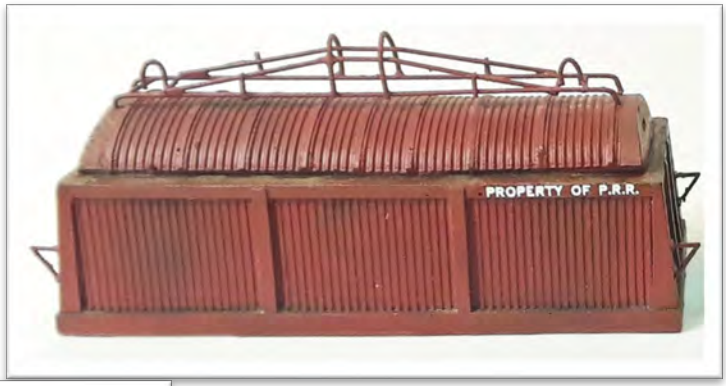
The Keystone Modeler

Pennsylvania Railroad Technical & Historical Society

No. 107 Winter 2019

Inside:



The Keystone Modeler
Pennsylvania Railroad Technical & Historical Society

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NUMBER 107 **WINTER 2019**

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FRONT COVER

(Top left) Bowser PRR General Electric U25B in HO scale. *(Tim Garner)* • *(Top right)* PRR coil cover. *(Ron Hoess)* • *(Middle)* Rapido's PRR ALCo FA2 in HO scale. *(Tim Garner)* • Preproduction sample of Broadway Limited Import's new PRR P5A electric locomotive. *(BLI)*

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.

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Disc 4	August 2006 to July 2007	*TKM* Nos. 37 – 48
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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. Include an additional $15 for shipments outside the US. Send a check or money order in US dollars payable to PRRT&HS to:

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It has often seemed to me that model railroaders fall into one of two camps. Some are primarily model-builders and others are primarily operators. These are not mutually exclusive categories, as many builders occasionally operate and vice versa.

Those who spend their time building models can be very focused on whether a particular freight car or locomotive has all the correct appliances for its time period, not to mention the correct paint color and lettering scheme. I find myself sometimes intimidated by the meticulousness of their work. Their main pleasure in model railroading is producing these accurate models, and they have doubtless been a strong influence in bringing us the prototypical models we enjoy today.

On the other hand, those who are mostly interested in operating argue that we aren't modeling railroads unless we run our model trains in a prototypical manner. They are less focused on super accurate models, because the tiny little details may get damaged in operating sessions. There are even some operators for whom landscapes and structures are secondary to dispatching and managing trains.

I am not going to take one side or the other here, for I have operated on a few model railroads, and I have spent hours working on some excellent resin kits. Certainly, the best model railroads include both impressive models and provide for operations as well. Yet, I still feel that most of us lean toward either the detailed models or the operating sessions. Those who know me well would tell you that I lean toward model-building. Fortunately, our hobby is big enough for both.

In recent months, *Railroad Model Craftsman* has published a couple of articles of interest to PRR modelers. The December 2018 issue contained an extensive article by James Kinkaid about the H39 class of hopper cars. In January of 2019, there was an interesting piece by James Rose about using Baldwin shark bodies to create an imaginary PRR electric locomotive.

For your consideration in this issue of *TKM*, we present a first look at a preproduction BLI P5A electric due out later this spring. There is a review of the Bowser U25B by Tim Garner and a review of the Rapido FA2 by both Tim and Jack Consoli. We also have something unusual with Ron Hoess describing how he scratch-built covers for coiled steel shipments.

Jim Hunter, Editor

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 $40.00 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
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McVeytown, PA 17051

The Keystone Modeler
NEWSWIRE
With Steve Hoxie

PRR Product News

ATLAS MODEL RAILROAD CO.
https://shop.atlasrr.com/
PRR Alco FA1 and FB1 Diesel Locomotives– N Scale

Atlas

Atlas has in development, with guaranteed pre-orders closed, models of this popular locomotive. Offered in both Silver (DC only) and Gold (DCC/Sound with ESU Loksound decoder) versions. Three road numbers will be available. The models are expected to ship during the Second Quarter of 2019.

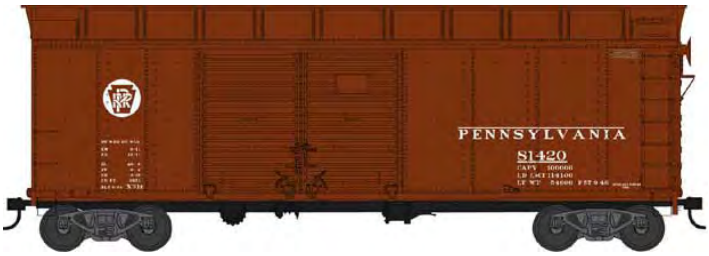
Signal System—All Scales

Atlas

Atlas has available parts of its All Scales Signal System which has been in development. The Universal Signal Control Board is the heart of the system. It can be operated in a stand-alone mode, as an ABS system when linked with other UCSB's, with Approach lighting, with flashing aspects, and part of complex interlockings. A PRR Position Light signal is available now in O scale. An HO Position Light signal was observed at the **Atlas** booth at the Amherst Show in January.

BOWSER MFG. CO.
http://www.bowser-trains.com/
PRR X31 Boxcar Classes—HO Scale

PRR X31A Single Door, Inset Roof Boxcar *(Bowser)*



PRR X31F Boxcar *(Bowser)*

Bowser will have available in the summer of 2019 ready to run X31 40-foot boxcar classes, including the K11 stock car, in several paint schemes. These distinctive cars with their unique roof designs have been offered before, but they are always welcome on the market.

PRR Freight Trucks—HO Scale

Freight car trucks are models, too. **Bowser** has available separately three types of freight car trucks and a caboose truck, now with metal wheels and axles.

PRR 2D-F8 Truck (used on X29, GLA, GLCA, GS) *(Bowser)*

PRR 2D-F12 Truck (used on X31) *(Bowser)*

PRR 2E-F2 Crown Truck (used on H21A) *(Bowser)*

PRR 2A-F5 Caboose Truck (used on N5, N5B, N5C) *(Bowser)*

BROADWAY LIMITED IMPORTS
http://www.broadway-limited.com/
PRR K4s Passenger Steam Locomotive—HO Scale

(BLI)

Broadway Limited is producing another run of the iconic K4s Pacific. All new road numbers will be offered. Both pre-war and post-war versions will be available including versions with a long tender. The model will have Paragon3 Sound/DC/DCC capability.

PRR P5A Electric Locomotive—HO Scale

BLI has updated the delivery of the P5A to April 2019. See images of a preproduction sample later in this issue.

INTERMOUNTAIN RAILWAY COMPANY
https://www.intermountain-railway.com/
PRR X29 Boxcar—HO Scale

(Intermountain)

Intermountain, now the owner of the Red Caboose tooling, has intentions of producing our favorite boxcar; however, reservations have been lagging. **Intermountain** had it in their Taking Reservations category for over 90 days but has now moved into red-colored Needs Reservations. If it makes it to production, expect there to be a variety of paint schemes.

PRR EMD F7A/B (EF15a) Diesel Locomotive—N Scale

(Intermountain)

Intermountain has in production for N scale F7 A and B units. They will be in DC only, non-sound DCC, and DCC with sound versions. The DCC with sound version will have an ESU Loksound decoder.

Upcoming Events

March 22-23, 2019 Greensburg, Pennsylvania
RPM-East
http://hansmanns.org/rpm_east/index.htm

March 29-30, 2019 Savannah, Georgia
Savannah Prototype Modelers Meet
http://www.savannahrpm.com/

April 26-28, 2019 Marion, Ohio
Central Ohio RPM
https://www.facebook.com/groups/438383252883060/
Contact dblake7@columbus.rr.com for details

April 27, 2019 San Bernardino, California
Western Prototype Modelers Meet
https://ppw-aline.com/pages/so-cal-meet

May 3-5, 2019 Vancouver, British Columbia, Canada
Railway Modellers Meet of British Columbia
http://railwaymodellersmeetofbc.ca/

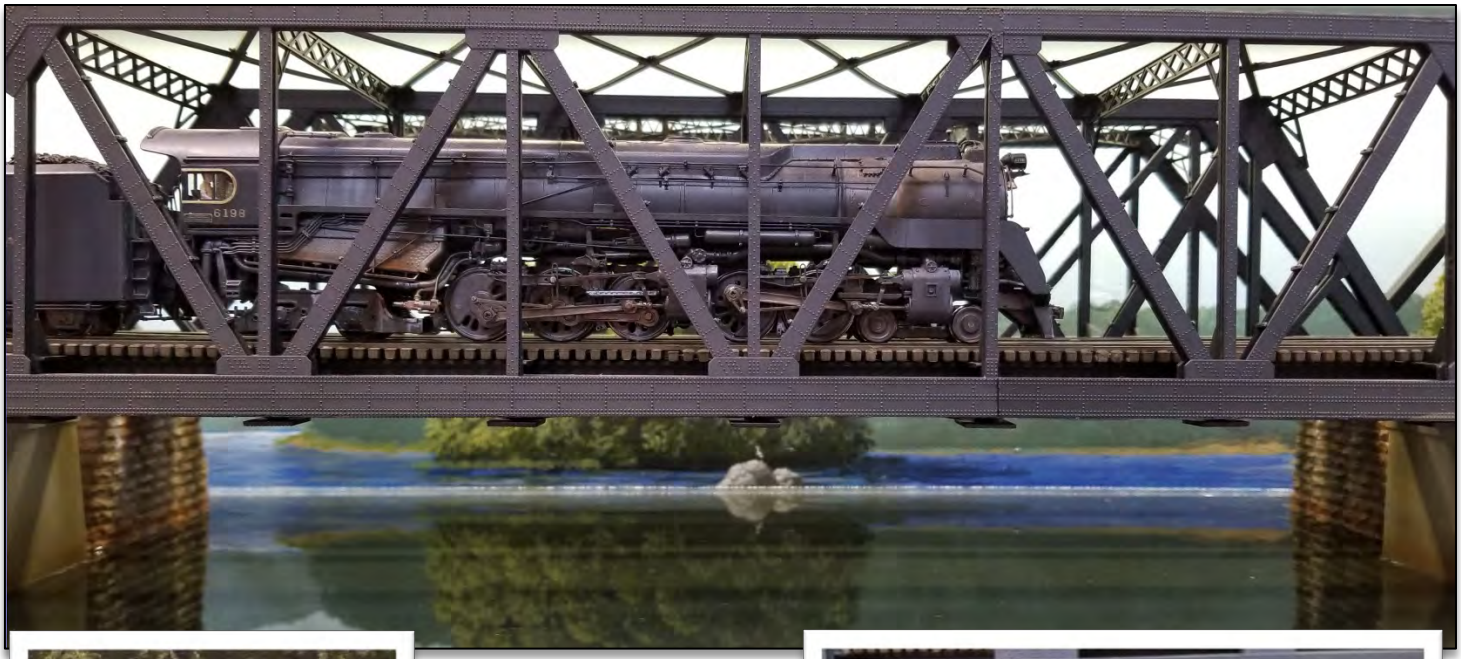
May 15-18, 2019 Strasburg, Pennsylvania
PRRT&HS Annual Meeting
http://www.prrths.com/conventions/PRR_Annual.html

May 31-June 1, 2019 Farmington, Connecticut
New England/Northeast Railroad Prototype Modelers Meet
http://nerpm.org/index.html

Advance Planning

July 7 -13, 2019 Salt Lake City, Utah
NMRA National Convention and National Train Show
http://www.nmra2019slc.org/

July 26-27, 2019 Collinsville, Illinois
St. Louis Railroad Prototype Modelers Meet
http://icg.home.mindspring.com/rpm/stlrpm.htm



Progress on my Layout

with Tim Garner

A couple years back I tore down my old layout and started on a new one. The first place to get scenery is a river with parallel bridges like Sunbury, Pa. I painted the back-drop to fit the spot. I'll be adding waves to the river with Modge Podge. I didn't discover until taking pictures how abstract the shore bird on the rock was. The bridges are kitbashed Central Valley and Walthers. This is my first layout using static grass. This shelf is 12" deep and is lit with LED strips.

First Look – The BLI P5A Electric in HO-Scale

By Tim Garner – photos by Broadway Limited Imports

Modelers attending recent train shows have had the opportunity to see this pre-production sample of Broadway Limited Import's (BLI) long-awaited P5A electric locomotive. The sample is the early passenger version with a brown roof and steam generator stack. These photos are from BLI's web site. The latest reported arrival date is in April 2019.

The body and chassis are reported to be die cast on BLI's model. Based on the performance of other BLI models, this one should be a strong puller with a smooth quiet drive train – especially when compared to stock brass versions by Alco Models.

PRR's P5A had aluminum handrails at each end which BLI appears to have modeled nicely.

BLI's planned P5A features include:

- Paragon3 sound and operation system featuring Rolling Thunder™ with authentic sounds and prototypical operation in both DC and DCC environments
- Factory-installed engineer and fireman figures
- Die cast body with die cast chassis
- Operating Kadee® or compatible couplers
- Will operate on rail as small as Code 70
- Minimum Operating Radius: 18 in or greater

List price is $399.99 at BLI. Trainworld is offering the model for $284.99

Orders are being accepted for the following:

Item No.	Unit No.	Description
4700	4739	1930's Passenger Type with brown roof and gold-leaf roman lettering
4701	4742	1930's Passenger Type with brown roof and gold-leaf roman lettering
4702	4766	1930's Passenger Type with brown roof and gold-leaf roman lettering
4703	4707	Freight Type with brown roof and buff Roman lettering
4704	4718	Freight Type with brown roof and buff Roman lettering
4705	4713	Freight Type with buff Futura lettering
4706	4738	Freight Type with buff Futura lettering
4707	4706	Freight Type with buff Roman lettering (coved)
4708	4757	Freight Type with buff Roman lettering (coved)
4709	4722	Freight Type with buff Roman lettering (round)
4710	4735	Freight Type with buff Roman lettering (round)
4711	4760	Freight Type with buff Roman lettering (round)
4712	4773	Freight Type with buff Roman lettering (round)
4713	n/a	Passenger Type, unlettered
4714	n/a	Freight Type, unlettered

Scratchbuilding PRR Coil Covers

by Ron Hoess – Photos by the author unless noted

The finished covers.

