shorten our underframe by 2'. To get the correct length, cut 2' from the shortened "donor" underframe as measured from the now flat front or nose. This will save a portion of the upper coupler.

Upper Coupler Modification

Cement this 2'-long underframe section to the front of our new underframe. After the new under frame cemented pieces have dried, shave off the kingpin and file the joint of the upper coupler smooth. Drill a hole centered from the nose of the trailer to accept a short section of .040" styrene rod to represent the kingpin. To measure the 18" distance, insert the underframe into the trailer body and measure from the nose of the trailer body.

Rear Suspension

Remove the suspension, wheels, and tires as a unit by cutting the six fastener lugs from the underframe with an Xacto chisel blade. Cement the suspension in place with the center of the rear axle 60" from the rear of the trailer.

Tires and Wheels

Use the model wheels and tires. Leave them attached to the suspension.

Landing Gear

Remove the landing gear from the underframe by simply pulling them off. If the landing gear are unattached, set them aside. Drill new holes 9' from the nose to accept the landing gear mounting lugs and cement in place. Cement .019" diameter wire diagonal support braces in place between the landing gear and underframe on both the right and left hand landing gear legs.

Side Door Span Reinforcement

Make this piece by cutting a 1" x 6" piece of styrene strip x 5½' long. Put a 6" taper at both ends and cement in place centered on the side door and below the upper side sill.

Trailer Underframe

The Mini Metals model has a round nose, and we need a rectangular nose. Again we need to resort to a little "surgery". Cut the rounded nose off both the model underframe and the "donor" underframe. This will shorten our underframe by 2'. To get the correct length, cut 2' from the shortened "donor" underframe as measured from the now flat front or nose. This will save a portion of the upper coupler.

Photo 8 – Rear ¾ view shows new curved style ICC rear bumper.

Upper Coupler Modification

Cement this 2'-long underframe section to the front of our new underframe. After the new under frame cemented pieces have dried, shave off the kingpin and file the joint of the upper coupler smooth. Drill a hole centered from the nose of the trailer to accept a short section of .040" styrene rod to represent the kingpin. To measure the 18" distance, insert the underframe into the trailer body and measure from the nose of the trailer body.

Rear Suspension

Remove the suspension, wheels, and tires as a unit by cutting the six fastener lugs from the underframe with an Xacto chisel blade. Cement the suspension in place with the center of the rear axle 60" from the rear of the trailer.

Tires and Wheels

Use the model wheels and tires. Leave them attached to the suspension.

Landing Gear

Remove the landing gear from the underframe by simply pulling them off. If the landing gear is unattached, set them aside. Drill new holes 9' from the nose to accept the landing gear mounting lugs and cement in place. Cement .019" diameter wire diagonal support braces in place between the landing gear and underframe on both the right and left hand landing gear legs.

Side Door Span Reinforcement

Make this piece by cutting a 1" x 6" piece of styrene strip x 5½' long. Put a 6" taper at both ends and cement in place centered on the side door and below the upper side sill.

Rear Bumper

The rear bumper is a curved ICC style bumper. The Mini Metal model has a tapered rear threshold bumper. I filed the lower flange of the bumper flat and then fabricated a curved ICC style bumper as in the *TKM* No. 87 Winter 2014 Issue page 35. I cut two 4" x 4" styrene strips 2'-3" long and cemented them vertically in place centered and below the rear threshold. Next, I bent a 1" x 4" styrene strip around a mandrel to create curved corners. I used the shaft of a micro screw driver for the mandrel. Cut the curved 1" x 4" piece to fit in place as is photo #2 and cement in place.

Rear Side Bumper Gussets

Cut two gussets from 1" x 6" styrene strips x 18" long with a 9" taper at the front and cement in place below the lower side sill and up against the rear threshold as in Photo 2. I rounded the lower corners of the gussets slightly with sandpaper.

Mudflaps

I felt that the model mudflaps were a little heavy, so I pulled them off the underframe and replaced them with .010" styrene cut to the same size and cemented them in place.

Paint

The completed model should be painted like the Bethlehem Car Shops kit above. You should remove the wheels and paint them separately.

Lettering

The model should be lettered like the Bethlehem Car Shops kit.

