The Keystone Modeler

Pennsylvania Railroad Technical & Historical Society

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Inside:

The Keystone Modeler
Pennsylvania Railroad Technical & Historical Society

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FRONT COVER

(Clockwise from Top) Completed model of PRR L1s #520 in HO scale. *(Chuck Cover)* • Evening view of a station in electrified territory on Ed Swain's HO-scale layout. *Ed Swain)* • The new HO-scale Broadway Limited Imports P5A which is reviewed in this issue. *(Tim Garner)* • HO-scale model of "FORD" Tower by Gus Foster – winner of Best-of-Show: Structures at the 51st PRRT&HS Annual meeting. *(Tim Garner)*

The Keystone Modeler

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

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

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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The passing of Al Buchan, our Founder and Editor Emeritus, has caused me to wonder about the future of our Society. I first met Al at an annual meeting when he invited me to have breakfast with him. Al did work for the PRR at one time, but he was also aware that the future of the PRRT&HS lay with modelers, and he was also a modeler. There had always been interest in the Society from modelers, and eventually a place was found for them in a special segment of *The Keystone* called "The Snapper." It was that segment that became the separate publication we have now: *The Keystone Modeler*. But how can we keep interest in the Society going?

When I look around at our Annual Meeting, I see many gray heads, and I am among them. How can we get younger folks interested in trains, and possibly the PRR? I think that part of the answer is something we can do in the summer and fall with young people who are our grandchildren or nephews and nieces. Take them for a ride on a tourist railroad that is running steam. Let them see those locomotives in operation. Let them see your enthusiasm as well. You might even get them to look away from their cell phones for a little while!

In this issue of our e-zine we have a column from Elden Gatwood recalling his relationship with Al. We also have a thorough review of the BLI P5A from Tim Garner, an article on a tender kitbash from Chuck Cover, some layout photos from Ed Swain, and, of course, some model photos from last spring's annual meeting.

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
779 Irvin Hill Road
McVeytown, PA 17051

Some Memories of Al Buchan

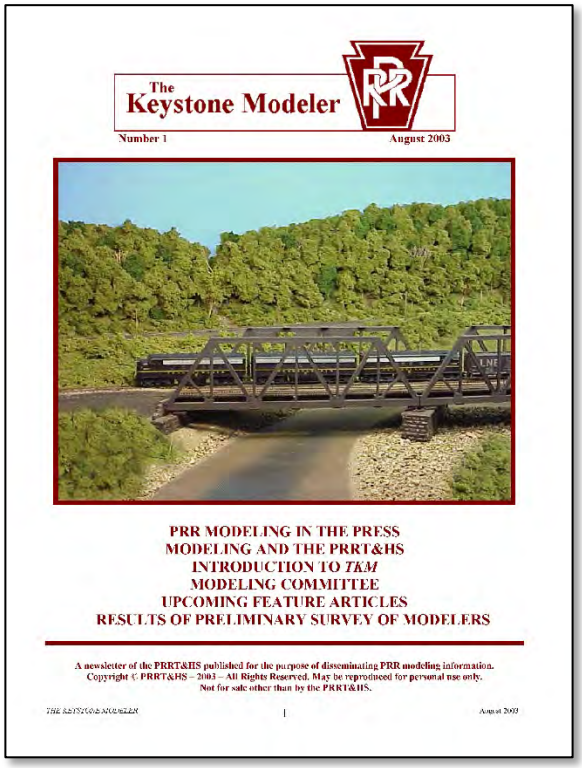
By Elden Gatwood

I first met Al Buchan at the PRRT&HS Meet in 1996. He walked up to me out of a crowd, looked me in the eye, and asked me, "young man, what are your interests, and are you a member?" I was a bit taken aback, due to mostly being ignored by the membership up to that time, but I was there in the hopes of finding meaningful photos, paperwork, and maps for my modeling of the PRR's Monongahela Division. However, I also told him I hoped to meet other like-minded individuals, what I was focused on, and a few other things. Al immediately said, "I have someone you would like to talk to," and we went on a search through the crowded hall. Al then introduced me to Jack Consoli, who I would then go on to become great friends with.

Al wasn't done with me. Over the course of the convention, Al interviewed me about what I thought the shortcomings of the Society were. I honestly told him I thought it was a closed society, not interested at all in modeling, and not welcoming of those outside the obvious prototype cliques. He asked me what I would do to add to the society, and I instantly responded, "a digital modeling magazine". I had just had a disagreeable experience with a printed magazine and had eagerly looked at new digital magazines available on the internet.

In coming months, Al and I worked up a "look", format, article formats, and columns, for the first edition of *The Keystone Modeler*. This new "e-zine" would focus on both prototype and model, with one leading into the other. There was to be an accurate and detailed accounting of the motive power, freight or passenger car, building or infrastructure, its history, details, paint and lettering, and even weathering, in an easy-to-follow-along format. Al and I collaborated on several articles in the many issues that followed.

I'd like to think we challenged one another; he as a tough boss and editor, and me as a person focused on modeling the PRR as well as possible and passing along helpful info along the way. Our collaboration worked so well we eventually wrote two books together, one on the PRR's flat car fleet, and another on their gondola car fleet. We never had a chance to write our third book.



The first issue of *TKM* in August 2003 feature a photo from Al's home layout on the cover.

I miss Al for his focus, care about me as a fellow human being, and desire to make the PRRT&HS the premier of railroad historical societies. I also miss him in many ways I cannot articulate. Smooth rails, Al.

Elden Gatwood
August 2019

The Keystone Modeler
NEWSWIRE
With Steve Hoxie

PRR Product News

NORTHWEST SHORT LINE
http://nwsl.com

Some very good news here. It seems NorthWest Short Line will still be a source for excellent tools and otherwise unavailable parts.

> **NorthWest Short Line Press Release**
> **For Immediate Release**
>
> NorthWest Short Line is pleased to announce that the entire line has been acquired by an NWSL employee, effective September 3, 2019. All existing back orders will be filled, and NWSL will be open to new orders as soon as the new websites are rolled out; the primary website nwsl.com will carry forward as the primary contact point. The line is expected to carry forward largely unchanged although the company will no longer offer phone support. NWSL will be headquartered in Kila, Montana, located near Kalispell, and the new address is PO Box 219, Kila, MT 59920. Email contact is through the website.

ATLAS MODEL RAILROAD CO.
https://shop.atlasrr.com/
PRR X29 Boxcar RTR—O Scale

(Atlas artwork)

Atlas now has available in their O-scale Master Rolling Stock line a model of the X29 offered in the plain keystone scheme. Several road numbers are available. Models are offered in both 2-rail and 3-rail versions.

BROADWAY LIMITED IMPORTS
http://www.broadway-limited.com/
PRR T1 Steam Locomotive RTR—HO Scale


Modified T1 version. *(BLI photo)*

Broadway Limited T1 locomotives are expected to arrive in early October 2019. Both original "as-delivered" and modified versions will be available. The model will be equipped with Paragon3 Sound/DC/DCC capability.

PRR BF-16 Sharknose Freight Diesel RTR—HO Scale

(BLI photo)

Also arriving in September 2019 is another **BLI** production run of the iconic Sharknose freight Diesel. It will have the original 5-stripe scheme and both A and B units will be available. The models will have Paragon3 Sound/DC/DCC capability.

PRR GG1 Electric Locomotive RTR—HO Scale

(BLI artwork)

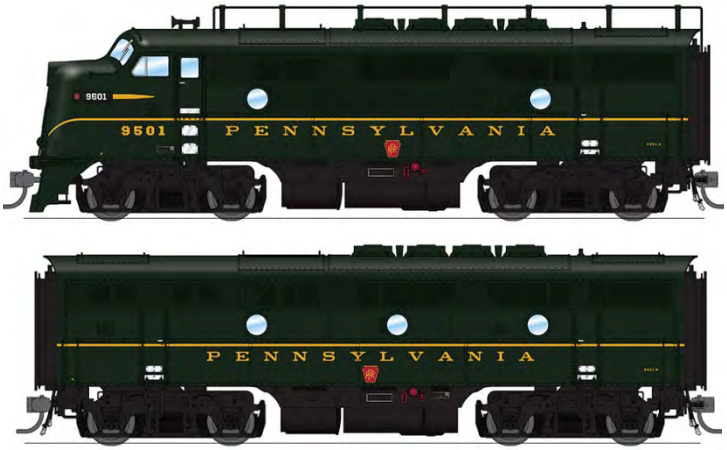
Probably in time for Christmas, the **BLI** GG1 is expected in December, according to **BLI** sources. It will be available in a variety of paint and lettering schemes. It will operate with DC or DCC and have the Paragon3 Sound and Operating System. Tooling is all new and the early flat-pilot version is being modeled.

PRR Streamlined K4s Steam Locomotive RTR—HO Scale

(BLI artwork)

According to company sources, **BLI** is planning to have 3768 in its streamlined configuration available in February 2020. It will be available in three different paint and lettering schemes. Operation in DC and DCC will be with the Paragon3 system.

PRR F3A and B (EF-15) Freight Diesels RTR —HO Scale



(BLI artwork)

BLI joins the ranks of HO F unit producers with this early PRR class EF-15. Both A and B units will be available, powered with the Paragon3 system. The company says they are expected in January 2020.

PRR P70 Passenger Coach RTR—N Scale

(BLI photo)

BLI P70's in N scale should be in stores as you read this.

PRR F7A and B (EF-15a) Diesel—N Scale

(BLI photo)

The N scale early F7 A and B units will be available in November 2019. The Paragon3 system will enable operations in DC and DCC.

PRR EMD NW2 Diesel Switcher – N Scale

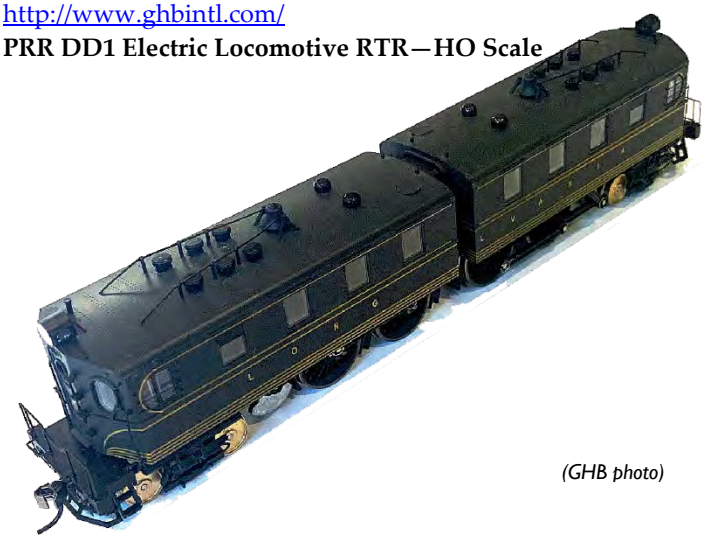
(BLI artwork)

This model with all-new tooling is due to arrive November 2019. This is a late-phase NW2 which PRR did not own. The hood in front of the cab for all PRR's NW2 switchers was flat in front of the cab with a short steep diagonal section.

