HAVING FUN WITH TRAINS

MAY 2024 | FREE

MRH

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- Servos as turnout control: 2
- Trouble-free staging trackage
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... and more inside!

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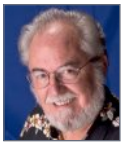

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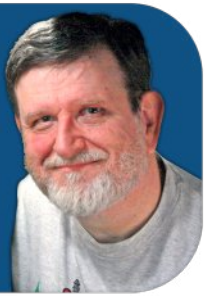

Model Railroad Hobbyist | May 2024

VIEW READER COMMENTS

JOE FUGATE: GOING DOWN THE RABBIT HOLE ON TURNOUT SERVOS ...

I HAVE TO ADMIT I NEVER EXPECTED TO HAVE THIS MUCH FUN with the servo turnout series when I started it. I've really been enjoying the process and I've picked up a lot of insights along the way.

Let me share some of what I've learned.

Micro servos: the good, bad, and ugly

Micro servos are surprisingly affordable these days, selling for less than $2 in quantity. A lot of that has to do with the robotics and model airplane hobbies – they consume servos en masse, creating a huge market for them.

I'm looking to use micro servos to throw some turnouts on my layout, which is super light duty compared to what the robotics and model airplane guys throw at these servos.

Every moment the model is in action, the robotic and model airplane folks totally depend on these servos to perform as claimed, or their model may end up as toast. Meanwhile, each turnout servo on my layout might see what, a few dozen throws back and forth during a busy op session?

The online forums for the model aircraft and robotics guys are full of crash and burn stories because of servo failure. When they find some apparently good value for some micro servos but later find they fail to perform, you can bet the word travels fast.

Some of the best micro servos seem to be TowerPro MG90s and the Hextronic HXT900. TowerPro also makes the less expensive SG90, but those appear to be lighter duty servos, with the MG90s being their more robust big brother.

The SG90 uses plastic gears, as does the HXT900. The MG90s, however, uses metal gears – mostly. The TowerPro MG90s appears to have a bottom gear that's plastic, with the rest of the gears being metal. Ironically, some better quality non-TowerPro MG90s servos have an entire gear train that's all metal (more on this in a bit).

Like most name-brand products, you pay extra for the name. Rather than under $2 per servo for an SG90 knockoff, the name brand MG90s and HXT900 servos easily push $10 each – but with diligent searching, can be found for maybe $6 each with shipping.

Hobby King seems to list HXT900 servos for under $4 each, but they're perpetually out of stock and several folks on the model aircraft and robotics forums are saying you can forget Hobby King. Many said they've moved on to other sources.

HXT900 vs MG90s

Thanks to some helpful MRH Forum posts by Peter Randerson and Geoff Bunza, I got a quick education in the failure points of cheap micro servos.

Besides the name brands, there seems to be a lot of cheap knock-offs of the MG90s and the SG90s. It appears the el cheapo knock offs tend to fail, with it not unusual to get one or more bad ones in a bulk order.

It seems the SG90 servos are notorious for drifting from their center point. That means in service, they can quickly get out of

adjustment. Here's a YouTube video showing position drift of the SG90 compared to the MG90s: youtu.be/VVyCG7bfxz4

Notice the MG90s keeps its positioning precision, while the SG90 center point soon drifts and loses its precision. I can see how this could make your airplane crash or your robot take a dive. And for throwing turnouts, it could mean the points may not close completely, which is also not good.

Everyone on the aircraft and robotics forums agree the HXT900 is superior to the SG90. However, opinions vary on the MG90s versus the HXT900. For example, see this YouTube video: youtu.be/fTSaFF9PbM4

I also found this forum post:

"I have had both the hxt900's and mg-14's (mg90). The mg14's are definitely the the better of the two, the metal gears don't strip and seem to be less sloppy and smoother than the 900's. The only thing I recommend is that you buy one extra servo for a back up just in case (you never know)."

Yet I can find other posts that say the opposite: the HXT900 rocks and the MG90s servos are not-so-great. Some say the metal gears are mostly hype and don't really make that much difference. What to believe?

If I can find opinions on both sides, that tells me we likely have two very similar-performing products and this is likely a "Ford vs Chevy" debate where personal preference is as much a factor as overall quality. So it then comes down to which one you can find for the best overall price.

Finding a good off-brand servo

It's not that hard to spot what I would call "knock-off" servos that are built as cheaply as possible. They either don't have any branding on them, or it's some odd-ball name that sounds very foreign.

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I did find some TowerPro-branded MG90s servos on Amazon for about $3 each with a four out of five star rating . But when I dug deeper, the only comments I could access were 1 and 2 stars that all said beware, these are fake TowerPro servos.

