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Model Railroad Hobbyist July 2019 | #113
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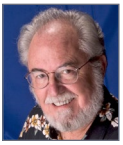
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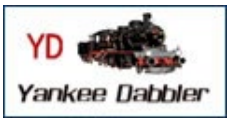

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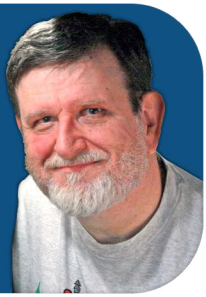

Model Railroad Hobbyist | July 2019

Joe Fugate: Siskiyou Line 1, going, going, ...

"I thought you dismantled your layout aready." That's what people have told me when I have told them that some 80% of the old layout still remains.

It took at nearly two years of one Saturday a month to get all the benchwork, roadbed, and raised floor in place. Why should it come as any big surprise the layout doesn't come out in a day, either?

To catch you up if you came in late, in 2017 I decided to dismantle my 26 yearold layout, now dubbed the Siskiyou Line 1. It's called SL1 because a Siskiyou Line 2 will be coming in its place.

It's a long story, but basically when my 90 year old mom finally passes (could be next week, could be a decade from now), I'm planning to sell my house and move out of town onto some rural property. The MRH offices and TMTV studio west will move as well.

You can't sell a house with a layout filling half the basement, so it needs to come out. Rather than rush, I decided to dismantle now and start a new TOMA version of the Siskiyou Line in the freshly refinished basement.

The hallmark of TOMA (The "One Module" Approach) is that you can build a home layout using modular / sectional methods and then if you relocate, you can take the layout with you!

We've been promoting TOMA as a great option for building a home layout for several years now, and it actually becomes quite useful for me that I can now also practice what I preach.

But before I can get too eager about building Siskiyou Line 2 TOMA modules, I need to get Siskiyou Line 1 dismantled!

I spent a good part of my spare time last fall dismantling SL1's staging area and the Dillard Mill shelf. That took ten, count them, ten van loads to the dump. One load with lots of plaster and lumber in it weighed over 250 pounds!

After all that work, the winter season set in and I ceased dismantling work until warmer weather came again this spring. I estimate I managed to remove 20% of the SL1 layout. Meanwhile, 80% of the layout remained!

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Publisher's Musings | 3

I decided to rent a dumpster this time and fill it rather than doing so many costly and time-consuming separate loads to the dump.

In early June my son came over, we got out the sawzall, hammer, crowbar, and drills (for removing screws) and set to dismantling more layout. Over two days, we managed to get another 20% of the layout dismantled and filled up the dumpster right to the brim.

So at this point, some 60% of the layout *still remains to be dismantled*. What a big job this is – don't let anyone tell you dismantling some 1100 square feet of layout bolted-to-the walls layout is quick. I gave no thought to layout removal when building it; it's built to last.

Mounting the layout solidly to the room walls, floor, and ceiling slows dismantling way down. This layout uses a double deck mushroom configuration, which demands anchoring to the ceiling for good support – and it has a stout raised floor on the mushroom

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upper deck side that's anchored to the basement's concrete walls and floor.

My daughter Tana had to come have a look-see when she heard her brother and I were madly dismantling the layout in the basement.

Tana does live video sessions on the internet and as she was watching the spectacle, she suggested we should do a live video of the dismantling.

With her help, we did an impromptu test live session on the dismantling. It went well, so we scheduled a real live session a few hours later, recording two videos.

Try these links if you would like to see the dismantling and discussion:

Dismantling video 1
[youtu.be/SSoFN1nn1vI]

Dismantling video 2
[youtu.be/dsvEPMUT5xY]

Now, we have dismantled 40% of the layout but the 60% that remains means there is much more material still to come out of the basement.!

1. Here's the Dillard Mill shelf being dismantled last fall. This one shelf once dismantled weighed over 250 lbs!

2. The first piece of Siskiyou Line 1 goes into the dumpster at the dump last fall.

I am saving all the trees, bridges, tunnel portals, abutments, and structures. The benchwork, plaster scenery, and trackwork that's been ballasted all is going into the trash.

It's hard to remove track that's been ballasted without warping it. So I just throw it out.

One thing I am doing is I'm saving the Tenmile Creek trestle scene that I built as part of my Siskiyou Line video series.

I'm going to frame it up with some nice profile boards, then put it on eBay to sell in an auction. If you might be interested, watch for the announcement.

We'll set a low reserve price for the scene and see how it goes. If you'd like to own this scene that's from my video, then here's your chance. Good luck!

You will, however, be responsible for paying shipping. I plan to crate it up so it can be shipped nicely protected from damage.

3. The dismantling we did this spring totally filled up this dumpster. Here it is just over half full after the first day. On the second day, we tamped it down and then filled it full to the brim. We managed to get another 20% of the layout dismantled over the two days.

4. I've removed the Tenmile Creek trestle scene intact. I will be adding some nice profile board edging and then selling it at auction on eBay to anyone who would like it.

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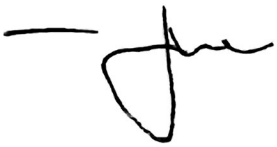
We'll be doing some how-to videos soon to show you the steps to turning off an ad blocker for MRH content in case you'd like some assistance turning off ad blockers properly for just MRH. We thank you for your support when you do! ☑



Last issue's ratings

The three top-rated articles in the Jun 2019 issue of *Model Railroad Hobbyist* are:

4.6 Build your own stay alive
4.4 Pelle Soeborg's Daneburg Subdivision
4.2 Publishers Musings: Texas syndrome (guest)

Issue overall: **4.8**

Please rate the articles! Click the reader comments button on each article and select the star rating you think each article deserves. We depend on these ratings to help us determine which articles to publish, so your rating matters! ■

Best of the MRH WEBSITE THIS MONTH

Model Railroad Hobbyist | July 2019

compiled by Joe Fugate

★★★★★ RATE THIS ARTICLE

1. It's great to see 3D printing continuing to expand what's possible in the hobby. We're always fascinated when we get really good threads like this one by ***dcforbes*** on the MRH website – check it out!

MRH'S MONTHLY GREAT MODELER POSTS

O scale 2 rail Layout Project

Thu, 2019-06-27 19:46 — geno sharp Layout design

Welcome to my O scale 2 rail layout project blog. I am in the process of designing a O scale 2 rail switching layout. I do not have a finalized track plan at this point due to the new building for the layout is not here yet. the plan is for a 12x40 building to house the layout. The plan is for it to be a modern era switching spur with several industries to be serviced and to be operated as a point to point or return where the switching job will work the industries down the spur and then return to the yard. In the meantime I have been working on some locomotives and rolling stock and also building turnouts. I am doing hand laid track and turnouts using code 100 rail. I plan on updating this blog as it progress moves forward. here are a few cars that i have completed so far for use on the layout. i hope you enjoy following along.

geno sharp

2. It's nice to see O scale getting some traction on the MRH forum. If you like the larger end of the indoor scale spectrum, then make sure you take in ***geno sharp's*** blog ...

3. MRH forum regular ***Deemiorgos*** posted this first look at Peco's new code 70 line of track. Here he's comparing it to MicroEngineering track with some great photos ...

P&LE Set

Thu, 2019-06-27 14:05 — Tom Haag

I tried the P&LE set for 40' boxcars with the intent of modeling a [illegible] common 50' boxcar. The set, with some modifications, worked very well. The set did not come with the PC logo so I used one from their PC Caboose set. [illegible] was the correct size for the boxcar but not all of the caboose set was totally accurate. These are the only sets I have tried but heard that other sets varied in quality. I am happy with the P&LE set though.

By the way the P&LE car was modeled by starting with a Branchline boxcar, modifying the sidesills, adding 10' wide Kadee doors and then adding a [illegible] roof with [illegible] roofwalk brackets.

CLICK TO READ DETAILS ON THE MRH WEBSITE ...

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Neat!

Thu, 2019-06-27 16:34 — oldline1

Tom,

The car looks great! Nice job!

oldline1

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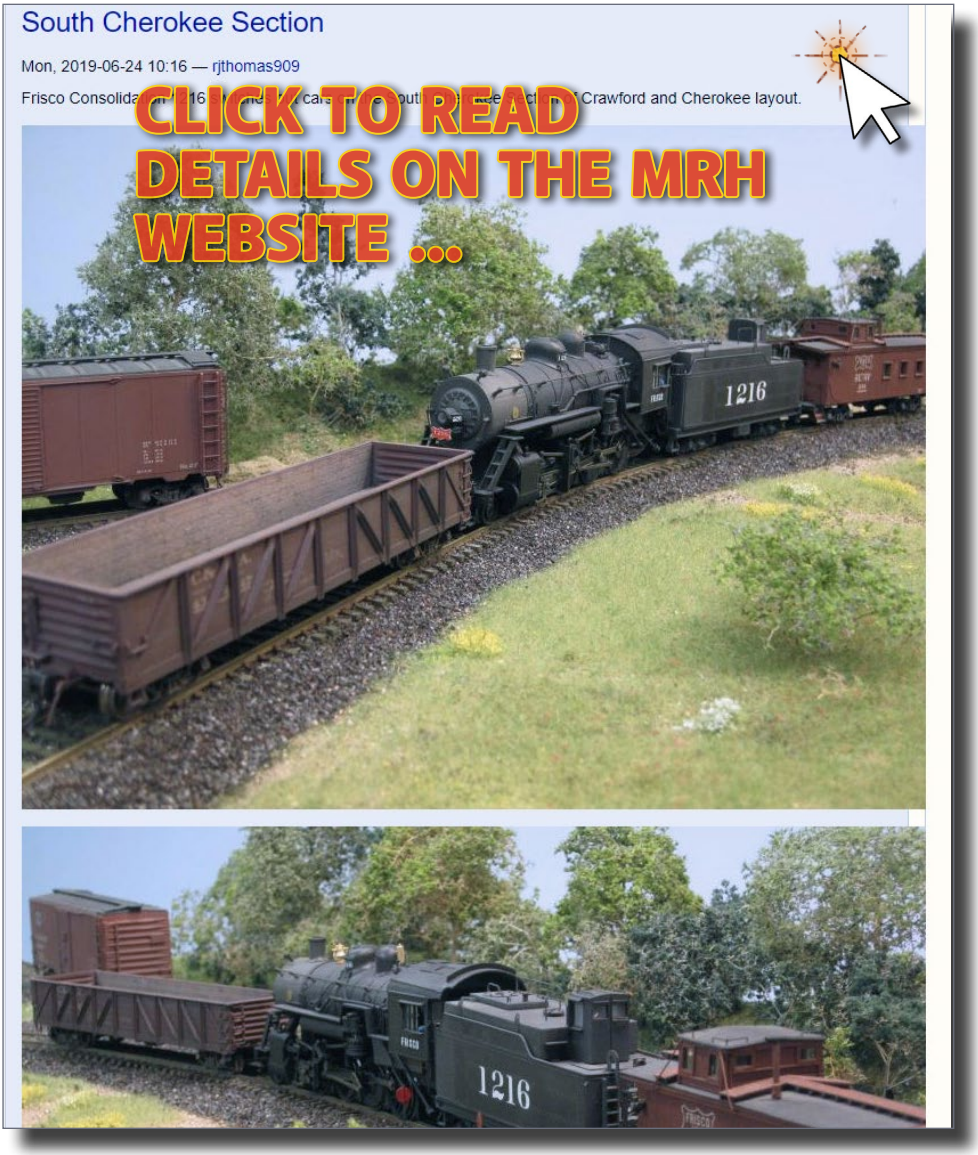
4. Many tiny vendors exist for useful model railroading products and those who frequent the MRH forum point them out - such as the decal vendor mentioned here. Go have a look ...



5. A recent Weekly Photo Fun thread has some great steam photos by forum member ***rjthomas909.*** Click this page and go have a look! ☑

VIEW READER COMMENTS

WHAT'S NEAT column

Model Railroad Hobbyist | July 2019 | #113

All new this month from the What's Neat team: ...

- **Ken Patterson** uses backyard garden growth to create scenery
- **Michelle Kempema** is "On the Road" in Times Square at Gulliver's Gate
- **George Bogatiuk** and **Daniel Coombs** explain advanced DCC consisting secrets
- **Stephen M. Conroy** shares drone views of Union Pacific's business train

Also see the new "What's neat this week" weekly video podcast!

PHOTOS AND VIDEO OF SUPERB MODELING

Cheap scenery

1. (Above) 1. Using the root structure of a backyard bush [ask your gardener before uprooting any plants] Ken Patterson uses the complex root structure (above) to make great armatures for sagebrush or smaller weed structures on the layout.

2. (Top right) The fine filaments are great for replicating the eroded roots that show up where a creek curves around and cuts into the bank. It's a great modeling material, costs absolutely nothing, and the raw material is probably out in your yard. Think about this next time you're doing yard work: use roots from your bushes to make your scenery that much better.

Also see the new "What's neat this week" weekly video podcast!

Also see the new "What's neat this week" weekly video podcast!

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Gulliver's Gate

3. Scenes at Gulliver's Gate in New York City range from cities to rural areas to formal gardens, all tied together by a network of track and animated features that bring the exhibit to life.

Wow! 500,000 square feet of trains, airports, scenes from five continents and an operating Panama Canal.

Michelle Kempema (from the Colorado Model Railroad Museum) takes us to Gulliver's Gate in Times Square, in the heart of New York City. Michelle talks to Bill Woodward, the head of model making at Gulliver's Gate. He started there as a model maker in 2017.

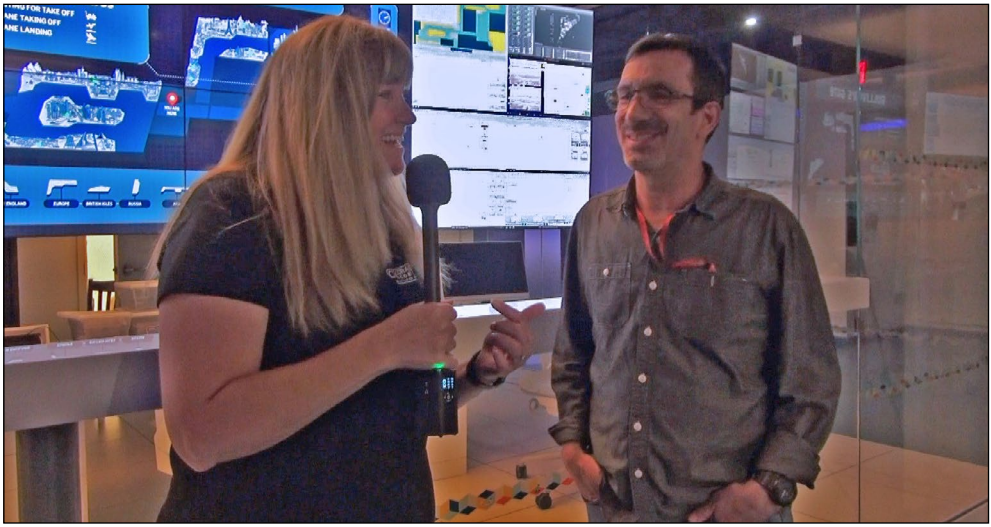
See this it all in this month's video. Link on page 3.

The exhibit, all privately funded, got rolling in 2014 and 2015 and work started on the models in 2016, with the first assembled on site in 2017.

The massive displays were built in different places, all over the world. Some like the airport at the entry were built at the site. In the Great Hall are sprawling scenes of Asia, Latin America, and the Middle East. The Asia area was built in China, and the Latin American scenes by a family in Buenos Aires, Argentina.

Almost everything is scratchbuilt or extensively kitbashed. Scenes like New England and Manhattan were created by modelers in Massachusetts and Brooklyn, so they accurately capture the feel of the real thing.

4. Wintry Russian scenes were built in St. Petersburg, Russia.



5. (Top) Bill Woodward (right) started out as a modeler at the exhibit and keeps taking on new responsibilities. Because scenes were built all over the world, they use different control systems and hardware. Bill and his crew keep it all working together.

6. (Bottom) Even if people haven't personally visited many sites, a lot of Gulliver's Gate's scenes will be instantly familiar.

Bill spends a lot of time on his hands and knees under the displays. Many have hatches that allow maintainers and cleaners to pop up right in the middle of everything to do their work. A lot goes on that the public doesn't see. But if work needs to be done during exhibit hours, the visitors are thrilled when the crew goes into the scenes and they can see the crew working on the models.

Right now, Bill spends a lot of time fine-tuning the Panama Canal display, which uses real water. There are two locks and two ships that go around all day, seven days a week. Other highly-animated areas include the Latin America display, and a working airport.

The undersides are studded with items model railroaders will recognize, like Digitrax controllers and Arduinos. The exhibit staff includes an electrical engineer (Krishna Sasikumaras, who also shot the video for this segment) who specializes in micro electronics.

Everything is in HO scale, but as the models were built by teams in many countries, there are a lot of variations as far as wiring and the control systems. The Italians used Panasonic PLCs to control their animations; other models use Arduinos. The Gulliver's Gate specialists are slowly switching some things out to make everything standard,

Also see the new "What's neat this week" weekly video podcast!

7. Access is vital important and staff 'visits' during exhibition hours are a crowd-pleaser.

8. Lighting effects add to the drama of the massive display.

Areas are assigned to one of four model makers, so they become very familiar with how things work. A lot of light cleaning, detail repairs and improvements are handled before the public is allowed in each day.

Areas change all the time with new displays and animations. Right now, two modelers are handpainting, in-scale graffiti that was on the Berlin Wall. Soon to come is an Africa display.

Right now, Gulliver's Gate is open from 10 am to 8 pm every day, in Times Square in New York City.

Watch the full video interview, using the link on page 3. gullivers-gate.com.

Soundtraxx advanced consisting

9. George Bogatiuk of Soundtraxx and Daniel Coombs of the *What's Neat This Week* podcast explain advanced consisting of locomotives. Advanced consisting of locomotive power sets is highly accessible but still a mystery to many modelers. George and Daniel walk us through ways to take advantage of new features like sound and extra lights.

Simple consisting involves setting all locomotives in a set to the same address so all respond identically. All will move in the same direction at the same time and at the same speed step. At the same time, all of the lights will be on, and all of the horns will blow at the same time.

George shows how to modify settings on some of the units so only the lead unit will have active lights and sounds. That's OK until you break up the consist and want to run an engine on its own – which means you need to get in and reset a lot commands.

The second type of consist, what is called a **basic consist** uses the command station to determine which locomotives are in the consist, the order they are in, and how the leading and trailing units will behave.

This type of consisting developed when engines had few programmable features. With newer engines, this can result in large numbers of commands being communicated and can really slow down the response times of DCC systems. In some cases, it might take an undesirable amount of time to sound horns, ring bells, and accomplish speed changes.

The third option is what's called an **advanced consist**. An advanced consist uses decoder memory – not the command stations – to tell the decoder that it is in a consist. This is where we tell our lead locomotive to turn on the headlights, turn on the bell, blow the horn and tell our trailing units and the lead unit both to turn on the brakes and so on. And what really is cool, George says is "I take it to your place, I put it on the track and it's going to run exactly the same way." See the details, learn about setting up distributed power sets, and much more as from George and Daniel this month's video on page 3.

All model railroad products seen in this episode of *What's Neat* are available through Caboose in Lakewood, Colorado and can be ordered online at www.caboosehobbies.com.

View from above

10. Check out Stephen M. Conroy's drone views of the classic beauty of the Union Pacific business train with its recently-built power cars as it passes through varied farmland. It's fun

to study this train, but also check out all the beautiful shades of green in the farm land surrounding the whole consist. ☑

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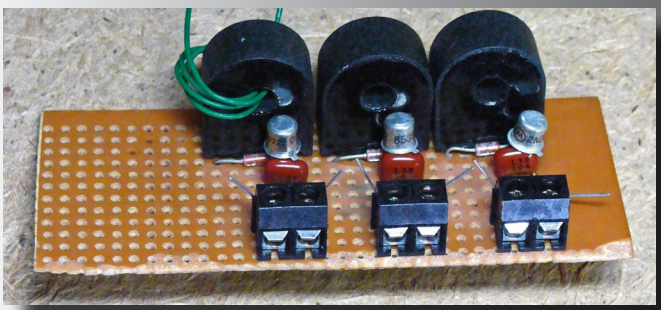

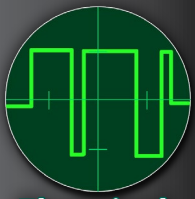

Electrical Impulses

Model Railroad Hobbyist | July 2019 | #113

Greg Ciurpita builds a simple block detection circuit ...

