Model Railroader MAGAZINE

PROTOTYPE INFORMATION • HOW-TO PROJECTS
A SUPPLEMENT TO MODEL RAILROADER MAGAZINE

Workshop tips

Servicing Steam

- Servicing steam locomotives step by step
- Kitbash a round concrete coaling tower
- Basic locomotive servicing on the prototype
- An easy-to-build 65-foot turntable

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Servicing STEAM

Modeling a locomotive terminal

By Dan Zugelter • Photos by Paul Dolkos

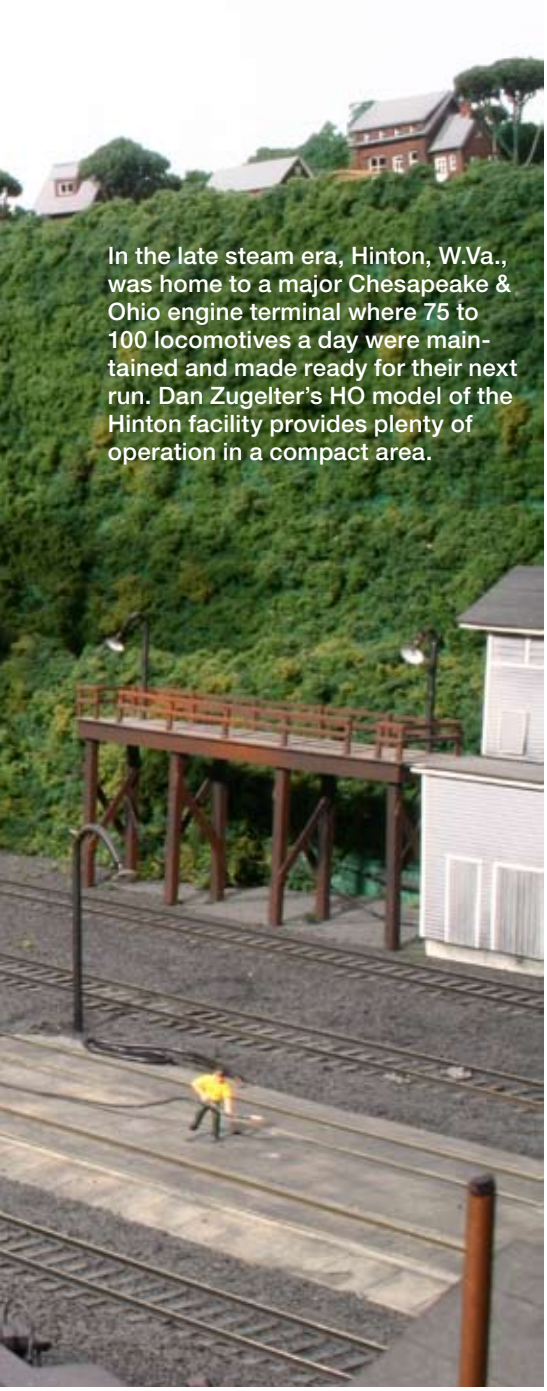
Steam locomotives were usually serviced every 100 to 150 miles, making engine terminals as much a part of the railroad scene as crossties and creosote. These terminals offer a variety of structures and operations, and they can be modeled in a compact space.

The prototype facility could be either small or very large. Chesapeake & Ohio's terminal at Hinton, W.Va., the prototype for my HO scale model, was a typical modern steam engine facility and a fairly busy one, maintaining 75 to 100 steam locomotives daily.

A wide variety of structure kits is available, but if you're following a prototype, you may need to do a little scratchbuilding. That's what I did, and I found the process fun and easy.

Modeling a different era or a more-modest operation is also simple. For instance, rather than having a water column or standpipe, an engine terminal from an earlier era might have a wooden tank with a spout. The concrete coaling tower could be replaced by a wooden one or an elevated ramp to make shoveling coal into the tender easier.

Let's follow no. 1540, a 2-8-8-2 simple articulated fresh off a run, while it's turned and made ready for the next assignment. We'll follow the order of servicing as it was done at Hinton.



In the late steam era, Hinton, W.Va., was home to a major Chesapeake & Ohio engine terminal where 75 to 100 locomotives a day were maintained and made ready for their next run. Dan Zugelter's HO model of the Hinton facility provides plenty of operation in a compact area.

1. Inspection, lubrication, and water

The 1540's first stop is the inspection pit. Here inspectors crawl over and under the locomotive looking for worn or broken parts. Steam locomotives throw grease over all their working parts, so the inspector's job is the dirtiest on the railroad.

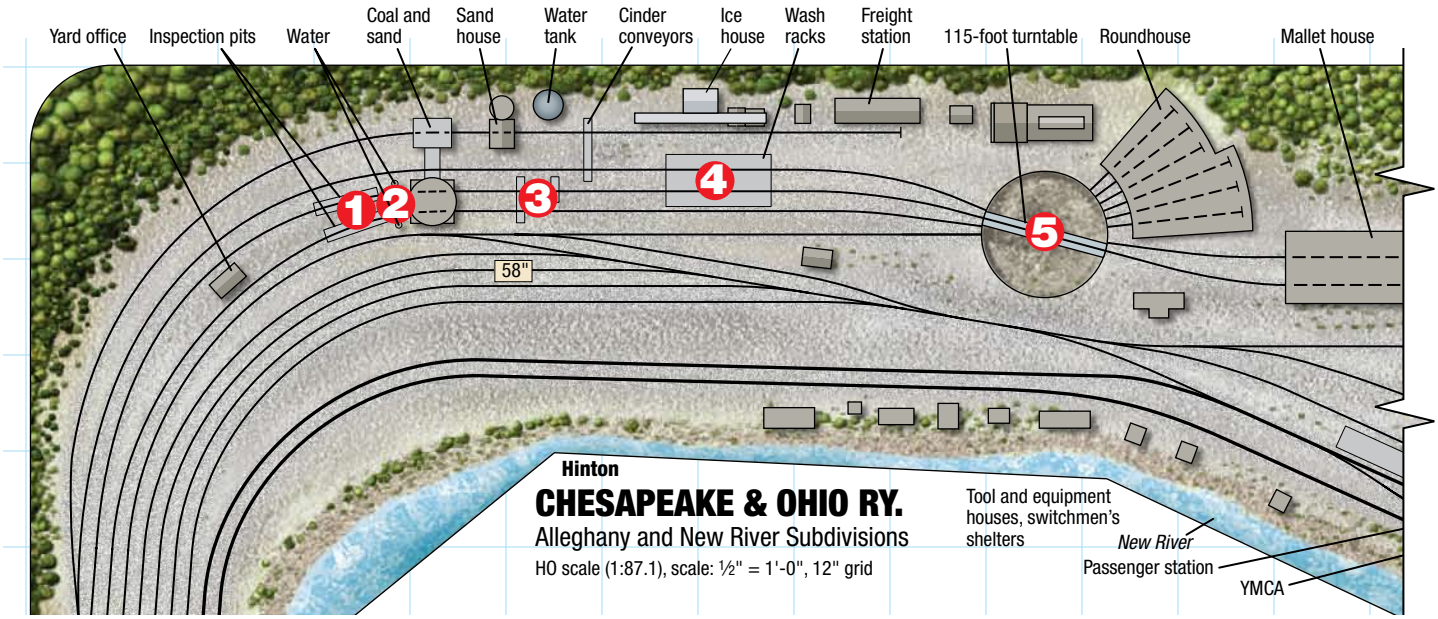
Outdoor inspection pits like the one at Hinton aren't universal;` often inspections are made inside the roundhouse. Because of the number of engines serviced at Hinton, outdoor pits take the pressure off the roundhouse. Minor repairs such as replacement of brake shoes or air hoses are handled at the pit. If the inspector discovers a larger problem, such as a broken spring, he fills out a report and sends it to the roundhouse by pneumatic tube.