Marker and Tail Lights

These lights should painted as the Bethlehem Car Shops kit above.

An eastbound TrucTrain in Tunnel Hill, Pa. in 1960. *(William D. Volkmer collection)*

TrucTrain Trailer Fleet

Markings and Types of Trailers		Trailer Numbers	Dimensions						Cubic Capy.	Side Door	Type of Floor	Unladen Weight	Tie-Down Device	Brakes A or V	Axle S or T	Electr. System 6V or 12V	Refrig. System D or M	License State	King Pin Setting	Wheel Type	Tire Size	Number of Trailers
			Inside			Outside																
			L	W	H	L	W	H														
Closed Van																						**345**
Fruehauf	Frameless	32E51, 32E52, 32E53, 32E54, 32E55, 32E57, 32E58, 32E59, and 32E60	31'-9"	7'-6"	7'-4"	32'-0"	8'-0"	11'-4"	1746	No	Wood	11,300	None	V	T	6	-	Ill.	18"	(D)	900x20	9
"	"	32E61 – 32E70 inclusive	31'-9"	7'-6"	7'-4"	32'-0"	8'-0"	11'-4"	1746	Yes	Wood	11,300	None	V	T	6	-	Ill.	18"	(D)	900x20	10
"	"	32E80, 32E81, 32E82, 32E83, and 32E84	31'-9"	7'-4"	7'-1"	32'-0"	8'-0"	11'-4"	1650	Yes	Wood	11,600	None	V	T	6	-	Pa.	18"	(D)	900x20	5
"	"	32E85, 32E86, 32E87, 32E88, and 32E89	31'-9"	7'-4"	7'-1"	32'-0"	8'-0"	11'-4"	1650	Yes	Wood	11,600	None	V	T	6	-	Ind.	18"	(D)	900x20	5
"	"	32E250 – 32E257 inclusive	31'-6"	7'-4"	7'-2"	32'-0"	8'-0"	11'-7"	1656	Yes	Wood	11,600	None	V	T	6	-	Ind.	18"	(D)	900x20	8
"	"	32C465 – 32C473 inclusive	31'-6"	7'-4"	7'-2"	32'-0"	8'-0"	11'-7"	1656	Yes	Wood	11,600	None	V	T	6	-	Ind.	18"	(D)	900x20	9
"	"	32W783, 32W785, 32W787, 32X788, 32X790, 32W791, 32X792, 32W793, and 32W794	31'-8"	7'-6"	7'-1"	32'-4"	8'-0"	12'-0"	1690	No	Wood	11,600	None	V	T	6	-	Ind.	18"	(D)	900x20	9
"	"	32W854 – 32W861 inclusive	31'-6"	7'-4"	7'-2"	32'-0"	8'-0"	11'-7"	1656	Yes	Wood	11,600	None	V	T	6	-	Ind.	18"	(D)	900x20	8
"	"	32W900, 32W901, 32W902, 32W909, 32W910, 32W911, 32W914	31'-8"	7'-6"	7'-1"	32'-4"	8'-0"	12'-0"	1690	No	Wood	11,600	None	V	T	6	-	Ind.	18"	(D)	900x20	7
"	"	35C522 – 35C549 inclusive	31'-6"	7'-8"	7'-10"	32'-0"	8'-0"	12'-6"	2080	Yes	Comp	12,000	None	A	T	6 & 12	-	Ind.	30"	(D)	900x20	28
Highway	Frameless	35C575 – 35C586 inclusive	31'-3"	7'-7"	8'-0"	32'-0"	8'-0"	12'-6"	2100	Yes	Wood	10,300	None	A & V	T	6 & 12	-	Ind.	30"	(D)	900x20	12
Fruehauf	Frameless	PRR1500 – PRR1599 inclusive	31'-6"	7'-8"	7'-10"	32'-0"	8'-0"	12'-6"	2080	Yes	Comp	11,400	None	A	T	6 & 12	-	Ind.	30"	(D)	900x20	100
"	"	PRR15100 – PRR15234 inclusive	31'-6"	7'-8"	7'-10"	32'-0"	8'-0"	12'-6"	2080	Yes	Comp	11,400	None	A	T	6 & 12	-	Ind.	30"	(D)	900x20	135
Closed Van – Refrigerated																						**13**
