STEP-BY-STEP
BUILD THE CASCADE
& TIMBER TRAIL RY.

From train set to
scenic railroad

A 4 X 8-FOOT O GAUGE PLAN WITH STARTER SET ORIGINS

by Kent Johnson • Illustrations by E.A. Engebretson and Kellie Jaeger

The sights, sounds, and action of a logging railroad can all be found on the Cascade & Timber Trail Ry. project layout.

The mental challenge of developing a suitable track plan is often cited as an obstacle to building a permanent toy train layout. Another common reason for avoiding the construction of a fun-filled railroad is the false notion that it requires an inordinate amount of time to develop, specialized construction skills, and hard-to-find products.

"Nonsense," is what we think you'll say to that – especially after examining our scheme for a logging-themed 4 x 8-foot O gauge layout named the Cascade & Timber Trail Ry. or simply, the C&TT.

With the creation of this track plan, the *Classic Toy Trains* magazine staff set out to dispel most of the myths about designing and building an enjoyable toy train layout of any size. Regarding the size of the layout, we decided to restrict the plan to the lowest common layout dimension – 4 x 8 feet. Here we sought to prove that you can easily fit plenty of railroad and realistic scenery atop a single sheet of uncut plywood or foam insulation board.

Speaking of construction materials, we also thought it was important that the plan feature readily available materials and commercial products. If it wasn't likely that you could find a particular item at your local hobby shop or home improvement center, we simply didn't include it in the plan. Additionally, these products needed to be safe and easy-to-use, without the need for expensive power tools.

Of all toy train products, perhaps the easiest to use is a train set that comes complete with reliable trains, track, and a transformer. That's why we elected to shape this plan around the Lionel no. 30021 Cascade Range Logging set featuring FasTrack sections.

Other train manufacturers, including Atlas O and MTH, offer comparable starter sets boasting a wide array of railroading themes, from traditional to whimsical. Track specifications can vary from manufacturer to manufacturer, so we've included versions of our C&TT track plan for Atlas O sectional track and MTH RealTrax.

Now that you have a suitable plan for a small layout assembled from sensible products, there's only one thing left to do – begin construction! Over the course of the next three issues, the CTT staff will transform our starter set into a permanent layout with plenty of character and potential for engaging operation. As we work through tracklaying, wiring, and scenery-making techniques, we'll be sure to provide plenty of non-intimidating, photo-accompanied instructions.

So, clear a space and a few weekends on your calendar for some fun. In the January 2009 issue of *Classic Toy Trains* magazine we'll show you how to get your own toy train layout started. **CTT**
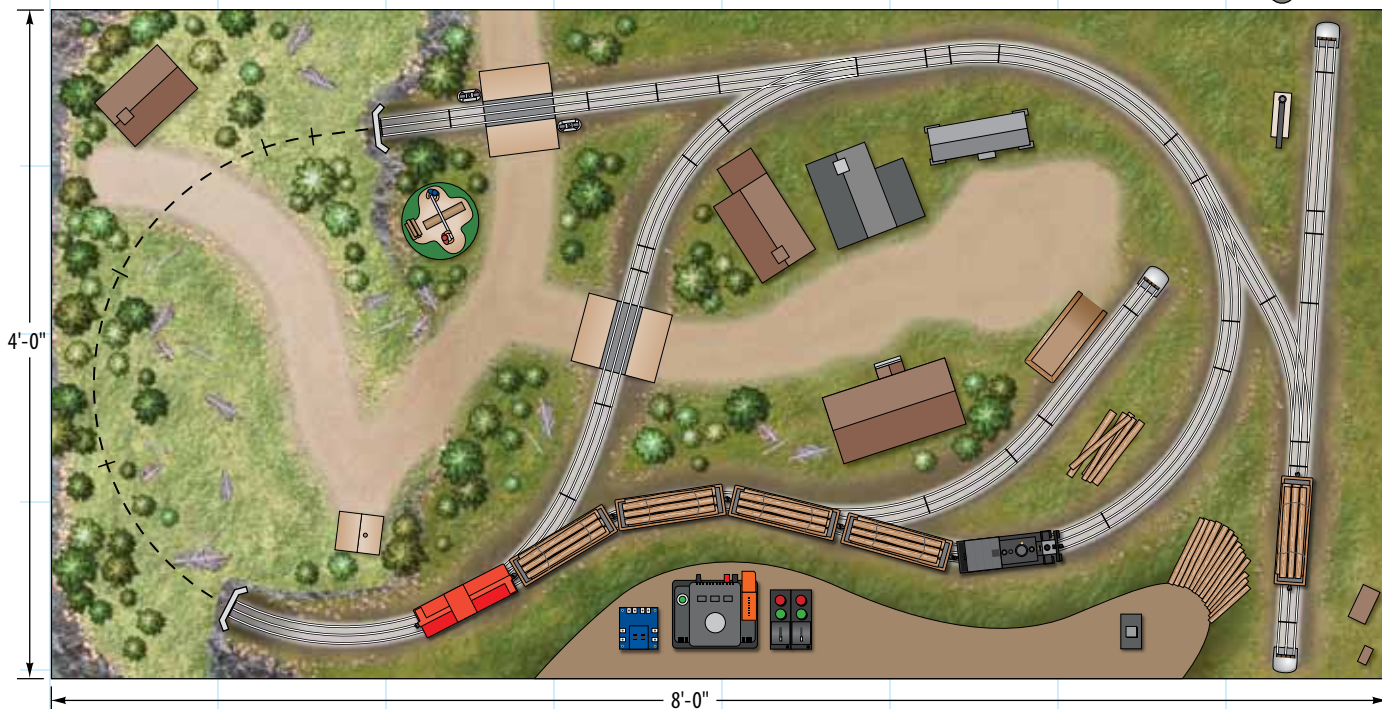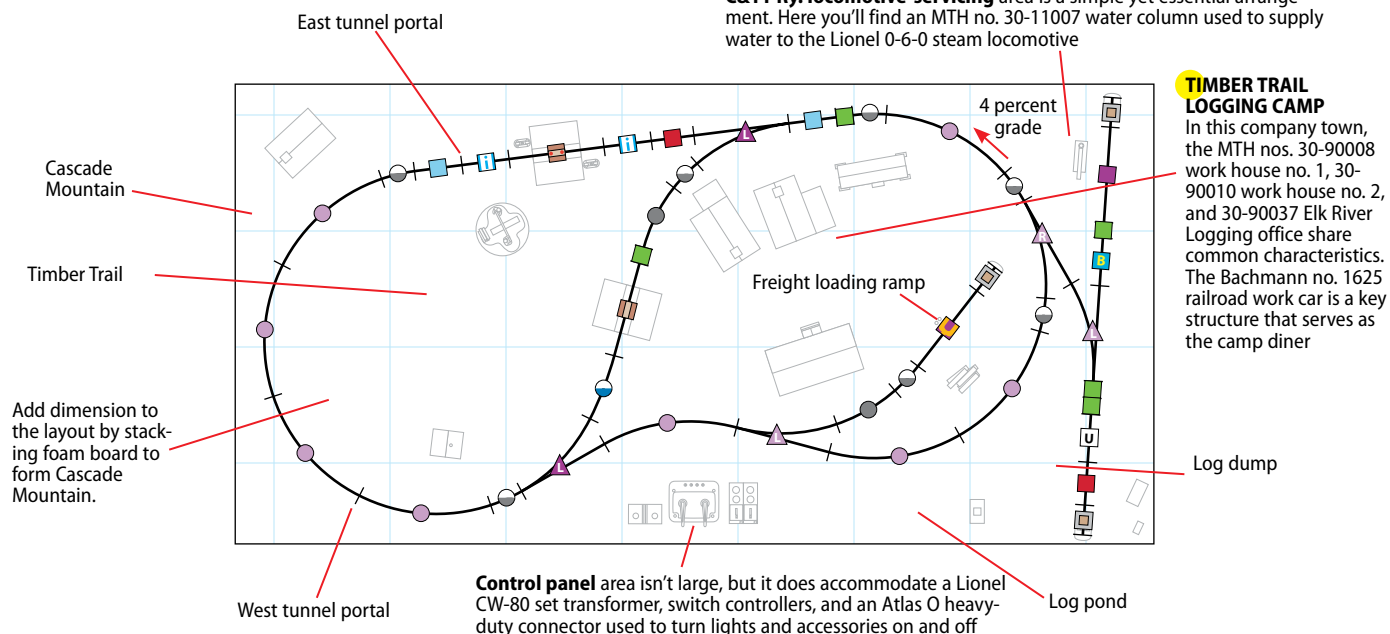
Photos by Kent Johnson

CTT+ **ON THE WEB**

Subscribers can view video clips of the C&TT Ry. in action by going to ClassicToyTrains.com and clicking on "News." And then clicking on "Videos."
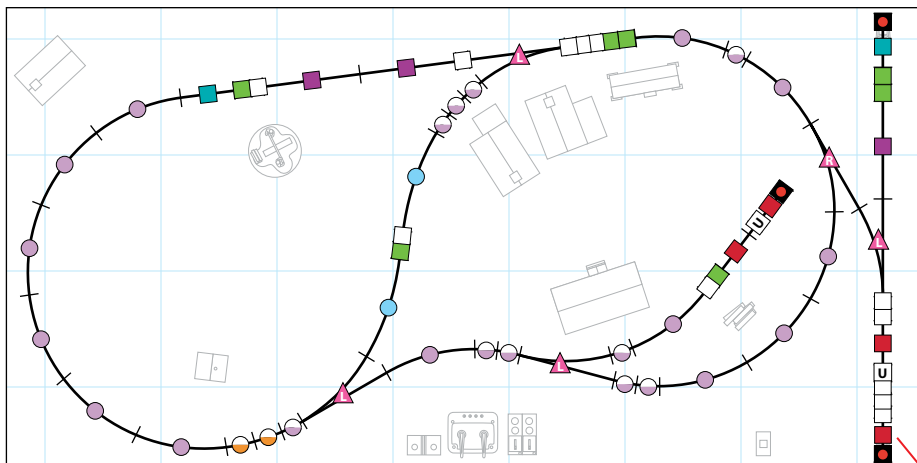
East tunnel portal

C&TT Ry. locomotive-servicing area is a simple yet essential arrangement. Here you'll find an MTH no. 30-11007 water column used to supply water to the Lionel 0-6-0 steam locomotive

TIMBER TRAIL LOGGING CAMP
In this company town, the MTH nos. 30-90008 work house no. 1, 30-90010 work house no. 2, and 30-90037 Elk River Logging office share common characteristics. The Bachmann no. 1625 railroad work car is a key structure that serves as the camp diner

Cascade Mountain

Timber Trail

Add dimension to the layout by stacking foam board to form Cascade Mountain.

4 percent grade

Freight loading ramp

Log dump

West tunnel portal

Control panel area isn't large, but it does accommodate a Lionel CW-80 set transformer, switch controllers, and an Atlas O heavy-duty connector used to turn lights and accessories on and off

Log pond

LIONEL FASTRACK COMPONENTS

Quantity	Description/Number
5	1.75-inch straight (12026)
2	4.5-inch straight (12025)
2	5-inch straight (12024)
1	10-inch straight (12014)
7	0-36 curve, 11.25-degree (12023)
2	0-36 curve, 22.5-degree (12022)
8	0-36 curve, 45-degree (12015)
1	0-72 curve, 11.25-degree (12055)
2	0-36 manual left-hand turnout (12017)

Quantity	Description/Number
1	0-36 manual right-hand turnout (12018)
2	0-36 remote left-hand turnout (12045)
1	5-inch uncoupler (12020)
2	5-inch isolator (12029)
1	5-inch block section (12060)
1	10-inch terminal straight (12016)
1	grade crossing (12036)
1	grade crossing with flashers (12062)
3	track bumper (12059)

Atlas O 21st Century

Due to differences in track geometry, this plan varies slightly from the original scheme using Lionel FasTrack

ATLAS O COMPONENTS

Quantity		Description/Number
12	☐	1.25-inch straight (6015)
7	▮	1.75-inch straight (6052)
4	▮	4.5-inch straight (6051)
2	▮	5.5-inch straight (6053)
3	▮	10-inch straight (6050)
10	○	0-36 curve, 7.5-degree (6068)
13	○	0-36 curve, 30-degree (6066)
2	○	0-45 curve, 7.5-degree (6046)
2	○	0-54 curve, 22.5-degree (6060)
4	△	0-36 left-hand turnout (6075)
1	△	0-36 right-hand turnout (6076)
2	Ⓤ	uncoupling track (6059)
3	▰	track bumper (6040)

MTH RealTrax

Due to differences in track geometry, this plan varies slightly from the original scheme using Lionel FasTrack
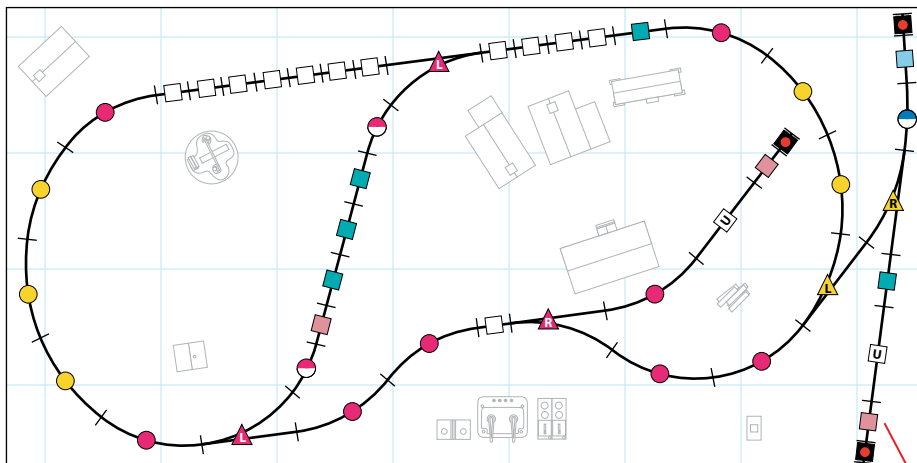
MTH REALTRAX COMPONENTS

Quantity		Description/Number
12	☐	3.5-inch straight (40-1018)
3	▮	4.25-inch straight (40-1017)
1	▮	5-inch straight (40-1016)
5	▮	5.5-inch half-straight (40-1012)
2	◑	0-31 half-curve (40-1022)
8	●	0-31 curve (40-1002)
5	●	0-42 curve (40-1042)
1	◑	0-72 half-curve (40-1049)
2	△	0-31 left-hand turnout (40-1005)
1	△	0-31 right-hand turnout (40-1004)
1	△	0-42 left-hand turnout (40-1043)
1	△	0-42 right-hand turnout (40-1044)
2	Ⓤ	uncoupling track (40-1008)
3	▰	track bumper (40-1024)

Build the Cascade & Timber Trail Ry.

