The Keystone Modeler

Pennsylvania Railroad Technical & Historical Society

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Inside:

The Keystone Modeler
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PRRT&HS MONTHLY E-NEWS
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FRONT COVER, TOP
"Best of Show" winner, Lou Whiteley's diorama of Chadds Ford, Pa. in 1938. (Tim Garner)

FRONT COVER, LEFT
Jefferies Point Stave & Heating Co. is an industry on Ed Swain's PRR layout. (Ed Swain)

FRONT COVER, MIDDLE RIGHT
An elevated view of the Walthers/Trainline model of the PRR ES-6 (EMD SW1). (Jack Consoli)

FRONT COVER, BOTTOM
A broadside view of GG1 #4935 in dark green locomotive enamel by Bachmann. (Tim Garner)

The Keystone Modeler

Manuscripts and photographs submitted for publication are welcome. Materials submitted are considered to be gratis and no reimbursement will be made to the author(s) or the photographer(s) or his/her representative(s). The Society reserves the right to reject, for any reason, any material submitted for publication.

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.

The Keystone Modeler on CD-ROM

Disc 1	August 2003 to July 2004	*TKM* Nos. 1 – 12
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Disc 3	August 2005 to July 2006	*TKM* Nos. 25 – 36
Disc 4	August 2006 to July 2007	*TKM* Nos. 37 – 48
Disc 5	August 2007 to July 2008	*TKM* Nos. 49 – 60
Disc 6	August 2008 to Autumn 2009	*TKM* Nos. 61 – 71
Disc 7	Winter 2010 to Autumn 2010	*TKM* Nos. 72 – 75
Disc 8	Spring 2011 to Winter 2012	*TKM* Nos. 76 – 79

Each disc is $15.00. There is also a disc containing all issues from 1 to 48 for $60. If you are a resident of Pennsylvania, please include PA sales tax. Send a check or money order in US dollars payable to PRRT&HS to:

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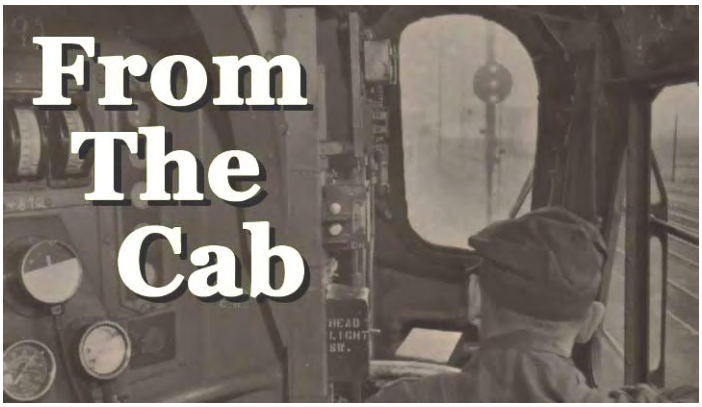


Most of the contributors to *The Keystone Modeler*, and many of its readers, think of themselves as Prototype Modelers. They belong to a movement in model railroading that has been going on for many years now which has had a tremendous impact on model manufacturers and the standards of model building that many of us have come to respect and emulate. This summer, we lost someone who was a key figure in this movement.

Richard H. Hendrickson died on June 28, 2014 at the age of 83 in Ashland, Oregon. He was a Navy veteran of the Korean War, a retired linguistics professor, and a man of many interests, including sports cars, sailing, flying, hiking, and traveling. He wrote over 400 articles on railroad prototypes and modeling the prototypes. With Ed Kaminsky he co-authored a book on *Billboard Refrigerator Cars*. His favorite prototype was the Santa Fe, and he was very involved with the Santa Fe Railway Historical and Modeling Society, but he insisted on accuracy in modeling any line's equipment. Richard also acted as a technical consultant to several model manufacturers.

Only a couple of times did I have the opportunity to hear him present a clinic at a conference (in Naperville, Illinois), but he was one of the most well-informed railroad historians I have ever met and a very genial person. Those of us who follow the STMFC list on line always looked forward to his comments on the topic du jour. He will be greatly missed among those of us who love steam and transition-era freight cars.

For our summer issue of *TKM*, we offer photos of models from the 2014 annual meeting of our Society. We also have photos from Ed Swain's Pennsy layout and two model reviews: Tim Garner reviews Bachman's newest GG1, and Jack Consoli reviews Walthers' latest iteration of the SW1.

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
Bryn Mawr, PA 19010-0054

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

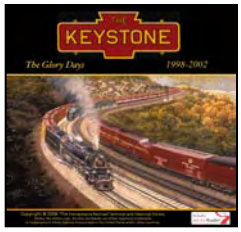
Selected Society Merchandise of Interest to Modelers

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

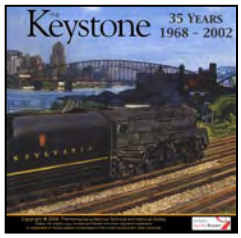
The Keystone CD 5



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

BROADWAY LIMITED IMPORTS
http://www.broadway-limited.com
PRR S2 Steam Turbine – HO Scale

(BLI/PRR)

BLI is taking orders for the S2 being offered in the Brass-Hybrid Series. The model is being offered painted and lettered in three different configurations. As built, with small smoke deflectors, and with large smoke deflectors. Additionally, the large smoke deflector version is being offered in varnished brass.

PRR H10s – HO Scale

Sample at NMRA show in Cleveland. *(Dave Chaney)*

The **BLI H10s** with Lines West tender is now due in September 2014. The second run, with a tender used both in the East and Lines West, is due in January 2015.

PRR BF16 Baldwin Sharknose Diesel A/B Set – HO Scale

The Sharks are now due in December 2014.

PRR H32 Covered Hopper – N Scale and HO Scale

The HO H32 is now due in October of this year. The N scale model is due in February 2015.

CON-COR INTERNATIONAL
http://www.con-cor.com
MP54E MU Combine and Coach with Aluminum Window Frame – HO Scale

(Con-Cor)

Con-Cor has available for discounted pre-order a new version of these MU cars representing the 100+ cars fitted in the mid-50's with air conditioning and new aluminum window frames. *(As pointed out in the modeling discussion group, pre-production photographs of the cars do not include the correct trucks, window frames, and end details of the modernized cars. Apparently only the window frame color and the car numbers have been changed from the previous production run. Ed.)*

EASTERN SEABOARD MODELS
http://esmc.com/
PRR G32C Gondola Kit -- N Scale

ESM has announced that their G32C kit in their Made in America series is now available.

FUNARO & CAMERLENGO
http://www.fandckits.com
PRR K8 Stock Car Kit – HO Scale

F&C has produced a resin kit of this stock car. With over 900 on the roster in 1952, the K8 is a great complement to the K7A from **Broadway Limited Imports.**

PRR X29D Boxcar Kit – HO Scale

Another new car from **F&C** is the early version of the X29D. A few years ago **WrightTrak** offered a resin model of the later version of this rebuild. This model is still available.

MOUNT VERNON SHOPS
http://www.mountvernonshops.com
PRR GLD Hopper Car Decal Set – HO Scale

The GLD class hoppers were the USRA 55-ton two bay cars. Although it was a minority class for the PRR, it is a popular class for PRR modelers since several companies provide models. Two of the most popular are Accurail and Tichy. John Frantz again has provided a much needed decal set for the Circle Keystone scheme.

PRR X29B and X29D Boxcars Decal Set – HO Scale

Rebuilds of the ubiquitous X29 boxcars are becoming available so John Frantz has provided a decal set in the Circle Keystone scheme to upgrade these kits. Enough data is included to do a total of four cars. Data is available for up to four X29B and one X29D.

PRR MoW Car Decal Set (1937-1960) – HO Scale

A decal set to letter 13 Maintenance of Way cars in the scheme used through 1960 is available. It is suitable for several car classes painted either gray or yellow.

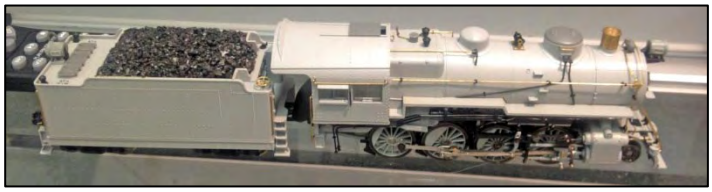
PRR MoW Car Decal Set (1960+) – H \O Scale

Mount Vernon Shops has developed a comprehensive decal set for Maintenance of Way cars in the late black lettering scheme, suitable for 1960 and later. The set has enough data to do 17 cars of various classes. See the website for complete details.

PRR F29 Flatcar Decal Set -- HO Scale

John Frantz has added another decal set. Overall the set will letter 4 cars. It has enough data for doing two F29 flat cars in the as-built scheme and two in the 1960's block lettering. The post-1960's lettering has data good through 1974. Modeling options for the F29 are in resin kit form by **Funaro & Camerlengo** or in brass by **Railworks**.

MTH ELECTRIC TRAINS
http://www.mthtrains.com
PRR H10s Consolidation -- HO Scale



Preproduction sample at NMRA show in Cleveland. *(Dave Chaney)*

The **MTH** version of the H10S is now scheduled for shipping in September 2014. You can get another view from this video made during the Milwaukee Trainfest last fall at
http://www.youtube.com/watch?v=KTQ-5jc4T2Y
The model appears at about 8:50. It shows a mix of H9s and H10s details on the cylinder. The H9s detail is the snifter valve on the steam delivery pipe, and the H10s detail is the round cover on the front of the pilot valve cylinder. These are small details and could be altered by the modeler. This view does not offer the best view of the details under the fireman's side of the cab; if it represents an injector, that would be incorrect. The tender is particularly interesting, representing a class not modeled before in a mass produced model. As shown it is a class 70F81, used on some hand fired H10s engines. With a slightly lower deck and one less step it could be class 70F70 and found with a few H9s engines.

WALTHERS
http://www.walthers.com
PRR N6B Cabin Car with Offset Cupola and Centered Cupola – HO Scale

(Walthers)

(Walthers)

Walthers is once again offering the N6B in both versions and three lettering schemes. The models are expected to be available at Walthers on July 28.

PRR Russell Snowplow – HO Scale

(Walthers)

Between the previous *TKM* and preparations for this issue, this *limited run* model came on the scene – and left. Unfortunately, the PRR version is showing as *Discontinued* at Walthers. The undecorated kit is expected to be available in October of this year.

Diamond Coal Corporation – HO Scale

(Walthers)

Although not a PRR prototype model, with so much of the revenue on our model railroads provided by coal, it seemed that the momentous occasion of the announcement of a new coal mine from **Walthers** warranted inclusion here. Due August 28, 2014.

Upcoming Events

August 8- 9 – Collinsville, Illinois (metro St. Louis, MO)
St. Louis RPM Meet
http://icg.home.mindspring.com/rpm/stlrpm.htm

September 12-13 – Fredericksburg, Virginia
Mid-Atlantic RPM Meet
http://www.marpm.org/

September 19-20 – Kennesaw, Georgia
Atlanta RPM Meet
http://www.srha.net/public/conventions/2014_Atlanta_RPM_meet.htm

October 9-11 – Lisle, Illinois
Naperville RPM Conference
http://www.railroadprototypemodelers.org/naper_meet.htm

Advance Planning

January 8-10, 2015 – Cocoa Beach, Florida
Prototype Rails RPM Meet
http://prototyperails.com/

April 30-May 1, 2015 (Tentative) **–** State College, Pennsylvania
PRRT&HS Annual Meeting
http://www.prrths.com/conventions/PRR_Annual.html

August 23-30, 2015 – Portland, Oregon
NMRA National Convention and National Train Show
http://nmra2015.org/