GHB International

http://www.ghbintl.com/

PRR DD1 Electric Locomotive RTR—HO Scale



(GHB photo)

GHB has moved the DD-1 project along to the pre-production phase. Here is a pre-production photo. Note that changes are ongoing, including changing out the temporary brass pilot wheels.

Intermountain Railway Company

https://www.intermountain-railway.com/

PRR X29 Boxcar RTR—HO Scale

(Intermountain photo)

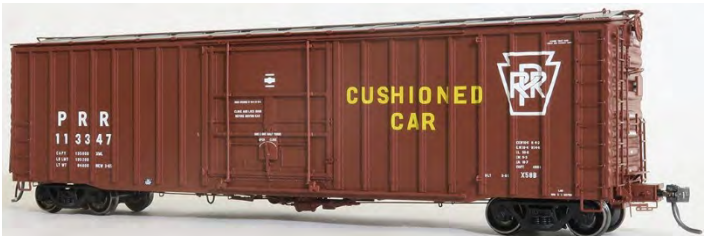
Intermountain continues to hold production of the X29 in the red-flagged Needs Reservations category. If you want this model produced, you must let your retailer know of your needs. This applies to your local hobby shop as well as your favorite on-line source. Give them a call or email to let them know they need to get enough orders to **Intermountain.**

JAMES' TRAIN PARTS
https://jamestrainparts.com/
PRR Baldwin RT-624 (BS-24m) Centercab Diesel Shell—HO Scale

(James' Train Parts artwork)

James' Train Parts has announced plans to produce this model in HO, based on previous work done in N scale. Construction will be by 3D printing and Shapeways. No availability date has been set yet, but it is expected before the end of 2019.

TANGENT SCALE MODELS
https://www.tangentscalemodels.com/
PRR X58 Boxcar RTR—HO Scale



(Tangent photo)

Tangent has available another run of its well detailed X58 boxcar. The prototype was built between 1964 and 1966 at the Sam Rea Shops. Several road numbers are offered. An undecorated kit is also available.

WALTERS
https://www.walthers.com/
PRR FP7A and F7B RTR—HO Scale

Walthers has announced a project for the FP-7 and matching F7B with models numbered in the pre-Penn Central series. Presumably they would be detailed as they appeared in the late era as well, but few details are available at this time. Planned availability is December 2020.

Upcoming Events

September 13-15, 2019 Hamburg, Pennsylvania
Reading Railroad Prototype Modelers Meet
http://www.readingrrmm.com/index.html

September 19-22, 2019 Baltimore, Maryland
Mid-Atlantic Railroad Prototype Modelers Meet
https://www.marpm.org/

September 21, 2019 Milwaukee, Wisconsin
Wise Division Railroad Prototype Modelers Meet
https://www.wisedivision.org/events/upcoming-meets-and-events

October 5, 2019 Bellflower, California
LA Area Railroad Prototype Modelers Meet
http://www.laapm.org/

October 12-13, 2019 Denver, Colorado
Rocky Mountain Railway Prototype Modelers Meet
http://rockymountainhobby-expo.com/

October 24-26, 2019 Lisle, Illinois
Chicagoland Railroad Prototype Modelers Conference
http://www.rpmconference.com/

November 8-9, 2019 Winston Salem, North Carolina
RPM Carolinas School of Railroad Modeling Techniques
https://sissonstony.wixsite.com/rpm-carolina

Advance Planning

January 9-11, 2020 Cocoa Beach, Florida
Prototype Rails
http://www.prototyperails.com/

March 27-29, 2020 Malvern, Pennsylvania
Railroad Prototype Modelers Valley Forge
http://www.rpmvalleyforge.com/

May 2, 2020 Portland, Oregon
Bridgetown Railroad Prototype Modelers Meet
https://www.brpmm.com/

May 13-16, 2020 State College, Pennsylvania
PRRT&HS Annual Meeting
http://www.prrths.com/conventions/PRR_Annual.html

July 12 -18, 2020 St. Louis, Missouri
NMRA National Convention and National Train Show
http://www.gateway2020.org/

July 31-August 1, 2020
St. Louis Railroad Prototype Modelers Meet
http://www.icgdecals.com/stlrpm/

Product Review – Broadway Limited Imports HO-Scale PRR P5A Boxcab Electric

By Tim Garner – Photos by the author unless noted

With great detail, sound, and performance, BLI's new P5A Boxcab was worth the wait. This is a freight version with buff Roman (Craw Clarendon) lettering with rounded "P" and "S" in PENNSYLVANIA.

In 2003, Broadway Limited Imports introduced their first GG1 electric locomotive in HO-scale. Included in the box with that and many early BLI models was a survey card asking buyers what new locomotives they would like to see. With my first GG1 and many subsequent BLI purchases, I recommended the P5A Boxcab and P5A Modified suggesting they be sold in one-of-each sets. It just took over 16 years for the first boxcab to arrive. It was worth the wait. I sure hope we don't have to wait near as long for the modified!

THE PROTOTYPE

In 1928, PRR committed to electrifying 325 route miles (1,300 track miles) with 11,000-volt, single phase, alternating current at 25 cycles, made possible by new motors developed by Westinghouse Electric and Manufacturing Co. Initially targeted to extend from New York to Wilmington and Philadelphia to Harrisburg. It would eventually be extended through Baltimore to Washington, D.C.

PRR initially designed three electric locomotives for road service on the extended electrification. Two would prove ill-equipped for their intended service. The O1, a 2-B-2 (or 4-4-4) type was to pull light passenger trains as would a PRR E6s-class 4-4-2 steam locomotive. The L6, a 1-D-1 (2-8-2) type, was to pull freight trains as would a L1s 2-8-2 steam locomotive. The P5 2-C-2 (4-6-4) was to match or exceed a K4s 4-6-2 steam locomotive in passenger service. Samples of the O1 were built first. In service, they proved underpowered in their intended role.

The first two L6 locomotives (#7825 and #7826) were built in Altoona for freight service in 1932 – one with Westinghouse and one with General Electric gear. Modifications to put more weight on drivers resulted in a new L6A class. The three L6 and L6A units outperformed the L1s steamer. PRR ordered 60 L6A (minus electrical gear) from Lima Locomotive Works of Lima, Ohio. Lima completed 29 shells of the order by the time PRR canceled the order. The road fleet of P5A locomotives in hand was repurposed for freight service (see below). The L6A shells were eventually scrapped.

The P5 would prove much more powerful than the O1. In July 1931, #7898 and #7899 were finished at the PRR's Juniata Shops in Altoona, Pa. The first had Westinghouse electrical gear and the second had General Electric. (Later they would be renumbered #4700 and #4791.) After a period of operation between Trenton and Wilmington, PRR decided to build 90 more. They would be classed P5A. The first 62 were built as boxcabs. The rest were built as center-cabs, known as P5A Modifieds. This design change was in response to a deadly collision with a truck in 1934 that horribly demonstrated the vulnerable position of crew in boxcab locomotives.

Problems with the weight distribution and suspension of the P5A caused side sway (or nosing) as early as March 1933. Then cracks and breakages began to appear in the driving axles. The PRR was forced to lower the speed limit for the locomotives. After a period of testing, PRR sought a new locomotive design for passenger service. That search resulted in design of the R1 4-8-4 (2-D-2) and the phenomenally successful GG1 4-6-6-4 (2-C-C-2).

Heavier axles and suspension changes to the P5 and P5A reduced the initial problems, but not enough for passenger train speeds. The original "conical volute spring cups" in the quill drive were later changed to rubber as well. Units 4701-4734 be re-geared and downgraded to freight service in 1935 as the GG1's took command of passenger trains. The rest would be between 1938 and 1940. The P5's would serve as PRR's primary electric freight haulers (usually in groups of two or three) for more than 20 years.

Boxcabs and modified often operated together. Enola liked to dispatch modifieds in the lead if available for maximum crew protection, but this was not necessarily true in every terminal. Tight space made the modifieds more challenging to maintain. They disappeared first.

As with all PRR dual-pantograph locomotives, P5's typically operated with the trailing pantograph raised unless it was unusable. This policy prevented an incident with one pantograph from taking out the reserve, too. (I wonder if PRR came up with that by logic or experience.)

In November 1937, to try and make the P5A more suitable for freight service, PRR modified #4702. It put a 375 hp traction motor on each leading truck, added ballast (dead weight) to the unit, and called it P5B. Testing showed it made only a modest improvement so no other P5A's were rebuilt. The P5B was a bit of an orphan and spent much of its career helping trains through the tunnels leading out of Pennsylvania Station in Baltimore.

The finest hour of the P5 came during WWII when they moved record volumes of freight along PRR's busiest routes.

In the 1950's, PRR sought new electric locomotive designs to take the place of the P5A. General Electric created the E2B, a four-axle straight-AC electric that had a striking resemblance to GE-designed ALCo FA diesels. The E2B could operate in multiple with the P5A and often did so until retirement. The competing Baldwin-Westinghouse E3C and E3B prototypes rectified AC line voltage to DC for the traction motors.

PRR liked the rectifier concept and ultimately ordered 66 E-44's from GE. Declining passenger service made more GG1's available for freight service, too. This doomed the aging P5 fleet. In May 1950, P5 4791 was the first scrapped. The last P5A modified was scrapped August 1962, the P5B in November 1961, and the last P5A boxcab in July 1965.

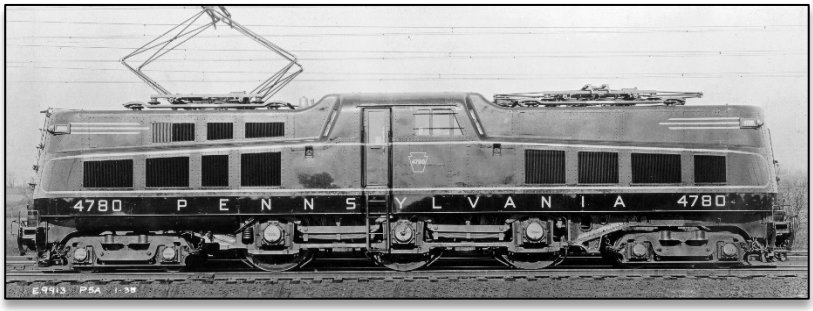
The first P5, #4700, survived. This was thanks to an in-service restoration by Enola shop forces under Bill Volkmer and the persistent requests of the National Museum of Transportation in St. Louis to the PRR for a P5. The engine is under roof at that museum awaiting a cosmetic restoration in the distant future after more critical projects are completed.

►Here's the face of new P5 #7898, later renumbered 4700, on July 14, 1931. The body of the P5 and P5A box cabs were constructed of aluminum sheet to prevent corrosion and minimize weight.