THE CTT STAFF PREPARES THE TABLETOP FOR OUR 4 X 8-FOOT O GAUGE LAYOUT
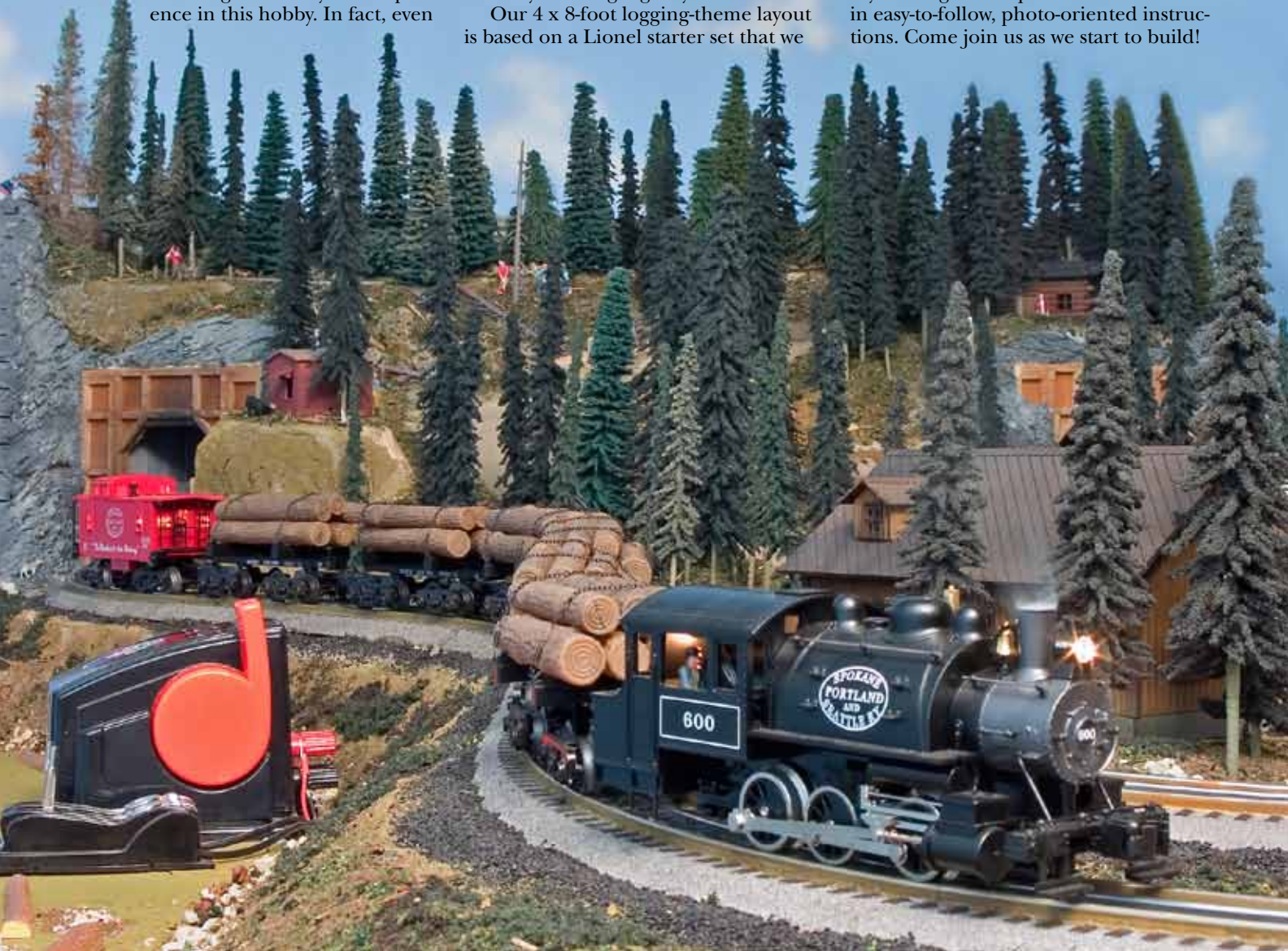
story and photos by Kent Johnson

Whether you're a new enthusiast or you've recently returned to a passion of your youth, building a toy train layout can be one of the most rewarding activities you'll experience in this hobby. In fact, even those of us engaged in the hobby on a daily basis still get a thrill from developing a layout from concept to creation. That's a big reason why the *Classic Toy Trains* magazine staff decided to build our very own O gauge layout.

Our 4 x 8-foot logging-theme layout is based on a Lionel starter set that we supplemented with a variety of commercial products and accessible materials.

Even if you're familiar with these products, you'll find interest in the contemporary tracklaying, wiring, and scenery-making techniques we demonstrate in easy-to-follow, photo-oriented instructions. Come join us as we start to build!
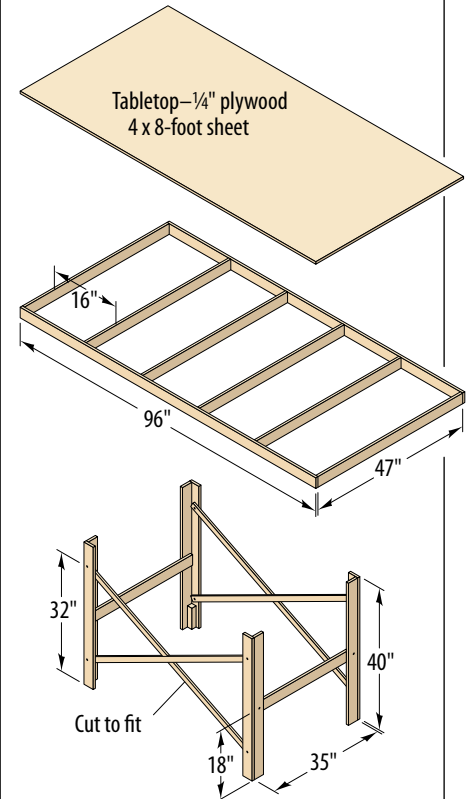
I: LAYOUT FRAMEWORK

TABLE CONSTRUCTION DIAGRAM

Tabletop—¼" plywood
4 x 8-foot sheet

16"

96"

47"

32"

40"

Cut to fit

18"

35"

The basic goal of building a permanent layout is to move your track from a temporary position on the floor to a more secure, accessible, and comfortable location above it. Building wood framework (also called "benchwork") is often the first choice for elevating a layout, as was ours. But you can also use sawhorses or card tables to support a small layout. Other options for layout framework are detailed in the Kalmbach book, *Basic Model Railroad Benchwork* (12241).

1 FOAM LAYOUT SURFACE

After assembling the layout framework, you'll need a flat, sturdy, yet easily penetrated surface for trackwork and scenery. Although a 4 x 8–foot sheet of ½-inch plywood is a common choice, CTT staffers Aaron Jors, Bob Keller, and Dean Bennett load up the 2-inch-thick foam insulation board we elected to use for our working surface.
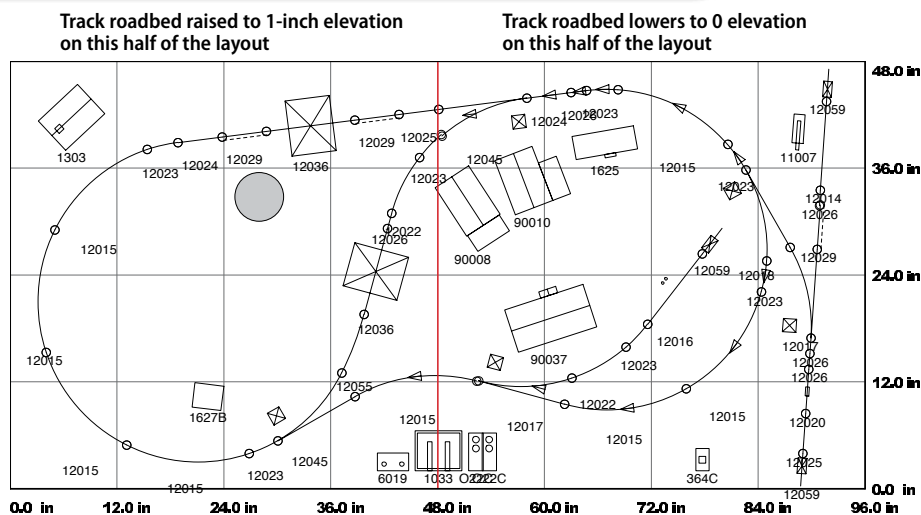
2 FOAM BOARD OPTIONS

Various thicknesses of pink or blue foam insulation board are lightweight and fairly rigid, yet proved to be easy to cut and drill using hand or power tools. In addition to the foam board for our tabletop, we used pre-cut foam products from Woodland Scenics to help form our mountainous terrain and foundations for the layout structures.

3 INSTALL FOAM TABLETOP

On our Cascade & Timber Trail Ry. (C&TT), we installed a ½ x 6-inch multi-density fiberboard (MDF) border around the layout edges. This border (also called a "fascia") keeps the foam in place, but you can also use foam-compatible adhesive to permanently attach the board. Additionally, the MDF border protects the soft foam edges from damage.

Track roadbed raised to 1-inch elevation on this half of the layout

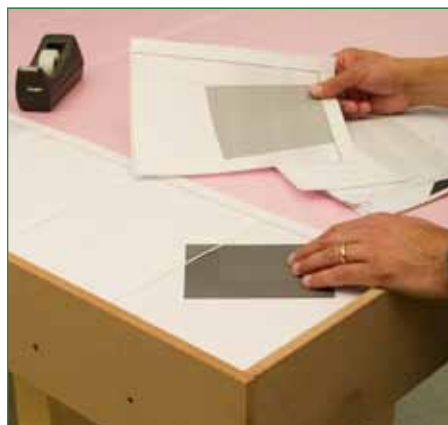**Track roadbed lowers to 0 elevation on this half of the layout**

TRAIN SET ORIGIN

A train set has been a practical entry point into our hobby since the early 1900s. That's largely because these sets include the trains, track, and transformers required to get the action started quickly and easily.

Today, Atlas O, Lionel, and MTH offer numerous train sets with a wide variety of intriguing themes. However, one Lionel set provided the ideal contents for developing the C&TT Ry.

Not only does the Lionel no. 6-30021 Cascade Range logging-theme set include all of the toy train essentials, but it also features three operating log dump cars that contribute to the action on the layout.


With the foam tabletop in place, you're ready to test-fit the track plan we introduced in the December 2008 issue of CTT. At this point, many layout builders gather up and loosely assemble all the required track, switches, and accessories. Instead, we used our computer-generated track plan to perform a virtual test-fit of these layout components. By printing out a full-scale (1 inch equals 1 inch) version of our plan, we could easily identify and modify issues regarding placement – without having all the layout components on hand.

Download a template by going to ClassicToyTrains.com *and clicking on "Train Layouts," and then clicking on "Layout construction & wiring."*

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1 PLACE THE TEMPLATE

Place the first of 65 layout template pages in the upper left corner of the foam board. Using the printed grid lines to aid alignment, add subsequent pages by overlapping the right edge of a previously placed page. As you work (left to right) across an entire row, use cellophane tape to attach the pages to each other. Repeat the process, row by row, until all pages are in place.
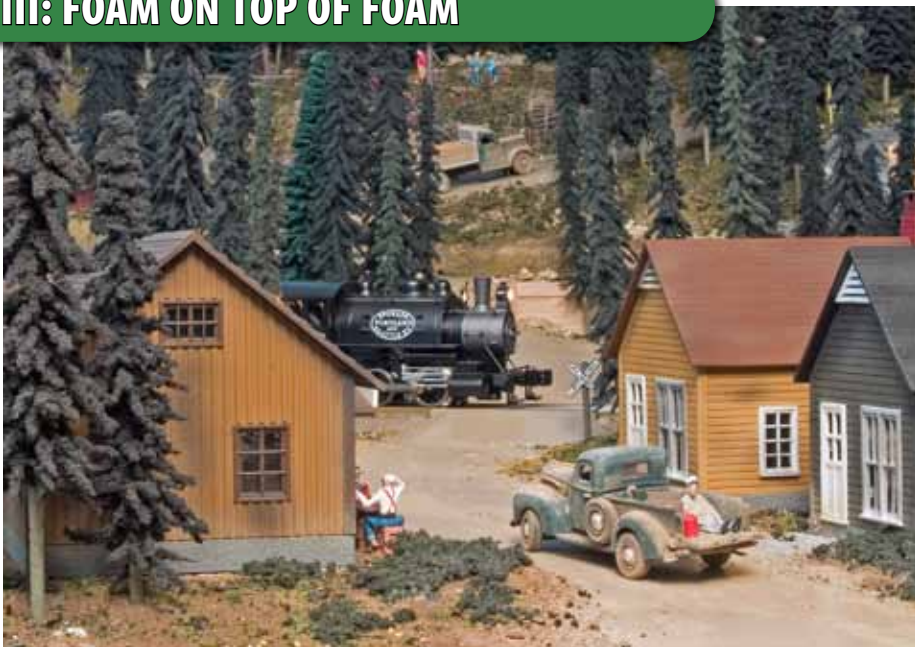
2 TEST AND TWEAK THE PLAN

Once arranged on the foam board, the layout template reveals the precise placement of track and accessories. It was in this stage that we discovered that our initial plan didn't leave enough room to include a control panel. Based on other observations, we made a few changes in the track and structure placement to enhance operation.
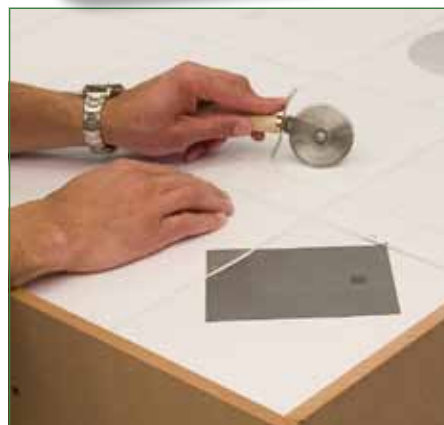
3 TRANSFER THE PLAN

After updating the computer-generated track plan and removing the old template pages, we attached a revised template to the foam. Next, we used a pizza cutter to trace the plan to the foam. Running the wheel along the track centerline marked a groove in the foam. Be sure to trace all track pieces and outline the structures before you remove the template.
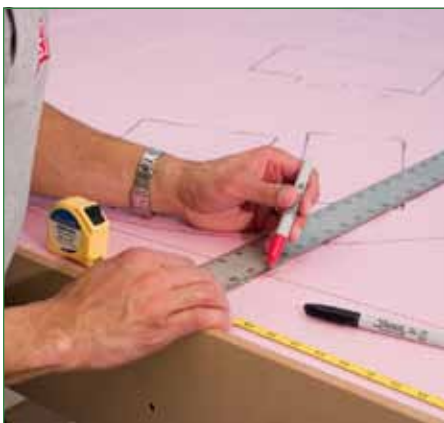
FOAM COMPONENTS

For many years, building up an elevated scenery area required the construction of cardboard latticework covered by paper towels and plaster.