When I tried to view the "mass" of 5 star comments, I got "not available." It looks like someone has gamed Amazon into selling counterfeit TowerPro servos and hacked the comments to make them look like they have a boatload of 5 star reviews!

I did find some DIYMORE brand MG90s servos that get high marks:

Amazon Customers say

Customers like the value, power, and quality of the servos. They mention that they look like very expensive micro servos, are powerful, and work great for the price. *(AI-generated from the text of customer reviews.)*

When I read through the reviews, they really like the quality of these servos. For example:

"I've bought many 9g servos that claim to have metal gears when only the output gear is metal. I ordered a 4pk of these so I could check for myself. I opened one of them up and not only was the output gear metal but the whole gear train was metal. I tested all 4 I received and they all work nice and smooth.

However the ad claims they are digital but they appear to be analog. I'm okay with analog and in fact I just ordered 4 more 4pg's of them.

Update 4/16/23 - The 4 more packages arrived and of the 16 servos only 1 didn't work. I opened it up and found the ground wire was not connected to the circuit board. I soldered the ground wire to the board and it works perfectly now. Think I found my new go to source for inexpensive 9g servos."

I've ordered a set of these to try for myself. I've also added a

link to these servos in the shopping list for my servo turnout control article this month.

More steps to increase reliability

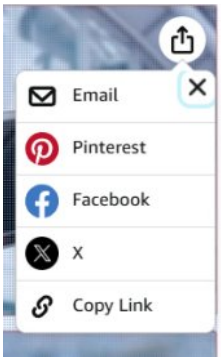
I've also learned the most common reason for servo failure is over driving the servo repeatedly. These little guys will try hard to do what you tell them to do, which means if they hit an immovable stopping point (like a turnout point hard up against a stock rail) and you keep pushing them past a gentle pressure, you're over driving them.

It's important to set up the throw to be contacting the stock rail, and then gently go a few more degrees to create a bit of pressure and then stop. Not overdoing it will increase the servo's life.

I'm also finding that if I use a lighter throw wire, then the wire can flex, taking stress off the servo.

And I'm learning most of these metal gear servos have little to no lubrication on the gear train. It's easy enough to open up the servo and lubricate the gears. I'm going to use Nano Oil, which has a great reputation of making metal gears run silky smooth.

All these things should help get turnout throw servos that have a long fruitful life throwing turnouts with minimal failures.



1. Amazon short link button.

Amazon short links and giving back to MRH

I see folks post links to Amazon products online, and they're often huge verbose links. Most likely they just copied the link from the browser address bar.

There's an easier way to get a nice Amazon short link. Off to the right of the product picture, you should see a box with an up arrow as shown in [1].

REGISTER *(free)*

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Select that icon and you will get a drop-down menu. Select **copy link** to get a nice compact short link, like this one:

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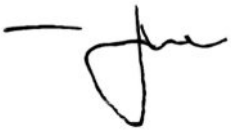
Now here's something extra you can do that will help out MRH.

We are a registered Amazon Affiliate, so when you add **?tag=mrhmag20** to the end of the link, we get a small commission on your purchase. That means you change the link above so it reads:

https://a.co/d/1SNBBaU?tag=mrhmag20

That's one way you can give back to MRH and say thanks. We appreciate it if you do that when posting Amazon links to model railroading forums online. ☑



Last issue likes

Most liked articles in **April 2024 issue** of *MRH* are:

1st Electrical Impulses: Servos to control turnouts
2nd Publisher's Musings: 21st century layout design
3rd Weathering and ballasting EZ Track

Most liked articles in **April 2024 issue** of *Running Extra* ...

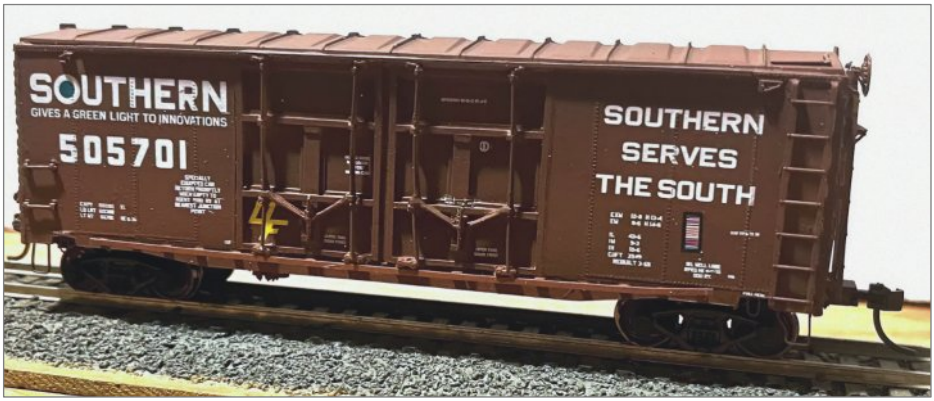
1st Getting Real: Modeling the shipping of perishables
2nd Limited Modeler: Small trains for small layouts
3rd Carl Magnussen's Chessie System Elk River Sub