Fruehauf	Frameless	35CR500 – 35CR511 inclusive (note 1)	33'-9"	6'-9"	7'-0"	35'-0"	8'-0"	12'-6"	1590	Yes	Alum	15,400	None	A & V	T	6 & 12	M	Ind.	30"	(D)	900x20	12
Trailmobile	"	35CR512 (note 1)	33'-9"	6'-9"	7'-0"	35'-0"	8'-0"	12'-6"	1590	Yes	Alum	15,400	None	A & V	T	6 & 12	M	Ind.	30"	(D)	900x20	1
Closed Van – Insulated																						**35**
Fruehauf	Frameless	32E90, 32E91, 32E92, and 32E93 (note 2)	32'-4"	7'-3"	6'-10"	32'-10"	8'-0"	11'-10"	1850	No	Wood	11,300	None	V	T	6	-	Ill.	36"	(D)	900x20	4
"	"	32E94 – 32E102 inclusive (note 3)	31'-6"	7'-4"	7'-3"	32'-0"	8'-0"	11'-10"	1800	Yes	Wood	12,150	None	V	T	6	-	Ind.	18"	(D)	900x20	9
"	"	32C450, 32C451, and 32C452 (note 2)	32'-4"	7'-3"	6'-10"	32'-10"	8'-0"	11'-10"	1850	No	Wood	11,300	None	V	T	6	-	Ill.	36"	(D)	900x20	3
"	"	32C453 – 32C460 inclusive (note 3)	31'-6"	7'-4"	7'-3"	32'-0"	8'-0"	11'-10"	1800	Yes	Wood	12,150	None	V	T	6	-	Ind.	18"	(D)	900x20	8
"	"	32W850, 32W851, 32W852 (note 2)	32'-4"	7'-3"	6'-10"	32'-10"	8'-0"	11'-10"	1850	No	Wood	11,300	None	V	T	6	-	Ind.	36"	(D)	900x20	3
"	"	32W862 – 32W869 (note 3)	31'-9"	7'-4"	7'-3"	32'-0"	8'-0"	11'-10"	1800	Yes	Wood	12,150	None	V	T	6	-	Ind.	18"	(D)	900x20	8
Open-Top Van (High Side)																						**128**
Fruehauf	Frameless	32E125, 32E126, 32E127, 32E128	31'-8"	7'-6"	7'-0"	32'-4"	8'-0"	12'-0"	1690	-	Wood	11,600	None	V	T	6	-	Ind.	18"	(D)	900x20	4
"	"	32E130 – 32E149 inclusive	31'-8"	7'-6"	7'-0"	32'-4"	8'-0"	12'-0"	1690	-	Wood	11,600	None	V	T	6	-	Ind.	18"	(D)	900x20	20
"	"	32E156 – 32E167 inclusive	31'-8"	7'-6"	7'-0"	32'-4"	8'-0"	12'-0"	1690	-	Wood	11,600	None	V	T	6	-	Ind.	18"	(D)	900x20	12
"	"	35E168 – 35E172 inclusive	34'-8"	7'-6"	7'-0"	35'-0"	8'-0"	12'-0"	2000	-	Wood	11,600	None	V	T	6	-	Ind.	18"	(D)	900x20	5
"	"	32C413 – 32C449 inclusive	31'-8"	7'-6"	7'-0"	32'-4"	8'-0"	12'-0"	1690	-	Wood	11,600	None	V	T	6	-	Ind.	18"	(D)	900x20	37
"	"	32C461, 32C462, 32C463, 32C464	31'-8"	7'-6"	7'-0"	32'-4"	8'-0"	12'-0"	1690	-	Wood	11,600	None	V	T	6	-	Ind.	18"	(D)	900x20	4
"	"	32X750 – 32X769 inclusive	31'-9"	7'-4"	7'-0"	32'-4"	8'-0"	11'-10"	1656	-	Wood	11,300	None	V	T	6	-	Ill.	18"	(D)	900x20	20
"	"	32X770 – 32X782 inclusive	31'-8"	7'-6"	7'-0"	32'-4"	8'-0"	12'-0"	1690	-	Wood	11,600	None	V	T	6	-	Ind.	18"	(D)	900x20	13
"	"	32W784, 32W786, 32W789, 32W903, 32W904, 32W905, 32X906, 32W907, 32W908, 32W912, 32W913, 32W915, 32W916	31'-8"	7'-6"	7'-0"	32'-4"	8'-0"	12'-0"	1690	-	Wood	11,600	None	V	T	6	-	Ind.	18"	(D)	900x20	11