The end handrails were also made of unpainted aluminum – the visibility of which foreshadowed the yellow paint on PRR diesel handrails years later. They were not left completely unpainted aluminum over time. The fittings and ends were always painted dark green or black. Color images show PRR eventually painted any portion not meant to be grabbed by crews.

The original two-chime air horns would be replaced with single-chime Leslie A200 horns as were standard on GG1 electrics. *(PRR)*

▼ The P5A Modified design sacrificed crew visibility for crew safety. The center cab arrangement was like the GG1, but without the sleek welded skin and contours. Subsequent repainting would eliminate the striping. Such decorations were not necessary once it was exclusively a freight motor. *(PRR)*



For an April 1961 New York to Lancaster fantrip, Bill Volkmer was directed by his boss at Enola to pick out a dependable P5. There being only one P5, Bill picked the 4700 and gave it a fresh coat of dark green locomotive enamel. ▲ On April 28, 1961, it headed to South Amboy on the head of a coal train to get it in position for the excursion. Here it is in Harrisburg, Pa. on that day with P5A 4704 and P5A Modified 4786. *(William D. Volkmer)* ▼ On April 29, Ken Douglas caught it at the head of the excursion in Lancaster, Pa. pointed east to return to New York. *(Ken Douglas, William D. Volkmer collection)*

▲ P5A #4731 is rolling with a heavyweight passenger train in the 1930's. All aluminum finish on the handrails was typical in the early days. Note that the chain in a rubber hose that protects the gap is black. *(William D. Volkmer collection)* ▼ Here P5A #4705 in Wilmington, Delaware on November 6, 1960. Wilmington was the home of PRR's massive electric locomotive shops. *(William D. Volkmer)*

▲ P5A boxcabs 4726 and 4711 relax between runs in Enola Yards in Enola, Pa. on July 7, 1962. Note the tilt of the first equalizer on the first unit. Bill Volkmer said if the equalizers got out of balance like this, the drive cups would self-destruct in a matter of days. ▼ P5A #4731, looking spiffy and clean, is coupled to GG1 #4816 at Enola on June 16, 1962. Note the shop painted the aluminum handrails and added a second chain across the opening. *(Both photos, William D. Volkmer)*

▲ Motor #4734 and two mates are in at the Wilmington Shops on August 19, 1961. Note the relatively fresh black paint on the running gear. Bill Volkmer mentioned this was a common way to hide frame cracks as the P5A's ran out their last miles. ▼ The sides of #4739 look clean compared to the others on June 12, 1962. P5's generally got a bucket and brush bath in the Enola roundhouse once a month, but this one looks like it may have been dragged through the diesel washer. The ends have not been cleaned. *(Both photos, William D. Volkmer)*

The left side of the BLI P5A boxcab. Note the truck chains – a very unusual feature in a ready-to-run model.

THE MODEL

BLI describes the features of their P5A:

- 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 offered the model for $284.99. The first run variations are:

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 with brown roof, unlettered
4714	n/a	Freight Type, unlettered

The key physical differences for the passenger type body are classification lights on the upper corners of the body, a steam generator stack on the roof, a whistle, and no horn. It also includes a plastic brake hose, signal line hose, and a steam line connection below the coupler on each end.

Each model is packed in an expanded polystyrene foam (Styrofoam) tray in a cardboard box. In the tray, the model rests on a plastic packing piece that prevents the wheels from touching the foam. Smaller pieces of foam protect the railings and sheet of plastic film is wrapped around the model. A piece of vacuum-formed clear plastic seals the top of the foam tray and helps hold the model in place.

There are six documents in the box.

1. BLI Paragon3, Rolling Thunder Operator's Manual for "Diesel Locomotives" with a date of 10/15/2015
2. 1-page list of 28 default function key settings for the P5A
3. 1-page description of the "Electric Engine Rev Level/Throttle Control"
4. A caution message about the truck chains
5. An exploded view diagram appropriate for the body style
6. A description of the limited 1-year warranty

DETAILS

BLI's model makes a great first impression. It looks accurate right out of the package. In terms of dimensions, the model scales well. Dimensions of the chassis are spot on including the 6'-10" wheelbase of the trucks, the 20'-0" wheelbase of the drivers, and 43'-0" wheelbase of the truck centers. The drivers correctly measure 72" and the truck wheels 36". Real chains connect the front and back of each truck to the frame on both sides of the model. The height and width of the model are correct.

▲ Close-up of center roof details on freight version. ▶ End view of the model. There are several interesting details. The prominent edges of the window inserts detract from the appearance.

The drivers are correctly oriented for P5A's as built. On the model, each driver has webbed spokes on one wheel and spring cups for the quill drive on the other. Starting from the right (engineman's) side at the "F" or front end, the first and third axles have the spring cup driver on the right and the center axle has the spring cup driver on the left. On the prototype, this uneven application of power contributed to the P5A's axle cracking problems. New, larger diameter axles reduced, but never completely ended the problem.

The P5's were built with the center pair of drivers blind, meaning without flanges. This was carried through on the P5A boxcab and modified units. PRR veterans Bill Volkmer and Bob Watson both commented on how this led to derailments of the center driver on sharper curves (especially in yards). I've not seen evidence that PRR ever changed the blind drivers to flanged (though it was known to do so on steam locomotives from time to time). The BLI model has flanged center drivers. For operating purposes, I welcome this detail discrepancy. I find flanged drivers pull better than blind due to the extra friction the flanges provide.

The model has a significant number of applied parts on the chassis, body, and roof. You'll find brake parts, sand lines, air lines and tanks, lift rings, and horns. A safety barrier at the top of the end ladders is modeled. This was to prevent crews from climbing on the roof when a pantograph was in contact with the catenary.

The cab windows have flush-fitting clear plastic inserts with windshield wipers over the windshields. However, the inner rim of the inserts is relatively thick giving the impression the window openings are smaller than they really are. I suspect the thickness of the diecast body made thin-looking window glass a challenge. This could easily be addressed on the side windows by popping out the window inserts and modeling the cab windows open. The end windows would be more of a challenge.

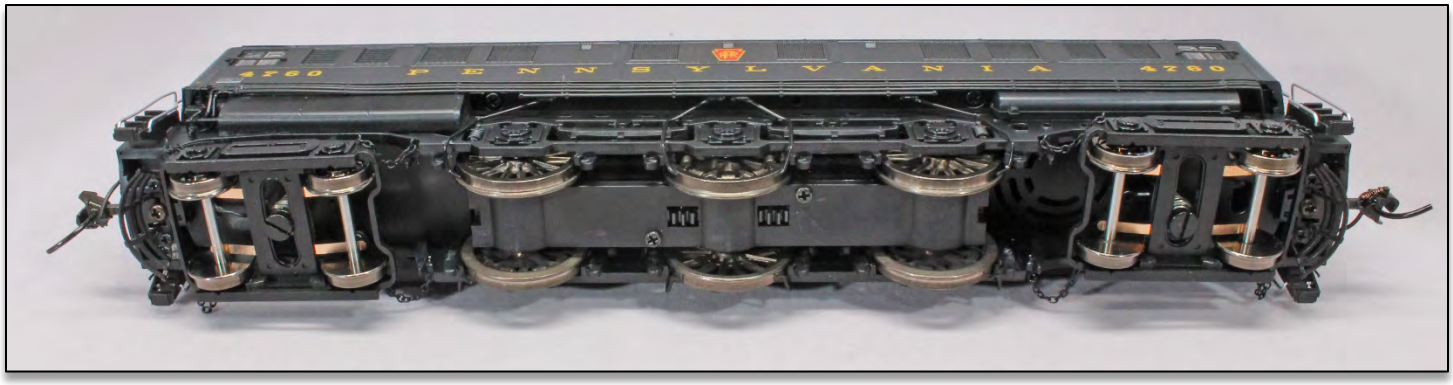
Visually and functionally, the pantograph is well done. Unfortunately, this is the full vertical extension – low for a PRR freight motor.

The pantographs are look accurate. They have a two-level base like the prototype. The upward spring pressure is very delicate which should work well for modelers that allow pantographs to contact catenary on their pikes. The pantographs clip in the down position on a pin below the pantograph shoes. My only criticism is the limited maximum height. PRR often mounted catenary higher over freight-only trackage most likely for the safety of employees on the top of cars. Photos of P5A pantographs "reaching for the sky" are very common. It would not be easy, if at all possible, to increase the maximum pantograph height on the model.

BLI has modeled three hoses below the end walkways on each end of both the freight and passenger versions of the model. In searching through prototype photos, the P5A did not have hoses here when built. Single hoses appeared on some of the boxcabs and the modifieds in the mid-1930s. The oldest photo I've seen with three hoses was dated May 1939, but it seems to have taken years for more boxcabs to be equipped. To get the details "right," the old modelers' adage applies – check photos. You'll want to study photos of the units you want to model taken in the same era then modify the details, paint, and weathering to match.

BLI installed long-shank Kadee®-compatible couplers on each end probably to reduce the minimum operating radius. It is easy to replace this coupler with a standard Kadee 158 "scale" coupler to reduce coupling distance. Note that only couplers designed to work with a separate sheet-metal spring will fit in the coupler box.

Both the freight and passenger versions have claw-foot markers on the pilot. BLI installed red jewels to the front and amber jewels to the side. Fortunately, BLI did not go to the expense to make these operate. For most of the years P5A boxcabs operated, markers would only be on at night, in red, and only if that end of the unit was the back end of a train – a rare event. When not on, the red lenses look virtually black. In later years, the side lenses were blanked out.



Underside of the BLI P5A. Note all wheels have electrical pick-up.

If you take a close look at late photos of P5 #4700, the claw foot markers have been removed and small bullseye markers (the type found on the blunt end of PRR cab unit diesels) are installed on the four corners of the roof. I've not seen any other P-class unit with this modification.

P5A's in passenger service had classification lights at the upper corners of each end. BLI has modeled this on the passenger versions. These were not used on freight versions.

Painting and Lettering

The freight P5A models I purchased were very well done. The dark green locomotive enamel looked comparable to the darker PRR models on the market these days. The chassis is black and the driver centers are blackened. The lettering is crisp and opaque. The buff looks correct. There are legible builder's plates on each side and unit numbers on the sides of the headlights.

The end railings are entirely silver to represent aluminum as on the prototype. Depending on the era and service, you will want to paint the handrail fittings, safety chain, and vertical supports black or dark green.

The bell on the roof is unpainted brass. Passenger versions also have a brass whistle instead of a horn.

Operations

As with all current BLI locomotives, the P5A may be operated with straight DC or DCC. In DC operation, a BLI DC Master Analog Control Module (BLI #1011) is required to control sounds. The manual indicates the locomotive sound will begin functioning at around 7 volts in DC mode.

The four freight versions I purchased all have a default forward direction that matches the end marked "F". I heard a report of one going the opposite way out of the box. I didn't hear if that was one of the passenger versions. One of my models had a defective decoder which BLI quickly replaced after I reported the problem, got a return authorization number, and returned the malfunctioning decoder.

