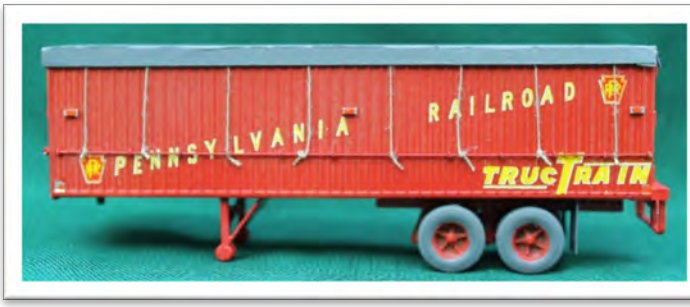
The Keystone Modeler

Pennsylvania Railroad Technical & Historical Society

No. 102 Autumn 2017

Inside:



The Keystone Modeler
Pennsylvania Railroad Technical & Historical Society

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NUMBER 102 **CONTENTS** **AUTUMN 2017**

FRONT COVER, CLOCKWISE FROM TOP LEFT

An HO-scale 32' open-top van in the early PRR scheme. *(Curt LaRue)* ● An HO-scale X47 boxcar built from a Hornby/Rivarossi car. *(Mark Surburg)* ● An N-scale PB70R for the *Jeffersonian* by Francis Treves. *(Tim Garner)* ● A GG1, MP54, and E44 equipped with Andy Rubbo's breakaway pantographs. *(Andy Rubbo)*

The Keystone Modeler

This publication of the PRRT&HS is for the purpose of disseminating PRR modeling information.

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.

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This past September, I received an email from one of our Pennsy fans in Sweden. Christer Kedström wondered whether we could publish an article or drawings about modeling a rail motor car. The article in the autumn, 2017 *Keystone* was fantastic and exhaustive in covering those less-celebrated pieces of PRR motive power. I think Christer's suggestion is a good one, and I would welcome an article on scratch building, kitbashing, or utilizing an imported brass model of a PRR rail motor car. I believe I have seen models of some of these at annual meetings, but I have never had an article submitted on building or even painting one of these cars. A few of these cars still exist; I have ridden on 4662 on the Wilmington and Western.

There have been some items of interest to Pennsy fans in the printed media recently. In the November 2017 *Model Railroader*, John Sethian's O-scale Pennsy-themed layout is covered. John's Nassau Division is freelanced but inspired by PRR's electrified Corridor. N Scale modelers will want to look at Chris Broughton's Free-moN layout in *Great Model Railroads 2018.* Flat car fans (and I know you're out there!) will want to take notice of the detailed history and drawing of the F36 by James Kinkaid in the November 2017 *Railroad Model Craftsman.*

For our fall *TKM*, Andy Rubbo explains the break-away pantograph he made for his locomotives in the Northeast Corridor. Curt LaRue brings us another installment of modeling Pennsy trailers for TrucTrain service. We also present more photos from the model room at our 2017 annual meeting and a short piece by Mark Surburg about modeling an X47.

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
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The Keystone Modeler
NEWSWIRE
With Steve Hoxie

PRR Product News

ATHEARN
http://www.athearn.com/
PRR EFP15 (FP7) Diesel Locomotives—HO Scale

(Athearn)

Athearn has available now the latest run of the FP7 A-unit in the Genesis line. This version models the class after the side skirts were removed, representing the way the prototype appeared after 1959. The model is in the Dark Green Locomotive Enamel with single stripe scheme. Only DCC/Sound equipped models are offered. They available as two A-units as well as a single A-unit.

BOWSER MFG. CO.
http://www.bowser-trains.com/
PRR BS10a (Baldwin DS-4-4-1000) Diesel Switcher—HO Scale

(Bowser)

Bowser is planning a run of the most numerous Baldwin switcher on the PRR. It has the large cab numbers used in the 1960's. Models will come equipped with either Loksound DCC sound decoders or regular DC. Expected during Summer 2018.

PRR GLA Hopper Cars—HO and N Scale

(Bowser)

Bowser is planning another run of these popular cars in Both HO and N. They will be available in several PRR paint schemes. Availability is planned for August 2018.

PRR AS-16m Alco RS3 Phase III Road Switcher—HO Scale

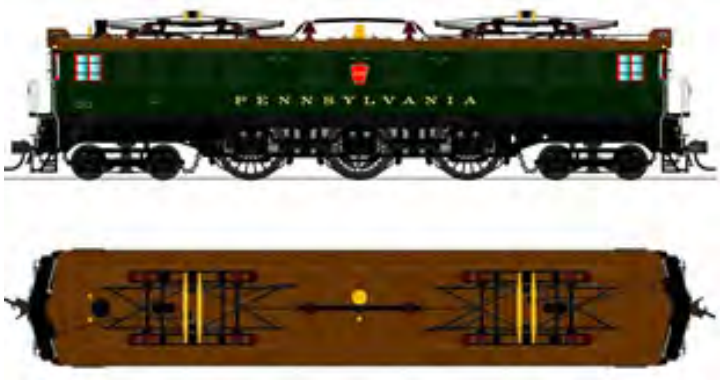
This much anticipated model is still scheduled to be available in late 2017.

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

(BLI)

BLI is working on this popular engine for N scale. It will have their Paragon3 decoder. Expected to be available during Spring 2018.

PRR P5A Electric Locomotive—HO Scale



(BLI)

BLI is developing this often-requested model. Equipped with a Paragon3 decoder, it will operate on DCC or regular DC, both with sound. It is expected to arrive in the Spring of 2018. Multiple paint and lettering variations will be available.

PRR GG1 Electric Locomotive—HO Scale

BLI is planning a run of this iconic locomotive model with the original flat pilot in a large variety of accurate paint and lettering schemes. However, orders have been somewhat less than expected, causing availability to slip to late 2018 or early 2019.

TICHY TRAIN GROUP
https://www.tichytraingroup.com
PRR Keystone Whistle Post and Bell Ring Sign—HO Scale

(Tichy Train Group)

Tichy has these nicely done trackside details available now.

Upcoming Events

December 2–3 – Marlborough, Massachusetts
New England Model Train EXPO
http://www.hubdiv.org/fallshow/index.htm

January 4–6, 2018 – Cocoa Beach, Florida
Prototype Rails Prototype Modeling Meet
http://www.prototyperails.com/

January 27–28, 2018 – West Springfield, Massachusetts
Amherst Railway Society Railroad Hobby Show
http://www.railroadhobbyshow.com/

February 3–4, 2018 – Timonium, Maryland
Great Scale Model Train Show
http://www.gsmts.com/

March 23–25, 2018 – Malvern, Pennsylvania
Railroad Prototype Modelers Valley Forge
http://www.rpmvalleyforge.com/

May 9–12, 2018 – Altoona, Pennsylvania
50th Anniversary PRR&THS Annual Meeting
http://www.prrths.com/conventions/PRR_Annual.html

Advance Planning

June 1–2, 2018 – Enfield, Connecticut
New England/Northeast Prototype Modelers Meet
http://www.neprototypemeet.com/Welcome.html

July 20–21, 2018 – Collinsville, Illinois
St. Louis Railroad Prototype Modelers Meet Meet
http://icg.home.mindspring.com/rpm/stlrpm.htm

August 5–12, 2018 Kansas City, Missouri
NMRA National Convention and National Train Show
http://www.kc2018.org/

Breakaway Pantographs for the Late Era Pennsy Electric Fleet

By Andy Rubbo

(Figure 1) A number of "broken away" pantographs is pictured in this 1965 Wilmington shop photo by Richard Short. The single contact shoe, tiered base and handle shaped appliances identify these as belonging to MP54 MU cars. In addition to the breakaway feature, we'll examine pantograph details specific to the various PRR electric units. *(Richard Short)*

The catenary on my HO scale PRR New York Division layout is near scale, made up of mostly .010" and .015" diameter wire. Though it holds its shape very well under a small amount of tension, it is very delicate and susceptible to damage. The pantographs on commercial models are too rigid and exert great upward pressure on the wire. Simply adjusting the spring tension on stock pantographs would only remedy part of the problem. A snag from a pantograph could potentially damage not only the wire for a track on which a particular unit was operating, but the adjoining tracks as well, since the wires are tied together at the catenary supports. If one catenary span for a particular track was damaged or knocked out of alignment, others would follow suit.

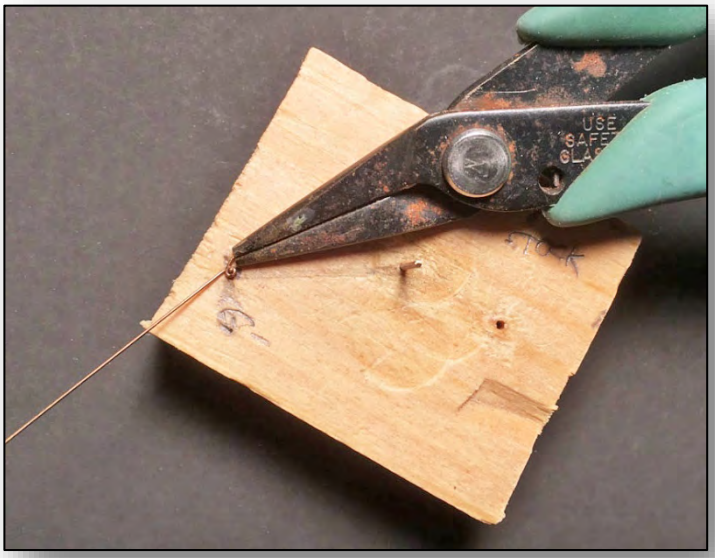
Initially, my idea was to restrict the pantographs to a height just below the contact wire. There are some areas on the layout which, like the prototype, have low wire clearances such as bridge underpasses. These would be potential problem spots since pantographs may contact the wire there. Additionally, some types of mishaps, such as a pantograph-equipped unit tipping over, could possibly snag and tear the wires down. The issue therefore is not just the pantograph tension, but the fact that they are firmly attached to the rolling stock. Prototype pantographs, at least modern ones, are made to break away in the event of a snag, rather than tear down large portions of the catenary structure. It is this concept that provided a solution.

Generally, the lower half of the pantograph is constructed of light gauge (.015") wire, while the upper half is made of .015" styrene rod (my catenary is not energized) which will break away in the event of a snag, leaving the catenary undamaged. The height of the remaining lower half of the pantograph is safely out of range of contact with the wires. The styrene contact shoes are coated with a clear acrylic (nail polish) to minimize friction. In most cases, a pantograph which has "broken away" can be re-assembled and re-used.

The key to constructing a working pantograph is to devise a hinge to allow free movement of the arms. I recalled an article from a 1974 issue of *Model Railroader* magazine by noted traction modeler Bob Hegge wherein he scratchbuilt pantographs for his "O" scale models. Bob used a small piece of brass tubing to form the bearing portion of the hinge. In "HO" scale, however, even the smallest tubing would be too large. My solution is to form the wire which makes up the lower half of the pantograph into a loop, creating an eyelet which will act as the bearing part of the hinge. **(Fig. 2)**