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TrucTrain Trailer Fleet (page 2)

Markings and Types of Trailers		Trailer Numbers	Dimensions Inside L	Inside W	Inside H	Inside L	Inside W	Inside H	Cubic Capy.	Side Door	Type of Floor	Unladen Weight	Tie-Down Device	Brakes A or V	Axle S or T	Electr. System 6V or 12V	Refrig. System D or M	License State	King Pin Setting	Wheel Type	Tire Size	Number of Trailers
Open-Top Van (Low Side)																						**10**
Fruehauf	Frame	32E206 – 32E212 inclusive	31'-4"	7'-6"	3'-10"	32'-0"	8'-0"	8'-2"	840	-	Wood	13,600	None	V	T	6	-	Ind.	18"	(D)	900x20	7
Fruehauf	Frame	32E213, 32E214	31'-4"	7'-6"	3'-10"	32'-0"	8'-0"	8'-2"	840	-	Wood	13,200	None	V	T	6	-	Ind.	18"	(D)	900x20	2
Kentucky	Frameless	34W853	33-10"	7'-6"	4'-6"	34'-8"	8'-0"	8'-10"	1140	-	Wood	13,500	None	V	T	6	-	Ill.	36"	(D)	900x20	1
Flatbed																						**117**
Trailmobile	Frame	31E76, 31E77, 31E78, 31E79	30'-1"	7'-4"	-	31'-7"	8'-0"	4'-4"	-	-	Wood	10,900	None	V	T	6	-	Penna.	18"	(D)	900x20	4
Fruehauf	Frame	32E190 – 32E205	31'-4"	7'-6"	-	32'-0"	8'-0"	4'-4"	-	-	Wood	11,540	None	V	T	6	-	Ind.	18"	(D)	900x20	16
"	"	32C550 – 32C574	31'-4"	7'-6"	-	32'-0"	8'-0"	4'-4"	-	-	Wood	11,540	None	V	T	6	-	Ind.	18"	(D)	900x20	25
"	"	32W825, 32W826, 32W827	31'-4"	7'-6"	-	32'-0"	8'-0"	4'-4"	-	-	Wood	11,540	None	V	T	6	-	Ind.	18"	(D)	900x20	3
"	"	32W829 – 32W849 inclusive	31'-4"	7'-6"	-	32'-0"	8'-0"	4'-4"	-	-	Wood	11,540	None	V	T	6	-	Ind.	18"	(D)	900x20	21
"	"	33W800 – 33W804 inclusive	32'-4"	7'-6"	-	33'-0"	8'-0"	4'-4"	-	-	Wood	10,200	None	V	T	6	-	Ill.	36"	(D)	900x20	5
"	"	33W806 – 33W814 inclusive	32'-4"	7'-6"	-	33'-0"	8'-0"	4'-4"	-	-	Wood	10,200	None	V	T	6	-	Ill.	36"	(D)	900x20	9
"	"	33W816 – 33W820 inclusive	32'-4"	7'-6"	-	33'-0"	8'-0"	4'-4"	-	-	Wood	10,200	None	V	T	6	-	Ill.	36"	(D)	900x20	5
"	"	PRR6500 – PRR6515 inclusive	34'-4"	7'-6"	-	35'-0"	8'-0"	4'-4"	-	-	Wood	10,600	None	A	T	6	-	Ind.	24"	(D)	900x20	16
Trailmobile	Frame	PRR6516 – PRR6528 inclusive	34'-4"	7'-6"	-	35'-0"	8'-0"	4'-4"	-	-	Wood	11,200	None	A	T	6	-	Ind.	36"	(D)	900x20	13
Total																						**648**

Notes (1) Insulation: 6" Fibreglas Sides, Ends, Ceiling, and Floor. (2) 3" Fibreglas Sides, Ends, Ceiling, and 2" Floor. (3) 3" Fibreglas Sides, Ends, Ceiling, and Floor.