Before leaving the pit, the 1540's lube oil reservoirs are topped off and its moving parts greased. The big articulated will then ease forward a short distance to be spotted under a water standpipe, the tip of which is visible under the coaling tower.

Standpipes deliver water where it's needed without taking up a lot of space. The water is piped from a large water storage tank located off to the side and out of the way – a fairly common practice for steam engine servicing.

2. Coal and sand

The Hinton coal tower was built by Fairbanks-Morse & Co. and serves four tracks – two under the tower and one track on either side. [Prototype drawings of the Hinton tower, including the prototype track arrangement, appeared in the September 1994 *MR. – Ed.*] Locomotives use sand sprayed on the rail just in front of the driving wheels when extra traction is needed. At Hinton, the rectangular sand storage bunkers are mounted on the east side of the coal tower. Sand is supplied from a nearby sand house using pipes and compressed air.



3. Firebox cleaning

With water, coal, and sand replenished, the 1540 moves over the ash pit to dump the thick layer of cinders and ash that have accumulated in its ashpan. A small railroad might have a simple pit between the rails and a worker to shovel the cinders into a wheelbarrow. This operation is mechanized at Hinton. Cinders fall into a cart located in a pit. This cart is hoisted from under the rails to above the adjoining track and emptied into a waiting hopper. The cinders and ash are used for trackside fill. Hinton has three cinder conveyors.

4. Wash and polish

After its ashpan is empty, the 1540 proceeds to the wash rack where two laborers, one on each side, hose down the engine with a hot, high-pressure mixture of water and detergent. The wash racks are equipped with six lights since this operation goes on day and night. The tank car at right holds detergent.

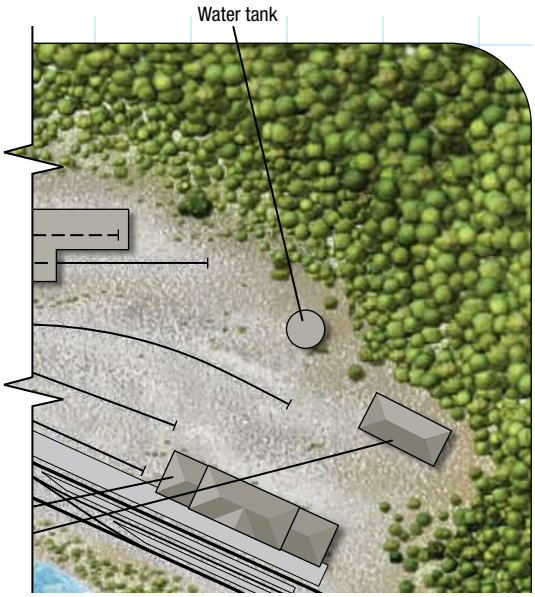


Illustration by Rick Johnson

5. Turning

After the 1540 has been washed, a hostler moves the locomotive across the turntable to the "Mallet house" (a separate building with extra-long stalls adjoining the older roundhouse). On the far side of the turntable is the engine supply house. Any major repairs to the 1540 will be made in the Mallet house. When it's next assigned to a train, the big articulated will move to Hinton's eastward or westward ready tracks.

Partial list of steam service suppliers (HO scale)

Ash hoists and ash pits
Durango Press 40
Faller 120221
Scale Structures Ltd. 1110
Walthers 3181

Concrete coal towers
Tichy Train Group 7010
Walthers, round bunker 3042
Walthers, square bunker 2903

Small coal tower
Durango Press 41
Faller 120131

Steel coal tower
Scale Structures Ltd. 1116

Sand houses
American Model Builders 162
JV Models 2008
Walthers 3182

Steel water tanks
Plastruct 1009
Rix Products 503
Scale Structures Ltd. 1424
Tichy Train Group 7012
Walthers 2832

Wood coal towers
Bachmann 45211
Campbell 357
Heljan 111
JV Models 2029
Life-Like 1377
Model Power 410