2014 Annual Meeting Models – Part 1

By The TKM Staff

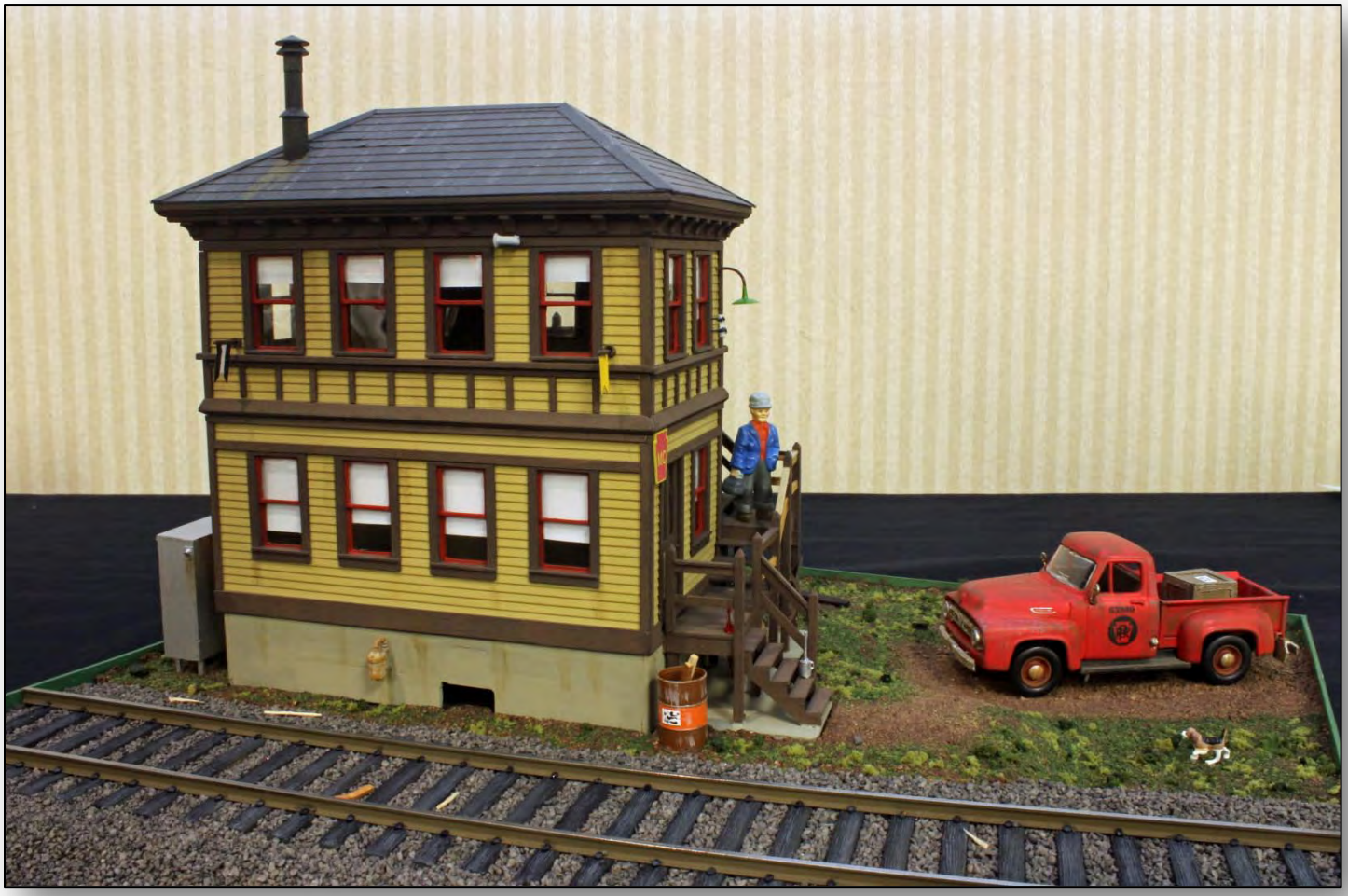
Yank Yankalonis received the Bob Yagodich Award for his detailed February 1954 *Broadway Limited* two-unit diner and sleeper-lounge. Yank replaced the Walthers diaphragms with parts from Coach Yard and A-Line, added loading numbers on the lounge car, and added appropriate weathering, but what put this set over the top with the judges were the interiors. Banker's lamps on each table were standard in PRR dining cars. Yank modeled working ones in HO. The tables are set with dishes, some with food. The passengers even look like they are enjoying the meal. The correct carpet patterns are modeled. The furniture in the lounge has been replaced with individual pieces. All cars are lit with LEDs and populated with passengers, cooks, and waiters.

Note the banker's lamps on every table. The full-width diaphragms are accurate for the passage between the kitchen-dormitory and the full-length diner.

Yank used miniature LEDs designed for circuit boards for the lighted banker's lights.

Lou Whiteley's diorama of Chadds Ford Junction in Chadds Ford, Pa. in 1938 received "Best in Show" honors. This location is where the PRR Octoraro Branch crossed Reading's Wilmington & Northern Branch. Lou scratchbuilt the station and used two Intermountain kits to build the tower.

Lou modeled the rodding for the signals and split-rail derails to guard the crossing. The westbound semaphore signal is actually out on the Brandywine River Bridge.

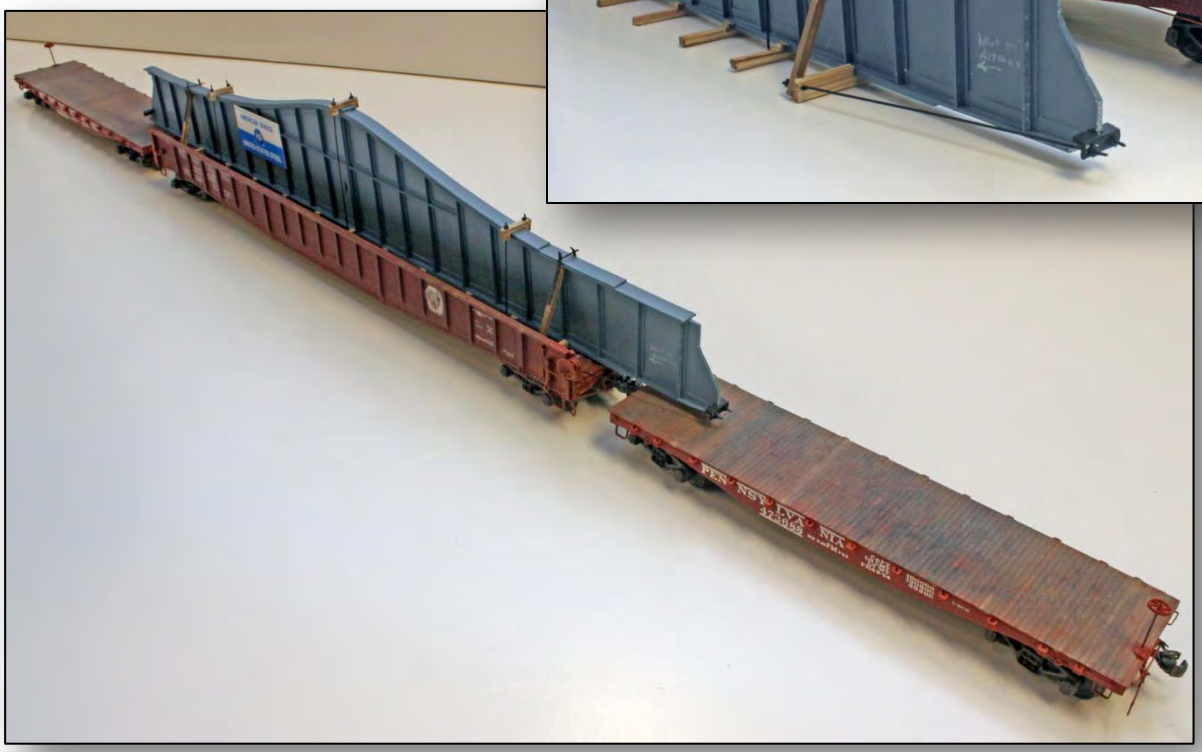


Attalee Taylor scratchbuilt this O-scale diorama of "MC" Tower. There is plenty of interesting rail junk behind the tower as well as a dog and cat that have not yet found each other.

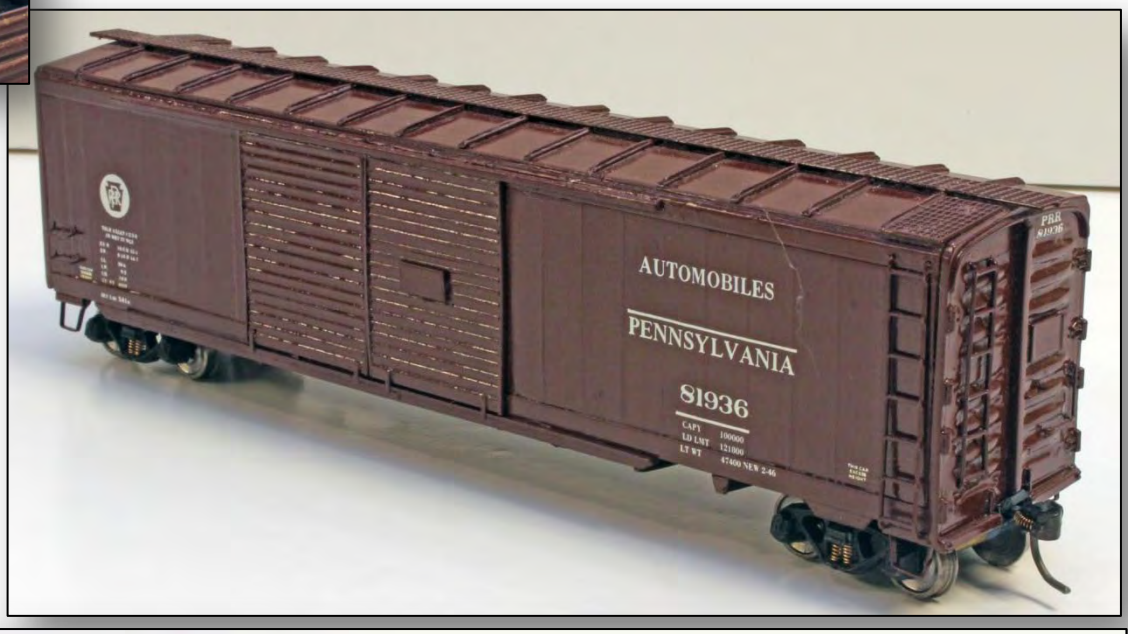
Gus Minardi had two HO-scale freights on display. In front is "Ore Extra, Enola, 3:30 p.m." It includes models of six classes of PRR ore jennies – G38, G38A, G38B, G39, G39A, and G39B. Gus kitbashed all the varieties from Stewart models. Behind is "Pennsy's First TrucTrain, TT-2" on March 3, 1955. Gus used super-detailed Walthers and brass Overland cars with a mixture of scratchbuilt and kitbashed trailers. The E44 is an Alpha Models brass engine and the F7 diesels are Athearn Genesis.

These Fruit Growers Express reefers are by Bruce Smith. On the left is an Accurail model with new underbody details. On the right is an Intermountain kit shortened by 2" and back dated to 1944. Bruce has added extra details to both cars.

Using a photo in the Society's gondola book as a guide, Tim Garner scratchbuilt a removable girder load to ride in a detailed Eastern Car Works G26 gondola. He used two Funaro & Camerlengo FM flat cars as idlers.



Gary Gordan detailed his HO-scale G28A gondola kit with a steel coil load and displayed an X41 automobile box car assembled from a Quality Craft kit.



Jim Hilker is modeling 1925 with these two hoppers. The GLA is a detailed Bowser HO-scale model with a limestone load. The in-process model of H22A #410196 is also a Bowser with added details including partial top chord reinforcement.

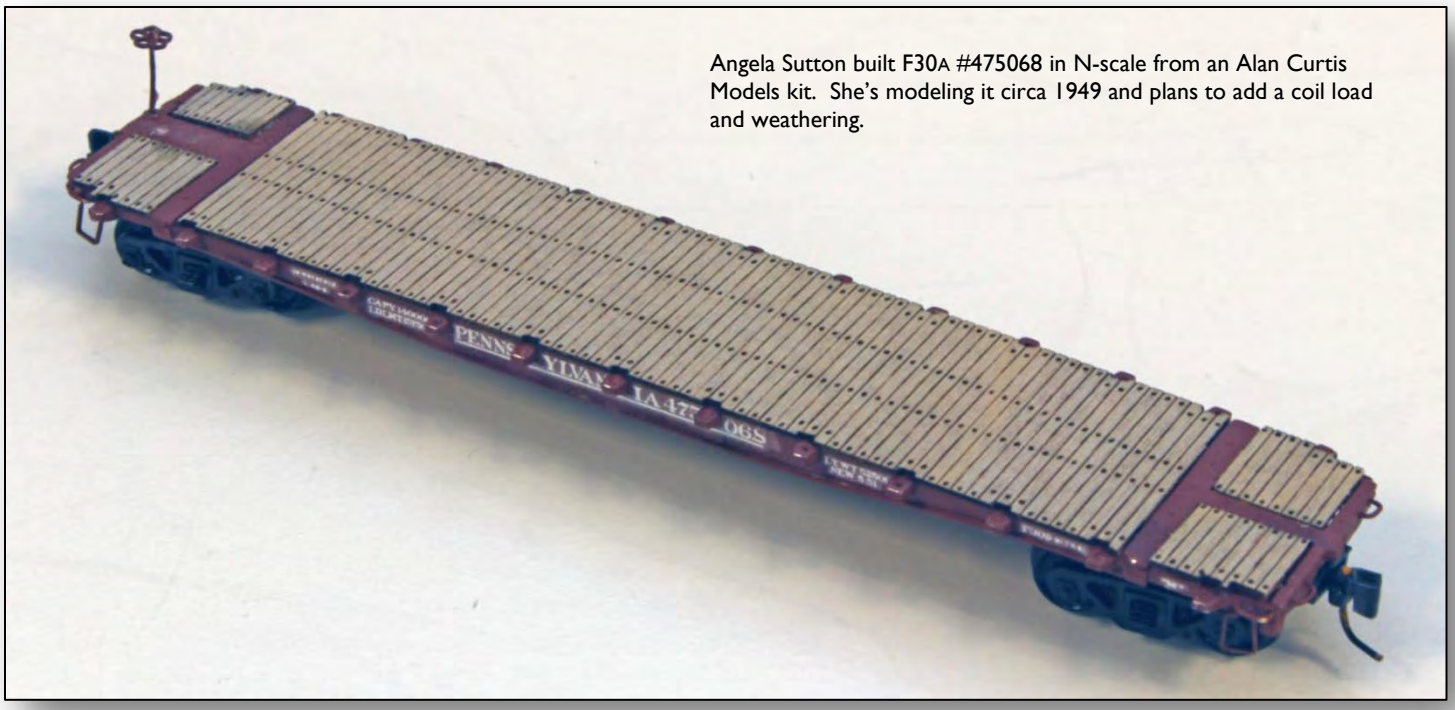
J. M. Johnson brought a fleet of detailed HO-scale hoppers. Using a mix of kits and kitbashes with extra details such as scale grab irons and cut levers, he modeled classes H31A, H21A, H21E, H25, H22B, GLC, GLD, and GLA. He used Middle Division decals.