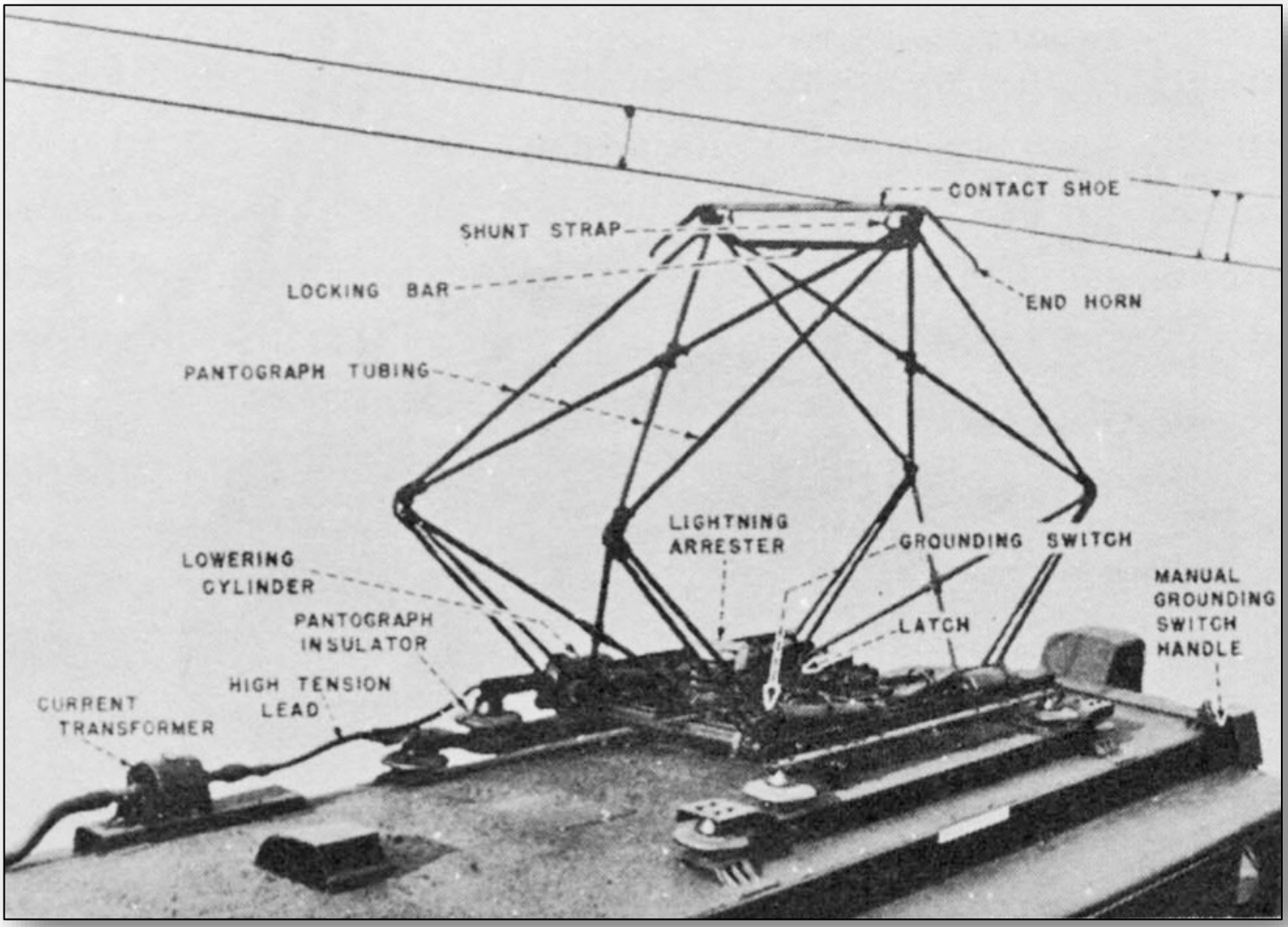
Aside from the safety factor provided by a "breakaway" feature, there are several other advantages to scratchbuilding or kit-bashing pantographs. First, tension can be controlled to the point where the upward pressure on the wire is feather light. I have run multiple car MU trains with all pantographs up and virtually no wire movement. Second, the pantograph shoes can be made slightly longer, helping to avoid the problem of pantographs coming out from under the wire due to body swing on our tighter-than-prototype curves. This small increase in length is barely noticeable, if at all. Finally, the pantographs can be detailed to more accurately represent the equipment types. For instance, MP54s had a single shoe versus GG1s with a double shoe.

In 1967, my layout's timeframe, there were two main types of pantographs in use: the familiar pentagon-shaped box construction type used on GG1s, MP54s, B1s, etc., and the single-arm Faively type used on E44s and Silverliners.



▲ **(Fig. 2)** Forming the eyelet for the lower half of the pantograph.

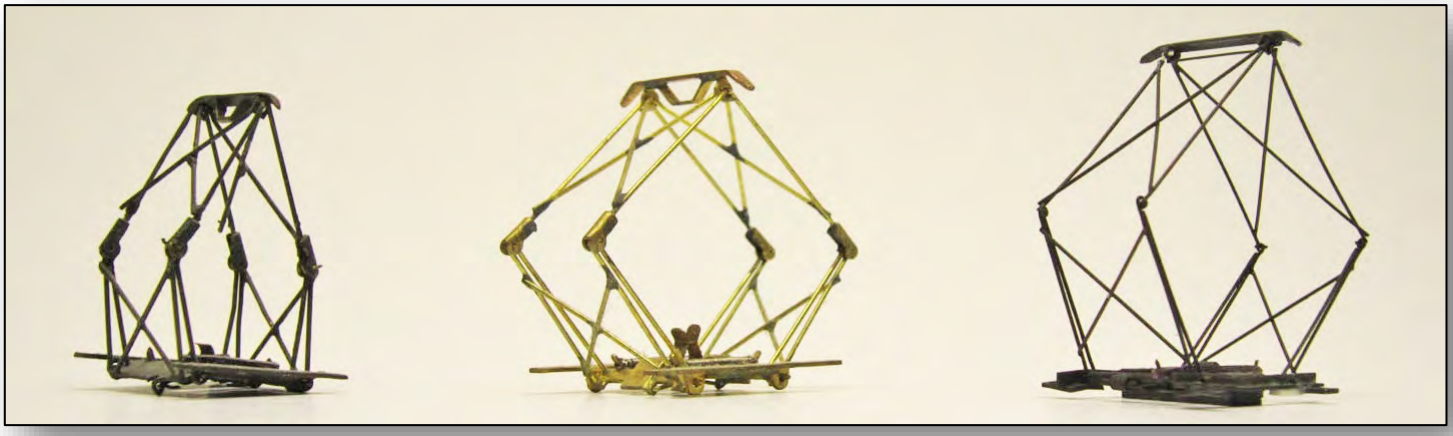
▼ **(Fig. 3)** GG1, MP54, and E44, the mainstays of the late era PRR electric fleet.



(Fig. 4) MP54 pantograph with parts labeled. *(PRR)*

MP54

The majority of my MP54s are old Alco brass models. The pantographs on these are rather clumsy and somewhat out of scale on the small side. Replacements for these would need to be entirely scratchbuilt, including the base. I also have a more highly detailed set of WP Car MP54s, which represents the E6 class of Wilmington shop re-builds, with metal window frames, cab signal housings (bulges) on the car ends below the engineman's window and equalized trucks with SKF roller bearings. The pantographs provided with these, though not suitable for use on my layout for the reasons previously cited, appear much more accurate, so I used their measurements as a starting point. **(Fig. 5)**



(Fig. 5) From left to right: Alco Models, WP Car, and scratchbuilt MP54 pantographs.

I fabricated the base out of styrene strip and angle stock. The MP54s had a two-tiered base which was likely due to the fact that these units were somewhat shorter than their locomotive counterparts and needed the additional height. Perhaps the shape of the clerestory roof was also a factor. All the model MP54s capture this detail, and I added tabs to the fabricated base to fit on top of the lower tier. The lower half of the pantograph is made from .015" phosphor bronze wire and the upper portion is made from .015" styrene rod. **(Fig. 6)**

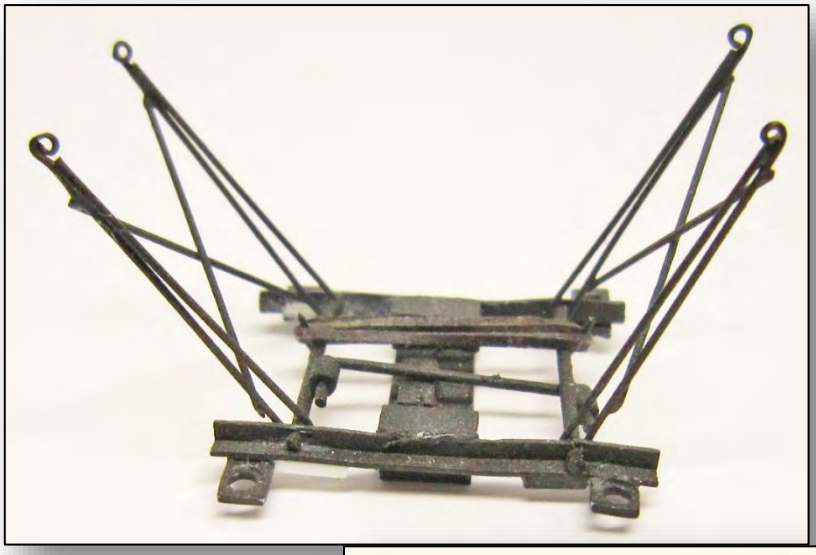
The small inward facing pins on the upper pantograph sections fit onto the eyelets formed into the wire on the lower sections. **(Fig. 7)**

For spring tension, I use small rubber bands which I color with a black ink marker. The single contact shoe is made from .060" styrene half round, with the end horns shaped and turned down. Small pieces of angle are glued to the shoe which have holes to accommodate the attaching pins, as is done for the lower section. One added detail is the bare metal spot on the shoe. As mentioned earlier, I coat the shoe with a clear acrylic nail polish to reduce friction and wear. **(Fig. 8)**

I use Alclad metal lacquers, which require a gloss black undercoat to achieve a metallic luster, so it seemed obvious to simply brush a little randomly on the top of the shoe to represent wear. This treatment is applied to all the pantographs covered in this article.

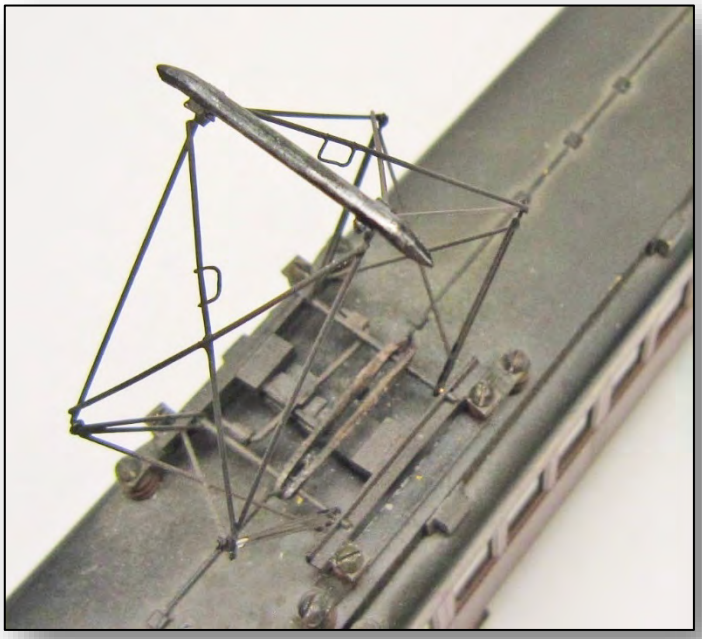
On the MP54s there were two main types: an older style with "handles" and a newer style with a "parallel bar" below the contact shoe, found on MUs that were rebuilt by the Wilmington shops, primarily the E6 class. The PRR CT 290 shows this as a "locking bar." My assumption is that the handles were also lock down devices. Both the "handles" and the locking bars are made from .010" styrene rod. **(Fig. 9)**

Typically, pantographs are raised by spring tension and lowered by air pressure. Presumably, these items also came in handy for retrieving a pantograph in the event of a failure of the air retraction system. The PRR CT 290 states that all electric motive power must carry an insulated pole and heavy rubber gloves for that purpose. This equipment was also required to be stocked at all interlockings.

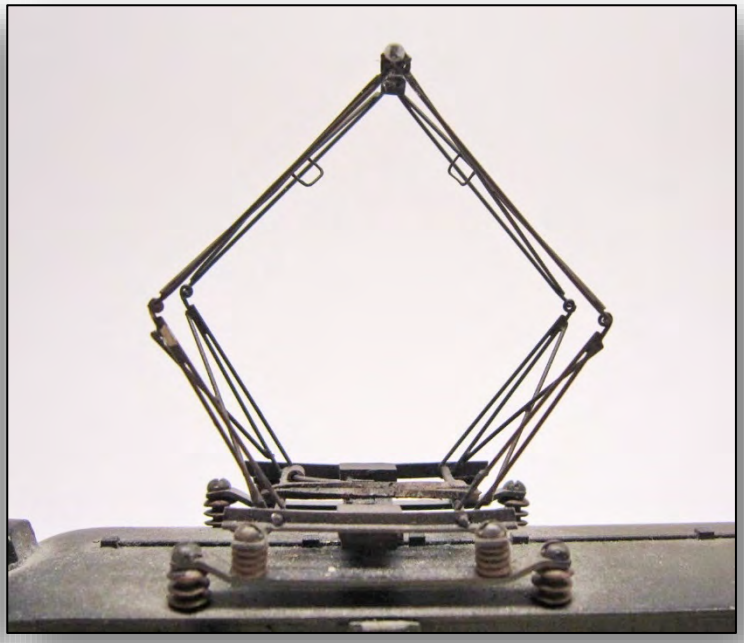


(Fig. 6) Lower half of the MP54 pantograph.