1. Greg built three simple block detectors here on this perfboard.

A block detector is a common circuit used as part of a model railroad signal system.

A block detection circuit indicates if a block is occupied by a locomotive, cars having resistor wheelsets, or cars with lighting installed. Two common current-detection methods are the NMRA circuit and Rob Paisley's Transformer circuit for DCC. See the sidebar "Other common track detection methods" for some technical information on these other circuits.

Rate this article


J. Fugate

MORE ON SIGNALING

For a tutorial on signaling and how detection fits in, see the Signaling 101 segment in the October 2018 *MRH* [mrhmag.com/magazine/mrh2018-10/signaling-101].

The Circuit

The simplified detector circuit has four components plus a length of track feeder wire that loops through the transformer. The cost including the perfboard is less than $5.

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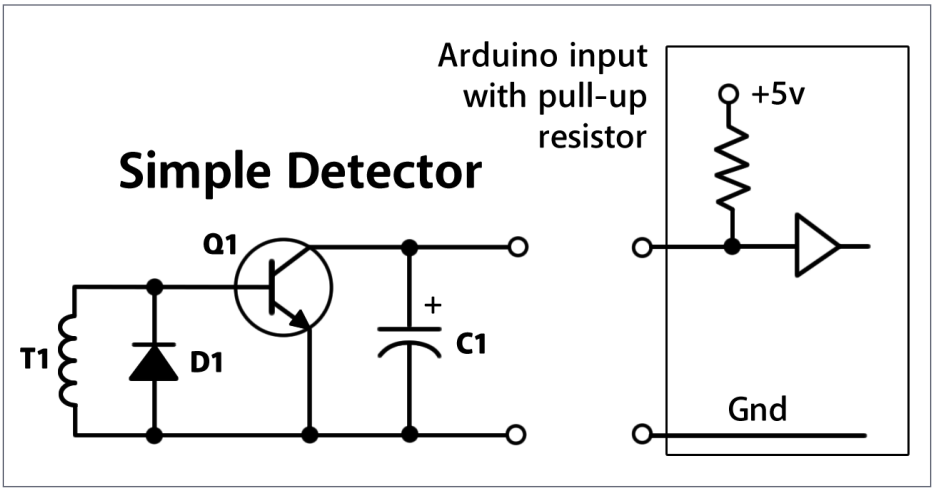

2. The simple detector circuit, along with a suggested connection to an Arduino. You may need to use an external pull-up resistor of about 10K ohms if you connect the detector to other devices.

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The detector transistor has a capacitor across its output that charges through an external pull-up resistor – see the sidebar "Connecting the detector to other equipment."

The circuit doesn't use any special parts aside from the transformer [3] to detect DCC pulses. The capacitor can be larger or smaller: larger values will result in a longer delay.

I didn't need a large number of detectors, so I made three of these on a single scrap of general-purpose hobbyist perfboard I had on hand [1]. I just soldered the components to the perfboard.

I slipped a length of wire insulation over one of the diode leads and folded it over to make the connection from the transformer to the base of the transistor on the backside of the perfboard [4]. I left the capacitor leads long to act as easy test points for meter probes.

Parts list

- T1 – Vitec 57P1820G transformer
- Q1 – BC337, 2N3904, or 2N2222 NPN transistor
- D1 – 1N914 diode
- C1 – 0.2uF capacitor

Perfboard: A five-pack of mini-perfboards for this detector costs just under $10 from Amazon.

WEB: amzn.com/B0778G64QZ?tag=mrhmag-20.

Testing

I wanted to learn more about pulse transformers, and how the number of loops of track wire through one affects the occupancy detector's sensitivity. I used an LED and 1K resistor across the rails to simulate a lighted rail car. I also made my own transformer by winding enameled wire on a toroid core.

3. The Vitec 57P1820G transformer, which costs about $2.

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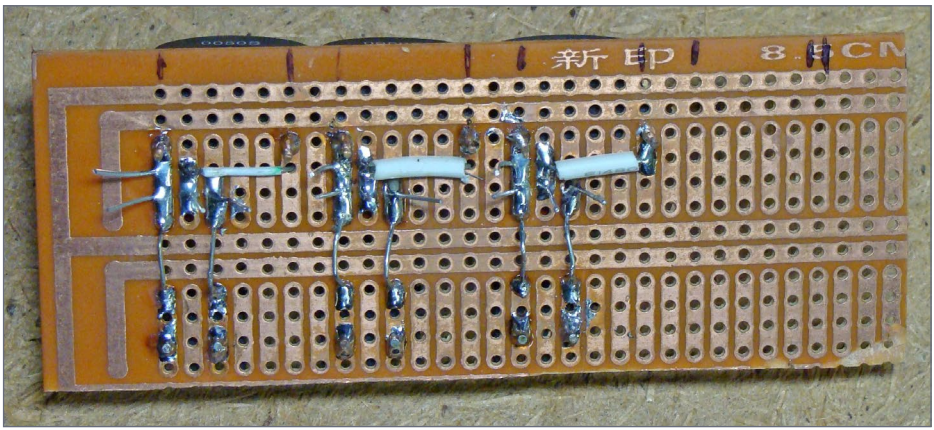


4. This is the underside of the perfboard showing the wiring connections. Pretty simple stuff.

Connecting the detector to other equipment

An occupancy detector must connect to another electronics device that uses the occupancy information to control track-side signals, crossing gates, etc. Typically these devices contain "pull-up" resistors that ensure signals are received at the correct logic-level voltage.

An Arduino has such onboard pull-up resistors, so it's easy to connect this detector to an Arduino.

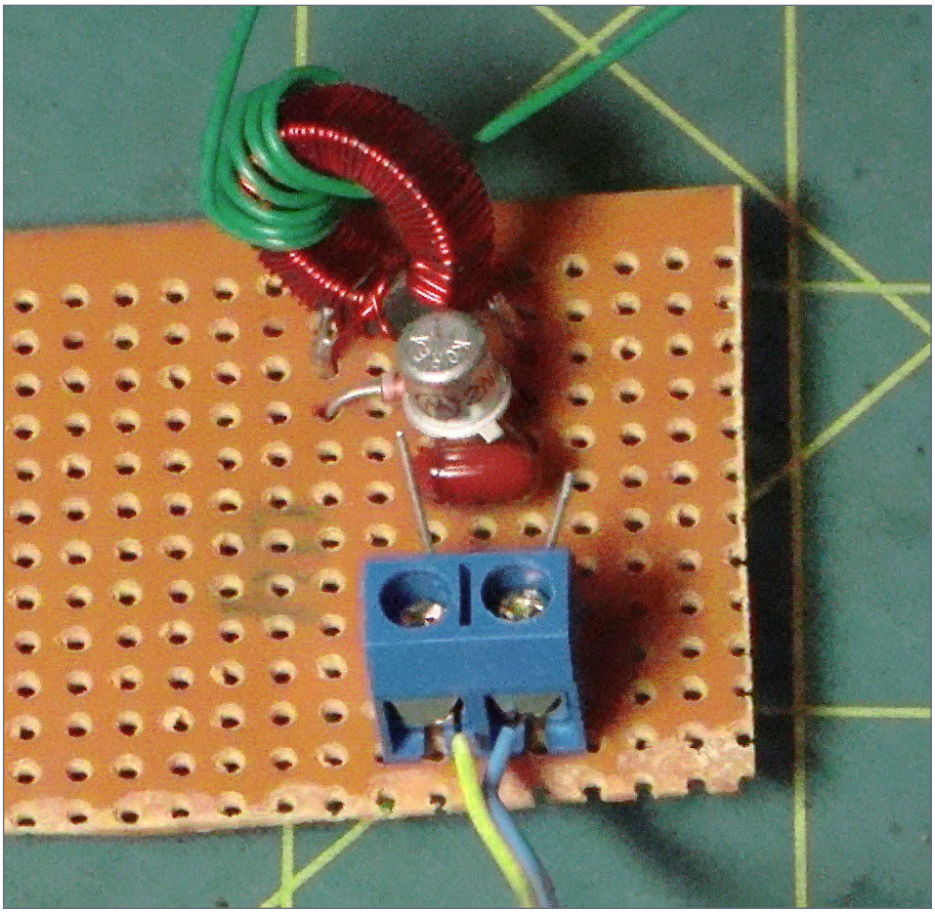
In your Arduino program (known as a "sketch"), add the INPUT_PULLUP argument to the pinMode() instruction. A logic "low" means the block is occupied, while "high" means the block is vacant.

The Arduino is well-suited to this simple occupancy detector.

For more on using the Arduino in model railroading applications, see Geoff Bunza's "Modelers' introduction to the Arduinos" in the December 2016 issue of *MRH*. [mrhmag.com/magazine/mrh2016-12-dec/Arduino] ■

5. An Arduino, which has internal pull-up resistors on the inputs that can be used to provide 5V to the detector circuit.

Table [7] shows the detector's output voltage as a function of the number of loops of track wire through the hole in the transformer. I used a regulated 5V source and a 10K pull-up resistor on the output to simulate an Arduino input. A lower voltage is better because it reduces the chances of erratic occupancy detection.



6. Greg also hand-wound a transformer to better understand the DCC current-sensing behavior of pulse transformers. He made a surprising discovery!

As you can see, the output voltage drops with more loops of track wire. That is, the more loops of track wire you have, the more sensitive the detector is.

Loops	Home-made	Vitec
1	4.2v	5v
2	2.7v	5v
3	1.0v	4.6v
4	0.49v	3.7v
5	0.44v	2.2v
6	0.43v	0.62v

7. This table compares the results of the hand-wound transformer to the Vitec one.

Also, the construction of the transformer affects sensitivity. The Vitec 57P1820G is wound with 300 turns of wire, but I wound only 50 turns on my transformer. It is more sensitive! For example, just four track-wire loops produced a detector output of 0.49V, while four loops through the Vitec transformer produced an output of 3.7V. Again, lower output voltage is better.

This suggests selecting a transformer that has fewer turns of wire. You might try using a Coilcraft CS1050L, which has 50 turns, instead of the 300-turn Vitec 57P1820G.

I learned a lot building this simple current-sense occupancy detector. A similar ready-built detector is the BD20 from NCE or the CKT-BD1 from Iowa Scaled Engineering. The commercial products are likely to have a few more features than this basic detector, which could be an advantage. Either of these can be had for $14-$16 if you visit one of the *MRH* Sponsors. ☑

Other common track detection methods

Two common current detection methods in use are the "NMRA circuit" [gatewaynmra.org/1997/easy-block-detection-2-color-signals-detection-systems-circuits] and Rob Paisley's transformer circuit [circuitous.ca/DccBODvt5.html] for DCC.

NMRA circuit: The NMRA circuit places a bridge rectifier between one rail and a track power supply wire, along with an opto-isolator across the bridge. This is also called the "diode-drop" detector method.

Whenever current is drawn through the block, the voltage across the bridge is sufficient to turn on the opto-isolator, causing its open-collector output to switch to a logic "low," indicating an occupied block.

This output can directly light a signal or be detected by a digital circuit such as an Arduino.

A drawback of the NMRA circuit is it drops the track voltage by approximately 1.4V, which often is not a drawback for DCC, but it might be significant if your layout uses regular DC track power.

Also this puts the occupancy detection directly in the track power

8. Using one of the track detectors listed here, you can detect the presence of trains on your layout and have the basis of a signaling system.

Other common track detection methods

feeder circuit. It's important to be mindful of this when wiring track blocks and short-circuit protectors.

Rob Paisley's circuit: Rob Paisley's detection circuit uses a pulse transformer though which you pass multiple turns of the track feeder wire to the block. It works only with DCC, not with DC track power.

This approach does not cause a voltage drop. The detection circuit in this article is a simpler cousin of the Paisley circuit.

The Paisley circuit uses an NE556 timer to monitor voltages across a capacitor to determine if the block is occupied. The timer helps avoid intermittent bouncing between occupied and unoccupied indications.

The Paisley circuit is not connected directly to the track, but it does need an external power source for the NE556 timer ■

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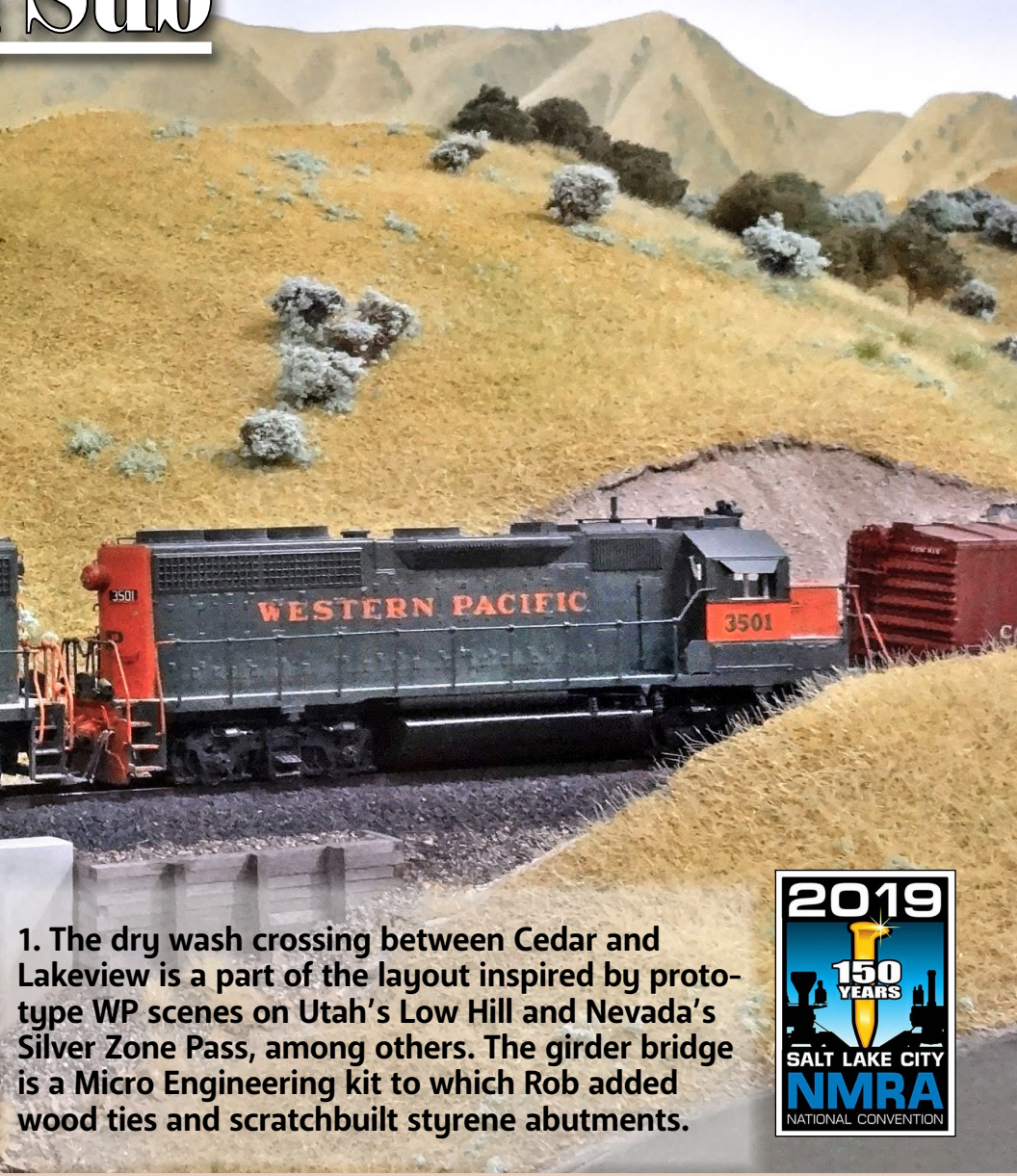
Rob Spangler's Western Pacific 8th

Joe Fugate *visits this Great Basin region layout modeling the WP in the late '70s ...*

Sub



1. The dry wash crossing between Cedar and Lakeview is a part of the layout inspired by prototype WP scenes on Utah's Low Hill and Nevada's Silver Zone Pass, among others. The girder bridge is a Micro Engineering kit to which Rob added wood ties and scratchbuilt styrene abutments.

Joe: Let's start at the beginning. Why model trains?

Rob Spangler: I've been in the hobby of model railroading since I was about six years old. My great aunt bought me a train set for Christmas when I was six. I'd always been interested in trains and that gave me sort of the "gateway drug" into the hobby and I've been active ever since.

Joe: From there, how has the hobby evolved for you?

Rob: I've tried to match what I'm modeling to what I've seen and that's been the challenge that's kept me interested. Every project I do, I try to get a little better.

I've always had an interest in looking at the prototype and watching it out the car window as we would do family drives or when I would go railfanning.

From when I was small, I've always enjoyed visiting like natural history museums and nice presentations that immerse you into something. I've always been inspired by that type of presentation – by something that really looks nice and finished.

When someone walks into the Western Pacific Eighth Sub, I hope that they can find a pleasant environment that's well-lit and finished like a decent part of the home and see something that reminds them of a museum diorama.

2. This is the 8th Sub's engine terminal area near the main yard at Junction City. Rob uses NCE DCC and loco decoders from NCE and TCS, but he doesn't run sound on his layout.

Joe: What specifically are you modeling here?

Rob: I'm modeling the Western Pacific Eighth Subdivision from the eastern edge of Nevada at West Wendover to Salt Lake City, Utah. It's my interpretation of what railroading in Utah during the 1970s and '80s could have been like.

That's the time that I really became a serious modeler and was very interested in railfanning. I have specific images of the scenery and structures I've incorporated that takes me back to that time and makes me feel like I am railfanning in back in the '70s again.

The time of the year that we model in here is late summer, early fall. I like the contrast between the dark colors of foliage and the yellow grass as it goes dormant in the late summer. I'm aiming for you to feel like you're outside in Utah during the late summer.

Joe: Why did you pick the Western Pacific to model and not some other road?

Rob: The decision to model the Western Pacific tied into some thinking that I had when I was trying to leave narrow gauge modeling in the ’80s. I was getting more interested in prototype operations and I found that my HOn3 was not giving me really what I wanted.

I thought, well, I need to go back to HO standard gauge and create something that will operate more reliably and give me more of the variety of the prototype at that time (in the ’80s).

As I was looking for a prototype to pick, I did not have a very large space to put a railroad in at that time. My space was only a

3. A westbound has just departed Junction City and started its trip west toward the desert and an eventual crew change at Elko. Much of this backdrop was based on photos taken a few blocks from Rob’s home.

4. Of all the bridge scenes on the 8th Sub, this one is the most dramatic. The train departs Milton and rumbles across this high bridge on its way to Cedar. Rob kitbashed this bridge from Micro Engineering and Central Valley bridge kits.

12 foot by 20 foot room. I wanted something that seemed to be manageable and fit into that space

The railroads here in Utah that inspired me, including the Union Pacific and the Southern Pacific, they seem to be big and unmanageable for the limited railroad space that I had available.

The Denver and Rio Grande Western was something that a lot of people modeled here locally. But I thought maybe that was a little overdone. Still, I wanted to stay with something Utah-based and that offered something more than just the coal traffic like the Utah Railway had.

That left me with the Western Pacific and it didn't seem there were a lot of people modeling the WP. The WP seems small and manageable – and they had nothing but four axle diesels. So that seemed to be a good prototype to pick for a small space.

It's also something that I've enjoyed modeling ever since, so I've just stayed with it.

Joe: Why the late 1970s or early '80s? Why not some other era?

Rob: I based my chosen era largely on the time period when I got interested in railfanning the prototype in the '70s, early'80s, as well as the types of operations that existed then.

5. Extra 3010 East is in the hole at Cedar, waiting for authority out onto the main. The east end of Cedar hangs onto the hillside above Cedar Creek and needs several retaining walls to stay in place.