Doug Nelson shared an F41 flatcar with a Roebling Wire Rope load and a G22B gondola with a container load – both modeled as they appeared in the 1950's. This close, it is hard to believe these are N-scale models.

Chris Lepore kitbashed this 1:29 scale X29 boxcar as it appeared in the late 1930's. It includes a wooden roofwalk, Archer rivet decals, and lettering decals by Stan Cedarleaf.

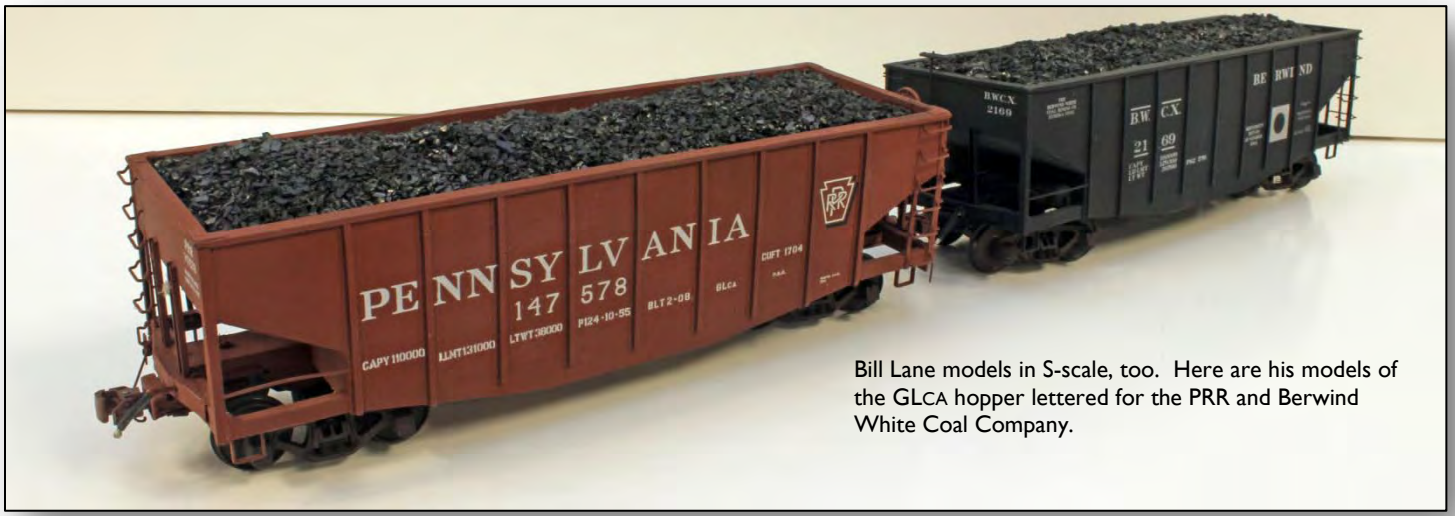
These HO-scale Bowser H30 covered hoppers, heavily weathered by Yank Yankolonis, were very popular with the members.

John Frantz improved a Tichy G30 kit with more appropriate trucks, new paint, and decals from John's Mount Vernon Shops.



Angela Sutton built F30A #475068 in N-scale from an Alan Curtis Models kit. She's modeling it circa 1949 and plans to add a coil load and weathering.

Keith Thompson, treasurer of the New England Chapter, is known as a wizard with casting resin. He built this S-scale X23 boxcar by building up patterns for the side, end, and roof, poured a mold, then cast the pieces in resin to make up the car.



Bill Lane models in S-scale, too. Here are his models of the GLCA hopper lettered for the PRR and Berwind White Coal Company.

Neil Campbell improved a Bowser X31A kit with ladder rungs, wire grabs, underbody detail, and an outstanding painting, lettering, and chalk weathering job.

Frank Peragine brought a variety of HO-scale freight cars from his collection including this interesting load. His Quality Craft kit-built brass N5C cabin car was damaged so he used it as a wreck load on a Walthers F39 flat car.

Keith Thompson also scratchbuilt this S-scale NX23 cabin car in resin from his own patterns. He cast the marker lights around red LEDs in resin. The car has a full interior and lights controlled by a DCC module.

These are Railworks brass cabin cars painted and lettered by Bruce F. Smith. Above is an N6B. On the right is an NDA.

Claus Schlund kitbashed this N-scale N5 as built in 1929 with no collision posts, Archbar trucks, center bar lettering, tool boxes on underframe, and the smokejack in the original position. Claus indicated it took him eight years to get this project done.

Claus also kitbashed this N-scale NDA cabin car as it looked in 1929. He used parts left over from an N4 cabin car kitbash.

Mike Crosby improved an HO-scale Bowser N8 cabin car kit with a Cal-Scale Trainphone antenna set, fine wire for roof details, Scalecoat paint, and Mount Vernon Shops decals.

Doug Nelson displayed this N-scale N5 cabin car lettered for express train service as it appeared in the 1950's.

Product Review: Bachmann HO-Scale GG1 Electric

By Tim Garner

The Bachmann GG1 makes a good first impression and comes at an affordable price. It's the latest in a long line of mass-produced HO-scale models of PRR's most famous electric motors.

Since Lionel first issued an O-tinplate model in 1947, models of the PRR GG1 have been on the market. Bachmann's latest model follows a long line of HO-scale models. Mass produced models include Penn Line (Varney, Life-Like), Rivarossi (AHM), Tyco (at best, GG1-inspired), Pemco/Mehano/IHC, Broadway Limited Imports/MTH, and Marklin/Trix. Brass models have been imported by Lambert, Precision, and Key. Bachmann has produced an O-scale GG1 for some time as part of its Williams line. There have been models in other scales as well, with the limited run 1:32 scale Fine Art Models versions being the most amazing I ever saw.

A Brief History of the GG1

The P5A, the locomotive PRR expected to pull passenger trains on its newly electrified New York to Philadelphia main line, caused damage to track and itself at speed due to suspension design problems. Tests at a test track set up at Claymont, Del. showed a New Haven EP3a box-cab (2-C+C-2) was much easier on track than the P5A.

Impressed, the PRR ordered prototype GG1 #4899 with the same wheel arrangement as the EP3a (which in PRR locomotive classification would be like two G-class 4-6-0 locomotives back to back) and R1 #4800 (2-D-2) which looked like a P5A modified with an extra drive axle and smaller drive wheels. Both were delivered in August 1934. The GG1 won on the Claymont test track and was approved for fleet production.

The PRR ordered the first 57 in 1934 produced jointly by General Electric, Westinghouse, Baldwin, and Altoona. They were wildly successful at hauling long trains of heavyweight passenger cars at speeds up to 100 mph. More GG1 locomotives were delivered each year from 1937 to 1943 to cap the fleet at 139. The first engine, renumbered #4800, had a riveted body. Industrial designer Raymond Loewy was hired to improve the looks of the production models. He designed a more streamlined appearance using a welded skin and the now classic five-stripe paint scheme with Futura lettering in gold leaf on dark green locomotive enamel.

The GG1 would go on to serve the PRR in electrified territory, hauling passengers and freight, until the end of the railroad. It did the same for Penn Central. Amtrak would ultimately own 40 GG1 locomotives – one of which (#4935) was restored to PRR colors while in Amtrak service. Conrail would use them on freight until it ultimately ceased electrified freight service in 1983. The final chapter was written by 13 hauling commuter trains for the New Jersey Department of Transportation. Examples of the most successful electric locomotive ever built ended up at museums across the US including two – the riveted 4800 and the welded 4935 – at the Railroad Museum of Pennsylvania in Strasburg.

The Model

In 2003, the BLI GG1 set the standard for quality, detail, and features. At the time, this tooling was owned by Korea Brass/MKT. Eventually, that locomotive went out of production. As part of a legal settlement between MTH and Korea Brass/MKT, this tooling was transferred to MTH. MTH brought the locomotive back into production in 2011 with some additional features. With a list price of $469.95 and a "street price" of around $380, this locomotive may be out of reach for many modelers.

With their new GG1, Bachmann has introduced a more affordable DCC/sound-equipped locomotive. With a list price of $299 and a street price of around $170, it appears they've done it. Because so many modelers have been exposed to the BLI and Mehano GG1 models (and because I have both on hand), I will compare and contrast the new Bachmann offering to them.

Accuracy

The Bachmann model is a good representation of a late model (1937 or newer) GG1 – units 4858 to 4938. The most visible difference between these units and #4801 to #4857 is the pilot. The newer units have a drop-coupler pilot designed to help deflect obstructions off the track. The older units have a flat pilot with a fixed-position coupler. None of the mass-production HO GG1 models have had the older design.

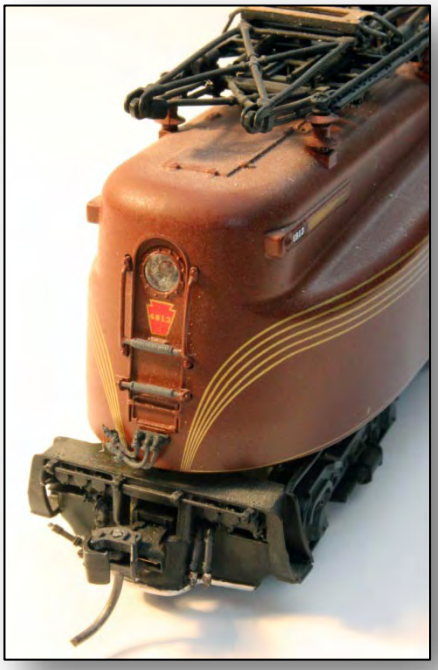
Nose – The contours and height of the Bachmann nose appear right, but there are some minor discrepancies when you get out a scale ruler. On the prototype, there is a crease in the skin 1'-6" above the bottom of the body at the nose. That represents the top edge of the body's foundation frame. Viewed from the side, the crease continues from the tip of the nose to just past the bolster of the unpowered trucks on each end. On the Bachmann model, the crease is only 1'-0" above the bottom of the body and is not as well defined as the prototype. This crease is correctly placed on both the BLI and Mehano models, but is not well defined on them either. I suspect Bachmann was trying to provide extra room for the frame to negotiate irregular changes in track grades.

On the prototype, the nose skin contour is smooth up to the edge of the nose door. Grab irons are mounted on the skin and there is a drip edge over the top of the door. BLI modeled this correctly. Mehano made a recessed flat area around the outside of the door which may have been due to an adjustment error in setting up the mold sections for production. Unfortunately, Bachmann's tool maker magnified Mehano's mistake by deepening the flat area and rounding its edges.