If you want more of this type article, then like the article!
Click the *Give us a like* or *comments* button on each article and press the like button on the article's forum page if you want to see more articles like these. ■

Best of the MRH FORUM THIS MONTH

Model Railroad Hobbyist | May 2024

Compiled by JOE FUGATE



Southern Railway brick boxcar

MRH forum member **dti406** (Rick Jesionowski) posted a build he did of this Southern Railway brick boxcar kit. Rick says:

"I read an article by the Southern Railway and they said shippers liked the boxcars as the bricks were in a covered car and not subject to the weather and cold as compared with a flat car."

VIEW READER COMMENTS

Visit this thread for all the details!

View the full thread on the MRH website

▶ *MRH'S* MONTHLY GREAT MODELER POSTS

1. *MRH* forum member **thewizard1** (Charles D.) is journaling this "kitbash" of a brass steam loco into a freelanced cab forward.

Freelanced brass cab forward

MRH forum member **thewizard1** (Charles D.) is journaling the process of kitbashing this brass steam loco into a freelanced cab forward. Charles says,

"Time to add another locomotive to the roster. I will start with a PFM 2-8-0 Consolidation made in 1950. I will attempt to make this a cab forward. I spent some time studying the model in order to figure out what I would need to do. I have a rough idea of the modifications that will need to be made I will work out the details as I go."

Follow **thewizard1's** daring kitbash of a freelanced cab forward!

View the full thread on the MRH website

Write for MRH / Running Extra!

WE'RE LOOKING FOR ARTICLES, SO WRITE-UP WHAT YOU'VE DONE, AND SEND IT IN !

How to write for us

2. *MRH* member **J Emerson** recently did a reboot on his layout and has been journaling about the rebuild. Here's a nice scene he's recreating from the old layout.

New Rickety Cove scenery

MRH forum member **J Emerson** posted this blog journal about a new scene on his rebooted layout. He says:

"I was debating what to start next on the layout, so I decided to attack some of the 'other side' of the layout for a bit of a change. In this area, I see the structures as more rustic (and rickety, of course) built on a rocky Maine coast, with the lighthouse sitting at the highest point. Thankfully, all the structures are nearly complete, so this thread will be mostly scenery based."

The photo above [2] shows the some of the progress. It looks quite nice, we can't wait to see the final result.

Follow follow along as this scene continues to take shape!

View the full thread on the *MRH* website

3. *MRH* author **DSteckler** (David Steckler) asked about wood staining. Bill Gill responded with this weathered wood covered bridge example.

Wood staining options

MRH forum member **DSteckler** (David Steckler) recently asked for suggestions on how to do realistic wood staining. Bill Gill responded with a nice weathered wood covered bridge example:

"Here's some covered bridge siding I 'stained' by wiping on VERY thin, almost dry layers of dilute pale gray craft acrylics with a cotton rag, letting each coat dry before adding the next. I Also stained the inside with various browns to match the prototype and eliminate any warping of the thin siding. (The dark spots are laser burn marks)."

Others have joined in and shared their thoughts on how to get realistic weathered wood. Follow this thread *MRH* forum and see how to make your own weathered wood siding!

View the full thread on the *MRH* website

Prototype photos 2024 thread

For a change of pace, let's look at a few prototype photos on the forum. These on the 2024 thread happened to catch our eye.

View photo fun threads on *MRH* website

4. The Age of Steam Roundhouse purchased surviving Bessemer and Lake Erie Railroad No. 643 recently, moving the frame and running gear to Sugarcreek. In late January 2024, the boiler and cab of No. 643 were loaded onto a flatcar and moved via CSX and Norfolk Southern Railway to the AOS Roundhouse. Fascinating!

5. Now that we've moved to Oklahoma, this caboose photo caught our eye. We particularly like the reporting marks: AOK. MRH forum member **Mustangok** says, "AOK has a nice paint scheme, but I think they are currently in something of a bust cycle and not doing full repaints lately." Still, a fun short line!