Railroading had not gone to so much intermodal traffic like we see today. There weren't as many unit trains, and there was still a lot of "loose car" railroading.

Local freights would serve a lot of industries on their run. And the variety of cars was something that kept me interested in the rolling stock modeling. I liked seeing something in model form that reminded me of the prototype locals that I enjoyed railfanning.

Joe: How hard was it to devise with a good track plan for this space?

Rob: I established the track plan before I even had the house. I used blueprints for the home my wife and I were having built for us.

It was not that difficult for me to figure out how to wrap a main line around the room and determine the major town locations and so on that were in here. Once the house was built and we had the train room finished, I planned most of the final track arrangements in 100% scale using blue tape on the floor of the train room.

All I had to do was shift things around in 3D until I liked what I saw and then built from that. So really wasn't hard process at all.

I've designed and build enough railroads that I knew what I wanted, and I knew what would fit.

J. Fugate

The benefit of hobby experience

Take careful note of how Rob got lots of hobby experience with smaller layout projects before embarking on his basement-filling dream layout.

Because Rob had a good measure of layout experience under his belt already, when it came time to build this much larger layout project, he knew quite well what he wanted and how to plan it out and how to execute it well.

With actual layout building experience under his belt, Rob successfully built a larger layout he now finds very satisfying and it involved no nasty surprises.

So *do not* overlook doing something a lot smaller first, either a small throw-away "chainsaw" layout or some TOMA modules. And if you find you like TOMA, you can just keep going to make the layout larger – easily expanding is built in!

6. GP35 3010 leads a train out of Milton on its way to Cedar. Rob often puts structures or other scenic elements between the trains and the aisle to create what he calls a "visual event." Rob says the more visual events along the run, the longer the run feels.

7. GP9 729 pulls an empty flatcar from the Vickers Land & Livestock spur at Cedar. Vickers receives shipments of various commodities here for use on its vast farm and ranch holdings.

Joe: When did you start construction?

Rob: I started in about 2009. I finished the room myself and so as soon as the room was done, I started in earnest on the benchwork. I'd salvaged a lot of materials from the previous railroad so I used the blue tape diagram on the floor and built the benchwork right from that.

Joe: Did it go like expected?

Rob: I knew what I was headed for since this is simply a larger version of a railroad that I had built in my previous home. The only major change I made was relocating the branch line – it was supposed to be in a different aisle and climb above the main

line. But as laid everything out in 3D, I realized the branch line worked better by dropping it to a bottom level instead of going to an upper level. That's the only thing that really changed substantially from the track plan.

Construction of the railroad went fast. Since I knew what I wanted and knew how to build it from previous railroads, it went as I thought it would.

I knew exactly where most of the components would end up and how most of the benchwork would be shaped. I had plenty of time to plan as the house was being built.

Joe: Any big challenges with this layout?

8. The WP main line from Junction City eastbound to Ogden disappears through this well-disguised hole, with a helix leading down to staging. Take a closer look in [9].

Rob: Yes, making sure the operation gives exactly what I wanted out of it. While the major design of the railroad was completed before I began work, some of the other small things like where local freights would need extra work remained a question.

Where we would need extra length to a track to add an additional bit of work for someone to switch – things like that got figured out over time. I just didn't know what to expect until I was operating the railroad.

That's one of the reasons I wanted to get operating as quickly as possible. I wanted to get the railroad scenicked and have something nice to look at, but I knew I might need to change things after we started running.

Getting the railroad up and running quickly allowed me to make those small changes before the scenery and then move on to modeling the scenery with a reasonable amount of progress.

So aside from small tweaks to add a siding here or extend a track there, I got what I thought was going to get out of this design.

Joe: Well, that's good – all that prior experience with other smaller layouts obviously paid off. If you were to pick one thing that was your greatest challenge while building this layout, what would you say that is?

Rob: My greatest challenge has been figuring out how to get the backdrop and the 3D portions of the scenery to match up as well given the fact that there's so little vegetation that can hide the gaps!

On previous railroads I had scenery cracking along the backdrop, with the 3D and 2D not meshing up as well as I would like.

Here I tried some new techniques such as paintable caulk and building a rounded scenery cross section that blends into the

backdrop to eliminate a hard line at that joint. Over time it's prevented the scenery from cracking along the joint because the paintable caulk can expand and contract with changes in temperature and humidity.

The scenery shaping that I've done this time also has me more satisfied with the way the 3D and the 2D blend together.

Joe: What do you like most about your layout?

Rob: I think there's a couple of things. I like the way it looks aesthetically – it takes me back to the time when I could railfan and

9. Here is a closer look at this exit to staging shown in [8]. Note how effectively Rob has disguised this hole with scenery and a pipeline overhead. He also made sure the scenery on the other side of the hole is well lit, rather than just disappearing into murky blackness as most modelers have done. Very well done!

see this type of railroading in person back in the late ’70s and early ’80s.

But the thing I like the best is the camaraderie this railroad allows me to share with my friends. We have an operating session nearly every month. It lets me share the layout and enjoy fellowship with fellow modelers – and I’ve known most of them for many years. Some of them don’t have railroads of their own or they don’t have railroads where we can have big operating sessions like this. It gives us a chance to gather once a month, share each other’s company and have a good time. That’s what really makes the railroad rewarding far beyond any construction or operating just by itself.

J. Fugate

The joy of sharing

One of my greatest joys in the hobby has been sharing my Siskiyou Line layout through operating sessions. But this wasn’t always so.

Believe it or not, I’m basically an introvert and it would be very easy for me to be a loner in the hobby. But early on in my hobby journey, I resolved to not become a lone model railroader. I wanted to force myself to come out of my shell, so I determined if I was going to build a model railroad, I would make sharing the layout through operating sessions and through layout tours a priority.

Like Rob, I have to say the social aspect of sharing the hobby through my layout operating sessions has become extremely satisfying for me, and I’m very thankful I made that choice to go against my loner tendencies years ago.

If you’re a hobby loner, I urge you to explore becoming more social with your hobby. You may be surprised at how satisfying it can become.

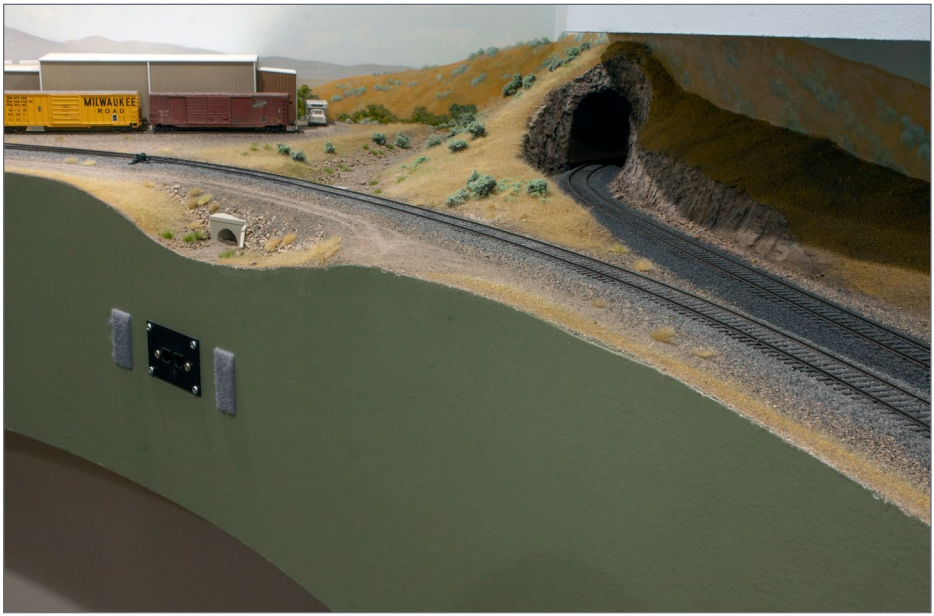
Joe: So, what do you like least about this layout?

Rob: Fiddling around with wiring and crawling around under the railroad, connecting things and adding a detection circuitry for future signaling, that sort of thing. The less of that I must do the better, because I prefer working on things you can see like the rolling stock, structures, or the scenery.

Joe: Boy, I feel the same way! Given that wiring is your least favorite part of working on a layout, how do you motivate yourself to do it?

Yes, I don't like wiring because it's something that you don't see. It's not part of the finished product that's visible – but of course without solid wiring, the railroad doesn't go anywhere. But my motivation comes because if I *don't wire it* and if I *don't do a solid job* of it, I know that we're not going to have fun running trains.

10. Once the train exits the layout through the backdrop [8,9], it goes into a 2.4% grade on a helix down to these staging tracks, arriving on the right.



11. The western end of the 8th Sub runs through Lakeview westbound toward Elko, NV and disappears into this natural rock-lined tunnel, into a helix leading down to the far end of staging shown in [10].

Joe: You nailed it. That's exactly the answer I would have given too. I'm curious, if you had this layout to do it over again, would you do anything different?

Rob: If I had to do this railroad over again, I would think about incorporating another branch line to have yet another area for some local freight operation. But overall, I don't think I would change very much. I've been so satisfied with how this has come together and how it's run that I don't see making any wholesale changes to it.

Joe: That's a good testimony to your planning and making sure you really have enough hobby history that you knew

what you wanted up front. That's important. People that start on their dream railroad when they've been in the hobby for six months, you have to ask: are you sure?

Rob: Yeah. You can't be at that point.

Joe: Why did you select the layout height that you picked?

Rob: I set the height based on experience with knowing what heights I liked. I wanted the main operating level to be around 52-53 inches based on my previous railroads and other railroads that I've operated on.

When I was still planning this project, I visited a bunch of railroads as an operator and also toured many layouts and kept

12. GP20 2007 switches the lime plant at Lakeview, a combination of scratchbuilt and kitbashed structures. The Geep has a much-modified Tyco shell on a Kato GP35 drive.

13. GP20 2008 negotiates the WP crossing of the Humboldt River just west of Palisade, Nevada. The bridge abutments and tunnel portal were scratchbuilt from photos of this location. The water is gloss Mod Podge over a painted plaster base.

track of what heights I liked. I decided on my preferred height from there and then based everything else off of that.

Joe: More testimony to getting layout experience under your belt first before committing to that dream layout project. Why did you select the grades that you have?

Rob: I picked the grades on the visible portion based on what the Western Pacific had. Their main line was bound by charter to have a grade of no worse than 1%. All of my visible mainline grades are 1% or less.

Everything else is sort of established by necessity. There is a grade in and out of the staging yard on either end of the railroad that's about 2.4% through helixes. I based that on the size of the helix, the diameter and the spacing between the levels dictated 2.4%.

And that's proven to be usable on a previous railroad –we had a couple of helixes is that were 2.4%. So, I knew that would work.

Joe: There you go talking about getting experience first so you know what works and what doesn't, you're not just guessing! We could just put some track stats in a box on

14. Here I am looking down at the Raft River branch running through Cedar Creek canyon [15]. Rob has several scenes where he makes you look down into the scene to see the track – a less often modeled technique that definitely adds interest to the run.

your track plan, but I'd like to gain further insights. Give us some details about your trackwork.

Rob: I have about 210 feet of main line on the visible portion of the railroad between when you enter and leave staging. There's probably another 200 feet or so in hidden trackage as part of the staging yards under the railroad.

The track selection for the railroad varies from Micro Engineering to Shinohara to Atlas. I received quite a lot of Atlas track for a price that I couldn't pass up – and I used that for my main classification yard. A friend was rebuilding his railroad from Atlas Code 83 down to Shinohara 70. I got a really good deal on the Atlas 83 and used that in my main yard.

I also had plenty of other brands of track left over from prior railroads. Some of the track in here has gone through two and three layouts.

I really like the detail of Micro Engineering track, so I use a lot of that and I like Micro Engineering turnouts quite a bit too. But I used whatever I had and whatever I could get hold of, because I'm kind of cheap! I'll use whatever is there if it's in good shape and works.

Because of that, I have turnouts from probably most of the manufacturers and there are several hand laid turnouts, so I have a little of everything. This layout has quite a lot of turnouts in total, I've lost count of exactly how many.

Joe: And what about your minimum radius? I suspect you have a different minimum radius for the main versus the branches.

Rob: Yes, the radius does vary a little bit between the branch and the main line. The main line needed a 29 inch minimum radius to

fit into the room. I would've liked to have it just a little bit bigger. But 29 inches got me in and out of the staging helix the way I needed them to.

On the visible portion of the railroad, it's about 30 inches for the main line, although I try to use curves that are as large as possible per the space available. On the branch line, the minimum radius had to drop to 26 inches, although all the 26-inch curves are in hidden tracks. The visible portions of the branch line use a considerably larger radius.

On the mainline radius, I try to hide the minimum radius curves inside tunnels or in cuts so that they aren't too obvious.

15. Here is the Raft River branch (lower level) through Cedar Creek canyon scene. Rob has very effectively created the sense of the Great Basin's "big empty" remote landscape with his scenery.

Joe: This layout stands out with regard to its scenery. Your barren Great Basin scenery is quite unique and it's also quite well done. What's your secret to well done model railroad scenery?

Rob: My general philosophy on doing scenery is to create something that's aesthetically pleasing and that makes it feel like you're standing in the middle of the great outdoors doing some railfanning or going on a hike.

I like to have scenery that captures the right color, texture, or shape of what I'm used to seeing in the real world. I pay a lot of attention to photographs and to my experiences out railfanning

J. Fugate

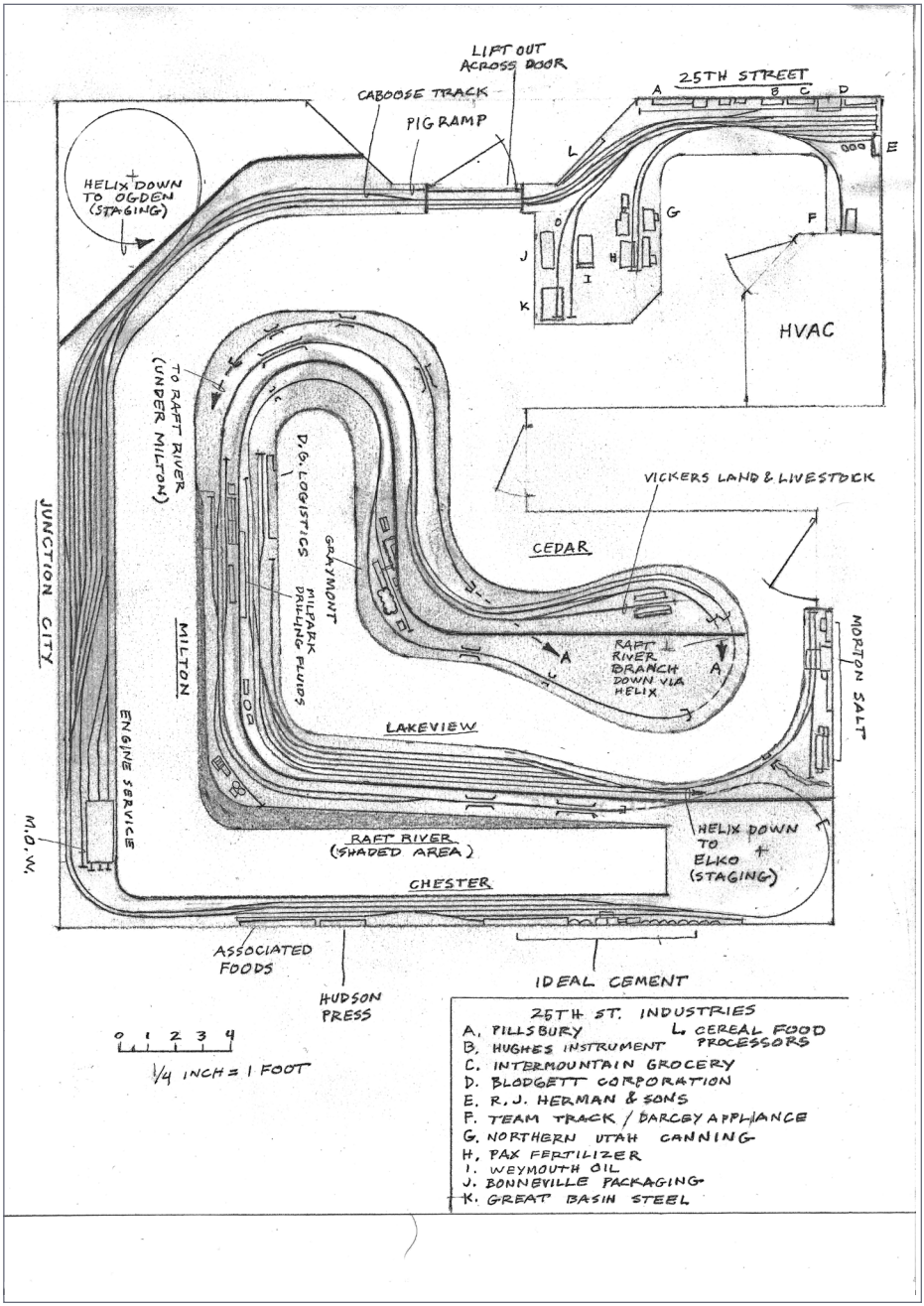
The importance of scenery reference photos

Rob talks about how he always uses reference photos for his scenery work. Pay attention to this, because it's the secret to more realistic scenery! This is one of the reasons Rob's scenery looks so believable.

Most of us wouldn't think of building a model locomotive or piece of rolling stock without some reference photos, and modeling scenery should be no different.

Otherwise, we tend to model from our mind's eye. Unless you're a very accomplished 3D scenery modeler already, imaginary scenery tends to look just like what it is: totally made up. Realism tends to suffer and such totally made up scenery tends to look "fake."

Thanks to the internet, it's pretty easy to find great scenery photos from just about any place in the world online. As long as the scenes are from the region you're modeling, the photos don't even need to have a railroad in them. Just duplicate the colors, forms, and textures you are seeing carefully and your model railroad scenery will look much more realistic.


LIFT OUT ACROSS DOOR
CABOOSE TRACK
PIG RAMP
25TH STREET
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HELIX DOWN TO OGDEN (STAGING)
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HVAC
TO RAFT RIVER (UNDER MILTON)
D.G. LOGISTICS
GRAYMONT
MILPARK DRILLING FLUIDS
VICKERS LAND & LIVESTOCK
CEDAR
JUNCTION CITY
MILTON
RAFT RIVER BRANCH DOWN VIA HELIX
MORTON SALT
LAKEVIEW
ENGINE SERVICE
M.O.W.
RAFT RIVER (SHADED AREA)
HELIX DOWN TO ELKO (STAGING)
CHESTER
ASSOCIATED FOODS
HUDSON PRESS
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25TH ST. INDUSTRIES
A. PILLSBURY
B. HUGHES INSTRUMENT
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D. BLODGETT CORPORATION
E. R.J. HERMAN & SONS
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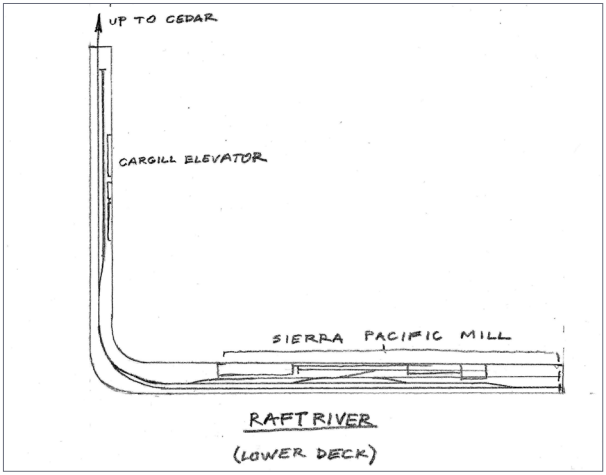
G. NORTHERN UTAH CANNING
H. PAX FERTILIZER
I. WEYMOUTH OIL
J. BONNEVILLE PACKAGING
K. GREAT BASIN STEEL
L. CEREAL FOOD PROCESSORS

the real thing. I also want to know I'm creating something that's going to work harmoniously with the trains.