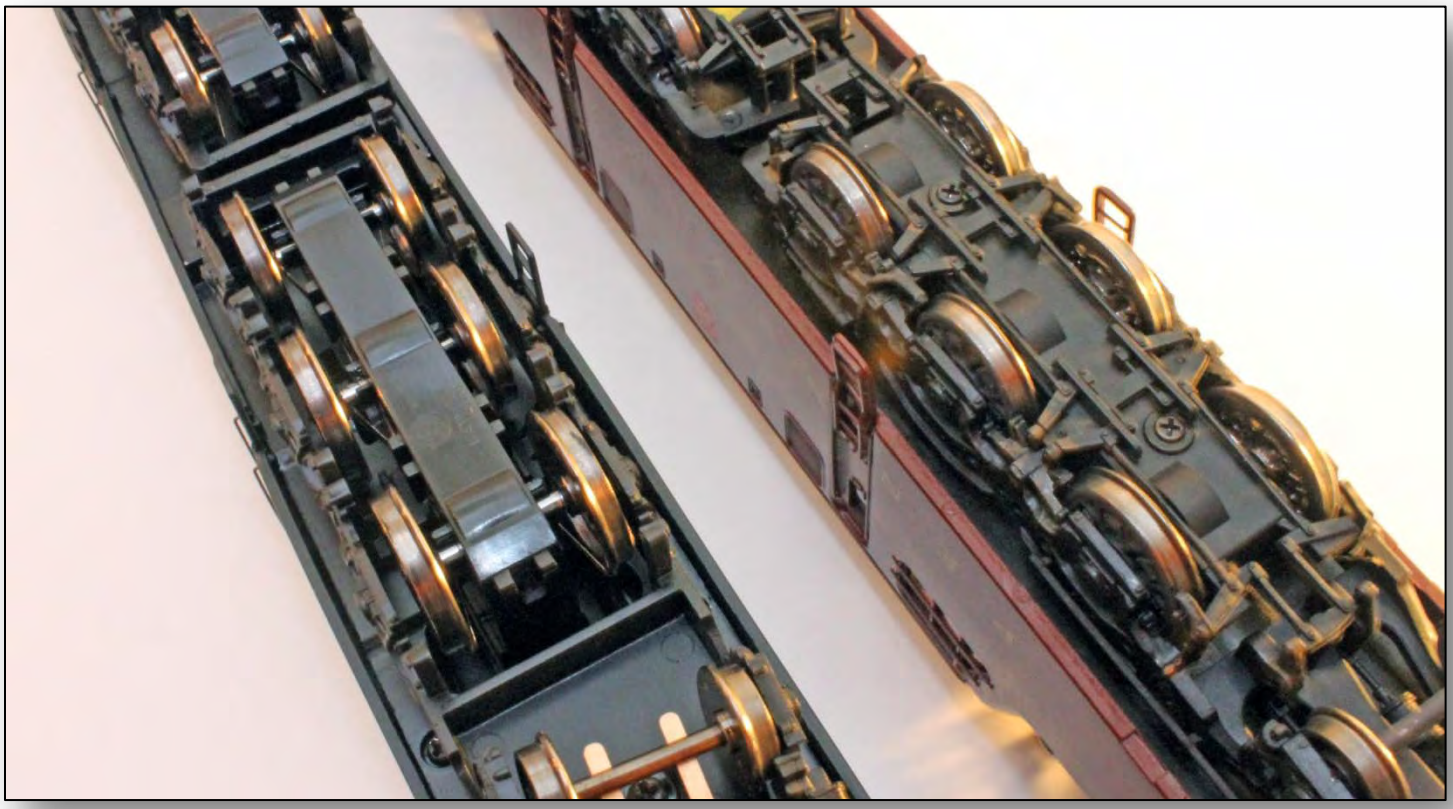
Both the Bachmann and Mehano models have cast-on grab irons, rubber-encased (simulated) safety chains, and drop steps of similar definition and quality. The BLI model has separately applied handrails and safety chains along with three MU hoses. From photo evidence, the MU hoses did not appear until the late 1950's and early 1960's, showing up first on GG1 units in freight service. I have not seen a 5-stripe GG1 with these hoses.

Body Side – The side details of the Bachmann model are actually an improvement over both the BLI and Mehano models. On the BLI model, the forward and reverse-facing marker lights are missing. There is beading around the louvered vents next to the side doors that did not exist. The angled post between the side and forward windows is too wide. Both have side steps and separately applied handrails by the doors and over the windows the Mehano model doesn't have. However, the window rails should go through instead of over the vertical window post closest to the nose. Neither manufacturer got that right. The top rail over the windows was removed fairly early on the GG1 and could have been left off for most eras.

The biggest detail discrepancies appear on the ends. The body skin should come smoothly up to the edge of the nose door and not be recessed as Bachmann has done. The crease in the skin at the top of the body base frame is 6" too close to the bottom of the frame at the nose. On the pilot, the grab irons below the receptacles are missing, the signal line hose is missing, and the steam and air lines are primitively modeled. The stripes are too wide and too yellow. The narrow stripe at the base of the frame should not touch the five stripes. See how other makers modeled these details on the next page.



Here we compare GG1 models. The BLI version is on the left. The streamlined skin is correctly contoured around the door, there are separate handrails and rubber covered safety chains, and the pilot is accurately detailed. Prototype photos suggest the three MU cables did not exist during the 5-stripe era. The middle GG1 is the Mehano model. The arrow points to the mold parting line around the door that creates an inaccurate recessed surface. Handrail and chain details are cast on. "No comment" on that cut lever. The Bachmann model on the right looks better, but the recessed area around the door marked by the white arrow is not accurate, but is deeper than the Mehano model. The cut lever looks good, but the other cast in pilot details are too primitively rendered. Only Bachmann modeled the end marker lights, but they would have looked better if not painted. (MTH has since added them to the BLI tooling.) None of the three included the grab irons over the pilot steps. BLI got the striping closest to accurate, but did not bring the stripes close enough together at the bottom of the nose.



On the left, the Bachmann drivers float inside sideframes with shallow details. The BLI GG1 on the right has accurate side frames tight to the wheels and detailed brake rigging. Unlike the Bachmann model, the brake shoes are in a position to touch the wheel treads.

The window glass on the Bachmann model looks best and is more flush-fitting. It has windshield wipers molded in. Bachmann and BLI model the newer flush fitting sandbox doors on the car side. Mehano models the older inset angled doors. Both also model the curve in the upper part of the body just below the long drip edge. That curve is fainter on the Mehano model. Bachmann has the most accurate-looking drip edge.

None of the models do well with the long stepped vent on each flank. On the prototype, PRR put strips of sheet metal over the grilles as an unbroken base for the stripes. This hasn't been modeled which ironically would have made the five stripes easier to apply. On the wide-stripe schemes, the railroad applied a wider piece of sheet metal welded to the top of the vent rain gutter – again, never modeled on a mass-produced GG1.

Roof and Pantographs – BLI wins this one hands down. The pantograph details, insulators, horns, and roof details are accurately modeled. Bachmann comes in next with wire pantographs more accurate than the Mehano (but with fewer details on piping and insulators), accurate horn details, and cast on lift rings similar to the BLI model. None have the safety lettering on the side of the pantographs. Mehano has rivets instead of simulated lift rings. No one has the steam generator exhaust right. The opening in the prototype scales to a 1'-1" diameter on plans. The Bachmann and Mehano have it at 10". BLI has it at 1'-2".

Pilot and Running Gear – On the pilot, BLI wins here again, too. The contour for a later-model drop coupler GG1 pilot looks right. The cut lever is in the right place, grab irons below the electrical receptacles are cast in, and the steam connection, brake hose, and communication hose are separately applied parts. The Bachmann pilot is the right shape, but the grab irons below the receptacles are missing. The steam lines and one of the two hoses are cast into the pilot with no details. There is a separately applied cut lever that has a more accurate shape over the coupler than the BLI model. For cast-on details, the Mehano does better on the pilot. None of the manufacturers model the grab iron at the top of the pilot steps. That's likely to prevent interference with the body on sharp model railroad curves.

BLI has the best chassis detailing. The brake rigging is modeled along with some of the brake and sander piping. The sideframes are tight to the wheels with brake shoes aligned with the wheel treads. On the Bachmann model, the detail on the sideframes of the trucks is mostly accurate, but it is too shallow and spaced away from the wheels. This appears to be a compromise Bachmann made to allow the power trucks to swivel within the truck frame on sharp curves. Mehano did the same. There is no simulated brake rigging on those models.

Painting and Lettering – The 5-stripe scheme must be very difficult to produce because none of the manufacturers have rendered it correctly. On the prototype, the side stripes are $1\frac{3}{8}$" wide spaced 2" apart. From the top of the top stripe to the bottom of the bottom stripe is $14\frac{7}{8}$". As they curve around the nose, they gradually narrow and get closer together. On the earliest paint jobs, the stripes converged to a point near the bottom of the nose. Through most of the 5-stripe era, the stripes were $\frac{1}{8}$" wide and $\frac{1}{8}$" apart at the bottom of the nose – a total of $1\frac{1}{8}$" wide. The closest stripe is 13" from the centerline at the bottom of the nose. Running $2\frac{3}{4}$" above the bottom of the body sides is a $\frac{5}{16}$" stripe. Just before it reaches the curving five stripes, it curves downward to the bottom of the nose never actually touching the five stripes.

On the Bachmann dark green 5-stripe model, the stripes are too wide and are 1" apart. The five stripes together are 15" wide. On the bottom of the nose, the converging stripes are 15" from the centerline. The stripe at the bottom of the body is too wide and crosses the converging stripes instead of curving down to the bottom of the body. The color is too yellow. It should either be gold leaf or metallic gold up to 1952 and Dulux gold (a pale yellow designed that look similar to the reflection on gold leaf) after that. The stripes are broken up over the rough surface of the side vents.

By comparison, the BLI Tuscan red five-stripe model displays all stripes the correct width. The only problems are that the narrow bottom stripe touches the converging nose stripes instead of curving down to the bottom of the body and the five stripes do not narrow and converge enough before they reach the bottom of the frame.

The BLI model lettering is the correct Craw Clarendon style. The Bachmann typeface on "PENNSYLVANIA" is not accurate and looks more like a match of the Mehano model. Bachmann did include the correct "WATER" and "FUEL OIL" lettering on the sides as did BLI. That detail was missing on the Mehano example I have.

Depending on the light, the dark green on the Bachmann model looks dark enough for a freshly painted locomotive. The red stripes around the cab windows were incorrectly placed on the window frame instead of just outside of it. The keystone is too large and too high on the car body. The numerals in the nose keystones were too tiny.

Bachmann's first production run included one number in each of several schemes: #4935 in DGLE 5-stripe as shown, #4876 in Tuscan 5-stripe, #4872 in the short-lived silver and red single stripe for the *Congressional* (worn briefly by three GG1 locomotives in the mid-1950's), #4807 in DGLE single stripe, and #4853 Penn Central black. All the PRR schemes have problems of one sort or another. The Tuscan #4876 (which is the locomotive of 1953 runaway *Federal* wreck fame,

Side view of the Bachmann model with one pantograph fully extended. The red stripes around the windows should be around the outside of the window frames and not on them as Bachmann has placed them.

in this color after rebuilding) has a nice looking Tuscan color in magazine photos, but has the same issues with lettering color, style, stripe widths, and placement as the DGLE 5-stripe model. Both the silver and DGLE single-stripe locomotives are missing the dark shadow on their large side keystones. The lettering style looks wrong on the unit numbers, but a little better on the "PENNSYLVANIA". The #4807 number on the wide-stripe DGLE model is not accurate for a GG1 with a drop-coupler pilot. Neither single-stripe locomotive correctly handles the wide stripe over the side vents (which no one does yet).

Operation

The Bachmann model has a die cast chassis with all six drive axles powered, but that's not enough to give it much pulling power on a layout with grades. It weighs 1 lb. 4¾ oz. – 3⅝ oz. less than the Mehano and 10¾ oz. less than the BLI. The PRR's electrified lines were not known for heavy grades (except in the New York tunnels), so this model should do okay on most flat layouts. Traction tires would have been a plus. It is possible to fit additional weight in some recesses of the body.

All wheels pick up power and the mechanism is quiet running. The wheels follow the NMRA RP25 profile. The locomotive is equipped with Bachmann's brown plastic E-Z Mate Mark II couplers retained with screws. It would be simple to replace them with your preferred brand and style.

The directional headlights are LED. The numberboards and cab are not lighted. A switch inside the carbody allows the engine to gather power through the pantographs.

Sound and DCC

The Bachmann GG1 is equipped with a Soundtraxx "Sound Value" DCC decoder and speaker. The decoder features are limited compared to the Soundtraxx Tsunami line, but it may satisfy many modelers. Unfortunately, the literature included with the model does not specify what sound is associated with each function key. A review in *Model Railroad News* indicated it had seven sound functions: bell, long air horn, short air horn, sound of pantograph being raised, traction motors on or off, air pump on or off, and mute. The horn sounds passably like the correct Leslie A200 single-chime air horns GG1 motors had. The bell, on the other hand, reminds me more of a department store announcement than a GG1. BLI did that one much better.

