



The Keystone Modeler

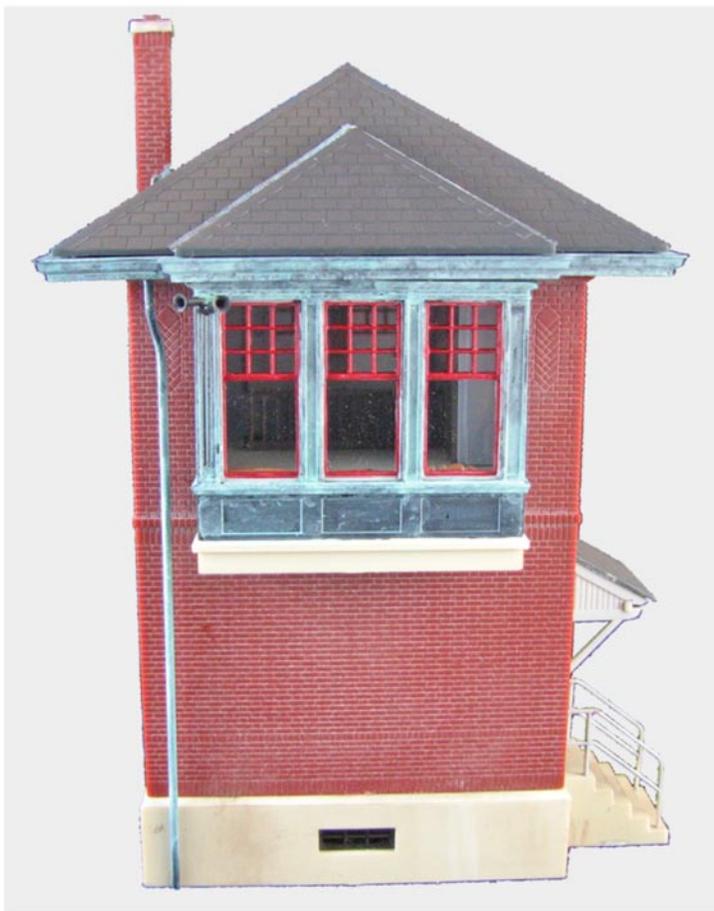
Pennsylvania Railroad Technical & Historical Society

No. 82

Autumn 2012

Inside:

- GLCA Hoppers
- Walthers Tower Review
- Scratch Norry Water Towers





The Keystone Modeler

Pennsylvania Railroad Technical & Historical Society

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FRONT COVER, TOP

Side view of Jim Hunter's completed Funaro & Camerlengo GLCA hopper kit. (Jim Hunter)

FRONT COVER, BOTTOM LEFT

Walters' new PRR tower completed by PRR tower aficionado, Ron Hoess. (Ron Hoess)

FRONT COVER, BOTTOM RIGHT

Here's the top of one of the Northumberland, Pa. engine terminal's twin steel water towers scratchbuilt by Chuck Cover. (Chuck Cover)

BACK COVER

Q2 #6198 starts a coal train upgrade out of Willsburgh, Pa. on Tim Garner's layout. This is a Broadway Limited Imports model. (Tim Garner)

The Keystone Modeler

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The Keystone Modeler on CD-ROM

Disc 1	August 2003 to July 2004	TKM Nos. 1 – 12
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Disc 5	August 2007 to July 2008	TKM Nos. 49 – 60
Disc 6	August 2008 to Autumn 2009	TKM Nos. 61 – 71
Disc 7	Winter 2010 to Autumn 2010	TKM Nos. 72 – 75
Disc 8	Spring 2011 to Winter 2012	TKM Nos. 76 – 79

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

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Occasionally questions come up about what sort of publication *TKM* is, and how I see it among the publications aimed at model railroaders. I think of *TKM* as a niche publication. It is not aimed at modelers in general but only those with a particular interest.

There are still two print publications that seem to be aimed at modelers in general: *Model Railroader* and *Railroad Model Craftsman*. Each of these publications carries articles on layout construction, scenery building, weathering, and so forth. There is now even an on line publication, *Model Railroad Hobbyist Magazine*, which covers similar topics. A range of paperback books is also available which cover basic aspects of model railroading, some of them containing reprints of articles which previously appeared in the model press. But these topics are not the same as what is covered by the niche publications, although there may be some overlap in terms of structures and track work.

The niche publications are aimed at modelers who are interested in specialized topics such as narrow gauge railroads or garden railroads or modeling the equipment of a particular prototype. Those who focus on a particular prototype are often the type of modeler we tease as a "rivet counter," because they are concerned to equip their layouts with miniature replicas of the "real thing" instead of any old piece of model railroad rolling stock that bears the name of a favorite railroad. So *The Keystone Modeler* is aimed at "rivet counters" who are Pennsylvania Railroad mavens. Similar publications exist (some we are flattered to think in imitation of us) for devotees of the B&O, the NYC, the Santa Fe, CNW, NKP, Conrail, and on and on. These prototype modelers (a much nicer term than "rivet counters") are an important segment of the hobby and have influenced manufacturers to produce equipment that is more prototypical. They are also the main customers of the folks who make resin car kits.

Don't expect to see articles in *TKM* about how to wire your layout for DCC. Do expect to see articles about rolling stock, structures, track work, and perhaps even scenery that are PRR or PRR-related. *TKM* proudly stands with the prototype modelers.

(Continued on page 5)

The Pennsylvania Railroad Technical & Historical Society

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

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

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

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

PRRT&HS
PO Box 54
Bryn Mawr, PA 19010-0054

All memberships are for a calendar year, back issues of *The Keystone* for the current year are sent upon joining. Overseas membership has added postage fees.

PRRT&HS Interchange

Selected Society Merchandise of Interest to Modelers

PRR EQUIPMENT DRAWINGS ON MICROFILM

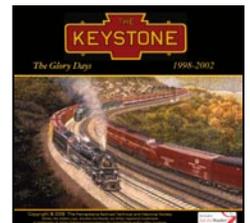
Copies of PRR equipment drawings are available from the Society's microfilm collection. To order drawings, you must know the drawing number and title. Ordering information and lists of arrangement drawings are available on the Society's website. Go to www.prrths.com, select National Society, and then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

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

THE KEYSTONE CD 5

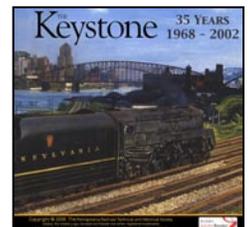
The Keystone CD No. 5, *The Glory Days*, covering 1998 to 2002, is now for sale at the price of \$75 for members. New Jersey residents add \$5.25 sales tax. Order CDs from:

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



THE KEYSTONE DVD 1

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



PRR Product News

ATLAS MODEL RAILROAD CO.

<http://www.atlasrr.com/>

PRR Manahawkin Station—HO Scale



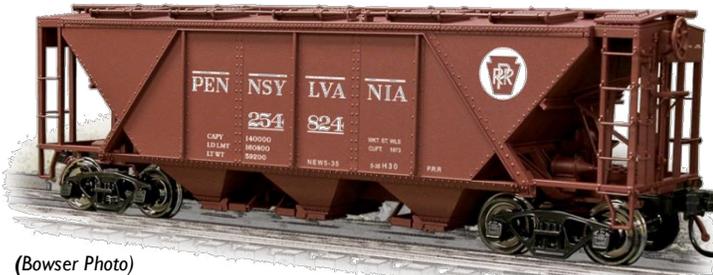
(Atlas Photo)

Atlas has announced this neat little South Jersey station in their Laser Design line. It is expected to be available in the First Quarter of 2013.

BOWSER MANUFACTURING

<http://www.bowser-trains.com>

PRR H30 Covered Hopper – HO Scale



(Bowser Photo)

Bowser announced at Trainfest the H30 as part of their ready to run Executive Line. The announcement stated that the model will be built using all new tooling and include metal wheels, knuckle couplers and fine scale details. An availability date has not been announced. The photo above shows the O Scale Weaver model.

MOUNT VERNON SHOPS

<http://www.mountvernonshops.com/>

PRR Decals – HO Scale

John Frantz has announced HO decals for F22 and F23 flatcars. Each set includes enough data to do two F22 and two F23 cars.

EASTERN SEABOARD MODELS

<http://www.esmc.com/>

PRR G32C Gondola—N Scale



(ESM Photo)

ESM has in development a G32C in resin and brass. It will be available as a kit and ready-to-run. It is expected to be available in the first Quarter of 2013.

NKP CAR COMPANY

<http://www.nkpcarco.com/>

Pullman Betterment Heavyweight Sleepers – HO Scale

NKP Car Co. will have available soon models of the 12 Sec 1 DR, 8 Sec 1 DR 2 Cmp, and 14 Sec “Betterment” or Streamstyled, heavyweight sleepers. When the pre-war lightweight streamline parlors and sleepers were introduced, some heavyweight cars were modified for visual appearance so they could be operated with the new cars. A complete list of these cars is here:

http://pr-railfan.net/passenger/GSPEAR/GSPEAR_PRR_Betterments.htm

According to the NKP Car Co. info, these cars will feature correct/accurate tapered “Betterment” roof/ends/skirting, combined with Branchline sides, floor, trucks, and all the required detail parts. Contact BNSF739@aol.com for additional info.

PRR-PARTS

<http://www.prr-parts.com/>

PRR Passenger Car Underbody Details – HO scale



PRR Ice Bunkers and Water Tank (PRR-Parts Photo)

TANGENT SCALE MODELS

<http://tangentscalemodels.com/>

PRR F47 GSC 60' Flatcar – HO Scale



(Tangent Photo)

Tangent announced this 60' flatcar produced by General Steel Castings. PRR purchased its first of this 25 car class in 1964. The model is ready to run and is expected to be typical of Tangent's accurate, high quality.