Joe: What methods do you use to do your scenery?

Rob: I'm using partly conventional methods and partly some of my own thing. I use a base of cardboard strips that's held together with hot glue in most areas. And on top of that, I use some fine mesh drywall tape that's held down with hot glue. For wider expanses, I'll often use bridal veil lace or cheesecloth that can be stretched out and fill a large expanse in a hurry. Again, that's hot glued down.



16. (Left) Rob Spangler's Western Pacific 8th Subdivision track plan, main level.

17. (Right) Rob Spangler's Western Pacific 8th Subdivision track plan, Raft River branch (lower level).


J. Fugate

Remembering the human element

Sometimes we can make things so polished and slick that we lose the organic human element. One thing I always aim to do with MRH, and one reason I deliberately included *Hobbyist* in the name, has been so we never forget it's the human element that gives the hobby some of its most fascinating depth.

I like Rob's neatly hand-drawn track plans so much that I decided to do the MRH thing and make the hobbyist prominent. Enjoy these great plans straight from Rob's own hand! The human touch is very much alive at MRH.

Once those are attached, I brush coats of 20-minute casting plaster or similar type of plaster. Brush a few coats on until it gets good and solid. Then I carve rocks and add a final texture.

To finish off the scenery, I start with a base layer of fine sand. I use a paint brush to apply diluted white glue, 50-50, and coat that with some fine sand. Usually it takes a couple of coats to completely cover the painted plaster.

On top of that, I usually add a layer of fine ground foam as a base for the last layer of ground cover, which is usually static grass from Silflor, Noch and other brands. I've found that using the ground foam *under* the static grass helps eliminate the need to totally cover everything with the static fibers and helps hold down cost.

18. Rob has masterfully blended the 3D layout scenery with his 2D painted backdrop. Only with careful study can you spot exactly where the backdrop starts. For a broader view, see [19].

Textures that go on top of this include small rocks, other types of foam to represent bushes like sagebrush and so on. I make trees from Super Tree material and add torn up scrub pads as sagebrush.

The sagebrush, for the most part, I make with paint stripping pads. They come as a gray fibrous material, like pot scrubbers, but they're just a coarser texture. These can be coated with ground foam to represent sagebrush. I also use larger pieces of the pad for other bushes as well.

Because I'm modeling the Great Basin, there are a lot of junipers and other small scrub conifers. Those can be represented nicely with things like small pieces of poly fiber material that are turned into puff balls, similar to what the eastern modelers use for deciduous forests.

But small trees like junipers look a lot like those puff balls. They get very dense and adding a fine texture ground foam on top of poly fiber represents that denseness well.

Joe: Talk a little bit about using the dirt and trying to get the right color. I know a lot of people think, oh, I'll just go to the real location and get some dirt and then slap it down on the layout. That never works because it's usually too dark once you get it inside.

Rob: Not only that, but one of the pitfalls of using natural materials is that it can change color when you hit it with water and glue. Different types of rock and dirt can have varying effects from the glue that you may not anticipate when you first pick the material out of nature. It'll look perfect outside.

Then once you get under indoor light and get it wet, it totally changes on you. For my hillsides I use a lot of natural dirt that's been colored with acrylic paint. I use the same types of paint I use to color the rocks I carve out of the plaster.

I use the same paint to color the natural dirt that goes on top of the rocks to get them to match. You really don't need a very close color match with the natural dirt. The paint I put on top of it looks like highlights and the original darker color can just stay behind in the shadows. That gives me almost no perceptible difference in color after a little dry brushing with acrylic.

Joe: Wow, that's clever! You mentioned doing rockwork, tells us more about that.

Rob: Rock work on the layout follows methods I've been using since I was a kid. I've found I really like carving rocks using artists tools and something like a one-inch putty knife. I'll mix a batch of a plaster that's about two parts 20 minute casting plaster to one part water and maybe throw a handful of a playground sand into it to add some texture.

Then in the roughly 20 minutes of working time, I can carve quite a lot of rock work, so the process goes pretty fast. I have reference photos that look like the area I'm trying to model, and I carve away everything that "doesn't look like a rock." If I don't like it, I can always chop it off and try again. It's very forgiving.

But usually I can get results that are predictable. After you do it for a little while, you get to where you understand exactly what it's going to look like when it's finished and just carve away until it's done.

19. Here is a wider view of Cedar. In the center is the scene shown in [17]. You really feel like you're out in the middle of the Utah high mountain desert with scenes like this!

Joe: You mentioned earlier concerns about blending the 3D scenery into the 2D backdrop. What's your approach to blending the scenery with the backdrop on this layout?

Rob: Because of the lack of foreground vegetation on this railroad, it was a challenge doing the backdrop to 3D scenery transition so it didn't have some sort of a jarring crack along it. I've noticed on my prior railroads as well as other layouts I've worked on that the backdrop to 3D scenery transition can end

20. Today's Raft River Turn has finished switching at its namesake town at the end of the branch and has started back upgrade toward the junction at Cedar. Here it crosses Greasewood Draw, and will later negotiate the steel trestle in the background, on the main between the towns of Cedar and Milton.

21. Canyon Road crosses the tracks near the west end of the siding at Milton. The crew of the Milton Turn often grab some chow from the convenience mart next to the depot. Rob scratchbuilt this structure, and for the road he used sanded tile grout weathered with acrylics.

up cracking due to a differential expansion and contraction of the materials.

I have found that using a heavy bead of painter's caulk in between the two at the joint will expand and contract and avoid a crack. That works quite well with painted backdrops like what I do – but not so well with backdrops that are made out of a printed material like photographs.

Joe: That's great. This layout also has some nice-looking streams on it – how did you model those?

Rob: For modeling water on this railroad I have used a couple different techniques. The creek on the branch is casting resin epoxy. I used a couple coats of a two-part epoxy resin colored with some Testors military paint; I think I used olive drab.

I built up a few dams here and there to create a stair-step effect on the stream and that also helped slow down the creep of the resin as it goes downhill. I make the dams out of either clear caulk material or acrylic gel medium that can be shaped easily. They both dry clear and once they're dry I add the resin.

I make the whitewater effects by painting them on top with more acrylic paint. I'll use a white or light gray and drybrush it into place. I'll also use washes until I get an effect I like. I always have plenty of photographs of real streams for reference so I can match the effects.

One of the things that I don't like about epoxy is that it dries with a glassy sheen to it that does not look like moving water at all. I prefer to coat the top of the epoxy with a gloss material like Mod Podge gloss or acrylic gloss medium. I prefer the Mod Podge because it has fewer bubbles in it as you work it.

I stipple this in place with a cheap paint brush and allow it to dry. This gets rid of the glassy sheen of the epoxy and gives me a finished stream. It looks like it's moving. [*MRH* covered Rob's water making process in the February 2019 MRH, see: mrhmag.com/magazine/mrh2019-02/modeling-water.]

In some areas where I don't have the thickness available to pour epoxy, I just apply the Mod Podge directly over painted plaster that's been sanded smooth and painted some creek water colors. And that can be quite effective as well and doesn't require nearly the same depth of material.

22. Here's the grade crossing just railroad west of Graymont. This road just looks like it's been out in the desert and subjected to the snowy winters and hot summer sun found in Utah.

Joe: Okay, we've talked about the water, what about what goes over the water – how are you doing your bridges?

Rob: Bridges on this railroad, like many things in here, come from a variety of sources. I scratchbuild my wood trestles from stripwood. I start with plans that I've found in various magazines and books on prototype bridges.

I handlay the track on top of the bridges with whatever rail is used for the flextrack on either side. Then I'll add guard rails, usually of the next code of rail smaller than the running rails, so they don't get shined up when I clean the track.

Some of the larger, more modern bridges in here I've made with styrene. The tall trestle that you see I kitbashed from Micro

Engineering and Central Valley bridge components. I have some other plastic bridges I also made from Micro Engineering parts.

Depending on the prototype of the bridge, it may have wooden abutments scratchbuilt from stripwood or it might have abutments made out of styrene. I use the same technique for those that I do with the tunnel portals and a guesstimate from photographs as to proportions.

Joe: You mentioned tunnel portals. How are you doing those?

23. This tunnel portal on the Raft River branch illustrates a seldom modeled but often seen feature of many western tunnel portals – an exposed liner. This is yet another scenic feature that sets Rob's layout apart from other layouts depicting the western US.

Rob: I scratchbuilt the portals on the railroad to match prototype photos. The Western Pacific had some unique portals in its route across northern Nevada and into California. Many of them had exposed liners instead of having the portal recessed into the mountain and have wing walls coming out of it.

To make the portals themselves, I usually scratchbuild them from styrene sheet. For the exposed liner I usually wrap styrene sheet around something like a piece of drainpipe, PVC, or abs pipe. I'll cut the pipe in half the long way on a table saw and then wrap it in styrene and attach that to the back of the portal.

The exposed liners are something that many visitors comment on. They haven't seen that modeled before. But as they've driven around railfanning in my part of the country, they've seen plenty of those portals. They appreciate finally seeing them modeled.

Joe: Modeling the Great Basin is rarely seen. Any special challenges with modeling that kind of less typical scenery?

Rob: Great Basin scenery like I've done is something that I've very rarely seen on a model railroad. It's one of the things that attracted me – it allows me to do something unique. A lot of railroads set in the west tend to be in the Rocky Mountains or the Pacific Northwest – areas that are green and have a lot of trees.

The Great Basin is something that isn't overdone and ripe for exploitation. So, let's create something that's pleasing to look at and give people a different viewing experience from what they see when they're operating and viewing other railroads.

I also get a lot of personal satisfaction out of doing things that are different from what I've done before. I haven't really done a whole lot of Great Basin scenery modeling in the past, so I enjoy the challenge.

Joe: I notice you make good use of looking down into the scene, such as you did with the salt flat bluffs on one part of your layout.

Rob: One of the things that visitors notice about this railroad being a little different is that it has a number of areas where you *look down* into the scene. The usual model railroad advice is to start at the bottom of a hill and look upward into the scene.

But I noticed that when I'm out railfanning, often as not, I'm standing on top of a hill *looking down* at the trains. I wanted to have several areas on the Eighth Subdivision where it created that effect. It also creates what I call a "visual event."

24. Eastbound symbol WPX leaves Lakeview en route to interchange with the Union Pacific. The WP power will stay with the train as far as North Platte. Salt flats extend toward the horizon here at the edge of the Great Salt Lake desert. For a wider panoramic view of this scene, see [25].

I like having the train go in and out behind buildings, and behind hills. There's a prominent bluff that is alongside the Western Pacific near West Wendover in Nevada and there are a lot of railfan vantage points that are behind that hill, and you see the trains rounding a curve behind it.

I wanted to have that effect over by my town of Lakeview. So, I created a scene specifically to give me the viewpoint around that hill. The fascia and the aisleway are intended to be above the trains and you look down across the tracks and then into the distance toward the salt flats just like you do on the prototype.

With this scene on my layout, I get the feeling I'm watching trains come around the hill at Wendover just like when railfanning there.

Joe: Your concept of visual events is interesting. Tell us more about that.

Rob: I make the run feel longer by creating more visual events along the run. On the prototype, the trains running go in front of some things and behind other things. When the trains go behind things that block your view, the run seem just a little bit longer. When the train disappears for a bit and then it reappears and you feel like you've traveled a little more distance maybe than you really have.

This railroad does not have a huge main line compared to some of the others where I operate. Adding visual events in the form of tunnels, hills that you go behind, industries, farms, and other things along the track that you go behind helps the operator feel like there's more going with the trip than there really is. It catches your eye and spend a moment lingering on that part of the scene.

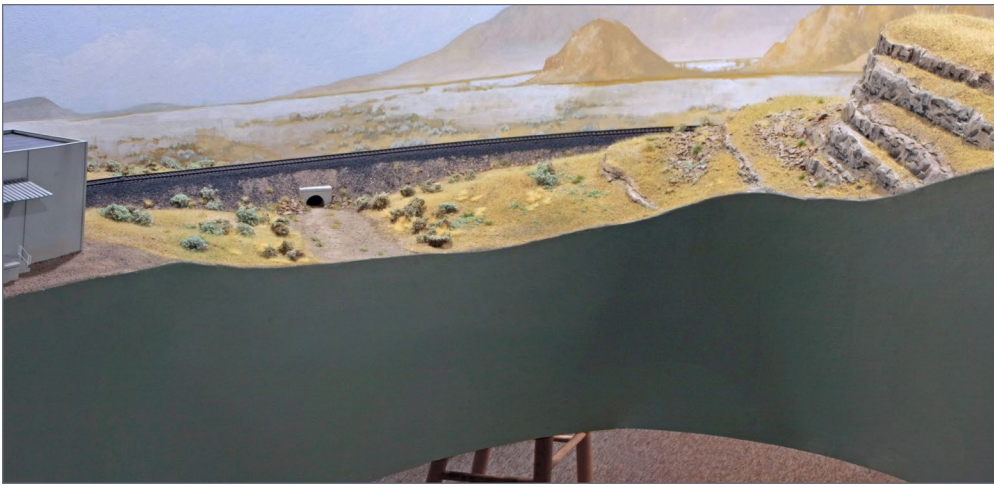
It also feels like you've traveled a greater distance between point A and point B and I like the feel it adds to the operation.

Joe: Any other clever little scenery tricks you use?

Rob: I build up ground contours sometimes without using plaster. I will make railroad embankments with just natural scenery materials instead of using a foundation of plaster. For example, in an area with a fill I may add a little bit of plaster running up to the bottom of it and then build the rest of it up from rocks and dirt giving a natural shape to it.

That approach creates exactly the right contour and slope without having to guess what the plaster is going to do. And it lets me create ditches easily. I can create the feel of multiple layers of ballast, cinder fill, and so on that the prototype piles up over the years.

I've made frequent use of this around the railroad with natural materials. You may find out that this retaining wall is there to actually hold back real material instead of just for looks. That helps the retaining walls, portal wings, and so on feel like they're integral to the scene.

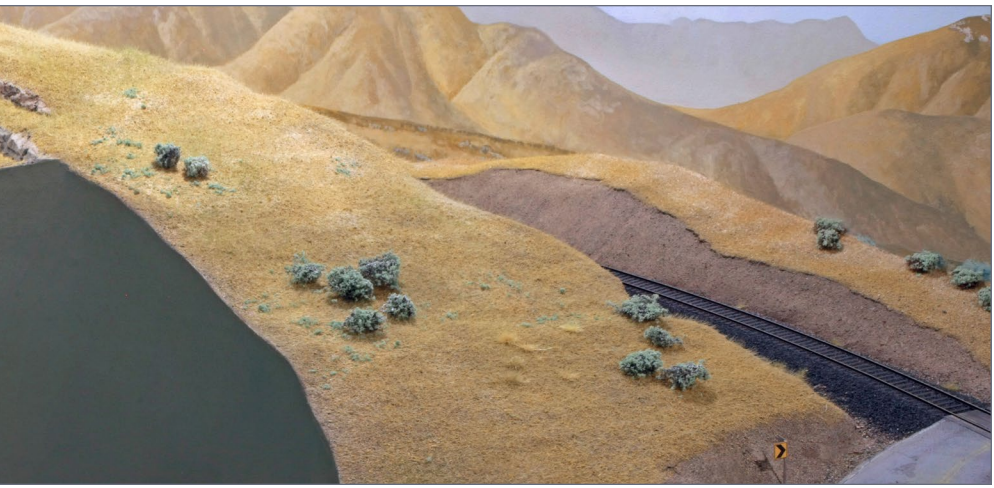


One of my cost-saving measures is making handmade static grass tufts. You can see a lot of them in places, using various different colors and sizes. I found the technique online from the old Jimmy Simmons' Monster Model Works site that explained how to make static grass tufts using nonstick aluminum foil, canopy glue, and static grass.

I found you can make these by the thousands relatively cheap and they really add a lot of nice texture to the layout. The also help establish some of the color and texture that the Great Basin scenery has that I was going for.

I found that they are a lot of fun to do and I even had one of my kids help me do them. I just put a few thousand blobs of glue on some nonstick foil and go to town with the static grass applicator.

25. This panoramic view shows the wider location of the salt flats scene approaching Lakeview in [24]. We don't recall ever seeing anyone portray the Utah salt flats on a model railroad before, so bravo to Rob for blazing this scenic trail. Nicely done!



Sometimes on work nights when we have the group of guys over, handing somebody a piece of foil and asking for a few hundred tufts gives somebody something to do for a while. It's fun way to get other people involved in the railroad with a rewarding activity.

Joe: I'm curious, what control system you use and why?

Rob: I use NCE, North Coast Engineering. I had started in command control with Dynatrol and eventually that became a wave of the past. So, I moved up to a digital system from Keith Gutierrez, the Rail Command system.

26. Cedar Creek canyon is a favorite railfan haunt on the Raft River branch. Rob carved the rock cliffs and modeled the fill using real dirt and rock, dry-brushed with the same paint as the plaster cliffs. Rob modeled the creek using tinted epoxy resin with acrylic gel rapids and gloss Mod Podge ripples. For more see the February 2019 *MRH.*

Eventually Rail Command got to be old technology as well and it became hard to get parts. On my previous railroad we had some throttles fail right in the very last op session. I decided to finally give up on Rail Command and move to DCC.

So again, from my travels operating on various railroads in other parts of the country, I decided that I liked NCE. I liked how its cabs felt. I liked how the radio throttles worked and it seemed to be simple and intuitive to use. I decided on NCE before this railroad started construction and I haven't regretted it. I really enjoy NCE.

Joe: I love my NCE system too. Do you use NCE decoders or something else?

Rob: I initially standardized on Digitrax decoders and later found out that I don't like the operation with Digitrax decoders quite as well as some of the other types – at least for my preferred style of operations.

So yes, I've gravitated toward NCE decoders. I especially like the motor kick rate adjustment that they have, which is unique to NCE. They seem to respond the way that I want the decoder to respond.

But lately, I've also started using TCS decoders, especially the ones with the built-in Keep Alive™. I've also added stay-alive from various manufacturers to my NCE decoders so I can get trouble-free operation. But I'm very impressed with TCS and plan to add more of those in the future.

Joe: Since I'm tearing down my old layout and building a new TOMA-based one, I'm also upgrading my whole fleet with stay-alives. The TCS mother boards are a great option and one I plan to use often.

Rob: They are *really nice.* I don't have very many of them yet, but the ones I have, I really like.

Joe: I like how they make clever use of space with those capacitors and you don't have to worry about finding space for both a decoder *and* a keep-alive. What are your thoughts on layout size and this layout – can a layout be too large?

Rob: In my way of thinking, it depends on what you want to do. I think an overly large and overly complicated railroad is something *I would not want* to attempt. This railroad is approximately 30 feet square and a lot of it is double deck, so it counts as pretty large by most people's standards, I guess.

27. Rob is big on what he calls "fit and finish" for the layout. The layout features a neatly finished "sage green" fascia, with many handy operation-oriented additions such as the car card sorting rail shown here.

This layout is also moderately complex. I wouldn't mind this railroad being much larger than this, but the way I would do it would not add to the complexity. I would use the space to have more open scenery areas between towns, maybe runs of several scale miles between towns.

I wouldn't mind having a larger railroad if done this way, and I don't think it would take that much more cost or energy to build. It would stay very simple with the same number of busy areas.

Joe: That's exactly right. The complexity is really where you have towns and turnouts. If you just added more rural trackage on a narrow shelf between towns, you could double the size of the railroad and it wouldn't take that much longer to build or cost that much more money to do other than the cost of the space. So, you talked about operating sessions earlier, tell me more about those op sessions.

Rob: Operating sessions are the whole reason for this railroad being here. I try to host a session about once a month and I've hosted many a session for visitors from all over the country. I enjoy that.

We try to emphasize having fun over trying to be 100% prototypical with everything. We realize these are just toy trains and first of all we want to have a good time. The regular operating sessions form the whole reason for this railroad and the enjoyment of each other's company is the even bigger reason behind it all.

Joe: Great answer! I think operations gets a bad rap when people focus too much on process minutia and not enough on the fun. When you operate, are you the engineer inside the loco cab, or are you on the outside railfanning?