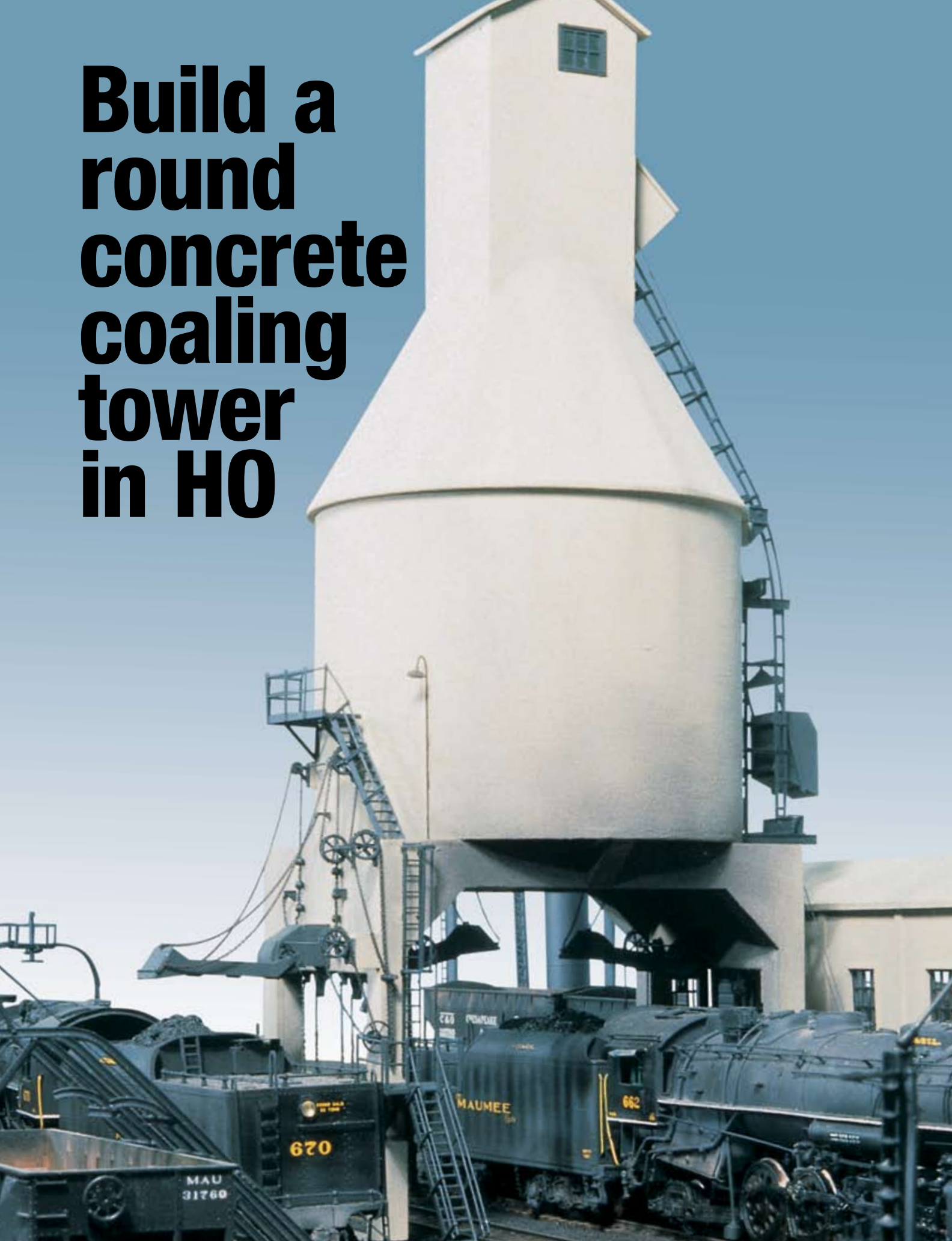
Water columns and stand pipes
Durango Press 27
Stewart Products 101

Wood water tanks
American Model Builders 154
Atlas 703
Bachmann 45153
Campbell, branchline 372
Campbell, northern-style 376
Campbell, square tank 421
Durango Press, standard 67
Durango Press, RGS-style 119
IHC, closed-top 47769
IHC, open-top 3512
JV Models 2013
Model Power 428
Scale Structures Ltd. 1443
Walthers 3531
Woodland Scenics 241

Oil columns
Creative Model Associates 1002

Oil tanks
Campbell Scale Models 405
JR Miniatures H1596
Plastruct 1015
Rix Products, large 504
Rix Products, small 503
Stewart Products 219
Tichy Train Group 7013

Build a round concrete coaling tower in HO



Combining the benefits of a model you can't buy with the great details from a Tichy kit

By Bill Darnaby • Photos by the author

The Tichy coal tower has been a great model for those of us who model big steam in HO, and I purchased one almost immediately after it came out. As time passed, however, I realized I prefer the round concrete towers that were very common in the Midwest.

When I started looking at the Tichy kit closely, the kitbashing possibilities became evident. I realized I could replace the rectangular bunker with a cylinder topped with a 60-degree cone without having to modify the position of the coal elevator.

Getting started

You can start the conversion without making a total commitment, and if you fail in making a satisfactory round bunker and top you can still bail out and build the kit as Tichy intended it.

I made my bunker 4½" in diameter because that's the outside diameter of 4" PVC pipe. For a smaller-diameter tower, just make the cylinder tall enough that the 60-degree cone falls in line with the bucket mechanism.

Start with a 25-scale-foot length of 4" PVC pipe. If cutting it yourself, try to measure from a factory-cut end, not one cut by the store, as these are usually square.

Sand the cut on a flat surface as necessary to make it square. Then set it on a piece of .080" styrene sheet and mark out a base, as shown in **fig. 1** on the next page. When you mate the disk with the tube you will likely find that the pipe isn't exactly round. That won't be a problem.

The tricky part is making the cone. See **fig. 2**. Start with a 34-scale-foot-radius semicircle. Use .040" styrene, even though it's a little more difficult to work with, as it will be stronger than thinner stock. If you have doubts, make a practice cone out of cardstock.

Once you've cut out the half-disk, scribe deep lines radiating from the center every 5 degrees. Also cut out a roughly 1"-diameter half circle from the center of the half disk to alleviate stress at the point of the cone as it's being formed.

Make shallow bends along the scribed lines with the smooth surface to the outside, gradually forming the cone. Holding a straightedge along the scribed lines will help you get enough leverage to bend the styrene.

Completing the cone

Draw a 34-foot-diameter circle on .040" styrene to make a base for the cone, but don't cut it out. Set the formed cone on the circle and apply liquid styrene cement. As this is setting apply solvent to the butt joint of the cone. I didn't, but it would probably be a good idea to make a lap joint by attaching a strip of styrene behind the seam. This should be done ahead of time so the strip is firmly fixed to one side of the joint before making the final bond.

This dramatic shot down the turntable bridge shows how the elevated track on the left is used for unloading coal hoppers inside the hoist house. The bucket hoist on the left side of the tower elevates the coal to the top and then dumps it into the bunker.

You may wish you had a couple of extra hands at this point. A useful fixture is any ring or tube you can slide down over the cone to force it round and hold the joint together as shown in **fig. 3**. Leave a weight on it and let it set overnight.

After the cone has set, cut out the base and clean it up with a file or sandpaper. Don't worry if your vertical seam isn't perfect as you can hide it under the bucket track.

The point of no return

If you are now confident of success, step beyond the point of no return by cutting the headhouse off the Tichy sides. Cement the four sides together, then cut 8-foot extensions from .080" styrene and attach them to the bottom as shown in **fig. 4**.

Author Bill Darnaby kitbashed this massive concrete coaling tower by combining a scratchbuilt round bunker with the dozens of beautiful detail parts from a Tichy kit.

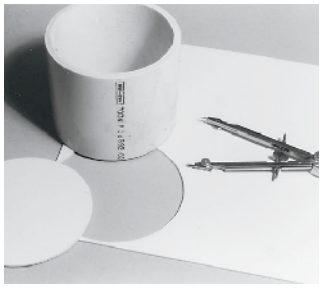


Fig. 1 The bunker. Bill cut a piece of 4" PVC pipe 25 scale feet long, then traced its outline on .080" styrene. He cut out the circular base, using a scriber in a drafting compass. Then he pivoted the compass around and around until the circle could be snapped out.