Upcoming Events

January 10-12, 2013 Cocoa Beach, Florida

Prototype Rails Modeling Meet

<http://www.prototype Rails.com/>

January 26-27, 2013 West Springfield, Massachusetts

Amherst Railway Society Railroad Hobby Show

<http://www.railroadhobbyshow.com/>

February 2- 3 Timonium, Maryland

Great Scale Model Train Show

<http://www.gsmts.com/>

March 22-23 Greensburg, Pennsylvania

RPM-East Railroad Prototype Modeler Seminar

http://www.hansmanns.org/rpm_east/2011.htm

May 16-19, 2013 Lancaster and Strasburg, Pennsylvania

PRRT&HS Annual Meeting

<http://www.prrths.com/>

July 14-20, 2013 Atlanta, Georgia

NMRA Annual Convention and National Train Show

<http://www.nmra2013.org/>



From the Cab – continued from page 3

There are several people to thank for producing *TKM* and for making it available to our readers. One who has not received the thanks he deserves is Steve Agostini. He is the web master for the PRRT&HS site, and he posts *TKM* on that site where it can be accessed. Thank you, Steve.

In this edition of *TKM* we bring you Ron Hoess' review of Walthers new plastic kit for a PRR block and interlocking tower. We also have Jim Hunter's third article on modeling GL, GLA, and GLCA hopper cars and Chuck Cover's construction of the twin water towers in Northumberland.

Jim Hunter, Editor

J1A #6418 leads a coal train downgrade through an interlocking on Tim Garner's Willsburgh Division. In a future issue of TKM, Tim will offer some tips on modeling PRR's electro-pneumatic interlocking equipment. Visible at left is a Union Switch & Signal A5 switch machine from Irish Tracklayer. Along the right is a 2" pipe that feeding air to the switch machines. It leads from a scratchbuilt compressor near the bridge abutment. Tim has dressed up his long-ago installed Atlas track with joint bars and switch braces from Details West.

(Tim Garner)



Pennsylvania Railroad GLA and GLCA Hopper Cars, Part III

By Jim Hunter

With additional input from Gary Mittner and Dale Muir



PRR GLCA builder's photo of #150703.

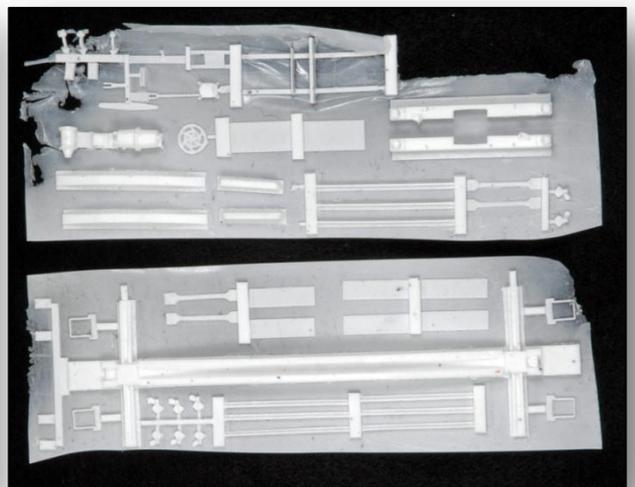
(Tim Garner collection)

Part II of this three-part series focused on available models of the PRR GLA class. In this third chapter, we turn our attention to building a model of the GLCA using the kit by Funaro and Camerlengo.

MODELING THE GLCA

Whereas Westerfield's GL/GLC flat kit remained on the shelf to build "someday," the Funaro and Camerlengo kit for the GLCA immediately interested me, because the basic body is cast as one piece. Westerfield has offered a flat kit with cast hoppers to build a GLCA, but many of us have shied away from that challenge as well. Certainly I need a representation of this final iteration of the GL series because it fits perfectly within the time period I model. In the October, 1950 ORER, the Pennsy listed 8,232 GLCA and no GL or GLC.

I followed Steve Funaro's instructions with only a few deviations. The body casting is made of resin and can be drilled and sanded much the same as plastic. There is a good deal of flash on the casting, particularly on the ends, and this must be carefully removed with a hobby knife and small files. Steve's instruction sheet includes 13 construction steps, a photocopy of the cast parts to be added to the car body, and drawings of the model with arrows indicating where the various parts are to be attached. There are also three prototype photos on the back page and photos of the completed model on the front (those same model photos can be found in color on the F&C web site). Alpha cyanoacrylate is recommended for assembling this kit.



Resin body casting and parts for the F&C GLCA kit.

(Jim Hunter)



Side of unpainted F&C GLCA hopper.

(Jim Hunter)

After cleaning the body casting, the instructions say to adjust the underframe to fit. Some careful filing between the hoppers was necessary to get the frame to fit correctly. At this point, there are a few parts to be added to the frame: riveted caps to the surface of the bolsters and body bolsters between the frame and the slope sheet. I recommend that everything be test fitted and these parts attached *before* installing the brake system. Cementing the end supports right onto the cast-in-place verticals on the ends is a great idea. But be aware that the riveted end goes at the top, while the plain end is hidden behind the end sill cap.

Next, the end sill is glued in place. Steve has cast the cut lever brackets with the end sills, which is handy, but the rivets on the end sill do not line up exactly with the lower part of the vertical end supports. Once the AC sets for the end sills, it is a good idea to test-fit the coupler box in the opening. Steve does not tell you in the instructions that he installed his coupler boxes upside down, but it can be seen in the photos. I installed mine upside down in one model and right side up in the other; it made no difference.

The bolt heads cast on the body indicate where the grab irons should go. Be sure to trim off the ends that protrude into the interior of the car. The long grab irons on the ends must be bent from wire. The kit provides two alternatives for the stirrup steps: rather fragile castings that have to be cut free from the frame casting and durable Tichy steps. I used the Tichy steps on one model but chose to use carefully bent A-Line steps (style A) on the other model. I prefer the A-Line steps both for strength and for appearance. Tow hooks (or towing staples) might also be installed along with the steps, but not all GLCA had them; consult the photographs.

On the underside of the car, there are three sizes of angle irons that must be attached to the hoppers. We are provided with arrows and part numbers on a line drawing side view of the car and a photo of the underside of Steve's model, but I wished for a clearer diagram. Further, two of the angles are not identified by number in the photo of cast parts. The brake step, brake stand, and power hand brake are nicely rendered. The brake wheel is an excellent scale reproduction of the real thing. However, as Gary Mittner noted in his review of the kit, the brake system instructions are rather vague. He also had to deal with a deformed bell crank.

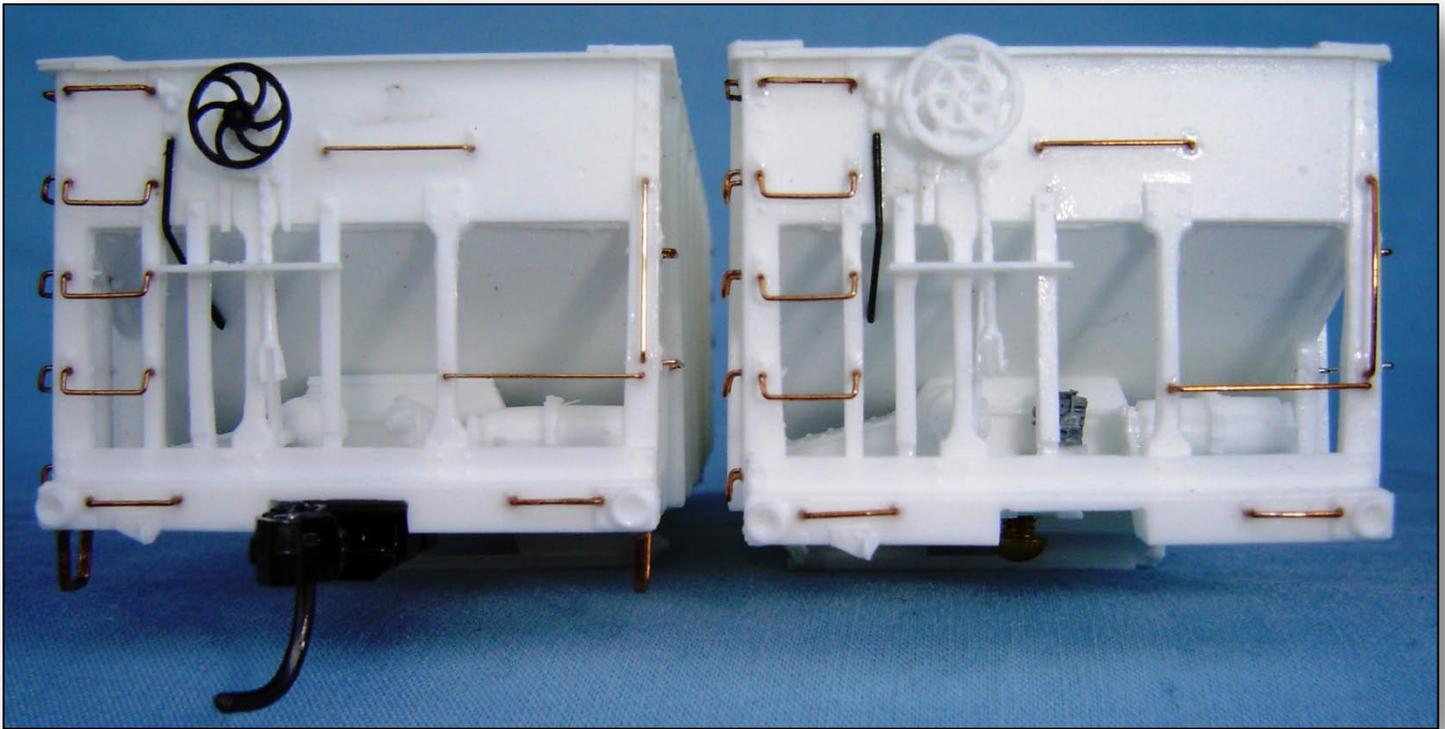
Back in the interior, the cross ties (a.k.a. interior braces) are added at this time. They are nice castings but may require tiny shims to span the distance between the sides. Because I intend to operate these cars, I did not install brake hoses and put uncoupling levers on only one of the cars.

