

Toy train scenery





Build a 'hidden corner'

Re-creating a scene from Lionel's postwar display layout

story and photos by Stan Trzoniec

LIONEL'S 1950S DISPLAY LAYOUT in New York City left an impression on me that has lasted a lifetime. To this day, many of this O gauge layout's fine details and small scenes are etched in my memory from one three-hour visit decades ago.

One scene could have easily been overlooked. On the far corner of the layout was a scene that combined a suburban setting with a pedestrian overpass – it reminded me of the busy commuter stations near my home in New Jersey.

Complete with a Lionel no. 132 station, it had tracks that swept out in a wide arc. Farther down the tracks, trains would slip beneath the main surface of the layout only to briefly reappear at a below-grade station before turning back to climb to the main level of the layout.

When I began building my layout, which is based on the famous showroom layout, I still had an image of this "hidden corner" in mind. Clearly, I had to adapt the corner into my plans.

Cornering an idea

My hidden corner has one track that descends to a lower level and then emerges from a tunnel portal to make a sweeping 90-degree curve before climbing back to the main level of my layout (**photo 1**).

I added a siding along the curve for an extra train (a four-car string of Lionel Pennsylvania MU cars) to serve rush-hour commuters. Of course, I wanted to leave room for that famous no. 132 station. This part of my layout also features hand-built catenary (as described in CTT's February 2004 issue).

Since my layout's lower level is about 11 inches below the upper main line, it took me some time to develop a scenery plan that would blend the lower level with the rest of my layout.

I decided to conceal part of the added-on siding, hiding it behind a wall that features Scenic Express' Pennsy cut-block tunnel portals. Adding a side curtain to the fascia of my layout later would make the double-deck effect blend in and look truly professional.

The back wall separating the corner from the main surface of my layout offered many different scenery possibilities. I decided a vertical wall, with a flat facade, would work best. Somewhere along this wall I wanted another tunnel portal, this time for automobiles. A Chooch HO tunnel portal seemed perfect for my O gauge vehicles.

With this plan in mind and the track in place, I loosely positioned all the structures and scenery components to see where they'd fit best. Now I was ready to build scenery to blend the corner with the main level of my layout.

Blending two layers

At first I considered using Scenic Express' Pennsy FlexiWall stone block walls to visually join the upper and lower levels together. These plastic-foam walls can be bent to follow a contour. Ultimately I decided on a less man-made appearance, but I found these flexible walls worked nicely as tunnel liners (**photo 2**) and as bits of retaining wall used elsewhere in my corner scene. I glued these interior walls, plus the portals and larger retaining walls, in place with Liquid Nails.

For the back wall of my corner scene, I needed another stony substitute. I chose plaster and cardboard strips.

To create a support structure, I stapled together a web of 1-inch-wide cardboard strips, covering the open space between the upper and lower levels of benchwork (**photo 3**). I also added some cardboard strips to the backside of the



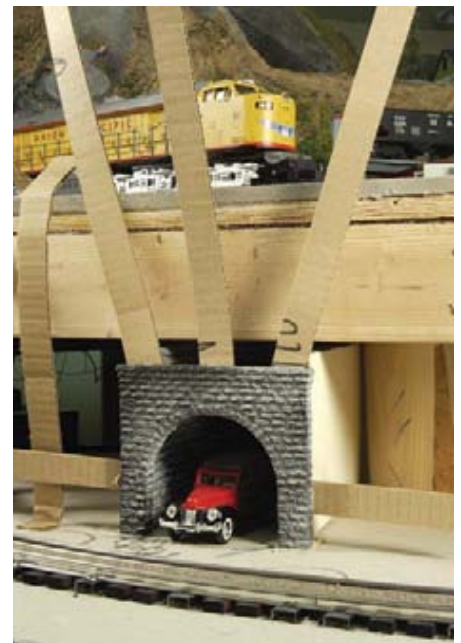
▲ 1. This is how Stan's hidden corner scene looked before scenery was added. The station area calls to mind a similar scene from Lionel's 1949-57 New York City show-room layout. Stan adjusted the scenery and added handmade catenary to match other parts of his layout.



▲ 2. To break up the vertical wall separating the corner scene from the rest of his layout, Stan installed a car tunnel using an HO scale tunnel portal and flexible stone-block foam walls. The foam walls, used to line the interior of the tunnel, give it depth.



▲ 3. Stan created a web of 1-inch-wide cardboard strips as the structural base for his plaster scenery. The short retaining wall pieces are made from the same flexible material as his tunnel liners.



▲ 4. Stan glued cardboard strips to the back of the tunnel portals to allow plaster wrap to join the portal stonework.



▲ 5. Once the cardboard webs were secured on the hillside, Stan covered the cardboard strips with plaster wrap, poking and prodding the wet wrap to create a rougher surface that mimics excavated rock. Most of the holes in the gauze-like material disappeared under a coating of Gypsolite that was applied later.



▲ 6. Stan ran the plaster wrap right up to the edges of the portals and the retaining walls as a means of blending the scenery materials.

portals so they could later be blended into the adjacent scenery (photo 4).

I used plaster wrap (a gauze-like fabric impregnated with plaster) and Gypsolite (a lightweight plaster) to create the shell. I simply cut the plaster wrap into 4-inch strips, soaked the strips in warm water, and applied them over the cardboard. By poking and prodding the still-wet material in places as I applied it, I created surface imperfections to mimic excavated stone (photos 5 and 6).

Next, I added a coating of Gypsolite

to enhance the appearance and strength of the shell.

After allowing the plaster to dry for several days, I coated it with slate gray acrylic stain from Woodland Scenics' earth color liquid pigments line, applied with a spray bottle (photo 7). First I evenly applied a base coat; then an hour later I added an extra coat or two near the tracks to simulate weathering from train traffic.

I allowed the stain to dry for a few days, and then I touched up the high

spots along the walls with some earth brown latex paint, using an almost dry brush with each pass. (My mixture, which I selected from a paint strip at Home Depot, is called San Andreas Brown, but you don't need to match my color exactly.)

When the paint and stain were dry, I added various ground covers using matte medium as an adhesive. I used Woodland Scenics ground foams (weeds, green blend, and earth colors) plus some Scenic Express Flock and Turf

Bill of materials

Stan used these materials to build his corner scene. Brand-name products are listed, when applicable.

Chooch HO tunnel portal
Gypsolite
Latex paint (earth brown)
Liquid Nails
Matte medium
N scale cork roadbed
Plaster wrap
Scenic Express Flock and Turf ground cover (summer lawn)
Scenic Express Pennsy FlexiWalls stone-cut walls
Scenic Express Pennsy O gauge tunnel portals (3)
Wood strips (3/4-inch- and 1/4-inch-wide)
Woodland Scenics coarse ballast (brown and gray)
Woodland Scenics earth color liquid pigments (slate gray)
Woodland Scenics ground foams (various colors)
Woodland Scenics trees and lichen



▲ 7. After applying Gypsolite on top of the plaster wrap, Stan created a rocky appearance by spraying a base coating of Woodland Scenics slate gray stain to the surface. He used a clean quart bottle and a spray attachment from a weed killer kit.



▲ 8. For added realism, Stan applied stain inside the tunnel opening and added bits of lichen to cover the seams between the retaining walls and portal.

(summer lawn color). I also added some cinder material to give added depth to spots and then glued on trees and lichen to give more life to the horizontal surfaces atop the rocky wall and to hide any seams on the vertical surfaces (**photo 8**).

Building a station platform

My desire to include a no. 132 station in my corner scene involved more than merely setting the structure in place. I wanted a convincing station platform, like commuters might see along a busy



▲ 9. For the station platform, Stan used wood forms on both sides of the track, gluing them to the ties under the track with Liquid Nails and temporarily holding them in place with braces and map pins. The cork strips in the tracks are actually pieces of N scale roadbed that Stan later painted black.

railroad line.

My plan was to fill in the space between the curved tracks and the siding to create a flat surface nearly even with the top of the rails.

I first inserted and then glued strips of N scale cork roadbed between the outer and center rails on both tracks, making sure to leave a gap for wheel flanges on the outer rails.

Next, I glued some 3/4-inch-wide wood strips tightly against the track ties to create a border for my platform (**photo 9**).

These strips are about even with the height of the top of the rails. It took a little jury-rigging and some map pins (love those flags!) to secure the strips in place while the Liquid Nails dried.

Next, for fill, I purchased a few bags of Woodland Scenics coarse brown ballast. I poured the ballast between the wood-strip borders until it was flush with the top edge of the wood. I leveled off the ballast as best I could, then added matte medium with an eyedropper to fix the ballast in place.



▲ 10. Woodland Scenics coarse ballast in shades of brown and gray fills the area around the track and the Lionel no. 132 station. Stan painted the top edges of the wood forms yellow as a real railroad would do for safety purposes.

◀ With the hidden corner complete, the first *Amtrak Special* makes an appearance in the busy commuter area on Stan's layout.



To finish this scene, I positioned the station and then glued a 1/4-inch strip of wood as a barrier around the building. I filled the area nearest the building with the same brown ballast. Then I covered the exposed tops of the track ties adjacent to my platform with Woodland Scenics gray coarse ballast.

I applied matte medium to the gray ballast and let it dry for a few days. Then I painted the exposed top edge of wood-strip borders yellow and the N scale roadbed strips black (photo 10).

I finished the scenery around the station, made sure my trains ran properly through the platform area, and then took an appreciative look at my completed hidden corner.

Sure enough, my corner brings back memories of both a classic Lionel display layout and of real commuter scenes I remember from my childhood. **CTD**



Add a gorge

This neat scenery feature looks great on an O or S gauge railroad



to your layout

story and photos by Stanley W. Trzoniec



NO MATTER WHAT size or scale layout you have, including a gorge or creek bed will attract the attention of visitors. Even if your S, O, or Standard gauge railroad already has track and scenery, you can build a gorge like I did.

Cookie-cutting a foundation

The first step in adding a gorge involves cutting into the tabletop to accommodate an open area. Begin by marking an outline on the tabletop where your gorge will be. When determining its width, keep in mind that the typical O gauge trestle bridge is 24 inches long.

I made my opening 22 inches, which leaves an inch on each end to support the trestle bridge. Farther in from the front edge of my layout, the gorge narrows and is crossed by a second track. I used a plate girder bridge for the second crossing.

Once you've checked your gorge's location, use a saber saw to cut an opening in the plywood tabletop. You may also have to cut through some bracing beneath the tabletop as I did (**fig. 1**). If necessary, add a new brace farther in from the edge of the layout or closer to the floor to make up for the brace you cut.

Next, you need to decide how deep your gorge will be. If you really want to go wild, building a deep gorge down to the

◀ Stan built this neat gorge on his O gauge layout. Follow his directions and you'll see how easy it is to add this scenic feature to your railroad.



Fig. 1: Start by cutting out the shape of the gorge and any underlying braces. The width of the cut in the tabletop is about a couple inches less than the bridge that spans it.

floor level may be in the cards, although a dramatically deep gorge may look out of place if the rest of your layout's terrain is relatively flat.

I envisioned a shallower basin about 4 inches deep for my layout. I bought a 1-by-4 piece of lumber to frame the sides of the gorge and a sheet of plywood to serve as the bed of the gorge.

I cut three equal pieces of the 1-by-4 to serve as the walls of my gorge. If your gorge is deeper or shallower, use a different width of wood accordingly. Using carpenter's glue and 1½-inch-long drywall screws, secure two of these "walls" to the left and right undersides of the cutout area so they're perpendicular to the edge of the layout. Then secure the third piece to the rear of the opening (**fig. 2**).