WHAT'S NEAT column

Model Railroad Hobbyist | May 2024

KEN PATTERSON COVERS THIS MONTH:

VIEW READER COMMENTS

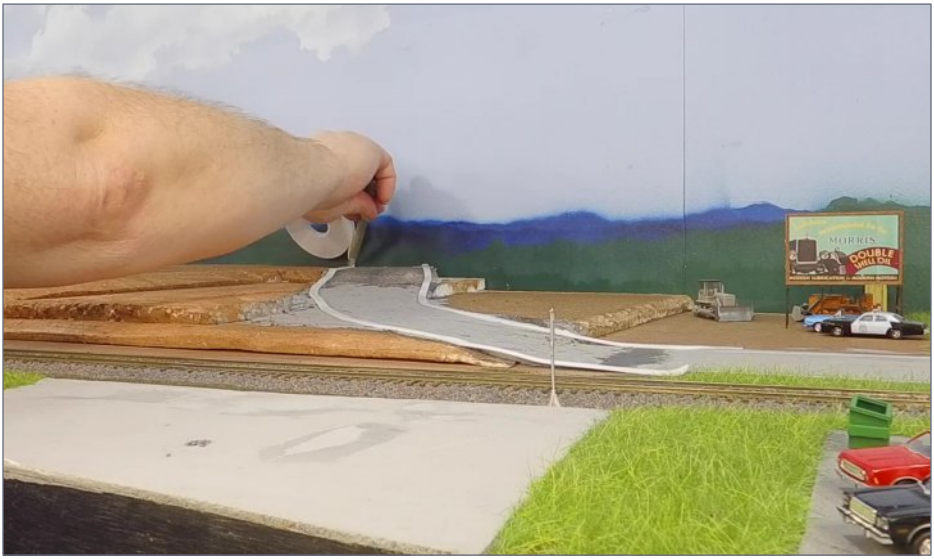
- GEORGE BOGATIUK ON MAKING ROADS
- CURTIS KOCH FROM BLI
- LARRY HARRINGTON OF BACHMANN TRAINS

click to play video

PHOTOS AND VIDEO OF SUPERB MODELS

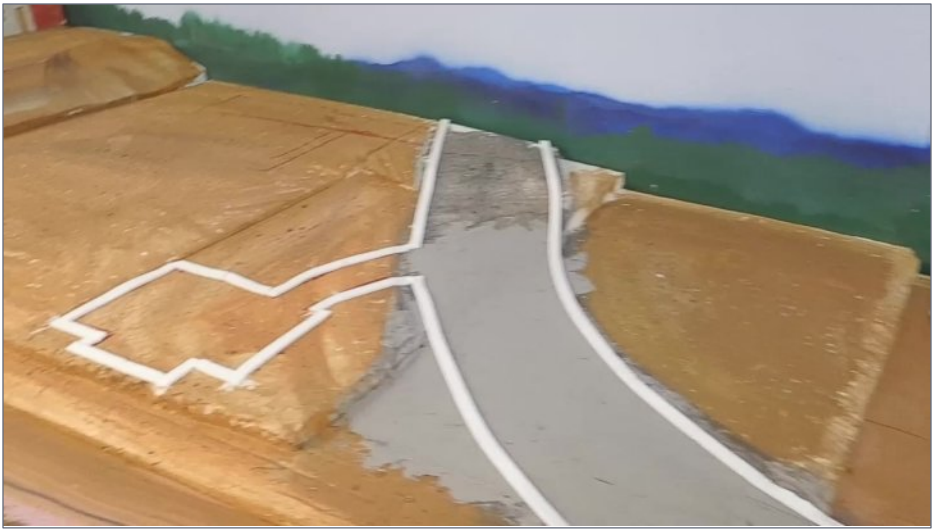
This month, George Bogatiuk shows how he makes roads using lightweight spackle, craft paint, and inexpensive foam tape. Curtis Koch explains Broadway Limited's new Conductor's Club and introduces a new HO scale passenger car model from UP's business car fleet. Finally, Larry Harrington shows off some new product samples at Bachmann Trains from N scale to Large scale.

George Bogatiuk demonstrates building roads on his layout



1. George is expanding his layout in his new house, and that includes laying new roads. He shows how he uses inexpensive foam tape from Hobby Lobby and lightweight spackle to make asphalt or concrete.