Following World War II, coiled steel became a major commodity for shipment by rail. The tremendous growth of the automobile industry and appliance makers rapidly increased the demand for coiled steel. The Pennsylvania Railroad, along with other railroads that served both the steel and auto industries, had to determine how best to ship coiled steel without damage to the lading, as well as to the freight cars themselves. Initial attempts to load boxcars with coils using forklifts proved unsatisfactory, all too often damaging both the coil and the boxcar. The railroads turned to using gondola cars, into which coils could be loaded from an overhead crane without damaging the car. While this was an improvement, there remained the problem of how to protect the unfinished steel from moisture. At first, tarps were used as covers, but these proved unsatisfactory for protecting steel coils from wind-driven rain. By the mid-1950s, several railroads had begun experimenting with steel covers or "hoods" that could easily be placed over the coiled steel while in transit and then lifted off prior to unloading. Even one of the suppliers of coiled steel, Republic Steel, designed their own covers (See US Patent 2,977,900) that were then used by several railroads including the Erie and the B&O.

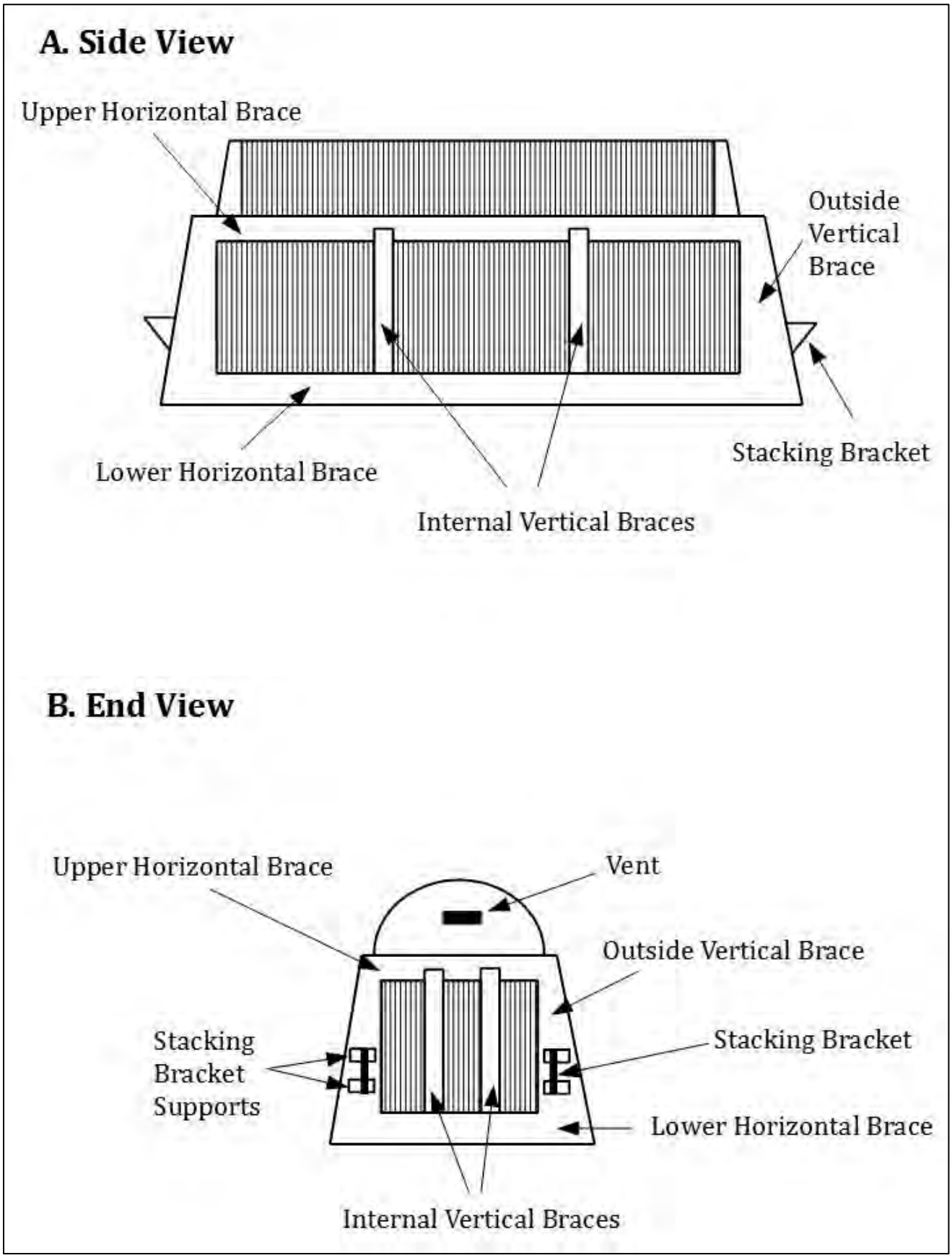
During the 1956-58 time period the PRR experimented with a similar design for coil covers. There are some very nice photographs of both an early and a late version on pages 94-96 in the book *Pennsylvania Railroad Gondolas* by Al Buchan and Eldon Gatwood (PRRT&HS, ©2011) that form the basis of the project described here. In addition, the book *Pennsy Railroad Car Plans*, edited by Robert J. Wayner, (Wayner Publications, ©1969) has a diagram that provides the overall dimensions necessary for the project.

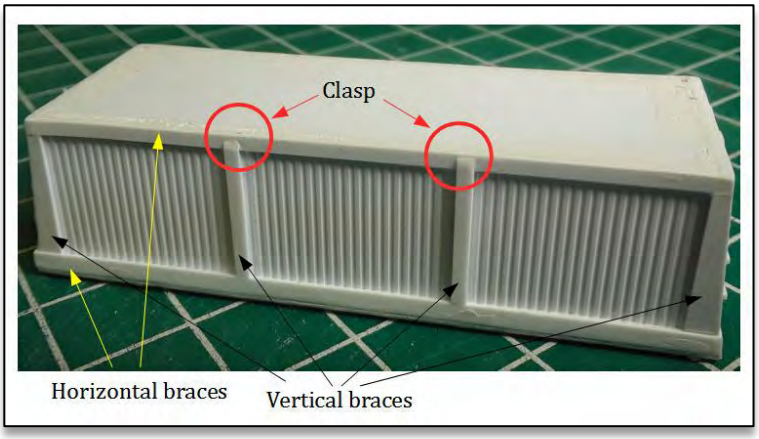
I began by reducing the plans to HO scale (1:87) so that I could use them as a printed template for construction. My overall strategy was to construct a reasonable facsimile of the hood suitable for making an RTV mold, thereby allowing multiple resin copies to be cast. Details not amenable to casting would then be added to finish the model.

The first step was to construct the lower two-thirds of the hood. Unlike early hoods, such as those made by Republic Steel, the PRR hood was not a simple rectangular box, but instead a trapezoid. The printed template served as a useful guide for cutting the sides of the trapezoid at the correct angle. For the walls I used Evergreen Styrene Metal Siding 4526, which has a spacing of .040" between corrugations. I had carefully counted the corrugations on the photographs and the .040" spacing was the best match available.

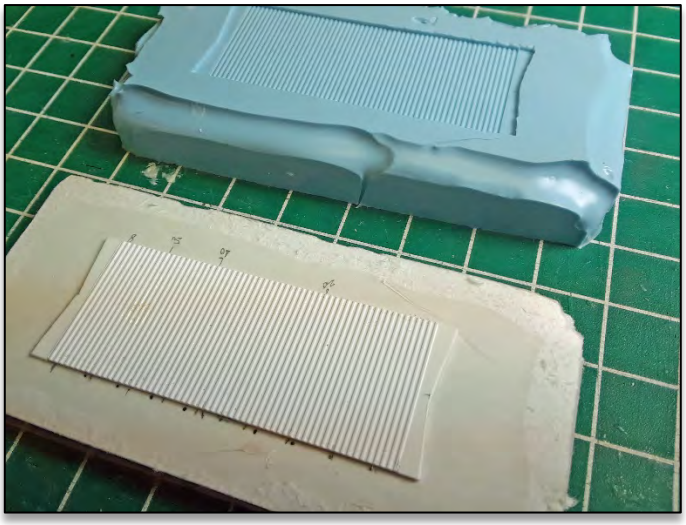
Once the box was constructed the next step was to add the outside bracing **(Fig. 1)**. I started by constructing the lower horizontal braces using .03" x .08" strip styrene, gluing a piece to each end of the hood using Plastruct Plastic Weld Cement. Once the glue had set, I took an X-Acto® blade and carefully cut the styrene strip ends to match the profile of the trapezoid sides. I then proceeded to do the same for the sides of the hood, trimming the strip styrene to match the profile of the pieces already glued to the ends. Inspection of the prototype pictures indicates the bracing along the top of the hood is not as wide as the bottom bracing, so .02" x .06" strip styrene was used for the upper horizontal braces. As was done for the lower braces, the ends of the upper braces were trimmed to match the trapezoid profile.

Figure 1


A. Side View
Upper Horizontal Brace
Outside Vertical Brace
Lower Horizontal Brace
Internal Vertical Braces
Stacking Bracket
B. End View
Upper Horizontal Brace
Vent
Outside Vertical Brace
Stacking Bracket Supports
Stacking Bracket
Lower Horizontal Brace
Internal Vertical Braces



▲ Figure 2.



▶ Figure 3.

With upper and lower braces in place, the vertical braces were constructed. Each side, and each end, has four verticals **(Fig. 1)**. For the two internal vertical braces .02" x .06" strip styrene was used. Each piece was cut to fit exactly between top and bottom horizontal braces. For the outside vertical braces, .02" x .100" strip styrene was used, and again once glued in place and carefully trimmed to match the profile of the trapezoid. After trimming, the top should be .06" in width while the bottom is 0.100" in width. Careful inspection of the photographs shows that the internal braces are not flush but appear to clasp the upper horizontal brace. To mimic this, .01" x .06" strip styrene was cut just slightly longer than the installed vertical braces. Before gluing them onto the surface of the internal braces, the top end was filed to give it a beveled appearance **(Fig. 2)**. At this point, the diagonal braces that are part of the later version of the coiled hoods were not added, because I wanted to be able to cast a base in resin that could be used for both early and late versions of the hoods.

At each side of the ends of the hoods, two pieces of .01" x .03" strip styrene were glued in place to represent the stacking bracket supports **(Fig. 1)**. To complete the lower portion of the hood, .04" sheet styrene was cut to form the top and bottom. Once these pieces were glued in place, putty was used to fill any gaps and then sanded smooth. At this point, an RTV mold was poured so that resin copies could be cast.

The next step was to make the curved corrugated top portion of the hood. My attempts at bending the corrugated Evergreen styrene, which has a thickness of .04", were not successful, despite trying a number of suggestions found on the internet. Even when a bend could be induced, over time the styrene, while not straightening out completely, would lose most of its curvature. In my experience with resin casting, if one takes a casting out of the mold as soon as it has polymerized, the casting is very pliable. It occurred to me that I could make use of this phenomenon by cutting out a flat version of the corrugated top from styrene, making a mold, and casting the top in resin. The resin casting could then be bent into the proper shape. A piece of corrugated styrene of the size required for the curved top was cut out. As the top of the prototype hood was not corrugated its entire length but had smooth ends, .04" x .100" strip styrene was glued to each end **(Fig. 2)**. A slight curve was carved in each end, since the corrugated top, like the lower hood, has sloped ends. I made an RTV mold was from the assembled flat styrene and used it to make a resin casting. When the casting was sufficiently polymerized, it was taken out of the mold and carefully shaped around a 1" wooden dowel. A couple of rubber bands were used to hold it in place for 30 minutes, resulting in a properly shaped casting that retained its curvature.

Before making another RTV mold for the assembled curved top, it was necessary to make ends from .02" thick styrene. The curved pieces were cut out using the printed template as a guide. In the center of each end, a small opening was cut out to represent a vent **(Fig. 1)**. Since these were going to be solid castings, a small piece of scrap styrene was glued behind the opening, so that the vent is an indentation rather than a true opening into the hood. The end pieces were then glued to the curved casting. When gluing the ends, care should be taken to slope them outward so that the upper portion of the hood also presents a trapezoidal profile. All of this was then glued to a base of .02" sheet styrene cut to size. One final item was to try and represent the welded joints of the corrugated section. I used .01" x .02" strip styrene to represent these joints, dividing the hood into 8 sections **(Fig. 3)**. These strips were bent around and glued to the corrugated top and trimmed to size. With the ends and joints attached, an RTV mold was made for the upper hood. Once the mold was done, castings for the upper and lower hood could be made and assembled. Since I wanted to use the castings for both early and late versions one detail that was omitted was the diagonal side braces shown in **Fig. 6**. These appeared only on the latter version of the hoods. To make them simply use .01" x .03" styrene strips cut to size.

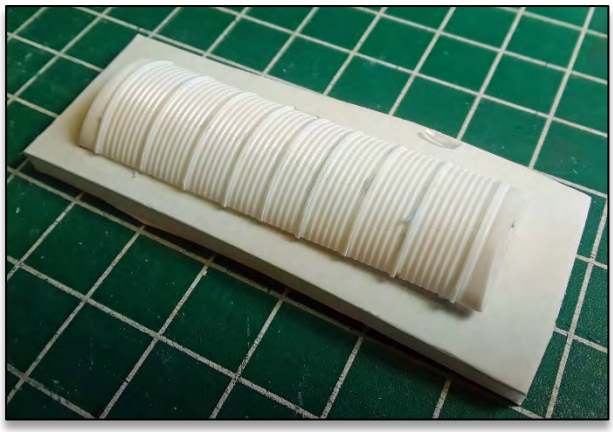


Figure 4.