Take the sheet of plywood and cut off a section that's about the size of your opening (my opening measures approximately 22 by 30 inches). This piece serves as the bed of the gorge. Again, use wood glue and drywall screws to secure this piece to the three 1-by-4 supports. When finished, you should have a three-sided "compartment" to scenick.

Scenery base

Ready for the real fun? I'm referring to making the scenery surrounding the gorge. First, though, I decided that, for added realism, I wanted concrete abutments to support the center and ends of the trestle bridge and the ends of the girder bridge. I bought my abutments



Fig. 2: Next you frame the gorge the same way that Stan did — with 1-by-4 sides and a base made of plywood. Be sure that they fit flush to the front edge of the layout.



Fig. 3: Once the abutments are in place, you can cut cardboard strips shaped to the rough outline of the walls of the gorge and staple them in place.

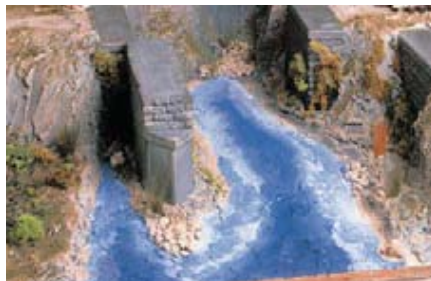


Fig. 6: Details include grass on the banks, talus, ground cover, and lichen. Once you've painted the bottom of the streambed, you can add "water" to finish this "gorge-ous" scene.

from Scenic Express, a model railroad scenery supplier.

After checking that the abutments were the right height and making adjustments, I weathered them with a wash of rubbing alcohol and black India ink. I let the weathering dry overnight. Then I secured the abutments in place with dabs of Liquid Nails on their bases.

Whether you include abutments or not, the next step is to cut strips of corrugated cardboard and staple them from the edge of the tabletop down to the plywood bed of your gorge. Using the strips and a bit of artistic license, contour the scenery so it flows down into the gorge (**fig. 3**).

Since the gorge on my layout is rather shallow, I decided to combine a dry wash with a small creek that is low at this time of the year because of the lack of rain. Other alternatives would be to make the gorge full of water as if it were a rain-swollen stream or river. Again, it's your choice.

I made banks for my creek with a material called PlasterWrap, which I rolled up to form the basic contour of the water flow. This also let me form a "dam" to confine the Enviro-Tex two-part clear epoxy that I use to model water. Both PlasterWrap and Enviro-Tex are available from model railroad scenery companies such as Woodland Scenics and Scenic Express, which advertise in CTT.

PlasterWrap is just what it sounds like – a mesh wrapping material impregnated



Fig. 4: Now you're ready to place overlapping pieces of PlasterWrap on top of the cardboard strips and let them dry for a day or two.



Fig. 7: Before pouring Enviro-Tex into the creek bed, place a tarp on the floor and a 1-by-4 at the edge to act as a dam. Remove the board as the Enviro-Tex sets but before it bonds to the material.

with dry plaster. It was originally developed as a convenient way for physicians to put broken bones into casts. Be aware that this material can be messy. If your layout is sitting on a nice carpet, you ought to put a tarp under it to spare the rug.

Use an old pan or tray for preparing the PlasterWrap. Disposable paint-roller trays are another alternative. Fill your tray about a third of the way with lukewarm water. Cut the PlasterWrap in strips 6 to 8 inches long.

Dip the strips in the water; you should be able to work with three or four at a time. Lift them out and let the excess water drain off. Then drape the wet strips over your cardboard latticework. Let the strips overlap for added strength (**fig. 4**).

Don't worry about getting a star for neatness. Have fun and let everything dry for a day or two, depending on room and humidity conditions. Then get ready to finish the rough scenery with Gypsolite, another material.

Gypsolite is a lightweight gypsum base-coat plaster. Look for it at home improvement centers. I've found that a mix of 3 parts Gypsolite to 1 part water works best. It creates a consistency that lets you brush on this mix with relative ease while still being able to take time to work it the way you want.

Place the 3 parts of Gypsolite into a washable container and add half of the water to start the mix. Then pour more



Fig. 5: After covering the PlasterWrap with a coat of Gypsolite, you can start painting and texturing the gorge to match your scenery.

water into the mix and keep turning it until you get something like wet concrete. You can then begin to lay the Gypsolite onto the walls of your gorge with an old brush (**fig. 5**).

Allow for natural flows in the terrain. If you have an area where you think water will spill into the gorge, shape the Gypsolite with your brush to suggest erosion from the water. Later add details like talus (small rocks) and debris to show the direction of the water as it reaches the bottom of the gorge.

Paint and details

After the Gypsolite has dried, you can paint and detail it right down to the water line (**fig. 6**).

You can add earth to the base of the creek, followed by some coloring for the water. Start with a darker color in the middle of the creek for depth, and let it become lighter as it gets to the shallow shore. Since I had plenty of greens and browns on my layout already, I took a bit of artistic license and used hues of blue.

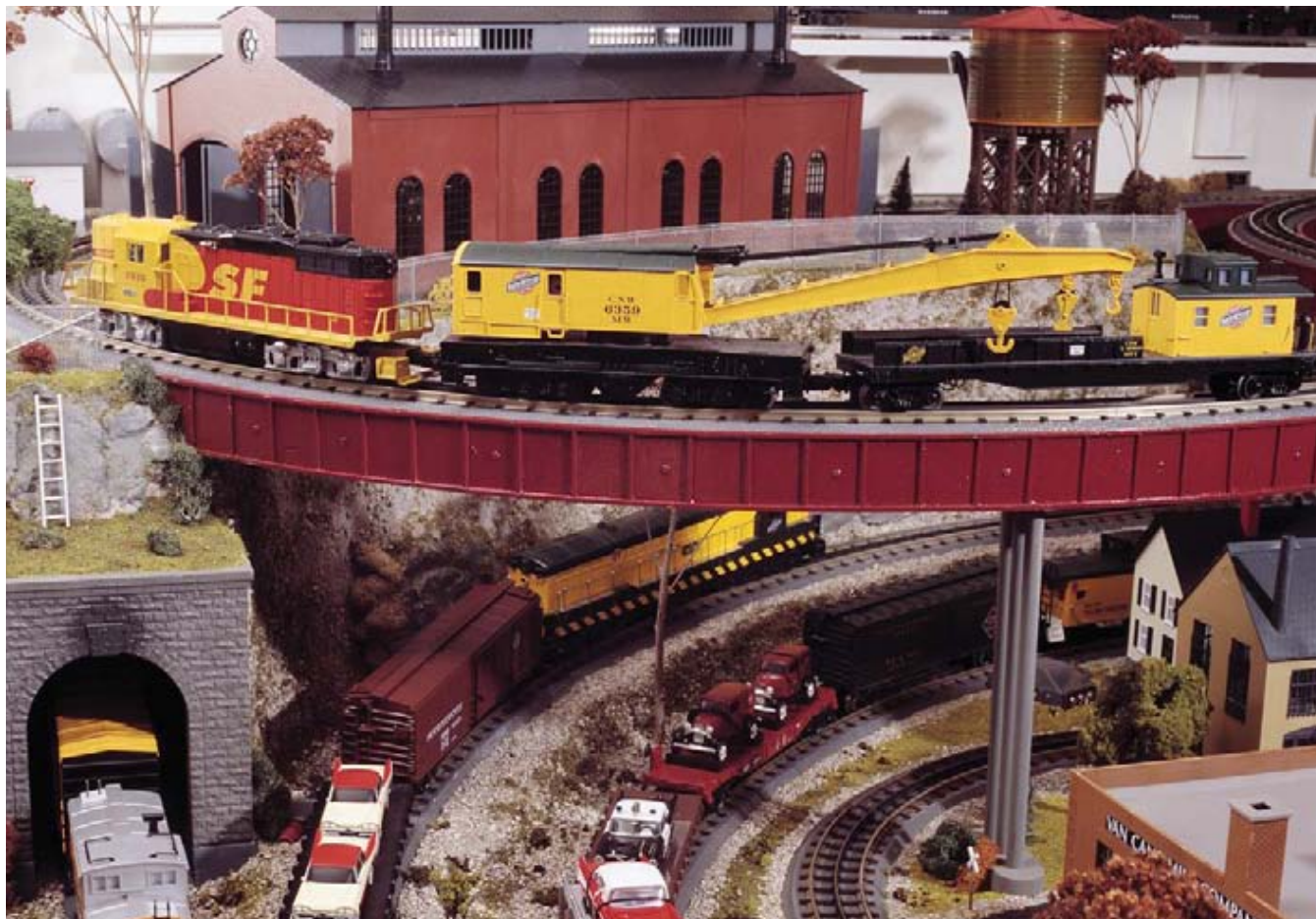
The finale is pouring the Enviro-Tex epoxy to model the water in the creek. I fashioned a temporary dam from a 1-by-4 at the front edge of the benchwork to keep the mixture from spilling out onto the floor of my train room (**fig. 7**).

Be sure to pull the dam out just after the epoxy sets solid. Otherwise, your temporary dam will bond to the benchwork.

I mixed up the Enviro-Tex following the manufacturer's instructions. Then I poured in the mixture until I had filled about 1 inch of the gorge. I let everything set overnight.

That's all there is to it! A few hours of work yielded a gorgeous gorge that earns compliments from visitors. **CTT**

The author shares more scenery techniques and tips for building his Oak Ridge & Western intermediate O gauge layout in Toy Train Layout from Start to Finish, available at hobby shops or from Kalmbach Publishing Co. Call 1-800-533-6644 or go to kalmbachbooks.com to order.



WILLIAM ZUBACK

Making an elevated line

An easy way to construct customized elevated bridges

by Dick Teal | illustrations by Robert Wegner

WHEN MY LAYOUT was featured in CTT's February 2002 issue, some readers took special note of my custom-built elevated bridges, which have varying elevations and a realistic yet colorful appearance.

The drawings on page 67 show the parts and dimensions. I'll explain how they fit together. If I were to build them again, I'd assemble them in my workshop and install them on the layout using these steps.

Track support

The track sub-roadbed is $\frac{1}{2}$ -inch plywood. Because I didn't have the necessary track on hand when I began construction, I used engineering tools to draw the curves on a sheet of plywood and then cut it with a saber saw. (If you have the track, use it to draw the lines

on the wood.) For roadbed under the track, I used extruded polystyrene foam ("blue board" house insulation) on top of the plywood.

For bridge sides, I used plywood wall paneling, cutting 2-inch strips with a table saw and a fine tooth blade. This $\frac{1}{8}$ -inch thin wood may splinter a little as you cut it. To reduce splintering, lay masking tape along the cutting line. To allow me to bend the plywood around the curves, I scored the finished side, which faces inward.

To create the appearance of steel-fabricated bridge sides, complete with seams and supports, I cut and glued two different sizes of balsa wood to the unfinished side of the plywood. Then I painted the assembled sides with a 2-inch roller and latex house paint. The inside does not need to be painted.