Today, the task is much easier using lightweight foam components from Woodland Scenics These foam components are designed to help you create elevated terrain and low-lying areas that are strong enough to support scenery and structures.

By stacking and gluing the precut pieces, you can easily create hills, valleys, and other landforms without using power tools or making a dusty mess.

In addition to raising your track and trains off the floor, a permanent layout provides a place to create a realistic setting for your railroad. Since the theme for our C&TT Ry. layout stems from a fictitious logging operation in the Pacific Northwest, our layout must include grades and mountainous terrain. To help establish an appropriate terrain base, we used various Woodland Scenics SubTerrain system foam products, including ½- to 4-inch risers, 4 percent inclines and incline starters, and 8 x 24-inch profile boards.

1 TRACE TRACK CENTERLINE

With the template removed, use a black permanent marker to trace along the centerline groove in the foam. Next, measure 48 inches in from either end of the layout. Now use a red marker and long straight-edge to draw a line across the midpoint of the tabletop. To help form our mountainous, timber-filled terrain, we'll raise the track on one side of this line 1 inch.


2 INSTALL FOAM RISERS

Begin installing 1-inch-high, flexible foam risers (Woodland Scenics no. ST1407) at the midpoint of the tabletop. Use foam-compatible adhesive to attach risers along both sides of the track centerline. Continue adding these risers to raise the entire route on the mountainous half of the layout, but don't extend them beyond the red line you marked at the midpoint.

3 INSTALL FOAM INCLINES

Flexible foam inclines (Woodland Scenics no. ST1413) help transition the track from tabletop height to the 1-inch risers. For a gradual change, we added 4 percent grade (1-inch rise over a 24-inch run) inclines at the start and end points (on the opposite side of the red line) of the riser sections. Install the inclines in the same manner used to add risers.
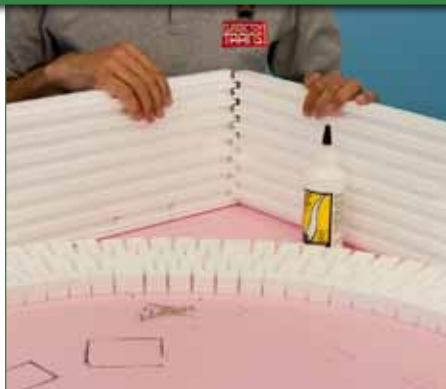
4 INSTALL PROFILE BOARDS

We used 8 x 24-inch foam profile boards (Woodland Scenics no. ST1419) to establish the perimeter and height of our mountain. First, interlock two boards at each corner of the mountainous area. Before gluing the boards to the tabletop, trim any parts that interfere with the risers. Finally, use connectors to attach a second row of profile boards.


5 ADDITIONAL ELEVATION

This is where we began transforming the flat tabletop into a three-dimensional mountain setting. We combined a variety of foam risers and inclines to raise roadways, structures, accessories, and other scenic areas various heights above the tabletop. Our goal was to simply rough in the elevations and work to refine and contour the terrain later.
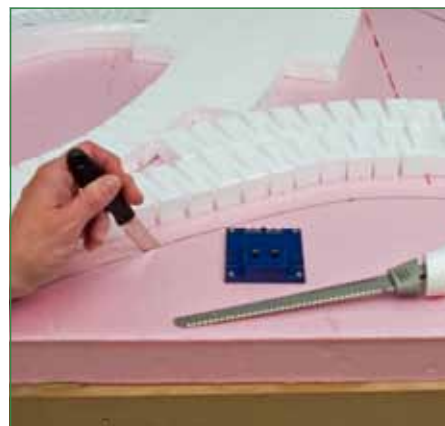
6 CARVE CONTROL PANEL

Our modifications to the original track plan resulted in more space for a layout control panel. After outlining the panel area on the tabletop, we cut the foam from this area using a steak knife. You can also use an electric or hot wire knife to carve thick foam. We were left with a recessed, flat, and sturdy surface that's ideal for keeping controls out of the way.
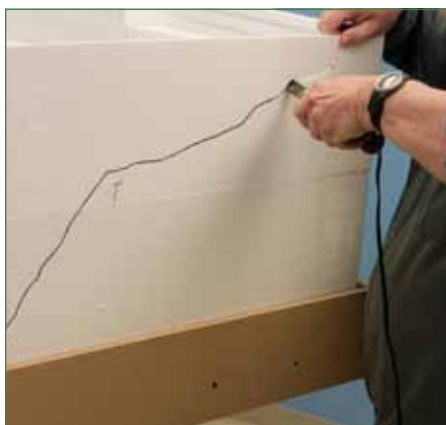
7 TRIM PROFILE BOARDS

After determining the highest elevation for our mountain scenery, we inserted foam nails through the 16-inch-high profile boards to mark the critical heights (track, tunnel, and portal). With the nails to guide us, we sketched out a rough slope and then used a hot knife to contour the boards. We repeated the process to trim the boards on the opposite side of the layout.
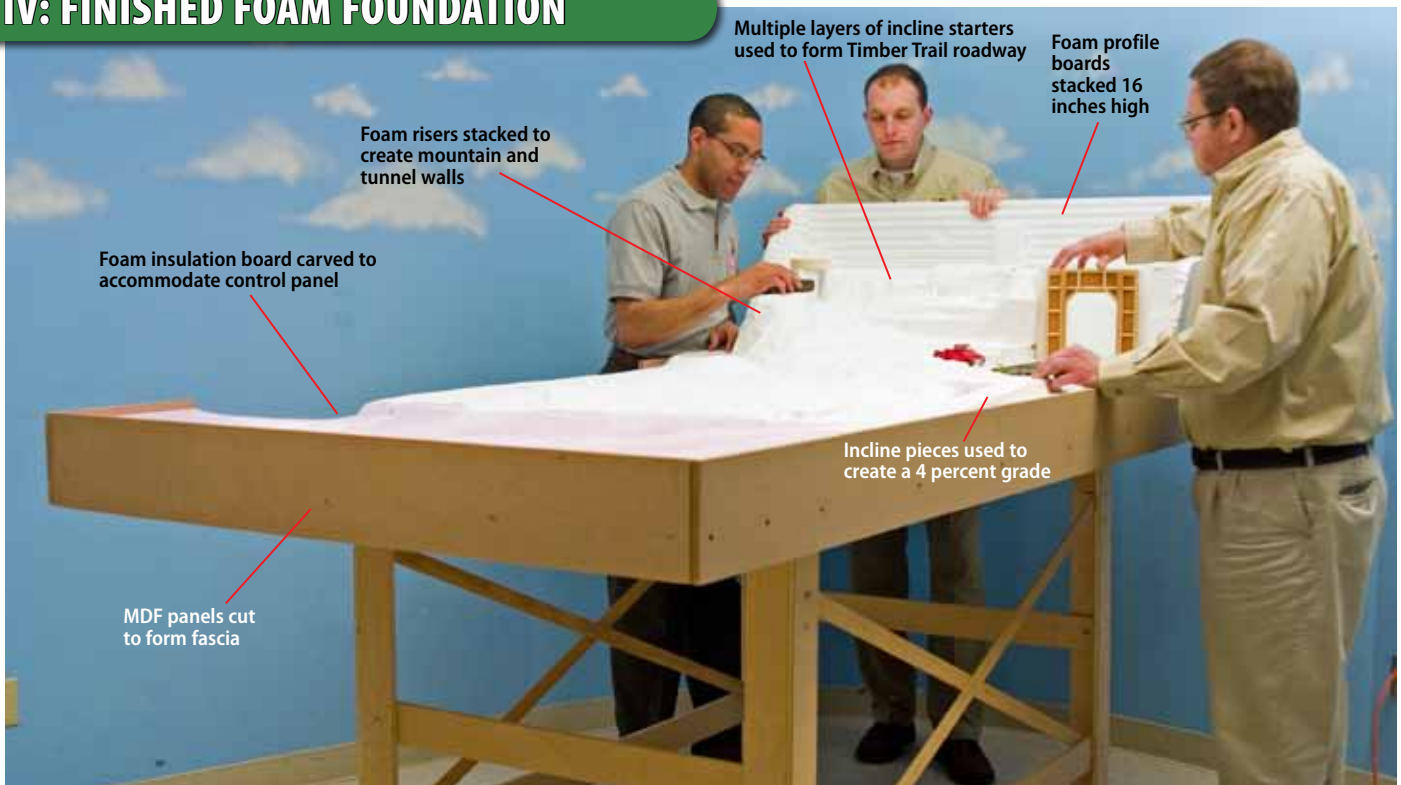

8 BACKFILL WITH FOAM

To give our terrain a natural-looking contour, we mounded foam packing peanuts in low spots and other voids. After shaping the mounds to our satisfaction, we installed strips of masking tape to hold the peanuts in place. As an alternative to foam peanuts, you can use newspaper wads or expanding polyurethane foam to provide a sloping contour to the landscape.

9 PLASTER OVER TERRAIN

After shaping the terrain to our satisfaction, we covered the mounds and elevated areas with overlapping, 6-inch-wide strips of wet plaster cloth (Woodland Scenics no. C1203). There's no need to cover entire areas that will be hidden within tunnels, beneath structures, or under track, but be sure to transition between covered and uncovered areas.

Multiple layers of incline starters used to form Timber Trail roadway

Foam profile boards stacked 16 inches high

Foam risers stacked to create mountain and tunnel walls

Foam insulation board carved to accommodate control panel

Incline pieces used to create a 4 percent grade

MDF panels cut to form fascia

Pink insulation board, towering blocks of foam, and wet plaster cloth may not be the first items you'd think to use in building a layout. However, we found these readily available commercial products were quite easy to work with.

Even better, they helped us complete the foundation for the track, tunnel walls, mountain, and the treacherous Timber Trail roadway. All this development in what amounted to just a few hours of workin' on the railroad. **CTT**

SUPPLY LIST

- **Foam insulation board** – you'll find 2-inch-thick boards at home centers and lumberyards.

- **Foam packing peanuts** – save these from shipped parcels or purchase them in bulk from package delivery firms.

- **Woodland Scenics foam products** – the essentials include ½-inch risers (2), ¾-inch risers (2), 1-inch risers (5), 4-inch risers (3), 4 percent inclines (1), 4 percent starters (4), profile boards (4), and plaster cloth (6). You might want to purchase extra foam materials and keep plenty of foam nails and foam tack glue handy.

- **Tools** – you'll need black and red markers; cellophane and masking tape; a pizza cutter; a yardstick and tape measure; a steak knife, electric knife, or hot wire cutter; and a small plastic storage bin.

Project layout video! **CTT+**

You can view action-packed video of the Cascade & Timber Trail Railway in operation by going to ClassicToyTrains.com and clicking on "News." And then clicking on "Videos."

To buy back issues of *Classic Toy Trains* magazine, you can either go to ClassicToyTrains.com and click on "Our Magazine" or call Customer Sales at 1-800-533-6644.

NEXT ISSUE

In Part 3 of the C&TT Ry. layout construction series we'll turn our attention to installing track and wiring the layout for operation.

Adding track to the Cascade & Timber Trail Ry.

THE CTT STAFF INSTALLS FASTRACK, AND WIRES OUR 4 X 8-FOOT LAYOUT FOR ACTION

story and photos by Kent Johnson

One of the most exciting stages in building a layout happens after you've assembled the track and connected all the essential wires. That shining moment comes when you first experience the thrill of running a train around a permanent layout you've built with your own hands.

But not every builder who starts construction on a layout arrives at that point without first struggling to place a particular section of track or determining how to route that "extra" wire.

In this installment we'll provide the track plan, track installation techniques, and a complete wiring schematic to help you make the electrical connections that put the layout into action – without the hassles.

Gather up the necessary tools and components and let's get started!

A Lionel Spokane, Portland & Seattle 0-6-0 switcher hauls a string of Industrial Rail skeleton log cars through the cutoff route on our C&TT Ry.
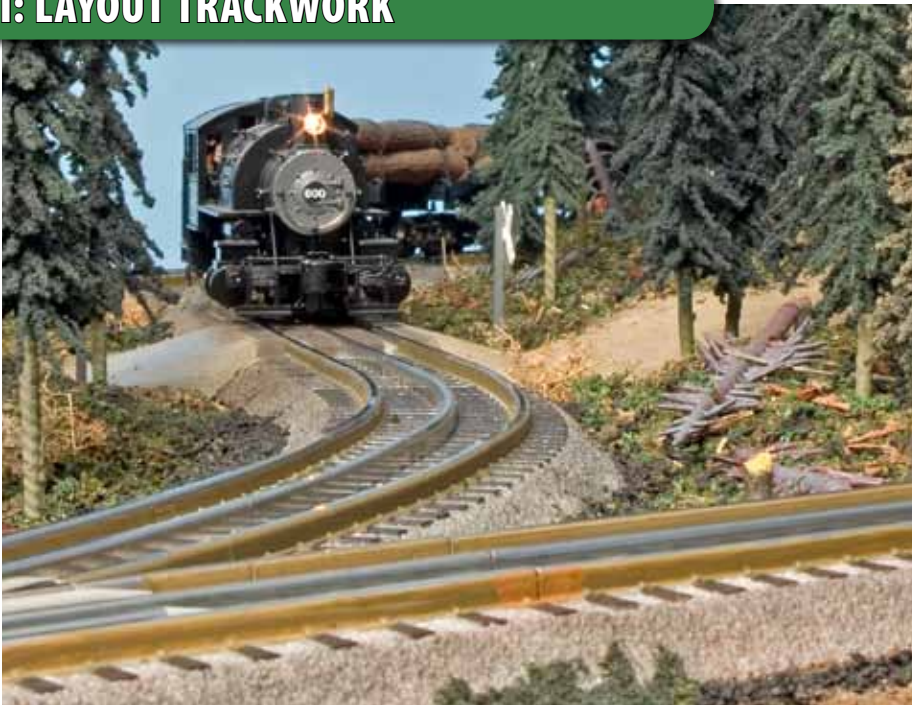
Just like on real railroads, it's very important to create a stable surface for your toy train trackwork. Although Lionel FasTrack and other contemporary track found in train sets features sturdy, hard plastic roadbed, we installed Woodland Scenics no. ST1476 Track-Bed under all our sections, including switches and grade crossings. This flexible, soft foam material quiets track noise, smoothes irregularities along the risers and inclines, and shapes a realistic track profile.

FLEXIBLE ROADBED PRODUCTS

Metal wheels rolling on metal rails tend to generate unwanted track noise. That's why we wanted to add some type of flexible, sound-deadening material before installing our track.

On previous project layouts we've used strips of cork with beveled edges and carpet padding we cut to a narrow width. For the C&TT Ry. we installed black-colored foam between the track and risers. Other options include roadbed products made from rigid foam and recycled granular material.