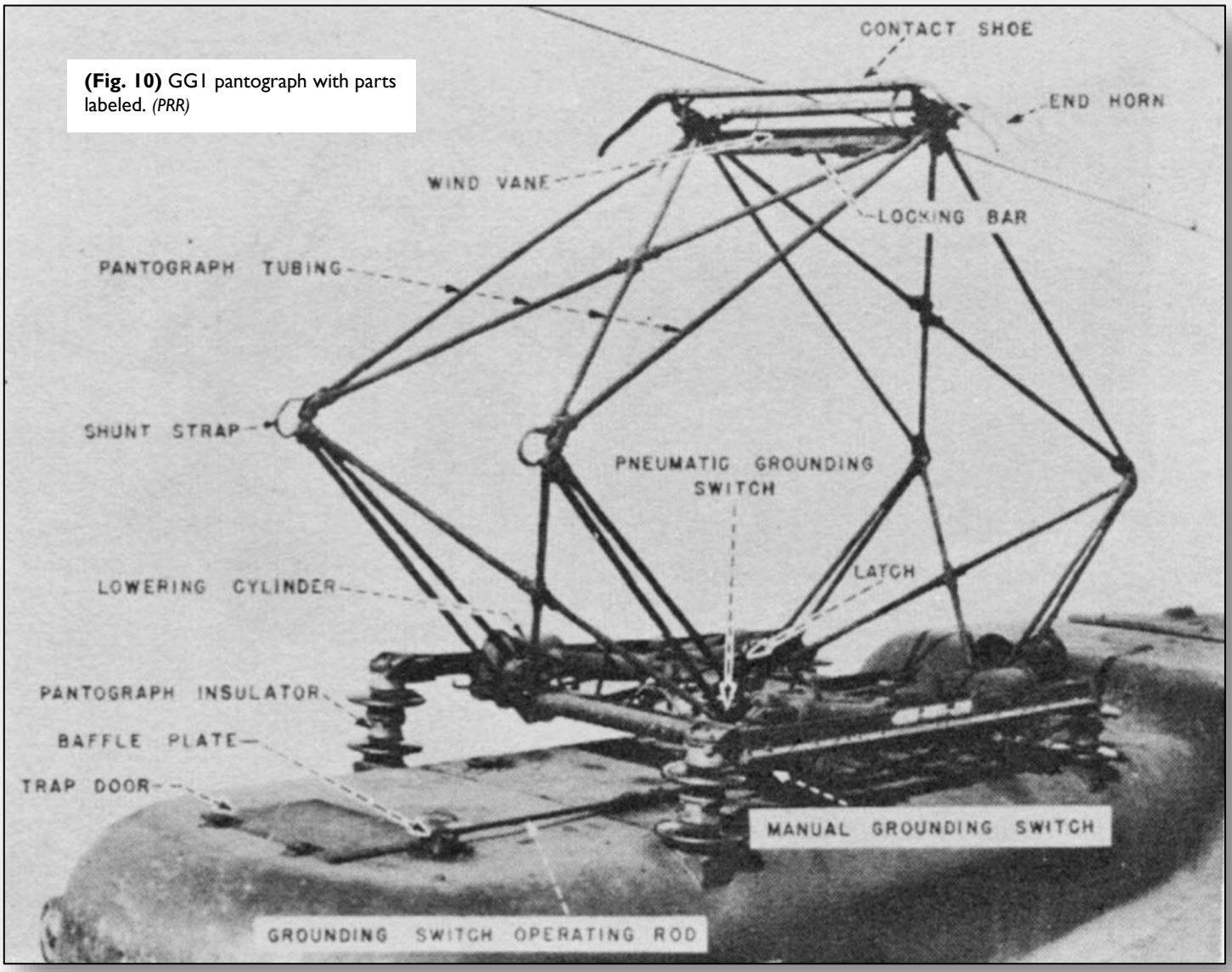
(Fig. 7) Upper half of MP54 pantograph.



(Fig. 8) Nail polish-coated shoe with Alclad silver paint.



(Fig. 9) Completed MP54 pantograph with locking bars.



(Fig. 10) GG1 pantograph with parts labeled. *(PRR)*

GG1

My GG1s are Broadway Limited models. Probably the trickiest part of scratchbuilding the MP54 pantograph is getting the correct position of the equalizing rod, which enables the two halves to rise and fall in unison. **(Fig. 11)**

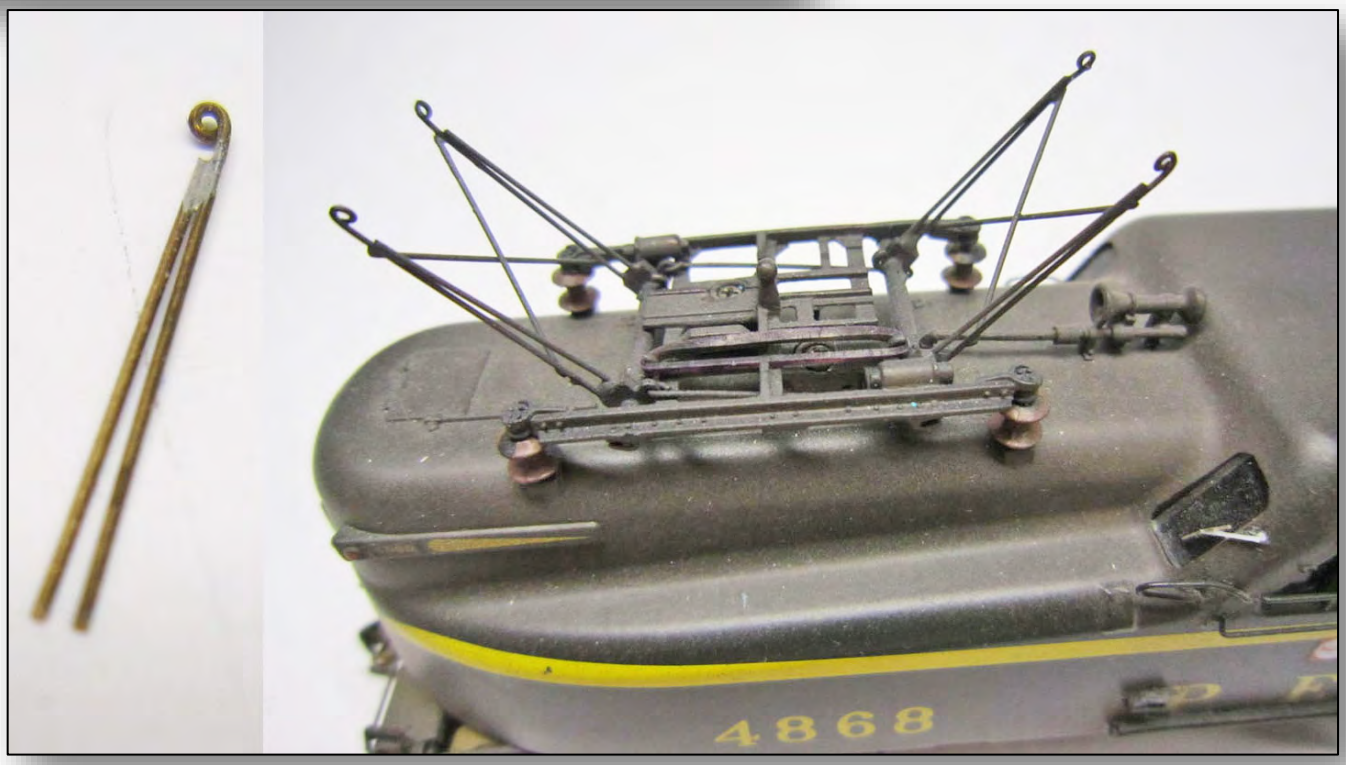
The pantograph base on the BLI works well mechanically and is nicely detailed with air cylinders and other appliances. Rather than re-invent the wheel, I use the BLI base with its equalizing rod mechanism. I begin by cutting off the stock arms of the pantograph from the base. Using the measurements of the BLI pantograph, I then fabricate the lower arms out of .015 phosphor bronze wire as was done for the MP54s and solder them to the BLI base. **(Fig. 12)**

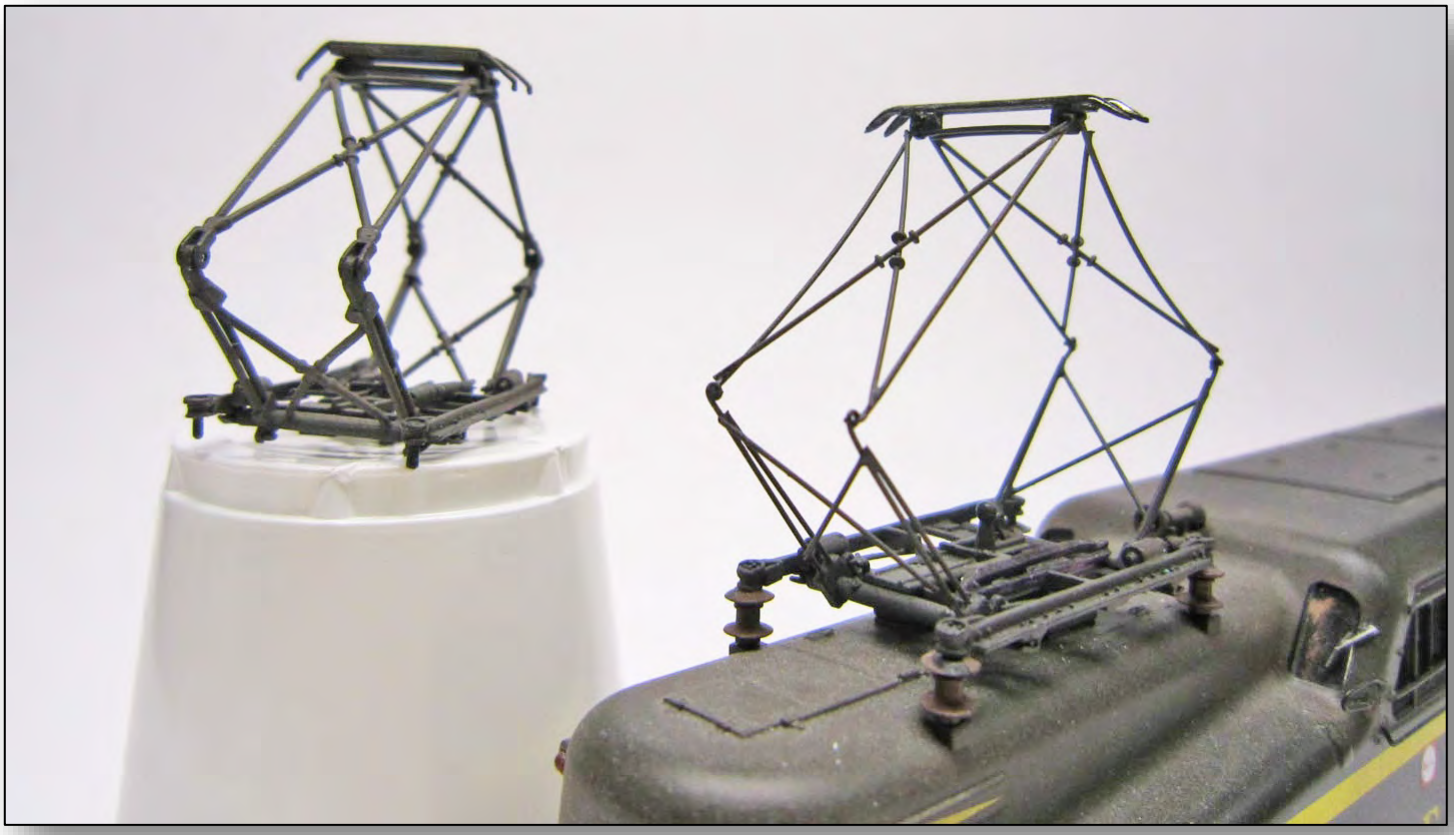
The upper pantograph sections are constructed out of .015" styrene rod. I've also experimented here with some additional detail in the form of the joints on the cross bracing, as was done on the prototype and original BLI pantograph. These are made from .010" styrene sheet cut out on a micro punch and then drilled out and slid onto the cross braces. **(Fig. 13)**

The double contact shoe is made from two pieces of .040" styrene half round. After being fabricated, these are placed on a jig to achieve proper spacing, then glued to pieces of angle which have holes to receive the pins from the upper arms. The GG1 pantograph had two locking bars under each shoe assembly. These are represented by .010" styrene rod.