DIMENSIONS

Pennsylvania Railroad tracing E-426445, which can be found on Robert Schoenberg's web site, provides the following dimensions of the GLCA:

	Prototype	F&C
Interior length	31'-6 1/4"	31'-10"
Interior width	9'-6"	8'-11"
Exterior width	10'-1 1/4"	10'-6"
Length over end sills	33'-3"	34'-6"
Between truck centers	23'-3"	24'-3"

The differences between the dimensions of the prototype and the scale dimensions of the model detract little from the overall appearance of the model.



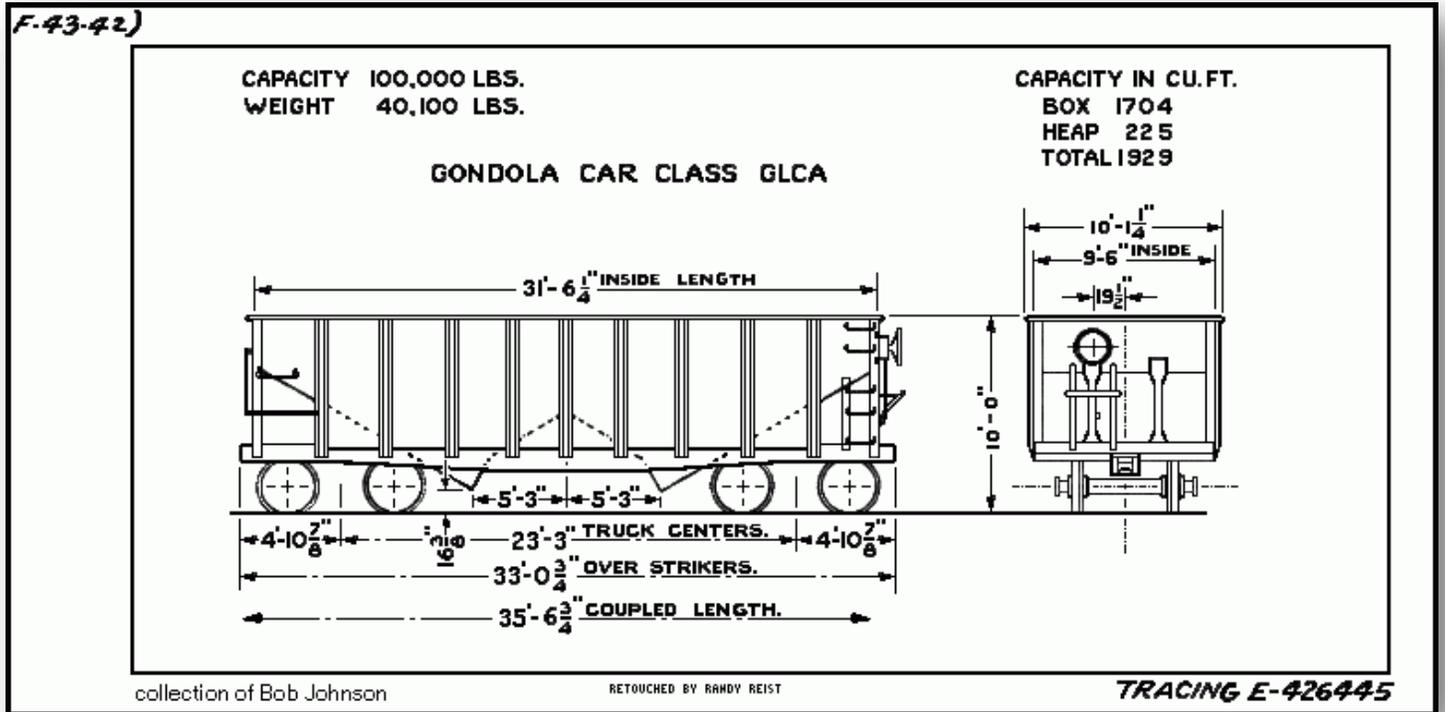
One brake wheel was lost in construction, so a similar wheel from the scrap box was substituted.

(Jim Hunter)

PAINTING AND LETTERING

The models were gently washed with dish detergent, allowed to air dry, and then sprayed with my preferred shade of FCC. I prefer Scalecoat II oxide red with a few drops of caboose red added. Since Scalecoat dries with a gloss finish, I could apply the decals as soon as the paint had cured. Before applying his FCC, Gary prefers to spray a primer on the mod-

el, which helps to reveal flaws and rough spots. The decals provided with the kit were reproduced from photos of the prototype, but, in my opinion, F&C should consider a printing process which results in sharper, more legible decals. For some of the really small data, I substituted decals from Middle Division. The chalk marks were mostly taken from Sunshine Models sets. Dullcote was used to seal the decals.



PRR arrangement diagram of the GLCA.



Gary Mittner's GLCA with primer coat.

(Gary Mittner)

Weathering was done with light coats of grime sprayed underneath and into the interior. Weathering powders were used for more subtle grime and rust effects. Couplers can be installed before painting, if they are masked, or they can be test-fitted only and installed after painting. I used Kadee #58 couplers and Tichy 2D-F12 (leaf and coil) trucks. I replaced the plastic wheels in the Tichy trucks with P2K metal wheels.

The wheels and trucks were weathered with a grime mixture and a touch of rust. However, when I first installed the trucks, the car sat so low that the wheels rubbed on the underside of the slope sheets. Several washers had to be placed between the trucks and the bolsters in order for the cars to operate in a train.

Because of the huge numbers of GLA and GLCA which remained in the Pennsy's fleet into the mid-1950s, anyone who models an eastern or mid-western railroad should include a few of these cars on the layout. Westerfield's model has great detail; it is beautiful, but building enough of his models to proportionately represent a prototype fleet of over 30,000 cars would be daunting. Funaro and Camerlengo have introduced a model which absolutely fills a gap in the Pennsy modeler's roster. It also has great detail, so owning at least a few of these models is a must.



▲ Underside detail of Dale Muir's GLCA. ▼ Dale Muir's finished model.

(Both, Dale Muir)





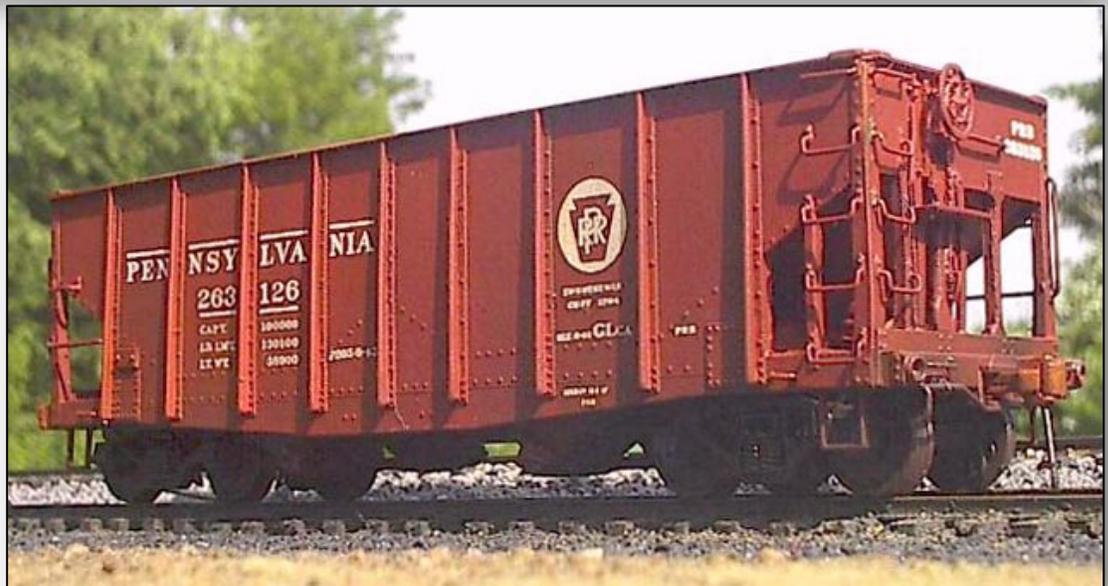
▲ Jim Hunter's finished #205281. ▼ Interior view of Jim Hunter's GLCA #147512.

(Both, Jim Hunter)



Gary Mittner's GLCA photographed outdoors.

(Gary Mitner)



Review of Walthers' PRR Block and Interlocking Station

Photos and story by Ron Hoess

This past spring Walthers released a new kit called PRR Block & Interlocking Station as part of their Cornerstone Series. To PRR aficionados the kit is immediately recognizable as Overbrook Tower in the Philadelphia Terminal Division, York Tower on the Northern Central Division, and CQ and NP Towers on the Conemaugh Division. This is a beautiful model with wonderful detail and, by today's standards, offered at a very affordable price.

Before reviewing the kit, it is worth noting some of the general history of PRR towers. The first phase of PRR tower construction dates back to the 1870s and consisted primarily of wooden structures of varying styles. While these towers lasted a considerable length of time, by 1900 many of them were in need of replacement, and the PRR began using brick and mortar to build more permanent structures. This time period also coincided with the early electrification of the mainline around the Philadelphia area. I have not been able to ascertain the exact construction date for Overbrook Tower, but I believe it to be prior to 1926. Identical towers in York and on the Conemaugh Division appear to have been constructed in the 1920's. This appears to be a typical PRR practice that would last for years where the identical design would be used for constructing pairs of towers. Some examples of pairs of towers that can still be seen today include Cola and Thorn, Morris and Lincoln, Nassau and Midway.