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Modeling an N-Scale Heavyweight-Era Blue Ribbon Train

Part 4: Pullman Plan 2410F and 2410E 12 Section - 1 Drawing Room Sleeping Cars

By Claus Schlund – Images by the author unless noted

Figure 1 – An in-service shot of PRR-assigned Pullman Plan 2410F car *Thames*.

Introduction

Pullman 12-1 sleepers were a staple in virtually all PRR Blue Ribbon trains of the 1920's with most trains handling several of these cars in the consist. One of the models that has been available since the days of the N-scale "Stone Age" is the 12-1 sleeper. Originally made by Atlas, the tooling has since passed through the hands of Rivarossi, Con-Cor, and Arnold. For its time, it is a nicely done model, but it has some deficiencies. Among other problems, not all 12-1 sleepers were identical, and the out-of-the-box Atlas model – while tantalizingly close – does not accurately match any 12-1 sleepers that were built.

Modeling the Plan 2410F cars

I settled on modeling a late-production Plan 2410F car. Plan 2410F cars spanned a long production period, from Lot 4385 in Jun 1916 to Lot 4625 in Feb 1922. While the basic window arrangement was unchanged over the years, the placement of Plan 2410F underbody equipment varied quite a bit across the various lot numbers – more on this topic later.

Figure 2 – To make a Plan 2410F Lot 4614 PRR car, start with two Atlas/Rivarossi 12-1 sleepers. One will be used as the base car and the other as a parts donor.

Figure 3 – Clean away the cast-on detail from the area under the vestibule, using a chisel blade and file. This will allow mounting vestibule steps and body mounted MT1023 couplers. Remove the factory body bolster by drilling it out with increasingly larger drill bits, moving in increments of 0.020" at a time. Do final drilling with 0.250" drill bit. Remove detail in the area surrounding the body bolster. The image shows a before and after view.

Figure 4 – On the drawing room side of the car, carefully remove all underbody equipment boxes and keep them for reuse. On the aisle side of the car, remove the small-diameter tank. Keep the larger diameter tank and the single-door battery box. Drill holes and test mount Gold Medal Models 160-44 Heavyweight Passenger Car Details vestibule steps, but do not install yet. Mount a rectangular sheet of 0.060" styrene as a new floor to cover the hole in the body bolster area.