For more information on track and related components, see the Kalmbach book, *Trackwork for Toy Trains* (10-8365).

1 PREPARE THE ROADBED

To prepare the roll of Woodland Scenics no. ST1476 roadbed for installation, we separated the flexible foam material at the center seam. Although it isn't necessary to split the roadbed when adding it under straight track sections, doing so makes it easier to install the roadbed under curved track and switches.
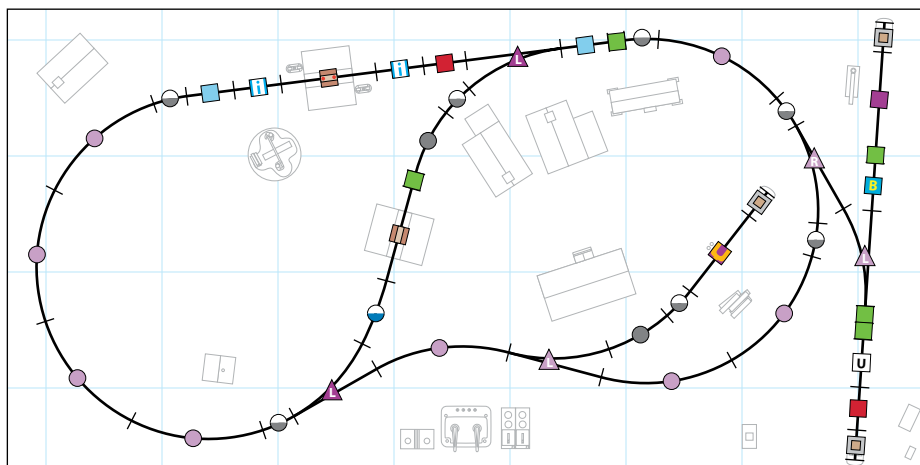
2 GLUE & TACK ROADBED

After marking the track centerline, we spread a layer of Woodland Scenics no. ST1444 glue along one side of the line. We installed a three-foot length of the separated roadbed by aligning it along the line. Pins held the foam in place while we repeated this process to add a piece along the opposite side of the line.

3 UNDER SWITCHES

Install roadbed under track switches by first laying pieces on the outside of the straight and diverging routes. Next, install pieces on the inside of the straight and diverging routes. The resulting gap will be hidden under the switch, plus it provides an ideal place to route wires connecting to the switch controller.

LIONEL FASTRACK COMPONENTS

Quantity		Description/Number
5	🟩	1.75-inch straight (12026)
2	🟥	4.5-inch straight (12025)
2	🟦	5-inch straight (12024)
1	🟪	10-inch straight (12014)
7	⬭	O-36 curve, 11.25-degree (12023)
2	⚫	O-36 curve, 22.5-degree (12022)
8	🟣	O-36 curve, 45-degree (12015)
1	⬯	O-72 curve, 11.25-degree (12055)
2	🔺	O-36 manual left-hand turnout (12017)
1	🔺	O-36 manual right-hand turnout (12018)
2	🔺	O-36 remote left-hand turnout (12045)
1	U	5-inch uncoupler (12020)
2	Ii	5-inch isolator (12029)
1	B	5-inch block section (12060)
1	U	10-inch terminal straight (12016)
1	▦	grade crossing (12036)
1	▦	grade crossing with flashers (12062)
3	▢	track bumper (12059)

Illustrations by Kellie Jaeger

The Lionel no. 30021 Cascade Range train set we selected comes with a generous 40 x 60-inch loop of FasTrack. Much of the track provided in the set, including one straight section (12014), eight curved sections (12015), one terminal section (12016), and one uncoupler section (12020), can be used to assemble the track plan shown above. However, you will also need to purchase some additional track sections to complete the Cascade & Timber Trail Railway plan.

As you gather the essential components, bear in mind that the list presented here reflects the *total* quantity of required track.
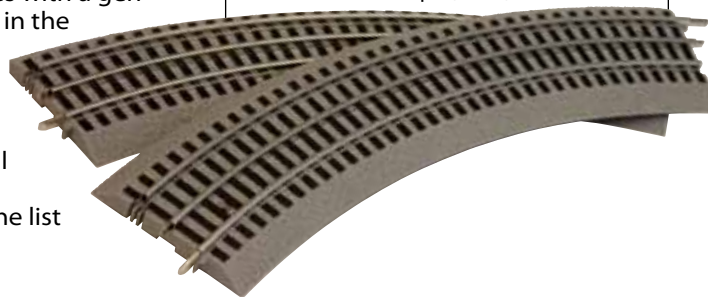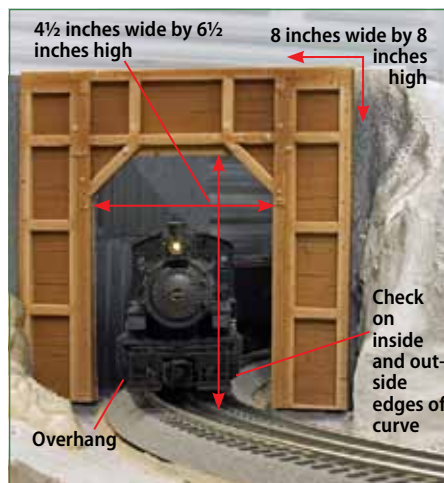
1 PREPARE THE TUNNEL

Trackwork at one end of the layout is enclosed within a mountain. Before installing track at this location, we darkened the tunnel walls (previously formed using stacked foam risers and profile boards from Woodland Scenics) by covering them with Krylon H2O no. 2611 Gulf Gray or no. 2605 Black Sea latex spray paint.
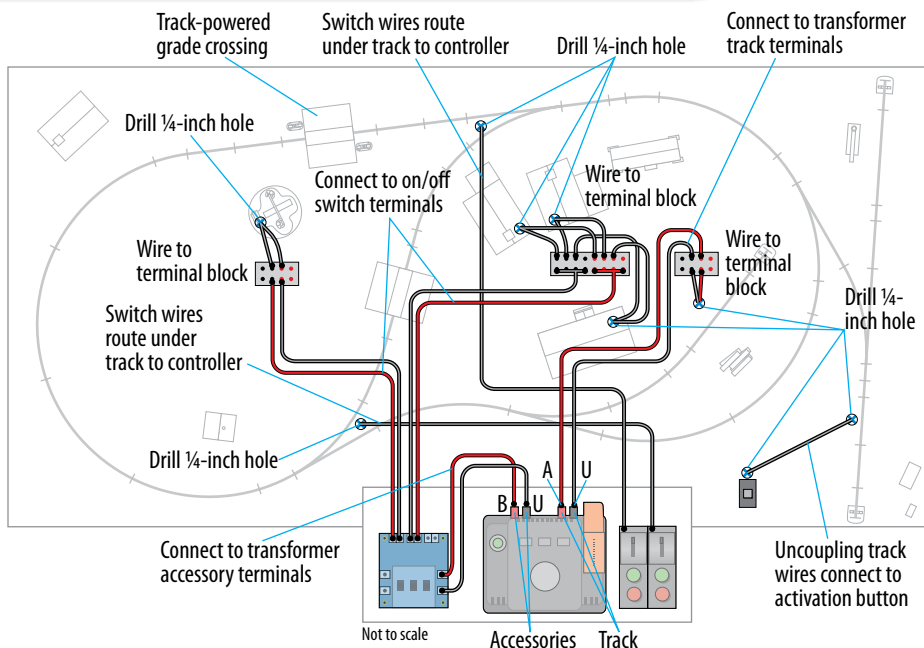
2 TRACK ASSEMBLY

First, we identified each track section required in the plan. Then, starting in a corner of the layout, we laid two straight sections on a flat surface and pushed them firmly together. Curved sections and switches go together the same way to form a complete loop of track around the entire layout.

3 TEST THE TUNNEL

4½ inches wide by 6½ inches high

8 inches wide by 8 inches high

Overhang

Check on inside and outside edges of curve

Using an unpowered locomotive, we tested the clearance through the tunnel and temporarily placed portals. The Scenic Express no. FL6195 portal has a tall and wide opening that accommodates some larger engines. If necessary, use a hobby knife to trim the tunnel components to fit.

III: INSTALL WIRING

Track-powered grade crossing

Switch wires route under track to controller

Drill ¼-inch hole

Connect to transformer track terminals

Drill ¼-inch hole

Connect to on/off switch terminals

Wire to terminal block

Wire to terminal block

Wire to terminal block

Switch wires route under track to controller

Drill ¼-inch hole

Drill ¼-inch hole

Connect to transformer accessory terminals

A U
B U
U

Not to scale

Accessories   Track

Uncoupling track wires connect to activation button

Wiring a layout for operation is often cited as one of the most intimidating steps in the construction process. To help eliminate any reservations you might have about this stage of development on the C&TT Ry., we created this wiring schematic to show how wires route to the control panel

To learn more about the basics of layout wiring, you'll want to read the Kalmbach book *Wiring Handbook for Toy Trains* (10-8375).

HASSLE-FREE WIRING

To develop the wiring scheme for our C&TT Ry., we referenced published articles and Kalmbach books such as *Wiring Your Toy Train Layout* (10-8320). While the resulting scheme is relatively simple, we also made it easy to install by using several handy electrical parts and products.

Some of the most useful products include Atlas O heavy-duty connectors, Atlas 16-gauge layout wire, Atlas spade connectors, and RadioShack terminal blocks and jumpers.

When used together these products eliminate the need to solder connections on the layout. Even better, these connections can be disconnected should we want to make changes.

1 INSTALL UNCOUPLING

First, we marked the location for drilling a hole to be used to route wires between the track and activation button. After separating the Lionel no. 12020 FasTrack uncoupling track from the rest of the layout, we used needlenose pliers to disconnect the two wires attached to the underside of the section.

2 DRILL HOLES FOR WIRES

Next we used a power drill to make a ¼-inch hole through the foam at the location marked adjacent to the track and in the recessed control panel area. We routed the wires down the hole in the control panel and back up through the hole drilled adjacent to the uncoupling track section.

3 REASSEMBLE TRACK

After reattaching the wires, we reconnected the track and secured it to the layout using no. 4 x 1-inch Phillips flathead screws. We used the same technique to install wires from the Lionel no. 12016 FasTrack terminal straight track section located along the logging camp spur.

¼-inch hole routes directly under track switch

Label connections: Yellow, Red, Black, Green
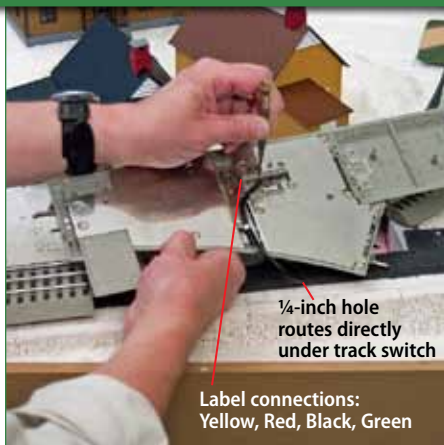
4 INSTALL TRACK SWITCHES

With one exception, we installed the Lionel no. 12045 Fastrack remote-control track switches using the technique described above. Here, we routed the wires up through a hole we drilled directly under the switch. Be sure to mark the proper terminal connections on the switches before disconnecting the wires.
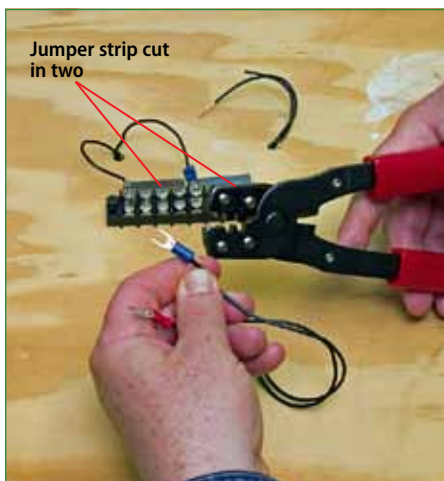

5 WIRE STRUCTURES

We marked the perimeter of each illuminated structure before removing it to drill ¼-inch holes for the wires. The wires attached to these structures are very thin, so use care when routing them down through the hole. Attaching the wires to a hook end of a straightened wire hanger makes this process go easier.

6 WIRE ACCESSORIES

Like the illuminated structures, the wires for the Lionel no. 34192 operating lumberjacks accessory are hidden under the plastic base. At this elevated location, we needed a ¼-inch drill bit with at least a 5-inch-long shaft to bore a hole through the plaster-covered, stacked foam risers and foam base.

Jumper strip cut in two

7 WIRES TO TERMINALS

Under the layout, we attached spade connectors to the stripped ends of the structure wires. Next, we secured the connectors to a terminal block and routed two 16-gauge wires to the control panel. We repeated this step once to wire the lumberjack accessory and again to wire the terminal track section.
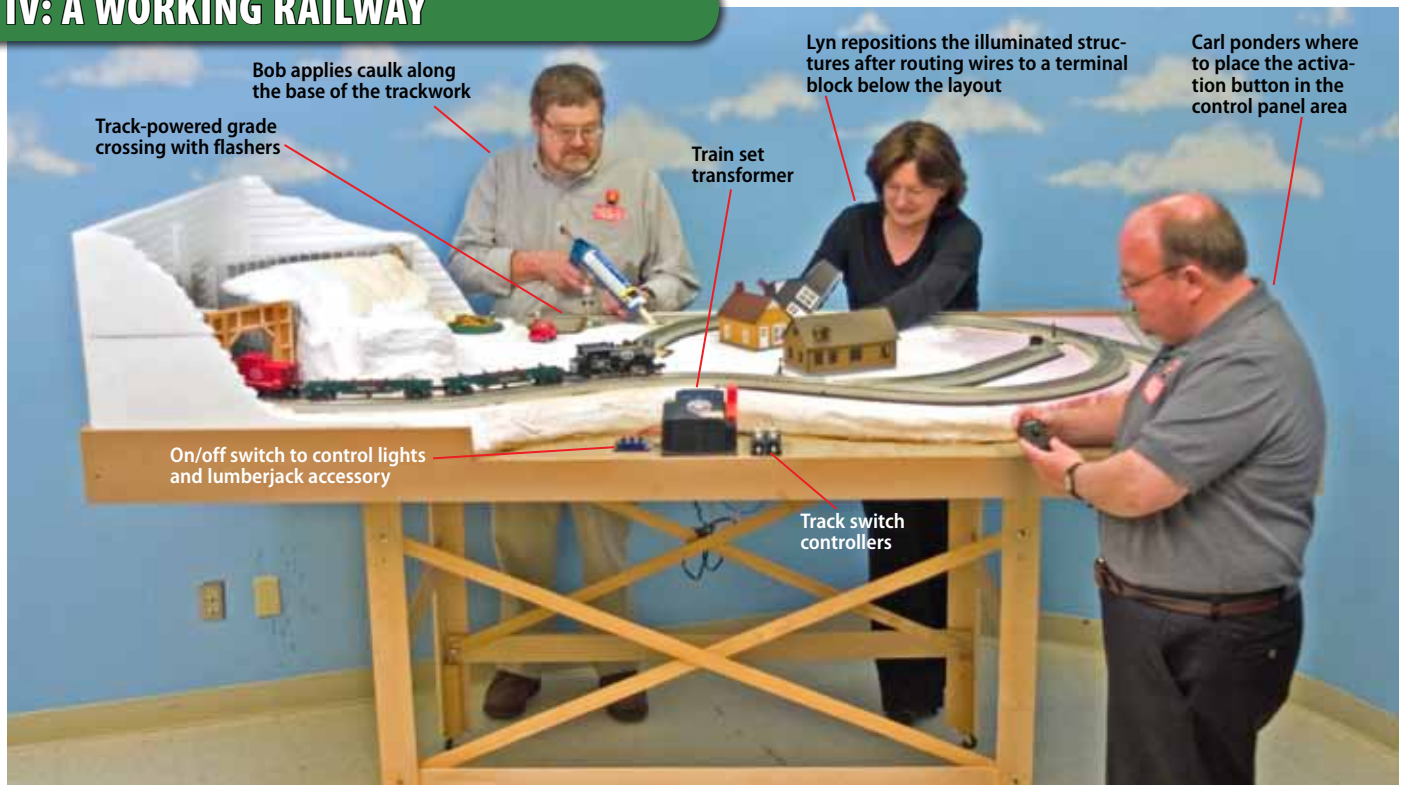

8 ASSEMBLE CONTROL PANEL

First, we drilled a hole large enough to accommodate the track switch, accessory, structure, and terminal track wires. After installing the set transformer and heavy-duty connector (on/off switch), we added spade connectors to the stripped ends of the wires and connected them to the appropriate terminals.