The dimensions of the model are in good overall agreement with the published drawings of the tower. The drawings, done by Paul Moon, were first published in the June 1979 NMRA Bulletin and then later reprinted in the Summer 1990 issue of the *Highline* (publication of the Philadelphia Chapter of the PRRT&HS). These drawings not only give the overall dimensions of the building but also include notes on various architectural details, many of which the Walthers model has faithfully reproduced. For example, in the brickwork on either side of the operator's bay window are two vertical brick chevrons that have been reproduced on the model. The Flemish bond used on the tower has been nicely done and the bricks themselves are actually to scale, a feature often overlooked in many kits with brickwork. Even the courses of brick soldiers between the first and second floors have been included. The only discrepancy that I observed is the place

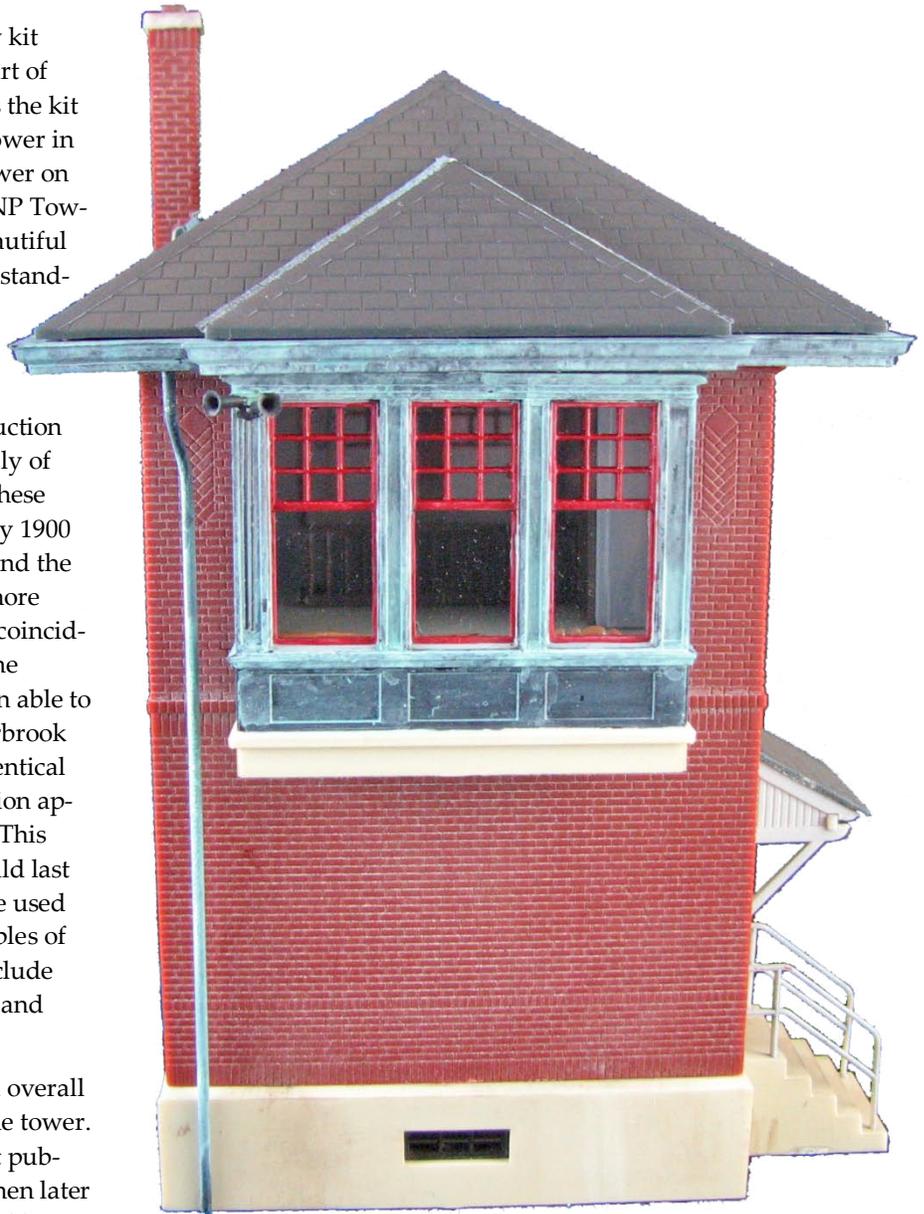


Fig. 1. The completed kit.

ment of the second floor window openings on the sides of the tower. Some years ago I went and made measurements of York Tower, and, based on those measurements, I would have to say the Walthers model is more accurate than the published drawings.

Construction of the model is straightforward and is basically a one-evening project. What is more time consuming is painting the model to reflect its PRR heritage. This can be a

tricky business since most PRR towers got various coats of paint over time, so if you are really trying to be prototypical, be forewarned that the best guide is a photograph of the tower in the time period you are modeling. This is particularly true for towers such as Overbrook that have survived painting by Penn Central and then Amtrak, both of whom may have painted the tower in non-PRR standard colors.

I started out by painting all parts prior to assembly, since it is just easier than trying to do fine detail painting on the assembled model. The first item to deal with is the brickwork. As I mentioned, the brickwork is some of the most accurate and well-detailed I have seen from any kit. To highlight the brickwork, mortar lines must have color; otherwise no one will be able to appreciate the detail. Coloring mortar lines is always a balance between adding some color, and not having it dominate the wall visually. This is difficult when the mortar lines are actually thicker than scale as often happens with commercial brick sheets. In the case of this model the mortar lines are fine so the mortar lines should not dominate. Nevertheless, I decided to do something a little different than the usual methods of a dilute wash of white paint or alternatively rubbing on spackling compound. What I chose was to use white chalk which I brushed on the sides. I cleared off excess by just rubbing my fingers across the surface leaving the chalk within the mortar lines. This was followed by airbrushing the

wall with a 50:50 mixture of Dullcote and airbrush thinner. This helps fix the chalk and at the same time dulls the surface of the brickwork. You may find that the Dullcote makes the chalk disappear, in which case simply repeat spreading on the chalk and airbrushing again. I was pleased with the end result that was a balance between showing mortar lines and not having them dominate the brickwork. Furthermore it gave the bricks a very nice dull surface.

To help guide my painting on some of the other parts of the kit, I relied on photographs that my son and I took over ten years ago when we did a weekend excursion to York Tower. In retrospect, this was quite fortuitous, since York Tower had been placed out of service in 1973 and stood abandoned for some time and was thus not continually repainted like Overbrook Tower. This archeological find allows one to view the tower in its more original state and hence create a tower that is likely more contemporary with the PRR.

[Fig. 2] The first photograph is of the front of the tower with its second story bay window. A close-up shows the bottom of the bay window is concrete and should be painted with something like Floquil Aged Concrete. **[Fig. 3]** Above the concrete base, the remainder of the bay window is copper clad. Likewise the gutters around the building and the underside of the roof overhang are also copper clad.



Fig. 2



Fig. 3

On the model, I first start by painting all of these parts Floquil Engine Black. After the paint has thoroughly dried I then add the copper patina. For this color, I mix Polly Scale Penn Central Green with an ample amount of Polly Scale Reefer White which I then dilute with water to make a wash. Keep in mind that the copper patina is usually not a solid color, and one often sees the underlying black color of the copper underneath. When applying this color I always pay attention to brush what would be vertically downward on the building to reflect the weathering by water running down the building sides. Although somewhat difficult to see in the photograph, the pattern under the roof overhang is fairly random. I tried to imitate this as best as possible by brushing what I had applied more broadly around the overhang. [Fig. 4] The other places for copper patina are the flashing around the chimney, at the base of the sewer vent pipe, between the small porch roof and the wall, and on the sides of the roof portion that come out over the bay window. For this I take a piece of masking tape, paint it Floquil Engine black followed by my copper patina color. I then take an X-Acto knife and cut the tape/flashing and apply it directly to the model. Since the tape has adhesive, no glue is necessary. [Fig. 5]

For the windows I opted to paint the outer frame gray and the window frames and mullions red. While red was often used on PRR windows well into the 1960's it was by no means universal. Unfortunately, I could not find a color photograph of Overbrook from the late 1950's so I am guessing. There is, however, a nice picture of York Tower in Morning Sun Books' *Trackside: PRR North of Washington, DC* that clearly shows red window frames circa 1956. What color red should one use? I have a 1956 PRR building drift card with maroon building paint. Clearly, the frames appear much redder in the picture than the drift card, so I opted for something a little brighter. I started with Floquil Caboose Red and darkened it by adding Tuscan. In retrospect, I wish I would have darkened it even a bit more. After painting the windows, assembly of the model can begin. This is really straightforward and all of the pieces fit nicely together.

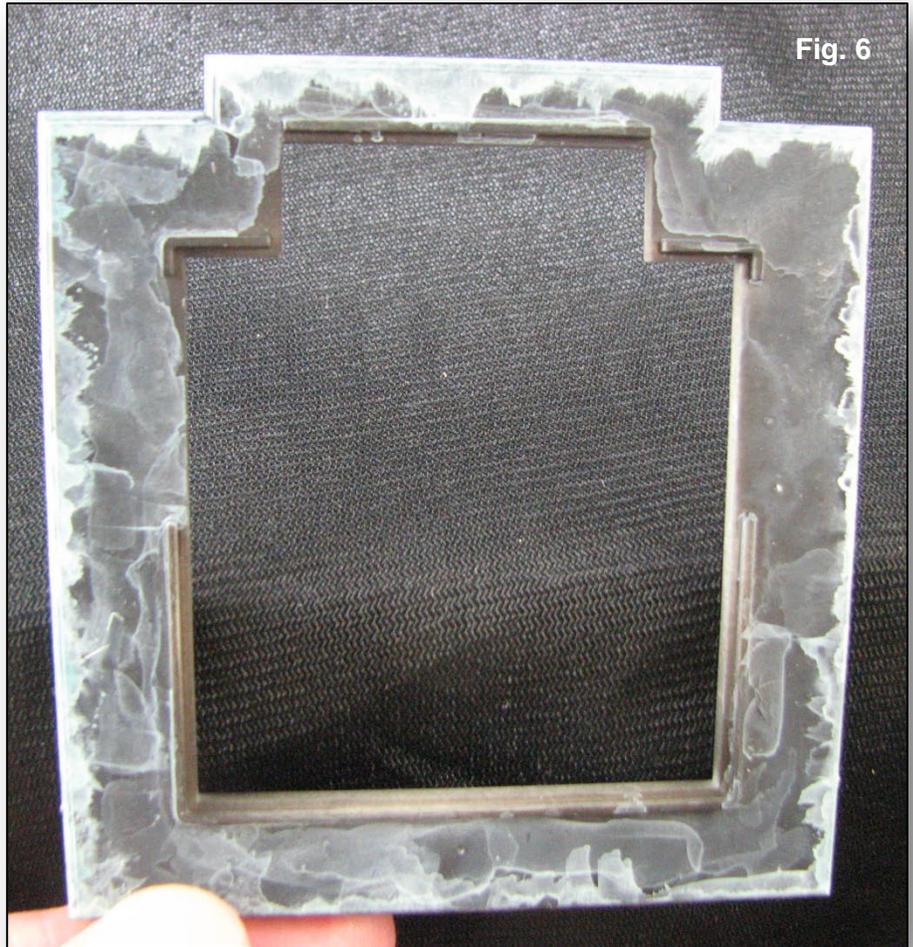


Fig. 6



Fig. 5

After the front and sidewalls have been fastened to each other and the base, the instructions call for inserting the floor to the second story. Inclusion of this floor simply begs the modeler to include an interior for the tower. This, coupled with the drawings of Paul Moon, which show the general layout of the interior, provide the modeler with an opportunity not to be missed.