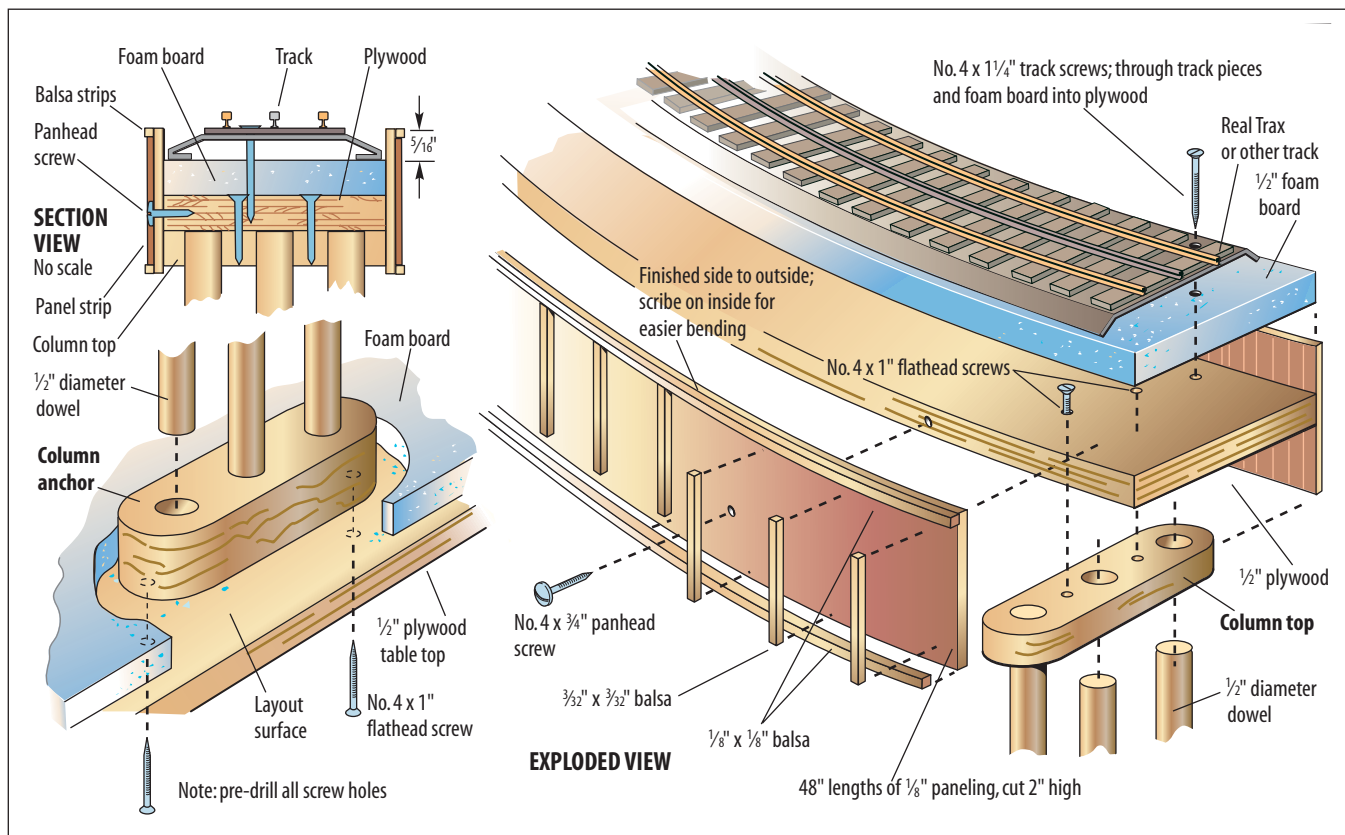
Concrete columns

I made the concrete column anchors with $1\frac{1}{2}$ -inch square ash (which machines well), cutting the ends round with a band saw and drilling holes for the columns. I also sanded the edges to give it a finished appearance.

The column tops are also fabricated from ash in the same manner, except I used $1\frac{1}{2}$ -inch by $\frac{1}{2}$ -inch wood cut an inch shorter than the anchors.

The concrete columns are wood dowel cut to varying lengths. (Don't cut the dowel until you're confident of the exact length.)

Before cutting the dowels, I cut some temporary supports that were roughly the same length that I thought the dowels would be. I laid the sub-roadbed on these temporary supports, shimming and shaving the supports in



places until I was satisfied. Then I set these supports aside to use as a guide for cutting the dowels.

Putting it all together

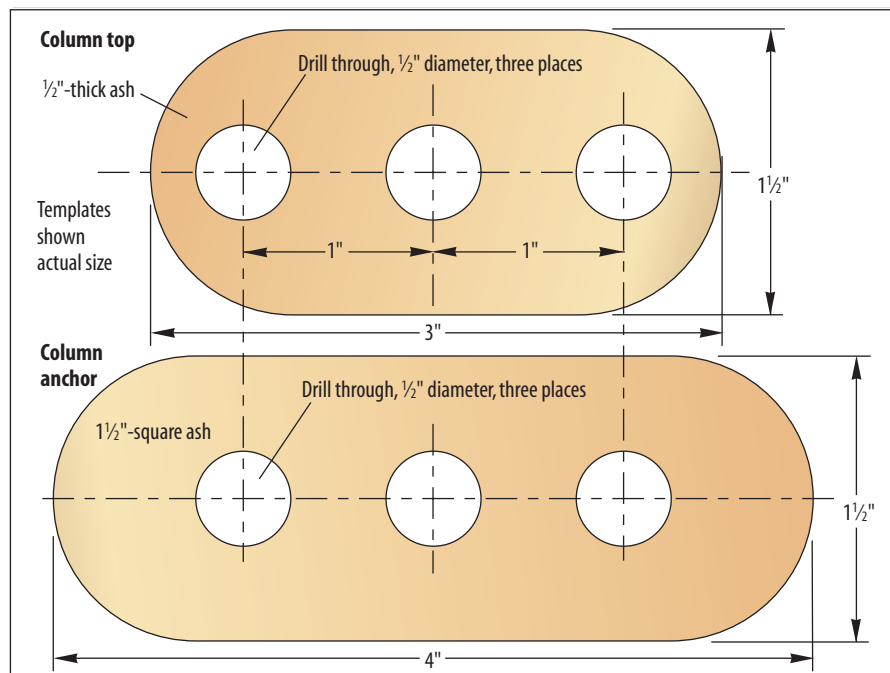
Once I was done creating the parts and bridge subassemblies, I erected the bridges in earnest, working from the bottom up.

First, I cut the dowels to the various lengths I needed. Then I inserted each dowel all the way through an anchor and a top piece, using carpenters glue for long-lasting wood bonds. I painted the finished column assemblies with gray craft paint.

Before permanently installing them, I positioned the columns onto my layout, loosely laying the roadbed atop the supports. I marked their position by penciling in an outline around each oval base, then removed the bases so that I could drill holes for the flathead wood screws through the table. Then I put the bases back in position and screwed them in place directly to the wood table, not to any foam board or other softer surface such as Homasote, to give it a firm footing.

Likewise, I then drilled holes through the roadbed and screwed the sub-roadbed to the columns from the top down.

At this point, I glued and screwed on the side pieces, this time using panhead



screws. Clamps held the sides in place temporarily as the glue dried. If any balsa pieces came loose as I was bending the pieces in place. (If you're considering using curves that are tighter than 54 inches, you might want to experiment first.) I painted the screw heads and touched up other areas.

Finally, I glued the blue foam board

to the sub-roadbed and screwed the track through the foam board into the sub-roadbed.

My completed structure has good eye appeal and has proven to be quite strong. Because I designed specifically for my needs, the elevation is just right in all places around the layout. It's worth a try for anyone who has similar bridgework in mind. **CTT**



Four steps to better-looking track

Roadbed, ballast, weathering, and paint

story and photos by Dennis Brennan

THERE'S NO NEED to stop working with track after you've placed it on your layout. Any O or S gauge layout will benefit if you build a sound roadbed, add ballast, weather the area, and paint the rails.

1 Build the right base

Before making any improvements to your track, I recommend creating a base on which to work. For this, install Homasote or ceiling tiles between the sub-roadbed and the track.

Homasote is a compressed paper material used in construction for sound or temperature insulation. It's sold in 4- by 8-foot sheets at large lumberyards (the website homasote.com has a product locator feature).

Modelers usually cut Homasote with a wood-cutting blade in a saber saw. You'll have less dust if you replace the wood-cutting blade with a "specialty blade" that has a straight knife-edge rather than the normal saw-tooth design.

Ceiling tiles, which cost less than Homasote, can also be cut with a specialty blade. Used in suspended ceilings, these tiles are sold in cartons of eight 2- by 4-foot panels. I use a flat-surface style, such as Armstrong Ceilings no. 290, but any brand works well.

Homasote may be more durable, but ceiling tile is more workable. Nevertheless, once the scenery is in place, the difference is insubstantial. Remember, these materials are not self-supporting and should be used only on top of your subroadbed.

Once you've glued or screwed the base to your support structure, tape over the seams with masking tape (**photo 1**). Give everything a coat of earth-colored flat latex wall paint to seal the surface.

After laying the track, cement N scale cork roadbed alongside the ties on each side of the track. This will reduce the profile of the oversized wood ties to near scale height and give the ballast a natural shoulder (**photo. 2**).

If you're satisfied with your track, go ahead and glue down the cork. Always work your scenery to the edge of the cork roadbed. This lets the ballast overlap the scenery for a natural effect.

2 Applying ballast

Congratulations! You're ready to apply ballast.

Just one problem ... with hi-rail track, you'll use up ballast in huge quantities.

What's the solution? Create a relatively inexpensive supply. Some modelers use aquarium gravel, which works rather well with O gauge track. However, it's oversized and isn't suitable for use with GarGraves track.

In a quest to find an economical alternative to commercial products, I discovered a quarried industrial rock made from

crushed granite. It's accurately scaled and has a prototypical gray blend.

Since this rock – the best-looking ballast I've seen – isn't generally available, I decided to market it. You can order 5-pound bags of Brennan's Better Ballast for \$15.95 each plus shipping through my website: brennansmodelrr.com.

Regardless of what type of ballast you choose, put some in a paper cup and shake it out between the rails of a 3-foot section.

Next, spread the ballast with a 3/4-inch stiff-bristled brush (**photo 3**). Work the ballast between the ties, making it level with the tie tops. Gently tap along the top of the rails with a block of wood to impart a natural crown to the ballast (**photo 4**). Pick off any granules that fall on the ties.

Next, spread ballast on the outside of the rails, following the contour of the cork. For a natural look, vary the depth of the ballast around the ends of a few ties.

Mix up a batch of "wet water" (water mixed with a few drops

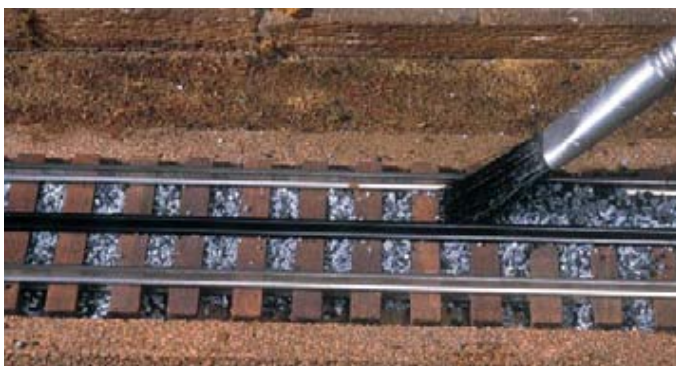


1. You can use Homasote for a solid base beneath your trackwork. Cover the seams between panels with masking tape.



2. Securing N scale cork roadbed along O gauge track reduces the ties' profile and provides a natural shoulder for ballast.

◀ Simple improvements will leave your main lines and sidings looking as realistic as those on Dennis' O gauge layout.



3. After distributing the ballast with a paper cup, use a $\frac{3}{4}$ -inch stiff-bristled brush to spread the rock. Then level it off.