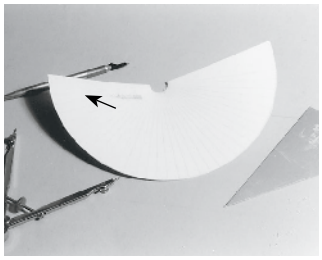


Fig. 2 Cutting out the cone. After laying out the cone on .040" styrene sheet, Bill scribed it from the center out at 5-degree intervals to make rolling it into shape easier. Here the cone is curled slightly. Lying flat it's a semicircle.

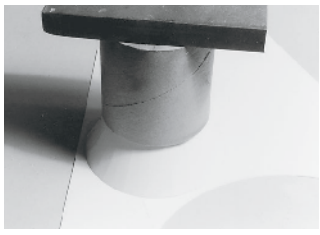


Fig. 3 Shaping the cone. Bill rolled the cone into shape, cemented it to sheet styrene, then used a length of mailing tube and a weight to help hold the shape until the cement dried.

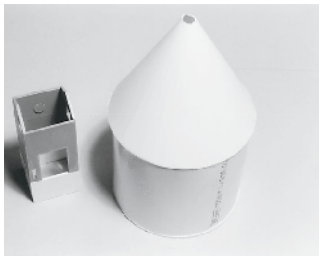


Fig. 4 Headhouse and cone. At right in the photo is the completed cone cemented to the tower. At left is the headhouse cut from the kit bunker walls. Bill extended the sides down with .080" styrene.

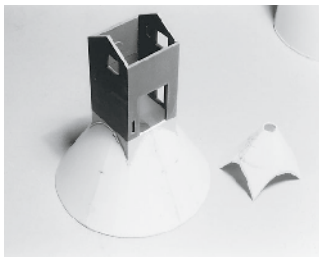


Fig. 5 Installing the cone. After cutting a square hole in the top of the cone, the headhouse was inserted and cemented in. At right is the top that was cut out of the cone.

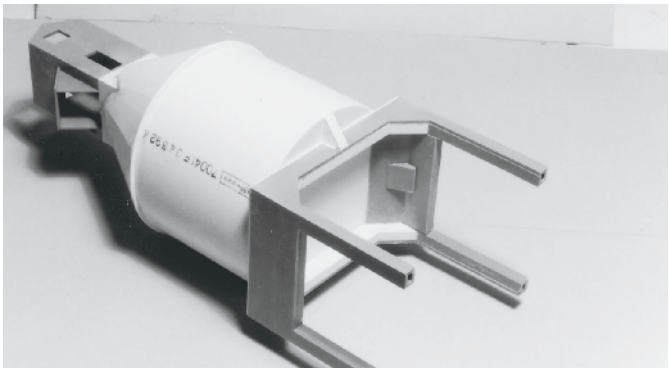


Fig. 6 Coming together. Here's the completed leg assembly cemented to the tower. Bill beefed up the beams spanning the tracks with styrene and added triangular braces under the tank overhangs.

Set the extended headhouse on the cone and mark where the sides intersect. If the headhouse is centered properly these marks will all be the same distance from the base of the cone. With a razor saw carefully make four vertical cuts to form a square hole in the top of the cone.

Insert the headhouse into the cone as shown in **fig. 5** and attach it with cement, making sure the headhouse is square with the cone base. To make it come out the right height, insert it until the top cone surfaces just touch the original headhouse sides. Don't be too concerned if you have gaps between the cone and headhouse as they can be filled and filed smooth. I used Dr. Microtools filler [Box 21585, Columbus, OH 043221; phone 614-771-6381].

The platform

While the top assembly is setting up, cut the legs from the kit tower sides. On the long sides make horizontal cuts 3 feet above the track opening to remove the legs. Cut the short sides to match. Assemble the pieces with the leg fillers per the original instructions to create a platform.

Complete the platform as seen in **fig. 6** by adding Evergreen styrene strip to simulate the heavy beams that span the tracks. Prototype towers sometimes had three sets of legs and beams. Combinations of .125" x .250" and .188"-square strip worked best in duplicating the cross sections of the original Tichy tower legs.

Add the slope sheets, cutting them down from the sheets in the kit. After you've done this, add the outlet pieces per the instructions where desired. Finally, make a top for the platform out of .040" styrene and cement it to the leg assembly. Once it's dry, file and sand the edges to blend it in with the original Tichy parts.

As shown in **fig. 6**, make gussets to support the cylinder where it extends over the platform by laminating three pieces of .080" styrene.

Paint the structure. I used Polly S 30372 gray, which is no longer made. [You might try Polly Scale 505210 Old Concrete. – *Ed.*]

If you are modeling the diesel era you can stop now as many of these relics of the steam age still stand, stripped of their steelwork, as they are so hard to tear down.

Adding the steelwork

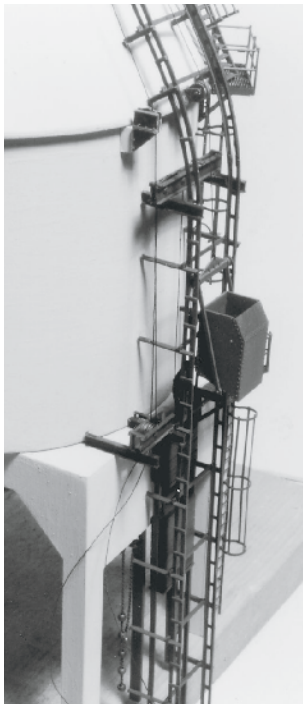
For those with active steam, now is the time to add the steelwork for a working tower. Essentially it's a matter of just adding the details per the Tichy instructions, although some improvisation is required. The photos of the finished tower and the shots in **fig. 7** should help. Most of the modifications involved making the ladders and platforms conform to the round shape. It's a matter of taking what Tichy gives you and attaching it in logical fashion so the various access points can be reached.

As my tower's diameter was slightly less than the width of the Tichy tower, I had to add extensions to some of the bucket rail legs so they would reach. These extensions can be made from the angle pieces provided on sprue B.

The only other alteration I made was extending the outboard coal chute by ¼" as my track spacing was 3" instead of 2¾". Adding all these details was enjoyable and reminded me of rigging the ship models I used to build as a kid.

Final installation

I deviated from the instructions and built the base permanently into my layout as shown in **fig. 8**. My layout's surface is foam board, so I carved away with a hot wire and knife and set the base in the foam so the tracks could lay across it.