Before inserting the second floor, I cut an opening along the back edge of the floor approximately 3 scale feet in from each sidewall and 2.5 scale feet deep. [Fig. 6] This will serve as the stairway from the first floor. I then cut to size some stairs I found in my parts box and a piece of Tichy round spindle porch rail (#8109). In addition, the drawings show a lavatory in the back corner. I built the walls using styrene and inserted a Tichy door (#8032) at the proper location. At the time I did this I did not have a sink or toilet on hand but these items can be included. [Fig. 7] Overbrook Tower had a 19 lever frame electro-pneumatic Union Switch and Signal model 14 interlocking machine in the center of the room which can easily be modeled with styrene. For example, see past articles in *TKM* October 2006, and February 2008. Over the machine should be a model board with the interlocking track diagram. I also cut a piece of styrene and inserted it into the bay window to serve as the operator's desk. As time progressed some of the nearby interlockings were consolidated and put under the control of Overbrook Tower. These were controlled by a 60 lever CTC panel that was affixed to the operator's desk in the bay window. Pictures of this can be found on the internet that should make it easy to model with styrene. Other details that one might want to add are a chair for the operator, waste basket, and a radiator. It was a fairly cozy tower in terms of space.

Once the interior is in place, the back wall can be glued in place as well as the piece representing the underside of the roof. On mine I have left the roof removable so I can come back and add that Union Switch and Signal machine.