Operation in DCC (Digital Command Control) provides significantly more features and options. The default function keys for the model are:

Key No.	Description
F0	Front Light/Rear Light
F1	Bell (diesel-type)
F2	Diesel Horn
F3	Coupler Slack. (Couple when moving)
F4	Compressor. (Electric arc sounds when moving)
F5	Ramp Traction Motors Up
F6	Ramp Traction Motors Down
F7	Pantograph Up/Down Sounds
F8	Volume/Mute
F9	Startup/Shutdown
F10	Cooling Fans
F11	Air Filling/Air Release
F12	Brake Set/Brake Release/Squeal
F13	Grade Crossing Horn
F14	Passenger Announcements
F15	Freight Announcements
F16	Maintenance Related Radio Chatter
F17	Radio Related Radio Chatter
F18	City Related Radio Chatter
F19	City Related Radio Chatter
F20	Industrial Background Sounds
F21	Lumber Background Sounds
F22	Toggle Primary and Secondary Horn
F23	Track Sounds
F24	No Used
F25	Long Horn
F26	Play Recorded Macro
F27	Macro Recorder Start/Stop
F28	Brake Squeal

By default, the motion of the model is synchronized with the sounds. The model will not move until the traction motors begin to "rev up." There is an intentional slight delay after you move the throttle from stop until the model begins to move. The default is *throttle-based control* where each throttle movement will increase the rev level – one rev level for each "notch" in your throttle wheel.

Brushing black or dark green on the handrail fittings, safety chain, and vertical supports makes the end look like many P5A's did during the bulk of their service lives.

In *manual control*, using F5 to increase and F6 to decrease, will change the traction motor rev rate regardless of the model's speed, movement, throttle setting, or load.

Load-based control is turned off by default but can be turned on by setting CV-246 to 128. BLI indicates more information on controlling rev levels online at: https://www.broadway-limited.com/support/manuals/Revs%20Explained.pdf.

Also, by default, the sound is set extremely loud – the loudest factory sound I have ever heard out of the box. To reduce it to a level in keeping with my other models, I set CV-133 to 15 (128 is the max).

As to the accuracy, Bruce Smith commented on the PRR group, "The horn is spot on. The blowers seem to be accurate. However, the increase in blower volume with throttle increases is probably incorrect." Others commented the sound of tap switches – a steady "pop (pause) pop (pause) pop" as the controller (throttle) was notched up or a rapid "pop-pop-pop-pop" as the controller was turned back to zero – are missing. Bill Volkmer indicated this sound would be most noticeable when riding inside a P5A or GG1 at the transformer end. Others commented that gear noise that would vary with speed is also missing.

There are four functions related to horns. F2 is the basic horn and stays on while you hold the key down. The default horn on my model sounds like a Leslie A-200 – the same as on a GG1. It trails off at the end with a little echo or reverb. F22 allows you to toggle with an alternate horn. The alternate horn is a higher pitch, probably meant for the passenger version of the P5A. F13 and F25 both do the "long – long – short – long" grade crossing warning. F13 uses shorter tones and F25 uses longer tones.

The F9 startup/shutdown sequence includes several sounds you might expect to hear as a hostler prepares the engine for a run. You'll hear doors open and close, the pantograph go up, and blowers come on.

F23 turns on track sounds – a clickety-clack noise. This sound isn't very realistic and does not vary with the speed of the locomotive. Tsunami2 decoders have a similar function tied to speed that permits you to program the number of axles that would cross the rail joint close together. Unfortunately for the Tsunami2, this sound is default on. Most modelers I know that have experience it turn it off as quickly as possible. At least you don't need to do that with the P5A.

Switching the long-shank factory couplers (left) to regular-shank Kadee® #158 couplers (right) improves the unit spacing. I have had no issues with the coupled models moving through #6 crossovers or double-slip switches.

The eight announcement, radio chatter, and background sound functions are not my cup of tea and I won't be using them.

BLI Paragon3 engines also can record and play macros – F27 and F26. This allows you to record the operation of the locomotive through a cycle, then have the locomotive replay that cycle. This essentially permits the engine to run on autopilot for whatever number of cycles you program or until you shut off the macro. I've never used this feature and don't see an instance where I would want to.

The P5A has a quiet drive train which is very important for sound-equipped locomotives, so it doesn't compete with the digital sound. The locomotive doesn't immediately start to move when the throttle is cracked. The sound must start first. Unfortunately, this means if it experiences a sudden loss of power, it will stop cold and go through a sound start-up before moving again. All wheels pick up electricity, so dirty track is less of a problem than it might otherwise be.

Because of the metal body and chassis, the BLI model weights 1 lb. 6½ oz. It pulls decently on level track. Since there were no mountain grades in PRR's electrified territory, this should be fine for most modelers. There are no traction tires. In freight service, P5A units typically operated in pairs. For heavy mineral trains, three-unit lash-ups were common. Two or three models will have no problem with most pike-sized freight trains with free-rolling cars.

I was surprised at how much of a passenger train one unit can pull. On level track, I had one P5A pulling a ten-car train of mixed BLI P70 coaches and Walthers heavyweight Pullmans on level track without difficulty. However, it did not have enough traction to pull a brass *Keystone* train that one of my BLI GG1 models can pull without difficulty. However, the top speed is rather slow for passenger trains. Following instructions in the Paragon 3 Technical Reference Manual online, it may be possible to increase the top speed.

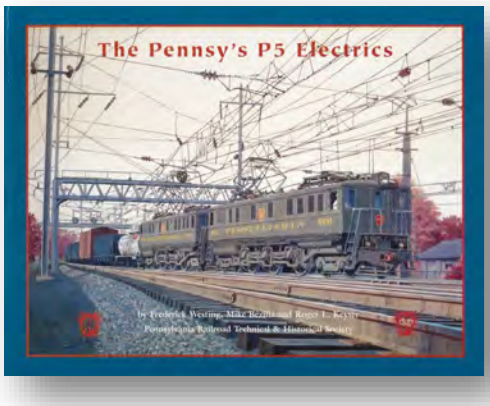
I had no difficulty consisting two of the P5A's using advanced consisting on an NCE DCC system. However, unlike other decoders, the BLI decoder does not automatically turn off the headlight of all but the lead locomotive in the consist. I will need to research BLI documentation to see if there is a way to turn second unit headlights off. CV-231 does control dimming headlights so maybe this could make it less visible.

The Verdict

This model is a winner. The accurate detail and smooth operation are what we've come to expect from BLI. The shortcomings are few and not significant. I hope the success of P5A boxcab convinces BLI to proceed with the P5A modified.

Sources on the Prototype

- Tim Garner, "Pennsylvania Railroad P5 Electrics," *The East Wind*, New England Chapter, PRRT&HS, Vol. 13, No. 1, Autumn 2016.
- July and August 2019 email conversations with former PRR men William D. Volkmer and Robert Watson.

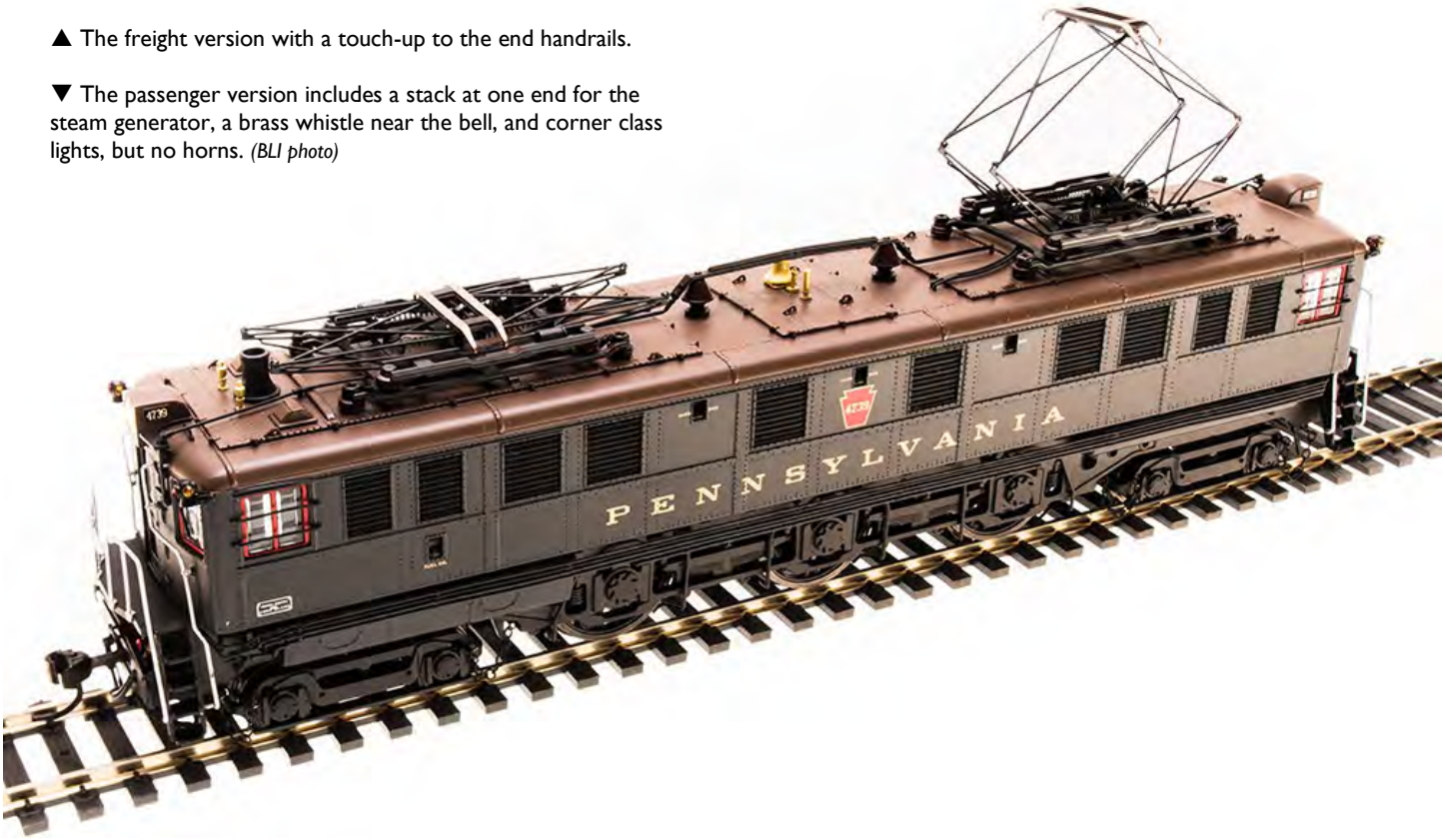


The best source for information on the PRR P5 locomotives is **The Pennsy's P5 Electrics** – by Frederick Westing, Mike Bezilla, and Roger L. Keyser. It remains in print and is available from the PRRT&HS web site – originally $20, is now on sale for **only $10.**

Visit http://prrths.com and click on "books" to learn more and order.