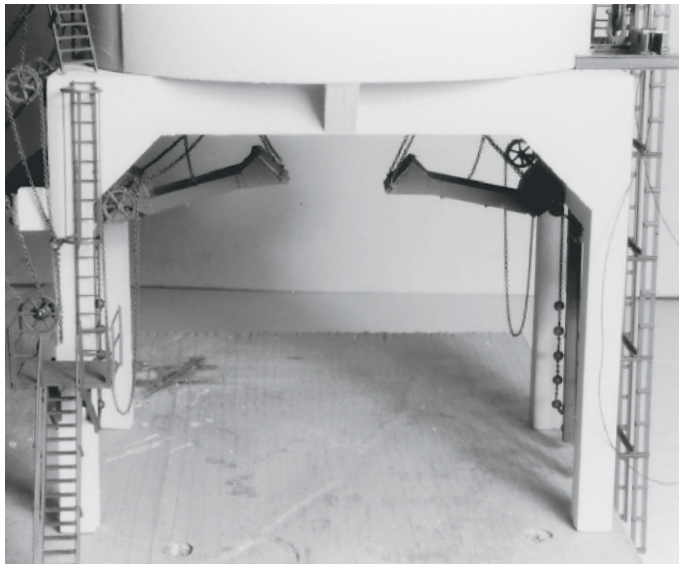


Fig. 7 Adding steelwork. These photos show the wealth of kit details the author added to the basic tower. For the most part, he simply followed the instructions provided with the Tichy kit, extending or adding braces as necessary to make the parts fit the round bunker.

To make maintenance and cleaning easier, I wanted the structures as well as the tower to be removable, which required that the hoist cabling be detachable from the hoist house. I accomplished this by tying off the ends of the cable at the tower instead of at the two pins on the hoist house and by looping the cable through the slot in the house and around the pins. This was done with the tower and house in position on the base so that the cabling would be tight.

To allow the hoist house to be removable, yet prevent cable tension from lifting it up, I made extensions for the house sides out of .080" styrene. These overlap the base on the inside so that the walls and base are interlocked. To remove the tower I simply take the roof off of the hoist house and unhook the cable.

I chose to leave the sand house and sanding apparatus off of the tower. I decided instead to use a larger separate sand storage and drying house in conjunction with a more modern sand tower.

All that remained was to lay the track as shown in **fig. 9** and finish the scenery. Don't forget to weather the tower with shades of diluted black to simulate the accumulation of years of smoke and coal dust.

Author Bill Darnaby has a flair for finding creative solutions to modeling challenges and has shared many of them over the past several years as he continues building his HO Maumee Route. He has an article in the current issue of How to Build Realistic Layouts: Freight Yards *(Kalmbach).*

Fig. 8 Site preparation. Bill uses foam board construction throughout the layout. Using this material makes it easy to carve out cavities to accept the kit base.

Fig. 9 Base. Here's the base worked into the layout and track laid. Bill made the tower and all the other structures so they could be lifted away to make layout cleaning easier.

Steam service on a budget

Necessary equipment and structures were few

The coal-burning locomotives assigned to this small roundhouse were fueled by a simple conveyer supplied from a one-car pit. This photo was probably taken in the early 1950s.

By Carl Swanson • Photo by Linn H. Westcott

Who says steam-servicing facilities have to be elaborate? After all, railroad managers like things that are simple, durable, and above all cheap. They're also willing to live with antiquated, shabby, and run-down buildings – especially if the railroad can't afford better or if the buildings are at the far end of an unprofitable branch line.

That's why you find a lot of places that look like this one photographed in the early 1950s by the late Linn Westcott, then editorial director of *Model Railroader*. Linn didn't label his slides, so we don't know very much about this scene. I like to imagine Linn thinking "I could model this!" as he took the picture.

There are many interesting details in this quiet scene. The hopper at left is positioned over a pit. An electric motor in the shed transfers coal from the pit to a locomotive tender via the conveyor. A geared mechanism on the conveyor's support legs raises or lowers the conveyor, and a pivoting chute at the conveyer's outlet directs the flow of coal.

Look closer and you'll see a wheelbarrow, a square pit in the track that leads to the roundhouse, and a coiled hose on the railing behind the triangular shed. Like a jigsaw puzzle, the picture becomes clear when you put the pieces together.

Locomotives coming off a run would be spotted over the pit and the fire dumped. The hose was used to wash the remaining cinders and clinkers from the ash pan. Using the last gasp of steam in the boiler, the locomotive would head for the roundhouse. After the ashes had cooled a bit, a shop worker had the joyless task of shoveling out the pit and hauling away the cinders in the wheelbarrow.

What else does this picture tell us? The small shed partially visible at the extreme right edge of the photo is almost certainly the sand house. There's a considerable amount of spilled sand on the ground in front of this building, as well as a very simple wood platform equipped with a set of stairs. Locomotives are spotted alongside, and a worker climbs up with a bucket (or possibly this railroad purchased bagged sand) to fill the engine's sand dome.

The roundhouse has three stalls but no turntable. The two stalls at left are served by a standard turnout; a stub turnout is used to reach the stall at right. With no way to turn locomotives here, we suspect that a wye is nearby.

A small lean-to is on the left wall of the roundhouse. It may be a locker room or possibly an office. It's not very fancy, but at least it's heated. It has a stove chimney that extends from its roof to well above the roofline of the adjoining roundhouse.