Figure 2

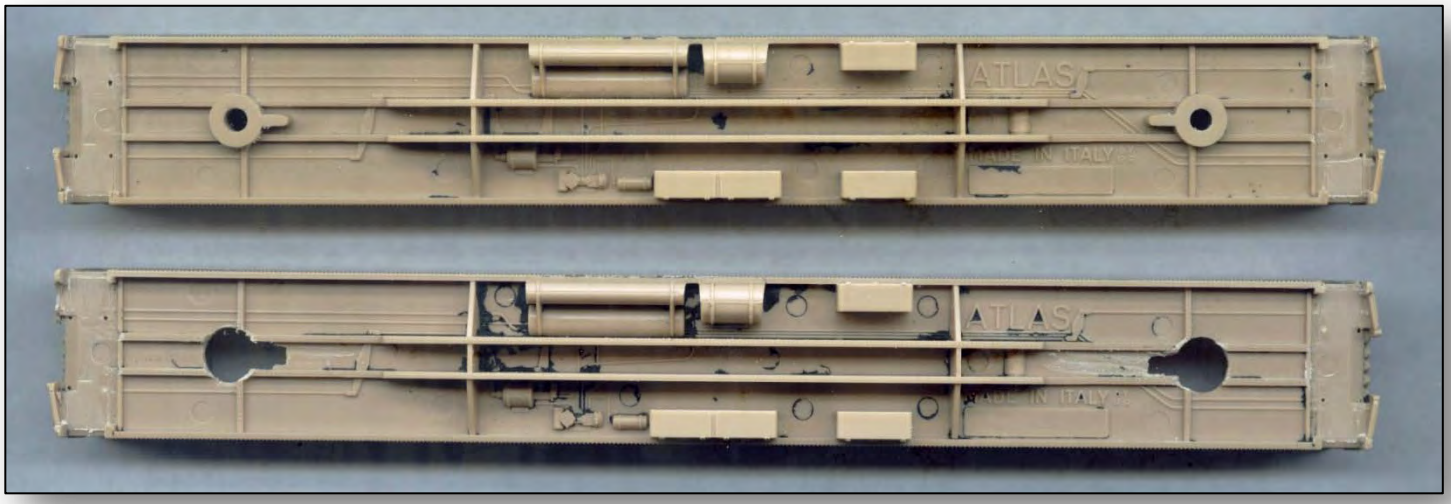

Figure 3

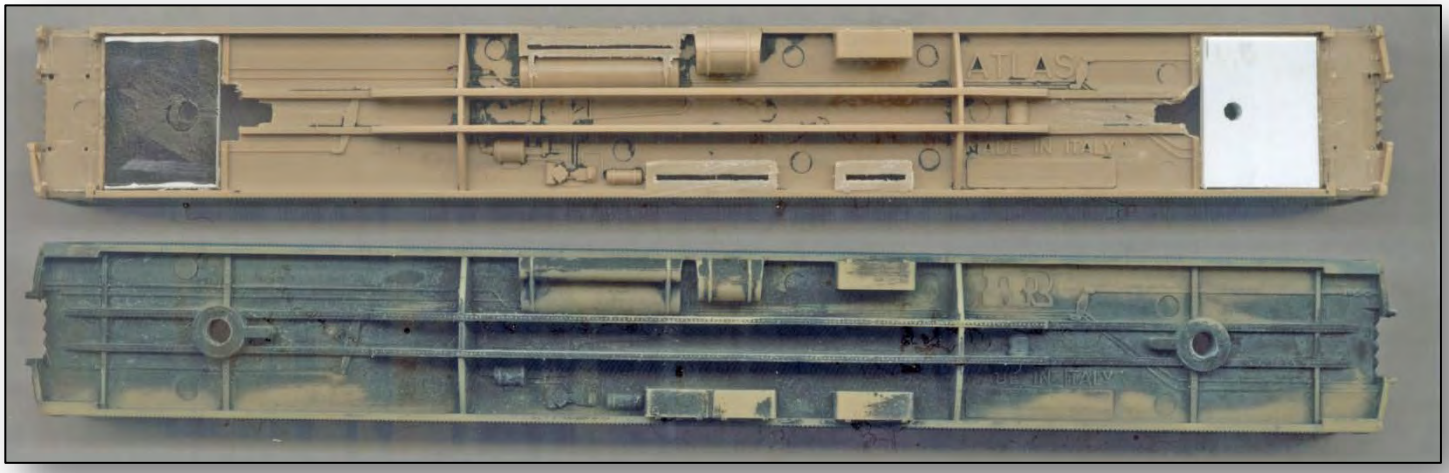

Figure 4

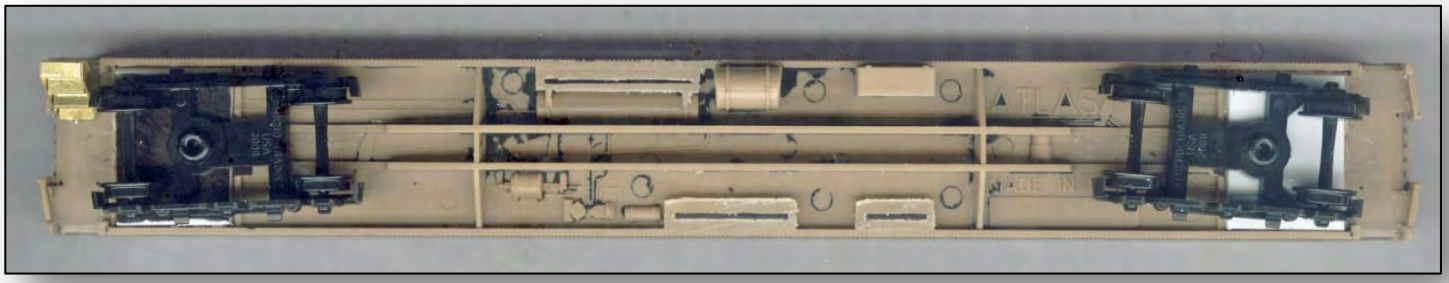

Figure 5

Figure 5 – Cut the plastic end loops off of a pair of MT #003 02 180 heavyweight trucks, then drill body bolster holes using a #47 (0.078″) drill bit. Locate the body bolster pin at a point where the trucks just clear the vestibule steps for the entire arc of their turn swing.