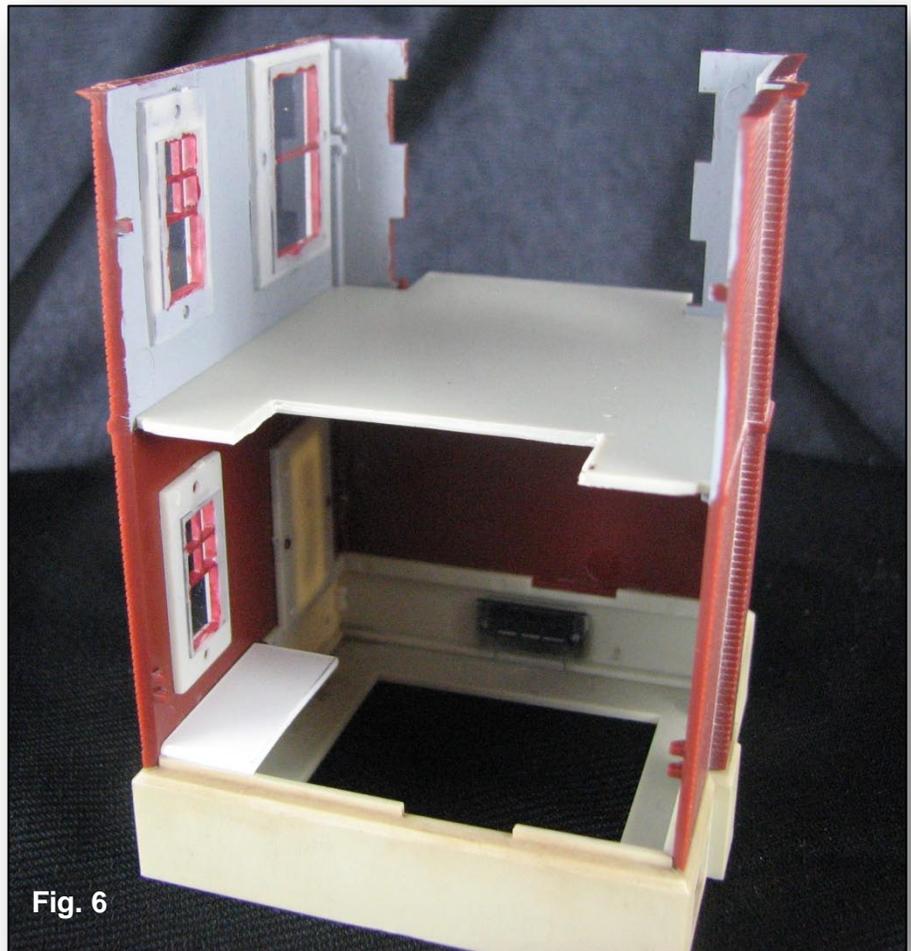


Fig. 6

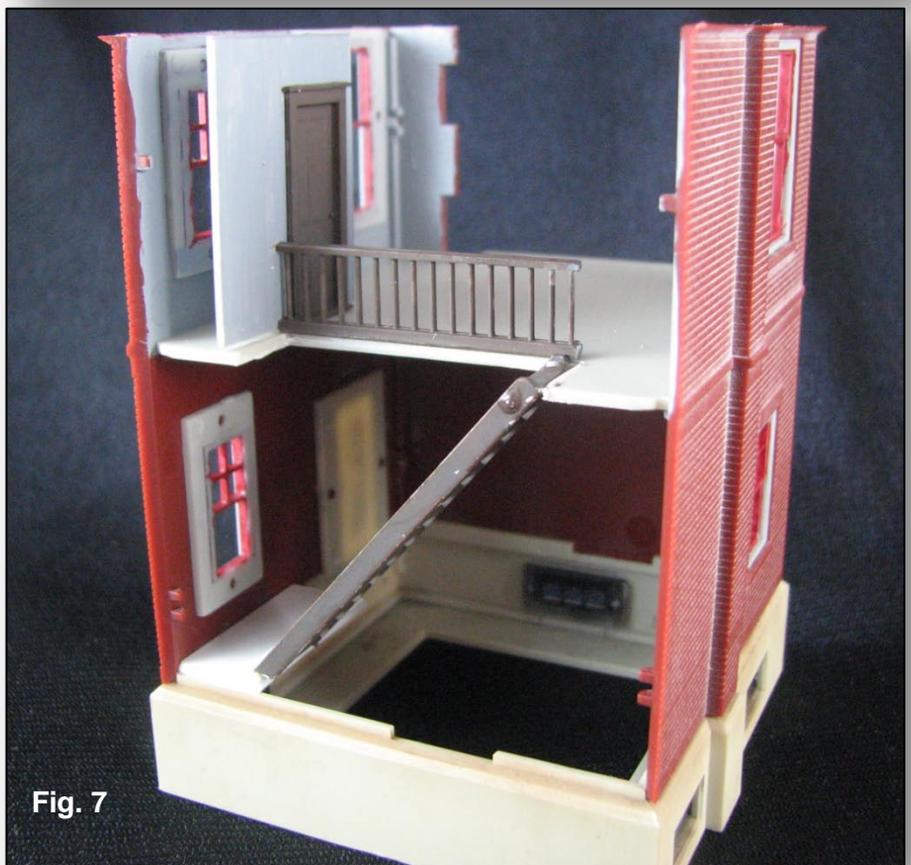


Fig. 7

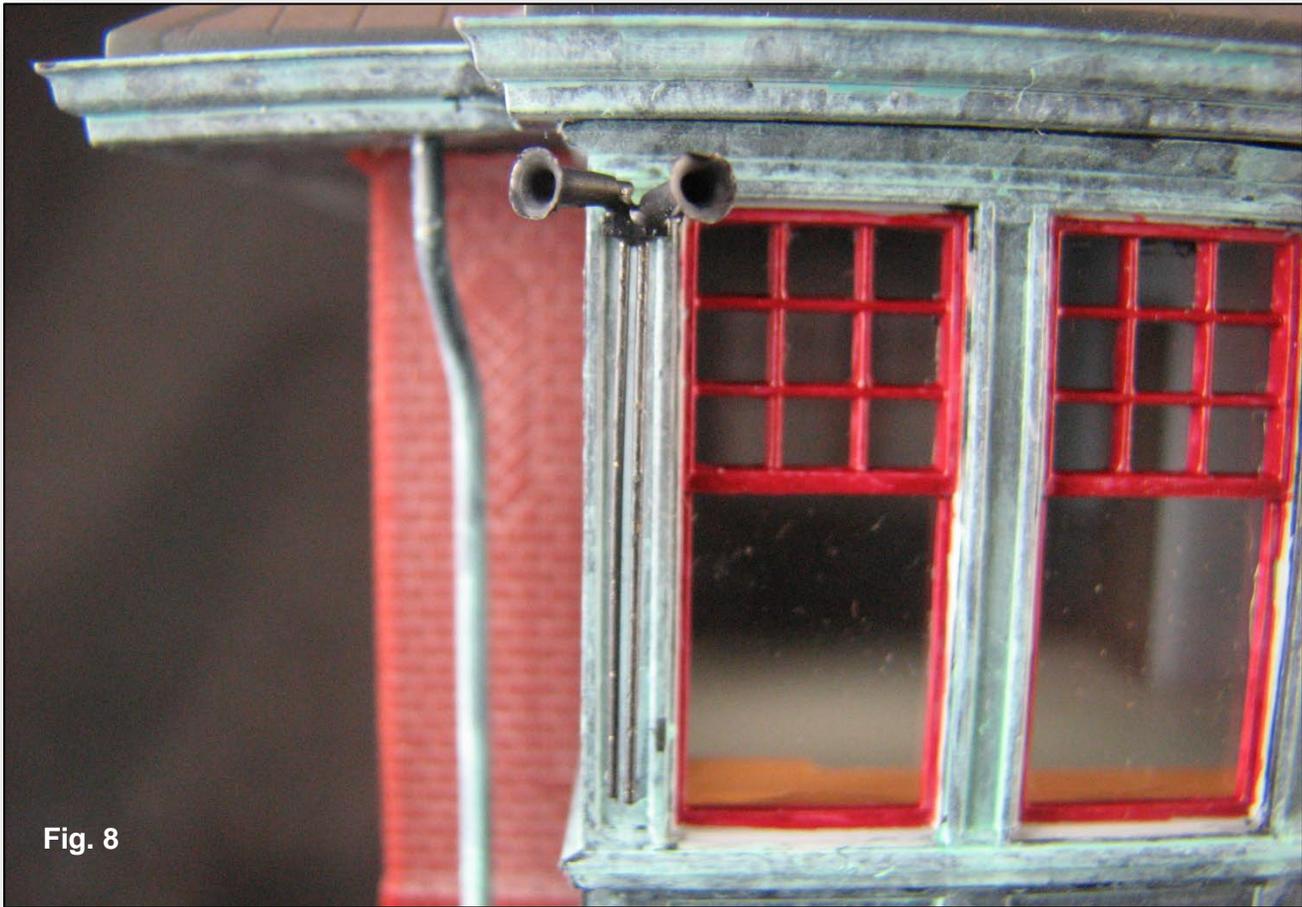


Fig. 8

There are a few final details that can be added to the outside of the tower to give it a more detailed look. One, of course, is downspouts. From studying photographs there are two, one on the front left side of the tower and one located diagonally in back. I fashioned these from 3/64" Evergreen Styrene rod and carefully made the proper bends. This should be done gently otherwise you will simply break the styrene. Since these were copper, I did my usual painting black first followed by a copper patina wash. The other details I added were the horns on the bay window that I believe are still there today. [Fig. 8] These were apparently used to communicate with signal maintainers. I started with two horns from a set of Detail Associates (AH 1601) 3 chime Nathan air horns, carefully drilling them out with a #78 drill. I then inserted a piece of 0.010" diameter brass wire to represent the pipes carrying compressed air to the horns. The wire was then threaded through a very small piece of styrene in which I had drilled two #78 holes. The styrene allowed me to orient the horns facing outward and also to fasten the whole thing to the bay window.

One question that arises for modelers of the PRR is: can I use this tower for anything other than Overbrook, York, CQ

or NP? The kit includes signs for all of these as well as Maple Grove in western Ohio, Brown and Winslow on the PRSL, Ozone Park on the LIRR. While all these places had very similar brick towers, they are not identical to Overbrook, York, CQ and NP. Unlike some railroads like the C&O, there was in fact no such "standard tower architecture" on the PRR. While some may philosophically disagree with me, I think the virtue of the PRR and its uniqueness of its towers is great for the prototype modeler. By looking at the tower on someone's layout one is immediately clued in to the prototype location. The visual is much more profound than simply putting a name on any structure simply to denote location. I realize my view is probably at one end of the spectrum and for many this two story brick tower will be just right for their layout.

In summary this is a beautifully done and accurate model produced by Walthers at a very reasonable price. For Pennsy modelers it's a nice addition to a number of tower models that are available. Even for purists like me who are not modeling trackage around Overbrook, this model is too beautiful to pass up; yes it even looks great on a shelf. Kudos to Walthers for producing such a handsome model.



Modeling the Northumberland Twin Water Tanks

By Chuck Cover

One of my modeling goals is to build structures on the layout that closely represent those that were present at the modeled locations. Northumberland Yard is a major part of my layout, so I wanted to model the prominent structures during the 1950s. Two of these structures were the twin water tanks that can be seen in many photos of the era. The water tanks were located just north-east of the turntable and roundhouse. These were actually elevated water storage tanks that fed trackside standpipes, not the metal or wooden trackside water towers that modelers commonly see.

I could not find any drawings of the water tanks, but I was able to find a few photographs. In most of these photos the water towers are in the background as can be seen in the book, *Pennsylvania Railroad Facilities in Color, Volume 7: Northern Division*, p. 29. There are several HO models of elevated water storage tanks available, however I have not seen one that I thought gave a reasonable representation of those in

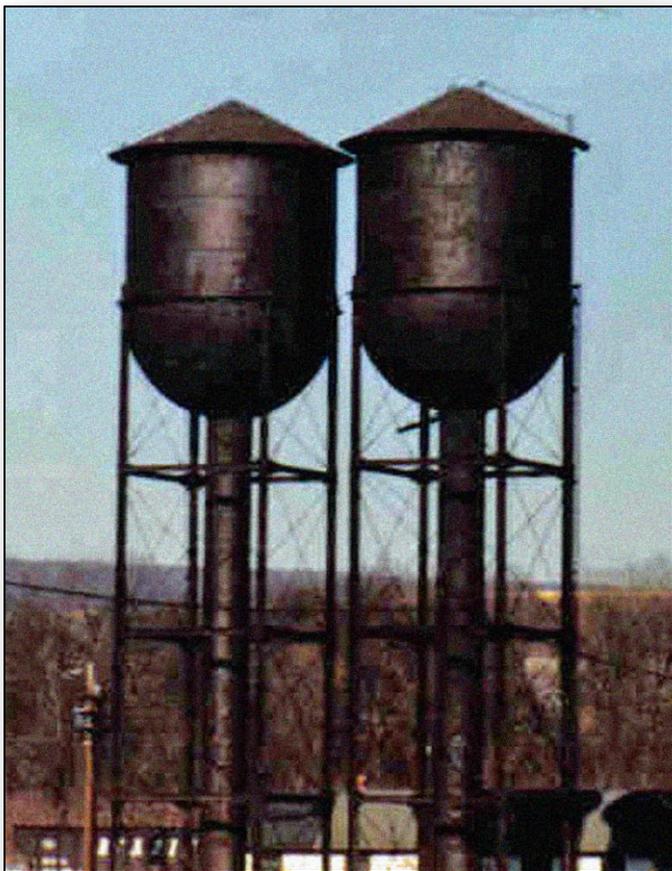
Norry. Many of the commercial models have a tower with vertical supports that are wider at the bottom than they are at the top. The Norry tower's legs are parallel. Another problem with most of the commercial models is that the bottom spherical sections of the tanks, do not match the Norry prototype.

After studying photos of the water tanks, and comparing their size to adjacent structures, I prepared a drawing that gives a good proportional representation of the twin water tanks. It appears that the prototype legs of the tower portion were constructed with I-beams, heavy horizontal braces, and cross bracing between the horizontal braces. The tank portion of the structure was constructed of metal sheets that were riveted together. The bottom of the tank is a half sphere. The top section of the tank, which makes up about 60% of its height, is a cylinder made from 3 courses of riveted metal. The roof of the tank has a slight pitch, about 25% the height of the cylinder portion of the tank.



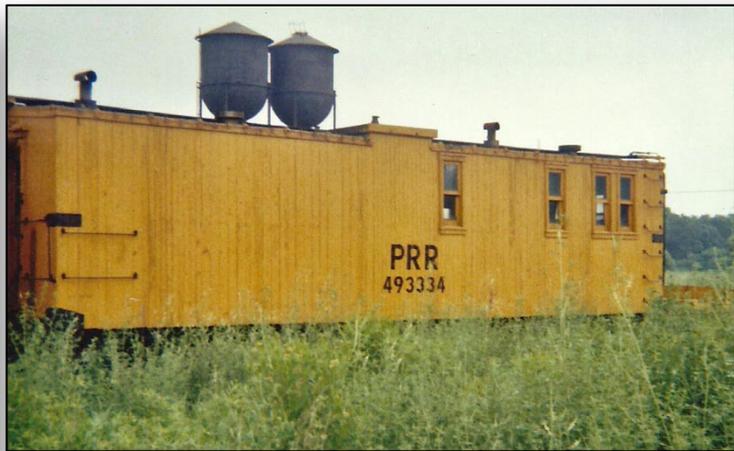
View of the Northumberland enginehouse during the Conrail era. The twin water towers are visible above the left edge of the building.

(Jack Pehowic)



▲ The twin water towers stained by rust. (Jack Pehowic)

Two photos showing a bit of the water towers behind an XL camp car ► and a yard office. (Both photos, Paul Noble)