4. Gently tapping along the rails with a block of wood spreads ballast under rails and imparts a slight crown. Be sure to fill any low spots with more ballast.

of liquid dishwashing detergent). Put this in a spray bottle and soak your ballasted track in this mixture.

The detergent reduces the surface tension of the water, which allows glue to be easily absorbed and evenly distributed throughout the ballast. If you don't use detergent or another soaking agent, the glue will just ball up on top of the ballast.

For a bonding solution, use a mixture of 1 part white glue, 1 part earth-colored latex paint, and 1 part water. The paint kills any sheen on the ballast, getting rid of that freshly ballasted look. Apply the bonding solution with an applicator bottle used to color hair. In a pinch, an empty Elmer's Glue container will work.

Soak the ballast with the bonding solution until it's saturated. This process won't damage the wood ties, but you should still be careful around turnouts because glue and ballast can interfere with their proper operation.

Without disturbing the ballast, wipe the top of the rails with a damp cloth. Let everything dry overnight (or longer in high humidity). Vacuum it to remove any loose material; otherwise, pieces of ballast that may contain magnetic particles could be attracted to a locomotive's wheels, gears, or motors. Once picked up, those particles could wreak havoc with the delicate parts.

3 Weathering ballast

Track and ballast, like everything else on a layout, are subject to the effects of water, dirt, grime, and rust. So you don't want to forget to weather them, but keep a few things in mind.

Track on a heavily used main line exhibits more grime between the rails than does a lightly used siding or spur. The color of the ballast and the dirt tend to blend into one another. Also, a spur may have little or no ballast and may be almost buried in the dirt.

When weathering track and ballast, the secret for creating a natural look is to avoid uniformity. To see what I'm talking about, check out some real-life railroad tracks and take some pictures.



5. Be sure to let the dirt wash spread out into the scenery along the right-of-way.



6. Once you have colored your rails with brown camouflage paint, you can either consider your track finished or apply a grungy brown wash to give it some variation.

Once the ballast has dried, weather with a basic earth wash of 2 parts water to 1 part earth-colored latex paint. Use your applicator bottle to flow this mixture over the ballast. Don't be afraid to let some of this color creep into the dirt or weeds along the shoulder (**photo 5**).

For the next step, create the grime by mixing $\frac{1}{4}$ teaspoon of India ink with 8 ounces of the earth wash. This has a great grungy brown color. Dribble this mixture between the ties, both inside and outside the rails, with the heaviest concentration inside the track.

Spray the ballast shoulders and adjacent ground with wet water. Randomly dribble the grungy wash on the ballast shoulders, letting it blend with the surrounding terrain in various places. If you overdo an area, just spray it with more wet water to dissipate the India ink.

4 Painting the rails

Begin by priming the rails with brown camouflage paint. I use Rust-oleum no. 1918 Earth Brown spray paint in a glass bowl. (Any brown camouflage paint will do.) This paint dries to an ultra-flat finish and has a great rusty brown rail color.

The paint dries fast, so use only enough to work on one section of track at a time. A 4-second spray of paint should do it.

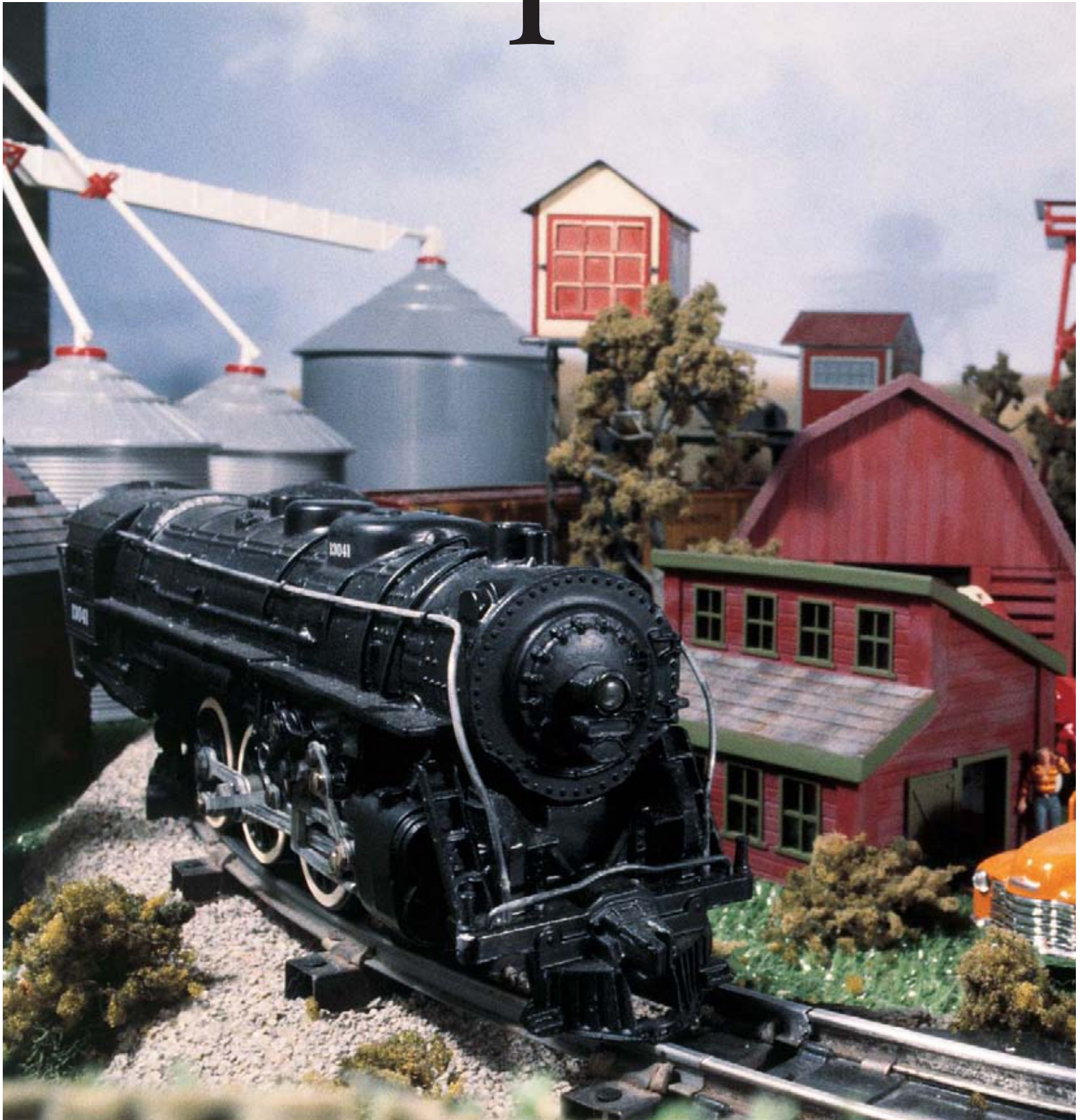
Mix it up with a no. 4 artist's brush and then drag the loaded brush down the side of a rail. Keep a jar of paint thinner handy to prevent your brush from stiffening.

The painting goes fast, since you need to paint only the visible sides of the rails. Don't worry if you get paint on the ties; it only adds to the weathering.

Let everything dry for several days. You now have a good base color that will hold paint or take additional weathering. Remember the grungy brown wash? It's also an exact mainline rail color. So, as shown in **photo 6**, load up your brush and have at it! **CTT**

Simplicity is the key to building this flexible Flyer train board

Compact &



changeable

by Roger Carlson | photos by the author

WHEN I DECIDED to build an S gauge layout for my American Flyer trains, I wanted it to be compact and simple. That meant being able to construct it fairly quickly and spend time running trains. As you'll discover in this issue of CLASSIC TOY TRAINS and the next one, I managed to meet both goals, but I can't leave the 46 by 66-inch layout alone! The more time I spend with it, the more habit-forming it becomes.

Here, I'll describe how I built a layout based on the track plan shown on page 35 of the Gilbert catalog for 1952. The mountain tunnel is covered in the July CTT.

Layout construction is about more than nostalgia. As you'll find out, I emphasize the value of playing with our children. In this high-tech age, there's something magical about sitting down with a child and a simple toy train. Although I use Flyer trains and track, you can build a similar layout with O gauge trains and O-27 or O track by adjusting the dimensions.

When I was young, my father built a Flyer layout that was the envy of all the kids in our neighborhood. A complex block control system allowed two trains to operate automatically on a large dog-bone track plan. Second-hand pinball machine relays made the trains stop and start by themselves.

Unfortunately for my brother and me, the block control system was so complicated that we could never operate it without my father's supervision. Our layout was great for family togetherness, but play value on our own was practically nil! Since then, I've steered away from complicated track plans and multi-train wiring systems.

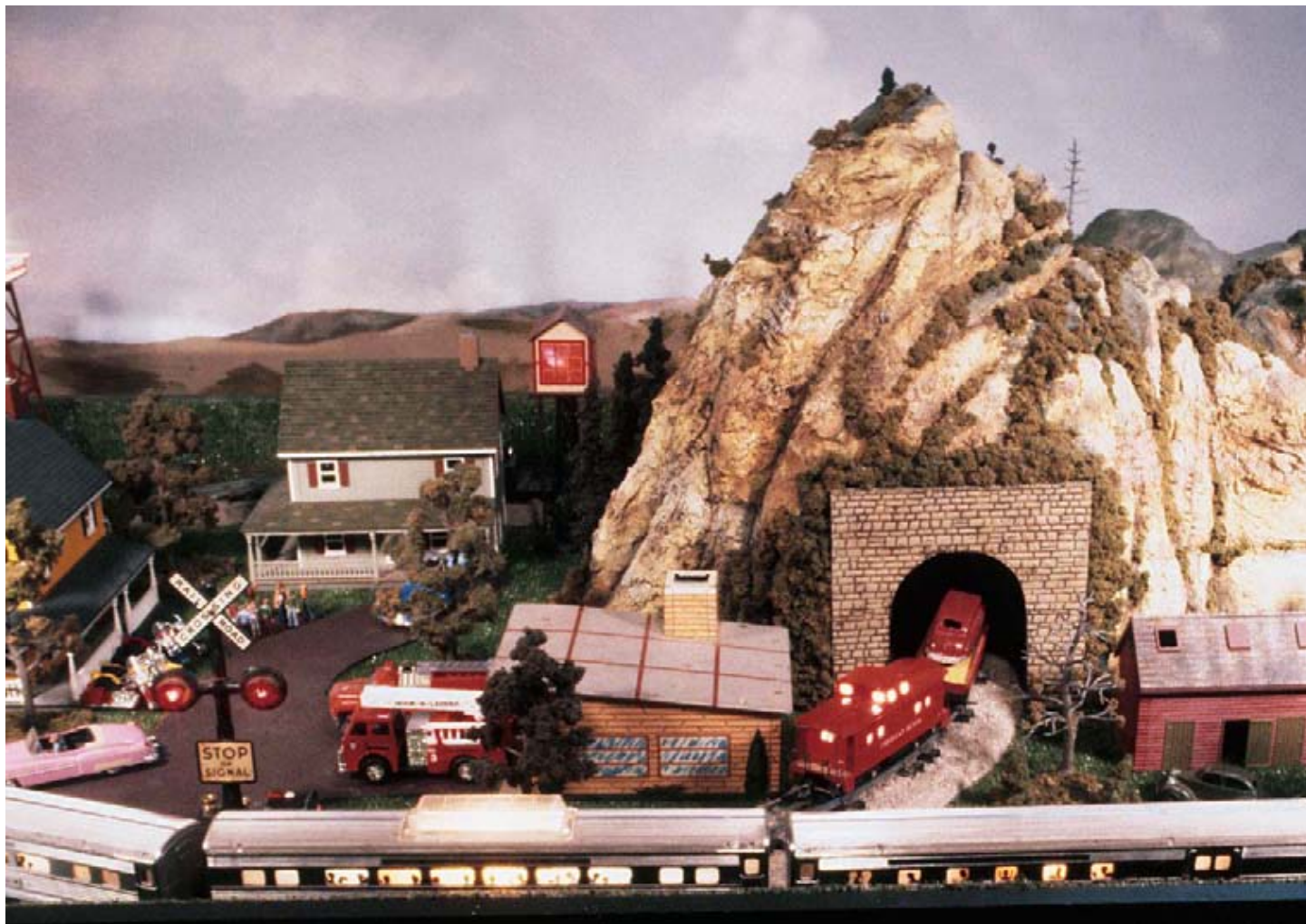
You won't have trouble with complex operation on this project layout. American Flyer track switches allow two trains to occupy the train board simultaneously. However, you can run only one train at a time.