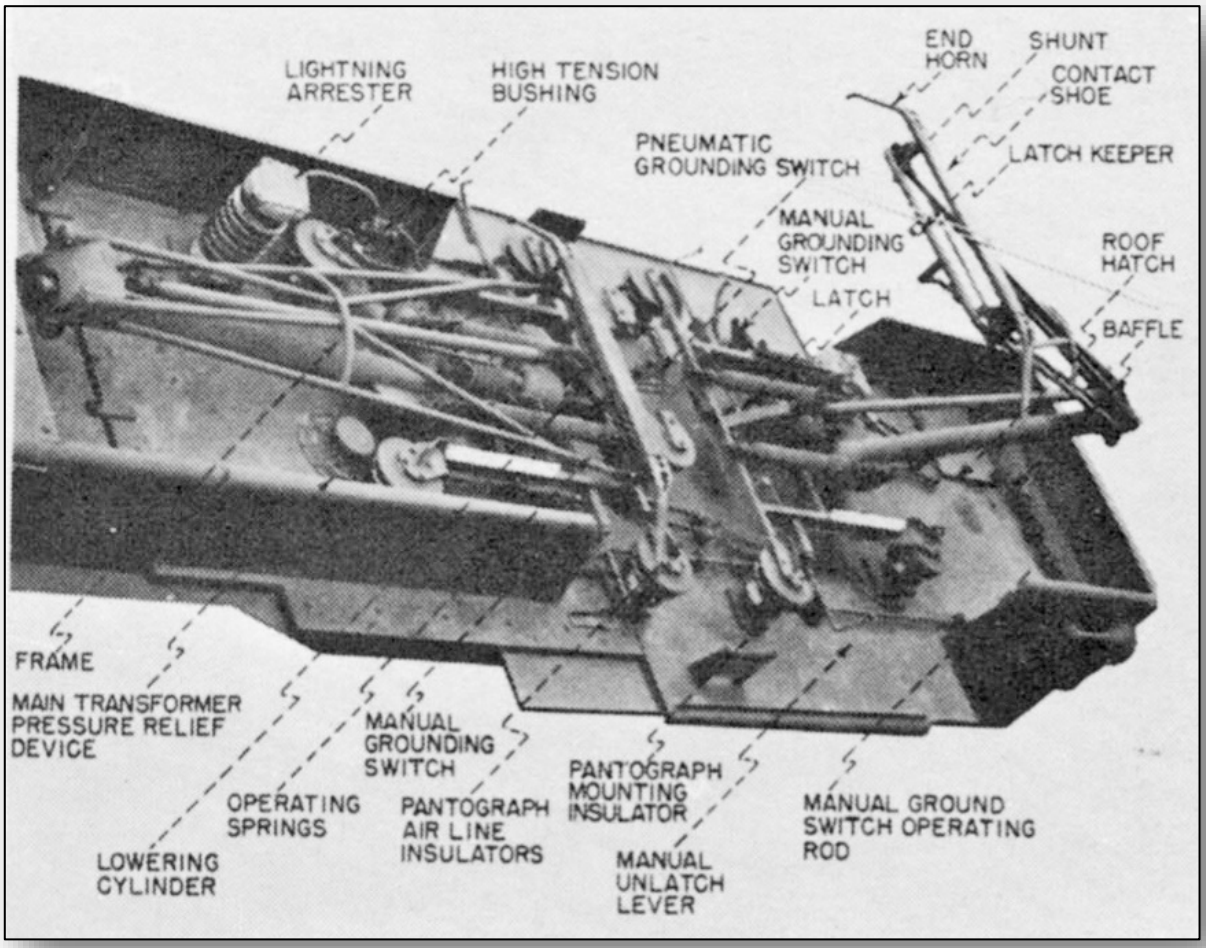
◄ **(Fig. 11)** Equalizing rod assembly on the MP54 pantograph.

▼ **(Fig 12)** New lower arm design on the left, installed on the BLI GG1 pantograph base on the right.





(Fig. 13) The original BLI GG1 pantograph on the left and the scratchbuilt arms on the BLI base on the right.



(Fig. 14) Faively pantograph on the E44 with parts labeled. *(PRR)*

E44

My E44s are also old Alco models to which I added new mechanisms and details. Here again, and especially due to the unusual construction of the Faively pantograph, I use the entire original lower half assembly. **(Fig. 15)**

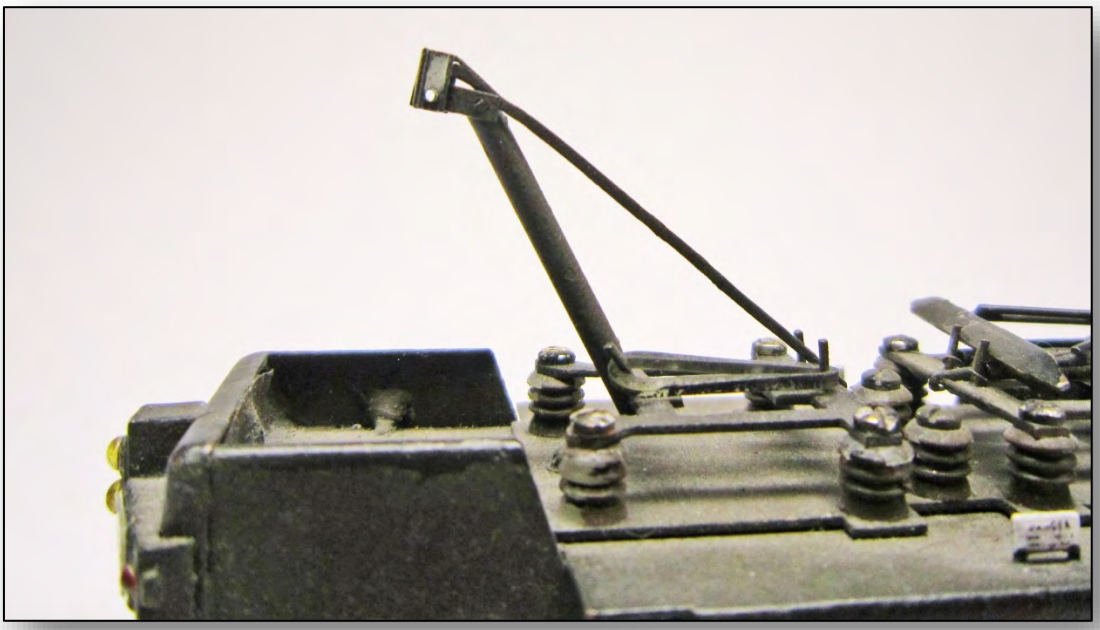
I fabricated a new hinge piece out of styrene sheet and channel. **(Fig. 16)**

The triangular upper portion is made from .020" styrene rod and fits into the channel pieces of the hinge. The double contact shoe is made from .030" styrene half round. The two shoe sections are joined at the end horns to form a point. The photo from the CT 290 shows a solid insert as the contact surface, but in several photographs, I've seen the contact shoe as being open from end to end. These differences can likely be attributed varying maintenance practices from time to time.

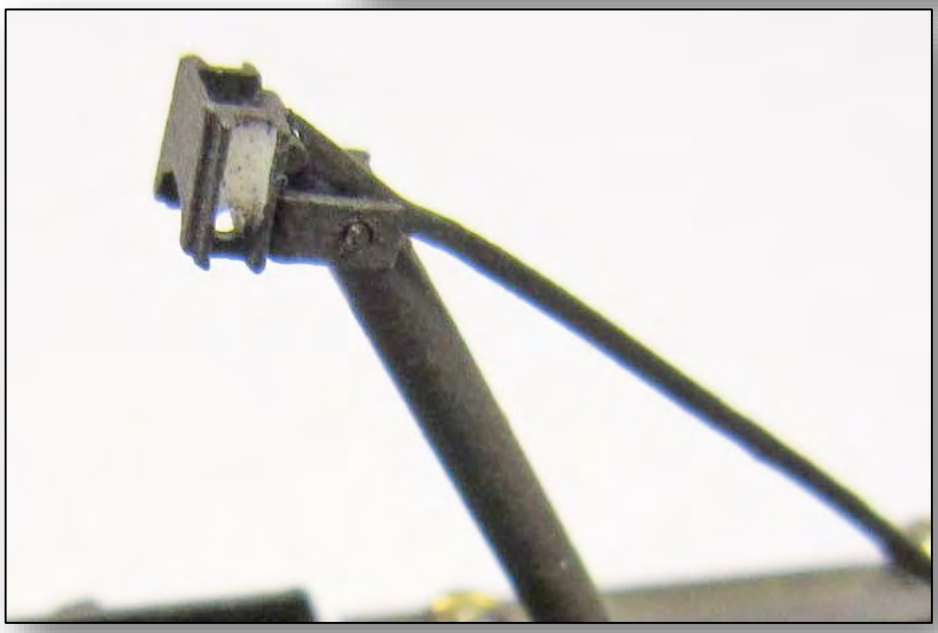
There is another obvious detail regarding the shoe. A small strip comes down vertically from the middle of the shoe assembly and is connected to a thin rod which runs down the center of the triangular upper section to the hinge of the lower arm. **(Fig. 17)**

This is made from scale 1"x2" styrene strip and .010" styrene rod. At first, I thought this was some sort of electrical jumper, but have since been told it is a device which stabilizes the shoe relative to the trolley wire. This detail is rarely captured on production models and regardless of its purpose on the prototype, seemed to be a worthwhile addition because of its visibility.

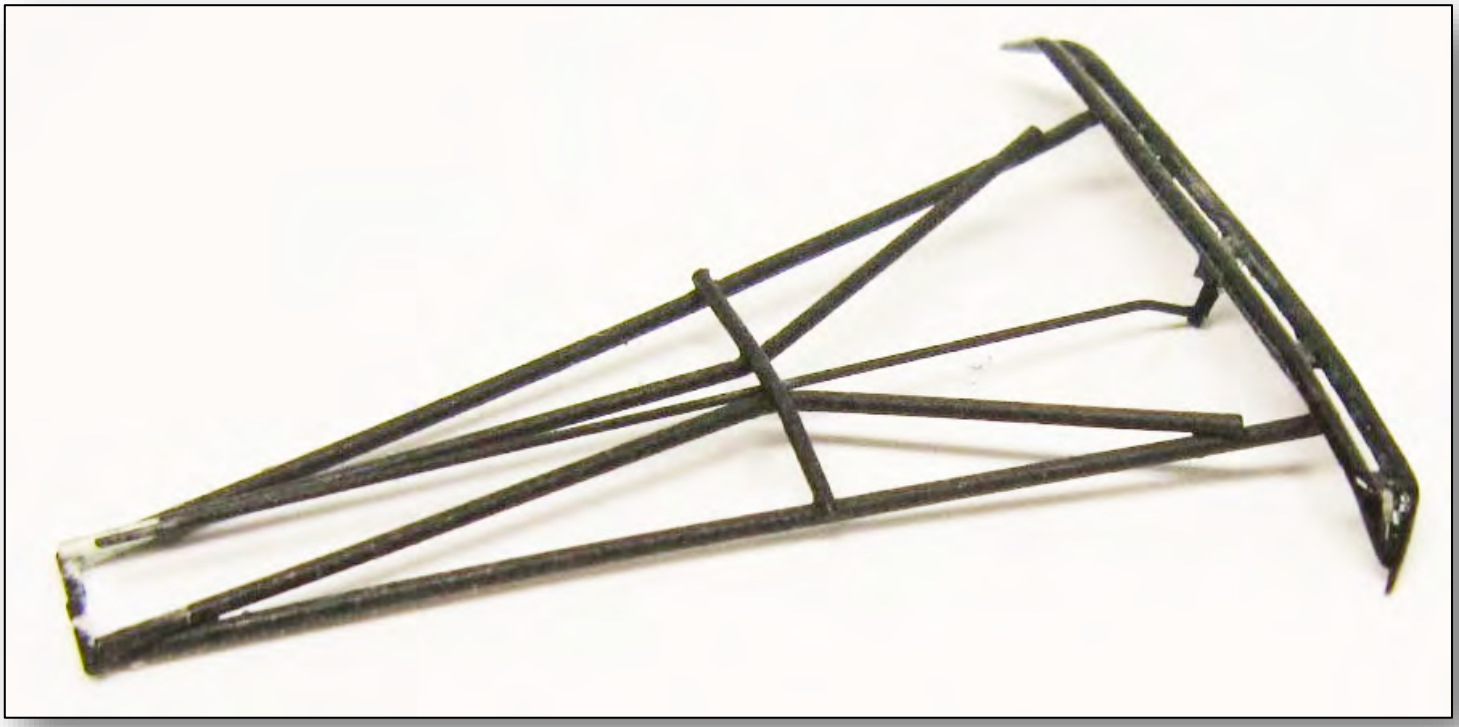
If anyone would like more information on techniques and materials for making pantographs, you may contact me through Jim Hunter at *TKM*.



(Fig. 15) The lower half assembly from the Alco Models E44 pantograph.



(Fig. 16) Close-up of the hinge mounting hole and guide channel for the upper pantograph section.



(Fig. 17) Scratchbuilt upper portion of the E44's Faively pantograph.

(Fig. 18) The Alco Models Faively pantograph on the left and the scratchbuilt breakaway upper on the Alco single arm.

PRRT&HS Annual Meeting Models – Part 2

The TKM Staff

Members of the Society displayed a nice collection of models at the 49th Annual Meeting in Camp Hill May 18-20, 2017. Here, in the second of two parts, are photos of the models taken by the TKM staff on the last day of the meeting. Captions are based on the written descriptions the modelers displayed next to their creations.

David Wilson enhanced these stock HO Walthers R50B express reefers with grimy black and earth weathering. He is aiming for how they looked in 1948 Pittsburgh.