▲ The freight version with a touch-up to the end handrails.

▼ The passenger version includes a stack at one end for the steam generator, a brass whistle near the bell, and corner class lights, but no horns. *(BLI photo)*

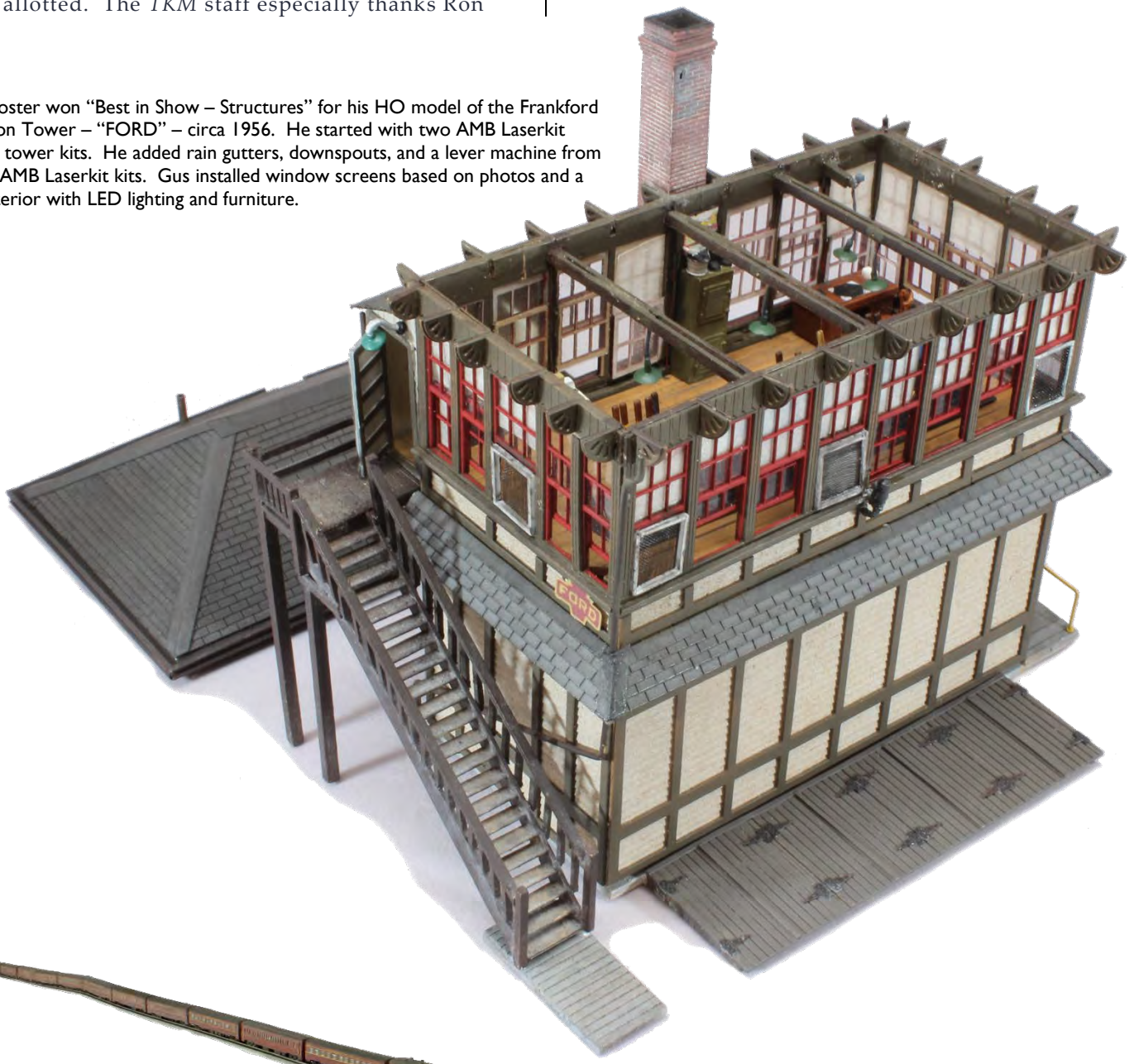


2019 Annual Meeting Models – Part 1

By The Keystone Modeler *Staff – Photos by Tim Garner*

There were many fine models on display at the 51st PRRT&HS Annual Meeting in Lancaster, Pennsylvania. It was a challenge to get them all photographed in the time allotted. The *TKM* staff especially thanks Ron Hoess for his assistance during the photography process this year. We'll share images of the rest of the models in the next issue of *TKM*.

Gus Foster won "Best in Show – Structures" for his HO model of the Frankford Junction Tower – "FORD" – circa 1956. He started with two AMB Laserkit "MO" tower kits. He added rain gutters, downspouts, and a lever machine from three AMB Laserkit kits. Gus installed window screens based on photos and a full interior with LED lighting and furniture.



Members awarded Gus Minardi "Best of Show" – Consist for his HO model of the 1952 *General* passenger train. Gus's full consist was an A-B-A set of Broadway Limited Imports EMD E7 diesels, R50 express reefer by Rail Classics, B60b baggage by Bethlehem Car Works, Walthers 10 and 6 Pullman sleeper, 14-Section Betterment Pullman sleeper by Soho, Walthers Budd 21-roomette sleeper, Walthers 12 and 4 Pullman duplex sleeper, Walthers 10 and 6 Pullman sleeper, Walthers Pullman 6 double bedroom lounge, Walthers Budd twin-unit diner, four P85BR coaches by Centralia Car Shops, and a brass POC85AR observation by Oriental. Long trains are impressive to see in the model room, but difficult to photograph.

The Modeling Committee awarded Kirk Fisher the coveted Bob Yagodich Award for his collection of HO-scale Middle Division towers. Clockwise from top left are "BANKS," "VIEW" (under construction), "MIFFLIN," "JACKS," "PORT," and "LEWIS" in the center. He scratchbuilt most using Northeastern Scale Lumber basswood or parts from Gloorcraft/Quality Craft kits, Tichy windows and doors, and other commercial parts. Kirk is modeling the steam/diesel transition era.

John M. Johnson displayed these four PRR covered hoppers in HO scale as they looked in the 1950's with excellent weathering. From top to bottom are an H30, and H33 from a kit, an H21D, and an H32 from a kit.

Here are four HO scale gondolas by *TKM* editor Jim Hunter. At the top is a G30 composite gondola circa 1951. It started as a ready-to-run model from Intermountain. He made some detail modifications, added junk from previous loads and gave it light weathering.

Jim built this G22 from a Funaro & Camerlengo kit as it looked in 1951. He painted it with Scalecoat, applied F&C decals, and gave it a light grime weathering job.

This G22 is a Westerfield resin kit with a simulated rebar load. Jim used Floquil paint, Westerfield decals, and weathered with light grime. Because of the age of the kit, the parts are a bit brittle.

This F&C G22 kit has modernized replacement ends and a very interesting junk load casting. Jim hand painted it with convincing results.

Buzz Burnley displayed this O-scale N5 cabin car in Pennsylvania-Reading Seashore Lines attire. He painted the model with Floquil paint, applied Mt. Vernon Shops decals by John Frantz, and weathered with Floquil paints. Buzz painted and lettered this Art Hobbies brass model for Michael Rahilly, a NJ Transit Rules Examiner.

Claus Schlund prepared these three GLA hoppers in N-scale. One is lettered for the PRR and the other two for the Westmoreland Coal Company as they appeared in 1929.

Yank Yankolonis modeled the one-of-a-kind X30 boxcar in HO scale. They were used on the Elmira Branch to haul American LaFrance fire trucks. Yank started with a factory-painted Crown Custom Imports brass model, installed Kadee® couplers, code 88 wheels, added a Busch model of a LaFrance 700-series hook and ladder truck, then weathered with airbrushed Floquil paints and Pan Pastel Powders.

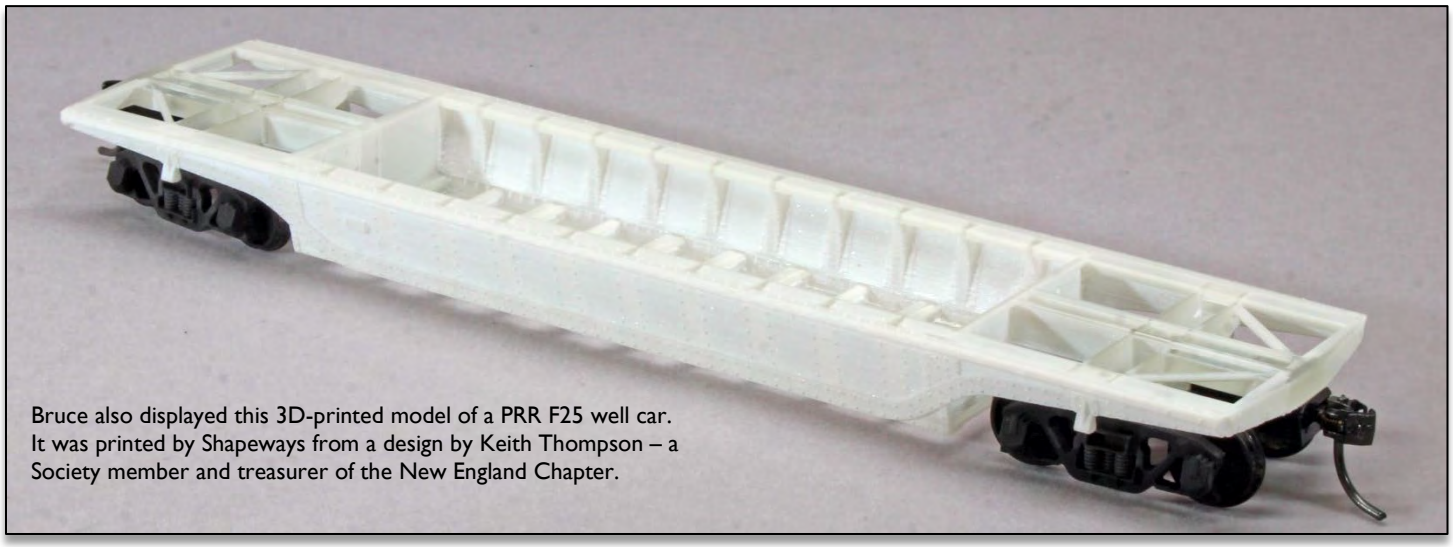
Richard Collins enhanced this pair of ready-to-run HO Bowser F30A flatcars with M26 Pershing tanks from Heiser kits. To the flatcars, he added brake hoses, grab irons, cut levers, and Kadee® 158 scale couplers minus the trip pins. He weathered them with an air brush.

Richard gave this Bowser F30A the same treatment, but with two Heiser M24 Chaffee tanks. He's modeling the 1944-1945 period.