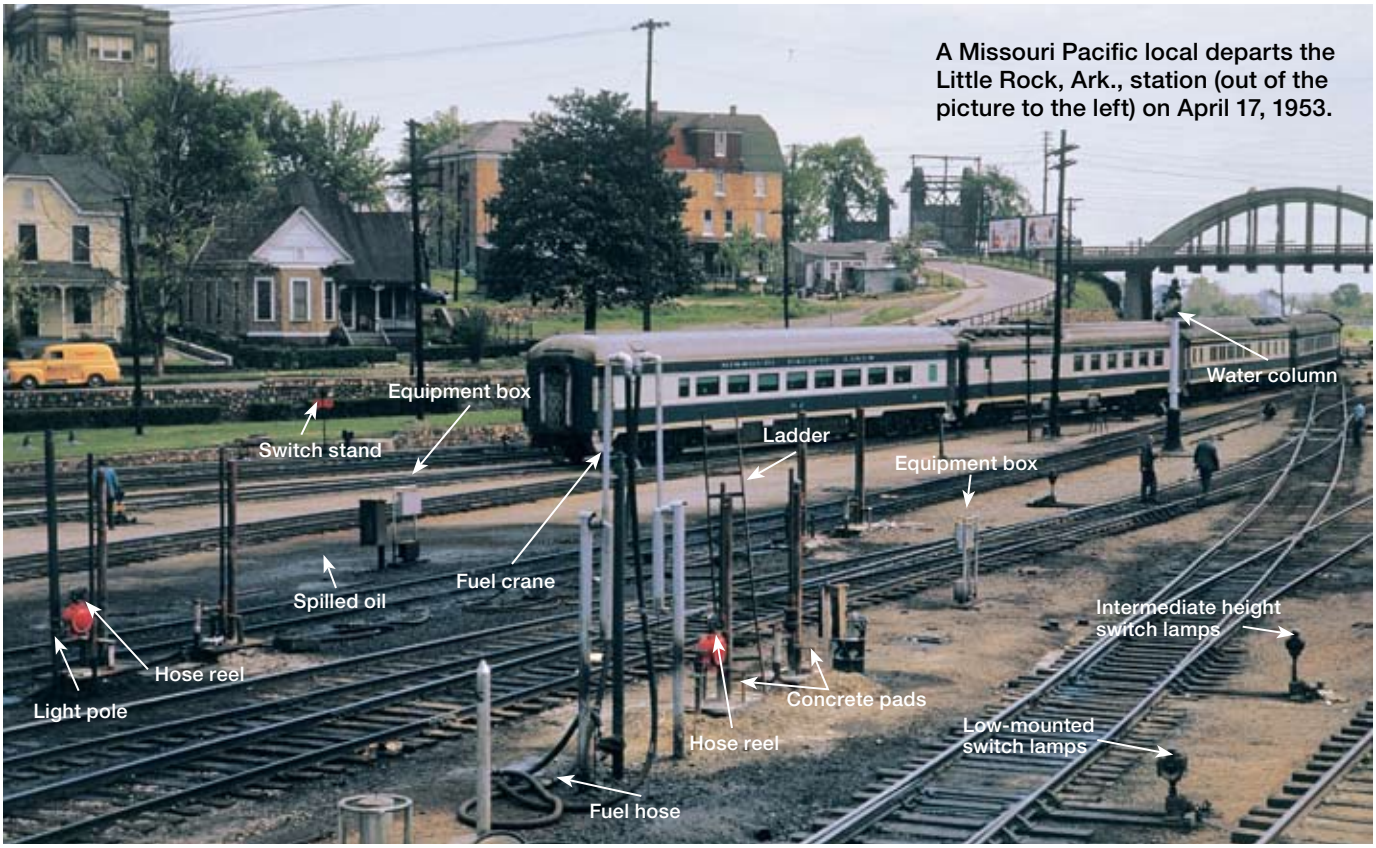
Also worth modeling is the spilled coal under the conveyor and the utility line that supplies power to the conveyor and three-stall roundhouse beyond.

Of course, steam locomotives need water – and lots of it. A hard-working engine can evaporate more than a thousand gallons each hour. A standpipe or water tower is not shown in the photo, but one must be nearby.

The conveyor shed is painted boxcar red, which has faded to the point that the wood grain shows through. The same color is used on the sand house and on one x-braced door panel on the right-hand stall.

It's more difficult to determine the color of the roundhouse. It appears to be a rich, warm brown with many slightly darker patches. It very much resembles heavily weathered unpainted wood.

This budget steam servicing area is rich in story-telling detail, and the entire scene can be modeled in a corner of the layout.



A Missouri Pacific local departs the Little Rock, Ark., station (out of the picture to the left) on April 17, 1953.

A simple transition-era servicing facility

Diesels were common, but steam was still around

By Carl Swanson
Photo by Linn H. Westcott

Want to add a basic locomotive servicing area but don't have room for the turntable, roundhouse, and other shop and warehouse buildings typical of a large facility? As this 1953 photo of a Missouri Pacific RR fueling facility in Little Rock, Ark., shows, a no-frills fueling area can easily be modeled in limited space.

At first glance, the Little Rock passenger station seems like an odd place to refuel locomotives. After all, Missouri Pacific's massive North Little Rock yard, roundhouse, and shop complex is just across the river. But this rudimentary facility makes perfect sense. Little Rock was a central location on the 11,547-mile MP system. Passenger locomotives arriving from distant points could be refueled, the steam generators used for train heating could be topped off, and the train was able to quickly resume its journey without a time-consuming detour through the congested yard and shop tracks.

When this photo was taken, steam locomotives were still active on the MP (the last was retired in 1955). The presence of the water column is a reminder that working steam locomotives required immense quantities of water. Railroads had good reason to be lavish in placing stand-pipes or tanks at convenient points.

Other photos in the Kalmbach collection show that the Little Rock station platforms were to the left of the photographer. To his right were a pair of large horizontal oil tanks flanking a modest wood-frame building that almost certainly housed fuel pumps.

Modeling this scene wouldn't be difficult. The fuel cranes were scratchbuilt from styrene and brass shapes, and convincing hoses can be made from appropriately sized insulated electrical wire. Several companies offer switch stands and water columns.

Details are important. If we didn't know this photo was taken in the early 1950s, we'd still be able to guess. That eye-catching bright yellow panel truck dates the scene nicely, and there are many other reminders of the past as well. For example, railroads were once more labor-intensive than they are today, and there are no less than four yard workers visible here. Don't forget to add a few employees if you're modeling the steam and early diesel era!

The kerosene switch lamps also speak of an earlier era in railroading, as does the oil-soaked ground. Federal spill prevention and containment regulations are a long way in the future.

Those low stone retaining walls and that swath of bright-green grass that separate the railroad from the residential street would be interesting touches on a layout. The arched road bridge and elevated street is a tailor-made view block – particularly if it was specifically located there to hide a sharp turn. The railroad does curve sharply here in order to cross the Arkansas River (the lift bridge towers are visible above the road).

Paying attention to the details unlocks the modeling potential in this simple fueling area.

This 65-foot turntable is perfect for a compact layout that features small steam locomotives.

Build a turntable

An Atlas HO turntable provides a reliable indexing mechanism

By Bob Foltz • Photos by the author

When it came time to install a turntable on my narrow gauge line, I went looking for a low-cost option. The Atlas HO turntable immediately came to mind because it's inexpensive and very reliable. It's about 65 scale feet long (9"), making it perfect for the Denver & Rio Grande Western Mikados I plan to operate. This size will also handle small standard gauge steam and four-axle diesel locomotives.

My turntable was going to be located fairly high and at the rear of a scene, so it didn't have to be fancy. The automatic indexing is handy since visual alignment is difficult at this location.

Appearance factors

My initial problem was figuring out how to add a pit and girders beneath the bridge to make the flat Atlas turntable look more realistic. The girders from a Micro Engineering standard gauge 30-foot bridge looked great, and their height matched the thickness of my yard's ½" plywood base.