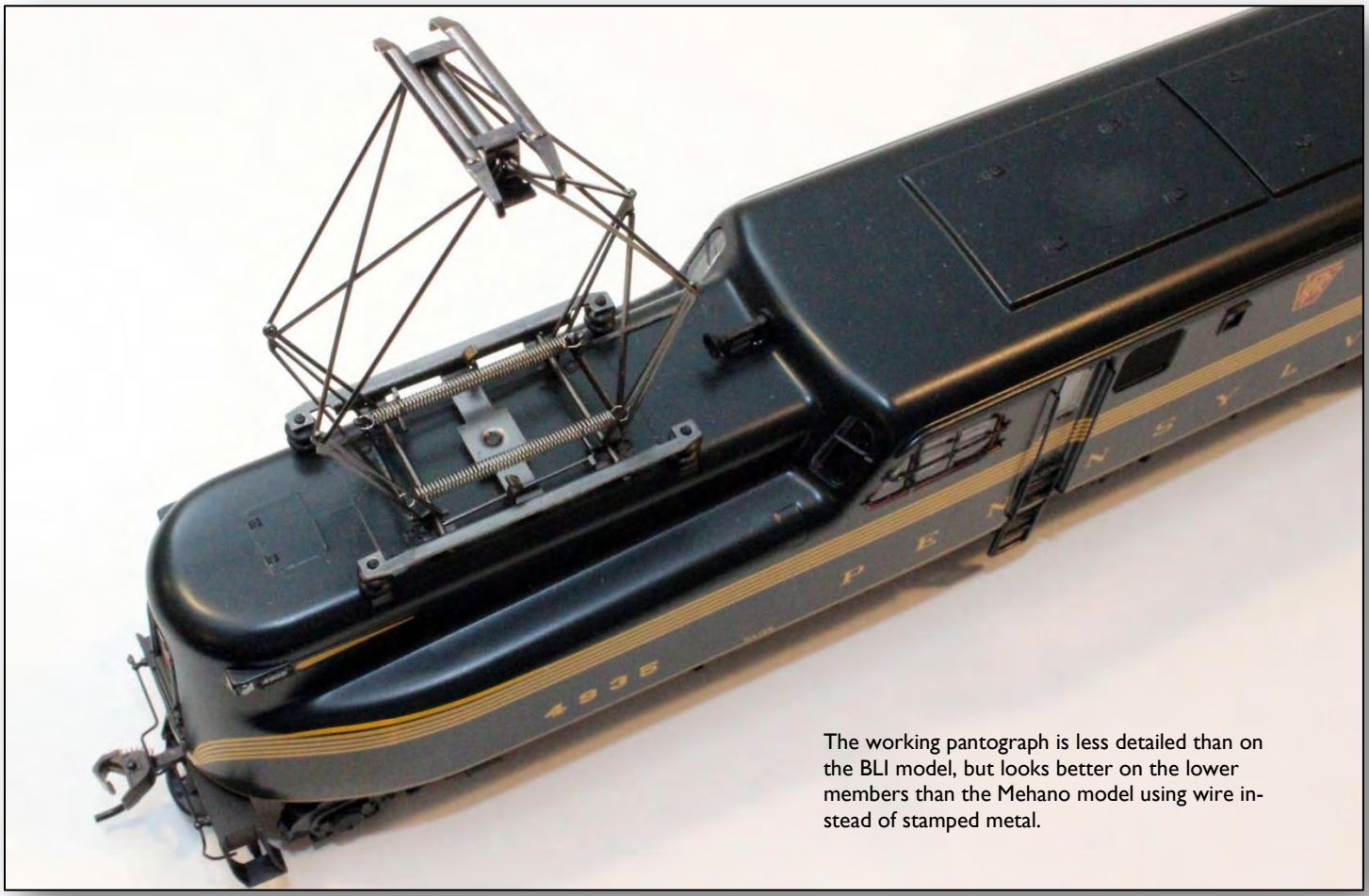
BLI also had the sound of traction motor gear whining when the locomotive moves. My Bachmann model makes no noise under motion unless a function key is pressed. Bachmann's lights can be turned on and dimmed with the DCC controller. All decoder equipped models can be operated with standard DC transformers.

Bachmann models can have extended addresses and can be operated in 14, 28, and 128-step speed mode.

Your Choice

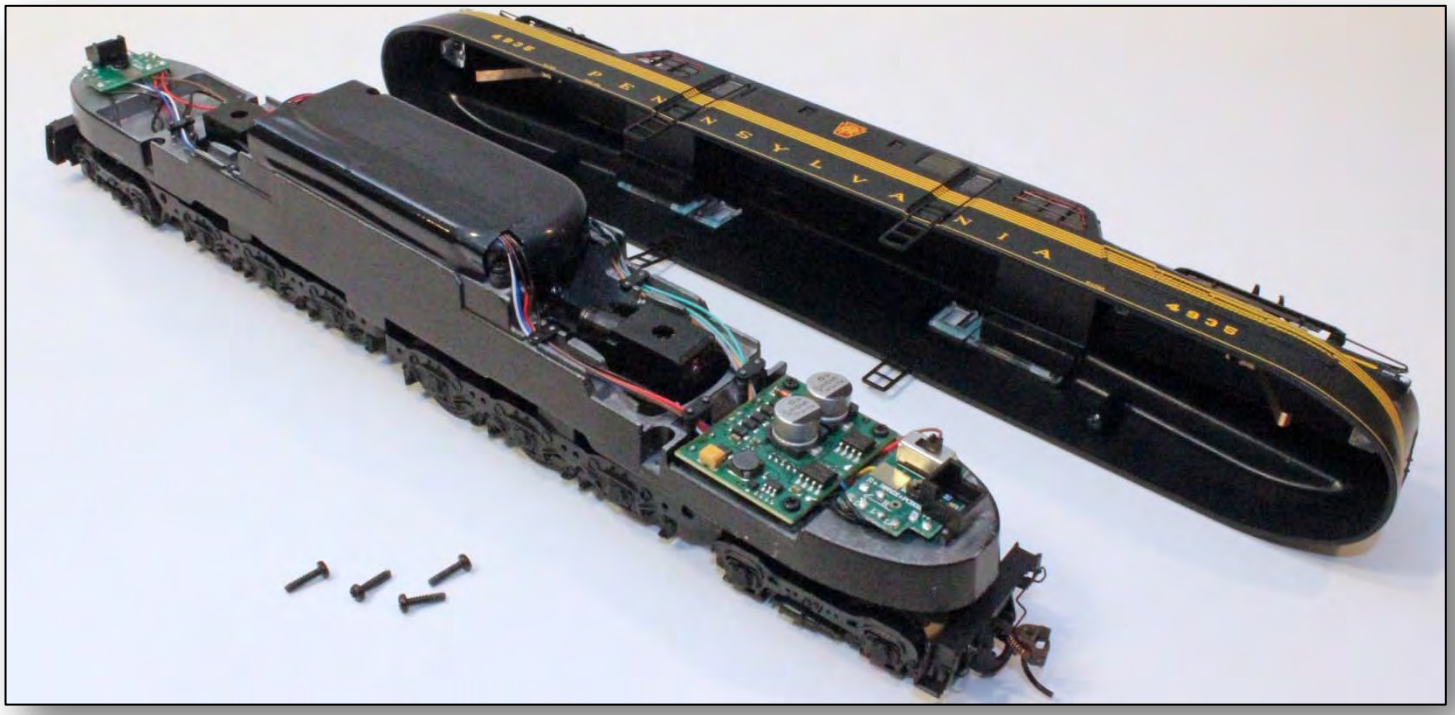
After close examination, I can't say a perfect GG1 model has ever been mass produced in HO-scale, but the BLI version was the closest I've seen so far. If the current MTH version of that tooling with additional enhancements is out of your price range, I would say the Bachmann model could very well be the best plastic body version made so far. If the inaccuracies in the paint bother you, Microscale makes decals you can use to model multiple lettering schemes.

▲ This close-up view shows the separate handrails by the cab doors, the safety rails over the cab windows, and the cast on windshield wipers.



The working pantograph is less detailed than on the BLI model, but looks better on the lower members than the Mehano model using wire instead of stamped metal.

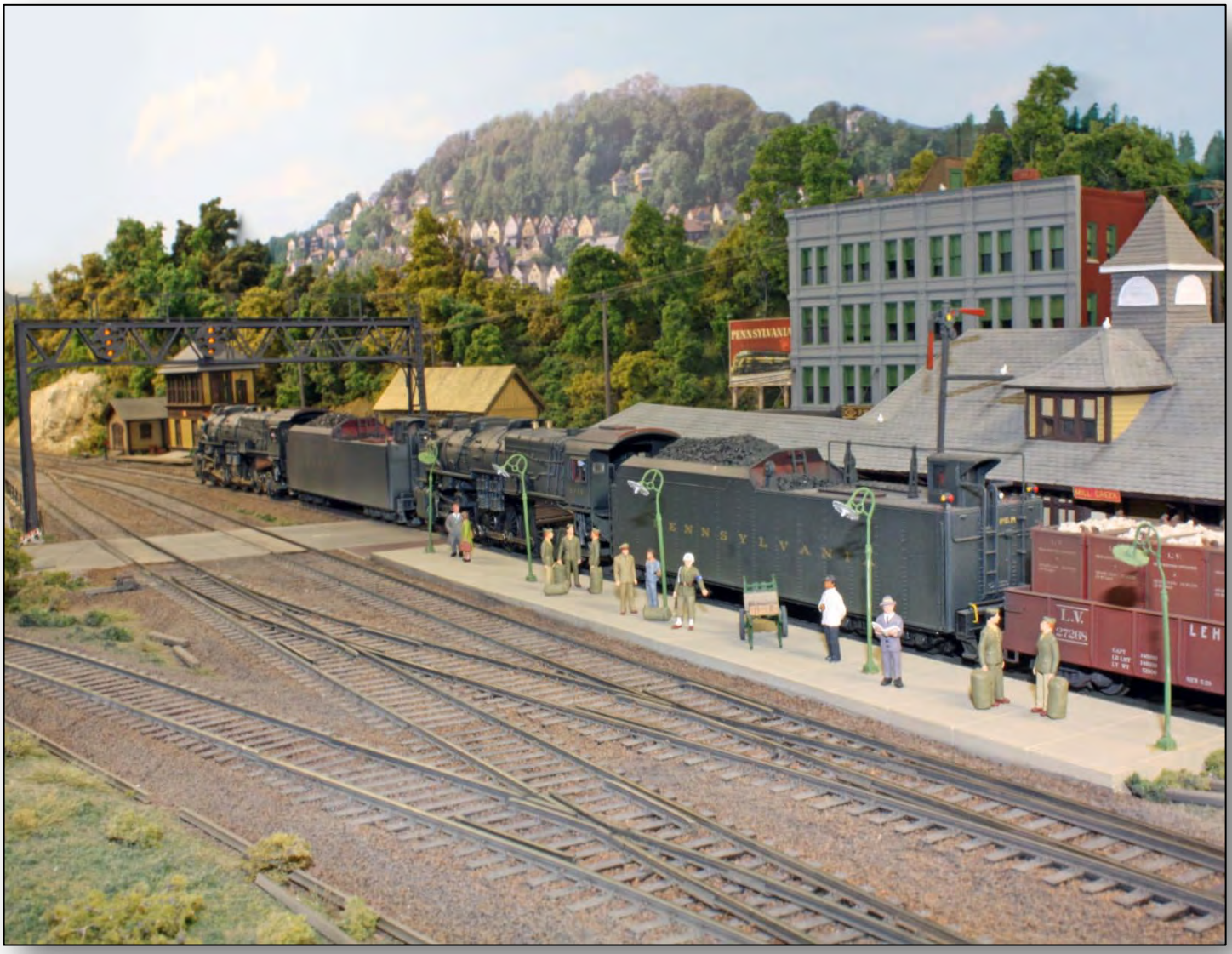
▲ The BLI model is on the left and the Bachmann is on the right. The BLI model is more detailed and accurate – especially on the chassis. ▼ The Bachmann model with the body removed. There is plenty of room in the upper body to add weight for increased pulling power.



Ed Swain's Freelanced Pennsylvania Layout

By Ed Swain (with Jim Hunter)

This layout was started about twelve years ago. It is a freelanced version of the PRR in south-central Pennsylvania. Harrisburg is at the center of things, as is Enola Yards, but there is no attempt to accurately model each mile of the railroad. Several of the structures are based on PRR prototypes, but others are simply interesting buildings which Ed wanted to include. The time period is the late 1940s to about 1951, chosen because of the variety of freight cars and the still-present steam motive power.



▲ A pair of Broadway Limited Imports M1B locomotives hauls a freight through a station while several soldiers wait on the platform.

▲ The Jeffries Point Stave & Heating Co., a Fine Scale Miniatures kit, has a BTS sawdust collector added. ▼ Callhoun Bros. Products Co. loads an N&W gondola. Note the PRR standard tool house in the left background.

Views of Downtown Harrisburg.

▲ Harrisburg Terminal; the station and concourse are Custom Model Railroads kits. The buildings along the back wall are kitbashed and scratch-built. ▼ Enola Yards where electrics are seen along with steam and diesel.

▲ A reverse view of Enola Yard. Note the PRR standard tool house next to a model of "JACKS" Tower. ▼ The icing platform is scratch-built, based on the Huntingdon Icing Facility (see *The Keystone*, Vol. 25, summer, 1992). The Ice Plant is also scratch-built from a 1919 photo of one in Mifflin. The diesel shop is a South River Model Works kit. Ed used a photo of a diesel facility in Dennison, OH to add details and determine colors

Product Review: Walthers/Mainline PRR ES-6

The EMD SW1 Switcher in HO Scale

By Jack Consoli – Photos by the author unless noted

With minimal detailing, and some weathering, this mid-1960's era PRR class ES-6 will be ready for service.