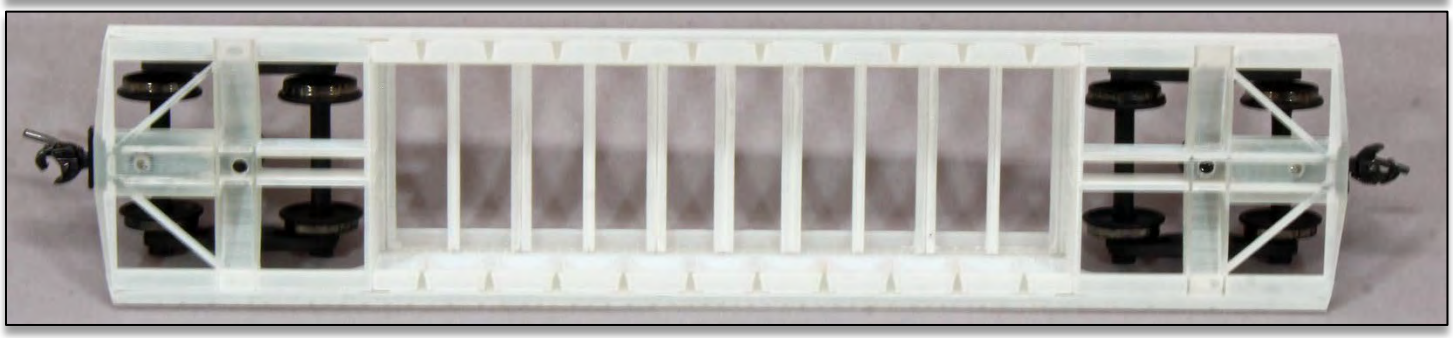
And finally, Richard has modeled two Bowser F30A flatcars with Heiser M4 Sherman tanks.

Bruce Smith built this Funaro & Camerlengo FM flatcar kit with a pair of Heiser WC-5Y Dodge Ambulances. To the car, he added an Ames wood floor, Yarmouth cut levers, and Hi-Tech air hoses. He used Poly Scale paint and Mt. Vernon Shops decals.

Bruce did the same with this F&C FM kit, but used Heiser resin M5 Stuart light tanks for the load. This represents June 1944.



Bruce also displayed this 3D-printed model of a PRR F25 well car. It was printed by Shapeways from a design by Keith Thompson – a Society member and treasurer of the New England Chapter.

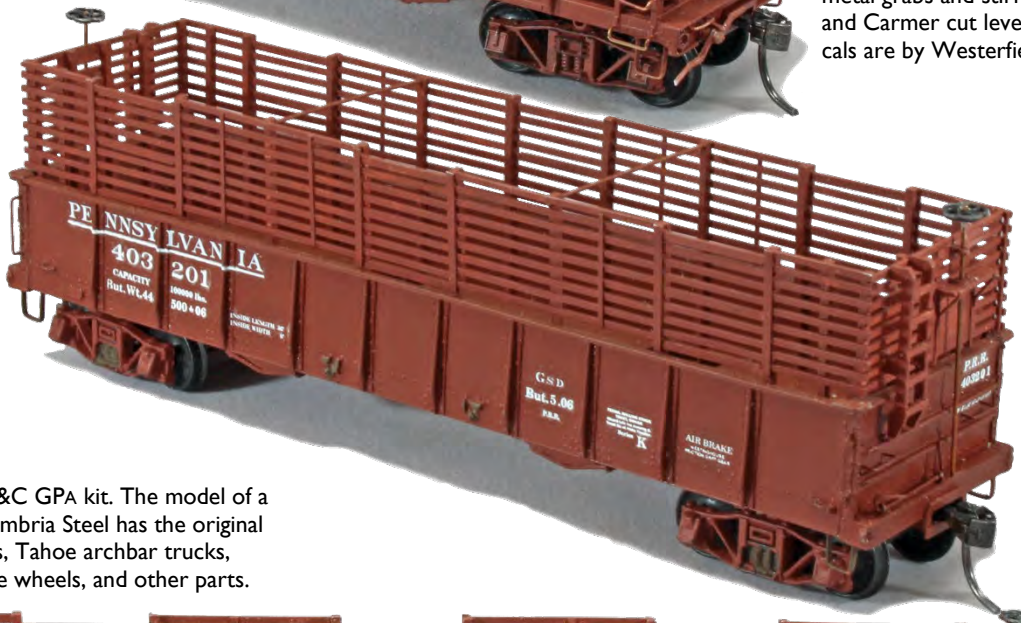


Jonathan "Rick" Glas displayed several HO scale coke cars.

This is a G22 coke car circa 1915-1918 Lines East. Rick kitbashed it from a Funaro & Camerlengo G22 kit. He added a coke rack, sloped drop doors, metal grabs and stirrup steps, and Bowser Crown trucks. From Kadee he added #153 couplers, #533 wheel sets, and a #440 brake wheel. Paint is Scalecoat PRR Freight Car Red.

Rick kitbashed this H22 coke car from a Bowser H22 kit. He is modeling a car circa 1912-15 Lines East car build July 1912 at Cambria Steel in Johnstown, Pa. He fitted it with Tahoe archbar trucks, metal grabs and stirrup steps, and Carmer cut levers. Decals are by Westerfield.

Rick's GSD coke car started as a F&C GS gondola kit. To replicate a circa 1906-09 Lines East car built by ACF in Butler, Pa., he added sloped old-style drop doors, a coke rack, Bowser archbar trucks, and brake wheels, wheels, and couplers by Kadee. Decals are by Westerfield.



This GPA coke car is a modified F&C GPA kit. The model of a 1905-08 car built May 1905 by Cambria Steel has the original side door and release mechanisms, Tahoe archbar trucks, Kadee wheels, couplers, and brake wheels, and other parts.

Rick's H21 coke car is a Bowser H21 built by Cambria Steel in April 1910. He added metal grabs and stirrup steps, Tahoe archbar trucks, Carmer cut levers, Kadee wheels, couplers, and brake wheels.

This GSA coke car is a model of one built July 1904 by Pressed Steel Car for PRR Lines East. The core is an F&C GS gondola kit with Bowser archbar trucks. He built the coke rack from styrene.

This GE class coke car is scratchbuilt from wood and styrene. Rick built a car constructed in Altoona in March 1897 as it looked in 1900. It rides on Tahoe archbar trucks.

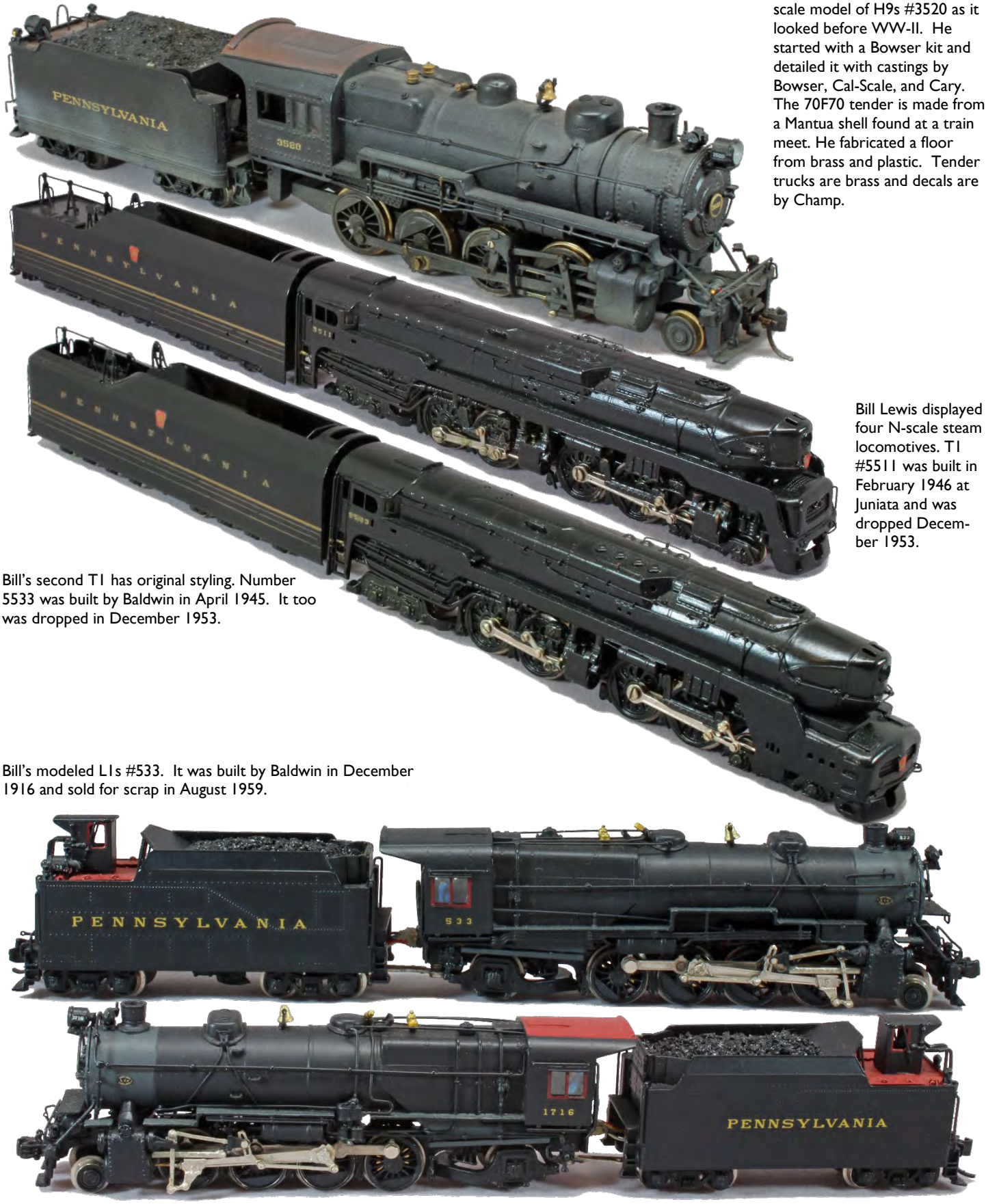
Rick scratchbuilt this GC car in wood and styrene. It was built in Altoona in September 1881. Rick modeled it as it looked in 1899. It has Tahoe archbar trucks and Westerfield decals.

Ricks final coke car is a class GI built by Pullman in July 1902. He scratchbuilt it from wood and styrene. It rides on Tahoe archbar trucks and was painted with Poly Scale boxcar red.

John Frantz refurbished this used PRR X51A in HO scale built from a Front Range kit. He decorated it to represent how it looks in service to Conrail in the late 1970's. He used Krylon red oxide primer with Custom Decals.

Bill Lewis displayed this pair of hi-cube auto parts boxcars in N-scale. One is an X60A and the other an X60G.

This HO-scale G31E gondola with protective coiled steel covers was built by Gus Minardi. The car is a Con-Cor 52' gondola with extra details and the covers are scratchbuilt. Decals are by Champ.