Figure 6 – Body-mount MT1023 couplers. If you make the new floor at the bolster area too long (as I did in the upper car) you will need to gouge out some material to clear the coupler. But, there's no need for you to repeat my mistake! Mount MT trucks using the supplied MT bolster pin and place a single MT plastic 0.015″ thick washer (or alternately, a 0.025″ thick Woodland Scenics Hob-Bits item H894 brass 2-56 washer if you prefer the car to ride slightly higher) as a spacer to raise the car to the proper height. To determine the correct inset distance for the coupler, temporarily mount an American Limited heavyweight diaphragm. With the diaphragm fully compressed, locate a 00-90 mounting screw inset by 0.250″. This is the same as 0.185″ from the car end *without* diaphragm.

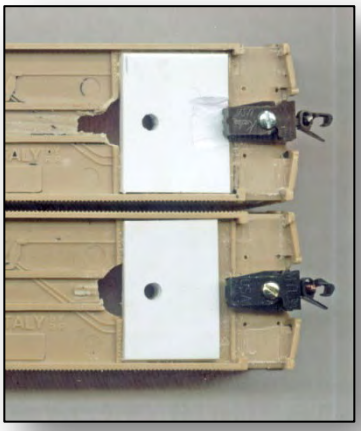

Figure 6

Figure 7

Figure 8

Figure 7 – The factory car men's lavatory has four windows, two of which are small windows. These windows will need to be reconfigured for the Plan 2410F prototype. Using a set of jeweler's files and an X-Acto #11 blade, open the small window near the vestibule to be the same height as the standard sized windows. Open the other small window to be the same height and then widen it by removing material toward the center of the car until the vertical panel separating it from the next window is the same size as the verticals between window pairs. Finally, glue a piece of 0.030" x 0.030" styrene against the vestibule side of this window to narrow it down again. After doing this it should be the same width as the other windows

Figure 8 – Replace the two small windows in women's lavatory with a panel (cut from a parts donor car) that has only one standard size window. Glue splice plates and reinforcement strips of styrene scrap on the interior side to make a secure joint

Figure 9 – Now it is time to add underbody detail. I had a bit of trouble determining exactly where everything should go. An in-service photo of Plan 2410F Lot 4612 car *Castor* (built 2/15/1921), still in its as-built configuration, can be found in *Mainline Modeler* (Jan/Feb 1981, p. 42). In addition, a builder's photo of the Plan 2410F Lot 4614 car *Sinbad* (built 6/16/1921) appears in Kratville's *Passenger Car Catalog* (page 22). Unfortunately, both photos show the same side of the car, meaning it was not possible to know with total certainty what the underbody detail on the other side looks like.

After some research I discovered that the underbody detail on the visible side of both cars seemed to match that of the later Plan 3410/A/B cars. With only imperfect information to go on, I simply matched the unknown underbody details to drawings of Plan 3410B car *Alazon* in *Mainline Modeler* (Jan/Feb 1981, pp. 46-47). This decision made, one side received a water tank made from ¼" diameter styrene tubing, a battery box, and two steam traps made by cutting straight pins to 0.0300" length. The other side received a cylindrical tank (a shortened tank taken from a scrapped Model Power P70), a battery box, and two steam traps.

Figure 10 – Cut slots in the car roof window glass to clear the styrene reinforcement strips on the car interior and verify a good fit. Install a length of 1/8" diameter brass rod into the center sill for weight. Install two lengths of 1/16" brass square rod in the interior space between the car sides and the seats. Paint the car Tuscan Red and the roof weathered black. Once the paint is thoroughly dry, coat the carbody with Testors Glosscote.