David is completely repainting a pair of HO Walthers B60B baggage cars. He is planning on gold decals as the next step.

R. L. Branin has prepared two cars for the Pennsylvania-Reading Seashore Lines in August 1951. P70 #9912 is lettered for the PRSL and P70R #1670 is PRR. He started with HO-scale Broadway Limited Imports cars. He replaced the interior lights, added marker lights on #9970, and changed the air and signal hoses on #1670 as he plans to on #9912. He repainted the bodies with Tamiya Dull Red, flat black, and rubber black. He decaled with Microscale (PRR) and Mt. Vernon Shops (PRSL).

Scott Pagliughi displayed P70kR #4257, round roof P70fbR #1704, and clerestory roof P70fbR #1650. These are brass models decorated to represent 1952. All three have detailed interiors.

Russ Yeakel brought a kitbashed model of 16-duplex roomette Pullman "Nocturne". Starting with the HO-scale Rivarossi model, Russ added diaphragms, couplers, new paint, and decals.

Doug Nelson showed his N-scale model of P70fR #1860 representing 1937-1949. The kitbashed model has new doors, steps, 2D-P5 trucks, round roof and vents, water tank, ice bunkers, lavatory windows, paint, and decals.

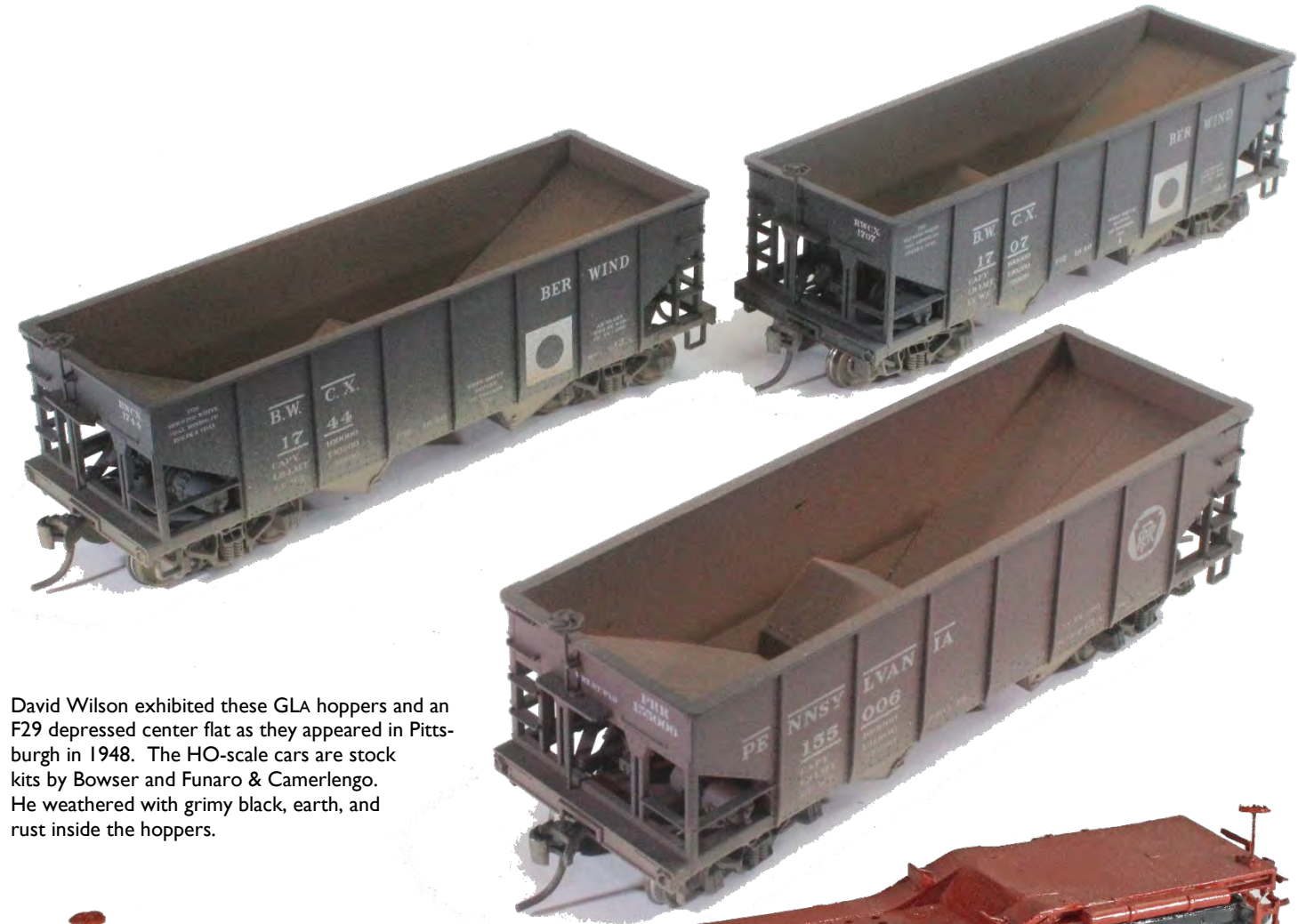
Aaron Heany started with a stock Walthers HO-scale 12-1 Pullman to model the "Mechanicsburg". He pieced the car name together from Microscale decals.

Brad Noble displayed scratchbuilt Pullman "Helen Mary" in 1/32 scale. Sampled of the sides he cast in resin are displayed in front. He decorated the model for the Fleet of Modernism. The model was so large we got some distortion on our extreme wide-angle lens.

Paul Surbug displayed two HO-scale models from his 1950's *Penn Texas.* The betterment 14-section Pullman "Andrew Carnegie" is from an NKP kit. The recreation car #7301 used a Walthers 5-double bedroom lounge as a core with Laser Horizons sides. The interior is scratchbuilt with everything from the playpen in the children's area to the movie screen.

Francis Treves displayed these cars from his N-scale *Jeffersonian*. From the top are a B74 horse car, a PB70R combine, and an ACF recreation car.

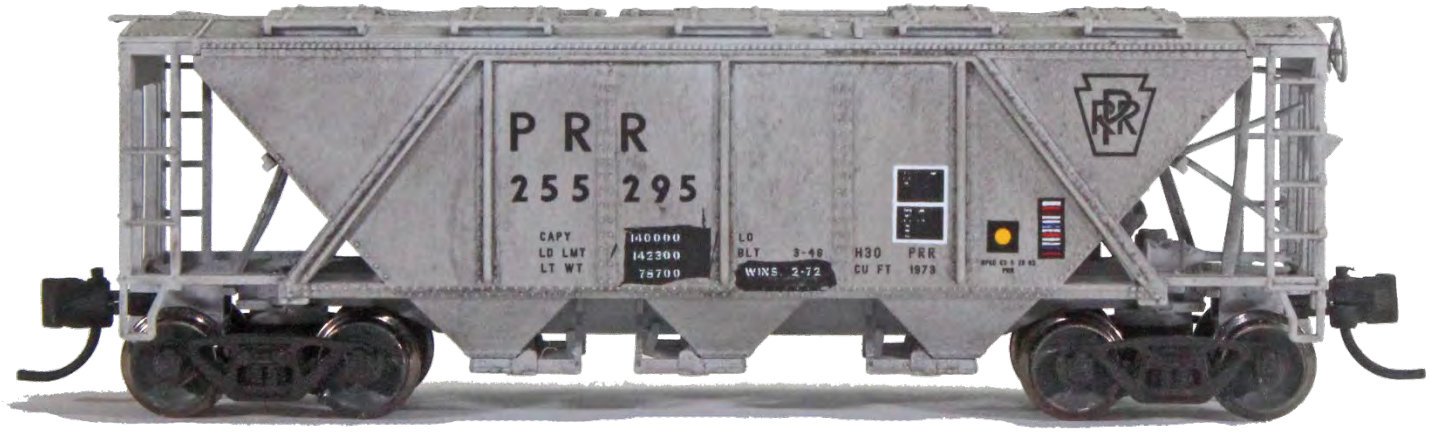
Neil Campbell's X31F boxcar kitbash was a PRR Pro project car. He added extra brake details, wire grabs, replaced ladder rungs, and added A-Line stirrup steps. He painted with a Polyscale mix, applied Speedwitch Decals, and weathered with chalks.



David Wilson exhibited these GLA hoppers and an F29 depressed center flat as they appeared in Pittsburgh in 1948. The HO-scale cars are stock kits by Bowser and Funaro & Camerlengo. He weathered with grimy black, earth, and rust inside the hoppers.

Neil Campbell also brought his X26C boxcar constructed from a F&C kit as a PRR Pro project car. This is from the first group of rebuilds with a Youngstown door and rectangular roof panels. He added a Kadee roofwalk, A-Line stirrup steps, and extra brake detail. He painted with a Polyscale mix and weathered with chalks.

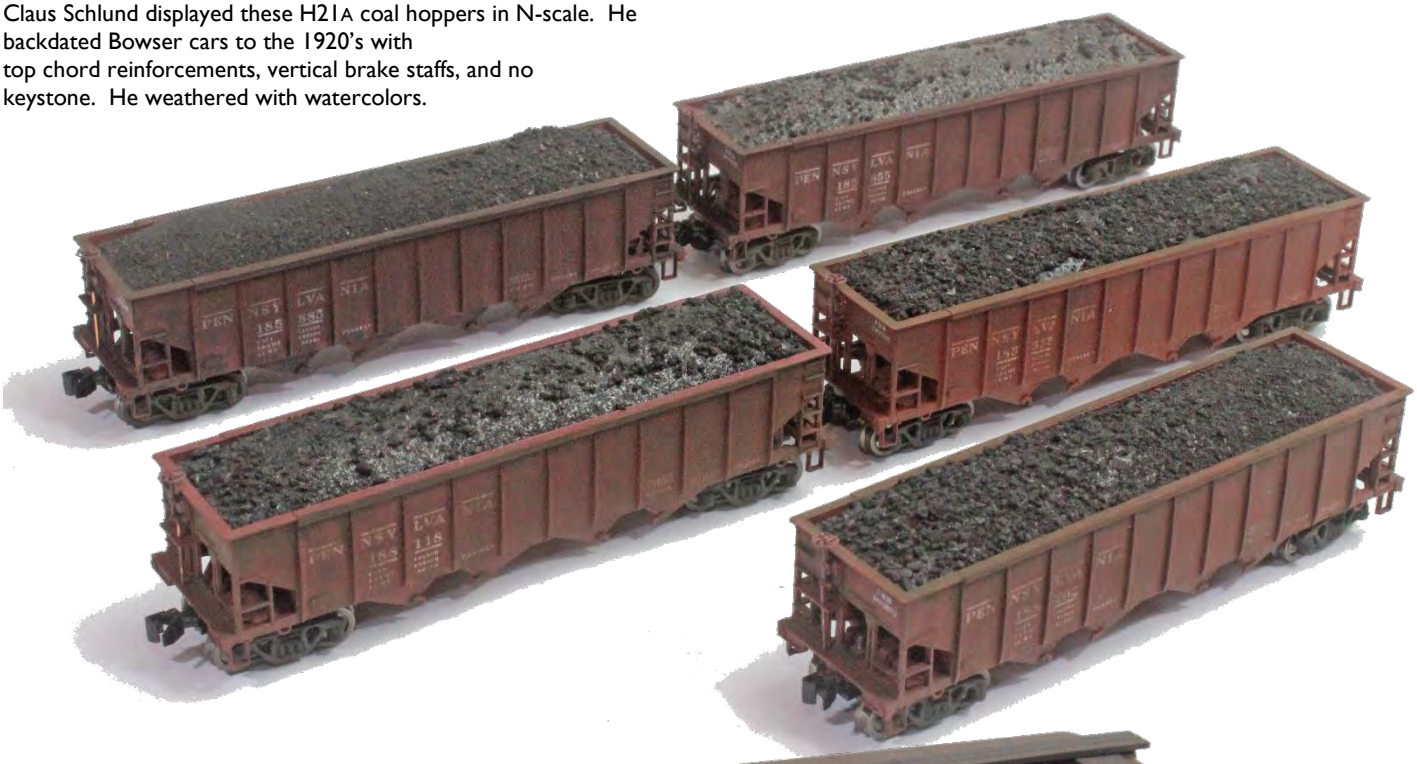
Neil's second X26c PRR Pro project car is from last group of rebuilds – with a Youngstown door and diagonal roof panels. It is also a F&C HO-scale kit. He added a Kadee roofwalk, Bowser truck, Intermountain wheels, and extra brake detail. He painted with a Polyscale mix and weathered with chalks.