Ivan Frantz displayed this HO-scale model of H9s #3520 as it looked before WW-II. He started with a Bowser kit and detailed it with castings by Bowser, Cal-Scale, and Cary. The 70F70 tender is made from a Mantua shell found at a train meet. He fabricated a floor from brass and plastic. Tender trucks are brass and decals are by Champ.

Bill Lewis displayed four N-scale steam locomotives. T1 #5511 was built in February 1946 at Juniata and was dropped December 1953.

Bill's second T1 has original styling. Number 5533 was built by Baldwin in April 1945. It too was dropped in December 1953.

Bill's modeled L1s #533. It was built by Baldwin in December 1916 and sold for scrap in August 1959.

Finally, Bill modeled L1s #1716 which was built at Juniata in June 1915 and sold for scrap in October 1956.

Yank Yankolonis gave a presentation at the Annual Meeting on how he enhanced the accuracy of his Broadway Limited Imports Q2 duplex. We're hoping he turns it into an article for *TKM*. Here's the model as displayed in the model room. He installed a QSI Titan decoder with one speaker in the tender and one in the boiler. He added front handrails, drop coupler, and left front cylinder drainpipe. On the trailing truck, he added sand lines, brake cylinders, water line, and brake rigging. He installed a missing fixture above the air tank on the fireman's side. He put real glass in the cab windows, an external control on the rear of the cab, a crew in the cab, and an interior with brakeman in the tender doghouse. He added enginehouse assignment lettering on the pilot and weathered with Floquil paint and Pan Pastel Powders.

Look for more Annual Meeting model room coverage in Autumn *TKM*.

Modeling PRR L1s #520

By Chuck Cover – Model photos by author

PRR L1s 2-8-2 #520 at the Railroad Museum of Pennsylvania. Funds have been raised to cosmetically restore this locomotive for its eventual display in the planned roundhouse at the museum. Note the boiler and cylinder jackets, domes, bell, and some of the rods have been removed. *(Larry Hanlon)*

I recently finished modeling PRR H10s 8686 which was assigned to the Northern Division per the July 1, 1957 MP 229 and was photographed on the Shamokin Branch in the 1950s. Modeling this locomotive required swapping out the BLI "Lines West" tender, which came with the BLI H10 locomotive, for a 90F81A BLI L1s tender. The kitbash of 8686 was fairly easy in that I just had to transfer the electronics from the Lines West tender into the L1s tender shell. However, that left me with an L1s locomotive without a tender. I decided to model L1s #520 which is currently sitting in Strasburg at the Railroad Museum of Pennsylvania. I found a few photos of the locomotive in service and was given great photos taken by Larry Hanlon of 520 at Strasburg.

The history of the PRR's 2-8-2 has been covered in several publications. PRR 520 was built by the Baldwin Locomotive Works in 1916 and, as all eastern L1s engines, was originally hand-fired and would have had a tender with the 66" deck height. All L1s originally had relatively small tenders, some as small as the 70F66B (reference *Keystone* Vol XIII, No. 3, "Lollypops"). Although many were built with 9,000-gallon capacity tenders (90F66), these small tenders were a major complaint by PRR engineers. Over the years, improvements were made to the L1s, including stokers, which required raising the cab deck to 75"and equipping them with larger capacity tenders such as the 90F75 and 110F75. I have not been able to find any as-built L1s with 11,000-gallon capacity tenders.

Doug Kisala has recorded the tender sitting behind 520 in Strasburg as 110P75A #6836 from the plate on the back.

The BLI K4s models were released with 110P75 tenders and I was able to obtain a BLI K4s tender shell with trucks from a friend which was the starting point for this kitbash.

Modeling the 110F75 Tender

Electronics

Moving the L1s electronics into the K4s tender was complicated, as my K4s tender was just the shell and trucks, so I needed speakers, and I had to fabricate a new board that fitted over the speakers upon which I attached the L1s decoder. The plugs for the track power from the K4s tender trucks and the new speakers differed from my L1s decoder plugs necessitating some rewiring. Once retrofitted, the loco ran as well as the original. The K4s tender did not have a BLI-supplied backup light (which is supplied on the BLI L1s), so I decided to install a dummy on the back of the new tender.

Kitbashing the Tender

The BLI K4s tender, 110P75, does not have a doghouse, and the water hatch extends along the rear of the tender deck. To model the L1s 110F75 tender, one needs to cut out a portion of the tender deck and back to create a recessed deck for entry to the doghouse and relocate the water hatch.

Two photos of L1s 520's 110F75 tender at the Railroad Museum of Pennsylvania. *(Both, Larry Hanlon)*

Deconstructing the Tender

The K4s tender is diecast metal so making changes is more difficult than my previous styrene H10s tender kit-bashes.

Remove the styrene attachments on the deck and rear of the tender, including the water hatch, marker lights, electrical lines, and ladder. These all can be carefully pried off using a scalpel blade. Set these aside. Looking at the rear of the tender, measure left to right along the rear top edge a scale 3′-3″ just to the right of the hole where the ladder will be reinserted. Use a Dremel tool with a cutting disc to cut out a scale 1′-3″ x 12″ opening for the recessed deck entry to the doghouse (figure 1). Cut slightly smaller than the final opening and use a file to smooth out the cuts and obtain the correct size.

Measure a scale 3′-3″ inboard from each side of the tender to cut out the back portion of the tender deck floor behind where the water hatch was located. Begin cutting with the Dremel tool with a rotary disc, being careful not to cut into the rear vertical lip at the back of the tender. The cut out will extend forward to the hole that was already in the deck for the factory installed water hatch. Use a file to smooth up the hole. Then using the Dremel tool, this time with a metal grinding attachment, grind off the trim where the water hatch was attached (figure 2).

Kit-bashing the 110F75 Tender

Insert a .04″ styrene sheet to the underside of the tender deck so that it sits against the rear of the tender even with the ladder opening. This forms the floor of the recessed deck and should be horizontal to the deck. The BLI doghouse door faces to the rear of the tender. Remove about a scale 12″ from the sides and back of the doghouse so it will sit on the tender deck floor. There is now a lip on the door end of the doghouse which fits into the back of the recessed deck opening (figure 3).

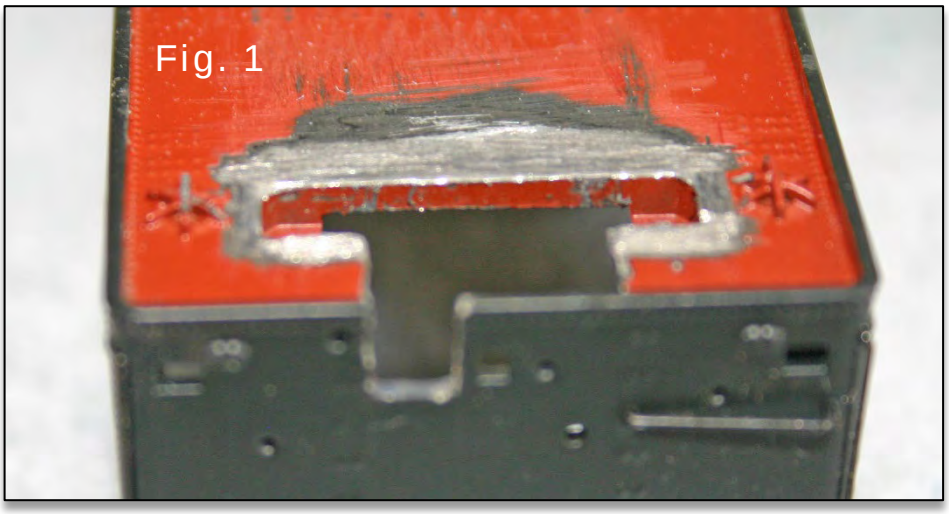


Fig. 1

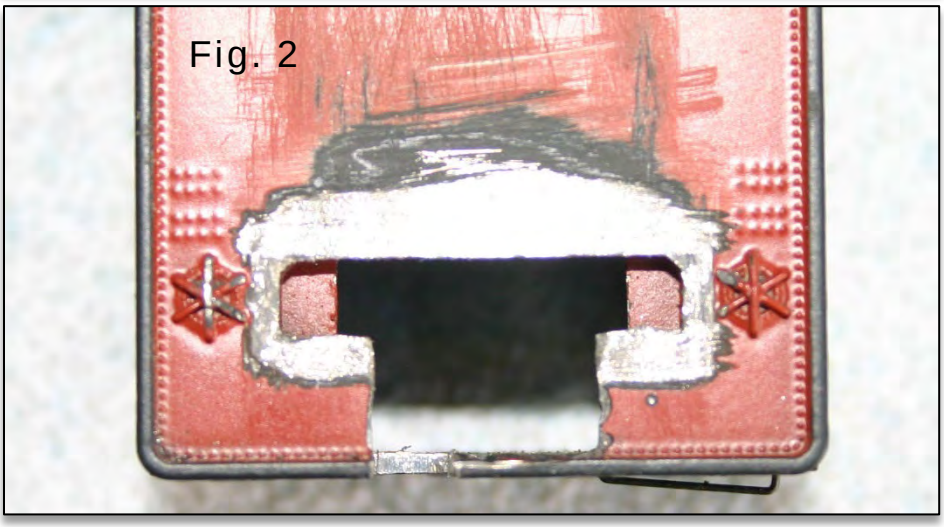


Fig. 2

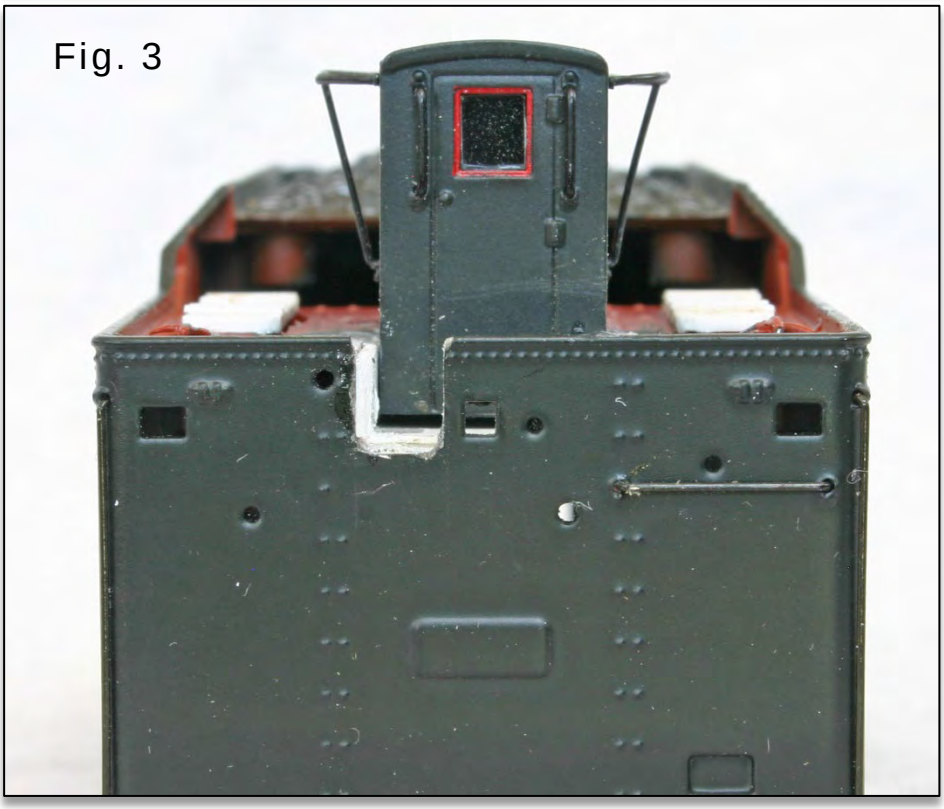


Fig. 3

Using ACC insert .02″ styrene sheet to the sides of the recessed floor opening to create the walls around the doghouse entry area (figure 4). Secure the doghouse to the deck with ACC. The remainder of the hole in the tender deck (where the water hatch was) is filled with .02″ styrene sheet. Use modeling putty to fill in the junctions and sand the deck smooth. Fabricate the two water hatches from .02″ styrene and dimensional strip styrene to simulate the longitudinal water hatches (figure 5).