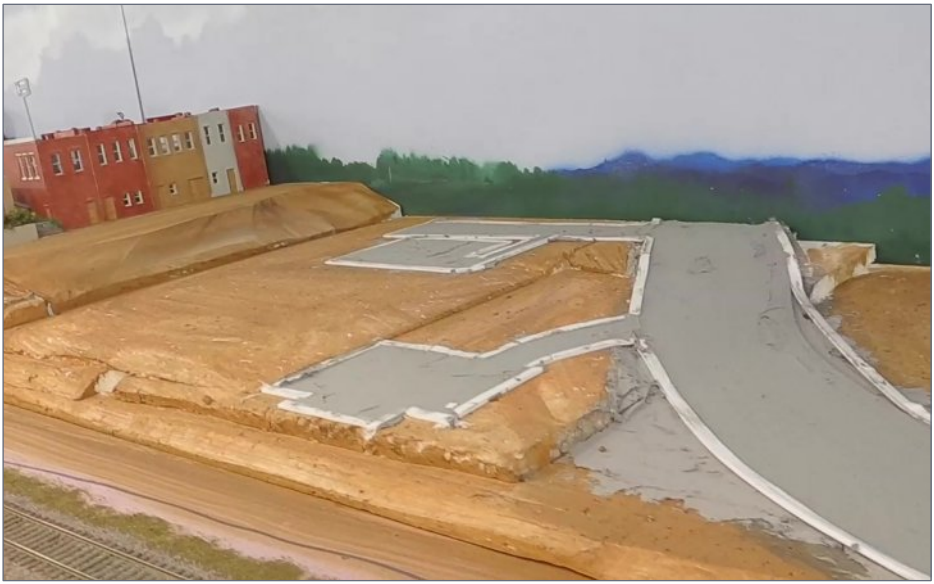
VIEW READER COMMENTS



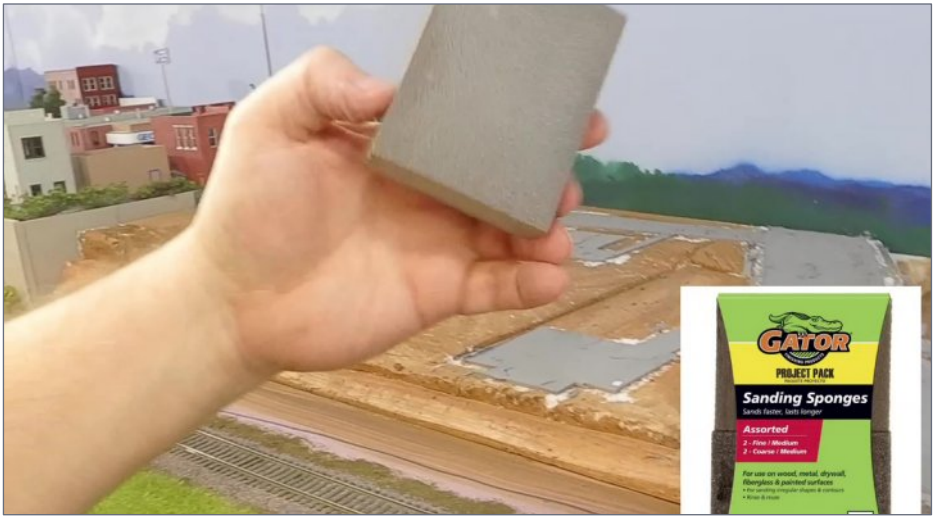
2. In addition to using the tape to outline the road, George also outlines driveways and pads to place houses on.

3. George mixes the spackle with inexpensive craft paints in various shades of gray to ensure the entire road will be a solid color, without any white patches of spackle showing through.

4. The spackle is troweled on and spread with a putty knife.



5. The roads and house foundations are smoothed and allowed to dry before sanding.



6. After removing the foam tape from the edges, George sands the road surface with a fine sanding sponge.

7. Finally, George uses more spackle to fill in the potholes exposed by sanding, and leaves everything to dry. George will finish up the road, including striping and weathering, in Part Two.

Curtis Koch of BLI explains their new Conductors Club, and shows a new model

8. Curtis explains the benefits of the Conductors Club, including a special offer on HO scale 4-6-6-4 Challengers and N scale 4-8-8-4 Big Boys.

9. The ordering deadline on the special-offer locomotives is May 30th with a $100 deposit. The HO scale Challenger includes the standard black with graphite smokebox and this two-tone Greyhound scheme. The locomotives are being offered in both Paragon4 DCC/Sound and DCC-ready Stealth versions.

10. The N scale Big Boys include the UP 4014 as it is currently in service, and the UP 4019 with smoke deflectors, which were tested on it in 1944-45.

11. Also coming from Broadway Limited is UP business car #119, the Kenefick. Part of the UP business car fleet, the model will be available with different drumheads, including a UP shield, a 4014 drumhead, and the US Presidential Seal from the George H.W. Bush funeral train. An unpainted version will also be available. Info: broadway-limited.com

New products from Bachmann

12. Larry Harrington dropped into the "What's Neat" studio from Philadelphia with a selection of new samples that Bachmann has received recently from their factory. Leading off his presentation was a production sample of the N scale Siemens ALC-42 locomotive.

13. One of the models that was delayed by the Covid supply chain crisis was the HO scale GE Dash 8-40CW locomotive. It should be arriving within a month in Norfolk Southern, CSX, Santa Fe, and Union Pacific paint schemes.

14. In the EasyStreets line is a new 1960s-style station wagon, seen here with a different roof that is decorated as a hearse. It will also be available as an ambulance and with a low roof in gold or blue. They run on AC or DC power on the EasyStreets track.