Walthers recently re-released their HO scale version of the SW1 EMD 600 horsepower switching locomotive with an all new drive mechanism and in new paint schemes. As to specific details, their ad copy states:

HO WalthersMainline® EMD SW1

- New Schemes!
- Limited Edition – One Time Run of These Roadnumbers!
- Prototypes in Service 1930s Thru Mid-80s – Some Still Operating Today
- Factory-Installed 8-Pin DCC Plug
- All-New Drive Mechanism
- 14:1 Helical-Cut Gears for Quiet Operating and Easy Multiple Unit Operation
- 5-Pole Skew-Wound Armature Motor
- All-Wheel Drive and Electrical Pickup
- Dual Machined Brass Flywheels
- Directional Lighting
- Heavy Die Cast Chassis
- Correct 40" Turned Metal Wheelsets
- Proto MAX™ Metal Knuckle Couplers

Their offerings are decorated for several railroads which owned the prototypes and these include two PRR locomotive road numbers: #910-9211 is PRR #9137 (later renumbered to 8537) and #920-9212 is #8590 (renumbered from 5990).

In keeping with their positioning in the WalthersMainline product family, these units are only available powered for standard DC (but are DCC-ready) and have fewer add-on and road-specific details than their higher-end product line models. The units are finished in "Brunswick Green" with the 16" yellow road number and red and white keystones on the unit's sides and front sandbox: the "Bill Volkmer" lettering scheme of the mid-1960's.

These models were originally imported by Walthers in 1993 from Roco and were offered in the as-delivered PRR scheme in two numbers: #5987 and #5993. It was also released in 1999 decorated as #9137.

The Prototype

The PRR purchased 85 (almost 13%) of Electro Motive Corporation/Electro Motive Division of GM's total production of approximately 661 model SW1 600 horsepower four-axle switching locomotives. These early end-cab units featured a low, long hood which narrowed at the cab to provide clearance and visibility, relatively long platforms at each end of the short-wheelbase unit, a single exhaust stack and a distinctive rounded corner (double) sandbox on the platform attached to the front of the hood, below the radiator grille.

ES-6 #9152 shown at Anderson, Indiana May 11, 1961. This unit illustrates the typical details of the pre-1949-built locomotives. It has the double stage taper where the hood meets the cab, the arched cab front windows and the sill overlap at the stepwells jogs downward. Note the lack of standard PRR electric marker lights on the front above the grille. This unit has the cab wind visors added and metal sunshades replacing the original

They were built in seven order groups from August 1942 through November 1950 and were best known under the locomotive classification system introduced in June 1951 as PRR class ES-6 signifying: **E**MC/EMD as the builder, **S**witching service, **6**00 horsepower. The road numbers were scattered in the series 5910, 5944-5999 and 9104-9428. Note that the PRR also purchased a lone predecessor model "SW", #5911, in 1937 that is generally similar in appearance to the later SW1's, but at the detail level is different in many aspects and is not included in further discussions here.

Over the 9-year period these units were delivered to the PRR, EMD's SW1 design evolved, resulting in several changes to the external appearance of the units. The most significant of these changes include:

- The double-stage hood taper in front of the cab being simplified to a single-stage taper.
- The original cab front windows that formed a curve along their top edges became flat across their tops.
- The early units had side sill members that jogged downward at the stepwells, whereas on the later units the jogs were eliminated.

The Walthers model incorporates the curved-top cab windows, double-stage taper on the hood, jogged side sills and overall general configuration that matches the PRR units built in 1942 through 1948: the twenty-four 5900-series units plus the eighteen units numbered 9137-9154.

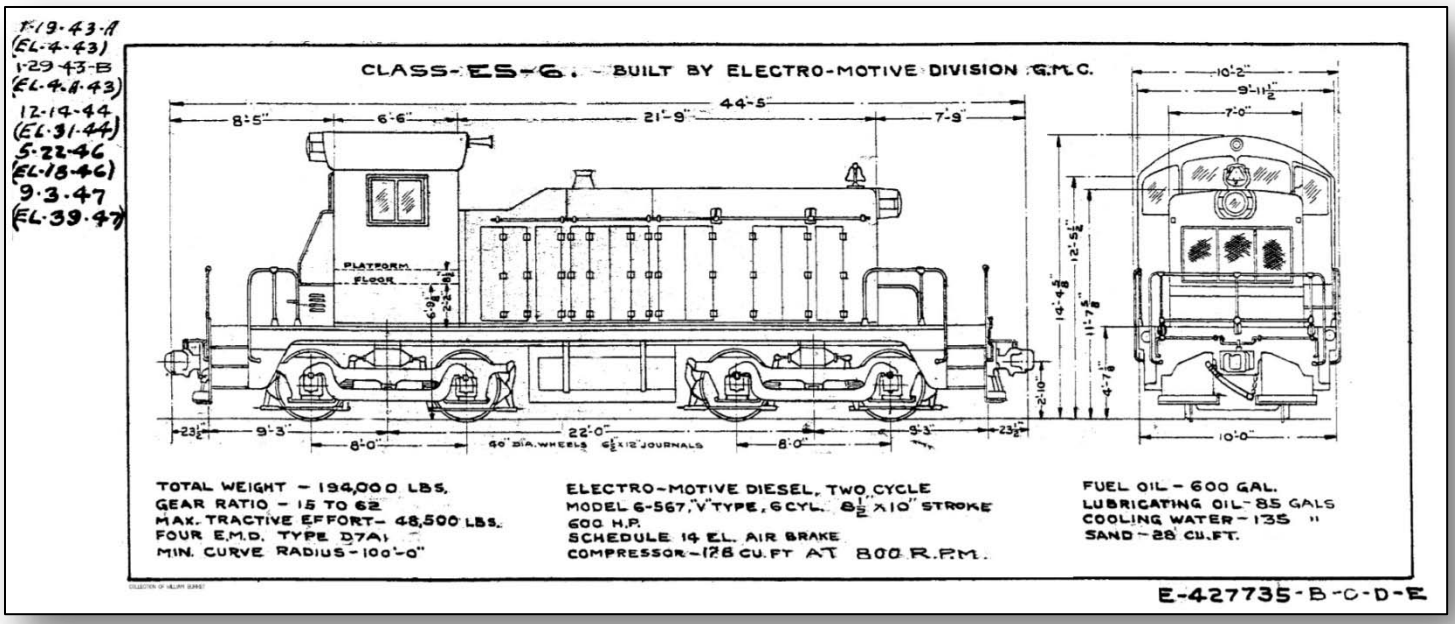
The PRR's ten 1949-built units 9200-9203, 9104, 9205-9209 still retained the curved-topped windows, but featured the single taper hood transition. The thirty-three 1950-built units, 9396-9428, had the single-stage hood taper as well as the flat topped cab front windows. Serious modifications would be required of the Walthers model to match these later-style units.

The units had a lengthy existence on the PRR, and the surviving units retained their ES-6 classification but were renumbered in 1966-67 in preparation for the merger with the New York Central. All but three units remained in service into the Penn Central period and all but eight were later passed on to Conrail and AMTRAK. The units were then retired or sold off to short lines, most retired between 1977 and 1984.

The units were scattered widely across the PRR system, most seeing duty shifting passenger terminals, yards, tight industrial areas and on local freights.

Walthers model illustrating the details matching the pre-1949-built PRR locomotives: double stage hood taper, arched cab front windows and the sill overlap jog at the stepwells. The spot locations for the hood side "ladder" are also visible here, just to the right of the keystone.

1949-built #9206 sits in Chicago on June 15, 1963 and illustrates the major external differences from the earlier units. Although they retained the arched cab front windows, they feature a single-stage taper where the hood meets the cab, and the jog in the sills where they overlap the stepwells is gone. Also in the early lettering scheme, this unit, like 9152 above, has the cab wind visors added and metal sunshades. *(William D. Volkmer)*



ES-6 diagram, courtesy Rob Schoenberg. This diagram depicts the appearance of the early, pre-1949 units.

PRR EMD SW-1 class ES-6 Locomotive Data

Built Dates	Qty	Original RN's	1966 RN's	PRR order #	Orginal Class	Cab Windows	Hood Taper	Jogged Sidesills	Disposition	Dates Retired
8/1942	1	5910	8510	E-512	AA5	curved top	double	yes	to PC	
6-7/1946	8	5944 - 5951	8544 - 8551	E-679	6E	curved top	double	yes	all to PC	
9/1947	2	5952 - 5953	8552 - 8553	E-850	6E	curved top	double	yes	all to PC	
3-4/1948	13	5987 - 5999	8587 - 8599	E-934	ES-6	curved top	double	yes	all to PC	
4,7-8/1948	18	9137 - 9154	8530 - 8579*	E-898	ES-6	curved top	double	yes	all to PC, except:	9144 & 9147 ret. 2/66
4/1949	10	9200-9203, 9104, 9205-9209	8401 - 8480*	E-1049	ES-6	curved top	single	no	all to PC	
7-11/1950	33	9396 - 9428	8512 - 8571*	6081	ES-6	flat top	single	no	all to PC, except:	9421 ret. 2/66
total	85									

* Note: re-number series not fully populated, consecutive or in order matching original numbers

During PC era, 1968-1976,they were PC class ES6. 5 units retired, 8 then to AMTRAK, the rest to CR
CR units were CR class SW1, all retired 1977-1984, or some sold off to shortlines

5990 renumbered 8590 1/17/67
9137 renumbered 8537 1/27/67

photo in Volkmer paint 7/1969
photo in Volkmer paint 10/1965

PRR ES-6 roster. See references 1) or 2) for unit-by-unit renumbering details.

MODEL REVIEW

The overall dimensions of the units appear to be in agreement with the prototype, although I didn't check every little dimension to the nearest inch. Certainly nothing jumps out at you as being wrong when viewing the model. At the finer detail level, I will list the specifics of the prototypes and model features only in areas in which there are discrepancies, intentional or not. The models are representative of the early PRR units more or less throughout their service lives.

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

Horns – Single-chime Leslie, forward-facing, small switcher horns were applied on a small triangular bracket in the center of the top front wall of the cab. The model detail is a decent representation of these horns. Drilling out the front of the horn casting slightly and adding a couple small triangles of styrene would improve the model appearance with little effort.

One of the 1948 units, #9143 shows the other side of a unit from this group and its fairly rare engine block heater on the walkway just ahead of the cab. This unit has one of the less common style inverted "V" spark arrestors and has had the PRR electric marker lights added straddling the front headlight. Still in its early style paint, here in Ft. Wayne, Indiana on February 19, 1966, it won't receive its 16" merger number until January 1967. *(Dave Sweetland)*

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 does not have any wipers represented. This is not necessarily bad news, as it means the modeler does not have to remove any unrealistic cast-on details before adding separate detail parts.

Cab Details – The PRR units appear to have been either factory equipped or had retractable canvas cab sunshades applied shortly after delivery with unit 5910 being a possible exception. Some units, including 5910, 9143, 9151, and 9154, had engine block heaters installed on the walkway directly in front of the cab on the engineer's side.

Builders Plates – The nine pre-1947 units from the first two order groups, 5910 and 5944-5951, were fitted with the early, rectangular builder's plates. Although this style plate was a holdover from the earlier EMC production (the predecessor SW unit #5911, was marked as such) the succeeding nine SW1 units were marked EMD. All the 1948 and later units had the more recognizable, oval shaped, stainless steel plates applied. The plates were located on both sides of the units on the side sills under the center of the cab. Photos show these plates started to disappear from some of the units by the late 1950's, but both 9137 and 8590 still retained their plates as late as 1967. There are no plates on the model.

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. Since the trusts for the 1948-built units matching the Walthers model would have expired in 1963, correctly, there are no trust plates on these models.

Electric Marker Lights and Flag Brackets – None of the units matching the Walthers model were built with the standard PRR electric circular red marker lights on each end. A few units from this group had them applied later and appear in photos after being renumbered, including at least 8543, 8544, and 8547 (ex-9143, 5944, and 5947, respectively). On these units, 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. Neither 9137 nor 8590 appear to have had them added. All the PRR units had combination flag/marker brackets applied to the front corners of the nose just above the radiator grille and to the rear corners of the cab. The model includes neither of these details.

Hood Vents / Grilles – The only hood louvers on the PRR units were the lone group of six slots on each end of the battery box behind the cab on the rear platform. The radiator grille on the front of the unit above the sand boxes was a three section screen type. The two large cooling openings with center supports on the top of the front portion of the hood were also screen covered. The Walthers model rendered the louvers and front screen correctly, but the model has a group of four louvered openings atop the hood in place of the screens found on the PRR units.

Overhead view of the Walthers model shows the hood-top details. The PRR did not specify the louver-style radiator opening covers for their units. Instead, they had diamond mesh screen grilles.