9 FINISH TRACKWORK

While the no. 4 screws we installed in each section will hold the entire loop of track in place, we elected to apply a bead of latex caulk along the base of the trackwork. This final step of the construction phase helps secure the track to the foam base and provides a ledge for the scenery we'll add later.

Track-powered grade crossing with flashers

Bob applies caulk along the base of the trackwork

Train set transformer

Lyn repositions the illuminated structures after routing wires to a terminal block below the layout

Carl ponders where to place the activation button in the control panel area

On/off switch to control lights and lumberjack accessory

Track switch controllers

After what amounted to a weekend's worth of work, Bob Keller, Lyn Dodson, Carl Swanson (left to right), and the rest of the CTT staff spent some quality time running the Cascade Range train set equipment around the new layout.

Although we relished the "playtime" with the smoking steam locomotive and operating accessories, we're keeping our focus on completing the scenery for the Cascade & Timber Trail Ry. **CTT**

SUPPLY LIST

- **Roadbed** – the essentials from Woodland Scenics (woodlandscenics.com) include no. ST1476 Track-Bed roll (2); no. ST1444 foam tack glue; and no. ST1432 foam nails. Also purchase no. 4 x 1-inch Phillips flat head screws (100).
- **Wiring** – key components come from Atlas O (atlasO.com), including a no. 6927 heavy-duty connector; no. 6940 16-gauge layout wire (black); no. 6941 16-gauge layout wire (red); and no. 201 spade connectors. You'll also want to purchase RadioShack (radioshack.com) nos. 274-658 and 274-670 dual-row terminal blocks; a no. 274-650 8-position jumper (2); along with no. 364-3035 spade connectors.
- **Miscellaneous items** – the short list includes Krylon H2O no. 2611 Gulf Gray latex spray paint and paintable latex caulk.
- **Tools** – you'll need black or red markers; a Phillips-head screwdriver; a hobby knife; a drill with a ¼-inch bit; wire cutters/strippers; a wire crimping tool; and needle-nose pliers.

A HELPFUL REFERENCE

Now that our track and accessories are wired for action, we'll begin planning how to shape the plaster-covered foam base into an appropriate backwoods setting. We gathered plenty of inspiration from the recent Kalmbach publication, *The Model Railroader's Guide to Logging Railroads* (12423). For more details about this and other books mentioned in this article, visit www.KalmbachBooks.com
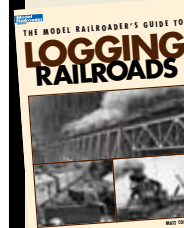
NEXT ISSUE

In Part 4 of the C&TT Ry. layout construction series we'll turn a loop of track into a rugged, timber-lined setting using commercial scenery products.

Create realistic scenery for the
Cascade & Timber Trail Ry.

THE CTT STAFF BRINGS ITS O GAUGE LAYOUT TO LIFE WITH ROADS, ROCKS, AND TALL TREES

story and photos by Kent Johnson

In this final stage of construction on the O gauge Cascade & Timber Trail Ry., the addition of scenery transforms a simple loop of track into a life-like setting. Best of all, making this transformation didn't require any extraordinary skills.

As was the case in each of the previous construction phases, the key to success stems from the use of commercial products that you'll likely find at a hobby shop or home improvement center.

With the help of items such as lightweight spackling, latex spray paints, dead fall forest debris from Scenic Express, and Scenescapes trees by Bachmann, completion of a rugged, deep woods setting is just a weekend or two away. Let's get started!

Construction of our project layout is coming to a close. However, as is evident on the muddy SpecCast no. 38011 dump truck and First Gear no. 50-3067 crawler loader, the action along the rugged Timber Trail has only begun.
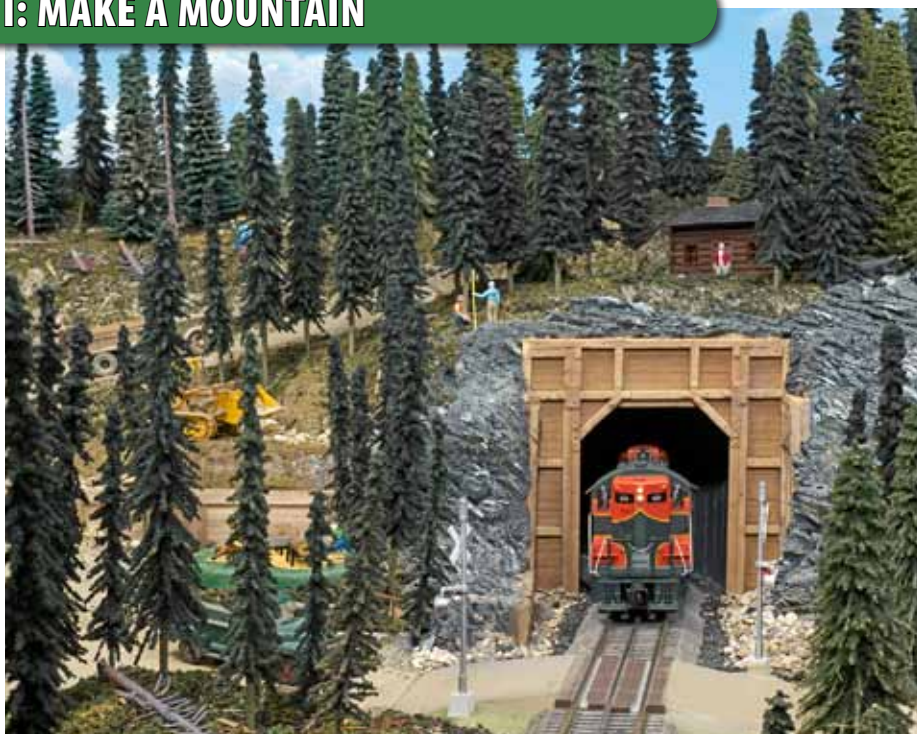
WILLIAM ZUBACK PHOTO

After installing the Lionel FasTrack and testing a few trains through the tunnel walls erected in the first phase of construction, we started to build up the mountainside scenery. Our first step was to add a top to the tunnel using Woodland Scenics no. ST1423 ½-inch foam sheets. When trimmed to fit the area defined by the profile boards, they provided the level surface needed to install Woodland Scenics nos. ST1406 ½-inch risers and ST1411 incline sets.

TUNNEL ENTRANCES

As in real life, tunnels on a layout add to the drama of mountain railroading. The trains on our C&TT Ry. enter and leave the curved tunnel through a pair of portals. In keeping with the logging theme of the layout, we installed no. FL6195 timber frame portals from Scenic Express. Like many other products used to build the mountain, these portals are made of dense foam that's easily trimmed with a hobby knife.
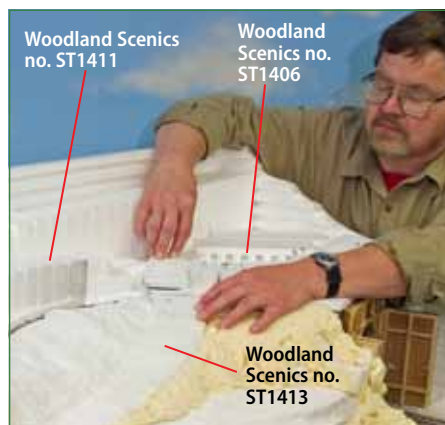
To help integrate these tunnel entrances into the terrain, we used hot glue to secure nos. FL6110 (low) and FL6111 (high) timber retaining walls at the outer edges of the portals. After installing these components, we applied additional foam materials to blend the tunnel entrance into the scene.

Woodland Scenics no. ST1423

Woodland Scenics no. ST1411

Woodland Scenics no. ST1406

Woodland Scenics no. ST1413

Woodland Scenics no. C1203

1 INSTALL TUNNEL TOP

We began by loosely placing two Woodland Scenics no. ST1423 foam sheets over the tunnel area we wanted covered. Next, we used a marker to trace the outline of the curved tunnel walls on the underside of the sheets. Upon removing the sheets, we used a hobby knife to cut them along the line. We secured the cut sheets to the risers and profile boards using foam tack glue.

2 ADD RISERS & INCLINES

Here we used hot glue to install additional Woodland Scenics no. ST1413 incline starters that continue the Timber Trail up the mountain. At the upper end of the trail, we installed Woodland Scenics no. ST1406 ½-inch risers to raise the cabin to the height of the trail. We also added Woodland Scenics no. ST1411 incline sections to create the sloping terrain along the back profile board.

3 MASK THE MOUNTAIN

With the rough scenery forms in place, we created a natural contour to the mountain by adding foam packing peanuts held in place by a lattice of masking tape. We also protected the rails of the track by covering them with blue painter's tape. Lastly, we blanketed the entire area with wet strips of Woodland Scenics no. C1203 plaster cloth and then allowed the scene to dry thoroughly.
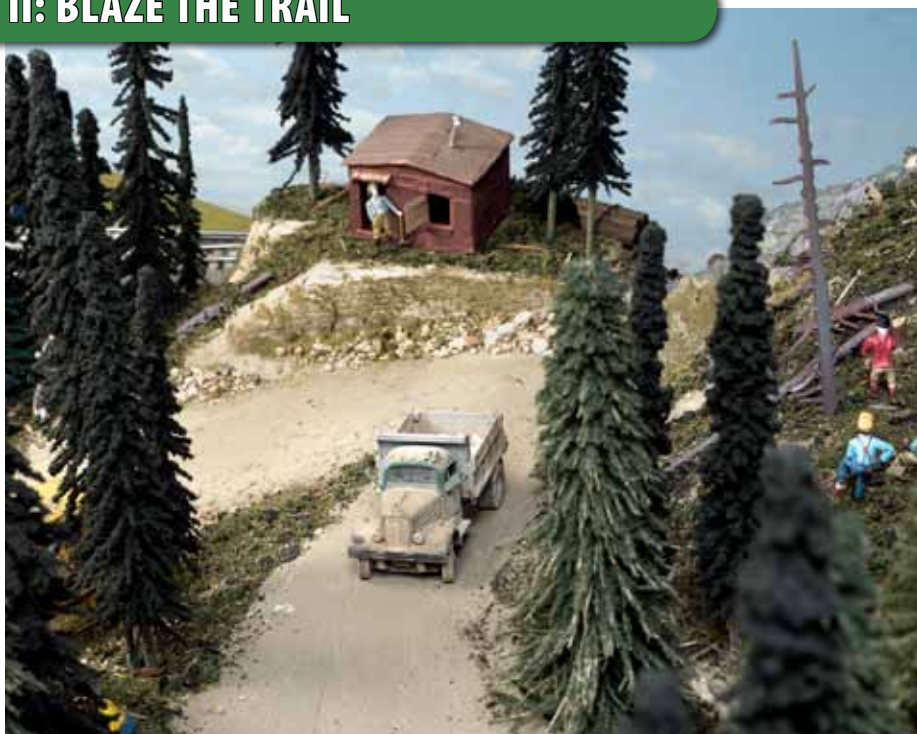
JIM FORBES PHOTO

Judging by the steep incline of Timber Trail, viewers can tell that it's one rough road to traverse! But to make matters more treacherous for hardworking trucks, we wanted to give the Trail a muddy and rut-filled texture that would make each trip an adventure. Although a road made by painting plaster brown will do, we opted to use lightweight spackle that could be molded with ruts and potholes as it cured.

MAKE ROOM FOR ROADS

Many toy train collectors and layout builders claim die-cast car and truck collecting as their second favorite hobby. We tend to agree, especially considering how much the selection, detail, and affordability of O scale (1:43 to 1:53) vehicles have improved in recent years. That's one of the reasons we decided to cover a fair portion of the layout with roads we can use to showcase well-detailed equipment common to the logging industry. SpecCast's nos. 38000 White WC22 cab with lowboy trailer and ZJD1575 International TD-24 forestry crawler are two great examples of work vehicles suitable for use along the Timber Trail.

WILLIAM ZUBACK PHOTO

1 ADD SPACKLE

After allowing the plaster to dry, we began covering the Timber Trail with Red Devil no. 0544 lightweight spackle. Starting at the upper end of the trail, we used a 3-inch-wide putty knife to apply a ¼-inch-thick covering of spackle to the entire length of the road. Following this application, we used a clean knife to smooth the spackle in a manner comparable to frosting a cake.

2 TEXTURE THE SURFACE

Within 20 minutes of application, the spackle will begin to set. At this point, we used a clean, damp sponge to add a coarse texture to the road surface. We started at the upper end of the trail and used a light touch to drag the sponge down the length of the road. Repeat this process using a heavier touch to produce ruts and potholes characteristic of a well-worn mountain road.