Luckily, the small size of this layout encourages lots of creativity in play activities. Basement-sized railroads tend to overwhelm young children. This layout is small enough for a child to focus on the entire train board at once.

The buildings and scenery aren't permanently attached to the layout. Besides simplifying storage, the moveable buildings and scenery maximize creativity when playing with the trains. For example, you may want your trains to operate in the city one day. An urban scene quickly appears. Perhaps the next day you long for the country. On this layout, it's easy to make city buildings

An American Flyer New York Central Hudson speeds through the rural Midwest in this scene on Roger Carlson's portable 46 by 66-inch layout. He packs plenty of activity into a compact S gauge model railroad that combines old and new structures and accessories. Construction of this layout isn't difficult, as he explains here and in the next issue.





disappear into storage boxes and bring out barns, silos, and plastic cows. If a scene requires more space, you can remove the tunnel, too.

BEFORE GETTING STARTED, you may wonder how much I spent on materials. My board, with plastic grass carpeting, Homasote roadbed, and second-hand American Flyer track and switches, will cost between \$80 and \$100, depending on what you spend for the switches. I spent another \$60 to build the double-tunnel rock formation out of hardshell-covered foam insulation board.

I used exterior grade plywood for my board. Interior grade plywood is cheaper, but a basement or garage can get damp when you least expect. For the frame, I used quality grade 1 by 4-inch pine lumber. The price difference between quality grade boards and the common no. 2 grade lumber is small compared to the difference in knot size and warpage. Avoid clear grade pine, unless you want to spend a fortune.

Beneath the track is Homasote board used as roadbed and a sound deadener. Half-inch Homasote is a dense paper product available from many lumber companies and home centers. I cut the Homasote to follow the track plan.

Atop the plywood is green carpet. For a portable layout, plastic turf patio carpet holds up much better than the ground foam rubber turf used on scale model railroads. Another benefit is that it cleans up easily with a handheld vacuum cleaner.

I bought my carpet for a buck per linear foot, marked down from \$1.29! At these prices, I recommend buying a slightly oversized carpet and trimming it to size after you've glued it into place. I used a 61 by 71-inch piece of carpet to cover the plywood and the inside of the pine frame.

I installed two pairs of heavy-duty steel handles to the ends

of my layout. The 60-pound train board is a lot easier to carry with good-sized, comfortable handles on the ends.

When I saw the wimpy mounting screws that came with the handles, I substituted $\frac{1}{4}$ -inch-thick bolts. I enlarged the screw holes in the handles to take these bigger bolts through the boards. Total cost of four handles, bolts, washers, and self-locking nuts was about \$15. It was money well spent!

FOR YEARS I'VE BUILT modular benchwork out of $\frac{1}{2}$ -inch plywood. I framed the wood on this layout with 1 by 4-inch pine boards. There are many ways to make corners on the frame, but dovetailed joints are the strongest. I made my joints with a special router accessory. If you don't have a router, you can still build the layout without dovetailed joints.

My frame stands upward, like a fence around the plywood or a frame around a picture. Although the frame slightly obstructs some viewing angles of the trains, kids and adults compensate by getting their faces as close to the layout as possible. (At today's toy train prices, I have no desire to watch prize locomotives dive for the floor!) Take a look at the photo of the layout lying against my van on page 53 and you'll get a good idea of how the frame works.

Compared to O-27 track, American Flyer curves are huge! My layout board measures 46 by 66 inches. I cut 2 inches off the width of a 48-inch-wide sheet of plywood so the layout would fit into my van. The 66-inch length of my train board is a compromise based on weight. Without the tunnel, the board tips the scales at 60 pounds.

Unfortunately, 66 inches doesn't provide enough space for operating accessories like cattle pens or log loaders. But there still is lots of action on the layout. The pickup shoe for my auto-unloading car fits on this track plan. Two Lionel aircraft



LEFT: A no. (405) Silver Streak from 1952 leads a set of American Flyer streamliners. The Lionel and Marx accessories may be secured in place, but other features, including the mountain tunnel, can be removed to create an infinite number of scenes.

BELOW: Switch a few buildings and you have an urban scene. Being able to change the setting enhances the layout's play value. Here, an American Flyer Pennsylvania RR K5 Pacific chugs through a seedy neighborhood on its way to Chicago's Union Station. Adding flavor to the scene are the Wm. K. Walthers O scale structures, Preiser O scale figures, and Ertl vehicles. The backdrop consists of HO building walls from Design Preservation Models lined up along the layout's carpeted frame.



beacons and a Marx crossing signal provide a lot of visual action without taking up much space. You can always lengthen my track plan to accommodate other operating accessories; remember, though, that a longer board weighs more.

When it comes to storage, my train board slides easily under a double bed. Build a longer layout and you may run into storage problems. My board is heavy enough to give someone a good whack should it be stored vertically and then fall over, so store it carefully if there are kids around.

Building this train board isn't difficult. If you use dovetail joints to construct your frame, you'll have to glue and clamp the frame first. Otherwise, you can assemble the frame directly on the plywood. Make sure that the "good" side of the plywood is face down. That way, you'll cover the less-appealing side with the artificial grass carpet. Clamp the plywood to the frame with wood screws in predrilled holes. When you tighten the screws, glue should squirt out slightly.

Once the frame is glued to the plywood, you can lay the carpet. Use a cement designed for patio carpets. Do not apply cement to the whole layout at once, and do not skimp on the cement. It's physically hard work to spread the carpet smoothly. The job goes easier if you start at one end of the layout and spread the glue over small sections of plywood.

I used one continuous piece of carpet to cover the plywood and the inside edges of the pine frame. I cut notches in the corners of the carpet before I smoothed it out over the frame sides.

USED MY $\frac{3}{4}$ -horsepower scroll saw to cut Homasote roadbed, since I can tilt the saw bed at a 45-degree angle to bevel the roadbed. If you do some splicing, a 4-foot-square piece of $\frac{1}{2}$ -inch Homasote provides enough material for all the roadbed on this layout.

To create a track pattern, I set my track on the Homasote and drew around it with chalk. I drew the roadbed outline wider than the track ties, so I didn't have to worry about the ties hanging over the edge of the roadbed if I didn't measure right.

I used two types of nails to attach the roadbed and track to the layout. [Although the author used nails for his layout, many builders prefer to attach track with screws. —Ed.] Because I didn't want the roadbed to work itself loose when the layout is moved, I attached the Homasote with paneling nails. Their bumpy surface (called a "ring-shank") really grips the plywood.

Now you're ready to lay track. Get what you need and be sure it is clean. American Flyer curved track is sold very cheaply at flea markets.

Buy the best track and switches you can find, or get new

After removing the tunnel, structures, and accessories, it's easy to move this layout, thanks to the handles installed at each end. The simple track plan and patio carpeting make this S gauge railroad perfect for even the youngest kids.





It's Saturday morning, and the local volunteer fire department is out in full force for a training session. A passing freight distracts the volunteers, who then begin debating whether it's safe to have a petroleum tank car (no. 958 Mobilgas) and a chemical tank car (no. 24324 Hooker) coupled together. The fire station is a tin lithographed toy made by Wyandotte in the early 1950s.

track. I needed two sections of straight track and 16 curves. Avoid track that's rusty or has been cleaned with sandpaper. (Sandpaper encourages rust to form again quickly. Instead, I buff my track with a 3M pot scrubber.) Be careful to get American Flyer track switches without any corrosion on the contacts. A like-new set of switches is worth the extra money.

The track should be attached to the roadbed solidly; however, there will be occasions when you need to remove some of the track from the layout (such as the first time you need to clean the contacts on the track switches). Gilbert simplified tracklaying by punching holes in the edges of its American Flyer track ties. One-inch wire nails fit perfectly in the ties. These nails hold firmly, but still make it easy to remove track sections without damage. To replace sections, just slide the wire nails into the original holes in the roadbed.

I decided to add a thin layer of ballast to my Homasote roadbed. I used a kitchen strainer to sift kitty litter for ballast. Homasote and kitty litter are the same color, so I didn't need much litter to give the roadbed a realistic texture.

Next, I installed my aircraft beacons, switching tower, and crossing gate, but ended up with a rat's nest of ugly wires spread all over the plastic grass. Despite wishing I had concealed the wires beneath the carpeting, I still wanted the flexibility of moving electrical accessories around on the board.

I concealed the wires by sticking them to the carpet with Scotch Double Stick tape. I covered the top of the Double Stick tape with narrow strips of Woodland Scenics Turf Mat.

IN ADDITION TO ITS regular, year-round use, this little layout works great under an artificial Christmas tree. I can't stress the word "artificial" enough. Remember, real Christmas trees cover trains and track with real sap! Forgo tradition

and stick with an artificial tree! The artificial Scotch pine that we use in our living room is 5 feet wide – only a few inches narrower than the 66-inch length of my train board.

To maximize the decorative value of my layout at Christmas, I add a lighted garland around the outside of the layout's frame. I use easy-to-remove screw eyes to secure the garland, which gives my train board an appealing, finished look, like displays at malls and department stores.

Compared to most model train layouts, this project goes together quickly. You can easily spread the work over a three-day weekend and have lots of time for the glue and paint to dry.