15. This HO scale Trinity 5161 covered hopper will have see-through roofwalks and brake details. It will be available in two road numbers in each paint scheme for CSX, BNSF, Canadian Pacific, and Norfolk Southern.

16. In large scale, Bachmann has a new GP40 model. Equipped with two motors and control switches for various features under the dynamic brake hatch, it will be available in CSX, Norfolk Southern, Santa Fe, and Union Pacific. Info: bachmanntrains.com

To see the complete video on George's street construction techniques, more information on BLI's Conductor's Club, and all the upcoming products from Bachmann, click on the video link at the beginning of the article. ☑

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Using Servos for Turnouts, Part 2

Electrical Impulses

1. I mounted a turnout on a 2x6 and drilled a half-inch hole through it where the throw bar would go, then mounted a turnout on the board. I used ½" aluminum channel to hold the servo in place underneath, then ran a 0.030" (7.5mm) piece of music wire up through a hole in the aluminum channel and through the hole in the throw bar. I used my servo throw configure sketch to determine the throw limits I needed to get good point action and I was all set.

Model Railroad Hobbyist | May 2024

VIEW READER COMMENTS

Joe Fugate goes more in-depth on servo turnout control ...

Last month I made the case that the Circuitron Tortoise at a cost of $18 plus per turnout can be replaced with an Arduino, an off-the-shelf servo driver board and some micro-servos for about $3.50 per turnout.

Last time I showed you how to get everything set up and use a simple Arduino sketch to throw a servo.

This time, I build on those fundamentals to build servo tester and configuration sketch. You will need these to prepare any servo for installing on your layout, so this is time well spent, plus it acts as a proof-of-concept because when we're done this time, we will be using a servo to throw a turnout.

Don't fear, I take baby steps to get you from the code we showed you last month to get the code final code this time for testing and configuring servo throw. What we learn this time we will build on next month to write the official layout sketch for controlling turnouts on any layout.

Once we're done this time, you will know how to mount a servo underneath a turnout and you will have built a workbench servo configuration tool, complete with the Arduino code.

I thought I could do this in two parts, but now it's looking like more.

Next month, I will bring it all together by presenting the layout-ready sketch code you can use to drive turnout servos on your layout, complete with toggle-switch control for throwing the turnout(s). The code can be used with any sized layout, just type in a few values and you're all set (see author note next pages).

TURNOUT SERVO WORKBENCH TEST FIXTURE

I built a "workbench test fixture" that allows me to mount a servo under a turnout and throw the points back and forth [4]. Not only is this a proof-of-concept for throwing a turnout with a servo, going forward it's a handy fixture I can use to configure and test any servo that's going onto the layout.

I can now do these tasks at the workbench:

- Bend and install the turnout throw wire for the servo, then check it
- Set up the precise servo throw limits for each direction.

Please rate and/or comment on the MRH articles!

That helps us better know how to bring you the most helpful articles possible.

J. Fugate

CAN YOU TRUST SERVOS?

In my research for this article, I tracked down some more robust micro servos that are built to last, the MG90s. Not all MG90s servos are the same, the ones I list in this article's shopping list have a reputation of tougher construction.

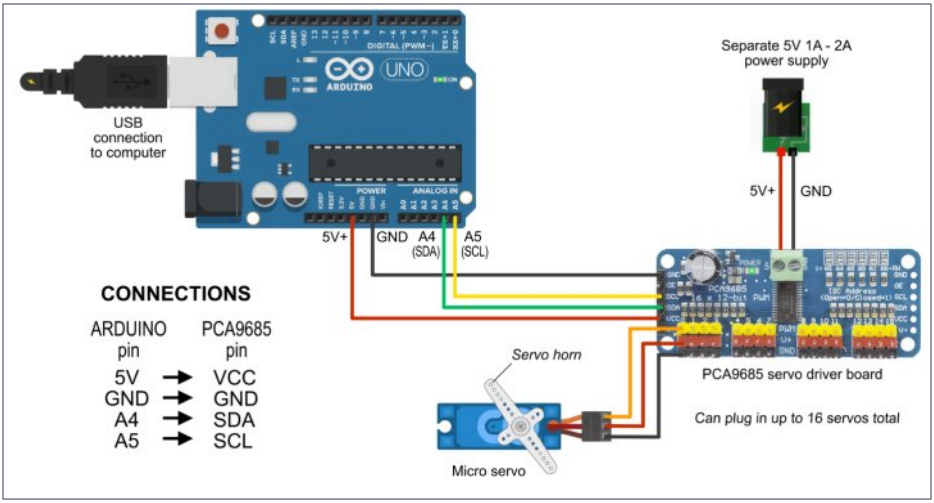
The most common servo failure comes from over driving the servo. By using the configuration program I'm presenting this time, you can determine exactly how much throw a given turnout needs to hold the points against the stock rails without over driving the servo.