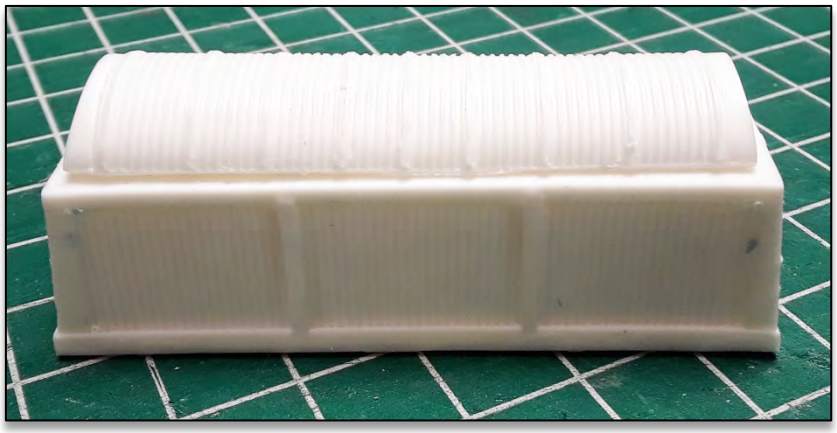


Figure 5.

The final part of the hood to be modeled is the complex series of hoops and welded rods that allow the hood to be lifted off the coil, the lifting apparatus. By comparison to coil covers from other railroads, none seem to have outdone the PRR for design complexity. **Fig. 7** is a schematic of the apparatus showing a top and side view of both early and late versions. These are not scale drawings since only pictures were available to work from, but they can serve as a guide for construction. For building these there are two options for materials. One is to use .025" diameter styrene rod (Evergreen 219). This is relatively easy material to work with and the pieces are easily glued using Plastruct Plastic Weld. **Fig. 8** shows a late version lifting apparatus built from styrene. My concern with the styrene version is that it is relatively delicate, and an accidental bump could end in disaster. The second option is to use .02" diameter phosphor bronze wire (Tichy #1103) and solder the pieces together. This is the more challenging approach but in the end is a bit more robust than the styrene version.

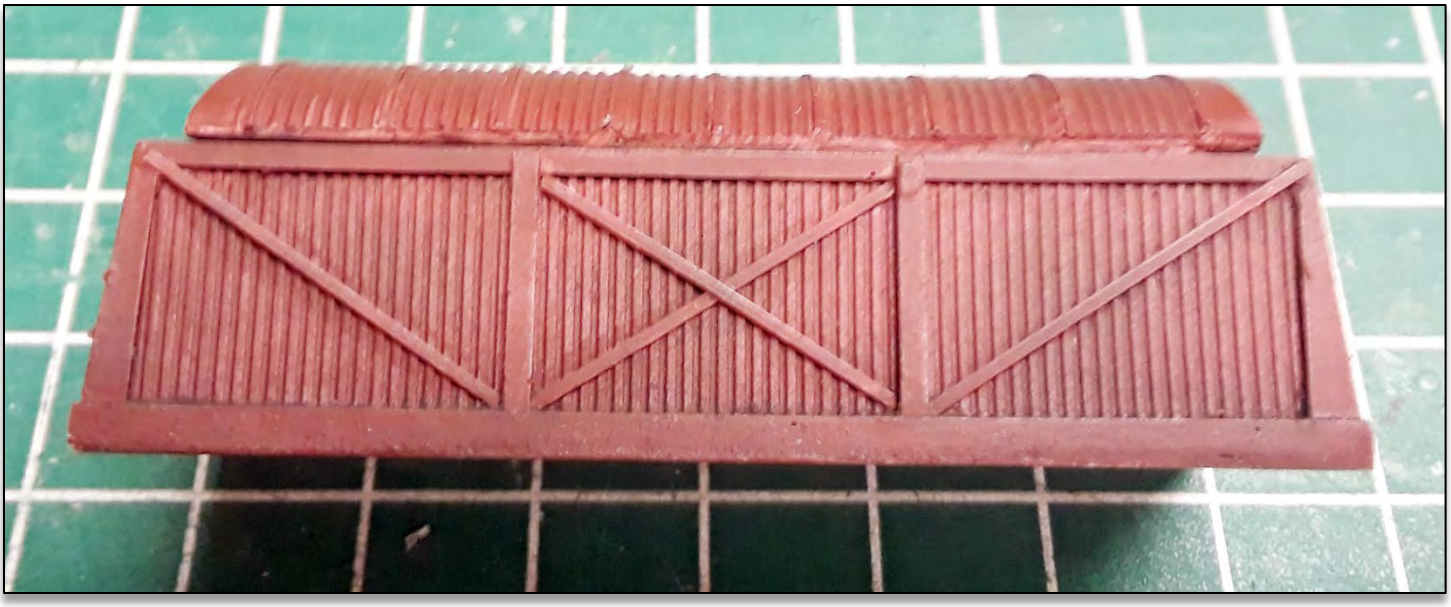
Regardless of the material the construction is basically the same. All the horizontal pieces are laid out on a board, taped in place and then assembled by gluing or soldering **(Fig. 9)**. The next step is to make the hoops used for lifting. There are two small hoops – one at each end – parallel to the length of the hood. To makes them, form the styrene or phosphor bronze wire around a 1/16" diameter brass rod to get the proper curvature and then trim the ends to get the proper height. For the larger hoops at the center that are facing perpendicular to the long sides of the hood, I used a 3/16" diameter brass rod to shape the hoops. Note that these are taller than the smaller end ones and are approximately 2 scale feet in height. With the hoops in place the apparatus can be removed from the board and turned on its side. Now take a piece of styrene or phosphor bronze wire and center it on the two internal hoops and carefully mark where the attachments points would be. At these points carefully bend the material so that the ends will now meet at the ends of the horizontal piece. Trim any excess and then attach this piece at the hoops and at each end of the horizontal piece. Do the same procedure for the other side of the apparatus.

At this point one can add the final detail that distinguishes the early version from the later one. For the early version simply add small vertical pieces of either styrene or phosphor bronze midway between the small and large loop on each side. The same procedure can be used for the later version but in addition a sheet metal plate **(Fig. 7)** was added probably to help stabilize the overall structure. To represent this a piece of .02" sheet styrene was cut to the proper size and glued in place. The entire lifting apparatus can then be glued to the lower hood assembly.

One final detail is the stacking brackets at each end of the hood. Rather than scratchbuilding these the brake step brackets from a Tichy #3013 Brake System (part AB-27 on the sprue) are a very good match. Nevertheless, it is still a very delicate part so once you glue these on the hood so care should be taken in handling. With everything assembled the coil cover hood was first primed with Rust-Oleum automotive primer followed by Floquil Tuscan. For the early version this includes the lifting apparatus. The later version, for which there are color photographs available, the lifting apparatus is yellow. Once the paint had thoroughly dried the hoods were weathered using Bragdon weathering powders followed by applications of Testors Dullcote.

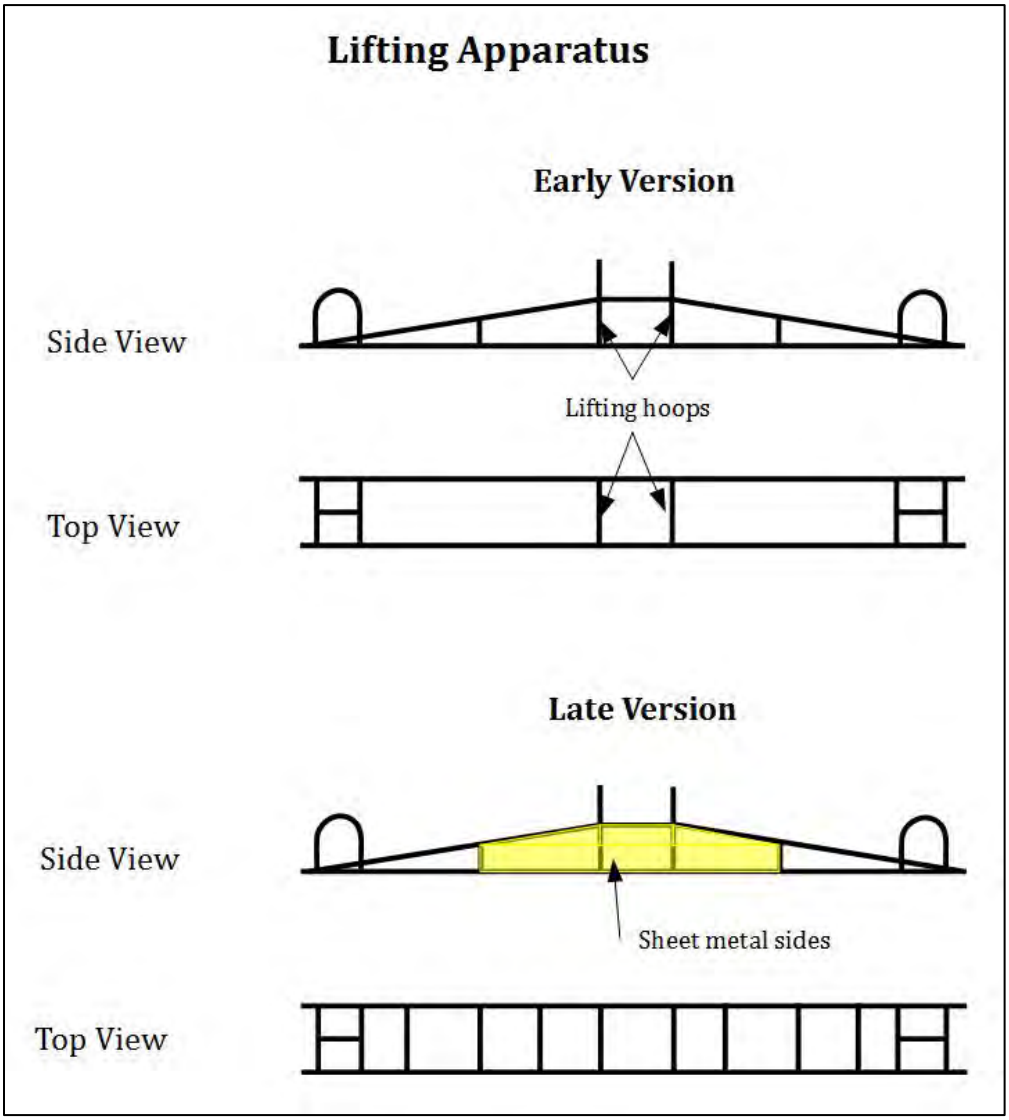
The only lettering that I can discern on the coil cover hoods is along the upper horizontal bracing where in very small lettering is "Property of P.R.R." On the early version the lettering is to the right side and in the later version it is in the middle of the hood. I was able to obtain from Will Jamison a set that he had John Frantz print several years ago. The decals were applied and sealed with Dullcote **(Fig. 10)**.

Once the coiled hoods are done the question is what were they carries in? Based on the *Pennsylvania Railroad Gondolas* book specially equipped gondolas with skids for the coiled steel of the G31E class were used. Since the hoods constructed here are solid castings it is not necessary to model the skids although you could model the ends of the skid with the rubber snubbers at each end. For the G31E itself I would recommend Jack Consoli's article on modifying the Con-Cor gondola from the December 2004 issue of *TKM*.



▲ **Figure 6.** Cover with late-version diagonal braces.

▼ **Figure 7.** Schematic of early and late versions of the lifting apparatus.



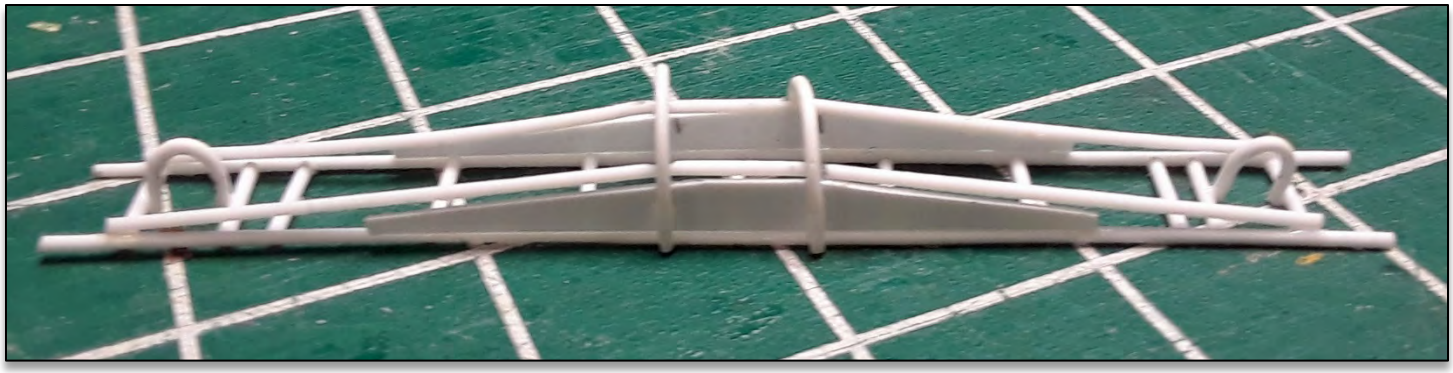


Figure 8. Late version lifting apparatus built from styrene.