Rob: When I operate, I tend to be the staging guy setting up the session or managing staging during the session. The staging role gives me a chance to control the flow of traffic on and off the visible portion of the railroad. I get to manage the traffic flow with what cars go to what destinations.

But if someone volunteers to manage staging during the session, then I like to be a railfan and roving dispatcher. We can operate by timetable and train order, which we do sometimes.

But I have found during an operating session, I get a lot of "come take a look at this" or "come see what's going on here." Or, "give me an interpretation of what to do here" and that means it's hard

28. A boxcar of bagged feed awaits unloading at the Cenex warehouse in Milton. Milton was inspired by numerous farm towns in Utah and Idaho. The concrete M on the hill above town is typical of many such geoglyphs in the region – nice touch, Rob!

for me to dispatch, give out the train orders, take the OS's and so on and go be interactive with the operators on the layout too.

I tend to wander around the room if I'm not doing staging and I'll railfan and help people out here and there. Or if the railroad is in a stage where I don't need to do a whole lot, I just like to sit back and watch it all happen

Joe: Watch your creation come to life.

Rob: Watching my creation come to life is very rewarding. It's one of the most fun things that I can experience as a layout owner.

Joe: How sold are you on HO and would you ever consider doing a layout in a different scale or even a different gauge?

Rob: I've been in HO since I started modeling, but I've had interest in other scales here and there. I've operated on some very nice railroads and in N scale , O scale, and S scale. I've given passing thought to modeling in other scales.

I have a couple of good friends that do Sn3 and I like Sn3. I've also given some passing thought to maybe doing something totally freelance, like maybe, On30. Maybe if I had less space, like I had to leave this house and downsize, then something like N scale might be appealing.

But for the most part I really like the compromise in size and operability that HO has to offer.

We also don't need to do any speed matching. When you put a module in an engine, you do a stall test as part of the process, which lasts approximately three seconds, and that registers the milliamp draw for that loco.

Joe: What's your philosophy on doing a layout well, what's your highest criteria?

Rob: I want something that is solidly built, that's aesthetically pleasing, something that creates a pleasant space for the operator and the visitor to be in. I want something that I'm proud to have as part of my home – I want the railroad to look like another finished part of the home.

When you walk in the layout room, it needs to look no different than any other part of the house. It just has a railroad in it. I like to build everything to a high level of fit and finish –finish the fascia, finish the backdrops – finish everything to the same level so that it looks like a professional installation.

Joe: You obviously have a lot of good layout experience under your belt. I'm curious, what "expert" advice would you give to someone just starting out?

Rob: Read as much as you can. That's more than just asking a few questions in an online forum. Get some books. Watch videos by people that really know what they're doing. Seek out construction techniques that produce really good results. Look at scenery, track, laying, benchwork – everything.

Learn as much as you can – approach it like you were building your own house. We wouldn't think of building a house just by slapping a few things together and hoping that it works.

We know that over time, a house that's not built properly is not going to survive. On a model railroad, I think we want to see something rise out of nothing quickly. It's easy to avoid the steps necessary to doing a good job if we're trying to get there too fast.

So, take your time and learn.

Joe: What do you hope convention goers get out of coming to this layout?

Rob: I hope they feel like they're railfanning Utah in the'70s and '80s. I want them to feel like they're getting something worth their time to come and visit. My hope is they walk out of here feeling like it was a good experience.

I will be hosting some operating sessions, so I hope some get a lot out of that operating experience, too.

As long as you walk out of the Eighth Sub with a smile on your face, I'm good. ☑

Rob Spangler

Rob has been a model railroader for over 40 years, since he received a train set at age six. He has been modeling the Western Pacific since 1989.

In addition to trains, Rob enjoys various activities like gardening, photography, and cheering for his daughters Lanie and Lizzie at their karate tournaments.

Rob and his wife Talene have been married since 1997. ■

Wireless video from an RDC-2

Model Railroad Hobbyist | July 2019 | #113

Brian Pickering: How to get a unique view of your layout ...

There are several reasons you might want to have a video camera mounted in your train.

Some people enjoy the "engineer's view" while running their train. Others want to get a train's-eye view of their scenery.

In the case of our modular railroad club, the Seattle, Pacific and Eastern group, we enjoy the audience interaction that comes

1. Assembled RDC-2 with a track-level view of Brian's workbench on the display.

from having a camera running around the layout. Adults and children alike are fascinated by the train-eye view.

Because of this, we long had a camera mounted in a dummy unit that would be pushed around the layout by another locomotive. This always created a few anachronisms, though: a Santa Fe F9 unit being pushed by a Northern Pacific 4-6-0 or Canadian National Dash-9 unit might be entertaining to the audience, but always struck us as somewhat odd.

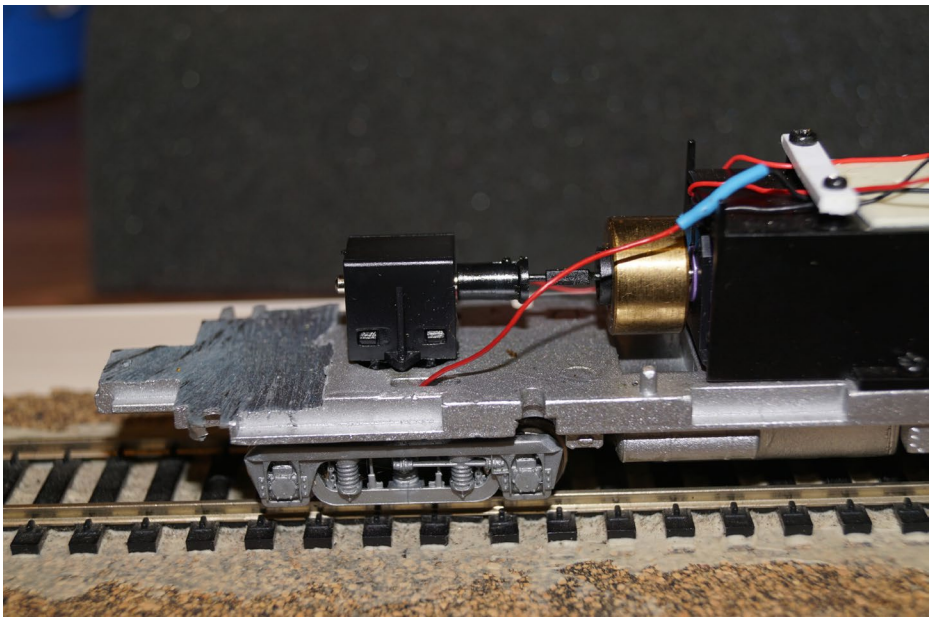
Furthermore, the camera was powered by a 9V battery, which generally lasted only 30-40 minutes before needing to be

recharged. As the camera view started showing even more static than normal, I started to look at possibilities for a replacement.

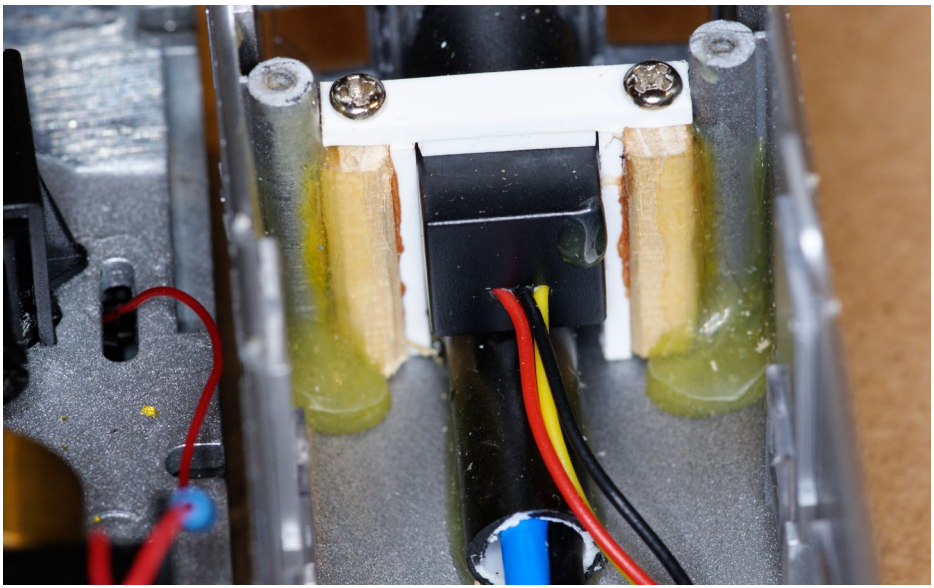
Getting a better camera

Discussions with co-workers led me to cameras and transmitters that are used by first-person flyers of model airplanes and drones. I eventually settled on an 8-channel, 200 mW, 5.8 GHz transmitter/receiver pair, along with a tiny CMOS color video camera.

This would be a significant upgrade from the old black-and-white camera we were using, and would provide plenty of range for any modular layout we might conceivably build thanks to this camera's up-to-200m line-of-sight transmission range.



2. Frame of Life-Like RDC-2 showing cut-out area.



3. Detail showing mounting of camera and front light.

While I awaited their delivery from China (there are now similar items available for next-day delivery from Amazon), I considered what I might mount the camera in.

I was hoping to create a unit that was self-contained, and then realized that I had a reasonable candidate in an undecorated Life-Like Proto 1000 RDC-2. Only the front truck is powered, but both trucks pick up current, and once I had removed the passenger seats, the preparation was almost complete.

After the video equipment arrived in the mail, I realized that I would need to cut down the front of the chassis to make room for the camera. Once that was done, the tiny camera fit perfectly behind the center window [2].

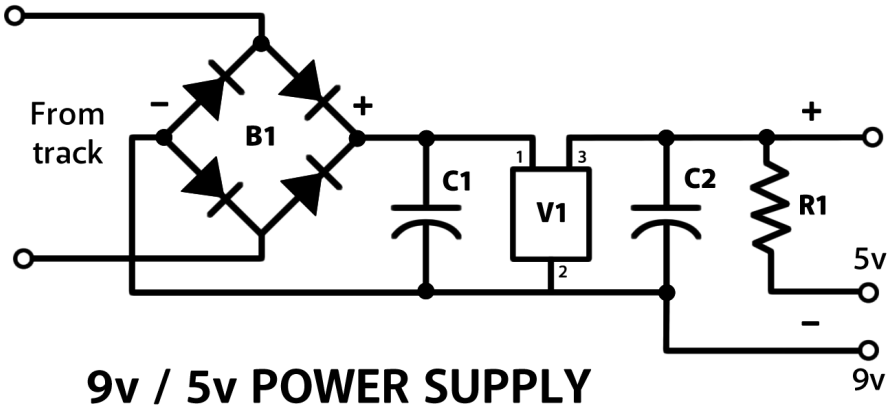
I mounted the camera by gluing some basswood in place on either side of where the camera would sit, two pieces of

Evergreen strip to shim to a firm, but not tight, fit. Finally, it was held in place by a piece of Evergreen strip across the camera [3].

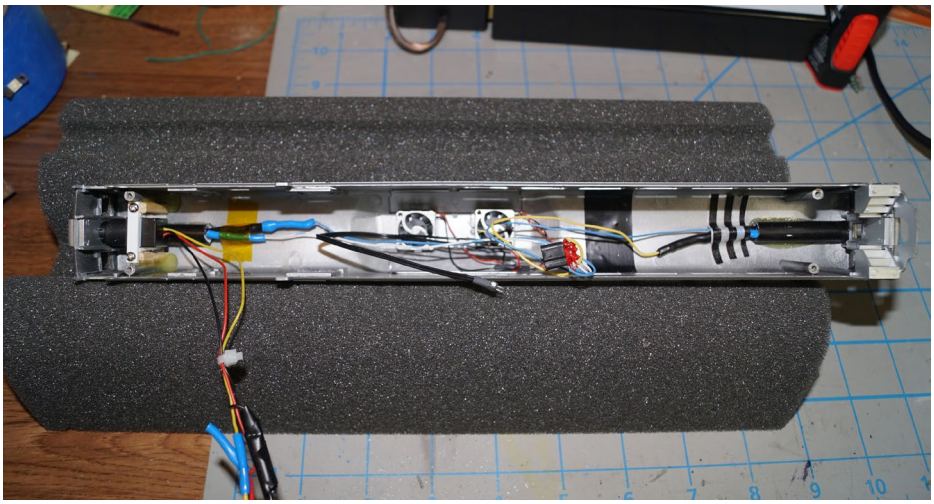
To power the transmitter and camera, I needed a constant 9V DC. Initially, I built a simple circuit using an LM317 voltage regulator, but after a few shows, we noticed the camera would shut down after half an hour or so. At that time, the RDC-2 also was noticeably warm.

During a period where I was incapacitated by health issues, another club member took over and made three changes. First, he replaced the LM317 circuit with one based on a far more efficient V7809-1000 regulator. The resulting circuit, including bridge rectifier and filter capacitors, is shown in [4].

Second, he removed the windows along the side of the passenger compartment to allow more cooling airflow. Finally, he took something I had intended as a joke, and ran with it: he drilled out the cooling fans in the roof of the RDC, installed etched stainless steel grilles, and mounted two tiny fans inside to push even more air through.



4. Schematic of 9V / 5V power supply.



5. Detail showing mounting of camera and front light.

The fans require 5V DC, so we used a dropping resistor, rather than adding yet another power conversion circuit.

Since our club uses DCC exclusively, I installed a Digitrax DH-123 decoder to control the RDC-2.

To light the forward and reverse lights, I installed a length of Evergreen tubing behind the transparent lenses using Walthers Goo, then soldered bright-white LEDs and dropping resistors onto the appropriate outputs. Small connectors were used to give some freedom when working on the frame, providing power to the LEDs and ventilation fans [5].

Once assembled, and upgraded with the improved power supply [6], we were pleased that we had better-quality video, and could run the car for hours at a time.

As shown in [6], all the electronics were mounted to the RDC chassis with thick foam tape. The decoder went on top of a box that hides the motor. The transmitter (blue board) and power regulator circuit (green perf-board) replace the passenger seats.

The components of the power regulator are mounted off-center to leave room for the four-inch-long antenna. No space is wasted!

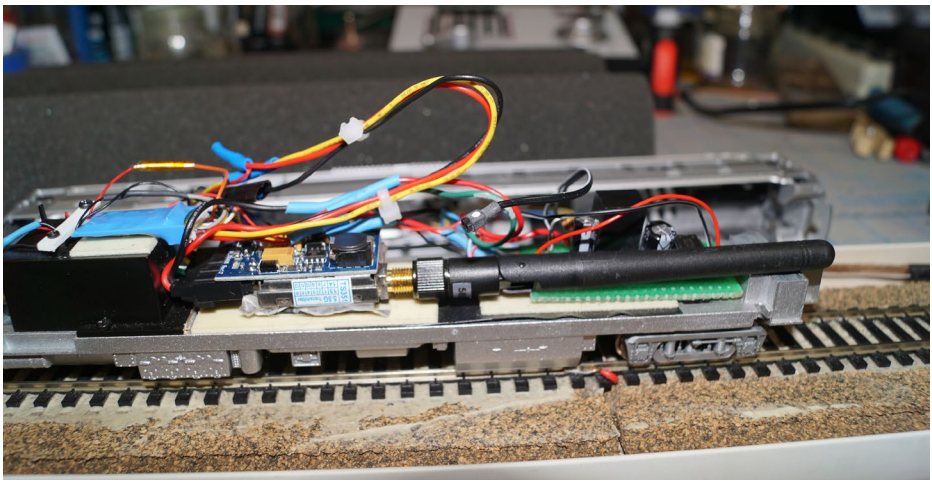
The club is still working out a best location for the receiver antenna. The aftermarket three-blade antenna gives good all-around reception, but we haven't worked out a good way to mount it. Originally, we foam-taped the receiver to the top of the monitor, but the monitor is warm enough during use that the foam tape starts to slip and slide!

In [1] you can see the receiver connected to a portable video player, but for shows, the club has a 24" flat-screen TV we set on one corner module, and the audience just loves it.

I'm toying with the idea of building another of these, just for some variety. The cameras and transmitters keep getting smaller!

Would it be possible to use a normal diesel locomotive? How about mounting one on the engineer's side of a steam locomotive cab? Looking out the back of a trailing observation car or caboose?

There are lots of possibilities! ☑



6. Frame, with decoder, transmitter, and power converter.

Parts

Life-Like RDC-2

Digitrax DH-123 DCC Decoder

Lighting:

- Evergreen #229 Styrene tubing
- 2x T1-3/4 5mm White LED
- 2x 560-ohm resistor

Fans:

- Plano Model 474 36" Fan & Grilles
- 15x15mm super small brushless DC Fan (look on eBay for "Raspberry Pi overclock fans")

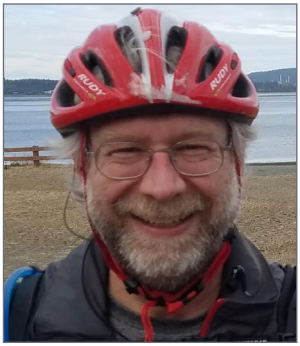
Power Supply [3]:

- B1: NTE5334 Bridge Rectifier
- V1: V7809-1000 Switching 9V Regulator
- C1, C2: 220uF, 35V Electrolytic Capacitors
- R1: 330-ohm resistor

Video:

- FPV 5.8GHz 200mW 8-CH TS351 Transmitter + RC805 AV Receiver Kit
- MC900D-V9 Mini HD 1/3" CMOS CCTV Security Surveillance FPV Camera
- ZnDiy-BRY TX-1 FPV Aerial Photo 5.8GHz RP-SMA 3-Blade / 4-Blade Antennas (DX.com)
- Sony a77ii, Sony 18-55 SAL1855, bright-white LED (info only as to what the author used)

Brian Pickering



Brian Pickering spends his days as an IT security engineer with The Walt Disney Company.

On the weekends, though, he lets his hair down (what's left of it, anyway) to play with trains, ride bicycles, go skiing or hiking, and to spend time with his wife and son.

Brian also works with the Boy Scouts in various roles. He lives near ever-rainy Seattle, Washington. ■

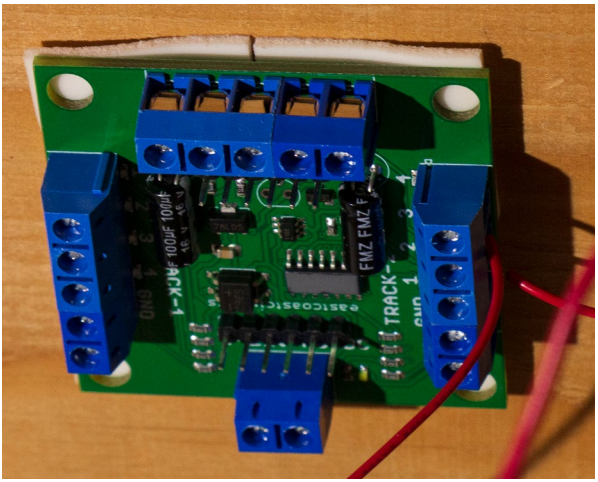
7. Brian shot this quick video of the output from this car by pointing his cell phone at the video screen. This video-of-a-video lacks detail, but it does show this car in action. The direct video looks much better in person.

First LOOK column

Model Railroad Hobbyist | July 2019 | #113

Jeff Shultz shows how to make the lights flash red, for only a little green ...

East Coast Circuits has been gaining attention at recent big model railroad shows. Their display features scale vehicles including emergency and utility vehicles that have had LEDs added. They also have circuits that will drive LEDs to look like a burning fire, randomly light up to six LEDs in a building, or control the stop lights at a four-way intersection.