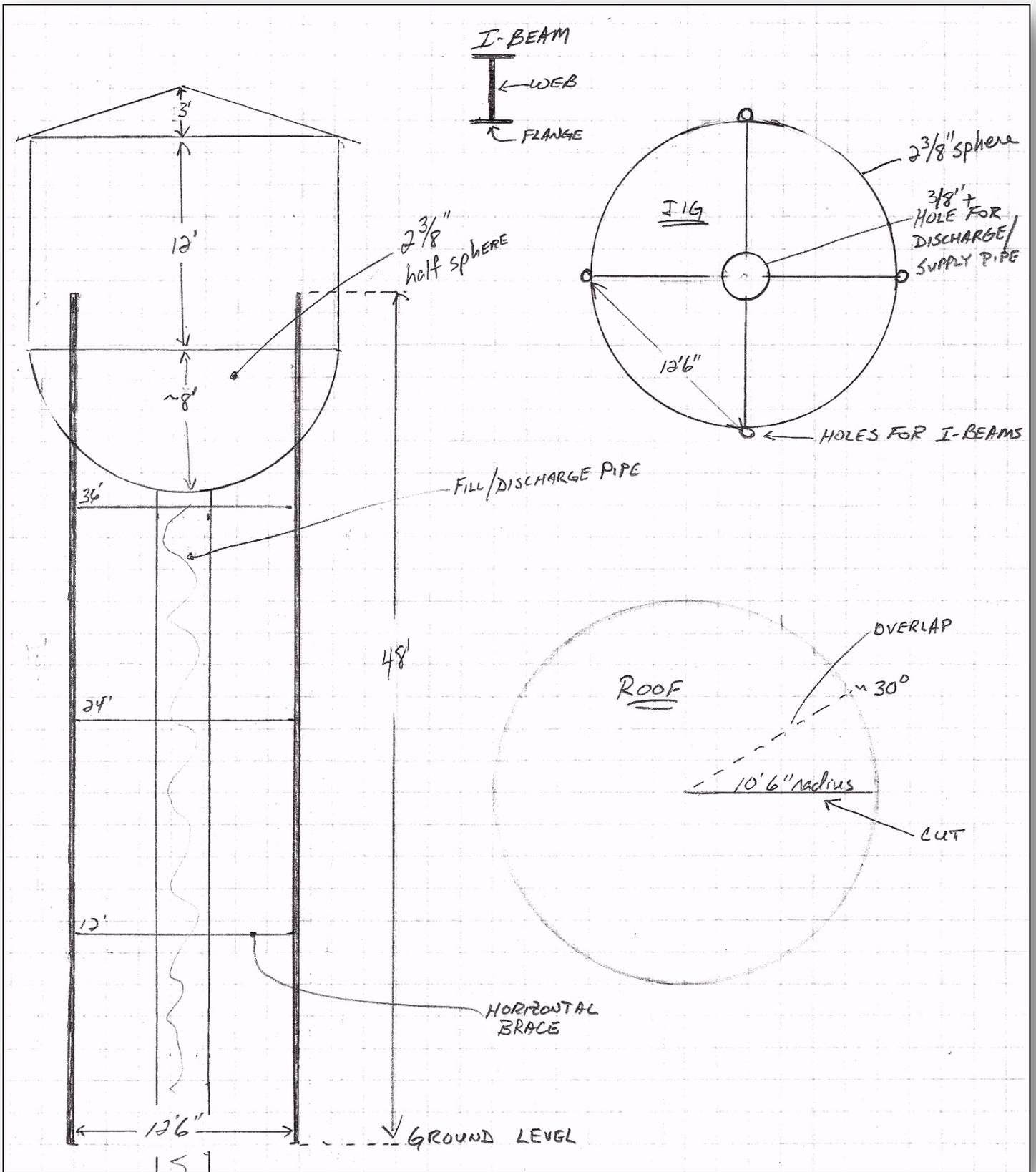
My first difficulty with this project was that I could not find anything that I could use for the bottom, spherical section of the tanks. On day while looking around Hobby Lobby, I found some clear plastic balls. This product is actually two half spheres that when pushed together form a complete sphere. Each half sphere has a lip, one even with the inside surface, one even with the outside surface, so that the halves can be combined to make a complete sphere. They come in several sizes. The $2\frac{3}{8}$ " outside diameter spheres were just about perfect for the bottoms of the Norry water tanks.

A second difficulty was construction of the tower legs. The flange section of each I-beam (see drawing) must face inward and rest against the circumference of the water tank. To address this issue, a jig (see drawing) for construction of the tower legs was made of Homasote®. A $2\frac{3}{8}$ " diameter circle was drawn on the Homasote and four holes were drilled at 90 degree angles around circumference to fix the I-beams in place in the correct orientation (the I-beam flange facing the center of the circle). The model was built as two separate assemblies: the tower structure and the tanks with the central supply/discharge pipe. The tank and central pipe are not attached to the tower. They fit between the legs of the tower when placed on the layout.

TOWER STRUCTURE

The tower is 48 scale feet high with a scale 12'-6" between each of the four legs. I used Plastruct $\frac{1}{8}$ " I beams for the legs, cutting four legs a scale 48' high. The horizontal braces are spaced 12 feet apart so each leg must be marked at 12, 24 and 36 scale feet. Cut twenty-four 1-foot pieces of Evergreen Scale Models (ESM) 4" x 6" strip styrene and glue a piece on each side of the web of each I-beam at the 3 levels to serve as vertical gusset plates to pick up the ends of the horizontal braces.

The horizontal braces were made from ESM 0.08" angle. The horizontal braces are each a scale 12'-6" long and the ends of each brace were cut diagonally (see photo) so that they would fit into the web of the I-beam, resting on the vertical gusset plates described above. Start the tower assembly by placing two legs in the jig so that the flange of the I-beam is facing toward the center of the circle. Glue the horizontal braces on the legs at the three marked levels, resting the corners of the braces on the gusset plates. Repeat this with the other set of legs. Once both sets are dry, place all four legs into the jig and finish gluing the horizontal braces in place, connecting all four legs. Let this dry for a day.



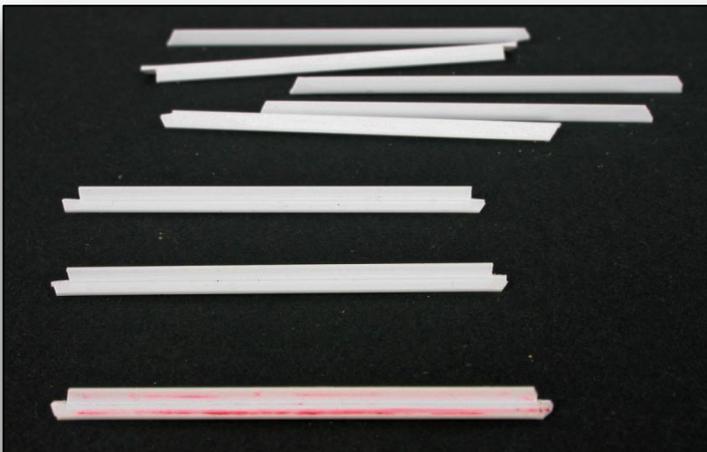
My drawing of the tower details.



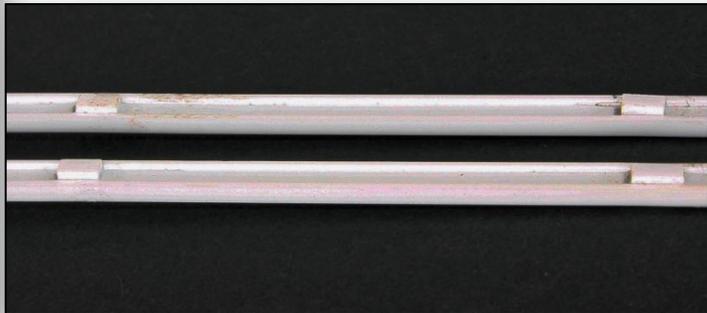
Hobby Lobby plastic balls for bottom of tanks.



Jig with two I beams positioned with I beam flange facing the tank.



Horizontal braces cut to shape



I beams with vertical gusset plates glued in place.

The next step is to install the wire cross bracing between sections of the horizontal bracing. Cut Detail Associates #2506, 0.019" brass wire into twenty-four 17 scale foot lengths. Using ACC, glue the cross braces in place.

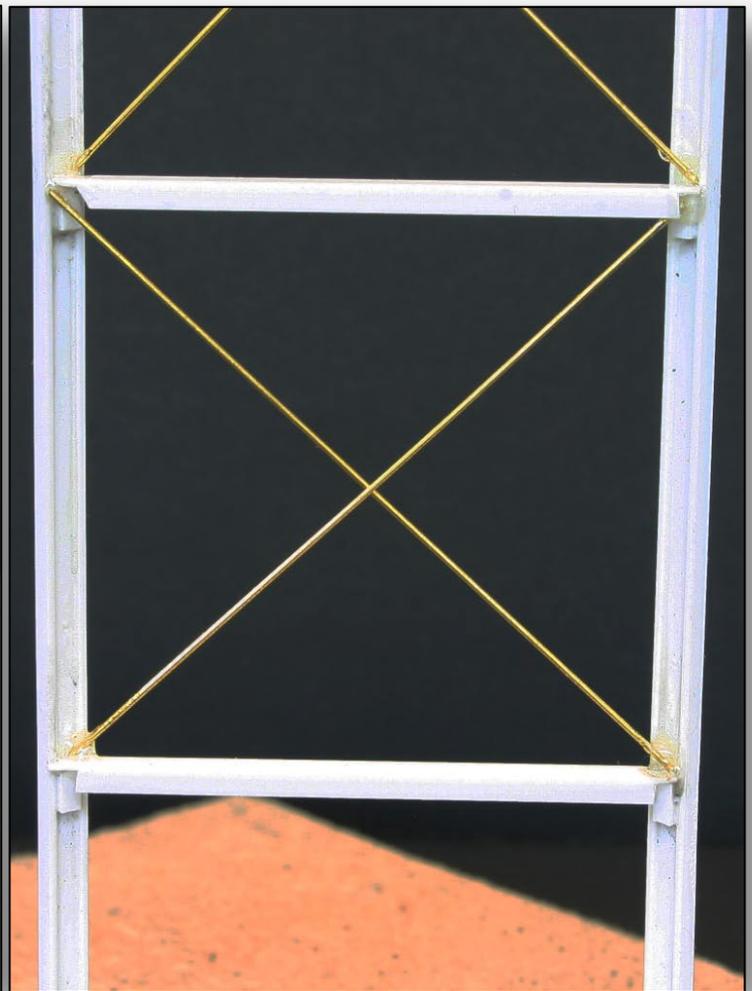
WATER TANKS

The bottoms of the water tanks are made from the plastic balls purchased at Hobby Lobby. Separate the two half spheres and use the half with the lip that is even with the inside surface. This will be the gluing surface for the upper cylindrical portion of the tank. Drill a hole in the bottom of the half sphere so that a section of $\frac{3}{8}$ " styrene tubing (supply/ discharge pipe) will fit into the bottom. Cut a piece of ESM .020" sheet styrene a scale 12" x 53'-9". Wrap this around a small

jar, slightly smaller than the diameter of the plastic ball, and let it sit overnight so that it can easily be formed into the cylinder. The next day, glue this to the lip on the ball and reinforce the junction on the inside with a short length of sheet styrene. The prototype tanks were riveted metal with three 4 foot high horizontal sections that were about 13'-6" in length. Draw pencil lines on the tank to represent the metal panels and to mark where the rivet decals will be placed. Next glue a strip of 4" x 6" strip styrene around the circumference of the junction of the two sections of the tank. You may have to trim some slots in this "tank ring" to accommodate the tower legs when test fitting the two assemblies together (see page 22, top right).