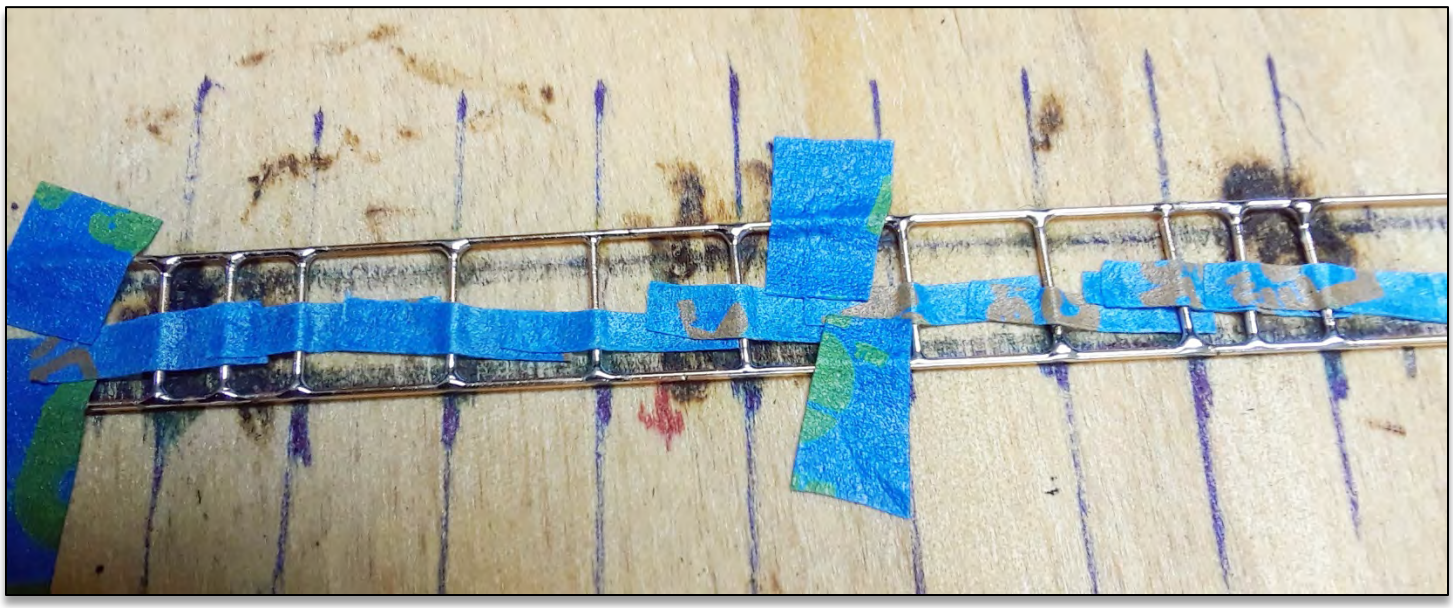


Figure 9. Horizontal pieces laid out on a board for soldering.

Figure 10. The finished covers with sealed decals and weathering.

Product Review – The Rapido PRR AF-16 in HO Scale
The ALCo FA2 Freight Road Units

by Jack Consoli and Tim Garner
All photos by the authors unless otherwise specified

A pair of Rapido FA2 units our exiting the helix tunnel on Tim Garner's new layout.

What's in the Box

The Rapido FA-2 comes in an orange and black box with a black and white builder's photo of an FA-2 A-B-B-A demonstrator. Thanks to Rapido's Canadian address, the box label and manuals are in both English and French.

In the box you'll find an operator's manual with the cover simulating a prototype Alco/Montreal Locomotive Works manual, an exploded-view drawing, and a decal sheet. The decals enable you change the numbers on a unit to those that Rapido did not produce. For shipping, the model is protected by a four-sided clear vacuum-formed carrier which is slid inside a stiff plastic sleeve. This is surrounded by dark gray urethane foam.

A small zip-lock parts bag contains a coupler cover, a diaphragm, and several grab irons. PRR units were delivered with pilot doors that covered the coupler and helped deflect obstructions. These doors were soon removed after the engines were in service. The Rapido version does not match the shape of the pilot doors PRR used. It is also modeled as one piece with no seam representing where the doors would meet. To mount the Rapido piece, you'll need to remove the front coupler and the press-fit brake and communication line hoses (note that PRR units should only have the brake hose). If you wanted to model this realistically (closed covers on the front unit and open on the rear unit), you probably should scratch build the cover doors from styrene. The Rapido piece is not easily modified.

The non-working diaphragm is designed to be added to the end of the unit with a few dabs of CA or white glue. The grab irons are for right side nose access if you wanted to update your model. Rapido provided both prepainted metal grabs and plastic grabs with bolt detail. If you want to install them, you'll need to mark and drill your own holes.

If you own a Rapido locomotive or car, you know they take their detail very seriously, but not themselves. Their manuals are fun to read. The introduction to this manual explains that this is the first model of the FA-2/FPA-2 "based on a real 3D scan of the prototype". The second paragraph reads…

Out of the box Rapido PRR class AF-16.

"As always, please do not hesitate to contact us should there be anything wrong with your model. Whether you have a warranty issue (missing parts, square wheels, engineer can't get into or out of the cab, etc.), a question ('Why won't my locomotive provide real steam heat for my coaches? What a ripoff!'), or a comment ('The nose is wrong!') please give us a shout. More warranty information is available towards the back of this manual. If you think the nose is wrong, you can go argue with the people at Alco and MLW as we did a 3D scan of the real engine. If you invent a time machine in order to do this, we'll give you THREE free engines in exchange for the time machine. What a deal!" It goes on in a similar vein from there.

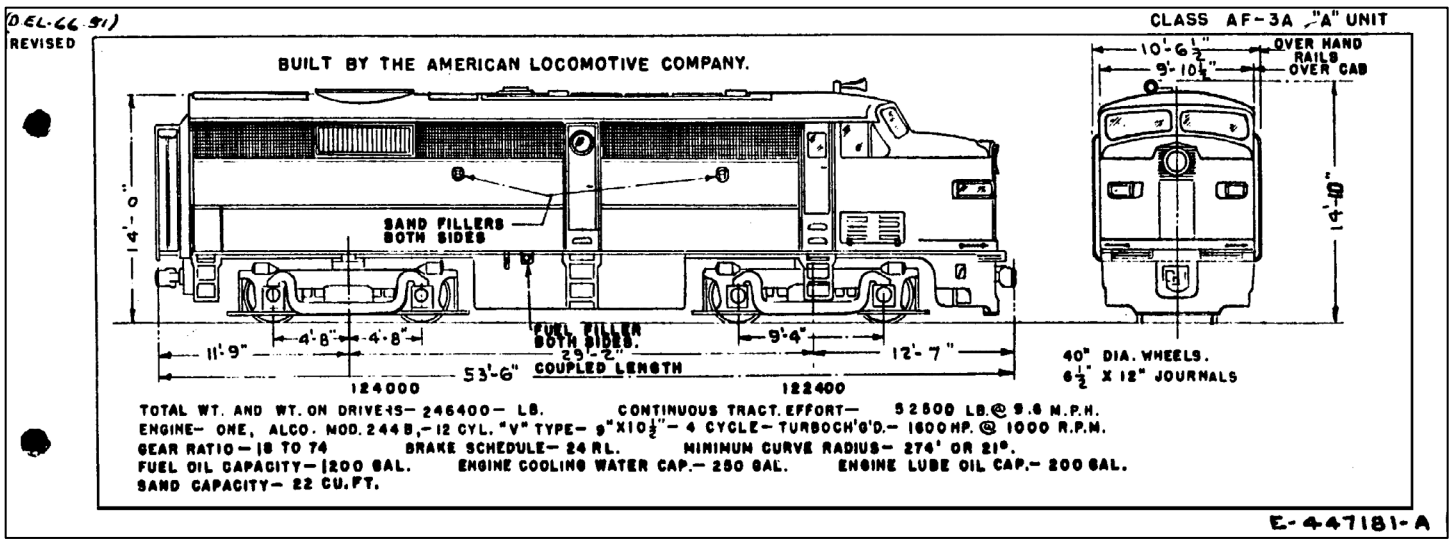
The manual includes break-in instructions, prototype arrangement drawings, prototype history, instructions for setting up the model, how to address missing or damaged parts, and removing the shell. A list of the optional detail parts is provided with installation instructions, but only parts appropriate for the prototype are included.

Operating instructions for the DCC/sound version and the DC/silent version are provided. The sound version includes an ESU LokSound Select decoder. A full manual is available online from the ESU website:

http://www.esu.eu/en/downloads/instruction-manuals/digital-decoders/

PROTOTYPE BACKGROUND

As part of its efforts to dieselize, the PRR purchased road freight locomotives from four of the six diesel builders of the late 1940's through the early 1950's. Long-time steam locomotive builder American Locomotive Company had joined the competition for the diesel locomotive market in the mid-1930's with its first switcher offerings, followed by road switchers (RS1) in 1941, passenger units in 1939 (DL-series) and 1946 (PA1/PB1), and finally road freight units in 1946 (FA1/FB1). Their later model designations were simplified to S for switchers, RS for Road Switchers, PA/PB for Passenger A-/Passenger B- and FA/FB Freight A- and Freight B-units. The number suffix signified their (major) model revision. A- denoted a cab-equipped unit and B- a booster (cabless) unit. In July 1947 the PRR ordered its first two 4-unit A-B-B-A 6000 horsepower "locomotives" from ALCo and its second two sets in November 1949. These groups of 1500 hp FA1 and FB1 units were delivered in July-August 1948 and March-April 1950. They wore road numbers 9600A-9603A / 9600B-9603B and 9604A-9607A / 9604B-9607B respectively.



AF-3 A-unit diagram. Note this diagram more closely depicts the later order of FA-2's with the horizontal vent battery doors. *(Courtesy Robert Schoenberg)*

Following on the heels of the FA1/FB1 unit deliveries, The PRR purchased ALCo's subsequent model, the FA2/FB2. The most significant differences from the earlier FA1/FB1 were that equipment upgrades were incorporated, and the horsepower was increased to 1600 hp per unit. The unit's length had also increased about 2 feet to allow for inclusion of a steam generator if desired and the external appearance of several details changed. The easiest spotting difference between them was placement of the vertical radiator intake shutters in the upper carbody. They were all the way to the rear on the FA1/FB1 but were moved forward on the FA2/FB2 due to the lengthened carbody. Additionally, the battery boxes were moved from adjacent to the underframe fuel tank to inside the carbody – just ahead of the cab side doors on the FA2 and at the rear on the FB2.

The PRR purchased 36 total FA2 and FB2 units in the form of 12 A-B-A 4800 hp "locomotives" which wore road numbers 9608A-9631A and 9608B-9630B (even numbers only). They were constructed in two orders: the earlier order of August 1950 were 6 A-B-A sets numbered 9608-9619 (18 units) built in May 1951; the later order of May 1951 were 6 A-B-A sets numbered 9620-9631 (18 units) built November and December 1951.

These orders followed the PRR's Motive Power department's changing definition of a road freight "locomotive". After the early period of operations employing four-unit locomotives as the standard road power, they found that 6000 hp was excessive for getting most trains over most of the railroad yet, was still insufficient to eliminate helpers over the worst of the mountain grades. Thus, they modified their basic purchasing strategy such that the standard road freight "locomotive" became 4500 hp with continued adherence to their initial decision to operate their locomotives with bidirectional capabilities, i.e., a cab unit at each end.

All the units were delivered under the PRR's 1947 locomotive-based classification system and accordingly classified AF-4 (for the A-B-B-A FA1/FB1 sets) and AF-3 (for the A-B-A FA2/FB2 sets): signifying **A**LCo-built, **F**reight service, in **3** or **4**-unit locomotive sets. The FA's, like all the other PRR diesels, were probably best known under the subsequent "unit"-based classification system introduced in June 1951 in which they became PRR classes AF-15 and AF-16, signifying: **A**LCo as the builder, **F**reight service, **15**00 or **16**00 horsepower per unit.

Between the two groups of FA2's the only detail differences between the earlier and later orders were the horns, battery access door louvers and the late group being equipped with Speed Control.

Since Rapido appropriately numbered and detailed the models for the early series (9608A-9619A) and these units are intended to represent the units shortly after their delivery to the PRR, the models are reviewed as such. Note however, that as with most equipment on the PRR, after several years of service, several modifications and upgrades were made to the units that resulted in changes to the external appearance.

Model Detail Review

The basic overall dimensions of the units match the prototype:

- Truck wheelbase – 9'-4"
- Truck centers – 29'-2"
- Cab width – 9'-10½"
- Height above rail at rear of carbody – 14'-0"

Since Rapido created their model geometry from a 3D scan of a real locomotive it is likely the body contours are closer to prototype than any of us can measure.

THE BODY

The detailing on the nose section of the A-unit is well done. Only two items warrant discussion. A minor item regards the placement of the ladder rest grab irons on the upper corners of the sides of the nose. The grabs on the model exit the shell in a horizontal plane whereas on the prototypes the grabs are angled upwards at approximately 45 degrees. These could be pulled out, new holes drilled, and the grabs reinstalled.

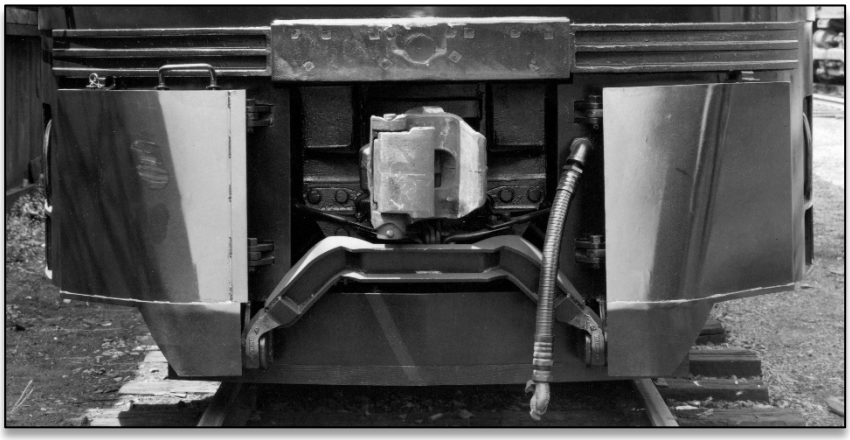
The bigger issue with the nose is the coupler "doors". A separate part is provided with the model to represent the coupler doors in their closed position. It resembles the doors in their closed state but does not have the proper bent shape as it is a continuous curve, nor does it have a feature representing the joint between the closed doors. There is no part representing the pilot arch.