In addition, I'm recommending a lighter-than-usual throw wire so it takes stress off the servo. Finally, the ultimate sketch I'm presenting turns the servo off after driving the points into position, which also should help increase the life of the servo.

All these steps I'm showing should make using servos to control your turnouts much more reliable.

2. SG90 and a high quality MG90 servo. The MG90 is a more robust servo that's built to survive rigorous service with tougher construction and all-metal gears. Not all MG90s are created equal: check out the extra-durable MG90s I list in this article's shopping – they cost about $1.50 more, bringing the total cost per turnout up to $5.

By setting up the servo at the workbench and testing it there to get an optimum throw, I can confidently install the servo on the layout and know it's been dialed in already. If I need to make any further minor tweaks in the driver that runs the servos on the layout, they should be very minor at most.



3. Let's start with this circuit we used last month.

4. I built this servo test fixture using a 2x6 and a couple 2x4s. See text for details.

To build this text fixture, I used a scrap of 2x6 (22″ long) and mounted a couple of 2x4s underneath as supports. Since Siskiyou Line 2 uses 1″ thick spline roadbed, I figured using a 1.5″ thick board would ensure the servo throw will always be more than sufficient. A plywood + homasote sandwich roadbed is typically two ½″ layers, coming out at an inch thick as well.

I drew two track center lines on the 2x6, spaced two inches apart in the middle of the board [5]. Then 2″ from one end on the near track, I drew a cross hair line and drilled a half-inch hole. I used a vertical drill jig to keep the hole perfectly vertical (see article shopping list for more).

On the underside, I marked centerline crosshairs along the edges of the hole – this makes really easy to get the servo mounting c-channel properly aligned [6]. More on this soon.

Back to the topside, I installed a PECO #6 Unifrog turnout with its throw bar centered over the half-inch hole [5]. I used transparent double-stick tape to secure the turnout down. If needed, I can later remove the turnout, but the tape keeps it solidly in place for servo testing. I also removed the over-center spring in the PECO turnout, since I want the points to move back and forth freely.

SERVO MOUNT

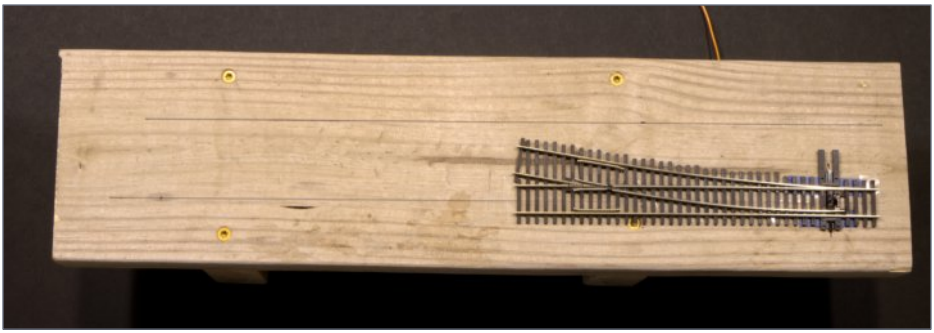
To build this servo mount, I use a piece of half-inch aluminum channel 2-1/2″ long. Inset ¼” from each end, I drill 1/8” holes for the screws. Use the dimensions in [11] to fashion the channel into something that will fix the servo in place.

In my case, the servo was a loose fit, so I super-glued 0.020″ black styrene 1-1/2″ long on both sides past the 1/16″ throw wire hole to get a nice snug fit. Now the servo will not budge, yet I can slide it into the channel and position it as needed.

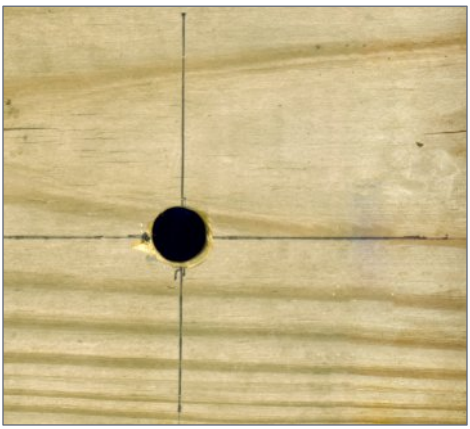
A less elegant method of tightening up the channel I’ve seen online is to use some heavy pliers and just squeeze the side

walls together until the servo fit is snug. Your mileage may vary with this method, as the saying goes.