In the next issue of CTT, I'll show you how I built the tunnel, which can be built for any size layout in any scale. In the meantime, hook up a transformer, fire up your favorite locomotive, and have fun with toy trains. **CTT**

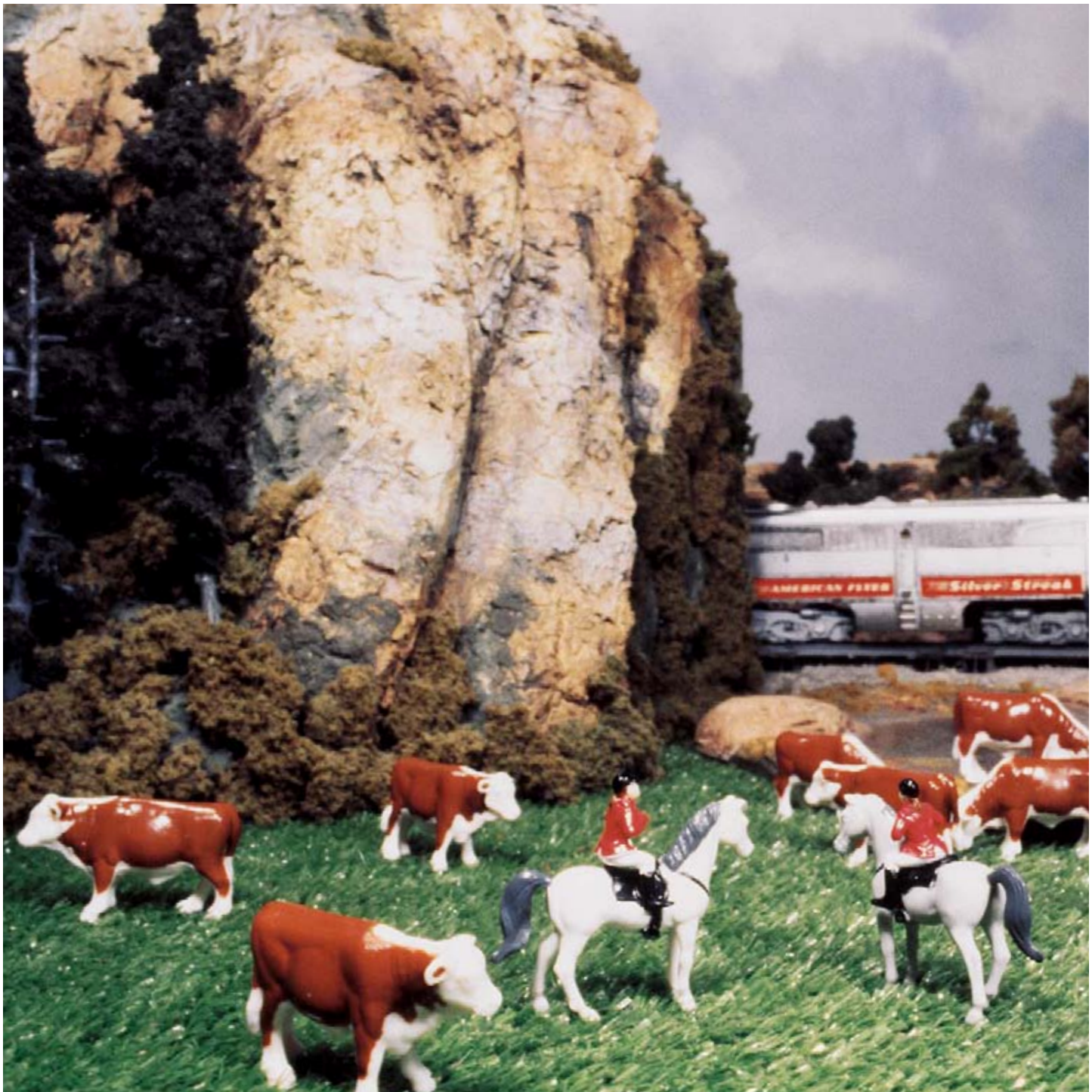
Looking for more layout-building information? Be sure to visit our website classtrain.com and click on "model trains"; then look for the "modeling reference" section on the left.

The 46-inch-wide train board fits nicely under an artificial Christmas tree. Roger attached a lighted garland to the frame of his layout. Christmas lights and a pair of Magnite flashlights provide all the illumination that's necessary to create a scene of a freight train rumbling through town on a winter night.



Easy tips for adding a peak to your pike

Build a moun



tain & tunnel

by Roger Carlson | photos by the author

NO LAYOUT feels complete without a mountain and tunnel of some kind. This obsession goes back to my childhood, when I was the proud owner of one of those classic toy train tunnels. It was about 10 inches long, expertly painted green and brown, and when it wasn't straddling the track, it looked just like a camouflaged footstool! Of course, all of my friends knew it was a tunnel and not a footstool because each of them had one just like it!

Since then, I've seen my share of toy train layouts, and way too many of them have mountain tunnels that look like footstools. Fortunately, it doesn't take much effort to transform over-sized chunks of tunnel materials into realistic rock formations.

So let's add a mountain and tunnel to the compact S gauge layout I described building in the May 2001 issue of *CLASSIC TOY TRAINS*. Even if you aren't planning to follow my plans for that 46 by 66-inch model railroad, you'll find this method of constructing a hill and tunnel useful for any layout.

Before I started construction, I did some research. Geology books gave me good photos of rock formations in various parts of the country. I also shot 35mm slides of rock formations near my home. Watching a videotape of your favorite railroad is also a good starting point.

My best research tool turned out to be a videotape with footage of the *California Zephyr*. The tape showed lots of tunnels and rock formations. After watching the video and poring over photographs, I drew some rough sketches.

Next, I had to decide how to construct my mountain and tunnel. I wanted it to be portable, so I made it out of dense foam insulation board.

Cows graze in a lush meadow, oblivious to the American Flyer Silver Streak passing behind. This deluxe passenger train has crept out of a tunnel on the Roger Carlson's S gauge project layout. He explained how to build the railroad in the May issue; now he describes the design and construction of this impressive mountain.





Unlike white bead board, the dense foam insulation sheets come in different colors. Depending on the manufacturer, boards may be pink, yellow, blue, or gray. Keep in mind that the color has nothing to do with the structural characteristics of the foam. Choose any color and don't worry if you use more than one hue; it won't affect your model rock formation.

I used yellow and pink 1-inch-thick sheets of insulation board because I got the stuff for a price I couldn't refuse. The yellow foam sheet had been run over by a lumberyard truck. A windstorm blew chunks of the pink sheet off a downtown office building.

You can use 1- or 2-inch foam board for this project, but the thicker size saves time and money. Using 2-inch foam means you cut and laminate half as many pieces to build your tunnel. You also use about half as much glue.

A rock formation of this size is no place for dainty dabs of cement! I slathered Liquid Nails paneling cement on the entire surface of each piece of foam to get the job done. This added weight and durability to my tunnel.

Regardless of the cement you use, be sure to read any warning labels. Your cement must be compatible with foam insulation, or you may end up modeling a lake instead of a tunnel, since some types of cement react adversely to the



TOP: The author's mountain is bigger than you might think – and heavier, too! But by making it portable, he made it possible for his layout to have different looks with or without the mountain.

ABOVE: Research is the key to effective modeling. Roger studied rock bluffs in Wisconsin before designing his mountain. Note the horizontal structure of each sedimentary layer.

foam. Also, most paneling cements need plenty of ventilation if you're working in a basement or another enclosed area.

Mountain design and construction

My S gauge project layout measures only 46 by 66 inches. For that reason, I decided that so small a model railroad

needed a large mountain and tunnel to break up the visual effect of a train chasing its own tail. I especially liked having two different tunnel openings through the same rock formation.

To balance the tunnel's mass, I sculpted it to look like two different hills next to each other. The outer tunnel goes through a low hill that's covered with greenery. The inner hill juts upward dramatically. Visible sedimentary layers and heavy erosion lines accent its vertical structure. Except for the stands of conifer trees, vegetation struggles to cling to its outcroppings.

The inside of my tunnel openings measures 5 inches high. I arrived at that height by pushing an American Flyer Vista-Dome car through sample tunnel portals I cut out of corrugated cardboard. If you use 2-inch foam instead of 1-inch foam, make the tunnel channels 6 inches high and conceal the extra height with the portals.

Consult the photos to see how the base layers of foam sit between the tracks. After you cut the first few layers of foam, it is a good idea to set them on the train board and roll different locomotives and cars through the tunnel opening. If a car or locomotive rubs on a tunnel wall, you'll find that it's much easier to modify a foam block now than if you wait until the tunnel is finished!

As for the appearance of the mountain,

I concluded from my research that sedimentary rocks are usually found in horizontal layers. However, mountain ranges are formed when land masses collide and rock layers buckle upward at an angle.

The Wisconsin rock formation shown in the smaller photo on page 88 has been pushed up to slope at about a 10-degree angle. This is what I sought to model using my favorite carving tools: a small fine-tooth handsaw and the claw end of a Stanley pry bar. Use what works best for you.

Once you've shaped the mountain, you need to cover the foam with a hard shell. Plaster is too heavy and too brittle for a portable tunnel. Instead, I covered it with my special recipe for hard-shell material described in the August 1990 issue of CTT.

Mix dry Durham's Water Putty with a good grade of interior latex paint. To avoid a psychedelic look, use an appropriate shade of tan or gray paint. Your mixture should be thick like peanut butter. Trowel on the mixture as though you were frosting a layer cake. Carve

strata while the mixture is still soft. Realistic cracks will form as it dries.

Finish painting the rocks with diluted washes of earth-tone artist's acrylic paints. Burnt umber, burnt sienna, raw sienna, and yellow oxide are my favorite colors for tinting rocks.

You can color the green grassy areas on the tunnel two different ways. One I often use involves mixing up an earthy green color from ultramarine blue and yellow oxide artist's acrylic paints.

For this project, however, I tried something different and mixed part of my hardshell using dark green interior latex paint instead of tan. I covered cracks in the first layer of green hardshell with a slightly different colored second layer. The mottled effect of the two shades of green looks very realistic!

How green was my tunnel

I used Woodland Scenics conifer trees on the hills. You'll find they look more convincing in clusters than when scattered randomly on the rock formation. I painted a few of the plastic conifer tree trunks with light gray paint and left off the vegetation to represent dead trees.

Light green Woodland Scenics Foliage Clusters worked great for the shrubs. (Foliage Clusters are colored pieces of couch-cushion style foam that can be torn into chunks to quickly make bushes and shrubs.) Light green shrubs provide a pleasant contrast to the dark green conifers.

Finally, I needed portals for the tunnel openings. Commercial O scale portals are on the tall side, but their width is about right for S gauge steam locomotives on tinplate curves. Unfortunately, O scale portals can be expensive; the four I needed might have doubled the cost of materials for my tunnel!

Instead, I cut out tunnel portals from 1/2-inch plywood and bought two sheets of Holgate & Reynolds embossed plastic brick material. This material comes in many patterns. I chose an O scale random stone pattern, cut it to fit my portals, and glued it to the plywood with contact cement.

I painted the portals with tan model paint. I let them dry for a few days before I shadowed the grooves in the stone with burnt umber artist's acrylic paint.

Applying the paint looks difficult, but is actually the easiest part of building the portals. I smeared it all over the brick material and wiped it off with a damp paper towel. The paint stuck to the grooves between the stones, creating a realistic, weathered look.

In a couple of places, the burnt umber made the stone look too dark.



TOP: Roger built the tunnel portals from 1/2-inch plywood that he covered with Holgate & Reynolds plastic brick material. He painted the portals tan and used burnt umber to bring out highlights.

ABOVE: Take a look at the rock structure on the mountain. Sedimentary rock layers are represented by horizontal strata. After carving the painted hardshell, Roger added vegetation and conifers.

This was an easy problem to fix. After the burnt umber dried, I went over the dark spots with more tan paint.

Let the fun begin!

Once you've finished the tunnel, you'll be eager to set it up on your train board. Find a friend to help you hoist the tunnel into place as two pairs of hands make the job easier. This tunnel is heavier than it looks!

The crowning touch to the realism of this tunnel is watching a locomotive's headlight emerge through the dark shadows of the portal. On my S gauge layout, I use the remote-control track switches to alternate a train between the outer oval and the inner circle. Let the American Flyer whistling billboard or Nathan Air Chime Whistle blast out a warning. Even the best store displays didn't make Gilbert's S gauge trains look this good! **CTT**



TOP: Three pieces of 1-inch-thick foam insulation make up each of the mountain's bottom five layers. Before going too far, Roger checked for clearance by running various S gauge engines and rolling stock through the openings.

ABOVE: The sixth layer of foam forms the roof of the two tunnel openings. Rather than tapering foam layers too soon, Roger continued cutting several more layers to the shape of the base. Doing so gave him greater flexibility in sculpting the rock formation.