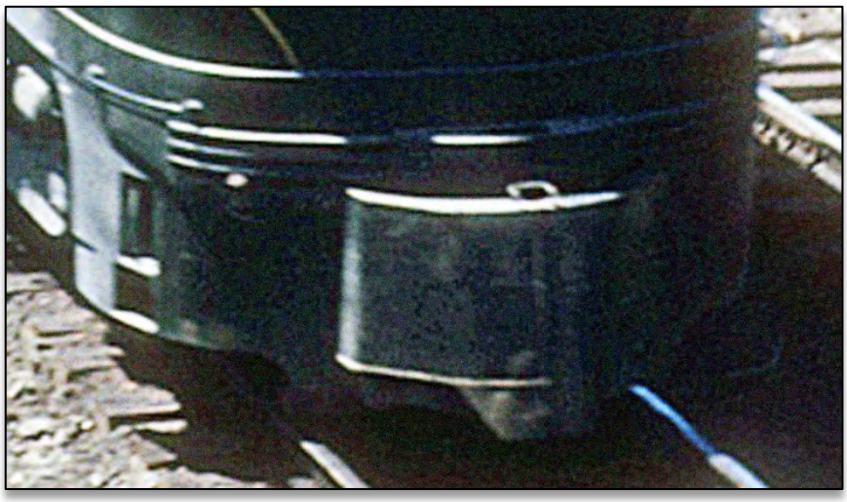
The PRR started removing the coupler doors and pilot arch when an authorization letter dictating their removal from the cab units of all the four diesel builders was issued on January 27, 1955. The removal of the doors was approved by the ICC "at the first opportunity, or when doors are damaged to the extent of requiring replacement, but not later than at time of next mileage overhaul." The tracings detailed removing the pilot doors and arch bar, trimming the pilot and welding a 1/2" diameter rod around the coupler opening to cover the otherwise exposed sharp edges of the sheets. The model pilot does not well represent the pilot in the post-door state either as the opening should be deeper and the front face smooth. Minor modifications could easily remedy this issue.

Unlike earlier diesels which had equipment Trust plates, the FA2's all were fitted with similar rectangular cast metal CSA (Conditional Sales Agreement) plates identifying the financing of the units. These were located on both sides of all the units and were mounted just under the sills near the front of the fuel tanks, in front of the middle body doors. These were 15-year financing agreements and as all the FA2's were dropped from the roster as soon as these agreements expired, the plates remained on the units their entire stay on the PRR.

Stock FA2 nose section (pilot door piece not yet applied). Note the battery box door with vertical louvers correct for the early order group.

November 1951 builder's photos (here and top of next page) of 9818A shown with the coupler doors spread open and the pilot arch rotated up. In the down position it provided support for the bottom of the doors but would hit the arch on a unit coupled nose to nose if not rotated up (and back). Note placement of nose ladder rest grab irons at an angle.





(Top) Close up of open coupler doors and pilot arch in up position on 9818A.

(Middle left) Downward view of 9518A shows contours of doors in the closed position and the hand grab mounted atop them, July 25, 1952.

(Bottom left) Model with inaccurate pilot door piece applied. Note incorrect green marker light above numberboard.

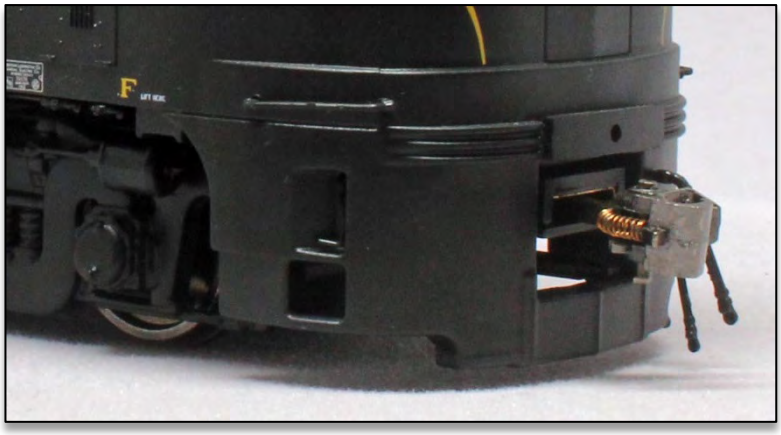
The Roof

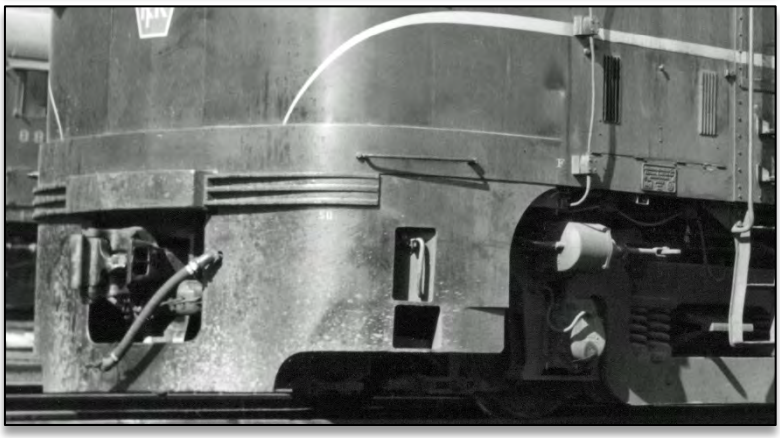
The roof details are well done but have some issues. The 3-chime Nathan M3 horn with all forward-facing bells is correct for this early group of units as delivered. The rooftop Trainphone apparatus is correctly configured, however there were breaks in the conduit in two places above the cab roof on the author's model and many of the supports were not fully inserted and thus did not appear to be flush mounted.

Over their lifetime on the PRR, the exhaust stacks appeared in two configurations. All the units were delivered with the length-wise oriented exhaust stacks indicating the original-equipment air-cooled turbo charger installation. Interestingly, since these stacks were aligned almost directly under the engineer's side Trainphone (rubber-coated) conduit, an angled deflector shield was applied to avoid the hot exhaust destroying the conduit. The B-units didn't require the deflectors since they didn't have the conduits. The air-cooled turbos had problems and were replaced in production and in the field on ALCos with the cross-wise mounted exhaust stack indicating a new water-cooled turbo. The new turbos became available in 1953 but were changed out as needed. When this occurred, the deflectors were unnecessary and removed on units with the cross-wise stack as it was located between the conduits. The model has a cross-wise stack without deflector.

Painting and Lettering

The painting and lettering diagrams called out Dark Green Locomotive paint with buff lettering, 3" stripes, monograms, and keystone borders. Background color in the keystones was toluidine red. Everything below the bottom of the side sills, except the pilot surfaces was to be black enamel. The interior enamel colors were specified as follows: cab and engine room surfaces, medium blue gray enamel; control equipment in cab, black; floors (except linoleum), Indian Red; air piping, black; oil lines, green; fuel line piping and filler caps, red; steam and water lines and filler caps,





(Top left) Model nose section without the pilot door piece applied.

(Middle left) 9619A shown on 3/28/59 after having its coupler doors and pilot arch removed, the opening enlarged, and a bead welded to the exposed edges. Note the battery box door with the two sets of 5 vertical louvers specific to the early FA2 order group and the cast builder's plate below it.

(Bottom left) The square end of the A-unit is correctly detailed including the PRR marker lights at the upper corners, flag holders, backup light, after cooler and Trainphone conduit. A separate diaphragm part is provided to be added if you model the first couple years these units were in use.

yellow; CO_2 lines and pull box doors, orange: all colors, PRR shade. This was the standard paint scheme for the PRR's freight service cab units.

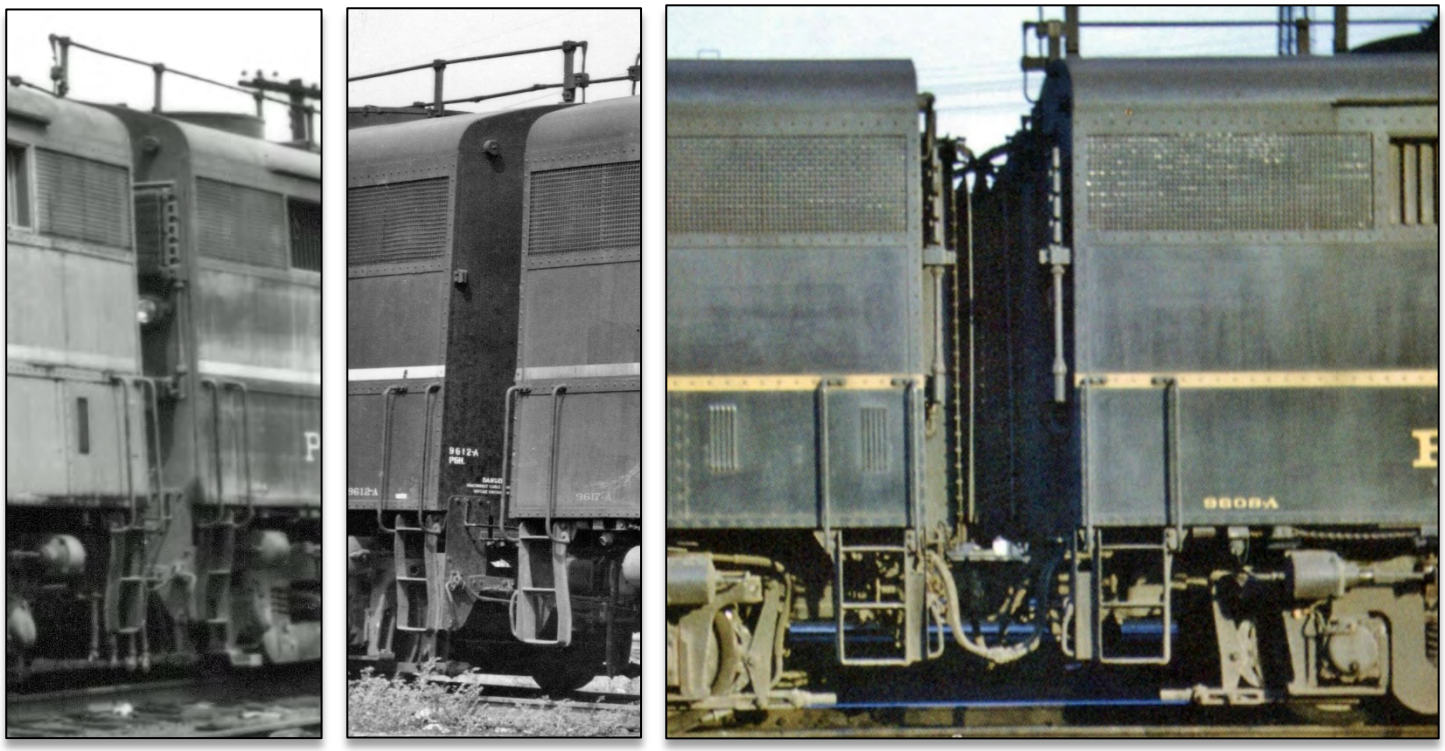
The buff lettering was specified: 8" cab-side numerals (on A-units) and "PENNSYLVANIA" road name; 1¾" "F" (designating the unit's front), side numerals with unit letter suffix at rear on A units, and at front on B units; and 14¾" keystones on the sides and A-unit nose containing the monograms (intertwined "PRR") on the sides and with 3" numerals on the nose. The 3" stripes were originally applied atop the longitudinal belt rail/batten strip along the carbody and across the body side doors and tapered to ½" at the pilot anticlimber beam. The stripes were only interrupted at the upper ends of the rear side vertical grab irons and at the one Trainphone conduit support block below the cab side road number. The stripes ran to the end of the side sheet at the square ends but did not wrap around onto the ends. The number boards displayed 5" white numerals and small white lettering appeared at several places along the side sills. The aluminum windshield frames were left as bare metal.

After delivery of the FA2's, several changes occurred to the painting and lettering scheme in the early years of their existence. The nose keystone with the unit number was replaced with a monogram keystone on the tracings dated June 2, 1953. The 3" stripe was moved from the belt rail to 1" above it on February 3, 1955 effective when units were next repainted. Some units lasted much later with the stripes on the belt rail. The bare window frames were typically painted green with the rest of the body when the units were repainted.

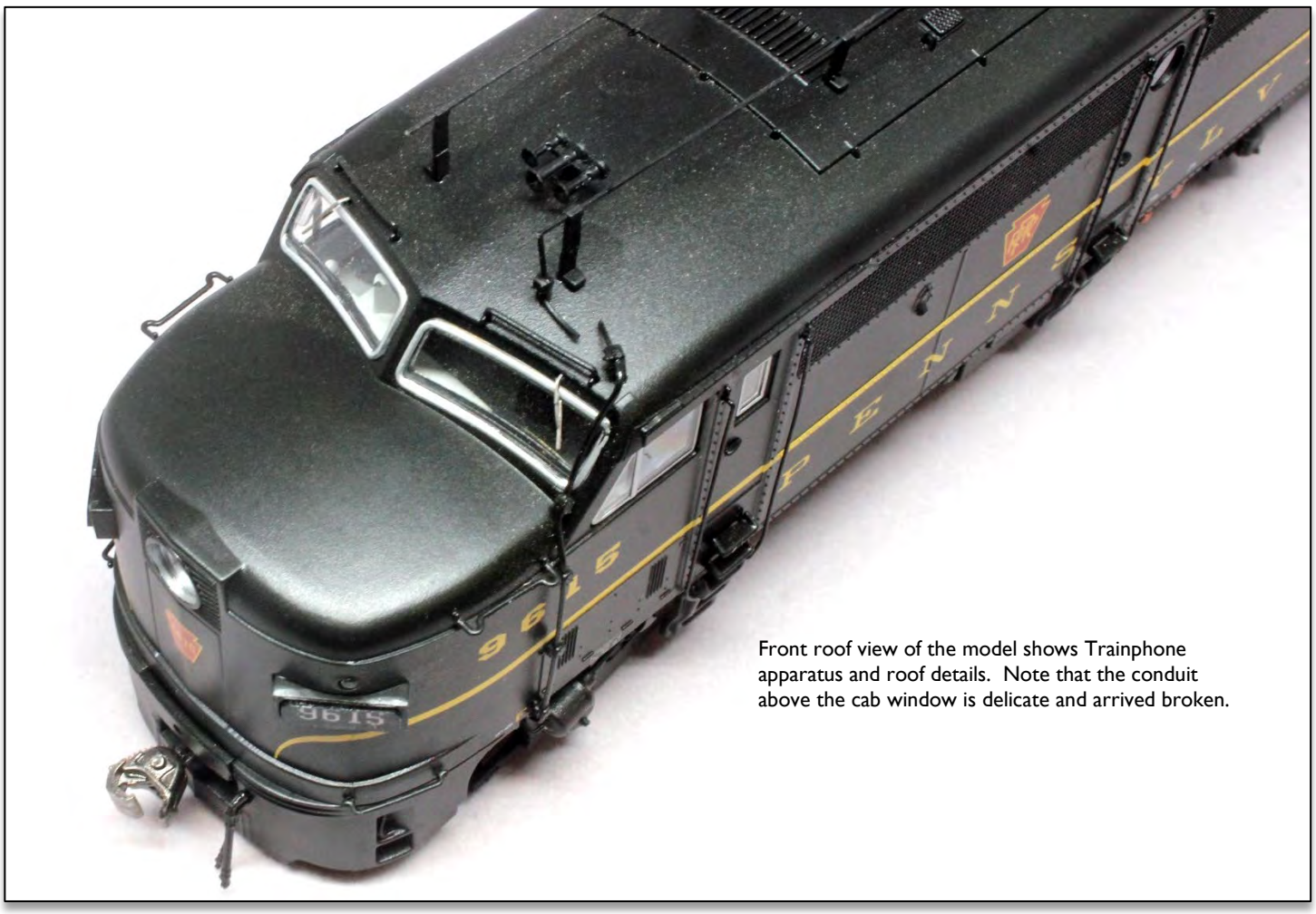
As has been often the case with PRR locomotive models throughout the industry, the dark green is not as dark, and the buff is too yellow compared to what is generally accepted to be correct, though Rapido got these colors much closer than some other models. This model only has a minor painting and lettering issue – the cab-side and door windows have simulated bare aluminum frames like the windshields, but they are supposed to be green. Otherwise the model is very nicely decorated with crisp striping and lettering, properly located and nicely