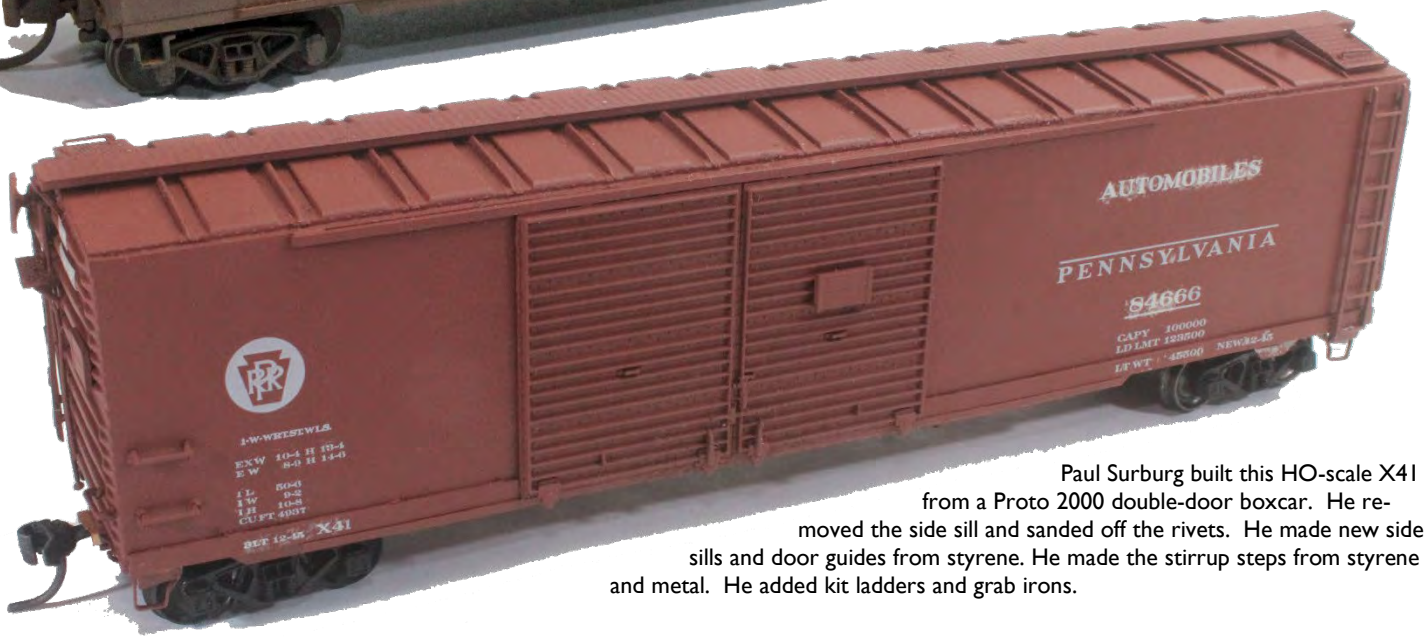
This N-scale H30 covered hopper is by John Franz. He redecorated a Bowser car with Microscale and Mt. Vernon Shops decals. He weathered the body with powder and used grimy black paint on the trucks and wheels.

Brad Noble is building this 1/32-scale X29 boxcar from custom laser cut parts. It is lettered with dry transfers.

Claus Schlund displayed these H21A coal hoppers in N-scale. He backdated Bowser cars to the 1920's with top chord reinforcements, vertical brake staffs, and no keystone. He weathered with watercolors.



Doug Nelson displayed this X31 double-door auto box in N-scale as it appeared in the early 1950's. It started as a Fine N resin kit. He weathered the car with an ink wash and airbrush.



Paul Surburg built this HO-scale X41 from a Proto 2000 double-door boxcar. He removed the side sill and sanded off the rivets. He made new side sills and door guides from styrene. He made the stirrup steps from styrene and metal. He added kit ladders and grab irons.

Paul built this HO-scale X23B from an Cannonball Car Shops kit. He carved off the door and reinforcing panels. He added doors from a Bowser X31A car and styrene door guides. He carved boards into the sides where panels were removed. He used the roof from the Bowser car and added new grab irons and ladders.

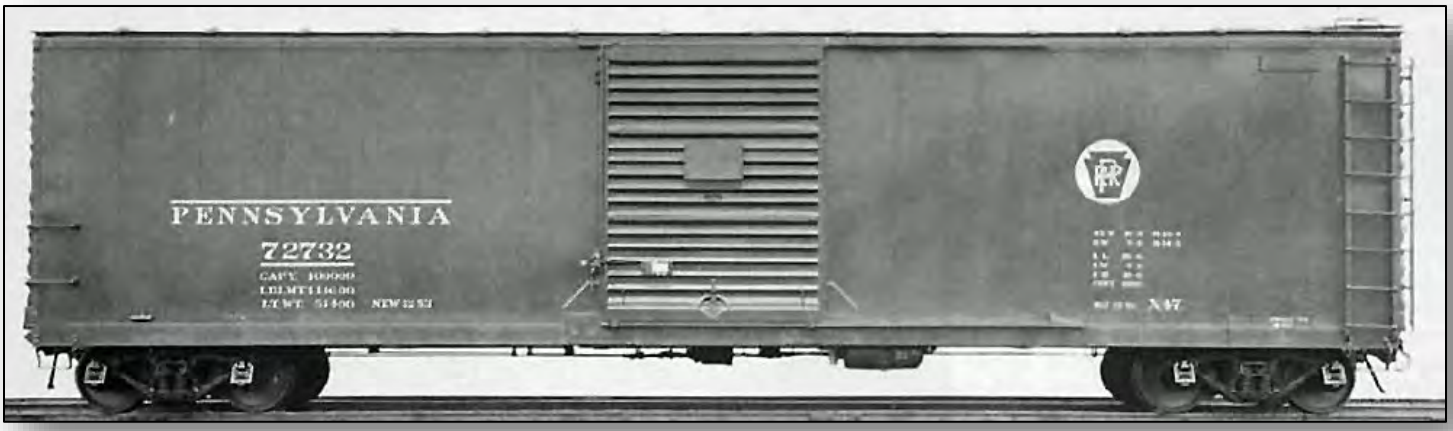
Eleven-year-old Matthew Surburg, Mark's son, built the HO-scale Red Caboose X29 and Intermountain X48 kits above. Matthew did all the work while Mark made sure he understood the directions. Nice job, Matthew.

Bruce Smith built this X26 boxcar from a Westerfield kit. It has a complete underbody, Yarmouth etched brake levers and Hi-Tech brake hoses. It was an HO-scale PRR Pro project.

Also from Bruce are this pair of Red Caboose X29 kits in HO scale. He added Yarmouth etched steps, patch panels, and Carmer cut levers. He also included Hi-Tech air hoses. Details are modified to fit the specific car series.

Modeling PRR's X47 Boxcar

By Mark Surburg



PRR X47 boxcar. *(PRR)*

For some time, I had wanted to model the X47 and X47A boxcars, the 50′ version of the X46 and X46A. While 40′ models were available for conversion into the X46 and X46A, I did not know of a seven panel 50′ model that could be used to make the X47 and X47A. I was therefore excited when I realized that Hornby/Rivarossi had released a 50′ seven panel car. The only minor problem was that the model had a 9′ door instead of the 8′ door found on the X47 and X47A.

The door was easily addressed by cutting styrene blocks the same height as the door opening and gluing them in flush with the sides. I used an Accurail 8′ Youngstown door with .040 X .040 styrene for door guides, and applied tack boards from my scrap box. The rest of the car was done exactly like a X46 conversion that has appeared in *The Keystone Modeler*. The side still was removed and replaced with .020″ x .100″ styrene. The molded-on ladders and grab irons were carved off and replaced with eight rung ladders that were left over from Branchline Blueprint boxcars, and metal grab irons. Unfortunately, the tack board on the car end is molded on in the high position, and so I was only able to model the X47. Someone more adventurous could carve off the tack boards and repair the ends to make the X47A with the low position tack board. I decaled the car using Champ decals for a 50′ boxcar along with left over decals. The result is not an exact model, but it captures the feel of the X47.

It was a fun project. I enjoy seeing the X47 on my layout.

The finished model.

PRR Open-Top High-Side Trailers in HO

By Curt LaRue – Photos by the author unless indicated

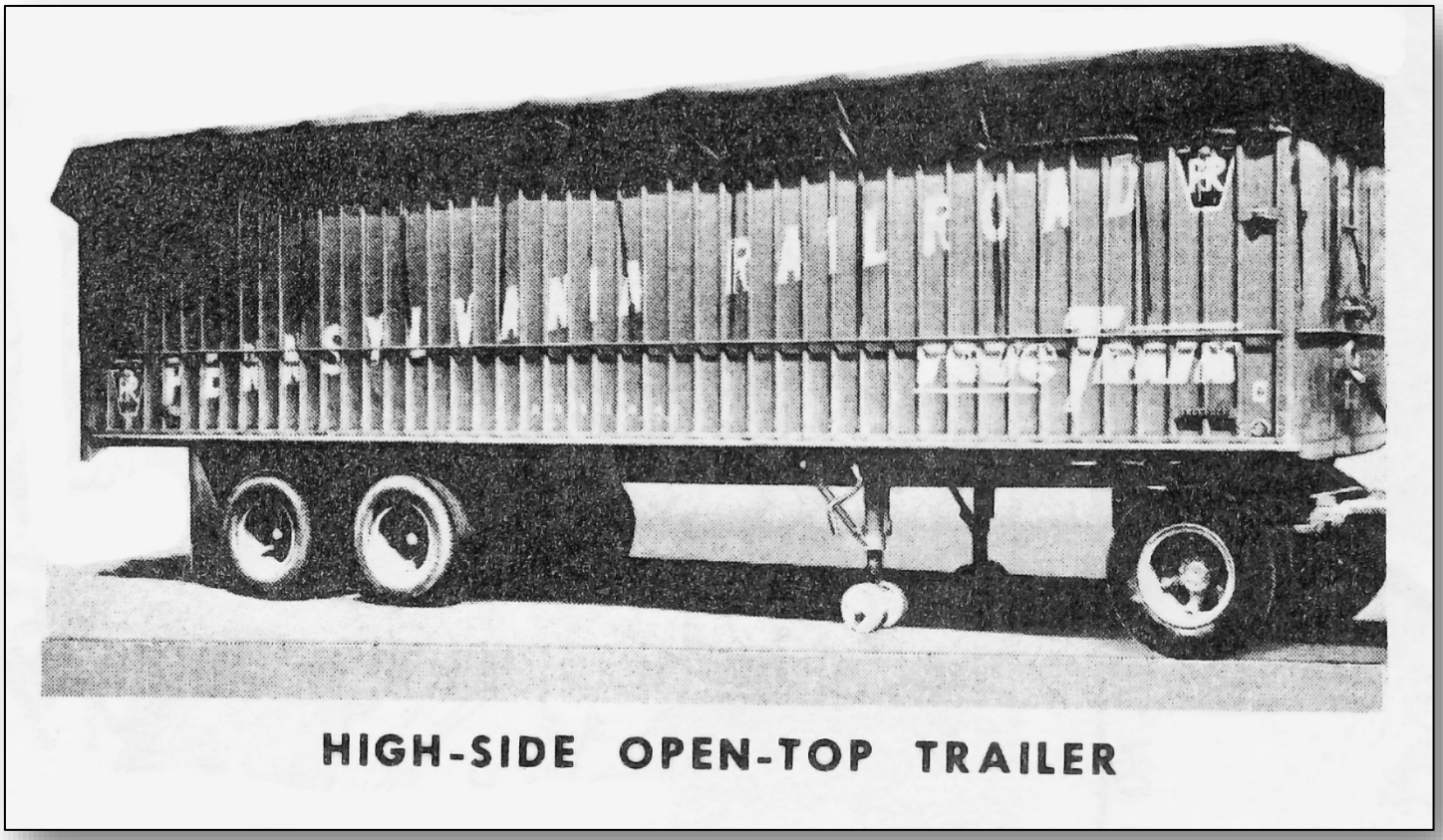
32' PRR Open Top Van Trailer #PRRZ 420108. Manufactured by Fruehauf Model FCD-RRS, SN AV302390. Photographed and field measured by Brady McGuire and Curt LaRue in junk yard off I75 in Cincinnati, Ohio. Note that fastener holes and shadow of TrucTrain circular disc can be seen in the upper righthand corner of the trailer. Disc diameter was 48".