Letter the car as one of the PRR service Plan 2410F Lot 4614 cars. The name *Trinidad* is available on Microscale sheet 60-1143. In addition, the names THA/MES, TON/OOR, and SO/LON can be made with only two pieces, with the slashes indicating the break points. Other names are *Milfanwy, Scorpio, Typhon, Taurus, Nimrod, Semloh, Tribune, Talipot, Mogadore, Thetis, Tipperary, Shelocta*, and *Sullins*.

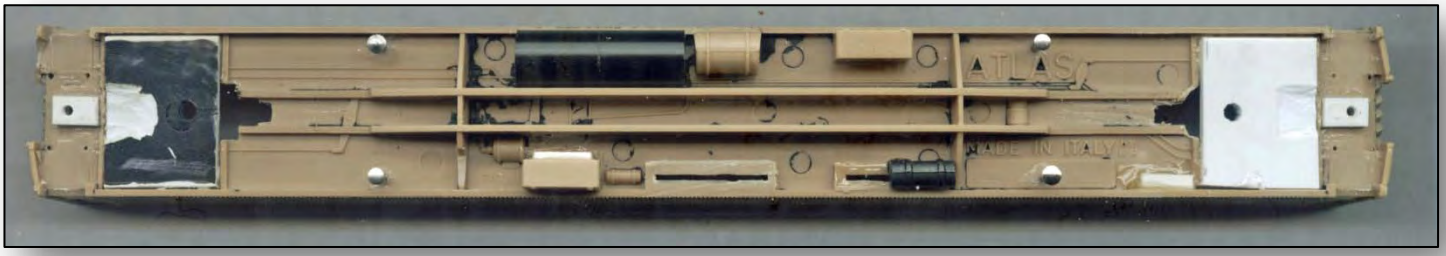

Figure 9

Figure 10

Figure 11 – A view of the compartment side of the car.

Figure 12 – 12-1 sleeper *Thames* moves by as part of today's *Clevelander* consist.

After the decals are set and fully dry, give the car a final clear coat of mix of 2 parts Glosscote to one part Dullcote. Frost the bathroom windows using medium sandpaper. Don't forget the bathroom window for the compartment. Install aisle window safety rails and install window shades in some random section and compartment windows. Mount diaphragms, trucks, and vestibule steps. This view of the aisle side of the car shows it is ready to leave the shops.

Modeling the Plan 2410E cars

Plan 2410E cars of the 1920's were very similar, the only noticeable external difference being the placement of underbody details. This means that modeling such a car is nothing more than a simple variation on the previous work. Construction was the same as for the Plan 2410F car, but I matched the underbody details to drawings in *Model Railroader* (Feb 1966, page 40). Decals for two PRR-assigned Plan 2410E cars are easily available. Plan 2410E Lot 4367 car *Sunbury* is on Microscale decal sheet 60-1141 and *Frankford* (same plan and lot) is on decal sheet 60-1143.

Figure 13 – Pullman *Frankford* awaits loading at the passenger station.

Figure 14 – The car *Frankford* on an overnight train.

REFERENCES

- An online drawing for Plan 2410F is available at http://collections.carli.illinois.edu/cdm4/item_viewer.php?CISOROOT=%2Fnby_pullman&CISOPTR=584&DMSCALE=100&DMWIDTH=2600&DMHEIGHT=1600&DMMODE=viewer&DMFULL=0&DMX=210&DMY=0&DMTEXT=%25202410f&DMTHUMB=1&REC=3&DMROTATE=0&x=493&y=312 .
- A second online drawing is available at http://www.pullmancar.org/Drawings/EPlan_2410F.jpg.
- An in-service photo of Plan 2410F Lot 4612 car *Castor* (built 2/15/1921) still in its as-built configuration can be found in *Mainline Modeler* (Jan-Feb 1981, page 42).
- A builders photo of Plan 2410F lot 4614 car *Sinbad* (built 6/16/1921) is in Passenger Car Catalog by Kratville page 22
- A photo of the plan 2410E Lot 4367 car *Metuchen* appears in Passenger Car Catalog by Kratville page 20
- Nicely done drawings for what appears to match Pullman Plan 2410D and 2410E cars can be found in *Model Railroader* (Feb 1966, page 40).