▲ The speed recorder drive is properly mounted on the rear axle of the front truck and the CSA plates are mounted under the side sills at the front of the fuel tanks. Since this is a freight unit, there should only be a brake hose at each end. The hoses are press-fit and easy to remove.
▼ The rest of the body side and underbody details are nicely done including the separate handrails, door handles and truck-mounted handbrake chains. This model had a couple spots where the see-through side screens had popped out of their mountings.

applied. They even added the proper blue-on-white NO SMOKING IN ENGINE ROOM plate to the rear end door and the jumper cable disconnect warning labels on the square ends. Pilot assignment symbol markings were left off to be added at the discretion of the modeler.

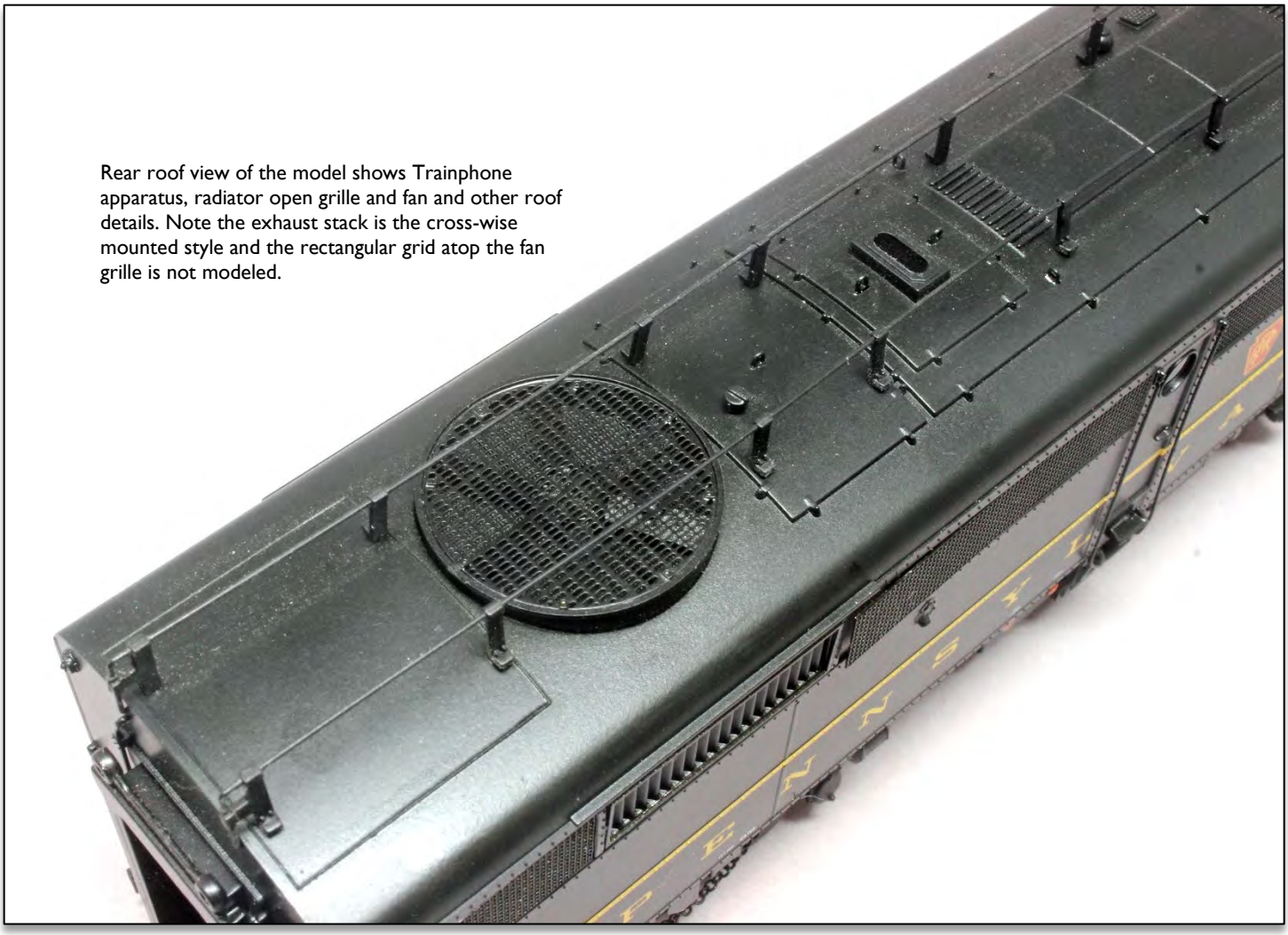


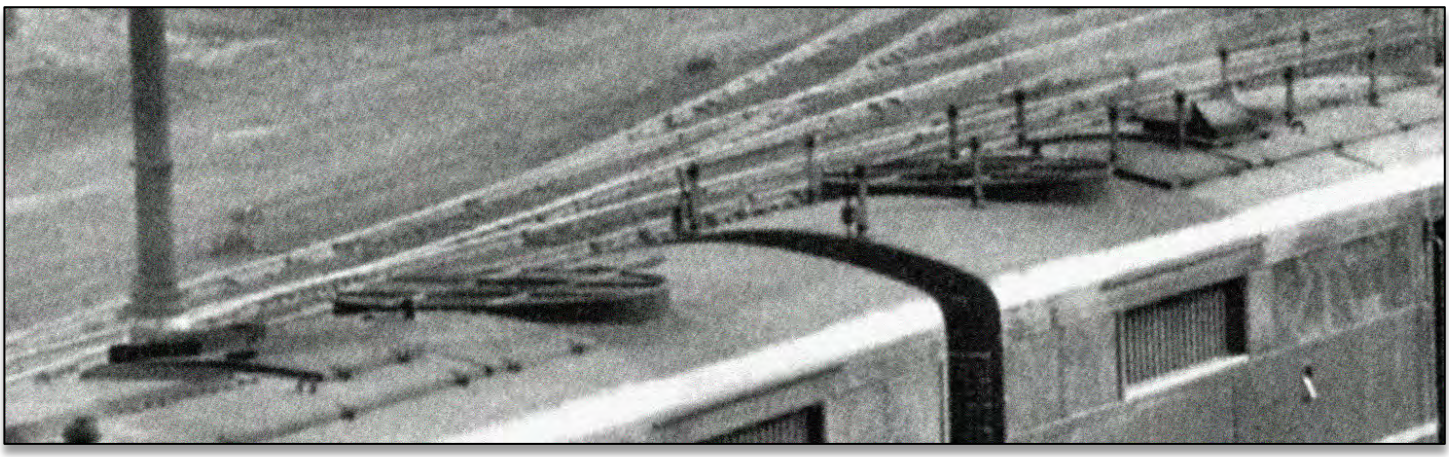
(Left and middle) Views of the rear of one side, then the other of the A-unit square end including #9612A in the middle image. *(Right)* Broadside view of two coupled units: the rear of 9608A at right and the rear of a B-unit at left on September 10, 1951. Note that the aftercoolers are on opposite sides of the A- and B-unit square ends. As with other cab units, the FA2/FB2's came equipped with square-end diaphragms as seen here. Starting at the end of 1953, the PRR ordered the diaphragms removed.



Front roof view of the model shows Trainphone apparatus and roof details. Note that the conduit above the cab window is delicate and arrived broken.

Rear roof view of the model shows Trainphone apparatus, radiator open grille and fan and other roof details. Note the exhaust stack is the cross-wise mounted style and the rectangular grid atop the fan grille is not modeled.





This September 1955 photo shows FB2 at left and FA2 at right with grids on radiator fan grilles and the original length-wise exhaust stacks. Only the A-units required the exhaust deflector to protect the Trainphone conduit.

Early group FA2 9608A on Horseshoe Curve on 9/13/58 still has its stripes on the belt rail, monogram nose keystone and the windshield frames have been painted. *(William D. Volkmer)*

OPERATION

LokSound Select decoders are set with the sound off by default. This is done to help your layout room from being too noisy with most of your sound locomotive on at the same time. To start the locomotive, press F8 on your DCC throttle. You'll hear an alarm bell, then the sound of an Alco 244 prime mover starting up and idling. Once started, the sound will be on and the prime mover will be running as long as the locomotive is receiving track power. The start-up sequence is a neat effect but is problematic when more than one locomotive is running under advanced consisting – only the sound on the addressed unit comes on when you press F8. You can get around this by individually starting up each unit by number before rolling off or by programming each locomotive in the consist with the same long address (consisting the old-fashioned way). If there is another method, I could not find it in the full LokSound Select manual.

The available functions are these…

F0 Headlights – Turns on the headlight.

F1 Bell – Sounds as you might expect.

F2 Horn – The horn toots as long as you hold down your horn button. The default horn is the WABCO E2 single chime which is wrong for the 3-chime on the PRR model. To change it, set CV 48 to 0. This will change both the standard horn on F2 and the Doppler horn on F5 to a Nathan M3H. Unfortunately, this is a distinctly Canadian-sounding horn and not a straight M3 sound. Rapido promises more horn options on future runs.

F3 Full Throttle – This is a cool feature. Press F3 and the speed of the locomotive will stay constant. When you adjust your throttle, the prime mover will speed up or slow down, so you can simulate the load it is under. You can have it all the way up pulling slowly up a mountain grade or idling coming down. Press F3 and the loco goes to wherever the throttle is set, so you may want to turn the throttle down some so the locomotive doesn't jump to life.

F4 Dynamic Brakes – Turns on the dynamic brake sound which will sound great if you used F3 to put the downhill locomotive in idle.

F5 Doppler Horn (Slow) – If you ever had a physics class in high school, you probably know about the Doppler-effect (which applies to several things besides sound). If a train is blowing its horn coming toward you, the sound will shift to a lower pitch as it passes. Pressing F5 plays a long-long-short-long crossing sequence with a doppler shift at the end. It sounds as if it was recorded live rather than digitally simulated.

F6 Special Lighting – Doesn't apply to PRR units. No Mars light or other fancy attention getters on these.

F7 Dim the Headlights – Allows you to dim the headlight in the face of opposing trains or coming into a station.

F8 Start-up/Mute/Shutdown – Previously described.

F9 White Class Lights – F9 turns the class lights above the numberboards on and off with white light. White lights or flags would signify an extra train, but the PRR had stopped using class indications at this time.

On PRR, these lights were red and only served as marker lights indicating the rear end of a train. They would be lit only at night and only if the nose of the unit was the end of the train such as in pusher service.

F10 Green Class Lights – F10 turns the same lights on green. In earlier times on the PRR, green lights or flags at the front of a train would indicate a second section of this train is following. Make sure you don't have F9 and F10 on at the same time, because the green and white lights blend into a lovely "spring" green (you shouldn't be using them regardless).

F11 Steam Generator – Isn't correct for this locomotive but does apply to the FPA-2. Rapido says ignore it or "pretend it's Rapido Dan dancing on the table in a tutu!"

F12 Switching Mode – Turns on the headlight and rear light on dim which would be appropriate for switching in yards or terminals. This is the only way the rear light comes on. Pushing F12 again turns it off.

F14 Engine Brake – Rapido said they moved this to a higher function number since so few people use it. The LokSound Select manual tells how to remap it to a lower number if you wish.

F15 Turn Off Numberboards – The numberboards are on by default. Pressing F15 turns them off.

I continue to be impressed with the sound quality of Rapido locomotives. The sound is crisp and realistic. As with most decoders, you can change the master volume of the unit as well as the individual volume of the prime mover, horn, bell, dynamic brake, steam generator, doppler horn, and brake squeal. In my opinion, Rapido does the best job with the sound level from the factory. The default decibels are excessive on virtually every other brand of locomotive I've purchased. My volume preference is how I imagine it would sound if my viewing distance were in scale feet. Many modelers leave the sound so loud that every scale figure on their layouts would have blood streaming from their broken eardrums.

Rapido provides another interesting feature called *Automatic Motor Tuning*. It automatically adjusts the back-EMF and gives you exceptional slow speed performance. To turn it on, put your locomotive on your main line with plenty of room to run. Turn on program-on-the-main in Ops mode. Set CV 54 to 0, immediately get out of programming and turn on the bell (F1). The locomotive will take off at full speed and gradually slow down to a stop while the decoder reads the motor responses. You will have exceptional motor control after this. You'll also need to individually do it for any other B or A units in your consist. If you do a factory reset, you'll need to repeat the procedure.