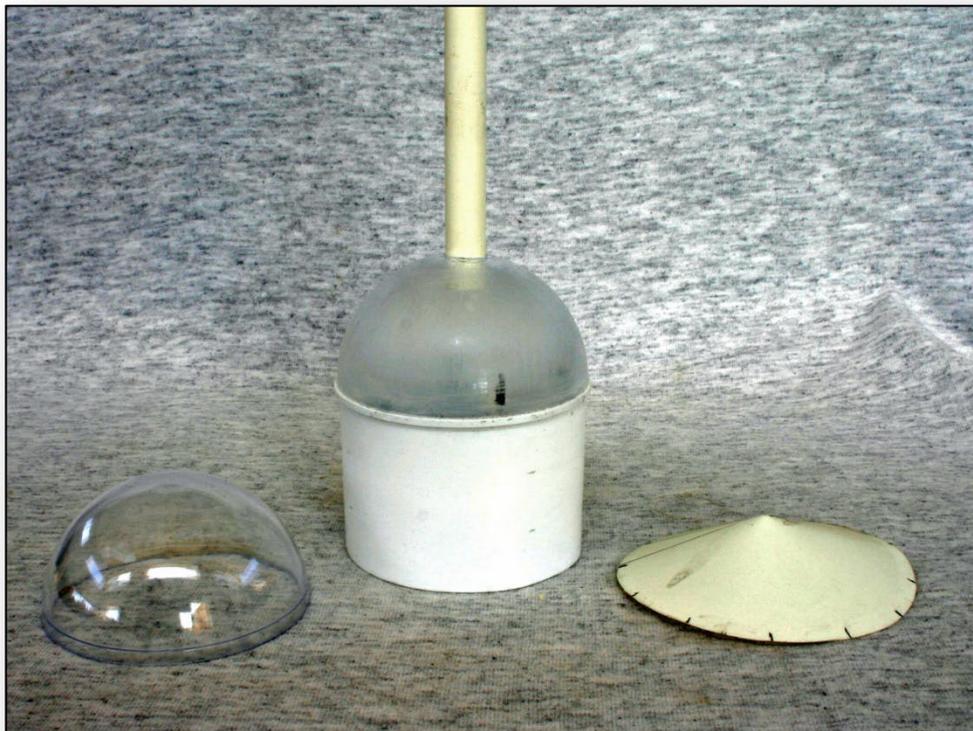
Lowest horizontal brace in place with I-beam in jig.



Cross braces.



Components of tank with tank on its side.



Components of tank with tank upside down.

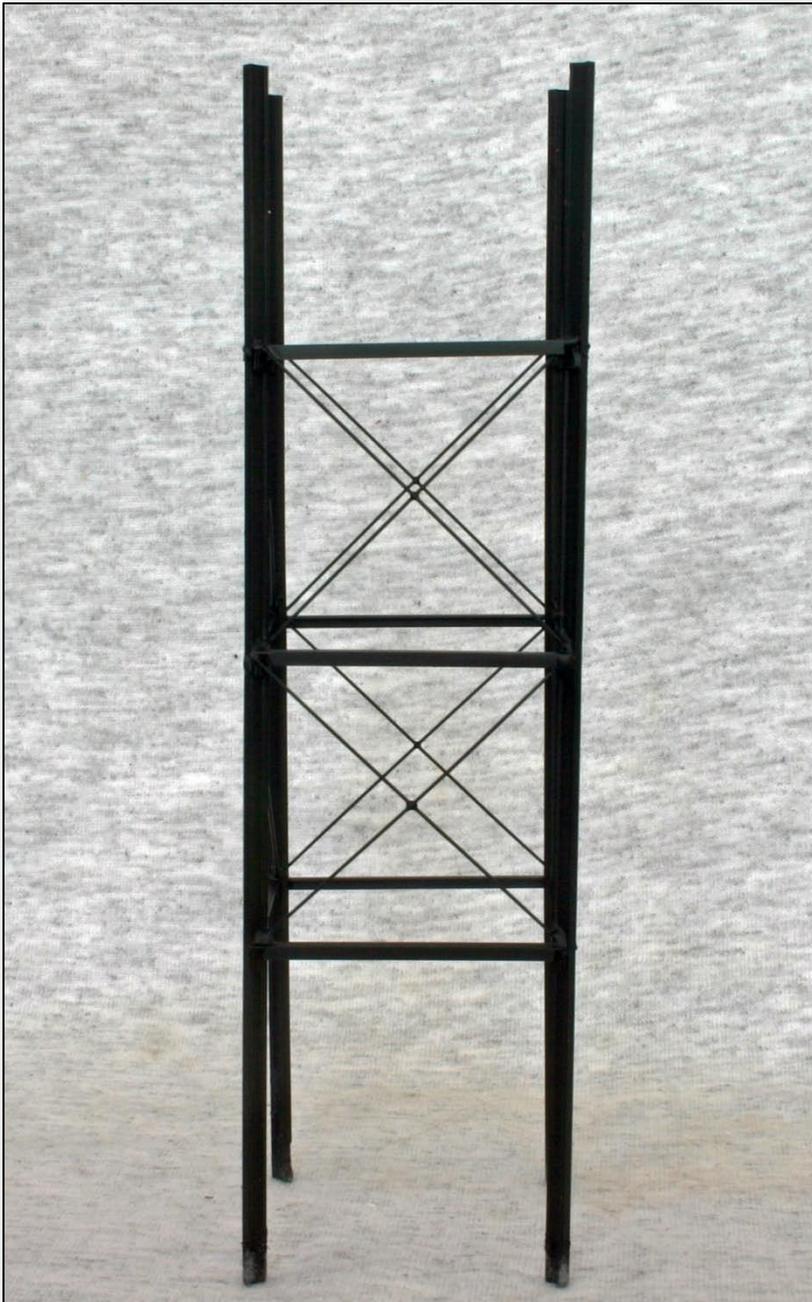


Assembled tank and central pipe with jig

The tank roof was constructed using .020" sheet styrene. Measure a scale 10'-6" radius circle and cut out the roof. Make a single cut from the perimeter to the center of the circle with a scissors. Pull this section over part of the circle so that it slightly overlaps and creates a cone (the roof is about 3 scale feet high) and glue the overlapped portions together (see drawing). Set the roof aside until the glue dries. The prototype roof was also made of riveted metal sections. Draw pencil lines on the roof from the perimeter to the peak. I made my roof 12 sections, however, 8 would be fine. A small hatch was constructed from .010" sheet styrene and .012" dia. brass wire. I placed the hatch on the opposite side from the over-

lapping sections of the roof. Secure the roof to the tank with ACC. The roof's overlap and tank junction sections were matched up so that they could be turned away from the front of the layout.

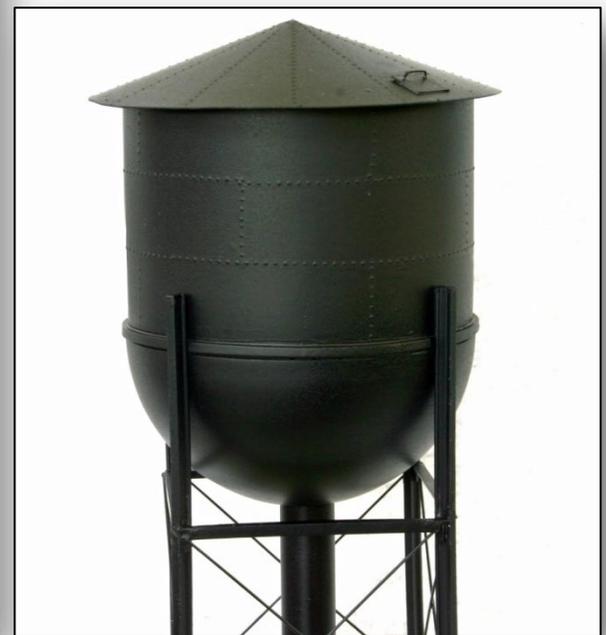
Cut a piece of $\frac{3}{8}$ " styrene tubing a scale 48' high and fit it into the bottom of the sphere portion of the tank, but do not glue it in place. With the tower assembly sitting in the jig, test fit the tank between the tower legs. The central pipe should slide into the center hole in the jig. The tank and central pipe do not rest on the tower, but actually fit within the tower and are supported by the central pipe. You may have to trim some small slots in the tank ring to get the tower legs to fit properly.



The completed tower.



The completed tank.



The completed tank inside the tower.

Once you are happy with the fit, separate the two assemblies. Apply the Micro Mark decals along the pencil lines on the tank and roof. Cut a length of $\frac{1}{16}$ " channel to represent the water level gauge and a length of Tichy ladder long enough to provide access to the roof. Paint the tower and tank assemblies and the two accessory parts flat black. Weather everything with artist's acrylic paints using burnt umber and burnt sienna to represent soot and rust.

Prepare the tower site by drilling holes for the tower legs and the central water supply/discharge pipe. These holes should be spaced exactly the same as those on the jig that was used to construct the tower. Fit the tower in place on the lay-

out. Then carefully slide the tank with the central pipe between the legs of the tower. Finally, attach the Tichy ladders to one of the tower legs leading up to the roof hatch and the water level gauge to the tank.

This was a relatively easy project and it provides one of the characteristic structures in the Northumberland yard. In addition to the water towers, I have scratch-built the concrete coaling tower, the yard master's office, and the Norry passenger station. I guess the next on the list should be the classic roundhouse.

Thanks to Jack Pehowic and Paul Noble for the prototype photos and to John Sutkus for technical advice.



▲ Site preparation on the layout. ▶ ▼ Finished models.