Their latest circuit, Crossing Signal Circuit #501, is an inexpensive solution for adding grade crossing signals to your layout. It doesn't control gates and doesn't come with a bell, but it allows you to set up a simple flashing grade crossing solution that will

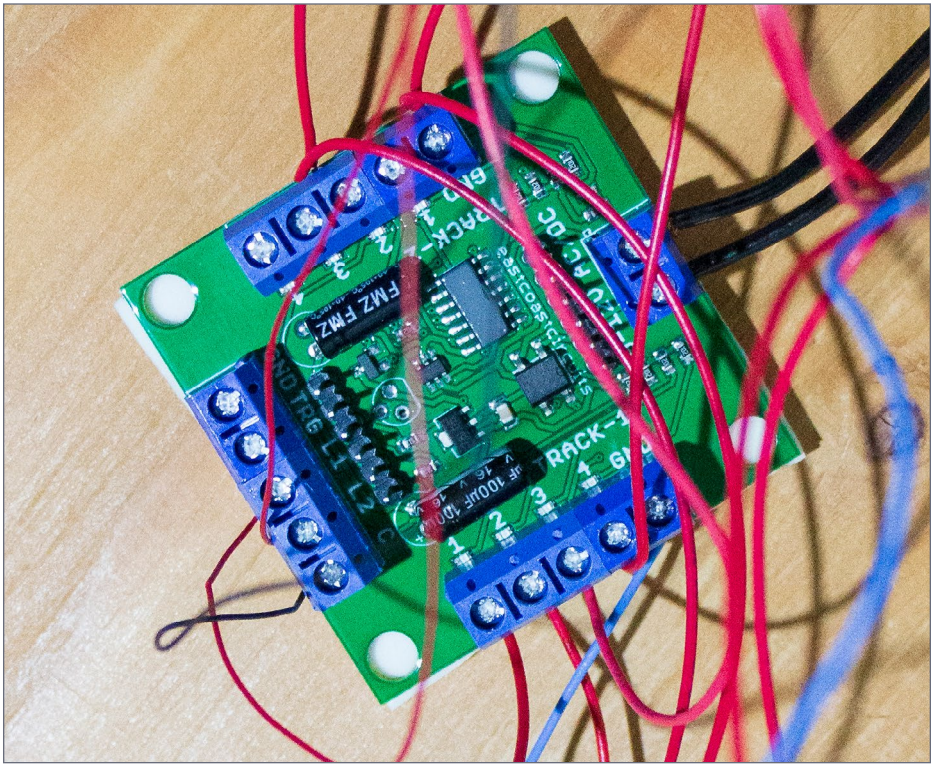
handle two tracks. No programming is required – it really is plug-and-play. It can be used with any common positive (anode) LED crossing signals.

Crossing Signal Circuit #501 comes with the crossing signal circuit board, which is about 2 inches square, and eight sensors – four with 24-inch leads and four with 12-inch leads. If longer wires are needed, 30AWG stranded wire can be attached to the ends of the supplied wires. An optional addition, not tested, is the Traffic Light Preemption System #203. It can change trackside traffic signals to block traffic when a train is passing.

I have several areas on my layout that are going to have grade crossings, so I picked one out that I thought would be appropriate for this circuit – no gates and two tracks, one of which is a main, the other a siding frequently used as an interchange track. Because of this setup I would use the sensors in two ways, normal and non-approach.

The normal setup (Track 1) has an approach sensor located some distance from the crossing (Sensor #1), a sensor close to the crossing on the same side (Sensor #2), a sensor close to the crossing on the far side (Sensor #3) and a far approach sensor (Sensor #4). In this configuration, Sensor #1 and Sensor #3 operate together to begin and end the flashing sequence, and Sensor #4 and #2 operate together in the same fashion from the other side. This was how I set up my main line. The kit comes with 2 double-sided pages of instructions, including clear drawings, to illustrate how to put this together. If you would like to read them ahead of purchase, they are available at www.eastcoastcircuits.com/PDF/Crossing%20Signal%20Circuit%20.pdf.

Since the siding (Track 2) was going to normally have cars sitting on it, I wanted to trigger the crossing signal from close to the crossing so I only used Sensors #2 and #3, just placed a bit further out from the road. To avoid false activations, the activating sensor must be blocked for two seconds. The important thing to remember is that if you cross Sensors #1 or #4 without crossing Sensors #2 or #3, such as in switching operations, after 20 seconds the crossing flashers will time out. If you cross Sensors



1. The crossing signal circuit board is 2 inches square with terminals for power, eight track sensors, LED flasher outputs, and a 3V trigger that can be used with a traffic signal preemption board.

#2 or #3, the only way to stop the crossing flashers is to cross the road and cover the other sensor in order to deactivate the crossing signal. If one train is in the block, triggering the lights, another train passing through on the other at the same time will not turn off the lights.

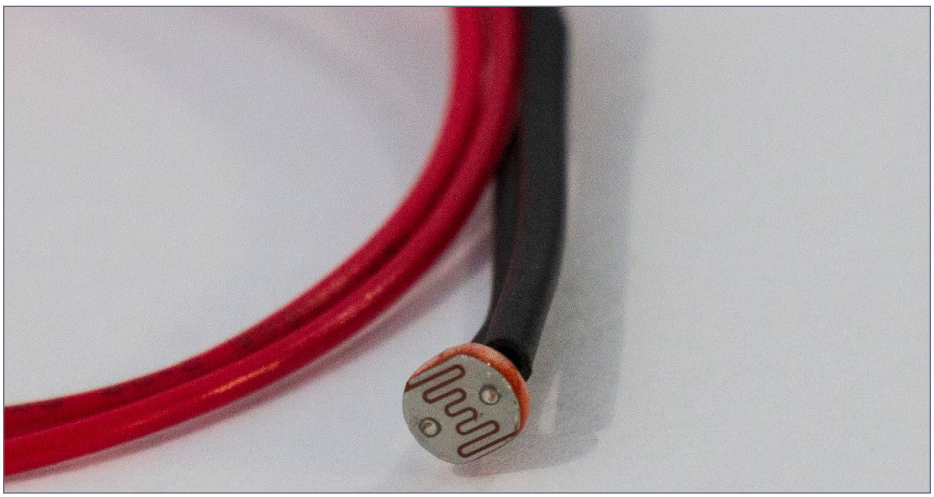
A drill with a normal 1/8-inch bit was used to drill holes between the ties where I wanted the sensors, which themselves fit between the ties. Since I have 1-inch foam on top of 3/8-inch plywood as the base of my layout, I normally will stick a small plastic coffee stirrer – the kind that look like small straws – into the holes in order to run the wires without hanging up on the foam or plywood. The sensors don't have a fixed polarity, so one wire from each sensor on a track goes into a common, and the other wire into the connector marked with its number. Both wires are the same color since it doesn't matter which wire goes to which side of the circuit. I discovered that it is simpler to connect all the common wires to a single wire and then connect the single wire to the circuit board.

Similarly, I drilled another 1/8-inch hole in the foam and plywood for the crossing signal (not included). For this article I used a Walthers Modern Single Lane Cantilever Signal. Since I'm not sure this is the signal I want in this location, and the ground level will be a bit higher than the foam in my finished scenery, I wasn't concerned with the signal sitting against the "ground" at this time.

With two sets of flashers lighting up, it shows up very nicely in the videos. Walthers simplifies the wiring by having one right wire, one left wire, and a common wire for both sets of flashers. If I were to use multiple signals (the circuit board supports up to 16 LEDs) I would connect their wires to left, right, and common terminal strips and then have a single wire from each terminal strip going to the circuit board.

Since this is a semi-temporary installation, where I am sure about the position of the sensors, but I am not sure about the circuit board location or the signal, I secured the circuit board to the plywood bottom of my layout with double-stick foam. The suggested manner of attachment is to screw it in with small nylon stand-off spacers to keep the circuit board from lying flat on whatever surface it is attached to.

At this point I had connected all the wires to their appropriate terminal connectors on the circuit board and attached a 9V DC transformer that I had sitting around – it used to power a network router. The crossing signal will accept either AC or DC between 9V and 12V, which seems to rule out hooking it up to the DCC buss for power. The circuit board calibrates all the sensors to the ambient light (they will not work in the dark), and it is ready for trains to run.



2. The included sensors are just under 3/16ths of an inch across the oval sides and 1/8th of an inch across the flat sides.

3. Two sensors implanted between the ties.

One thing that I would recommend, due to the difficulty of working upside down under a layout, is to connect jumper wires to the circuit board prior to mounting it on the bottom of the layout, and then run those jumpers to terminal strips or some other connector to the sensor, signal and power wires. Power wires should be separately attached to the underside of the layout in order to avoid stress on the circuit board connector.

I mentioned that this is only a "little green" at the top of this article, and that is because the crossing signal circuit and sensor package is $20 at www.eastcoastcircuits.com. ☑

Video: This video consists of four parts.

Part 1: A train triggers the crossing signals on Track 1 (the back track). Approach sensors are marked with blue tipped skewers, the island sensors with yellow tipped skewers.

Part 2: A train triggers the crossing signals on Track 2. There are no distant approach sensors. The island sensors are marked with blue thumbtacks.

Part 3: A train triggers the crossing signal with the left approach sensor, then goes the other way. After 20 seconds, the signals stop on their own.

Part 4: The train on Track 2 (near track) triggers the signals and stops, while a train on Track 1 (far track) passes through. The signals continue flashing until the first train clears.

First LOOK column

Model Railroad Hobbyist | July 2019 | #113

1. This is ScaleTrains.com's Rivet Counter line SD40T-2 tunnel motor. You can see it's loaded with extra detail, all correct for this road number, SP 8369.

Joe Fugate looks at ScaleTrains.com's new SD40T-2 tunnel motor ...

The one big bugaboo with models of the SD40T-2 tunnel motors has always been those see-through screens at the lower back of the hood.

The problem has been the rear power truck gear tower. If you're desperate, you can always remove the rear truck gear tower and just make it a dummy truck. But then that cuts the loco's pulling

power in half, which just doesn't feel right for a second generation diesel supposedly producing 3000 horsepower.

Well, ScaleTrains has finally done it – they've designed the rear truck power train to be completely out of view and the rear screens are now completely see-through [2] just like the prototype.

This particular model is ScaleTrains' Rivet Counter line, which means it has lots of extra detail, accurately applied as appropriate to the specific loco number.

Prototype loco history

The Southern Pacific Railroad and its subsidiary Cotton Belt weren't shy about ordering specialized equipment thanks to their rugged operating environments. Their operations stretched from the Pacific coast, through the Sierra Nevadas, and across the deserts of the Southwest, with each having its unique challenges.

The famed AC-series "Cab Forward" articulated steam locomotives were one example, designed with tunnel and snowshed operation in mind. Partway into SP's diesel era, the tunnels and snowsheds common on the western half of the system would again prove to be an operational headache, thanks to locomotives overheating during long pulls within their cramped confines.

Once the locos overheated, thermostatic controls would automatically make the unit reduce its output, or even shut down altogether, resulting in a loss of horsepower and stall the train.

SP and EMD collaborated on solving the problem. In the late 1960s, they experimented with "elephant ears," large sheet metal air deflectors applied to the radiator intakes of various members of SP's large SD45 fleet.

While effective at reducing overheating problems by directing a greater volume of cooling air towards the radiators, they were a maintenance hassle and blocked easy access to numerous hood doors. Engine crews also disliked them, as they could be an impediment on the walkways.

2. Putting a strong backlight behind the rear of the ScaleTrain's tunnel motor unit makes it clear the view through the screens is unobstructed, just as on the prototype.

A more permanent solution arrived in 1972 with the delivery of the first SD45T-2 to the SP. Cataloged by EMD as an extra-cost option of their basic SD45-2, EMD manuals from the early 1970s describe the T-2 variant as an SD45-2 with cooling system modifications.

The SD45T-2 built upon the basic principle of the elephant ears, but in a more permanent package with air intake screens on the lower rear hood. Heralded a success, SP also ordered a "T-2" variant of the SD45T-2s cousin, the SD40-2.

For the SD40T-2, the basic SD40-2/45-2 frame was stretched several feet to allow for the enlarged radiator compartment at the rear of the long hood. Instead of the traditional placement of the radiator fans on the long hood roof above the radiator cores and intake grills, the T-2 design placed the radiator fans differently.

The diffuser assembly went inside the hood, below the radiator cores, and above a large, open radiator intake area placed at walkway level. This change resulted in faster, more efficient cooling.

SP 8300, built in 1974, would be the first SD40T-2. The more fuel-efficient sixteen-cylinder 16-645E3 prime mover would prove to be more popular than the thirsty twenty-cylinder 20-645E3 used in the SD45T-2.

The SD40T-2 quickly became a fixture on the Southern Pacific, with a total of 240 units built for the SP and its Cotton Belt subsidiary between 1974 and 1980. Delivered in different groups, each group would exhibit various customer option differences, as well as EMD production differences.

The first SD40T-2s, SP 8300-8306, and 8350-8356, came equipped with 116" long extended low short hoods to house Locotrol electronic equipment for remote control helper operations.

Subsequent deliveries of units equipped with extended "snoot" low short hoods would measure 123" in length, reflecting EMD design changes across the product line.

All SP/SSW units featured a large air conditioner housing on the cab roof (a welcome relief in the arid southwest), a 3-chime Nathan P3 airhorn offset to one side of the number board housing, and in the case of the Locotrol-equipped snoots, additional antenna ground planes and related cable conduits on the cab roof.

Naturally, the units came equipped with SP's traditional Pyle-National "Gyralite" signal light package. However, SP 8300-8306 and 8350-8356 only had signal lights on the front. Changes to signal light policy saw all subsequent orders equipped with these safety appliances front and rear.

3. These locos come in protective packaging and an operator's manual describing how to configure the DCC sound decoder.

4. Putting the loco through its paces on a remnant of Siskiyou Line: this is probably the last time you will see this scene since it will be dismantled soon.

Notable model features

This loco comes with a Loksound sound decoder loaded with the proper sounds including the correct horn and bell. You can change the horn and bell to others if you wish, however.

Another notable feature of this loco is it comes with ESU's Powerpack "stay alive" module.

The first run is sold out, but advanced orders for the second run are open until July 22nd, for delivery later in 2019.

Price is $179.99 for DCC & sound ready, or $269.99 for factory installed ESU-Loksound DCC sound with two sugarcube speakers inside. ☑

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Savvy Modeler Online

Model Railroad Hobbyist | July 2019

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BNSF hopper weathering

If there ever was a "Yes, it's a model" project candidate, this is it! That screen grab above shows *the model*, not the prototype! See how the magic transformation happens as modeler ***KPack*** shows you the ropes. If you're an MRH forum regular, then you'll recognize him as someone who also posts to the MRH forum now and then, too. ■

View reader comments

GREAT MODELER VIDEOS ON THE WORLD WIDE WEB

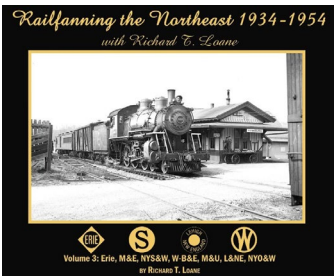
JULY NEWS column

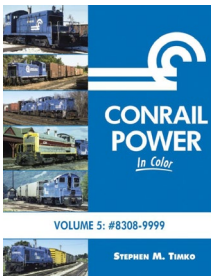
Model Railroad Hobbyist | July 2019 | #113

Richard Bale and **Jeff Shultz** report the latest hobby industry news

Rate this article

NEW PRODUCTS FOR ALL SCALES

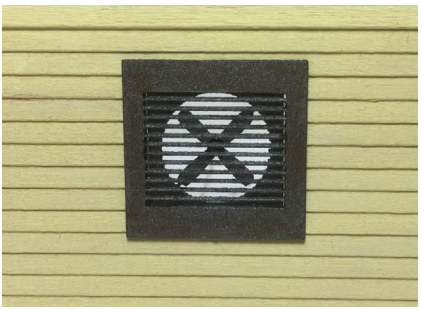




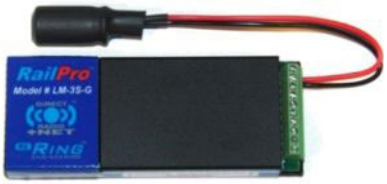
Morning Sun Books has released volume three of *Railfanning the Northeast with Richard T. Loane.* Editor Richard T. Loane continues to artfully present the work of photographer Dick Loane and his excursions through the Northeast in the 1930s, '40s, and '50s. This volume offers many rare images from the Wilkes-Barre & Eastern, Erie, NYS&W, L&NE, and NYO&W. Additional new hard cover releases from Morning Sun are *Conrail Power in Color Volume 5,* by Stephen Timko, and *Color Guide for Incentive Per Diem Cars* by James Kinkaid. For details contact a dealer or visit morningsunbooks.com.

THE LATEST MODEL RAILROAD PRODUCTS, NEWS & EVENTS

Motrak Models has announced The Module B, a set of drawers for the Modeler's Workbench Organizer. Fitting under the first module in the set, they measure 10.0625 x 4.5 x 4.875-inches, with the drawers measuring 7 x 4.25 x 1-inch, 2.5x x 4.25 x1-inch, 3.125 x 4.25 x 1-inch, and 9.5 x 4.25 x 2-inches. The kit is manufactured out of .125-inch Masonite hardboard.



Also introduced are wall fans that will work with any building. 1 x 1 inches square, they are made of .025-inch laser board and come four to a package. For more information see the website at motrak-modelsusa.com.



Ring Engineering has released the RailPro LM-3S-G, a large-scale loco module with sound that will also fit O scale locomotives. Equipped with the same Direct Radio control, Rail Sonic HD sound, and Radio Load Sharing as other the other LM-3S series loco modules, the LM-3S-G can accept up to 24V, with a maximum motor stall current of 8 amps. Audio output power is 13W at 4 ohms or 7.4W at 8 ohms. Wire connections are made via screw terminals on the module, which measures 3.35 x 1.32 x .57-inches in size.

Also announced is the RailPro HC-2-SUN, a wireless handheld controller with an extra bright screen for use outdoors in direct sunlight. Identical except for the screen to the HC-2, it can be used to control any Railpro locomotive module. For more information on all of Ring Engineering's products, see a dealer or visit ringengineering.com.

O SCALE PRODUCT NEWS

Motrak Models has announced the Sardine Fisherman's Shack in O scale. Representative of fishermen's shacks through New England, the model features laser-cut wood for double wall construction, laser-cut paper shake shingles, laser-cut doors and shutters, Tichy Train Group plastic windows with laser-cut acetate, and easy-to-follow instructions. The building is 3 inches deep by 7.5 inches wide from steps to steps.

Motrak Models has also announced The Weeks Mills Freight House. The prototype building is located in Alna, Maine and is painted two-tone green, as seen on the model photo. Measuring 11.5 by 6.25 inches, the kit features laser-cut double-wall construction, paper shake shingles, Tichy plastic windows, and a

laser-cut sub-floor to assist in placing support posts. The kit will work with both standard O and On30 layouts. It includes templates for building the loading dock at the correct height for either gauge. For more information on Motrak Models products visit their website at motrakmodelsusa.com.

HO SCALE PRODUCT NEWS

The latest release of HO scale freight car kits from **Accurail** includes this Milwaukee Road 40-foot single-sheathed wood boxcar with steel Dreadnaught ends. The model represents a prototype built in 1925 that was rebuilt in 1954.

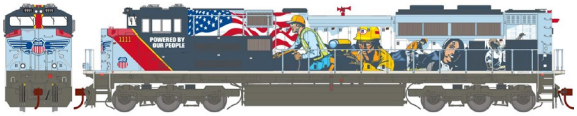
Also new from Accurail is a series of four HO scale kits that assemble into Santa Fe SFRD wood refrigerator cars. The 40-foot reefers display Santa Fe's curved system map on one side and a choice of Super Chief, Grand Canyon, Scout, or El Capitan logos on the opposite side.

A special three-pack of 41-foot Pittsburgh & West Virginia gondolas is available now from Accurail. The HO scale model closely follows an AAR 11-panel design built by American Car & Foundry in 1926. Individual cars are also available.

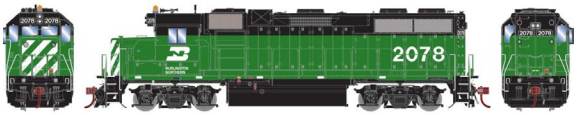
Accurail's summer schedule includes the release of HO scale kits for four 40-foot double-sheathed wood boxcars. Road names will be Santa Fe, Chicago, Burlington & Quincy; Great Northern, and Union Pacific. All Accurail kits come with appropriate trucks and Accumate knuckle couplers. For additional information contact a dealer or visit accurail.com.