At 15.1 ounces and all wheels powered, it has pulling power comparable to an Athearn Genesis EMD F7 – a model of the FA2's primary prototype competition. There are no traction tires, but you typically don't see them on diesel models with all wheels driven. I've never seen photos or videos of prototype FA2's pulling trains with less than two units. Two will handle plenty of free-rolling cars on the typical layout with modest grades. When the announced B-unit becomes available, an A-B-A lash-up will do even better. I found the drive train to be very quiet even without significant break-in time, but *Model Railroad News* (April 2018) reported unusual gear noise at higher speeds on their samples.

CONCLUSION

Overall, we would rate these as very nice models and the most prototypically correct HO FA2 produced to date. They have a few flaws as noted above, but *T*he *K*eystone *M*odeler should be able to make these a more accurate addition to their model roster with a bit of work (this is a *modeling* magazine, after all) to be appropriate for their modeling period.

Nobody models the underside of locomotives and cars better than Rapido. Even so, this FA2 has passenger unit steam line connections at each end that PRR modelers should remove.

Unfortunately, the metal grilles have popped out on this model. This happens on lots of models due to temperature changes in shipping or in your layout room. Plastic and metal have much different expansion rates.

Product Review – The Bowser PRR General Electric U25B in HO-Scale

By Tim Garner – photos by the author unless noted

Bowser labels the PRR U25B with Trainphone a Phase II. The version without Trainphone is labeled a Phase IV. The Trainphone stanchions are metal as are the conduit. Note the train control equipment box on the catwalk ahead of the cab.

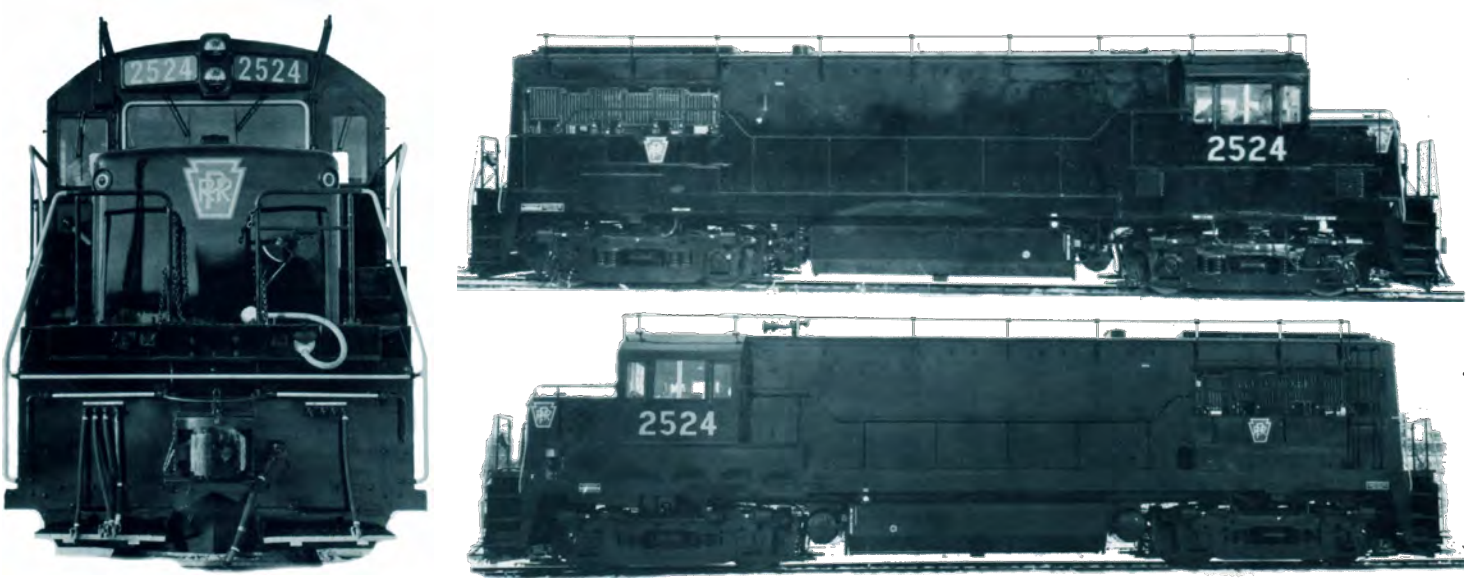
In 2018, Bowser introduced two HO-scale Pennsylvania Railroad versions of the General Electric U25B. This model of GE's first solo entry into the mainline locomotive market takes Stewart Hobbies tooling to a new level.

History of the U25B on the PRR

If you were using someone else's money to buy a car, would you get all the available options? That's just what the Pennsylvania Railroad did with their first order of the General Electric U25B.

The beginnings of this purchase date to the great Pennsylvania "St. Patrick's Day" flood of 1936. Heavy rains on the snow pack in the Allegheny Mountains in March caused massive flooding throughout the state. Flooding in the Allegheny River Valley severely impacted Pittsburgh. As a result, the federal government passed Flood Control Acts in 1936, 1938, and 1941. Among the provisions of those laws was authorization to build the Kinzua Dam across the Allegheny River just upstream from Warren, Pa. Kinzua means "fish on a spear" in the Seneca Iroquois language.

The U.S. Army Corps of Engineers did not get around to building the dam until 1960, completing the structure in 1965 at a cost of $108 million. The dam controls the drainage of 2,180 square miles. It also provides hydroelectric power, recreation, and drought control. Construction broke a treaty and displaced the last of the Seneca Indians. It also submerged the towns of Corydon and Kinzua.



GE builder's photos of #2524 from the second order of 22 units delivered in October 1962. Note the position of the fuel filler caps and the visible dynamic brake grids in the large rear vent. Handrails are mounted on top of the walkway. *(General Electric, Tim Garner collection)*

The first two PRR U25B units, GF-25 #2501 and #2500, are in Buffalo, N. Y. on August 18, 1962. Note how the Trainphone antennas pass over the front of the cab and connect to the body. *(Hank Goerke photo, William D. Volkmer collection)*

To build the dam, the government would submerge the PRR line from Warren to Salamanca along the Allegheny River. On October 22, 1960, a special "Last trip" ran from Oil City to the Kinzua Dam site for the groundbreaking.

The dam and reservoir would change the routing of traffic between Conway Yard and Buffalo, N.Y. The PRR complained that the more round-about routing required more locomotives. The first seven U25B's would be compensation.

These locomotives, called GF-25 on the PRR, had dual controls for bi-directional operation. An engineman could operate the locomotive with either end forward while sitting in the righthand seat. These were the only U25B's so constructed but, according to Bill Volkmer, they were among 68 PRR units of various types with dual controls.

GE's First Road Freight Diesel

GE had been a partner of ALCo, supplying a variety of electrical components to their diesel-electric locomotives over the years. In fact, the styling of the FA and PA diesels owed more to GE than ALCo. That agreement ended in 1953 and GE set about working with Cooper-Bessemer to develop a new prime mover for its own locomotives.

After several demonstrators tested on various lines, GE built its first 2,500 horsepower demonstrators in 1959 – #751 and #752. They had V-16 Cooper-Bessemer engines and many of the features the U25B would have. Four more demonstrators would follow in 1960 – numbers #753-756 – later purchased by the Frisco. The first four production U25B engines followed. One had a low nose and the rest had high short hoods. They were later purchased by the Union Pacific.

GE heavily advertised these new units, sometimes stretching the truth in their statements. In addition to the high horsepower, GE touted a new, more effective air cleaning system.

Demonstrators on the PRR and the First Order

In February 1962, the newest GE demonstrators visited the PRR. They made several trips on TT-1 and TT-2 – PRR's premier piggyback trains. That month, PRR placed order number 320-95203 for seven units with the money provided by the government to compensate for the seizure of its property and increased operating expenses. They carried a builder's date of September 1962 and builder's numbers 34528-34534.

Besides bi-directional controls, these units had cab signals, Trainphone, dynamic brakes, 26-L air brakes with a pressure maintaining feature, and two-axle trucks. They were numbered 2500 to 2506 and were given class GF-25 – **G**E **F**reight **25**00 horsepower. They had a trust plate on the left rear corner of the unit saying owner was the Waynesburg & Washington Railroad – a PRR controlled line that was once a 3-foot gauge pike.

▲ GF-25 #2507, the first unit of PRR's second order, sits by the fuel rack at Northumberland, Pa. on October 28, 1964 with two EF17 (GP9) units from the Electro-Motive Division of General Motors. ▼ Units 2509 and 2510 from the second order face east outside the Enola Diesel Shop on October 27, 1962. *(Both, William D. Volkmer)*

One of the most distinctive spotting features of the early GEs was the wide center windshield with a silver frame (also found on all twenty 6-axle U25C's (PRR class GF-25A). They had the GE FDL-16 sixteen-cylinder prime mover which operated at 1,000 RPM. They featured 40" wheels and were 60'-2" in coupled length.

Electrical gear included the GE Model GT-598C1 main generator and four GE Model 752E4 traction motors. The gear ratio was 74:18. Total weight of the unit was 270,030 lbs. with 53,000 lbs. of tractive force with a maximum continuous rating of 67,322 lbs.

The maximum speed was 70 mph and the minimum was 14.7 mph. The fuel tank held 2,900 gallons. Engine cooling water capacity was 230 gallons and lubricating oil was 353.

These new units first operated on Conway-Buffalo freight trains for a few months (to satisfy the government?), but then moved to the system pool.

Subsequent Orders

Probably before delivery of the first seven units, PRR placed order 320-95207 for 22 more copies, but without dual controls. Numbers 2507-2512 were completed in September 1962 and 2513-2528 were completed in October. This and the first order included six clean-out plugs along the bottom of the fuel tanks on each side. This was deleted on subsequent orders.

In 1964, PRR gave GE order 320-95765 for five units delivered as 2529-2533 in September of that year. The next order, 320-63177, consisted of fifteen units – 2534-2546 completed in February 1965 and 2547-2548 in March.

The latter order featured several design changes (later called Phase IV by railfans). It was the first order with a two-piece windshield – standard until the end of "U-Boat" construction. The fuel tank filler caps and fuel gauges were moved from the cab end of the tank to the center on each side. This was the also the first PRR order with radio instead of Trainphone. Radio replaced Trainphone on earlier units in 1966. This was designated by a square radio decal below the cab on both sides of each unit.

The final order, 320-65187, covered ten more units. Of them 2649-2653 were finished in November 1965 and 2654-2658 in December that year. These were the final four-axle GE units ordered by the PRR.

The U25B in Service

Units from the second and later orders entered the system pool after delivery and were assigned to the Enola Diesel Shop for maintenance. When new, the units moved priority freights such as TT-1 and TT-2 usually operating in matched sets. Over time, they ended up on any type of freight that drew units from the system pool and operated on most non-electrified freight routes.

Initially, PRR would only "mu" diesel of the same builder and horsepower on trains. When the road learned there was no technical need, mixed consists of different builders and horsepower became common. The PRR tended not to operate four and six axle units together, though.

The railroad participated in locomotive pooling with the Burlington. The U25B's sometimes operated off line in these pools. As more six-axle units came online, the U25B's were moved to lesser freight trains.

It is July 22, 1967 in Cheyenne, Wyoming and #2653 from the final order leads renumbered #2644, a GP35, a GP30, and a Burlington unit in run-through service. Note the two-piece windshield, cab roof radio antenna, radio sticker, and fuel filler and gauge in the center of the fuel tank. A UP gas turbine is to the right. *(K. L. Douglas, William D. Volkmer collection)*

GF-25 #2651 is with the Northern Division wreck train in Lock Haven, Pa. (MP 212) on February 9, 1966. Dual controls would have been handy on this day, but this unit is from the final order and does not have them. Note the factory-installed ladder for access to the sand hatches. This is a Phase IV unit from the last order. The handrail stanchions are mounted on the outside of the frame. *(William D. Volkmer)*

RENUMBERING

The final order of ten U25B locomotives was delivered with numbers in the planned Penn Central series. The PRR renumbered the first 49 units from 2500-2548 to 2600-2648 between May and October of 1966.

REBUILDING

Several of the U25B and U25C units were upgraded to 2,800 horsepower to match the later model U28C on the PRR. Known to be among the rebuilds were #2606, #2611, and #2623.

POST-MERGER

All 59 units survived transfer to Penn Central ownership, keeping their GF-25 class designation. Ex-New York Central U25B's moved into the class.

Only #2603 and #2653 did not make it to Conrail. Both were heavily damaged in wrecks in January 1973 and February 1976 respectively. Conrail retired the remaining units in small groups between 1978 and November 7, 1984.

THE BOWSER PRR U25B

The tooling for the Bowser U25B originated with Stewart Hobbies in the 1990's. Initially, the drives for this model and their EMD F-units were produced by Kato. Bowser Trains acquired the tooling for the U25B in 2004 when they purchased Stewart Hobbies.

In 2018, Bowser delivered two versions of the PRR U25B as part of their Executive Line. On the package, Bowser indicates all Executive Line locomotive contain the following:

- *Photo-etched mirrors, windshield wipers, sunshades, and lift rings (where appropriate)*
- *Lost wax brass horns, MU cables, air hoses, and antennas (where appropriate)*
- *Wire grab irons*
- *Kadee® couplers*
- *Heavy duty die-cast frame*
- *Golden-white LEDs*
- *Our proven drive that's been an industry standard for years!*

The models are shipped screwed to a plastic base through two holes in the bottom of the fuel tank. No packaging touches the model. Included are a sheet with lubrication instructions and a one-page quick start guide for operating the LokSound "Select" DCC decoder. A full PDF manual for the LokSound Select is available free at www.loksound.com.

Bowser's current PRR offerings are as follows:

Phase II – Has Trainphone, deck-mounted handrails, wide windshield, and train control box

- Units #2519 and 2526 available with LokSound DCC and sound – list $299.95
- Units #2502, 2506, 2519, and 2526 available DCC-ready (21-pin socket) – list $199.95

The left side of Bowser's Phase II U25B with Trainphone.

Notes: Units 2519 and 2526 were from PRR's second order and were delivered in October 1962. Their second road numbers were 2619 and 2626. Units 2502 and 2506 were dual control engines from the first order delivered in August 1962. Their second numbers were 2602 and 2606.