Spray entire length of road
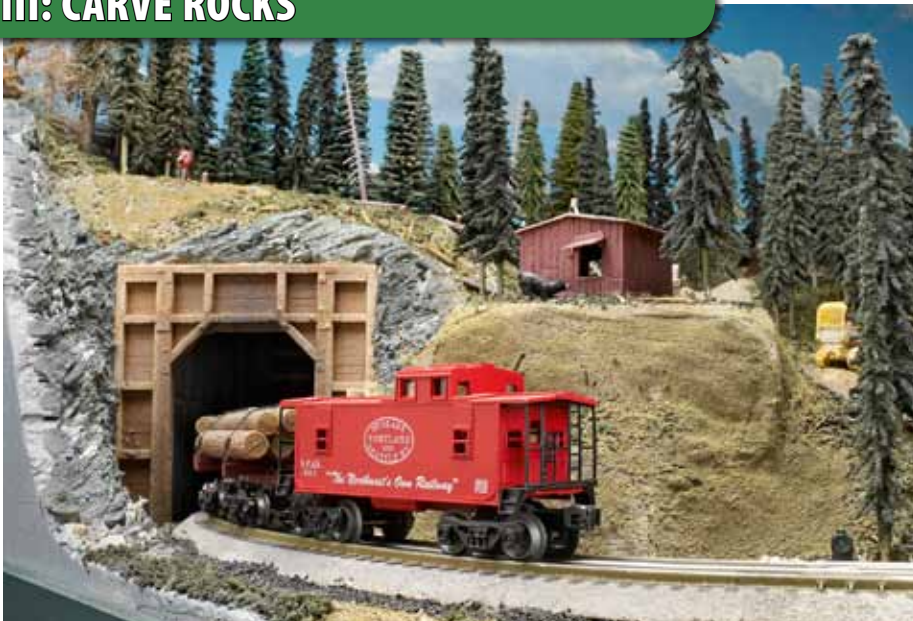
3 APPLY MUD COLORING

We allowed the spackle to harden completely before using fine-grit sandpaper on the textured road surface. Next, we used a vacuum to clean the road and surrounding area of loose debris. Finally, to give the trail its muddy coloring, we used Krylon H2O no. 2613 Panama Canal Beige latex spray paint to cover the road and adjacent areas, including the Lionel FasTrack grade crossings.

WILLIAM ZUBACK PHOTO

One of the easiest ways to portray rugged terrain is to include a mountain face with exposed rock. There are several locations suitable for adding a rocky area to the C&TT Ry., but we decided to highlight the two tunnel entrances by simulating rocks exposed after the railway blasted a route through the mountain.

To form the rocks along this location, we used a household insulation product, a steak knife, and two shades of gray latex spray paint. Additional options for making realistic rock faces can be found in the Kalmbach book, *How to Build Realistic Model Railroad Scenery, 3rd Edition* (12216).
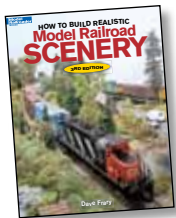
ROCKS FROM A SPRAY CAN

It's hard to imagine that anyone at Dow Chemical would've anticipated using Great Stuff insulating foam sealant to make model railroad scenery. Nevertheless, the product nicely fills gaps and cracks in layout scenery too.

When dispensed from its spray can, the foam sealant has characteristics similar to shaving cream. Unlike shaving cream, it sticks to nearly everything it touches and shouldn't contact exposed skin. Shortly after the foam is dispensed, it expands to approximately double its initial volume. When allowed to cure, the hardened foam can be carved with a knife and painted with a foam-compatible paint, such as Krylon H2O no. 2611 Gulf Gray latex spray paint or Rust-Oleum Aqua no. 223637 Gray Primer, to make intricate rock faces.

1 DISPENSE FOAM SEALANT
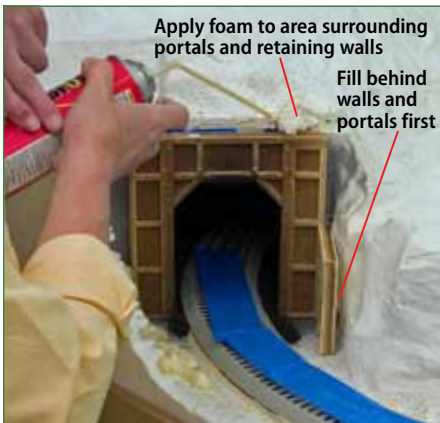
Apply foam to area surrounding portals and retaining walls

Fill behind walls and portals first

We first used Great Stuff foam sealant to fill gaps in the scenery, specifically those along the tunnel portals and retaining walls. Here we applied a minimal amount of foam to keep the walls from shifting under the pressure of the expanding material. After gauging the expansion, we applied sealant to areas surrounding the tunnel openings and let the material cure.

2 CARVE HARDENED FOAM

Make angled cuts in foam to add rock strata

After determining the foam had cured completely, we used the sharp tip of an inexpensive steak knife to lightly chisel away portions of the material. Our natural-looking rock strata is the result of making numerous, angled cuts into the foam. Once satisfied with the appearance of the rough cuts, we used a wire brush to scratch additional texture onto the rock face.

3 PAINTED ROCKS

Using a shop vac, we cleared the mountain and tunnel of any foam debris. Next, we prepared the area for painting by masking the adjacent track, timber frame portals, and retaining walls with blue painter's tape. To enhance the illusion of depth and detail, we first painted the rock face with dark gray latex spray paint, followed by a dusting of light gray latex primer.
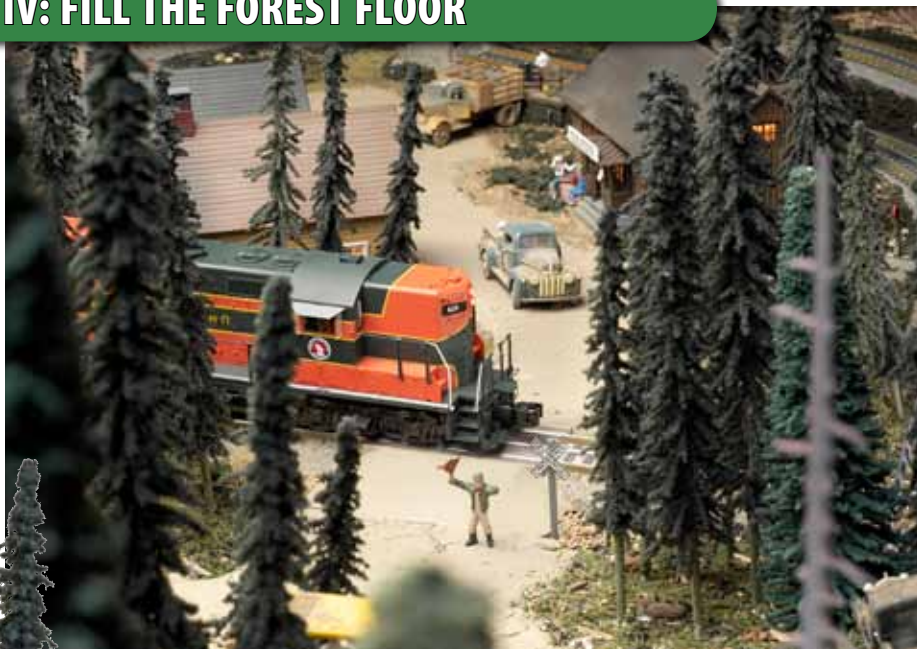
WILLIAM ZUBACK PHOTO

There was once a time when layout scenery was limited by the availability of a scant few unrealistic offerings. Today, numerous manufacturers provide a broad variety of realistic products for nearly every toy train setting imaginable, including the deep woods of the C&TT Ry. Some of the most useful scenery products for our project layout included Scenic Express nos. EX896C dead fall forest debris and EX887C swampy bog blend; Bachmann no. 32203 Scenescapes conifer trees; and Woodland Scenics no. TR1125 tree armatures (pine).

STRUCTURES AS SCENERY

Don't forget that structures may require modifications to blend them into a realistic setting. On the C&TT Ry., we used Bachmann's Plasticville USA no. 45983 hobo jungle set, which includes structures made from plastic with a glossy sheen.

By applying a few light brush-strokes of Tamiya no. XF-52 Flat Earth paint to the roof and sides, we were able to give this structure a more appropriate aged appearance, where some of the original plastic color shows through.

Most structures also received realistic weathering effects applied using paint markers and an airbrush.

1 PAINTED SCENERY

Woodland Scenics no. B1390

Our realistic scenery began by using a foam brush to apply brown latex paint to any bare area. We started along the control panel and restricted our work to a single 2 x 2-foot section at a time. Before the paint had dried, we poured enough Woodland Scenics no. B1390 cinders to cover the caulked edges of the track. We repeated this process over the entire layout.

2 APPLY DILUTED GLUE

We added an authentic forest floor texture to the C&TT Ry. using ground-up bits of foam. After the paint had dried, we used a foam brush to apply diluted white glue (mix ½ ounce of water to 1 cup of glue) to a 2 x 2-foot area that would include trees. During this process, we kept an old rag handy to clear the glue away from roads and locations for structures.

3 PILE ON THE COVERING

In one step, we created a realistic forest floor by sprinkling a handful of Scenic Express Flock & Turf no. EX896C dead fall forest debris over the glue-covered area. This blend of debris includes ground-up bits of foam scenery and natural materials that you'd expect to see on a forest floor. In areas without trees, we applied Scenic Express Flock & Turf no. EX887C swampy bog blend instead.

4 ADD AN EXTRA HELPING

After seeing the results of adding dead fall forest debris and swampy bog blend, we decided that all the other areas of the layout would look better with more texture added to the base coat of brown paint. We applied blends of Woodland Scenics ground covering and ballast, along with natural materials, including real dirt, rocks, and twigs.

5 BLEND THE TEXTURES

We knew that glue alone wouldn't hold all the texture in place. Our effort to secure the texture to the layout required a two-step process that began by spraying a mist of isopropyl alcohol over the scenery. This mist of alcohol acts as a wetting agent that breaks the surface tension and makes the following step much more effective.

6 CEMENT THE SCENERY

While the scenery was still damp from the alcohol, we used a bottle with a small opening to drizzle Woodland Scenics no. S191 scenic cement over the scenery area. In areas where the cement rests on top of the scenery, we reapplied a mist of alcohol to break the surface tension. Allow the wet scene to dry before attempting to reapply cement.

7 A CONCENTRATED FOREST

The key element of the C&TT Ry. is its seemingly dense forest. We could've used scores of commercial trees to create this effect. Instead, we arranged our trees by size and shape to give viewers the impression that the forest gets thicker and taller as the Timber Trail ascends the mountain. To test our plan, we first used a screwdriver blade and an awl to bore holes into the scenery.

8 TEMPORARY TREES

While good-looking trees are becoming more economical, the cost of populating a forest can add up quickly. With that in mind, we tested our forestation plan by first installing various sizes of drinking straws and stir sticks to represent trees. Once we were satisfied with the arrangement of our forest, we counted the straws and ordered the appropriate number of trees.

9 TREES APLENTY

Bachmann Scenescapes no. 32203 conifer trees filled most of the forest, but we also used other bulky trees to disguise open areas. In addition to these mature trees, we painted and trimmed tree armatures to represent dead timber. We installed each tree by dropping a bead of foam tack glue into the bored holes. Lastly, we used binder clips to hold the trees level until the glue set.

CASCADE & TIMBER TRAIL RY. SERIES

December 2008 – Introducing the track plan
January 2009 – Building the layout framework
February 2009 – Installing track and wiring
March 2009 – Adding scenery

To purchase back issues of *Classic Toy Trains* magazine, you can either go to ClassicToyTrains.com and click on "Our Magazine" or call Customer Sales at 1-800-533-6644.
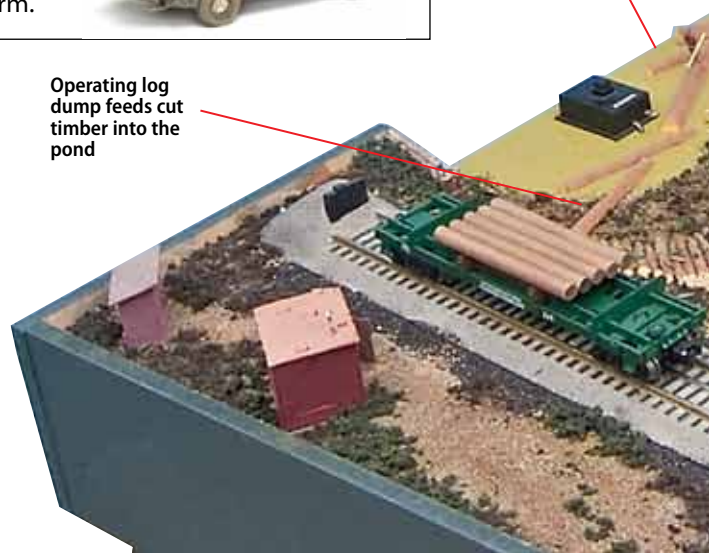
READY FOR MORE?

Although we've concluded the basic construction of the Cascade & Timber Trail Ry., no layout is ever truly finished. In upcoming issues of *Classic Toy Trains* we'll feature insights on adding the details that help give the C&TT Ry. its distinctive charm.

Off-color green latex paint used to respresent a muddy log pond

Operating log dump feeds cut timber into the pond

WILLIAM ZUBACK PHOTOS

Using an array of tree sizes and selective placement of those trees helped us create a forested environment that looks and feels much larger than its 4 x 8-foot confines. **CTT**

SUPPLY LIST

• **Scenery products** – the essentials from Bachmann (bachmanntrains.com) include Scenescapes no. 32203 conifer trees (20). The essentials from Scenic Express (scenicexpress.com) include nos. EX0201 big pine and fir assortment (2); EX887C swampy bog blend; EX896C dead fall forest debris; FL6110 timber frame retaining wall - low post (2); FL6111 timber frame retaining wall - high post (2); FL6195 O scale timber frame portal (2). Lastly, the essentials from Woodland Scenics (woodlandscenics.com) include nos. B1390 cinders (coarse); C1203 plaster cloth; C1271 buff talus

(medium); FC1639 underbrush (forest blend); S191 scenic cement; ST1406 ½-inch risers; ST1411 incline sets; ST1413 4 percent incline starters; ST1423 ½-inch foam sheets; ST1444 foam tack glue; T1350 blended turf (earth); T1366 coarse turf (conifer); TR1125 tree armatures (pine).

• **Miscellaneous items** – the list includes binder clips; blue painter's tape (2-inch); drinking straws and stir sticks (various sizes); Great Stuff (12-ounce) insulating foam sealant – gaps and cracks; hot glue gun and glue sticks; isopropyl alcohol

(70 percent); masking tape; Red Devil no. 0544 Onetime lightweight spackling; sandpaper (240-grit); sponge; white glue (all-purpose); rags used for cleanup.

• **Paints** – the list includes brown latex paint (1 gallon); Krylon H2O nos. 2611 Gulf Gray and 2613 Panama Canal Beige latex spray paint; Rust-Oleum Aqua no. 223637 Gray Primer; Tamiya no. XF-52 Flat Earth.

• **Tools** – you'll need an awl; foam brush (2-inch-wide); putty knife (3-inch-wide); screwdriver; steak knife; wire brush.