Hood Details – The hood door arrangement is correct for the PRR units, although a few of the door handles are on the opposite door of the door pairs. If you plan to shave off the cast-on handles and replace them with wire parts anyway, this can easily be corrected. There should be a small water tank filler on top of the hood just behind the radiator cooling screens, just off-center to the fireman's side of the centerline. There appears to be some remnant of this feature in the plastic hood, but it is just a nub. A small turned piece of plastic rod could be mounted here to add back this detail.

Hood side "Ladder" – The PRR units had the standard EMD six grab "ladder" on the fireman's side hood towards the front of the unit. This consisted of three normal drop grabs below the hand rail, the intervening section of the handrail and two grabs arranged in an "L"-shape above the rail on top of the hood. These grab irons are not included on the model, but there are small "spot" indentations in the hood side and top where these grabs should be applied. Thus, it would be a simple matter for the modeler to drill in these spots and add separate grabs.

Grab Irons – The PRR units were delivered with a number of grab irons on the units, none of which are replicated on the model. There should be a pair of grabs on each pilot face, one on either side of the couplers, below the cut levers; there should be a pair of small grabs (handles, actually) on the upper front corner of the two sandboxes on the front platform – one for each lid; and there should be two on the rear of the cab, one vertical along the upper side of the door and one horizontal beside the rear headlight – both on the engineer's side of the cab. As is the case with the missing hood "ladder" grabs, there are drilling spots provided for the two missing grabs on the rear of the cab.

Corner Steps – The corner steps/stepwells on the model match the configuration on the PRR units. However, the circular poling pocket indentations on the vertical inboard walls of the stepwells are missing. These would be easy to add with the touch of a spherical dental burr.

Underbody Details – The trucks, fuel tank, air tank and piping arrangement on the models follow what appeared on the PRR units pretty accurately, including the underframe "T" shaped jacking pads. A couple minor details such as small drain pipes and the underframe mounted emergency fuel cut-off boxes are missing, but could easily be added by the modeler.

Rear view of the model shows the battery box, railings and rear cab details.

In-Service Modifications – It appears that most of the units matching the model were equipped with retractable canvas cab sunshades, and that early in their lives, visors were added to both cab side windows on most units. Some of the fabric sunshades were later replaced with the trapezoidal metal shades. Some units had a roll-up style canvas front radiator grille cover added. A few units had spark arrestor screens added atop their single smokestack in the 1960's. None of these details are provided for in the model, but can easily be added as appropriate. In the period the units are intended to represent, 9137 still retained its canvas sunshades and radiator cover, and had the added cab window visors and rounded-top spark arrestor; 8590 retained its canvas radiator cover, but had the metal sunshades, an all-weather cab window and a different style spark arrestor applied.

Painting and Lettering

As far as paint schemes used on the PRR SW1's there are two main schemes plus few sub-variations. All units were painted standard Dark Green Locomotive Enamel.

The early scheme was the typical early diesel scheme: roadname, numbers and "F" initial (designating the front of the locomotive) were PRR Buff color; cab numbers were 6" high; roadname was in 8" letters; road numbers on both ends of the units adjacent to the headlights were 3" numbers.

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. This same note appears on most other hood-type locomotive diagrams and is somewhat vague. It appears from inspection of early photos of units that more specifically: the cab, hoods, sills, walkways, platforms, step wells and pilot sheets typically were all painted green and that only the trucks, fuel tanks and other underbody equipment between the end step wells were painted black. The models are painted as such. Color photos of some units 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 sliding side window frames 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. The bell almost always appeared to be polished brass on the locomotives; but it, the window frames, handholds and handrails are the green body color on the model.

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 below. Then another change was made in September 1952 when the edges of the steps and footboards were also to be painted Chrome Yellow. (The hand-written notes are copied from a later revision of the diagram.) Note that the yellow used for the various handrail sections and footboard edges was a bright Chrome Yellow, different than the paler Buff lettering color. Walther's opted to paint only the footboard and step edges of all these safety appliances yellow, leaving it to the modeler to do touch-up painting of the chrome yellow as required for their particular model situation. Photos show that these instructions were generally followed throughout the life of the units, although in many cases, the vertical grab alongside the upper part of the rear cab door was not yellow, or if it was, the horizontal grab above it was also yellow.

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 and there was variation over the years as to what, where and how many places some of the markings appeared including:

FIRE
EXTINGUISHER

or

FIRE
EXTINGUISHER
INSIDE

and

DANGER
600 VOLTS

or

DANGER
600
VOLTS

Additionally, the *DANGER 600 VOLTS* warning specification was changed from a stencil to a metal plate on 1-27-53. The enameled metal sign was a 4" x 7" plate with white lettering on a red background. From the photos it doesn't appear this instruction was followed rigorously either. Walther's chose a typical arrangement with 1.5" high white letters: on the fireman side 1 danger + 1 fire extinguisher stencil; on the engineer side: 1 danger stencil. 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 in the early 1950's. At least some of the units had the markings on the front and rear pilots. Not all units were so marked at all periods of time, and the author has not observed any units in the late paint scheme with them still applied. 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.

Near the end of the official period of the early scheme, a modification was made. Starting in late 1963, a plan to increase the size and visibility of the numbers on all classes of locomotives was begun, following recent deliveries of new locomotives with the larger numbers. The 6" cab-side road numbers were to be increased to 16". These large numbers were applied using individual, pre-masked Scotch-lite stickers. Once attached to the body, they were to be over-sprayed with the body color paint and then the number masks removed. They were more of a reflective safety yellow color than the original buff color. Due to economic conditions and resource limitations, implementation was very slow. On the original-numbered units to which the 16" numbers were applied, the existing early-scheme 3" buff end numbers were not disturbed.

In the late, shorter-lived scheme, the lettering was significantly simplified. The roadname was eliminated, replaced by a single white-on-red Keystone more or less centered on each side of the hood. The earlier plan to increase the size of the locomotive numbers was converging with the 1966 (pre-merger) renumbering plan and the 16" cab merger numbers appeared on most of the late scheme units. Poor economic conditions prevailed and the number of units repainted was limited. Many units still in the early scheme simply had the new 16" merger numbers applied. Instructions were given that in this situation the original end numbers were to be painted out and not replaced. Photos of units having the full late scheme applied show a mix of units without end numbers and others with new small, sans-serif font end numbers.

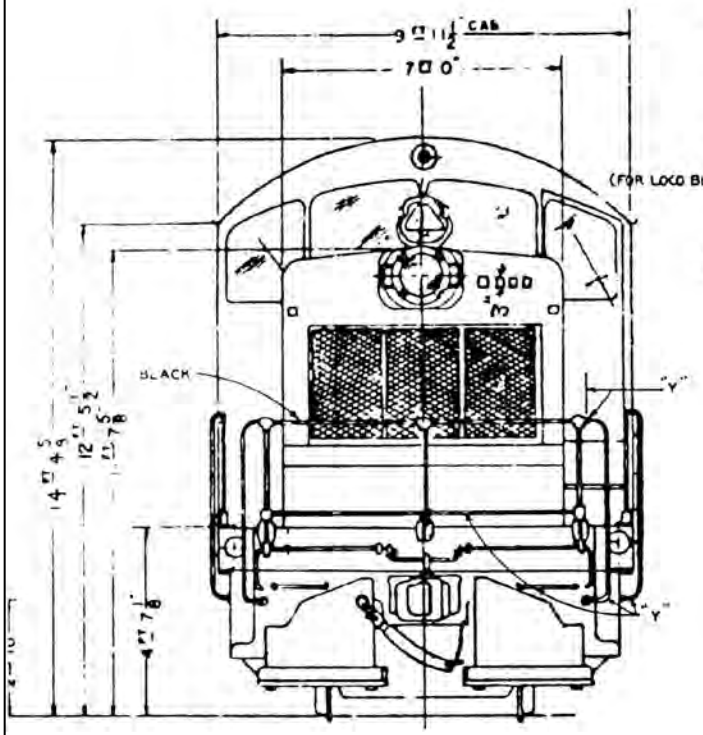
HANDHOLDS, GRAB IRONS AND SECTIONS OF HANDRAILS MARKED "Y" TO HAVE 2 COATS OF CHROME YELLOW, PRR SHADE. REMAINING PARTS TO BE BLACK

CAB BODY AND ENGINE HOOD TO BE PAINTED TWO (2) COATS OF DARK GREEN LOCOMOTIVE PAINT P.R.R. SHADE AND HAVE TWO (2) COATS OF FINISHING VARNISH.
ALL LETTERING AND NUMERALS TO BE BUFF COLOR P.R.R. SHADE.
ALL OUTSIDE SURFACES BELOW CAB AND ENGINE HOOD, INCLUDING TRUCKS FUEL TANKS, ETC. TO HAVE TWO (2) COATS OF BLACK ENAMEL AND OUTSIDE EXPOSED SURFACES TO HAVE ONE (1) COAT OF FINISHING VARNISH.
ALL LETTERING AND NUMERALS TO APPEAR ON BOTH SIDES AND NUMBER TO APPEAR ON BOTH ENDS OF LOCOMOTIVE
FOR 8" LETTERS SEE C97663A C97663
FOR 6" NUMERALS " C426884.
FOR 3" " " E55943.
THE WORD "FUEL" TO APPEAR NEAR FUEL FILLER AND "WATER" NEAR WATER FILLER ON OUTSIDE SURFACE IN 1½" WHITE LETTERS.
THE WORDS "FIRE EXTINGUISHER" TO APPEAR IN 1½" WHITE LETTERS ON OUTSIDE SURFACE OF HOOD DOOR ADJACENT TO OR ON WHICH FIRE EXTINGUISHER IS MOUNTED.
INTERIOR SURFACES OF MOTORMAN'S CAB SHALL BE PAINTED TWO (2) COATS OF SUEDE GRAY ENAMEL P.R.R. SHADE.
FLOOR TO HAVE TWO (2) COATS OF INDIAN RED FLOOR ENAMEL P.R.R. SHADE.
OTHER INTERIOR SURFACES TO HAVE ONE (1) COAT OF SUEDE GRAY ENAMEL P.R.R. SHADE
BRAKE STAND AND CONTROL EQUIPMENT IN CAB TO BE BLACK.
ALL FUEL LINES INCLUDING FILLER ON SIDE TO BE RED P.R.R. SHADE.
ALL WATER LINES TO BE YELLOW P.R.R. SHADE
ALL LUBRICATING OIL LINES TO BE GREEN P.R.R SHADE.
ALL AIR PIPING AND CONDUIT IN CAB TO BE BLACK
ALL HANDRAILS AND HANDHOLDS TO BE BLACK FOR NUMBER AND CLASS LOCATION IN CAB SEE F44041E.
WHEELS NOT TO BE PAINTED

(FOR LOCO BUILDERS ONLY) COLOR CARDS FOR MATCHING P.R.R SHADES MAY BE SECURED FROM THE GENERAL PUR. CHASING AGENT.

"DANGER-600 VOLTS" TO BE STENCILED, (1½" HIGH IN WHITE), ON OUTSIDE OF EACH ELEC. EQUIPT. CABINET DOOR & OUTSIDE OF HOOD DOORS ON RIGHT & LEFT SIDE OF LOCO NEAREST CABINET.

THIS TRACING SUPERSEDES TRACING D438378 FOR CLASSES ES-6, ES-6(5911) ON ACCOUNT OF ADDING NUMBERS ON ENDS OF LOCOMOTIVE. 11-24-48.