I used the thickness of the plywood to simulate the pit wall and installed the Atlas turntable as the pit bottom. A pair of girders are mounted on the bottom to simulate the turntable bridge. By keeping the pit floor very plain, most visitors don't notice that it also turns as the turntable bridge rotates.

Fitting the base

My first step was to disassemble the turntable and sand off the molded details. Then I soldered a short wire to each of the original rails as shown in **fig. 1**. These leads power the narrow gauge bridge rails, allowing me to take advantage of the turntable's automatic polarity reversing.

I cut a rectangle to contain the turntable out of the yard base so I could do most of the construction at my workbench. See **fig. 1**. Next, I carefully cut a circular hole which matches the diameter of the rotating base and a rectangular hole to clear the mechanism.

The mechanism is concealed by a removable shed so I have access if the drive belt must be replaced. I also used this shed as a view block to help conceal the movement of the pit floor.

The extension between the mechanism and the turntable has a raised area which kept the plastic base from fitting flush against the plywood. I chiseled away a layer of wood to provide clearance so the turntable rested flat against the plywood as shown in **fig. 2.**

The Atlas model has notches cast into the ring around the turntable to position the lead tracks. I laminated styrene strips to fill these notches and then spray-painted the visible parts with Polly Scale Aged Concrete.

Two of the kit's original mounting holes are in the mechanism area and

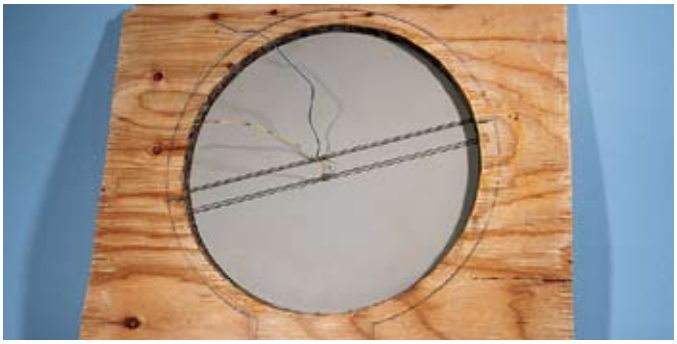


Fig. 1 Turntable assembly. Bob cut a circular opening into the center of a piece of ½" plywood for the new turntable pit. He soldered wire leads to the original rails to carry current up and into the new bridge track.

Fig. 2 Turntable mounting. This upside-down view shows the Atlas turntable mounted to the plywood base. One layer of the plywood was removed to clear the raised outer ring around the original turntable.

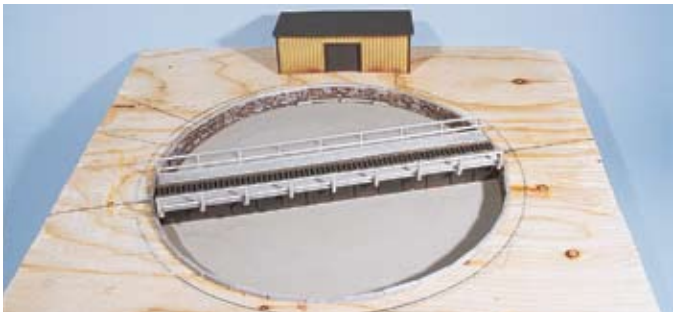


Fig. 3 Topside details. A retaining wall lines the pit, and its top edge is concealed with 8 x 8 timbers. The small shed at the edge of the turntable hides the mechanism.

Fig. 4 Walkways and railings. Bob scratchbuilt all of the walkways and safety railings on and around his turntable from prestained stripwood.

therefore cannot be used, so I drilled two new mounting holes through the ring and then attached the turntable from below. A scratchbuilt shed covers the mechanism.

I used Vollmer embossed stone paper, toned down a bit with weathering chalks, to simulate the masonry pit wall. Plain styrene could also be used to simulate a concrete wall. Then I framed the pit with scale 8" x 8" timbers to hide the thin edge of the wall.

Bridge construction

It took a pair of Micro Engineering bridge kits to get enough components for my turntable bridge. I spray-painted it black and weathered it with rust and grime as shown in **fig. 3**.

The Atlas turntable has a screw at its exact center. I used this screw as a guide to carefully cement the bridge in place. Two pieces of Micro Engineering HOn3 bridge track were needed to span the turntable. (One length will do for a standard gauge turntable.) I cut them to length and painted and weathered these pieces before cementing them on top of the bridge.

The alignment of this track is very important as it must be centered in both directions over the original track; otherwise the rails will not align with the lead tracks. Then I soldered the wire leads to the rails.

Materials list

Atlas
210 HO turntable
304 motorizing kit

Evergreen styrene
146 .040" x .125" (HO 3 x 10) strip
175 .100" square (HO 8 x 8) strip
8206 2 x 6 strip
8606 6 x 6 strip

Floquil Polly Scale paint
414113 Reefer White
414290 Engine Black
414320 Aged Concrete

Kappler Lumber
216 2 x 6 stripwood
233 3 x 10 stripwood
249 6 x 6 stripwood
259 8 x 8 stripwood

Micro Engineering
11101 HO code 83 bridge track (1 pc.)*
11102 HOn3 code 55 bridge track (2 pc.)
11103 HO code 70 bridge track (1 pc.)*
75502 deck girder bridge kit (2 required)
*Standard gauge turntable requires one piece of no. 11101 or no. 11103 track.