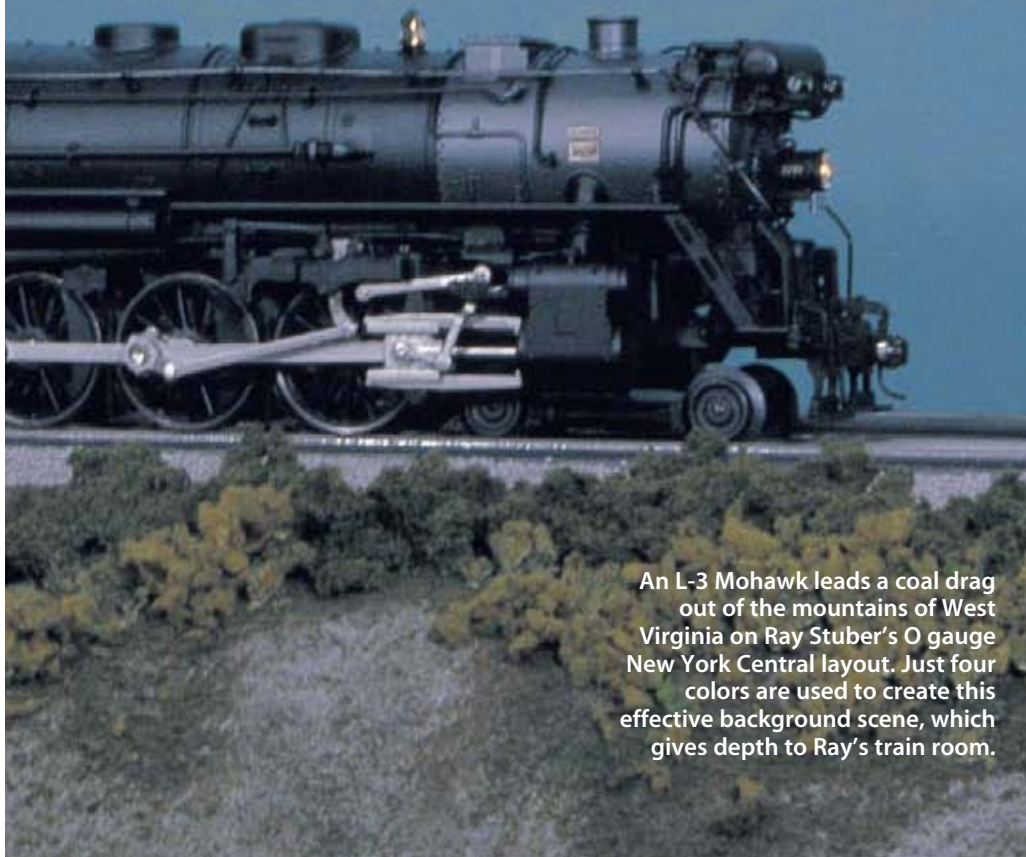
How to Express your



and horizons

Paint striking backdrops
without being an artist

story and photos by Ray Stuber



An L-3 Mohawk leads a coal drag out of the mountains of West Virginia on Ray Stuber's O gauge New York Central layout. Just four colors are used to create this effective background scene, which gives depth to Ray's train room.

RAILROADS ROLL through beautiful mountain vistas and past farms, pastures, and forests that seemingly stretch to the heavens. Yet on many toy train layouts, the scenery ends at the edge of the train table. Why not add that extra element of depth to create a total scene?

While there are several companies that produce beautiful scenic panels, most are aimed at smaller scales and not truly effective on our larger O gauge layouts. But don't fret, you can do it yourself with some paint and a plan, even with little or no artistic talent.

Ideally, you should create the backdrop before you've built your layout, but you can also retrofit your existing layout using these methods.

Setting the scene

The first step is determining "where" your railroad is located. Naturally, if you're modeling New York City you don't want a mountain backdrop. But whether you decide on the East, the Great Plains, the Rockies, or the Southwest, a little research can help you determine how your backdrop should look.

Begin by studying photographs of your region.

Back issues of *Trains* magazine come in handy for placing a particular railroad within its scenic setting. Coffee-table books and *National Geographic* magazine can also be inspiring sources.

If you can get your hands on them, those beautifully illustrated American Flyer and Lionel toy train catalogs from the 1940s and '50s, which put toy trains in realistic settings designed to inspire us to build miniature empires, also help.

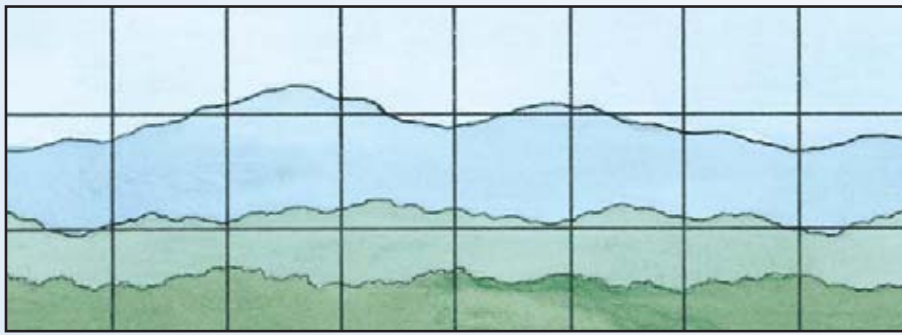
Better yet, if you live in a relatively scenic part of the country, take your camera and go for a weekend drive. Before starting construction on my present layout, I took an Amtrak trip through the Mohawk River Valley in upstate New York to get a better idea of the environment.

Study your photos. Notice the subtle details – the ruggedness of the mountains, the haziness or deep blue color of the sky, etc. Also note that mountains lose detail and blend into one color as they recede in the distance (lower on the horizon).

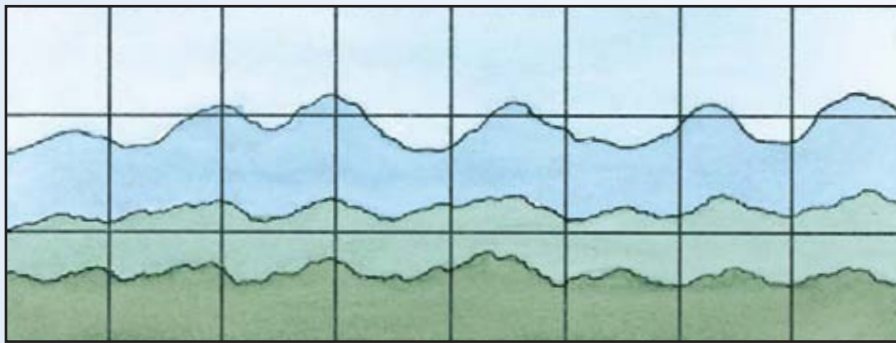
Creating the scene

Once you complete your research and find scenes that look right for your railroad setting, develop some sketches of your overall background.

The examples shown here are from the backdrops on my layout, which is set against distant hills. I broke each



Drawing 1 – This grid drawing, in which each square represents 1 square foot, depicts an eastern mountain range with three levels: background mountains, intermediate hills, and foreground trees. This scaled-down grid is later used to transfer the scene onto the full-sized backdrop for painting.



Drawing 2 – Avoid the “wave effect,” in which hills and valleys are too pronounced and the three levels rise and fall in sync with each other.



Photo 1 – After painting the sky color, Ray transferred the grid drawing to the full-sized backdrop. Note the small “+” marks indicating 1-foot intervals that correspond to the grid on his original drawing. Ray then painted the uppermost gray-green level showing the distant mountains.

sketch down to three levels of scenery: the foreground (tree line), the intermediate level (nearby hills), and the background (mountains). I needed only three colors, one for each level, on my sketches.

Next, create a one-inch to the foot (1:12) grid of the background area you want to paint. Using your sketches and reference photos, draw the three layers of trees, hills, and mountains on the grid as shown in **Drawing 1**. This grid will

serve as the pattern for the full-sized backdrop panels.

Consider where you would like the horizon to be located. I like it at about eye level (5 or 6 feet above the floor) or a little above. Assuming the train table is 4 feet high, the horizon would be roughly halfway up a 4-foot-high backdrop panel. If you want the mountains more in the distance, place them lower on the horizon and make them drop

occasionally behind the intermediate hills. Make the foreground trees about 6 to 8 inches high so the tops will be visible over the passing trains.

When sketching hills and mountains, avoid what I call the “wave effect” illustrated in **Drawing 2**, where the peaks and valleys are too pronounced and close together.

Also, if you have a good idea where the mountains, buildings, and other objects are going to be located on your layout, sketch them on the grid drawing. Since I have an elevated section running around the backside of my layout, I moved everything up 6 inches when sketching out the background.

Construction options

When constructing the backdrops, you should decide whether to mount them to your walls or directly to your layout.

I built my current layout in an unfinished basement, so the backdrop panels actually became the walls for the train room. I built the panels from 4-by-8 hardboard sheets using 2-by-2 strips for support and filling the joints between each wall section with spackling compound. Then I began painting them before building the layout.

If your layout is already built and in place, paint 2-by-4-foot or larger panels on your workbench and attach them to your train table. If you use this technique, carefully line up the mountains and hills from each panel as you proceed with painting them. I’ve used this approach on earlier layouts with pleasing results.

The height of your backdrop will probably be dictated by your construction method and room configuration, but a train table containing a ceiling-height backdrop will create a more complete environment for your scenic vistas.

Painting the scene

At this stage, the paints you select may vary from my examples, particularly if you aren’t duplicating my mountain backdrops. Still, you can get a pretty good idea on how to paint your own scene based on my approach.

I chose Olympic flat latex paint from a local home improvement center, but almost any paint or hardware store will do. Olympic’s color names are listed in parentheses below. A gallon will cover about 400 to 450 square feet and a quart about 100 square feet.

As on my grid drawings, I use three ground colors in addition to the blue sky (“Ariel”) on my backdrops. The background mountains are a light hazy blue (“Crystal Lake”), the intermediate hills are light green (“Slate Green”), and the

foreground trees are a darker green (“Painted Turtle”).

Begin by applying two coats of the sky color to the entire backdrop. For large backdrops, I recommend a paint roller for this step.

Once this is dry, correlate the grid drawing to the backdrop by making “+” marks at 1-foot intervals on the backdrop, using a charcoal pencil or a similar dark-leaded marker. Each mark should correspond to the point where two lines intersect on your grid drawing. Obviously, you don’t need to mark the areas that will contain only blue sky.

Using these marks as a guide, draw the topmost horizon lines onto the backdrop as indicated by your drawings. Proceed to draw lines indicating the mid-level and lower-level scenery.

Now you can begin painting each level. In **Photo 1**, I’ve already transferred the lines for these three levels of scenery (mountain, hills, and trees) to a 4-by-8 center section and have painted the background mountains. I use a 1/8-inch brush to paint in the top line of each level and fill in the rest with a larger brush.

In **Photos 2 and 3**, I’ve painted the lower levels. Note that I added a little more jagged definition to the top of each level, as compared to the smoother mountains on the horizon, by turning my brush on its side and dabbing a little.

Don’t be afraid to experiment. If you aren’t happy with the results, simply paint over it and try again. If you are happy, either declare the job done or try your hand at some even finer detail work.

Finishing strokes

With a few more brush strokes you can add character to each of the three ground levels in your backdrop.

In **Photo 4**, I’ve taken the process a step further by creating a more rugged definition on the mountaintops and adding shadows in the ravines and valleys. Also, I’ve added highlights to the foreground trees.