Photo courtesy of Becky Stone

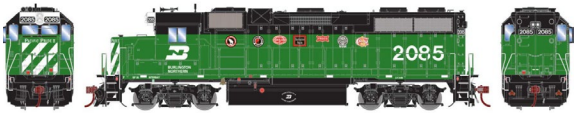
Athearn has announced plans to create an HO scale version of Union Pacific's newest commemorative paint scheme. Unveiled at Omaha NE on June 6, 2019, the prototype locomotive honors Union Pacific employees. A slogan beneath the cab window of the uniquely decorated SD70ACe states *Powered By Our People*.



Athearn's HO scale Genesis model is scheduled for release in December.



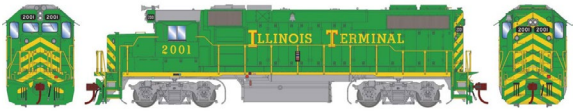
Fans of EMD's GP38-2 will be pleased with the lineup of Athearn Genesis series models coming next May. Phase I units with "chicken wire" radiator grilles will be available in Burlington Northern's standard green scheme. BN No. 2085 will be offered in the unique Pacific Pride scheme (below).



This release will include Phase Ib GP38-2s in five Conrail road numbers

including Conrail Quality (No. 8077), and Conrail Operation Lifesaver (No. 8090). The CR units, as well as locomotives decorated for Elgin, Joliet & Eastern, will have "chicken wire" radiator grilles.

CR GP38-2s will come with Blomberg-M trucks with rubber springs while the EJ&E locomotive will have Blomberg-B trucks with leaf springs.



GP38-2 Phase II units with corrugated radiator grilles will be available for Illinois Terminal and Pittsburgh & Lake Erie. All GP38-2s in Athearn's May 2020 release will have an 81-inch nose except the IT version which will be 88 inches.

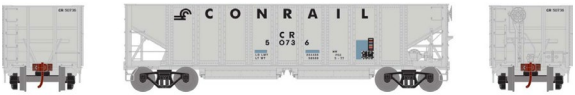
Another run of Athearn HO scale Genesis series EMD F7A and F7 A/B sets is scheduled for release in May 2020. Utilizing the highly-regarded tooling created by Paul Lubliner, both A and B units will be available in the freight livery of five railroads including Santa Fe's blue and yellow Cat Whiskers scheme. The models will be equipped with LED lighting including a backup light on the blind end. Farr or "chicken wire" grilles will be applied to the upper radiator openings as appropriate to the road being modeled.

In additional to Santa Fe, road names in this release will be Frisco, Missouri-Kansas-

Texas, Western Maryland, and Milwaukee Road. The WM and Milwaukee A units will have road-specific eyebrow grab irons. Athearn Genesis models mentioned in this report will be available for DC operation with a DCC-ready 21-pin NEM socket, and with a factory-installed Tsunami2 sound decoder.

Athearn's May 2020 production schedule includes a 60-foot Gunderson high-cube boxcar with double plug doors. Features on Athearn's Ready-to-Roll HO scale model include separately applied wire grab irons, etched end platforms, and roller bearing trucks with 36-inch machined metal wheelsets.

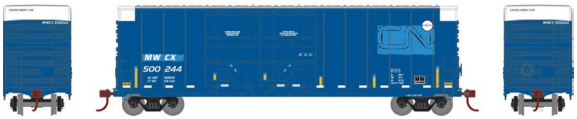
Road names will be Railbox/TTX (yellow bodies in three schemes), TBOX (patched BCR in Athearn's Primed for Grime), Union Pacific (five schemes), Burlington Northern (four schemes), Southern Railroad of British Columbia, Transportación Ferroviaria Mexicana, Wisconsin Central, and the short-lived Southern Pacific Santa Fe.



Athearn's HO scale Ready-to-Roll model will have separately applied wire grab irons and machined metal wheelsets. Three numbers each will be available for Union Pacific, Norfolk Southern, CSX, RJ Corman, Herzog, Alaska Railroad, and Conrail.

New intermodal equipment coming from Athearn next May includes a 48-foot container with smooth sides.

Carrier names will be Allied Van Lines, American President Lines, Santa Fe, Burlington Northern (two schemes), Canadian National, Conrail, and Southern Pacific.



Roundhouse brand models coming from Athearn in May 2020 include a 50-foot high-cube boxcar with double plug doors. The HO scale model will be available in three numbers each decorated for BC Rail, Midwest Car (ex CN/GT in Primed for Grime), and Norfolk Southern in a MOW scheme.

An FMC 50-foot 5283 cu. ft. boxcar is due to be released by Roundhouse next May. The HO scale model will feature double Youngstown sliding doors that will be positionable, and appropriate trucks with machined metal wheelsets. Three road numbers each will be available for Bangor & Aroostook, British Columbia Railroad, Golden West, Infinity Rail, Wisconsin Southern, Southern Pacific, Cotton Belt, and Minnesota, Dakota & Western. For information on all Athearn and Roundhouse products contact a dealer or visit athearn.com.

Broadway Limited is scheduled to release HO scale EMD SD7 and SD9 road switchers this month. Road names for the SD7 will be Chicago, Burlington & Quincy; Baltimore &

Ohio-Chessie System, CSX, Pennsylvania Railroad, Southern Pacific, and Union Pacific.

SD9s will be available decorated for Denver & Rio Grande Western, BNSF, Duluth, Missabe & Iron Range; Great Northern, Pennsylvania Railroad, and Southern Railway. Both versions of the EMD diesel will come with Paragon3 Sound and Operation System with Rolling Thunder for operation in both DC and DCC environments. For additional information contact a dealer or visit broadway-limited.com.

Digital Fox has an HO scale kit for a 41-foot Wellsville, Addison & Galeton steel gondola. The kit was produced for Digital Fox by Accurail and comes with Accumate couplers and appropriate trucks with Delrin wheelsets. It is available in three WAG road numbers. To order go to digitalfox.com.

ExactRail is selling both kits and fully assembled HO scale models of 30, 50, and 72-foot steel deck plate girder bridges.

The bridges have wood or cable handrails depending on the practice of the railroad being modeled. Other details include full interior bracing, etched metal walkways, and molded ties.

The assembled versions are available in black, silver, or green, as well as decorated for Norfolk & Western, Santa Fe, Milwaukee Road, Great Northern, Pennsylvania, Chessie, Canadian National, Burlington Northern, and Union Pacific. Not all road names are available in all lengths. For more information visit exactrail.com.

Fos Scale Models has released Sarno Woodworks, a craftsman-style HO scale kit that assembles into an interesting lineside structure with plenty of character. This is a re-issue of a popular Fos kit originally introduced in 2009. The kit includes laser-cut shiplap and board and batten siding, a loading dock, wood storage rack, plastic windows, color signage, and numerous metal details. Templates and assembly instructions complete the kit. The completed structure has a footprint of 4.75 x 7 inches. Figures, vehicles, and scenery shown in the illustration are not included. For additional information visit fosscalemodels.com.

ITLA Scale Models has introduced an HO scale craftsman kit called Albany Manufacturing Co. The kit can be assembled as a 3 x 3-inch square

building or as a shallow background structure that measures 12 inches wide and less than 1 inch deep. Construction uses the tab and slot method to assemble the basic laser-cut wood components of the structure. The kit offers some creative detailing techniques such as 3D laser-etched walls that expose brick rebar in weathered concrete areas.

Details in the kit include electrical conduits and meters, steps, handrails, ladders, ducts, pilasters and cornice trim. Rooftop vents, a chimney, and an access hatch are all included. ITLA's Albany Mfg. kit comes with optional color signs. Illustrated instructions guide the hobbyist through the assembly process including painting suggestions. For additional information visit itlascalemodels.com.

New HO scale ready-to-run models from **Kadee** include this 50-foot Tidewater & Southern PS-1 boxcar. The ready-to-run model is based on a prototype built by Pullman-Standard in 1955 with an 8-foot Superior six-panel sliding door.

Among Kadee's latest releases is this PS-2 twin-bay covered hopper car decorated for Boston & Maine. Spotting

features include straight ribbed sides and eight round loading hatches. The HO scale model is based on a car Pullman-Standard built in 1956.

Also new from Kadee is this Nashville, Chattanooga & St. Louis 50-ton twin-bay hopper with offset sides and flat ends. Kadee's HO scale version of an AAR class HM-17 hopper comes with a removable coal load.

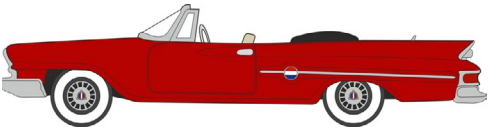
Completing our listing of new Kadee HO scale ready-to-run models is this Norfolk & Western 40-foot PS-1 boxcar. The model replicates a prototype built in 1953 with 8-foot Youngstown sliding doors. All Kadee ready-to-run models come with Kadee metal knuckle couplers and two-piece self-centering trucks. For additional information contact a dealer or visit kadee.com.

Mass Transit Miniatures, a division of Imperial Hobby Productions, has an HO scale body kit for a NYCTA R40 "Slant Nose" subway car. The HO scale model follows a prototype designed for the New York City Transit Authority in the 1960s by Raymond Loewy. The kit includes a one-piece resin cast body and 3D printed frames, trucks, and end gates.

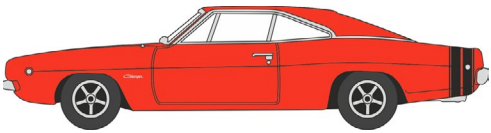
Also available from Mass Transit Miniatures is a resin body kit for an HO scale Budd SEPTA transit car. From 1961 to

the late 1990s, Philadelphia's Market-Frankford EL was equipped with Budd cars, which because of their four roof ventilation fans were nicknamed "Almond Joy" cars by transit fans. The model represents single-unit Class A-49 cars with an operator's cab at each end. The body is made from all-new tooling based on a CAD-designed, 3D-printed pattern. The frames and end gates are also 3D-printed. The truck side frames on both Budd models match Bowser power trucks which are available separately. For additional information visit ihphobby.tripod.com.

Motrak is selling a basic laser-cut kit that assembles into an HO scale 2.5 x 3-inch Yard Shed. The limited edition kit consists of laser-cut walls, floor, roof, and tar paper; Tichy door and windows, and resin and plastic detail parts. For more information visit motrakmodelsusa.com.

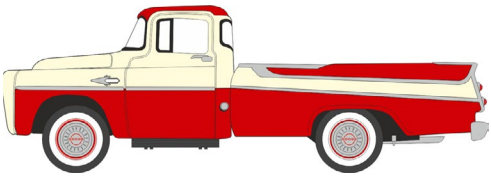


Oxford Diecast has added four new 1:87 scale American automobiles to its current list of available models. They include this 1961 Chrysler 300 Convertible with wide whitewall tires. It is painted in Chrysler's Mardi Gras Red.



This red 1968 Dodge Charger R/T has alloy wheels and signature stripes across the trunk.

Chevrolet listed the base color on this is 1957 two-door Nomad station wagon as Dusk Pearl.



Completing Oxfords' recent release is a 1957 Dodge D100 Sweepside Pickup with whitewall tires and chrome wheel covers. For additional information contact a dealer or visit walthers.com.

R. Bale

Amtrak's Horizon Fleet

Introduced by Amtrak in April 1989, the Horizon fleet (also known as the Amfleet IIIs) was based on the Comet-series commuter cars Pullman-Standard had been producing since 1970. The new Horizon fleet consisted primarily of two car types – a coach and a dinette car. Over the years, the Horizon cars have remained largely unchanged from their as-built appearance, with the only significant visual differences being the evolution of the Amtrak paint schemes from Phase III through Phase IVb. Externally, the only major change was the replacement of fold-down stairs with fixed steps.

Rapido Trains has announced several new products and is currently booking pre-orders to determine which projects will go forward and which may be delayed or cancelled due to lack of consumer response.

Rapido's list of new products begins with a high-end HO model of Amtrak's Horizon coach and dinette cars. In addition to Rapido's established reputation for full underbody detail, notable features on the new Horizon cars will be tinted windows, full interior detail, metal grab irons, GSI G70 trucks with machined metal wheelsets, and constant lighting in both DC and DCC modes. The ready-to-run models will be available in multiple numbers decorated in Amtrak Phase III narrow (above), Phase III wide, Phase IV, Phase VI, and Amtrak California schemes. A minimum number of pre-orders will be needed for this project to go forward.

Rapido has announced plans to produce Phase 2B and Phase 3 versions of Amtrak's F40PH locomotive. Basic F40PH Phase 2B units will be available decorated for Amtrak Phase II, and Amtrak Phase III.

Phase 3 Commuter versions of F40PH locomotives will be available decorated for Massachusetts Bay Transportation Authority, and New Jersey Transit.

Paint variations for F40PH Phase 2B units with ditch lights will include Virginia Railway Express (above). Amtrak Phase III scheme, Agawa Canyon Tour Train, Montreal Transit (AMT), CSX (with larger fuel tank), and Rio Grande Ski Train.

Rapido is booking advance orders for an HO scale version of a Denver & Rio Grande Ski Train. At the point will be a late version of a F40PH diesel with ditch lights.

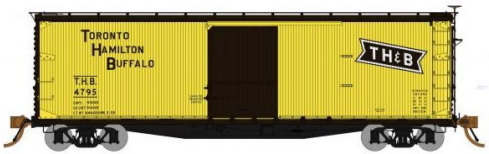
D&RGW passenger cars planned for this project include a café/bar/lounge car, a club car and a coach. Two editions of the Ski Train will be available with different named cars in each set. Additional named coaches and snack coaches will be also available. Note: If sufficient pre orders are received for the Snack Coaches, Rapido will tool the unique window arrangement applied to these cars. If the minimum is not met, the Snack Coaches in the above sets will use the same carbody as the coaches.

Another new product under development at Rapido is an HO scale version of a Comet car, the modern commuter car Pullman-Standard initially delivered to Erie-Lackawanna in the early 1970s. Several versions of the popular design were subsequently supplied to several transit authorities by car builders P-S and Bombardier. Rapido will offer three-car train sets consisting of two coaches and one cab car. Two packaged sets of cars with different numbers and names will be available for AMT, CDOT, and MBTA. The initial release will also include individual, unnumbered cars decorated for SEPTA, AMT, CDOT, MBTA, MNCR, NJT, and undecorated. In addition to Rapido's usual interior and underbody details, the Comet cars will feature tinted windows, controllable interior and

cab car lighting in both DC and DCC modes, metal grab irons, and correct inside-bearing trucks with metal wheelsets.

Rapido is quoting an early 2020 delivery date for a new HO scale USRA wood-sheathed boxcar. Multiple road numbers will be available for Atchison, Topeka & Santa Fe; Boston and Maine (Minuteman), Chicago, Burlington & Quincy (Everywhere West); Chicago, Rock Island & Pacific; and Delaware, Lackawanna & Western.

Additional road names will be Great Northern, Minneapolis & St Louis (The Peoria Gateway), Missouri Pacific, New York Central, Pere Marquette, St Louis-San Francisco, Spokane, Portland & Seattle; Wabash, and Toronto, Hamilton and Buffalo (red body); and TH&B (yellow body).



The models will come with Andrews trucks with in-line brake shoes and blackened machined metal wheels. Underbody details will include separate brake rods and piping, and KC brakes, except on TH&B and SP&S cars which will be equipped with AB brakes.

Most of the lettering styles mentioned are from the post-1930s era. Rapido will consider offering earlier schemes in subsequent releases if sufficient requests are received. The initial release is being offered in four-packs. Individual cars can be ordered from participating dealers.


R. Bale

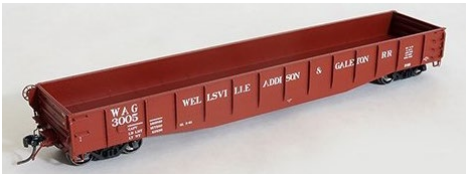
EMD's FL9

The FL9 was a unique dual-power locomotive developed in the mid-1950s for the New Haven Railroad for service out of New York City's Grand Central Terminal. The locomotive could run as a diesel or as an electric off a third rail. With the exception of its three-axle trailing truck, the FL9 otherwise resembles a standard FP9. In the 1980s the 30-year old locomotives were rebuilt with new electronics, modern HEP equipment, and a fully upgraded braking system. Notable among the rebuilds were four units that were sold to ConnDOT - the Connecticut Department of Transportation, where they continued in service wearing their original New Haven McGinnis livery. Two units were later repainted in a fictitious but eye-catching New York Central Lightning Stripe scheme for service on the Hudson Line. The rebuilt FL9s remained in service until 2009, becoming the last F-units in daily mainline passenger service in the United States. Two units, former Amtrak Nos. 488 and 489, went on to see further service on the Maine Eastern until 2015.

Rapido is working toward a spring 2020 release date for a rebuilt FL9. Rebuilt features on the HO scale model will include correct HEP roof details, updated underbody details, modernized classification lights, front and rear HEP receptacles, correct horns, and optional operating ditch lights.

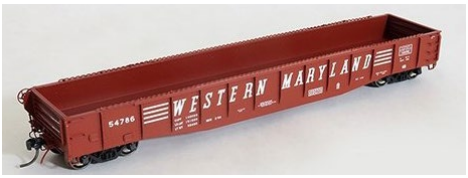
Decorating schemes will include Connecticut DOT (New Haven McGinnis), Metro North (Red and blue), Metro North (Silver

and blue), Metro North (NYC Lightning Stripes), Amtrak (Phase III), and Maine Eastern. Operating options will be DC/silent, and DC/DCC/sound. Sound equipped models will come with a custom ESU Loksound V5 decoder. For additional information on Rapido products contact a dealer or visit rapidotrains.com.



Tangent is selling its Bethlehem 52-foot 6-inch 70-ton steel gondola in four new paint schemes. The HO scale ready-to-run model replicates a standard design the Bethlehem Steel Company used continuously between 1937 and 1957. Tangent's latest release includes this Wellsville, Addison & Galeton car. The model closely follows a WAG prototype including the application of Duryea draft gear and a riveted steel floor.

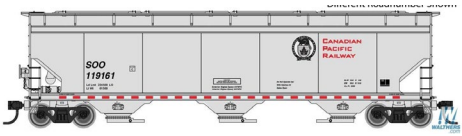
Also available now is a Wabash version of the Bethlehem standard gondola with a wood floor, an Equipco brake wheel, and Wine brand tie-downs along the top chord of the car's sides.



Western Maryland gondolas are available in the original 1954 as-delivered scheme (left), and in a 1967 repaint. Both WM cars have Equipco brake wheels, a Gypsum brake step, a nailable steel floor, and Wine tie downs. All versions of the Bethlehem model have Dreadnaught drop ends, full interior detail, wire grab irons, and appropriate trucks with machined metal wheelsets. For additional information visit tangentscalemodels.com.

Walthers is finalizing new tooling for a late 2020 release of EMD FP7-F7B diesels. Pre-production samples of the Proto series model, decorated for Southern Railway, show the freight style pilot and MU hoses. Not visible in the photo are the ATS pickup shoe details.

Additional road names will be Southern Pacific (snow-plow pilot, roof top ice breakers), Amtrak (ex-SP), VIA Rail Canada (working ditch lights, winterization hatch), Pennsylvania Railroad (phone antenna, nose grab irons), and Soo Line (Mars light, nose grab irons, winterization hatch). The ready-to-run HO scale model will be available with ESU LokSound 5 Sound and DCC for DCC and DC layouts.

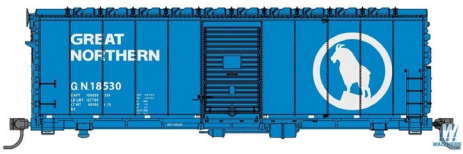


Walthers August delivery schedule lists a Mainline series 60-foot 5150 cu. ft. triple-bay covered hopper. The HO scale model is based on a prototype introduced by NSC in 1996. Features of note include raised side panel weld seams, thin-profile roofwalk, and trough roof hatches with handles. The model rides on 100-ton roller-bearing trucks with 36-inch metal wheelsets.