COLOR CODE FOR PIPING REMOVED 7-6-36

PAINTING OF FUEL AND WATER FILLERS SPECIFIED 8-30-56

ISSUED - 11-26-48-A (EL-71-48)
RE- " 8-29-51 - B- KN
" " 10-12-51 - C- KN
" " 11-21-51 - D- KN

INSTRUCTIONS TO PAINT EDGES OF FOOTBOARDS YELLOW ADDED 9-24-52

INSTRUCTION TO STENCIL "DANGER 600 VOLTS" ON OUTSIDE OF EACH ELECTRICAL EQUIPMENT DOOR REMOVED ON ACCOUNT OF USING METAL SIGN 1-27-53

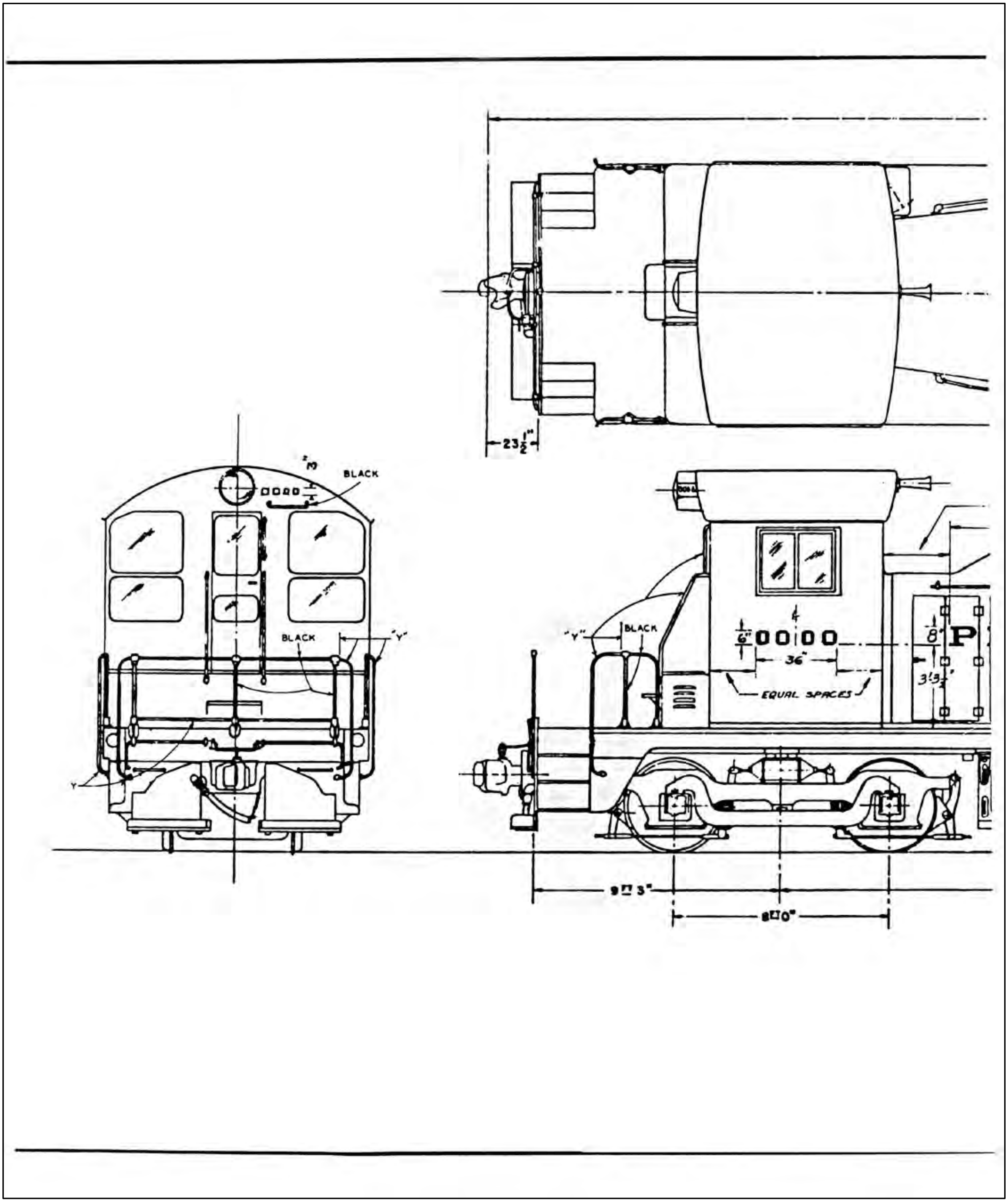
CLASSIFICATION BADGE PLATE ADDED. 8-29-51 (D.EL-110-51)
SPECIFICATIONS ADDED FOR PAINTING SAFETY APPLIANCES YELLOW. 10-12-51 (D.EL-127-51)
CLASSIFICATION BADGE PLATE CROSSED OFF. 11-21-51 (D.EL-138-51)

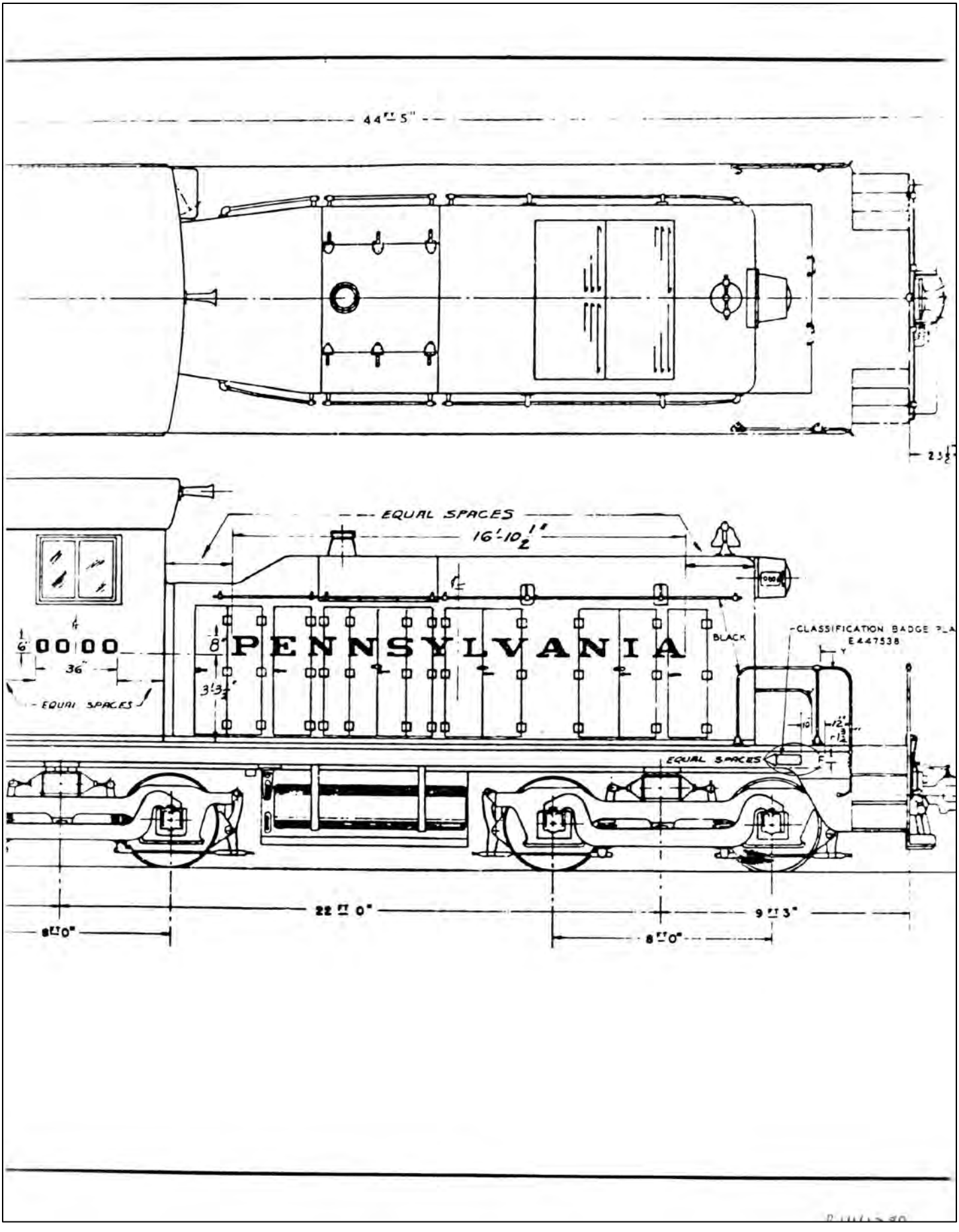
ES-6. ES-6(5911)

THE PENNSYLVANIA RAILROAD
DIESEL ELECTRIC LOCOMOTIVES
LETTERING AND PAINTING
PHILADELPHIA - 11-24-48

H. T. Cover — CHIEF OF MOTIVE POWER
B 441289
C. A. [illegible] — MECHANICAL ENGINEER
SHO. A B C D
E F G H I

This and next two pages: Early scheme ES-6 Painting and Lettering diagram. *(PA State Archives, PH&MC)*


BLACK
BLACK
"Y"
Y
23½"
BLACK
"Y"
6"
0000
36"
8"
P
3'9½"
EQUAL SPACES
9'-3"
8'-0"


44 FT 5"
EQUAL SPACES
16'-10 1/2"
PENNSYLVANIA
BLACK
CLASSIFICATION BADGE PLA
E447538
EQUAL SPACES
EQUAL SPACES
22 FT 0"
9 FT 3"
8 FT 0"
8 FT 0"

1949-built #9201 is shown here at Zanesville, Ohio in February 1965. This later body-style unit wears an early implementation of the late scheme, presumably applied before the release of the official painting and lettering diagram. The keystone placement is similar to those on the "Volkmer" scheme and it carries its original number. *(Paul B. Dunn)*

The official "plan" being stated above, the reality observed in photos shows:

- some units still in the early scheme with the 6" original numbers lasting into early 1967
- renumbered units in the early scheme with the 16" numbers appearing from 1966 through 1970
- renumbered units in the late scheme with the 16" numbers also appearing from 1966 through 1970

Backing up in time, enter William D. Volkmer, who in July 1964 was transferred to Northumberland as Motive Power Foreman. Of his own accord and desire to improve the appearance of the railroad for which he worked, he marshalled the men, materials and facilities at his disposal and began to repaint equipment in need of visual refurbishing as resources allowed, despite the company's directives of the time in only repainting things that absolutely required it due to repairs. He started with the PRR's historical collection of steam locomotives stored there at Northumberland and then moved to the diesels assigned to service there. Although the PRR had previously specified the 16" numbers and intended to redesign and simplify the schemes on existing diesels similar to those on the new diesels being purchased, updated painting and lettering diagrams for many classes had not yet been (and possibly never were) drawn up. Following what he had done previously at the Canton Diesel shop when repainting some wreck-repair units, Bill and his shop forces improvised how the new schemes might look for locomotives for which the diagrams did not exist. SW1 9137 was one such unit, being completed in September 1965. Using the Alco DL640s delivered in late 1962 on which the roadname was left off and keystones were applied above the truck on the sides of the long end of the hood and on the nose as a guide, they applied 16" cab numbers and keystones similarly to 9137. The unusual location of the front of the sandbox was the only solid spot a keystone could be placed on the nose of the SW1's. They kept the original style 3" end numbers as they were in the original scheme.

By 1966, the official drawings had been issued showing the locations of the side keystones being more centered on the carbody, but they did not include a keystone on the nose. Most of the other SW1's that were repainted in this period had this "official" late scheme applied, although the location of the keystones seemed to drift about. Unit 8590 was an exception. This unit had the keystones applied to near the center of the hood sides and was without end numbers as specified, but it too had a keystone applied to the front sandbox. Bill denies that he had this unit painted and supports his position by the fact that he preferred his choice of the more forward location of the side keystones. It is unknown who "modified" the scheme on 8590 and added the nose keystone. So although the lettering scheme on the Walthers models was not an officially specified PRR scheme, it did appear as such on one unit in the twilight of the PRR era and is thus correct for 9137. Although prototype 8590 appeared similar to a "Volkmer" paint scheme, it really wasn't and differed from the one that was. This model thus has the side keystones located too far forward and retains the end numbers that were missing on the prototype.

#9137 fresh out of the paint shop at Northumberland in all its glory displays its "Volkmer" paint job, September 21, 1965. The unit still has retractable canvas cab window sunshades and front radiator grille cover. Note the early-scheme serif-style 3" end number retained in Bill's vision of the late scheme, the bare brass bell and the round-top spark arrestor on this unit. Justifiably proudly photographed by William D. Volkmer.

In summary, the Walthers model (at least 9137) is well executed for what it is – a lower tier detail level / general use model / not one of their higher-end models – but it can easily be improved significantly to be much more prototypically correct with a minimal amount of modeling effort. Part 2 of this article will cover modeling upgrades to one of these units.

REFERENCES

- *Pennsylvania Railroad Diesel Locomotive Pictorial Volume 10: EMD Switchers*, Paul K. Withers, July 2006: pg. 739-769, 816.
- *Pennsy Diesels 1924-1968*, Douglas and Weiglin, Hundman Publishing, 2002: pg. 165-166.
- *Pennsy Diesel Years 1*, Robert Yanosey, Morning Sun Books, Inc., 1988; pg. 131, 152.
- *Pennsy Diesel Years 2*, Robert Yanosey, Morning Sun Books, Inc., 1989; pages 45, 50, 108.
- *Pennsy Diesel Years 3*, Robert Yanosey, Morning Sun Books, Inc., 1990; pg. 188.
- *Pennsy Diesel Years 6*, Robert Yanosey, Morning Sun Books, Inc., 1996; pages 17, 108.
- *Pennsy Power II*, Alvin F. Stauffer, 1968.

Although a very low resolution photo of #8590, it illustrates that the side keystones were more centered and thus followed the official lettering diagram. Additional views of #8590 are included in references 1 and 2. *(Photo source unknown)*

▲ A PRR ES-6 switches express trains in Willsburgh, Pa. The locomotive is a modified Walthers model. ▼ K4s #3678 leaves Willsburgh at "BURGH" interlocking as an M1B arrives with a freight. Both engines are by BLI with extra details and weathering. *(Both photos, Tim Garner)*