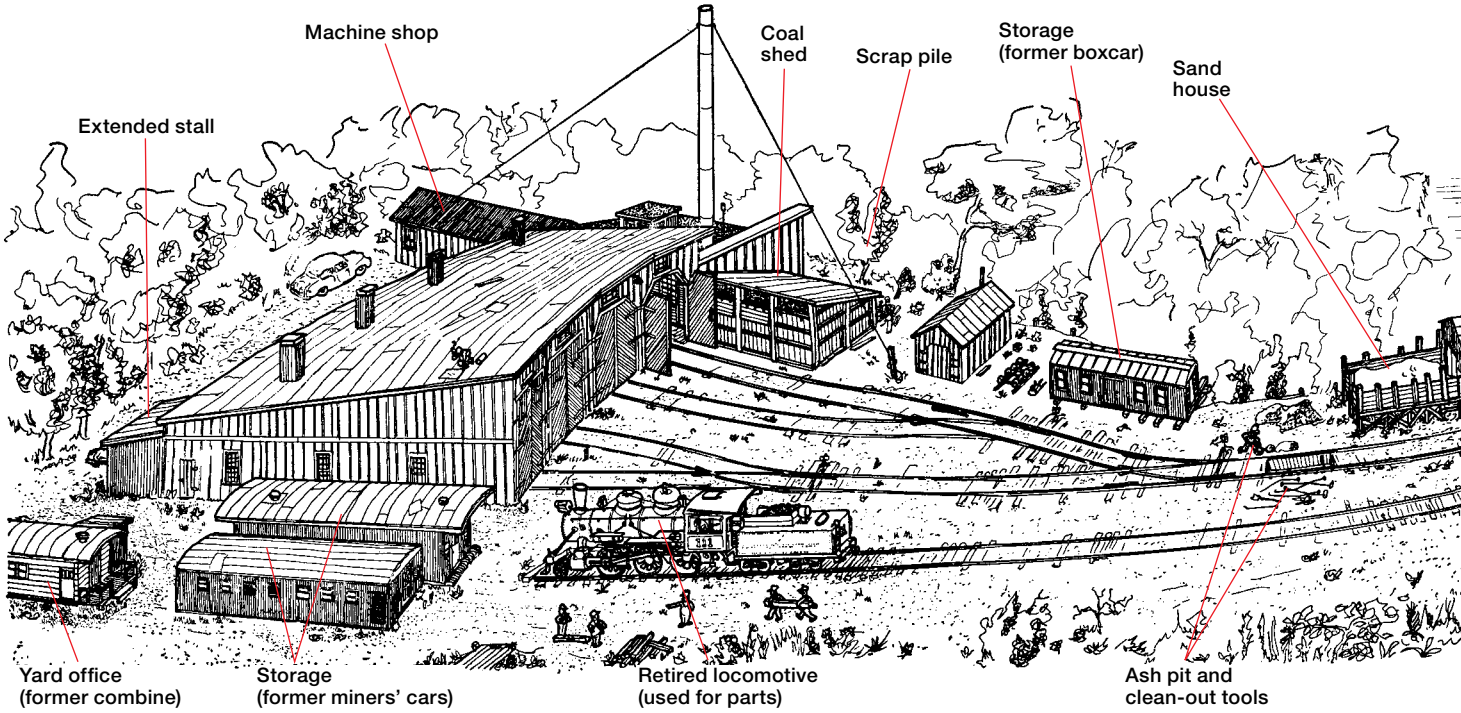
Vollmer
7369 embossed stone sheet

The walkways and railings, shown in **figs. 3 and 4**, are made of prestained stripwood, but strip styrene could also be used. These walkways are supported by doubled scale 2 x 6s which extend across the bridge girders.

I cut them extra long so the vertical posts could be attached before I trimmed them. The walkways on the turntable have scale 3 x 10 planking with staggered joints, while the railings have 6 x 6 posts and 2 x 6 runners.

I installed the turntable in the yard and wired it according to the instructions. Once I laid the lead tracks and added ballast, my narrow gauge turntable was ready for years of service.

Bob Foltz is a retired U. S. Army officer who's active in the National Model Railroad Association and the Santa Fe Ry. Historical and Modeling Society. His wife, Linda, and son, Brian, are also accomplished modelers.



A shortline steam shop and servicing area

This complete enginehouse and refueling station fits in a limited space

By Carl Swanson • Photos by Linn H. Westcott

The Bevier & Southern's compact steam locomotive terminal, detailed in this illustration from the October 1958 issue of *Model Railroader*, proves it's possible to have a complete servicing area in a limited amount of space.

The B&S was a coal-hauling short line in north-central Missouri. It linked the Chicago, Burlington & Quincy RR with a surface mine 14 miles to the south. Because the railroad hauled coal for a living, its owner felt it should also burn coal in its engines. Steam survived here into the early 1960s.

When MR visited in 1958, the B&S was using three 2-6-0s of its own and a leased CB&Q 2-8-2. The Mikado was a step up for the B&S, and two stall doors were enlarged for the bigger engine. A wooden extension was also added to one stall of the vertically sheathed board-and-batten enginehouse.

A fourth Mogul, badly in need of flue work, rested outside the enginehouse in 1958. It was slowly cannibalized for parts to keep the remaining 2-6-0s running.

The B&S engine terminal had everything needed to maintain steam locomotives, including a fully equipped

Located in north-central Missouri, the Bevier & Southern's compact enginehouse (at left) was the home of four steam locomotives when these photos were taken in the summer of 1958. The thrifty short line converted retired railroad cars (above) into storage and office space.

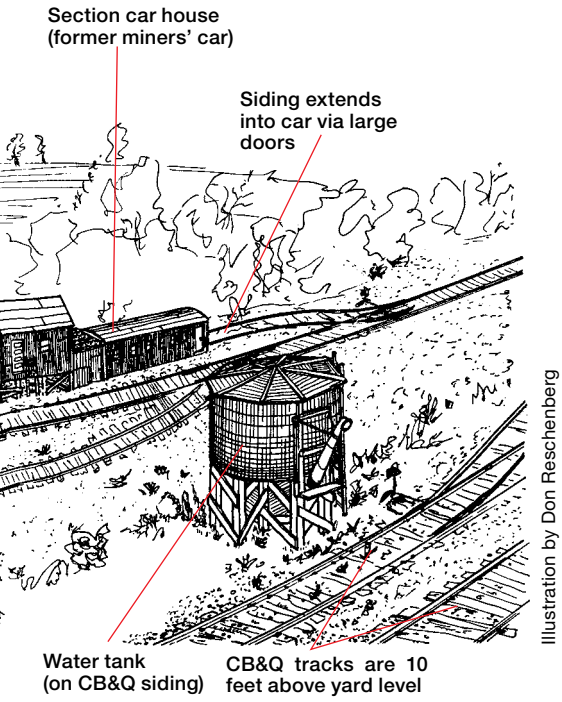


Illustration by Don Reschenberg

machine shop powered by a stationary boiler. The railroad's machinists could fix nearly anything. They even fabricated their own parts when spares could not be found. As late as 1961, the railroad maintained three steam locomotives in serviceable condition.

The steam engines were often busy. In a peak month, the B&S could deliver as many as 1,500 coal hoppers and gondolas to the CB&Q interchange.

A sand house and a wooden water tank supplied the locomotives. A small amount of coal was kept on hand at Bevier, but the locomotives were generally fueled at the coal mine's tipple, with the railroad billed accordingly.

The B&S once operated two daily passenger trains consisting of a few roughly built "miners' cars" and a combine (built by American Car & Foundry in 1915).

Short lines would rather re-use something old than buy something new, and the B&S was no exception. The combine became the railroad's headquarters. Other retired cars were used for storage.

The railroad once had a turntable, but it was destroyed by a fire in the early years of the 20th century. Although a wye track was located west of Bevier, B&S locomotives generally operated in reverse on their way to the mine.

The B&S dieselized in the early 1960s and was abandoned in the '80s. But in 1958 the B&S provided a remarkable example of a shortline steam locomotive terminal.