Use your reference photos as a guide. You may want to experiment on your sketches or grid drawings using colored pencils to create darker shadows. Just identify which direction the sunlight is coming from and keep it consistent. Once you are happy with your sketches, experiment with your shadow technique on a piece of scrap wood before trying it on your backdrop.

For the mountain details, mix about 10 drops of a dark blue acrylic paint – I used “Cerulean Blue” in this sample – into a small cup filled with your mountain paint. You don’t want too much contrast. And remember, the paint tends



Photo 2 – Ray painted the intermediate hills next. Don’t worry about the neatness of the paint at the bottom of each level since the next level of paint will cover it.



Photo 3 – Ray added darker green foreground trees at a height of 6 to 8 inches to complete the scene. Note how the detail and definition increase on the top edge of each level as they get closer to the foreground.



Photo 4 – A more rugged outline indicates a western mountain range. Ray also added shadows to give definition to mountain ravines and painted light-green highlights on the foreground trees.

to dry darker. Also, note the proportions of each color in case you want to duplicate the mixing process later.

To create highlights on the foreground trees, mix a green paint with some white acrylic paint.

Again, don’t be afraid to experiment

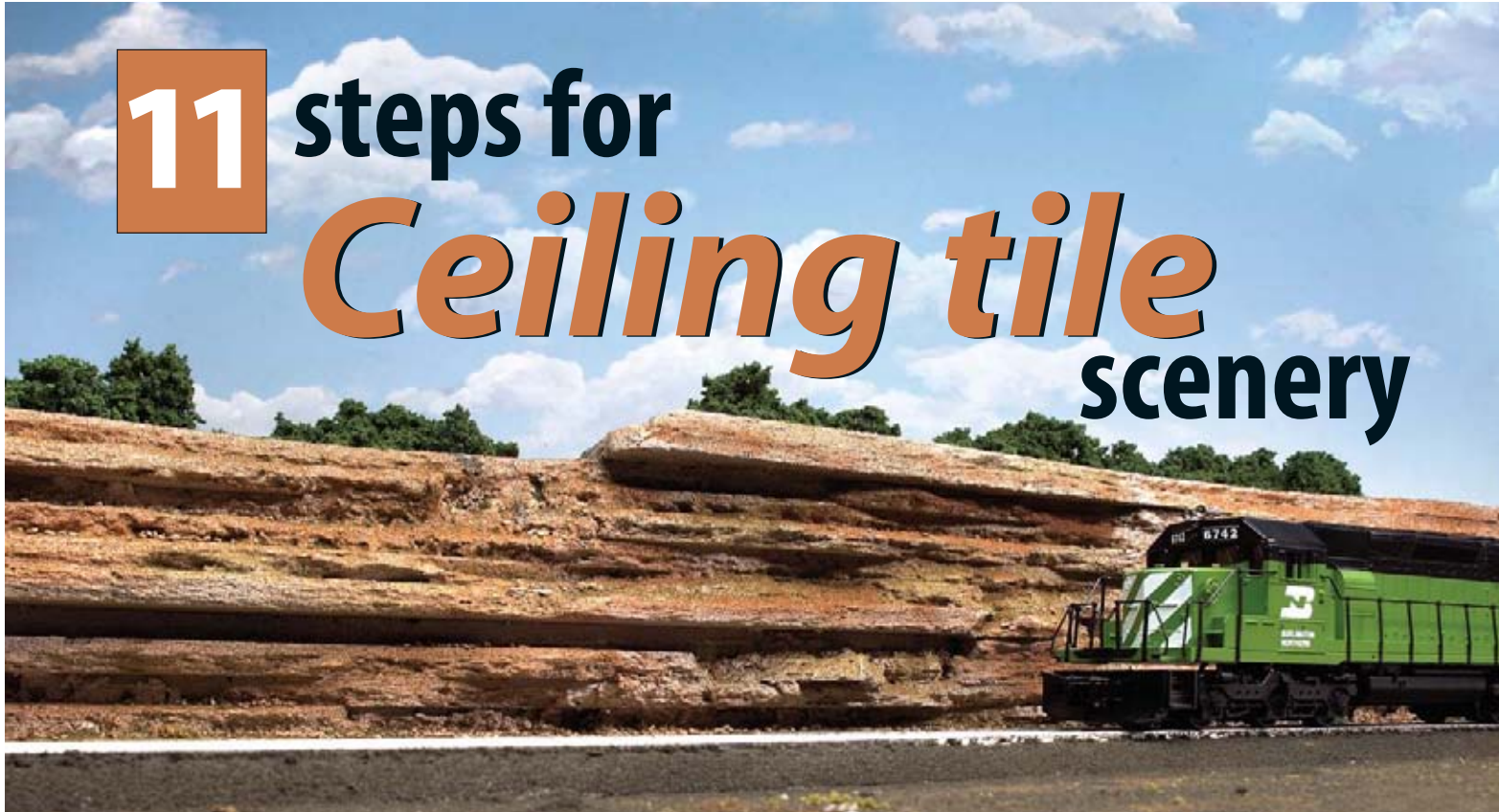
because you can always paint over it and start again. I did.

When you’re done, your backdrop will suggest that your layout stretches miles into the horizon – a not-so-difficult stretch of the imagination that is pleasing and realistic. **CTD**

11

steps for

Ceiling tile scenery



Build your own rock strata wall in a few evenings

by Jim Riccioli | photos by William Zuback

WHEN IT COMES TO MAKING convincing rock-faced scenery, the elusive answer may be just two feet over your head. Ceiling tile scenery is an easy, almost foolproof way to create rock walls with jagged outcroppings, rock strata lines, and cliffs.

“Easy” means you can’t make a mistake because there is no right or wrong way to do it. Any way you stack ‘em creates an interesting pile of rocks. By the time you add a little color, you might even start thinking of yourself as a Picasso of railroad rock art.

Start with a pile of ceiling tiles from a home improvement store. I bought an eight-sheet box of 2- by 4-foot panels for about \$15. Buy new panels and don’t

rely on water-stained panels stacked up in your neighbor’s garage. Older ceiling tiles may contain asbestos, and even if they don’t, they may not break apart into the jagged edges you’ll need to create a convincing rock wall.

Beyond a box of ceiling tiles, you need only some common hobby scenery supplies: various rocky and grassy colors of ground foam turf, white glue or matte medium, Sculptamold or a similar plaster substance, and some tan or gray latex paint.

From your toolbox, grab a Stanley Surform or similar hand planer, a utility knife, and a wire brush. Once you have your tools and supplies, follow these steps to create rock-ledge scenery.

1



Using a utility knife, score a sheet of ceiling tile down the middle lengthwise (so that you’ll have two 1- by 4-foot pieces). You don’t have to cut all the way through the material, so don’t try to bury your knife blade. Work in an area where you don’t mind a little dust and where you can easily clean up with a broom and shop vacuum.



This rock wall wasn’t made from ceiling tiles. It’s the real thing photographed in central Wisconsin.

2



Snap the tile in two along the scored line. The resulting rough edge will be the start of your rock wall. If you want narrower or shorter pieces of tile, score and snap at

will. I kept a clean edge on one side of the pieces that's meant to butt up against a layout-room wall. To make a free-standing wall, score and snap both sides.

3



On each piece of tile, score a random curved pattern that breaks up the "straight edge" appearance. One tile might be cut 1 to 3 inches in from the front edge, while another might be 2 to 3 inches. Snap off pieces by hand along those scored lines. Don't throw away any

small pieces – some of them will come in handy later. Cut several of the tiles shorter than 4 feet to break up any regular patterns you might be forming unintentionally. If the ends of the rock face will be in clear view, score and break the tile in those places, too.

4



This step is foolproof. Stack ragged-edged pieces on top of one another (white side facing up) and move them around a little to create an appealing shape. Avoid any uniformity or patterns. I left gaps in several layers to represent fissures in the strata. If the back side of your ceiling tiles will represent rock too, make sure it also has a random, uneven look. Don't worry if the appearance of your rock wall is underwhelm-

ing. As long as the wall has an uneven texture, it's fine. When you're satisfied, attach the pieces together with white glue, preferably using a big container or a Styrofoam cup that allows you to pour the glue liberally in a zigzag pattern. Don't glue the ceiling tiles to your layout yet – it's easier to work on your rock face before it is glued to your layout tabletop. Allow the glue to dry overnight.

5



Get rough with your rock face. Using your utility knife, score and snap sections that you don't want jutting out as far as other sections. If some areas look too flat, carve out some tile pieces to break it up a little. Randomly slice and snap so that no surface appears smooth.

Next, roughly fill the large holes or gaps in your rock face with leftover small pieces of ceiling tile. Glue them in place. When you're done, you should have a lot of jagged pieces defining your intentionally ragged rock face.

6



Use a Stanley Surform or another cheese-grater-like hand planer to randomly scrape the exposed top surfaces (those facing the sky) of the ceiling tile. This serves two purposes: to remove the layer of white finish wherever you can still see it and to make the strata uneven and weather-beaten. Use the Surform to fine-tune the front edges of your rocks as well. If you want a heavily eroded face, carve a lot. If you like a more jagged look, carve sparingly. This stage of work is messy, so you may want to wear a dust mask and work in a well-ventilated area. Keep your vacuum cleaner nearby.

7



Sculptamold, a plaster-like molding compound made by Amaco, comes in handy to fill any bad-looking gaps and to give your rock face a softer texture in random spots. Thoroughly mix a small amount (roughly one cup of powder with one cup of water) in a disposable container, like a Gladware bowl. Scoop out partial handfuls and push the mixture toward the end of your fingers. With your other hand, as shown above, push the mixture into gaps and other places along the rock face (suggesting a spot where rock may have crumbled over time). A random patchwork of Sculptamold looks great. Allow it to dry for several hours.

8



This stage is optional if you don't have a wire brush, but I'd suggest getting one. Move the brush in a horizontal motion lightly along the entire rock face to create little lines that add horizontal texture. The more you brush, the more weather-worn your rock face becomes, so stop frequently to assess your work. Again, this creates a bit of dust, so take the proper precautions.

9



Find a color of flat interior latex house paint that matches the type of rock you want. Shale is grayish. Limestone (which erodes easily) is brighter and tanner. I used some leftover Dutch Boy Dirt Fighter "Rocky Mountain" colored paint. Brush on a thick coat of paint, more than you would use, say, if you were painting a wall. Catch any runs and work in small enough sections to keep the paint wet for the next step.

10



While the paint is still wet, apply ground foam turf, such as that offered by Woodland Scenics and Scenic Express. Mix vegetative colors (greens and yellows) with rock shades (soil, earth, and rust). I gathered a palm-full of ground foam in my hand and blew it onto the vertical rock, using one color at a time. The turf, sticking to higher profile surfaces, gives the rock face a stronger three-dimensional texture. Cover the entire rock face with multiple shades of ground foam turf. Allow the paint to dry.

11



Fine-tune your newly built scenery. Add vegetation – bushes, small trees, and weeds – using white glue or matte medium thinned 50-50 with water and a drop or two of dish detergent. To the base of the rock face and along several ledges and crevices, I added some Woodland Scenics buff-colored talus, little bits of tan-colored rock that are coarser than track ballast. Since I left the top of my rock wall flat – making it a bluff rather than a mountain scene – I also scenicked up top using ground foams and bushes. Seal it with a spray of diluted glue. You'll find your rock-solid efforts have paid off with a face that's unique, and your friends will think that you spent weeks painstakingly carving a rocky wall. **CTT**