The handrails for the sides of the recessed deck were fabricated from .019″ brass wire. The slope sheet had cast on grabs which were sanded off and scale 18″ straight grabs were installed. The ladder and slope sheet braces were also installed on the tender deck figures 6-8).

The BLI K4s tender has a different method to hook to the locomotive than the BLI L1s locomotives. I took the rod from the old L1s tender, then drilled and tapped the front of the K4s tender so that it could be installed on the kitbashed 110F75.

The only change I made to the locomotive was to model the frame beneath the cab by filling in the space with styrene and adding a pair of brass Cal-Scale Trailing Truck Bearing Plates as was described in Tim Garner's *TKM* article.

Finishing the Locomotive and Tender

Removing the lettering on the BLI L1s locomotive was accomplished by applying Walther's Solvaset and letting it sit on the side of the loco and on the headlight number board. After sitting for a few minutes, a toothpick was used to scrape the factory lettering off. Using the toothpick is effective and does not scar the paint finish. It often takes several applications of Solvaset, and when the numbers are almost removed, wipe the area with a Q-tip to get rid of all the debris and clean the liquid off the area.

Mask the sides of the tender and the doghouse and spray the kitbashed deck with ACE red oxide primer or your favor-

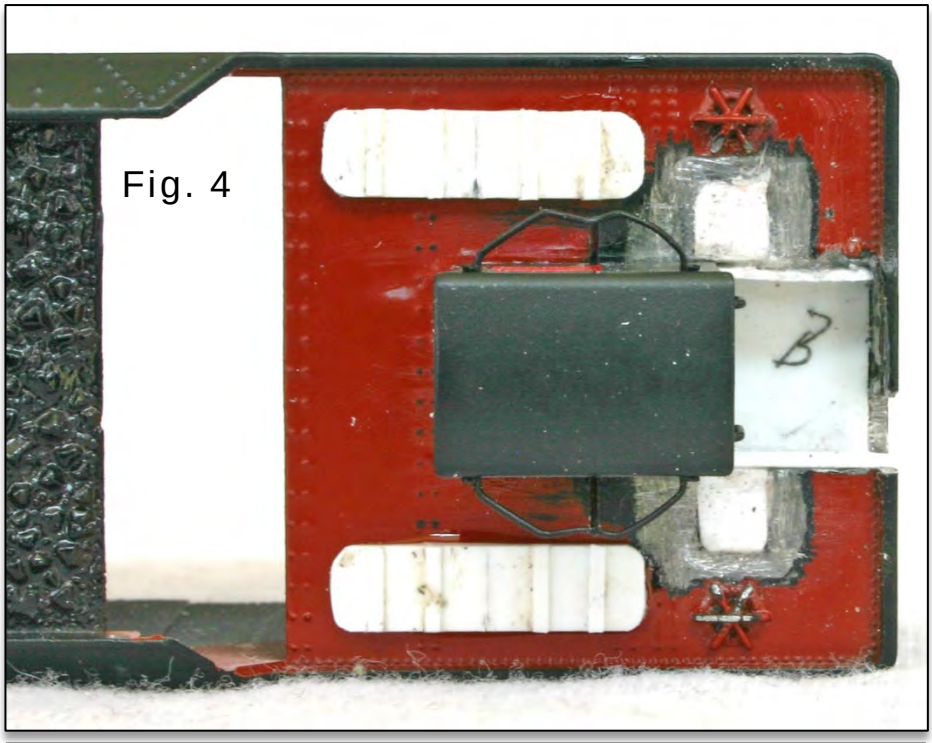


Fig. 4

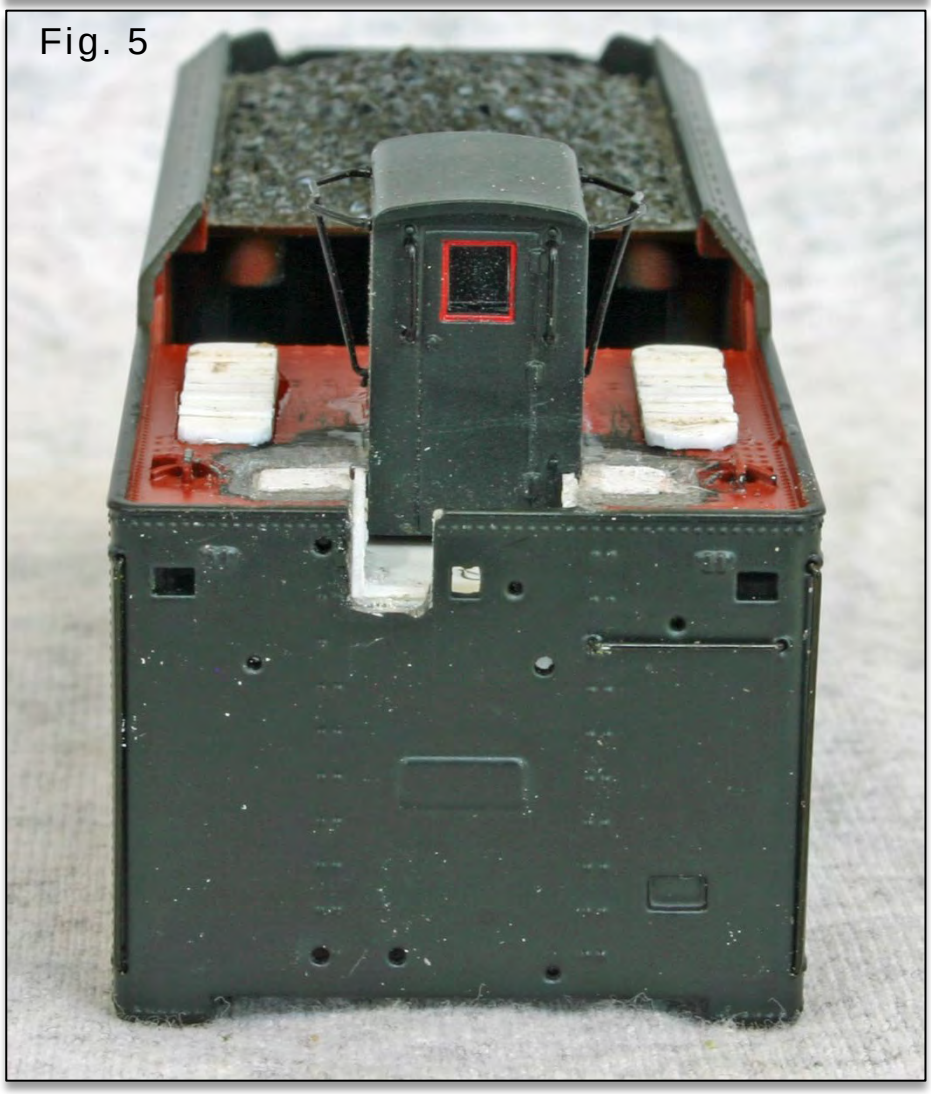


Fig. 5

ite PRR "freight car color" paint. The locomotive and tender were decaled with David Wilson's locomotive decals. The headlight and back up light were renumbered using the Microsoft Excel program, typing in the numbers either white on a black background using 8-point Grenoble Heavy SF font. Print them out with the page layout reduced by 50% and margins "on". Glue these to the lights with white glue. Detail the coal load and tender deck and weather the locomotive (figures 9-11).

This was an interesting project and provides me with another locomotive for my Shamokin Branch layout. The BLI L1s locomotives are very fine operationally. They can handle heavier trains than the BLI I1sa locomotives. Also, the nostalgia of having an operating model of the only L1s that has been saved at the museum is rewarding.

I want to thank Steve Hoxie, Larry Hanlon, Bob Hess, Doug Kisala, Jim Hunter, Jack Schilling, Dave Wartell, and Bob Blackson, who have helped me with this project.

Supplies

Evergreen Scales Models
138.....3" x 18" strip styrene
8104.....1" x 4" strip styrene
8212.....2" x 12" strip styrene
9040.....040" sheet styrene

Detail Associates
DA 2506 .....019" diameter brass wire

Cal Scale
190-390 .....Brass Trailing Truck Bearing Plates

Broadway Limited Imports
From the BLI PRR L1s tender – late type with Brakeman's Cab
7, 8, 9, 10.....Doghouse parts
19.....Reverse Light

Wilson's Model Works Decals
117 Burke Dr., Monroeville, PA, 15146

Walthers Solvaset

Ladders – scrap off freight car kits

References

- Richard D. Adams, "Lollipops," *The Keystone*, PRRT&HS, Vol. XIII, No. 3, September 1980.
- Tim Garner, "Product Review: The Broadway-Limited Imports PRR L1s 2-8-2 in HO Scale," *The Keystone Modeler*, PRRT&HS, No. 95, Winter 2016
- Kirk D. Raup, "PRR Class L1s Mikado No. 520 Freight locomotive," *The Railroad Collection No. 15*, Friends of the Railroad Museum of Pennsylvania.

Images from Ed Swain's PRR Layout

Model photos by Ed Swain

Ed Swain has built a freelanced PRR layout centered around Harrisburg for passenger operations and Enola, Pa. for freight. He runs electric to the east and steam and diesel to the west. Here are three images Ed sent us showing his use of lighting effects.

Here's a scene along Ed's electrified main line. A close-up view suggests some of the detail inside the station. Ed uses Model Memories catenary product on his layout and described his methods in the Winter 2018 *TKM*.

▲ This shot shows a small town west of Harrisburg with lighted position light signals and a lower quadrant semaphore. ▼ Folks are working late at this creamery served by the railroad. Milk cars are on the siding.