Assorted bushy pine and fir trees help hide profile board and fill scenes

Painted plastic tree armatures used to represent dead or fallen timber

A layout filled with loggers, laborers, and lumbering forest critters from Arttista and Woodland Scenics

Scenics Express no. EX887C swampy bog blend applied along the outskirts of the logging camp

Atlas O Industrial Rail no. 1004002 skeleton cars with log loads are suitably scaled to the small 0-6-0 steam locomotive

CTT+ ON THE WEB

Subscribers can view video clips of the layout in action by going to ClassicToyTrains.com and clicking on "News." And then clicking on "Videos."

Loading ramp and weathered SpecCast no. 38006 stakebed truck

Locomotive servicing area featuring MTH no. 30-11007 water column

Use details that make a difference

O SCALE TRUCKS, FIGURES, CRITTERS, AND FINE
DETAILS BRING OUR 4 X 8-FOOT LAYOUT TO LIFE

story by Kent Johnson
photos by Jim Forbes and Kent Johnson

After installing the track and basic scenery on a layout, it's sometimes hard for layout builders to focus on anything other than running trains. However, most layout visitors are attracted to scenery and the array of small details used to create a realistic scene in miniature.

Knowing this, the staff of *Classic Toy Trains* paused just briefly to enjoy running trains before promptly starting to look for places to add figures, animals, vehicles, and structural details along the rugged Timber Trail.
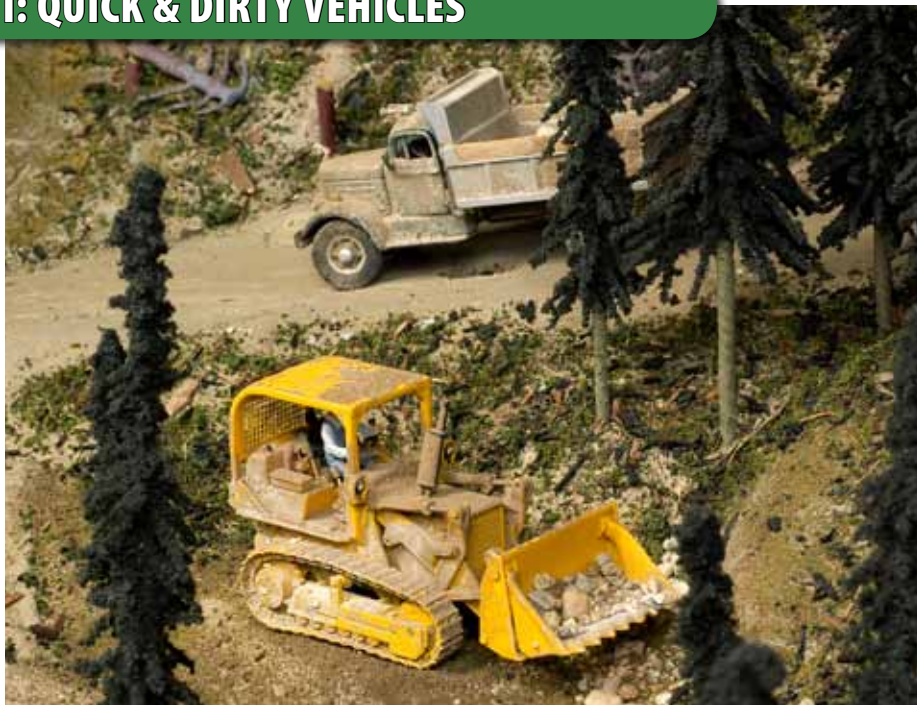
Logging is a rough-and-tumble industry that requires tough machinery that can operate in extreme conditions. Here we'll use real dirt and gravel to make die-cast trucks and logging vehicles appear as if they're right at home in our formidable forest setting.
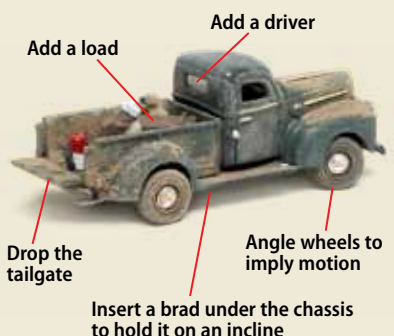
SUPPLY LIST

- **Fine dirt -** Make sure it's dried and filtered through a tea strainer before using it on your layout.
- **Gravel –** A collection of loose gravel (approximately ½ inch in diameter) and dust from a walkway, road shoulder, or rock pile works best here.
- **Spray adhesive –** Using a low-tack adhesive like Krylon no. 7020 Easy-Tack keeps things from getting too sticky. You can also use a spray such as Testor's no. 1260 Dullcote lacquer.
- **Tools –** You'll need a ½-inch-wide stiff paintbrush, some cotton swabs, and a plastic spoon to apply the dirt and gravel. Use empty (clean and dry) 1-gallon paint or coffee cans with lids to store dry materials.

SpecCast 38006 stake bed truck

First Gear 50-3067 crawler loader

GearBox GB-41BOX pickup with load removed

Built forest tough. Start by selecting a vehicle that's likely to be used off-road. Pickups, utility trucks, and 'dozers are good candidates. Remove any fragile details or add-on loads that are likely to break off with rough handling.

Apply adhesive. Place the truck on newspaper in a well-ventilated area. Spray the truck with a light coat of adhesive. Target the adhesive toward the lower half of the vehicle, keeping overspray on the roof and windows to a minimum.

Mud on the tires. While the spray adhesive is still tacky, place the lower half of the truck into a large container filled with fine dirt. Use a plastic spoon to sprinkle a few spoonfuls of dirt over the top and sides of the truck body.

Seal in the dirt. Remove the truck from the dirt and shake off any excess debris. For heavier coverage, repeat the previous step using loose gravel. Finally, spray the entire truck with Dullcote lacquer to seal on the weathering.

Clear view, dirty truck. Moisten a cotton swab slightly with a bit of soapy water. Place the damp tip on the truck's front windshield and twist to simulate a path cleared by wipers. Use the same swab to clear dirt from the door handles.

TRUCKS ON DISPLAY

Here are a few tips for making trucks look more authentic:

Add a load

Add a driver

Drop the tailgate

Angle wheels to imply motion

Insert a brad under the chassis to hold it on an incline

WILLIAM ZUBACK PHOTO

CLASSIC TOY TRAINS MAGAZINE

Like the song says, "People make the world go 'round." That's why we've populated the Cascade & Timber Trail Ry. with plenty of living things in addition to a forest full of trees. Careful composition is the key to creating authentic scenes.

SUPPLY LIST

- **Figures** – Woodland Scenics nos. A2727, A2735, and A2741 sets form most of the work force. Arttista nos. 1345, 1346, 1348, 1350, and 1354, along with Woodland Scenics no. A2737 black bears, add wild things to the forest. Arttista figures nos. 1219, 1333, 1334, 1413, or 1414 make good wheelmen.
- **Adhesives** – Use Glue Dots (gluedots.com) on smooth surfaces; white glue on slightly textured surfaces; and Woodland Scenics no. S190 scenic glue or no. ST1444 foam tack glue on uneven areas. Super glue is also useful.
- **Tools** – You'll need small needlenose pliers or Micro-Mark no. 60699 tweezers.

Waitin' on a train. Even in the remote woods, vehicles must yield to rail traffic. Adding a dab of white glue to the feet of a Woodland Scenics A2727 figure will keep him waiting for the slow-moving train.

TIM-BERRRR! Our disease-ridden forest offers Woodland Scenics A2735 lumberjacks an ideal place to ply their trade. Use the Woodland Scenics S190 scenic glue to secure figures to the uneven forest floor.

A little R&R. Logging is tough work, so a little time to relax goes a long way. Based on a tip from a CTT reader, we used Glue Dots to install Woodland Scenics A2727 checker players on the smooth surfaces.


Courageous cougar. At the forest edge, an Arttista 1354 puma stalks the Woodland Scenics A2737 bear cubs secured to the carved foam rocks using Woodland Scenics ST1444 foam tack glue.

Rascally rabbit. An Arttista 1345 rabbit flees the approaching train. Make critters take flight by using super glue to fix them to a metal paper clip. Trim the clip and insert the end into the foam scenery.

STRIKE A POSE

Here are a few tips for setting the scene:
- Choose figures of similar scale and detail
- Install figures and critters in groups of 1, 3, or 5
- Combine figures with active and passive postures
- Include animated or illuminated figures
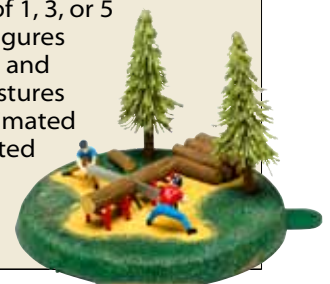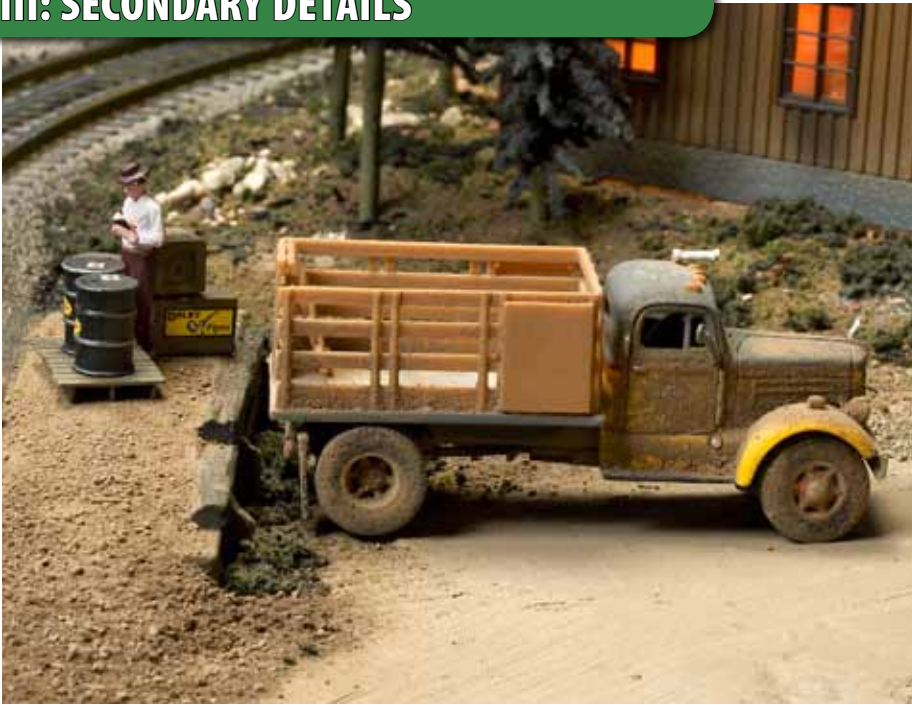
While an initial application of scenery materials helps establish the general "look" of a toy train layout, the smaller, less obvious scenery details and secondary structures get the credit for introducing a particular character or "feel."

SUPPLY LIST

• **Details** – Even in the backwoods, there are plenty of ways to enhance a scene. An A.I.M. Products (aimprodx.com) no. 963 ramp; Scenic Express nos. PL0002 and PL0003 tree stumps (sceneryexpress.com); Osborn Model Kits signs (osbornmodel-kits.com); and Woodland Scenics nos. A2739 crates and TR1125 tree armatures help give the C&TT Ry. its character.

• **Paints** – Floquil (testors.com) railroad acrylics, including BNSF Yellow; Dust; Earth; Grimy Black; and Railroad Tie Brown, add an authentic hue to details on the C&TT Ry.

Loaded up. Timber is the primary load exiting the forest. By painting and installing a plaster loading ramp, you'll create a place to transfer other goods arriving at the camp via railcar.

Crates and barrels. Arriving bulk goods and supplies are trucked to storage sites within camp and farther up the Timber Trail. Adding an array of crates and barrels helps denote these storage areas.

Wall-to-wall wood. Items ranging from plastic tree armatures to die-cast metal tree stumps to stacks of real wood can be used to add forest products and debris along the Timber Trail.

Sign says. Posted signs remind workers of the many perils along the Timber Trail. Osborn Model Kits offers railroad crossing signs and road signs appropriate for an old logging road.

Fill in the gaps. The most authentic buildings have buried foundations. To mask unrealistic gaps, run a bead of white glue along the bottom edge of structures and add coarse foam, dirt, or ballast. **CTT**

CASCADE & TIMBER TRAIL RY. SERIES

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CTT+ **ON THE WEB**

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Add operating features to the Cascade & Timber Trail Ry.

## LIONEL FASTRACK SECTIONS HELP FORM OUR WORKING LOG DUMP AND ELECTRICALLY-ISOLATED SERVICING TRACK

story by Kent Johnson • photos by Kent Johnson and William Zuback

When we installed the track for our 4 x 8-foot project layout, we included a Lionel no. 12020 FasTrack uncoupler track section to activate the operating log cars supplied in the original no. 30021 Cascade Range train set. But rather than using the set's no. 160 plastic bin to receive the logs dumped from these cars, we built a realistic unloading area using commercial detail parts and scenery materials.