Background

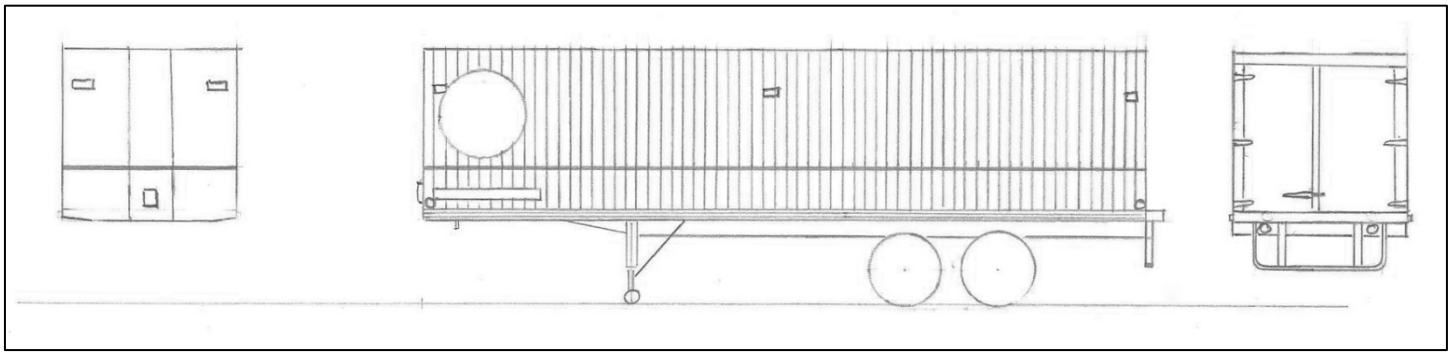
As of April 1,1959, The PRR had 123 32' Tandem Axle Open-Top High-Side Van Trailers in TrucTrain service. Trailers of this type were versatile since they could be either end or top loaded. Top loading was helpful in carrying large lading that needed to be covered, such as machinery or steel products. Top loading was usually handled by overhead crane. There was no side door as on the Closed Van Trailers. A removable canvas cover protected the lading from the elements. The canvas cover was secured in place by roping tied to a side-mounted tie bar. This is the first trailer for which I have evidence of being lettered in the early diagonal "PENNSYLVANIA RAILROAD" scheme and the later circular TrucTrain disc scheme. In this article we will model examples of both lettering schemes. On January 8, 1984 Brady McGuire and I measured and photographed a trailer of this type we found in a junk yard along I75 in Cincinnati. We made a dimensioned sketch of the trailer on the spot, and I later made a scale sketch of it. The trailer had been relettered to a later number PRRZ420108 per the later post 1959 TrucTrain circular disc scheme. Although the disc had been removed, the circular disc pattern for the mounting fasteners could still be seen. The diameter of the disc outline was 48". At a 12' height, this was not a tall trailer compared to todays 13'6" height trailers, but it was a common height for its era.

Trailer Description

Length.....32'
Width.....8'
Height.....12'
Nose.....Square
King Pin Setting.....8" from nose
Sides.....Ribs 8" OC
Side Door.....None
Rear Doors.....Swing Type
Roof.....Removable Canvas Tarp
Landing Gear.....Retractable w/ wheels 112" from nose
Wheels.....Dayton Type/ Cast Spoke
Numbers.....32E125–32E128, 32E130–32E149, 32E156–32E172, 32C413–32C449, 32C461–32C464, 32E750–32E769, 32E770–32E782, 32W784, 32W786, 32W789, 32W903–32W908, 32W912, 32E913, 32E915, 32W916



▲ 32' PRR Open Top Van Trailer from 4/1/59 PRR Directory of Pennsy TrucTrain Service. The trailer is lettered in the pre-1960 diagonal "PENNSYLVANIA RAILROAD" lettering scheme. *(PRR, Curt LaRue Collection)* ▼ Sketch of the trailer.



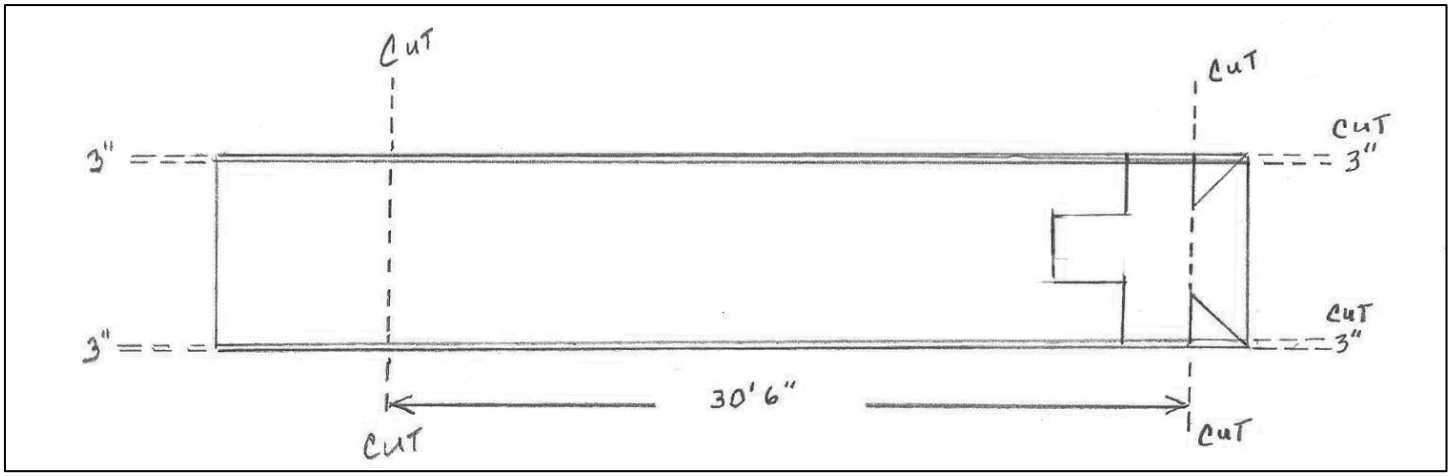
MODEL CONSTRUCTION

The construction of the body is similar to the 32' TrucTrain Tandem Axle Closed Van Trailer which appeared in *The Keystone Modeler* issue #99, Winter 2017.

Trailer Body – The side ribs are 8" OC. I used Pikestuff #541-1014 Board and Batten/metal Siding for the sides. Unlike the 32' Closed Van, this trailer has no side door so both sides are the same. Cut two pieces of the Pikestuff siding 31'-6" long x 7'5" high.

Trailer body Spacers – The spacers are used to provide a backing for the nose and rear end and to make square corners. Cut two spacers 7' wide x 7'10" high from .040" styrene. Cement one spacer at the front and the other at the rear of the body. Both spacers should be cemented and flush with the ends inside the sides and flush with the top of the sides and should not overlap the sides. I used a small machinists square to ensure square corners. To strengthen the corners, I cemented a .125" x .125" x 6' high styrene strip inside each corner with the top of these strips flush with the top of the side. Next, I cemented five .040" x 7' wide x 6' high spacers spaced evenly inside the trailer body and flush with the top of the sides. These will be the supports for the "canvas" top. If you wish to model the trailer without a canvas cover, cement 7' pieces of wire or styrene rod crosswise in the body. I have no data on the number of roof supports on the prototype.

Lower Side Sill Rub Rails – Cement a 4" x 4" styrene strip along the full length on the bottom of both sides of the trailer body.



Sketch showing modifications to the Athearn #5100-series van trailer underframe for the 32' van.

Nose Skin – Cut out a nose skin panel from .010" styrene 8' high x 8' wide. Lightly scribe nose panel seams as in the drawing. Note that the lower corners are slightly beveled. Cement nose skin panel in place with the top of the panel flush with the top of both sides.

Rear Threshold/ Rear Floor Entrance – Cement a 4" x 4" styrene strip in place at the bottom rear of the body.

Rear Door Frame – Frame in the rear doorway with 1" x 6" styrene strips on sides and top as in the drawing.

Rear Doors – Cut two rear doors from .010" styrene 3'6" wide x 6' high. Test fit the doors inside the door frame. If needed, trim the doors to fit and cement in place.

Chassis/ Underframe – Use the frame from an Athearn #5100 Series van trailer kit. This kit is no longer available but can usually be found at train shows or model railroad flea markets. I used this kit as the basis for the trailers because they come with cast spoke wheels, and the landing gear has wheels rather than sand shoes. Cut 2' off the front of the frame as in the drawing. Measure back 30'-6" from the modified nose of the underframe and cut crosswise as in the drawing. Next place the modified frame face down on your cutting board. There is a lengthwise stiffener on both sides of the frame. Run a hobby knife along the outside of the stiffeners removing about 3 scale inches on each side of the chassis. This will allow the chassis to fit inside the trailer body. The chassis will have a slight bow in it. To correct this cement two .125" x .125" styrene strips in place 2 scale feet in from the sides of the chassis. Hold the strips in place with spring type clothes pins as clamps. Test fit the chassis inside the trailers body making sure that the crossmembers and upper coupler (upper fifth wheel) are flush with the bottom of the sides. If needed, file the chassis to fit and cement in place.

Suspension – Use the Athearn 5100 series kit tandem suspension. Cement in place with the center of the tandem (CT) 102" from the rear of the trailer per the drawing.

Tires and Wheels – Slip the tire/ wheel assemblies from the 5100-series kit into the suspension axle holes. Make sure the wheels are the spoke type.

Landing Gear – Use the Athearn 5100-series kit landing gear with dolly wheels. Cement in place 102" from the nose of the trailer. Cut two diagonal landing gear braces from .020" diameter styrene rod or wire and cement diagonally in place as in the drawing.

Rear Step Bumper – Cut two 4" x 4" x 2'-3" styrene strips and cement vertically per the drawing. Referring to the drawing, bend a 2" x 4" strip of styrene around a mandrel to create curved corners. I used the shaft of a micro screw driver as the mandrel. Use the drawing as a guide cutting the bumper to fit and cement in place with ACC. I used Accelerator to get an instant bond on one side first and then repeated on the second side.

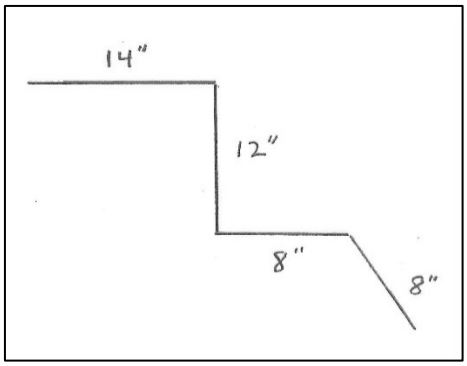
Threshold Cross Brace – Cut a strip of 1" x 8" x 8' styrene and cement in place behind the step bumper.

DETAILING THE BODY

Rear Door Hinges – Cement three Tichy #3067 in place on each door. Cement the base of the hinge on the door frame, Use the model photo and drawing as a guide for their location.

Door Latch Bar – Use Grandt Line #5167 Reefer Door Latch and cement in place.

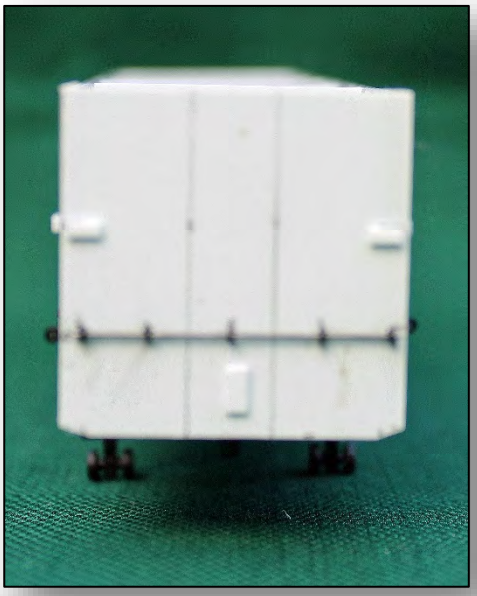
Landing Gear Crank Handle – Form handle from .010" brass wire per drawing #3. Cement in place with ACC on right hand landing gear leg near the top. I used accelerator to instantly bond the crank in place.