Phase IV – Has radio antenna, radio decal, side-mounted handrails, two-piece windshield, and train control box

- Units #2651 and 2656 available with LokSound DCC and sound – list $299.95
- Units #2651 and 2656 also available DCC-ready (21-pin socket) – list $199.95

Notes: Units 2651 and 2656 were delivered with radio equipment in November and December 1963 respectively. They never had Trainphone and were never renumbered.

I purchased a pair of the DCC and sound Phase II units.

Model Detail

The overall first impression of the model is very good. The color of the chassis and truck side frames are black. The body has a nice representation of dark green locomotive enamel (black with a hint of green). The paint has a matte finish. The numbers, directional "F", and keystone monograms are very sharp and opaque. Two builder's plates are printed on the frame in the correct locations. With magnification, the words "General Electric" are visible. On the left side of the frame, there is a "Water Fill" decal at the front and a "Lube Oil Drain" decal near the rear. There is another "Lube Oil Drain" decal on the right. Looking at prototype photos of engines from this order, it seems Bowser has not reproduced some common decals on the frame and ones they did do don't consistently appear.

Bowser modeled Trainphone in metal, possibly using the Cal-Scale lost-wax parts the company produces. The overall appearance is good, but with a couple issues. The paint on the wire and supports is a bit thick and, on my pair, arrived chipped here and there. Many of the supports were not straight. The modeler can fix these with dabs of ACC cement. The four short antenna supports on the cab roof are straight up and down on the model. They should be attached flat to the roof contour which would make them angle out slightly. Finally, the conduit that turns downward at the left rear of the unit next to the ladder should pass through brackets above and below the rear side vent before passing through the walkway. On both of my units, the brackets have not been modeled. In addition, on one of my units, the conduit was left too long and is laying diagonally against the outside frame. On the other, the conduit correctly goes straight down against the ladder and ends at the walkway.

The handrails along the walkways are made of flexible plastic. They look fine except for a little distortion where they connect to the back of the cab on both sides. The can be corrected by drilling the holes in the back of the cab a little deeper.

On top of the model, the lift rings are cast into the body. There are two grab irons at the rear of the hood near the ladder. The horn is a nice-looking brass casting. The engine exhaust stack is painted silver.

The cab side windows have deflectors. The windshield has a silver rim. The front and rear windows have windshield wipers.

The pilots on both ends have nicely detailed grabs, cut levers, brake hoses, and MU hoses. The footboards are solid though see-through tread would be accurate. The Stewart body has an unprototypical opening below the coupler. This was once common on HO-scale hood units, including Athearn's old blue-box kits. If you want, you can fill in the space and model the sloping pilot with styrene.

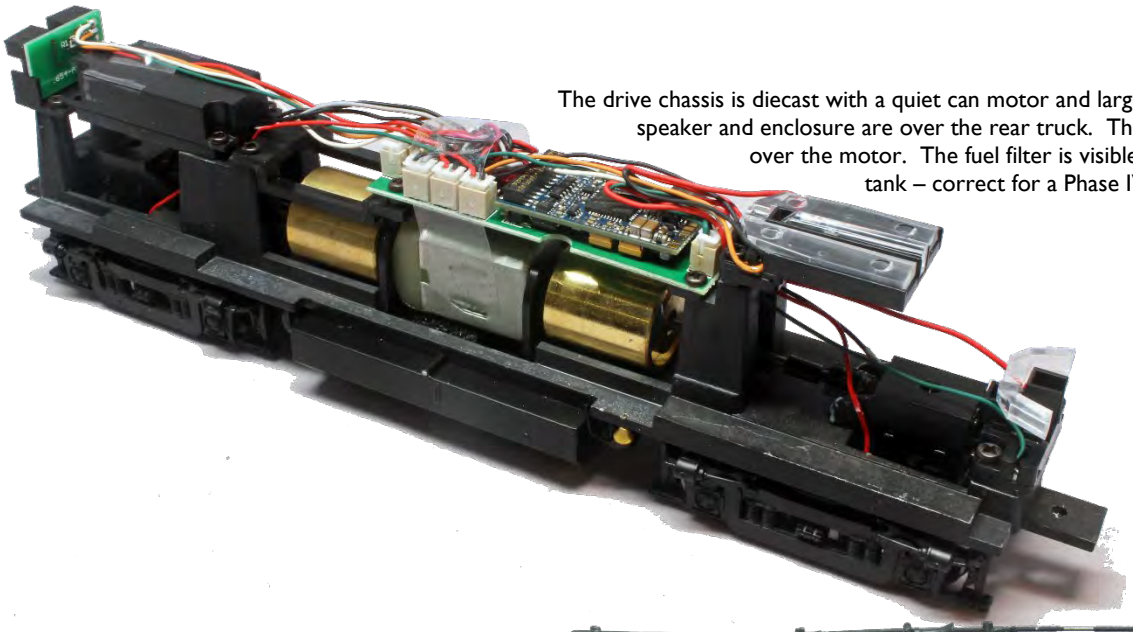
All PRR U25B's were equipped with dynamic brakes. The most visible evidence of this are the six dynamic brake grids on each side in the large vents at the rear sides of the hood. The Bowser shell includes these grids, but they are almost impossible to see through the mesh. On each side, a piece of thin sheet metal painted black is cemented over the back of the vent to block light. I'm not sure why this was done. Fortunately, these pieces can be pried off from behind with a hobby knife. Once light can pass through, the grids become visible.

Front and rear of the Phase II model. The headlights, markers, and numberboards are lighted. Couplers are by Kadee®. Safety tread is modeled on the walkways. On the prototype, PRR painted the straight section of the cut lever above the MU hoses yellow for safety.

The chassis includes new correct 9'-4" wheelbase AAR "B" trucks. Wheels have NMRA RP-25 contours with blackened centers. The fuel tank details on the chassis are correct for a Phase IV unit, but not for the Phase II. There is a fuel cap (painted silver) and sight glass cast into the center of the fuel tank. On the Phase II, they should be at the front of the fuel tank on both sides. There are air lines cast into the air tanks. The drive features a can motor with two large brass flywheels. All wheels are powered and pick up power. A large rectangular speaker with an enclosure is over the rear truck. The default sound is loud and clear. The master volume as well as the volume on individual sounds can be adjusted by changing CV values. The default horn sound is a Nathan P3. It is one of 16 available in the decoder. The decoder is mounted over the motor. The headlights, numberboards, and nose marker are lit by micro LEDs directly or through plastic conduits.

The DCC version has individual function keys for directional headlights, bell, playable air horn, coupler, dynamic brake, numberboards, sound, manual notching, and other features. The model is preset with a start delay, meaning the model will not move until the simulated prime mover sound has worked up enough power to feed electricity to the traction motors.

Overall, Bowser has produced an excellent model that looks, runs, and sounds great. And it's great to not have to install Trainphone equipment yourself.



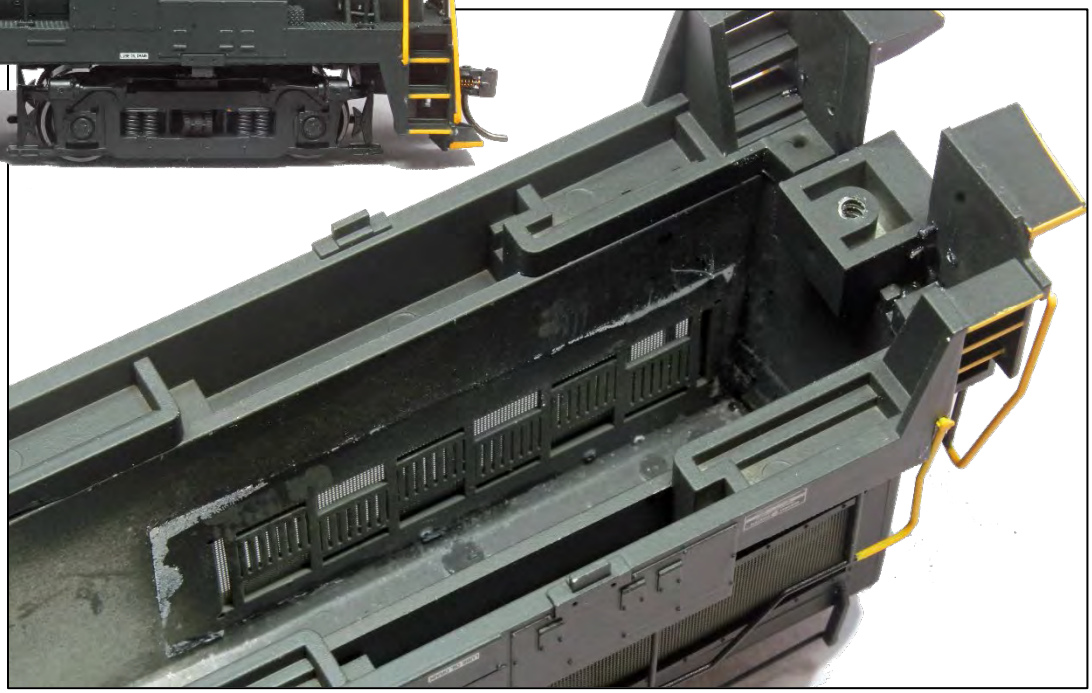
The drive chassis is diecast with a quiet can motor and large brass flywheels. The speaker and enclosure are over the rear truck. The LokSound Select decoder is over the motor. The fuel filter is visible over the center of the fuel tank – correct for a Phase IV unit, but not for a Phase II.

The left side of the cab shows the new correct length trucks and the well-done GE builder's plate on the frame. The distortion of the handrail to the right of the cab is visible. A wider, deeper hole in the back of the cab should solve this.

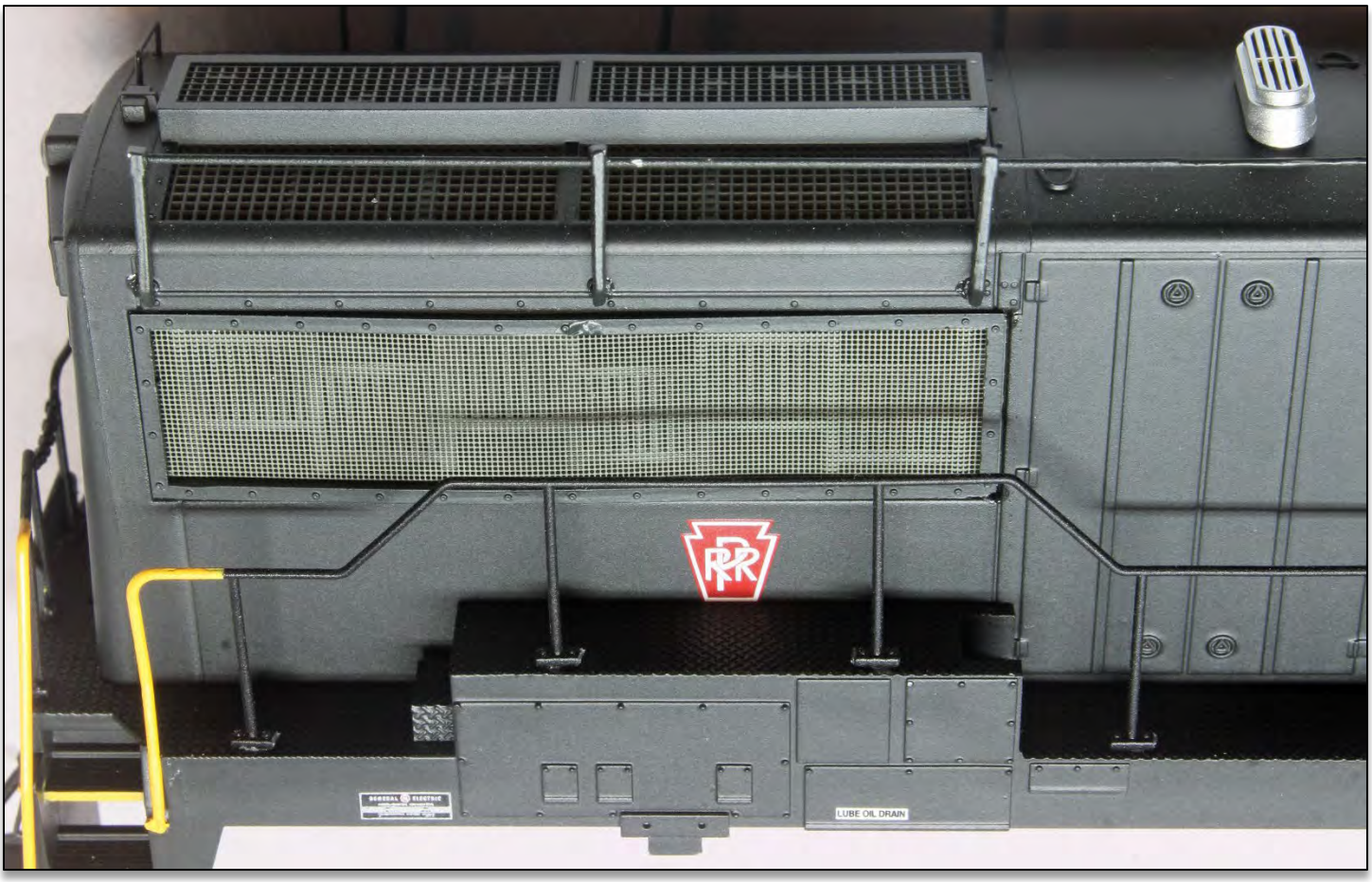
On my second model, the Trainphone conduit was left too long by the assembler and is leaning against the frame instead of being tight against the hood.

◀ The shell includes dynamic brake grids in the rear vent opening. For some reason, the factory blocked light from passing through with a thin piece of sheet metal painted black.

▼ The sheet metal can easily be pried off the inside of the shell with a hobby knife revealing the dynamic brake grids.



▼ With the metal removed, the dynamic brake grids become more visible through the mesh.



Bowser's Phase IV model of the PRR U25B includes a two-piece windshield, radio antenna, and radio decals. *(Bowser-Trains)*

Bowser's Phase II U25B makes a good impression.

The underside of the eight-wheel-drive chassis. The body can be removed by unscrewing and removing the couplers. The engine is held stable in the package by screws into the bottom of the fuel tank.

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Also, my thanks to Bill Volkmer for his assistance with the prototype portion of this article.