We also modified a Lionel no. 12060 FasTrack block section to form a locomotive-servicing area. With the flip of a toggle switch, we can deactivate track power and store a spare locomotive. Let us show you how easy it is to do!
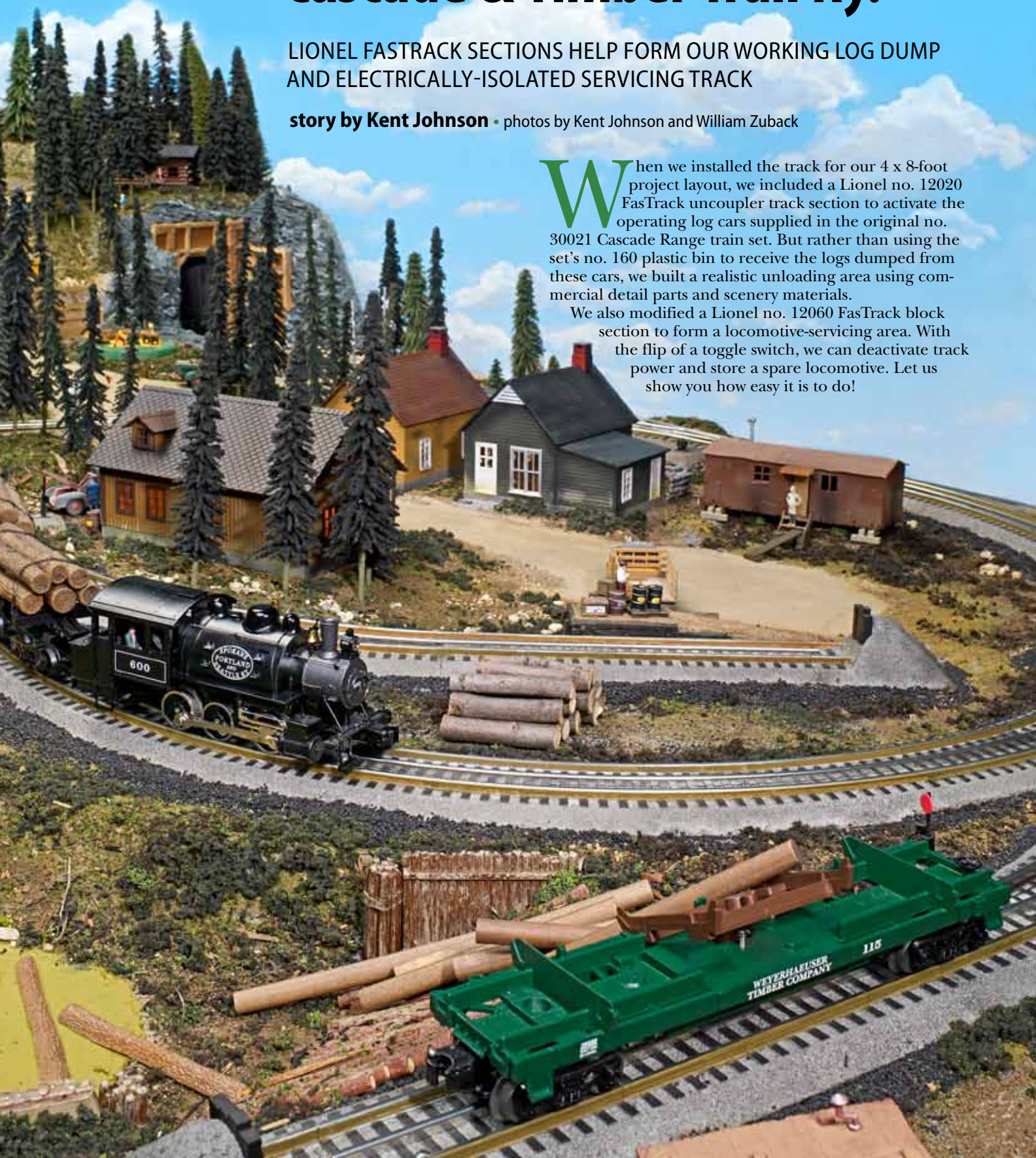
I: BUILD A WORKING LOG DUMP
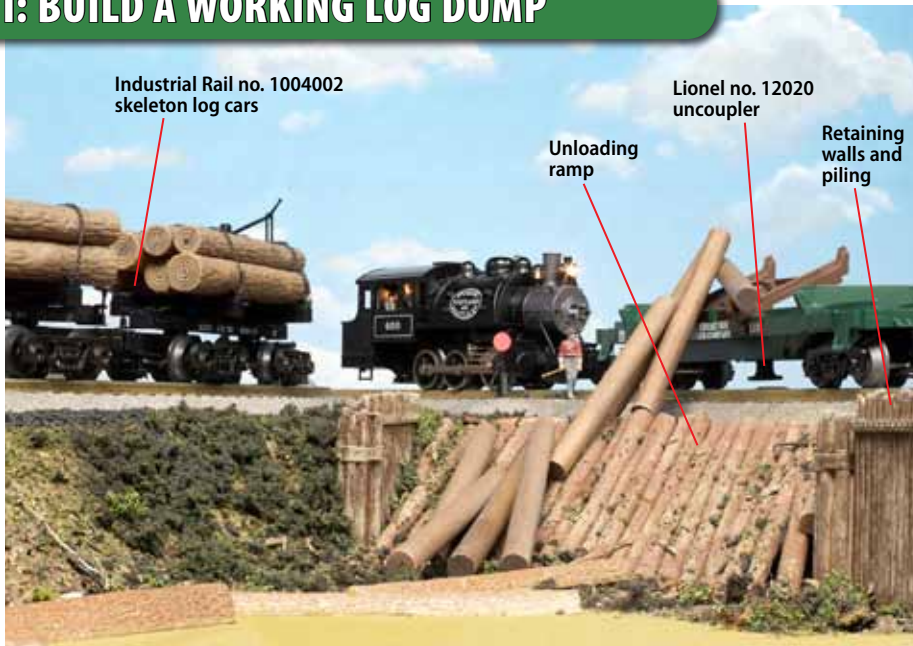
Industrial Rail no. 1004002 skeleton log cars

Lionel no. 12020 uncoupler

Unloading ramp

Retaining walls and piling

Although the rails of the C&TT Ry. help haul timber out of the forest, the final leg of the trip to the sawmill is by water. To create our log pond we'll use a muddy green shade of latex paint, along with detail components that form the retaining walls and ramp in the log dump area. We'll also scatter plenty of wood debris to reflect the rough handling the logs experience during the unloading process.

Carve flat surface for walls

Install retaining walls. Use a pencil to mark the placement of the painted walls and pilings. Next, use a serrated knife to cut the foam board to create a flat, vertical surface on which you'll attach the walls using foam tack glue.
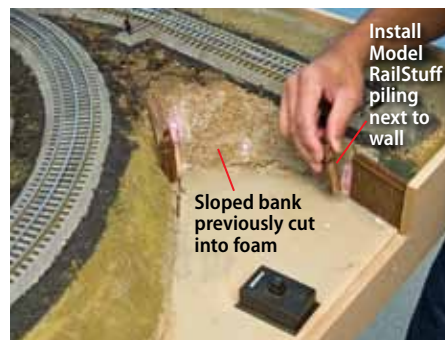
Install Model RailStuff piling next to wall

Sloped bank previously cut into foam

Add pilings. After installing the walls, use the same process to install the pilings. Once these parts are in place, use the knife to carve a sloped bank (45- to 60-degree angle) into the area between the two walls added in the previous step.
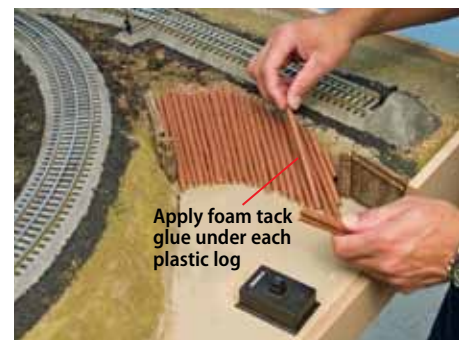
Apply foam tack glue under each plastic log

Test-fit the log ramp. Loosely place the Walthers plastic logs to form a ramp along the sloped bank. Use a razor saw to cut similarly sized logs to fit. Temporarily remove each log and add a bead of glue to the foam directly under it.
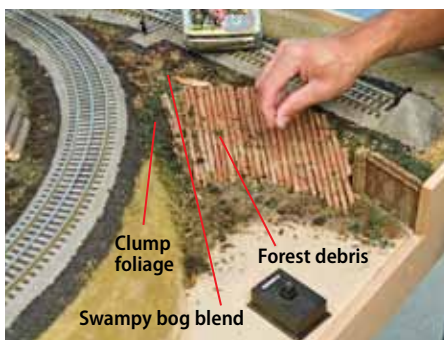
Clump foliage

Forest debris

Swampy bog blend

Add scenery. Sprinkle the ramp and area below it with Scenic Express forest debris. Add the swampy bog blend and clump foliage to the surrounding areas. Finally, spray these locations with scenic cement to secure all ground coverings.
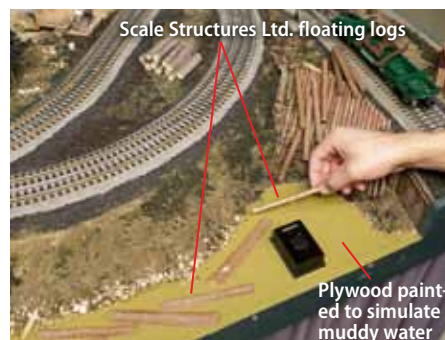
Scale Structures Ltd. floating logs

Plywood painted to simulate muddy water

Paint water, add logs. Simulate a silt-filled log pond by painting the plywood layout base a muddy green color. While the paint is wet, add several flat-bottom logs to the water area. These logs represent timber floating downstream to the sawmill.

AN AUTHENTIC ACCESSORY

A recent Kalmbach publication, *The Model Railroader's Guide to Logging Railroads* (12423), provides photos and descriptions of how real logging railroads load railcars in the forest and then empty a log train at a sawmill pond unloading ramp. For more details about this book and other references on real railroads, visit www.KalmbachBooks.com.

WILLIAM ZUBACK PHOTO
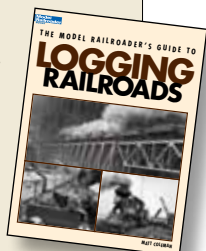
Business on the C&TT Ry. is good enough to warrant the acquisition of a new GP9 diesel locomotive but our original 0-6-0 switcher has plenty of operating years remaining, so we'll need an electrically isolated track section to keep it off the main line, yet prepared for a call to duty. Starting with a FasTrack block section, we used a unique FasTrack cable, a toggle switch, and a few scenic details to make our servicing area.


Lionel no. 12060

Lionel nos. 12026, 12014, and 12059
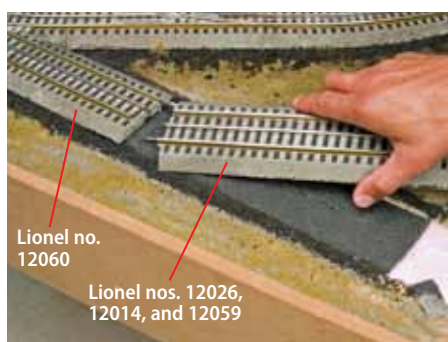
Disassemble track. First, we removed all of the FasTrack sections originally installed along the servicing track spur. After removing them from the layout, lay all of the track sections upside down along the spur to prepare for the next step.


Mark location for wires. Based on the approximate position of Lionel no. 12060 block section, use a permanent marker to indicate the center point of this section when installed. This is the location where wires will route under the layout table.

Drill hole through table. Next, we used a power drill to make a ¼-inch hole through the roadbed, foam board, and tabletop. Depending on the thickness of your table, you may need to use an extended-length drill bit to bore through.

Center-rail terminal
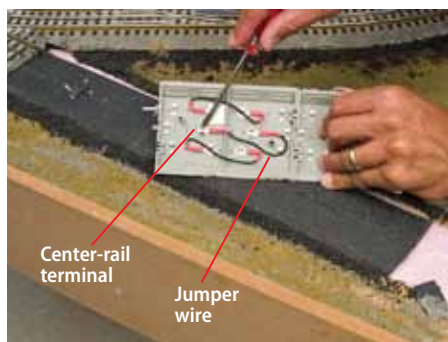
Jumper wire

Disconnect jumper wire. On the underside of the FasTrack block section, you'll find three wires fastened to six terminals. We used a flat head screwdriver to gently pry the two center-rail terminals loose and disconnect the middle jumper wire.

Accessory power cable

Center-rail terminal at midpoint of section
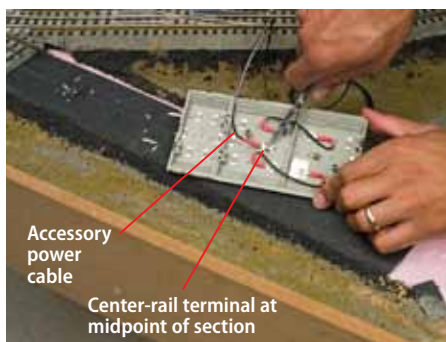
Connect extended cable. We located the previously loosened center-rail terminal at the midpoint of the block section and used needlenose pliers to attach the quick connector end of the Lionel no. 12053 FasTrack accessory power cable.
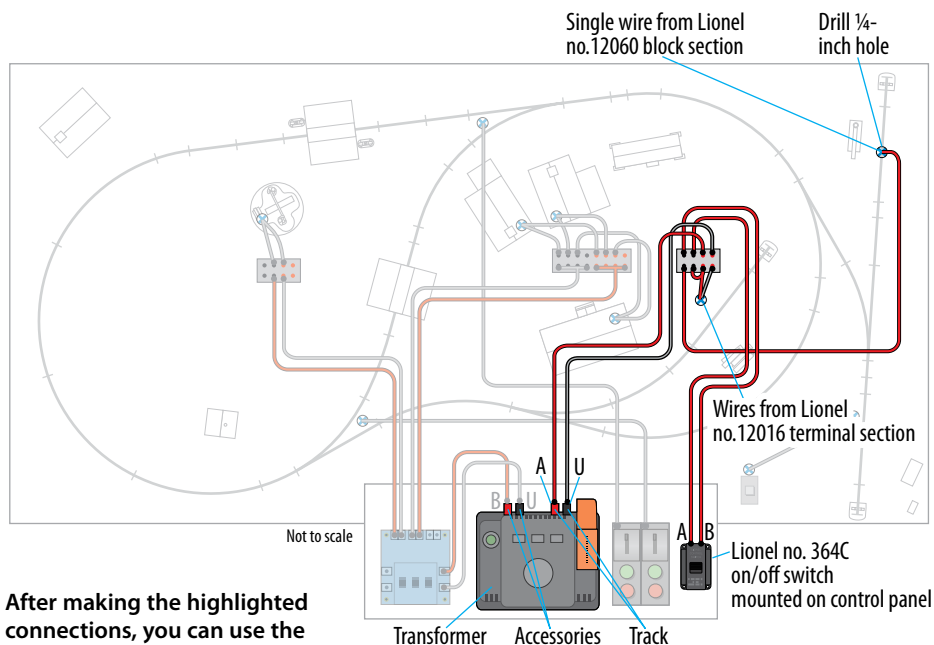

Route cable through table. After routing the cable through the hole, we reinstalled all track sections and wired the block section with the aid of a terminal block, a control panel toggle switch, and the following wiring scheme.

Wiring scheme modifications

Single wire from Lionel no.12060 block section

Drill ¼-inch hole

Wires from Lionel no.12016 terminal section

Not to scale

A U

B U

A B

Lionel no. 364C on/off switch mounted on control panel

Transformer   Accessories   Track

After making the highlighted connections, you can use the on/off switch to toggle power to the block section.

Illustration by Kellie Jaeger

Cinders spread along roadbed and throughout area

Clump foliage used as thick brush

Swamp blend represents overgrown weeds

END OF THE LINE

Although this article concludes the bonus material related to the construction of CTT's Cascade & Timber Trail Ry., a 4 x 8-foot O gauge layout with starter set origins, you can look forward to more layout building projects in forthcoming issues of *Classic Toy Trains* magazine.

In fact, you'll only need to wait for the next issue to arrive! Starting in the September 2009 issue of CTT, we'll begin a brand new layout construction series. We'll introduce a traditional O gauge layout that's bound to make you recall the classic Lionel displays that were popular throughout the 1940s and 1950s.

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CTT+ ON THE WEB

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Add scenery and details. After wiring and testing the circuit, we began adding the scenery and details that make this area appear more like a remote locomotive-servicing area for our rustic Cascade & Timber Trail Ry. CTT