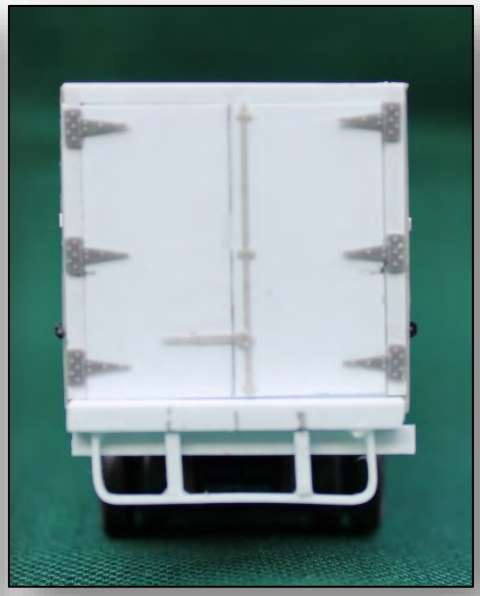


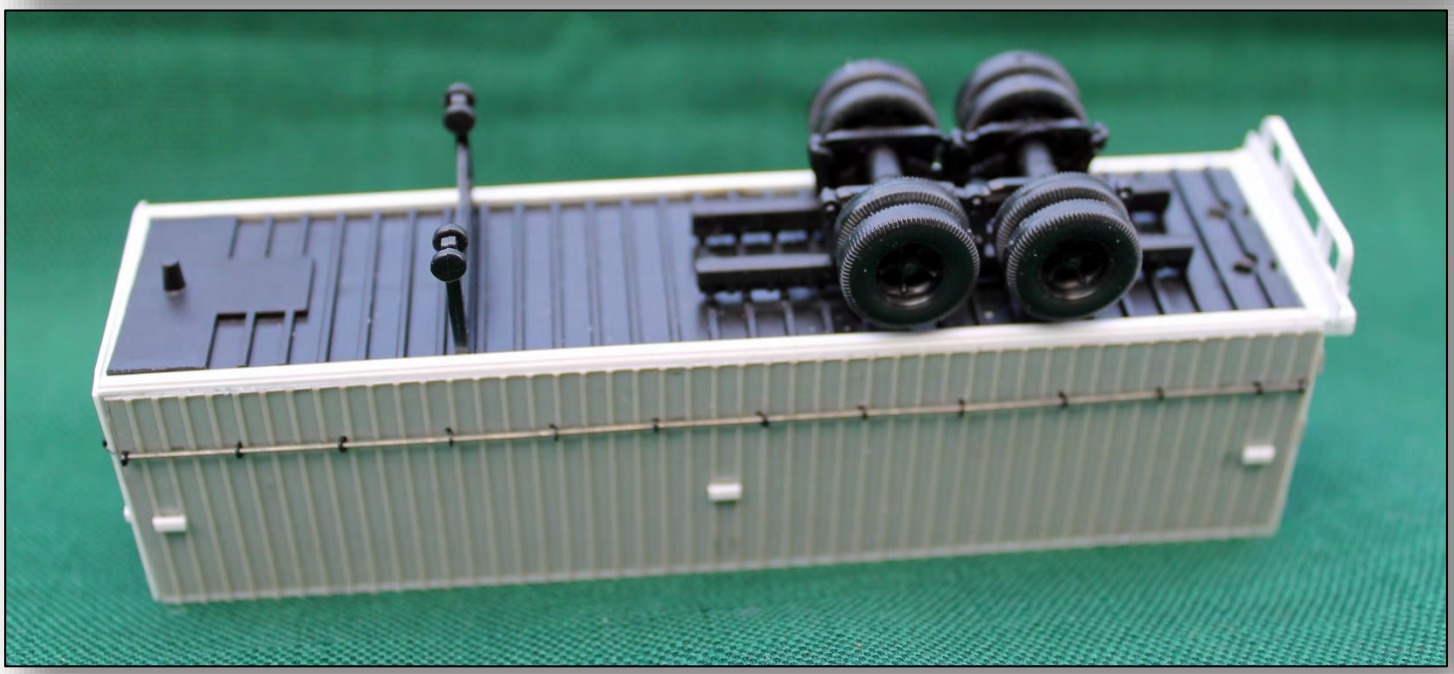
▲Sketch of landing gear crank handle.

► Photos of nose and rear of the completed trailer body.

▼ Photos of the side and underbody of the trailer.







Nose Utility Box – Houses receptacles for the brake and electric connections from the tractor. These early trailers had vacuum brakes and 6-volt electrical systems as opposed to today's air brakes and 12-volt electrical systems. I recall that back in the mid 1970's GMC briefly offered a vacuum trailer brake option. At the time I wondered why GMC offered this option, but there must have still been enough of these vacuum brake-equipped trailers around to justify the engineering and the option. I never had a call for the vacuum brake option on a tractor. It was discontinued after only a short time. Fabricate the box per drawing #1 from 2" x 6" x 12" styrene strip and cement in place.

Mud Flaps – Cut two 24" x 36" x .010 pieces and cement them in place behind the rear tires of the trailer.

Tie Down Bars – A unique feature of this trailer are the tie down bars on the sides and nose to which the canvas roof tarp ropes are tied. I used Grandt Line #3037 Eyebolts drilling holes every 3' and up 2'-3" from the bottom of the body on the sides. On the nose I spaced the eyebolts 2' apart. Cement all the eyebolts in place. It is helpful to draw guide lines on the sides and nose to locate the eyebolts up 2'-3" from the bottom of the body. Slip brass wire full length on the sides and nose and cement in place with ACC.

Marker Lamp Bezels – Cut out eight marker lamp bezels from 1" x 2" x 9" strip styrene. Cement three of the "bezels" in place down three feet from the top of the trailer body. Position the "bezels" with the front and rear side "bezels" over the second side rib and the third "bezel" at the center of the body and three feet from the top as in the drawing. Cement the nose "bezels" in place on the nose down three feet from the top with one in each corner as in the drawing.

Side Number Plates – Pre-1960 diagonal "PENNSYLVANIA RAILROAD" lettering scheme had no plates. For the 1960 and later lettering scheme with circular TrucTrain disc, cut two 1" x 6" x 5' pieces. There appear to be two known locations for the number boards. I believe the more common location was on the front lower corner near the bottom side sill below the circular TrucTrain disc about 1' up from the bottom and starting at the second side rib as pictured on page 133 of the book *Pennsy Diesel Years, Volume 1* (Morning Sun Books) The other known location is at the center of the trailer body up about 1' from the bottom side sill. This was the location of the letter board on the trailer that Brady and I documented along I-75 in Cincinnati.

PAINTING AND LETTERING

Painting – First paint the entire trailer with a light gray primer. This makes it easier for the color coat to cover evenly over dissimilar colored components of the model. Since my supply of Floquil Caboose Red had run out, I decided to use Scalecoat II Caboose Red. After applying the decals, I think that the Scalecoat II was a bit dark, but I decided to leave it alone. You might try using a brighter Caboose Red.

Lettering – I built two trailers with the diagonal "PENNSYLVANIA RAILROAD" scheme and one with the post 1959 Circular TrucTrain disc scheme.

Early Diagonal "PENNSYLVANIA RAILROAD" Scheme – I used the excellent new Mount Vernon Shops decal set for the early lettering scheme. I made the mistake of using the PENNSYLVANIA RAILROAD decals over the red background. I suggest using the decals with the clear background. Placing the decals is a little complicated because of the side ribs and side tie down stanchions and tie down rails. I found it much easier to separate the diagonal lettering into groups of two letters and put them into position dodging the tie down stanchions being careful that the lettering is straight. On the nose I placed the trailer number down 18" from the top and the keystone centered and directly beneath the number. Choose a number from the number listing at the beginning of this article. The number for this scheme should have a prefix of 32C, 32E, or 32W with the trailer number following. I placed lettering on each of the rear doors. I didn't have a photo or data to indicate what was correct, so I made the lettering the same as on the 32' closed van trailers. I placed the PRR down 16" from the top with the trailer number centered below and the keystone monogram centered and directly below the number. See the photos of the model for placement. I placed the large TrucTrain decal on the lower front corner of the trailer. I tried using Microscale decal solutions but found that Walthers Solvaset worked much better getting the decals to conform over the side ribs. You may have to use a pin prick to remove decal bubbles and several applications of Solvaset. Be gentle as the decals are delicate.

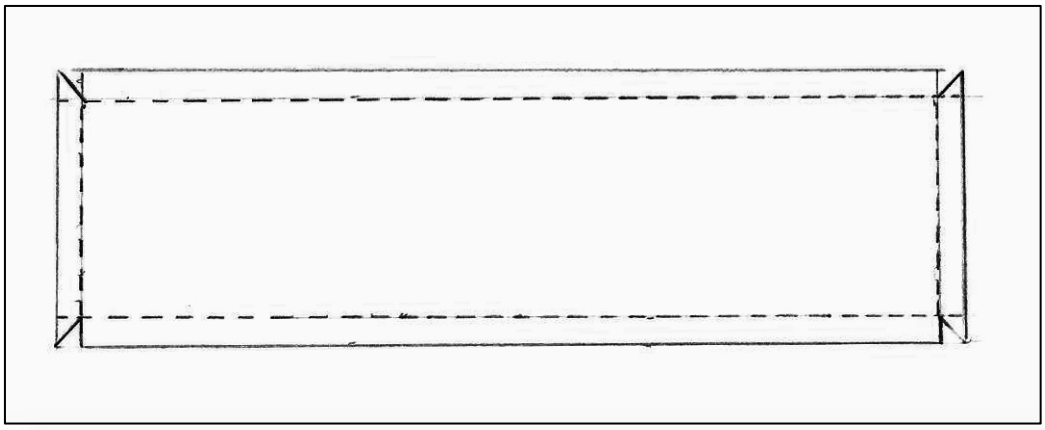
Post 1959 TrucTrain Trailer – The second 32' Open Top Van Trailer I built had the later TrucTrain paint scheme with the circular TrucTrain disc. Cut out a 48" circle from .005" styrene using a compass with metal points at both ends of the compass. Rotate the compass until the disc is cut and ready to drop out of the .005" sheet. Smooth the edges with very fine grit sandpaper. Apply the 48" TrucTrain decal disc from the Mount Vernon Shops Post-1960 Decal Set to the disc. Note there are two sizes of discs on the decal set 48" and 54". Mount the disc down about 18" from the top and about 27" from the nose. I modeled my trailer with the side number board mounted midship as on trailer PRRZ420108. Apply the trailer numbers from the decal set. Apply the keystone monogram centered and down 18" from the top of the nose of the trailer. I used my photo as a reference to mount the trailer number below the keystone monogram. I saw no indication of "PRRZ" above the number so I left it off. However, I suspect that the standard paint scheme had the "PRRZ" above the trailer number. I applied the Keystone monogram down 24" and centered on each rear door. I applied the trailer number just below the middle hinge.

The completed trailer in the early diagonal scheme.

Roof Tarp Tie Down Ropes – I applied the roof tie down ropes before adding the roof tarp. The roof tarp will be applied over the ropes. I used a fine tan colored sewing thread for the ropes. First run the thread behind the tie down bar and then over the trailer body and under the tie down bar on the opposite side. Secure the thread with a simple loop knot on the second side and apply a small drop of ACC to secure the knot. Then go back to the first side and secure the thread with a simple loop knot making sure that the thread is tight from side to side. Apply a drop of ACC to secure the knot.

I started with the first rope at 24″ from the nose and worked rearward with a knot every 4′ to 5′. When all the thread ropes are in place, make sure they are vertical along the sides and then put a small drop of ACC at the top of the side where the thread crosses the body. Snip off all the loose ends of thread and you will be ready to move on to the canvas tarp roof.

Overcoat – Now, with all the lettering in place, overcoat the trailer with Testors Dullcote or your favorite clear flat finish. Do this before you paint in the marker and tail lights. The lights will have a gloss finish.



◄ Drawing of the roof tarp.

▼ The completed tarp roof cover in 67 lb. Bristol paper.

Bezels and Marker lights – First paint the bezels silver or chrome. Let dry and then paint the marker lens. To make the lens, touch the tip of a .040" diameter styrene rod or round flattened tip of a tooth pick in a small puddle of gloss orange paint and then touch it to the center of the bezel. The lower sides have round marker lights at the lower corners. To simulate these, dip the tip of an .060" styrene rod into a puddle of silver or chrome paint and touch to the lower front and rear corners of the trailer side. After the silver or chrome paint has dried touch the tip of a .040" styrene rod into a puddle of gloss orange paint and then touch to the center of the round bezel. Practice this before applying to the model.

Tail Lights – Simulate the rear stop lights by dipping an .060" styrene rod into a small puddle of silver paint and touching it to the rear threshold cross brace as in the drawing. Next dip a .040" styrene rod into a puddle of Testers Stop Light Red paint and touching it to the center of the silver. Practice this before applying it to the model.

Tarp Roof Cover – In the past I have used wrapping tissue paper with good results for canvas trailer roof covers. The tissue had little texture, so I thought that I would experiment with another material. I checked the materials I had on hand and decided to try 67 lb. Bristol paper. I drew a pattern (see drawing) making the width and length 3" longer than the measured model width and length to give a little wiggle room. I scored along the dotted lines lightly with an X-acto knife being careful not to cut through the paper. Next, I bent the paper along the scored lines into a right angle. I slipped the triangular tabs inside the sides and cemented them in place with ACC. You may need to hold the tabs in place momentarily with a set of tweezers until the ACC takes hold. You will end up with an open top box (see photo). Test fit the paper box over the top of the trailer. If it doesn't fit properly, make another box making any necessary adjustments. I reinforced the corners by applying a little ACC with a toothpick. When dry, paint the roof cover with Grimy Black or Testors Dark Euro Gray. The cover has more texture to it than the wrapping tissue. But if you want to use wrapping tissue, you can use the pattern to cut out a tissue roof tarp. In the past, I painted over the tissue with a diluted mixture of white glue and a little water to cement the tissue in place and give it a little more strength. I suggest using black wrapping tissue available at Hobby Lobby.

The completed 32' trailer in the post-1959 TrucTrain scheme.