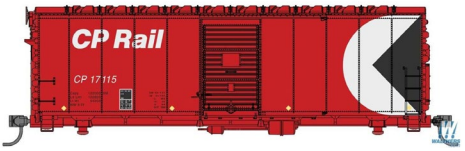
Road names for the 5150 covered hopper will be ADMX Archer-Daniels-Midland, BNSF, Canadian Pacific SOO,

ICMX-Illinois Cereal Mills Cargill, CRDX Chicago Freight Car Leasing, and Union Pacific. An undecorated model will also be available.

Walthers is quoting a September release date for a new production run of 40-foot 10-panel AAR boxcars. The HO scale models represent cars built in the 1940s that were modernized in the 1960s. The changes included removing the running board, and shortening the ladders on the A end while retaining the longer ladder, high brake wheel and single roof mounted grab iron on the B end.



The models have Improved Dreadnaught 4/4 ends with a truncated top rib, diagonal panel roof, 6-foot Youngstown sliding doors, and Bettendorf-type trucks with 33-inch machined metal wheelsets.



Road names in this release will be Santa Fe, Burlington Northern, CP Rail, Ferrocarril del Pacifico, Great Northern, Lehigh Valley, Penn Central, and Union Pacific. For additional information on all Walthers products contact a dealer or visit walthers.com.

N SCALE PRODUCT NEWS

Athearn has included an N scale 50-foot Berwick boxcar on its May 2020 schedule. In addition to the Burlington Northern Santa Fe scheme shown here, road names will be Burlington Northern,

Railbox, General American Leasing, Norfolk Southern, Maryland & Pennsylvania, Chicago & North Western, Pickens Railroad, Middletown & New Jersey, Nevada Northern, and Kansas City Southern.

New N scale intermodal equipment coming from Athearn next May includes a 48-foot smooth side container.

Carrier names will be Allied Van Lines, American President Lines, Santa Fe, Burlington Northern (two schemes), Canadian National, Conrail, and Southern Pacific. For additional information contact a dealer or visit athearn.com.

Here's a decorated pre-production sample of a new N scale caboose coming soon from **Bluford Shops.** The model represents a Phase IV bay-window steel caboose as produced by the International Car Company in the early 1950s. Bluford plans to produce the International caboose in the four distinct phases that evolved over the years, plus the unique half-bay window version. The ready-to-run models will feature wire grab irons, glazed windows, and appropriate trucks with Fox Valley Models metal wheels. For additional information visit bluford-shops.com.


R. Bale

USRA 2-8-2 Mikado

The first USRA light Mikado was delivered in July 1918. It was built by Baldwin and became No. 4500 on the B&O. Both light and heavy USRA Mikados utilized the same 63-inch drivers, cylinders, and running gear, but the diameter of the boiler on heavy Mikes was 10 inches greater. The result was 19,000 more pounds on the drivers and 10 percent more pulling power. The 2-8-2 Mikado was a solid work horse design with more than 10,000 built for North American railroads. More 2-8-2s were built than any other type of steam locomotive with a trailing truck.

Broadway Limited's summer schedule includes the release of both light and heavy versions of USRA 2-8-2 Mikado steam locomotives. Road names for BLI's USRA light Mikado will be Baltimore & Ohio, Pennsylvania Railroad, Southern Railway, Union Pacific, and New York Central/Indiana Harbor Belt.

Road names for Broadway Limited's heavy USRA Mikado will be Santa Fe, Chicago, Burlington & Quincy; Erie, Great Northern, Milwaukee Road, and New York Central/Pittsburgh & Lake Erie. The N scale models will come with Paragon3 Sound and Operation System with Rolling Thunder that functions in both DC and DCC environments. For additional information contact a dealer or visit broadway-limited.com.

KatoUSA is taking advance reservations for an abbreviated version of the Chicago & North Western 400. The six-unit N scale train set will be available packaged in a special bookcase set that will include an EMD E8 C&NW locomotive, and five newly-tooled Pullman bi-level cars.

Pullman-Standard bi-level cars in the set will include a cab-coach, above, and a coach-buffet car, below.

Completing the set will be three four-window coach / coach-parlor cars, left. A DC analog version of the bookcase set will be available this November. DCC and DCC with sound versions will follow in December. For more information contact a dealer or visit katousa.com.

Micro-Trains has released two 10-1-2 heavyweight Pullman sleeping cars based on prototypes built in the 1920s. The Southern Railway car shown above is painted Pullman green and carries the name George Poindexter. The prototype car was upgraded several times and served into the early 1960s.

The Northern Pacific heavyweight sleeper is decorated in the road's classic two-tone green with white lettering, a scheme developed for NP by industrial designer Raymond Loewy.

This 65-foot 10-ton pulpwood car follows a prototype built by Greenville Steel Car Company in 1985. The model is painted black and is lettered for HPAX-Hammermill Paper Company.

Micro-Trains 89-foot Norfolk & Western tri-level autorack is an N scale version of a 1969 prototype that was rebuilt in 1979 with a new Whitehead & Kales enclosed rack.

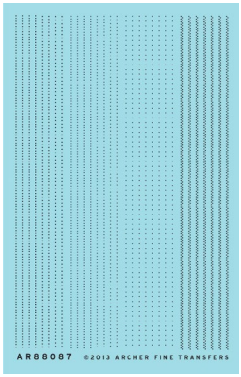
This N scale model is based on a 36-foot riveted steel caboose built in 1953 at Great Northern's shops in St. Cloud, Minnesota. In the late 1969s it was repainted in the Big Sky blue scheme. Like the prototype, the N scale model is equipped with Bettendorf-type swing-motion caboose trucks with elliptical springs. For additional information contact a participating Micro-Trains dealer.

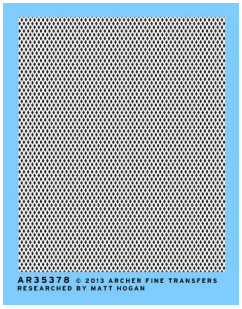
Among the many new products under development at **Rapido** is an N scale version of a Comet car, the modern commuter car Pullman-Standard initially delivered to Erie-Lackawanna in the early 1970s. Several iterations of the popular design were subsequently supplied to several transit authorities by car builders P-S and Bombardier. Rapido will offer three-car train sets consisting of two coaches and one cab-car. Two packaged sets of cars with different numbers and names will be available for AMT, CDOT, and MBTA. The initial release will also include individual, unnumbered cars decorated for SEPTA, AMT, CDOT, MBTA, MNCR, NJT, and undecorated. In addition to Rapido's usual interior and underbody details, the Comet cars will feature tinted windows, controllable interior and cab car lighting in both DC and DCC modes, metal grab irons, and correct inside-bearing trucks with metal wheelsets.

Rapido has announced plans to produce an N scale model of Amtrak's Horizon coach and dinette cars. In addition to Rapido's established reputation for full underbody detail, notable features on the new Horizon cars will include tinted windows, full interior detail, metal grab irons, GSI G70 trucks with machined metal wheelsets, and constant lighting in both DC and DCC modes. The ready-to-run models will be available in multiple numbers decorated in Amtrak Phase III narrow, Phase III wide, Phase IV (above), Phase VI, and Amtrak California schemes. A minimum number of pre-orders

will be needed for this project to go forward. See the sidebar on page14 for information on the prototype Horizon cars. For additional information on Rapido products contact a dealer or visit rapidotrains.com.

NEW DECALS, SIGNS AND FINISHING PRODUCTS





Archer Transfers offers a wide assortment of 3-dimensional resin rivets and textures on clear decal film. The selection includes scale size welding beads and rivets for freight and passenger cars, tenders, trolleys, bridges and other industrial applications in a variety of configurations including round patterns, and single, double, and staggered rows. A good starting point for hobbyists to familiarize themselves with this modeling technique is Archer's Resin Rivet HO scale starter set (Item No. AR88087, above left) that includes 31 linear inches of 3-D resin rivets in 5/8 inch,7/8 inch diameter in single-rows, and 27 linear inches of tank car double-row rivets.

A simulated grille decal (above right) is available for G, O and S scale applications. This is not a raised resin detail but rather a standard waterslide decal simulating a mesh or expanded metal grille. S scale is the smallest that can be reliably printed, however, depending on the application, modelers may find it suitable for smaller scales as well. For additional information visit archertransfers.com.

CustomTraxx sells a wide selection of waterslide decals for trolley, interurban, and modern light rail vehicles. Both HO and N scale decals are available for Shapeway's San Diego S70 Light Rail Vehicles. Although designed for San Diego's 4001 series cars (above), the markings, numbers, and destination signs in the decal set can also be used to accurately decorate 2001 series cars and the 1001 series U2 vehicles that were retired in early 2015. For additional information visit customtraxx.com.

Microscale has HO and N scale waterslide decals for Canadian Pacific AC4400CW locomotives. For additional information contact a dealer or visit microscale.com.

Download issue

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Download Landscape

Briefly noted at press time ...

Atlas's 2020 first quarter schedule includes a new N scale bay-window caboose, a 50-foot RBL boxcar, 53-foot 6-inch flat car, an X-72 boxcar, and a new HO scale heavyweight 14-section Pullman sleeper. New paint schemes will be available for N and HO scale GP40-2 locomotives. An articulated auto carrier and an FMC 5077 boxcar will be available in N, HO and O scale. HO models in new paint coming early next year include an Alco H15/16-44 locomotive, a 1932 40-foot ARA boxcar, a 50-foot GARX reefer, a 36-foot wood reefer, and a 50-foot postwar boxcar. Triple and six-bay cylindrical hoppers will be available in both HO and O scale. Additional Atlas O items due in the first quarter of 2020 include Comet and Horizon passenger cars, an X-29 boxcar, an 89-foot 6-inch flat car, a 50-foot stock car, and a 53-foot 6-inch wood express reefer ...

The Narrow Gauge Modeling Company of Hubbardston, MA, has acquired *Tall Timber Short Lines* from Northwest Short Line. The new owner plans to preserve previously published and unpublished information and make it available to researchers through an as yet unnamed historical society. Plans also call for reviving the magazine, which has not been published since 2008 ...

Railfan Models LLC has introduced an HO scale version of a Kasgro 325-ton 12-axle, 36-foot depressed deck flat car. Both kits and fully assembled models are available. For details visit railfanmodels.com ...

ScaleTrains.com has announced its fourth run of HO scale SD40-2s and second run of SD40T-2s. A new run of 31k Trinity tank cars includes Rivet Counter cars with placards for crude oil, ethanol, gasoline or petroleum. For details visit scaletrains.com ...

Rapido has announced a large number of new N scale products including GMDD FP9A diesels, both original and rebuild versions of VIA F40PH-2D diesels, VIA and Amtrak LRC coaches, Amtrak California Horizon cars, and passenger cars of The Canadian, arguably Canada's most famous passenger train. Check the August issue of MRH for full details ...

SELECTED EVENTS

July 2019

(Many events charge a fee. Check individual info website for details.)

CALIFORNIA, McCLELLAN (metro Sacramento), July 10-14, National Summer Steamup (small-scale live steam), at Lions Gate Hotel, 3410 Westover. Info at www.steam-events.org.

FLORIDA, THE VILLAGES, July 8-9 and August 17-18, Train Show & Sale, at Savannah Regional Recreation Center, 1545 Buena Vista Blvd. Info at www.thevillagesmodeltrainclub.com.

ILLINOIS, COLLINSVILLE (metro St Louis), July 26-27, St. Louis RPM Meet, at Gateway Convention Centre. Info at www.icgdecals.com/stlrpm.

OHIO, MEDINA, July 12-14, 50th Annual Summer Live Steam Meet, sponsored by Northeastern Ohio Live Steamers, at Lester Rail Trail Park, 3654 Lester Road. Request info from Paul Weiss at cherryvalleyrr@gmail.com.

UTAH, SALT LAKE CITY, July 7-13, NMRA National Convention and National Train Show. HQ at Little America Hotel. Info at nmra2019slc.org .

August 2019, by location

KENTUCKY, LOUISVILLE, August 4-9, 11, St Matthews Eline Library Model Train Show, Sponsored by K& I Model Railroad Club, St Matthews Eline Library, 3940 Grandview Avenue. Info at www.kandimrr.com/schedule-of-events.

OHIO, MARION, August 10, Summerail 2019, sponsored by Marion Union Station Association, 532 West Center Street. Info at www.summerail.com.

OHIO, PAINESVILLE, August 23, Railroad Memorabilia Show, at Painesville Railroad Museum, 475 Railroad Street. Info at painesvillerailroadmuseum.org.

OREGON, PORTLAND, August 27-31, 35th National Garden Railway Convention, hosted by Rose City Garden Railway Society, at DoubleTree by Hilton Hotel, 1000 NE Multnomah Street. Info at www.ngrc2019.org.

PENNSYLVANIA, ALTOONA, August 3-4, N-Scale Weekend & Model Train Show, sponsored by Bedford Model Railroaders at Altoona Jaffa Shrine Centre. Info at www.n-scaleweekend.com.

VIRGINIA, LYNCHBURG, August 10, Lynchburg Railroad Day, Model Train and Railroadiana Show, at Boonsboro Ruritan Club, 1065 Coffee Road. Info at www.blueridgenrhs.org/rail-day.

Future 2019, by location

CANADA, ONTARIO, BRAMPTON, October 5-6, Greater Toronto Train Show, at Brampton Fairgrounds, 12942 Heart Lake Road. Info at www.torontotrainshow.com.

ARIZONA, MESA, (Metro Phoenix), September 25-29, Arizona Junction, 2019 NMRA Pacific Southwest Region Convention, hosted by PSR Arizona Division, at Sheraton Mesa Hotel at Wrigleyville West, 860 North Riverview Mesa. Info at azdiv-nmra.org/psr2019convention.

CALIFORNIA, SACRAMENTO, September 4-7, National Narrow Gauge Convention, at DoubleTree by Hilton Hotel, 2001 Point West Way. Info at www.nngc2019.org.

CALIFORNIA, SAN LUIS OBISPO, October 4-6, Central Coast Railroad Festival and Train Show. Info at ccrrf.com.

CALIFORNIA, OCEANSIDE, October 12, Train Show & Swap Meet, sponsored by North County Model Railroad Society at Heritage Park, 230 Peyri Drive. Info at swapmeetinfo@ncmrs.org.

FLORIDA, DAVENPORT, November 9, NMRA SSR Eastern/ Western Fall Workshop, at Edgehill Recreation Association Clubhouse, 50 Westridge Drive. Request info from Jim Robertson at 352-249-6862.

INDIANA, INDIANAPOLIS, September 14, Train Show & Sale, sponsored by Naptown & White River Model Railroad Club, at Emmerich Manual High School, 2405 S. Madison Avenue. Info at naptownrr.org.

KENTUCKY, LOUISVILLE, November 16, NMRA MCR Division 8 Train Show, at Holy Family Parish Saffin Center, 3938 Poplar Level Road. Info at www.div8-mcr-nmra.org.

MARYLAND, LINTHICUM HEIGHTS (Metro Baltimore), September 19-22, Mid Atlantic RPM Meet, at Double Tree by Hilton, BWI Airport, 890 Elkridge Landing Road. Info at marpm.org.

MASSACHUSETTS, GARDNER, October 5, Southern New England 2 Rail O Scale Fall Show, at United Methodist Church, 161 Chestnut Street. Info at www.snemrr.org.

MICHIGAN, EAST LANSING, November 10, Model Railroad Club Show and Sale, sponsored by Lansing Model Railroad Club at Michigan State University Pavilion. Info at www.lmrc.org.

MICHIGAN, TROY, November 7-10, NMRA NCR North Central Region Convention, at Troy Community Center, 3179 Livernois. Info at www.div8.ncr-nmra.org/ncx-2019.

MISSOURI, SPRINGFIELD, September 7, Fall Train Show, sponsored by Ozarks Model Railroad Association, at East Hall Ozark Empire Fairgrounds EPlex, 3001 N. Grant Ave. Info at www.omraspringfield.org.

NEW YORK, LIVERPOOL (Metro Syracuse), September 19-22, NMRA Northeastern Region Empire Junction 2019 Convention, at Holiday Inn, 441 Electronics Parkway. Info at empirejunction.org.

NORTH CAROLINA, FLETCHER, October 4-5, Autumn Rails Train Show, at Expo Building, Western North Carolina Agricultural Center, sponsored by French Broad e'N'pire NTRAK Club. Request info from Ray Baldwin at 607-72-9694.

OHIO, CAMBRIDGE, October 20, NMRA MCR Division 6 Swap Meet, at Pritchart Laughlin Center, 7033 Glenn Highway. Info at div6-mcr-nmra.org/swapmeet.html.

PENNSYLVANIA, EASTON, October 6, 43rd Annual Lehigh Valley Regional Train Show & Expo, at Charles Chrin Community Center, 4100 Green Pond Road. Info at www.lehighlines.org/events.html.

WASHINGTON, BATTLE GROUND, September 28, 46th Great Train Swap Meet, sponsored by Southwest Washington Model Railroaders at Battle Ground High School Gymnasium, 300 West Main Street. Request info from Larry Sprenkel at Larry.sprenkel@gmail.com.

Beyond 2019, by date

MISSOURI, ST. LOUIS, July 12-18, 2020, NMRA National Convention and National Train Show. HQ at Hilton St. Louis at the Ballpark. Info at gateway2020.org.

CALIFORNIA, SANTA CLARA, July 4 – 10, 2021, NMRA National Convention and National Train Show.

ENGLAND, BIRMINGHAM, August 14 – 21, 2022, NMRA National Convention and National Train Show. Info at www.nmra2022uk.org. ■

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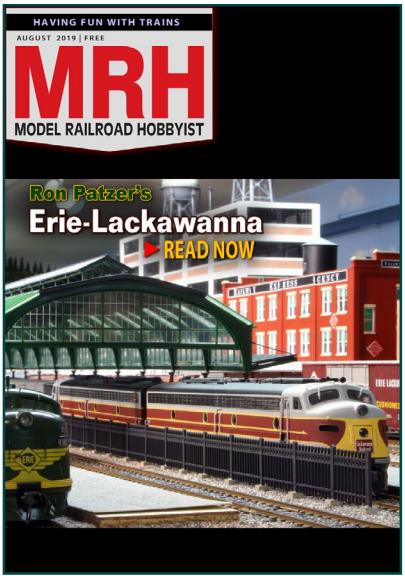
Clickable “other” index

Coming next month in MRH ...

Ron Patzers's Erie Lackawanna ...


Creative layout downsizing ...

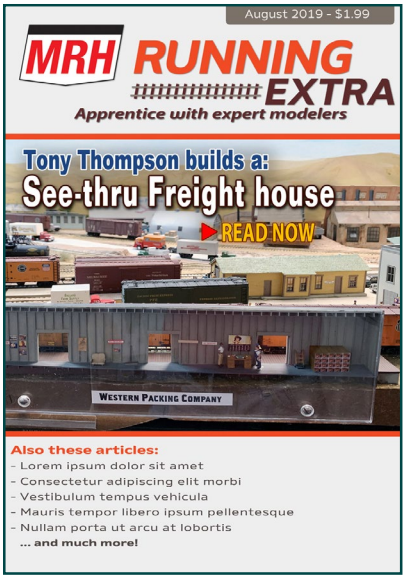


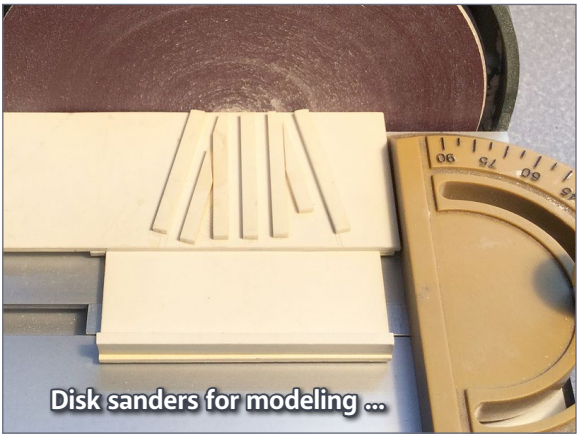

Finding train storage ...

... coming in the August MRH

Coming next month in *Running Extra* ...

... all the MRH articles and ads, *PLUS:*





... all this and much more!

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