I temporarily place the channel on the half-inch hole underside [6] and align the 1/16″ throw bar wire hole with the crosshairs and marked the mounting holes with a sharpie. I then drilled just deep enough with a 1/16″ drill to make only starting holes for the mounting screws. I did not drill very deep because I want the mounting screws to drive into the wood and grab it firmly.



5. Overhead view of my turnout test fixture. This view shows the #6 Peco Unifrog turnout I later mounted on the board after drilling the half-inch hole [6] on one end.



6. I drilled a half-inch hole two inches from one end centered on the front track centerline. On the bottom, I added hole centerline crosshairs to make aligning the servo mounting channel easier.considerable space when that's needed.

VIEW READER COMMENTS

CONFIGURING A NEW SERVO

New servos come without any horn fixture installed. The first thing you will need to do is position a fresh servo to 90 degrees and then install the horn as shown [7]. For this I use the throw configuration sketch (covered later), type w and return to center the bare servo. With the servo now centered, I know the horn is positioned properly.

The horn package typically has three screws, one small one, and two larger ones. Use the smaller one to fix the horn in place.

Once I have the horn installed, I mark the down end of the horn toward the servo control wires with a red marker. That's where the turnout throw wire will be installed and it gives me a point of reference when later setting throw angles.

Next, I take some flush cutters and nip off the top part of the horn, leaving a t-shape. I use this t-top crossarm of the horn to hold a trigger wire for a micro-switch (more on

7. Starting with a servo that has no horn fixture yet installed, hook it up as shown in [3], then use the configuration sketch in this article to center the servo at 90 degrees and add the horn positioned as shown here. I mark the bottom end of the horn with a red marker to distinguish the bottom from the top.

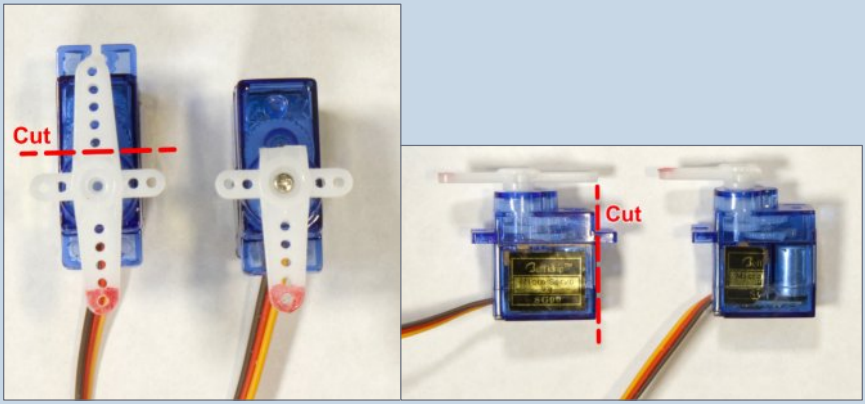
CONFIGURING A NEW SERVO *CONTINUED ...*

that in part 3). I also use a razor saw to remove the top tab on the servo opposite the wires [8, 9] since that's the side I'm mounting into the aluminum channel (coming next).

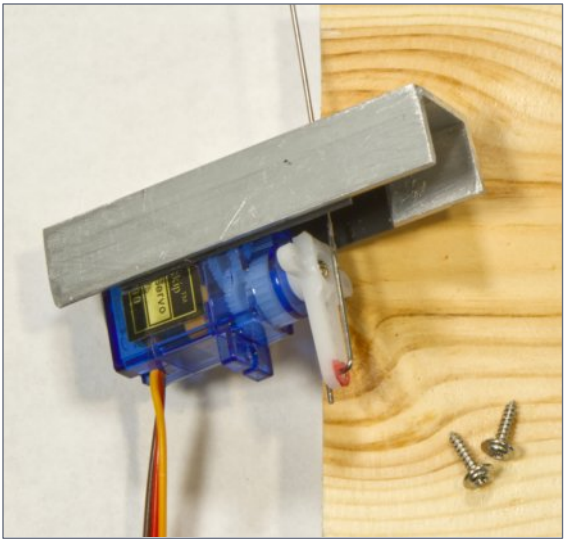
Now determine the zero and 180 throw limits of the fresh servo once the horn has been installed using the configuration sketch. Ideally you can find zero and 180 without overdriving the servo (most servos will rotate a bit past zero and 180). Once you find zero and 180, record the pulse values displayed by the sketch. These values become your SERVOMIN (zero degrees) and SERVOMAX (180 degrees) for this batch of servos.

When I tested my batch of servos, I got 125 for SERVOMIN and 625 for SERVOMAX (see last month's column).

These values are used to determine the servo throw angle later with the configuration sketch. ■



8, 9. Once I've determined 90 degrees on a new servo, I add the horn and use flush cutters to clip the top arm off (left image). Then I use a razor saw (right image) to cut off the servo body tab on the side opposite the wires.



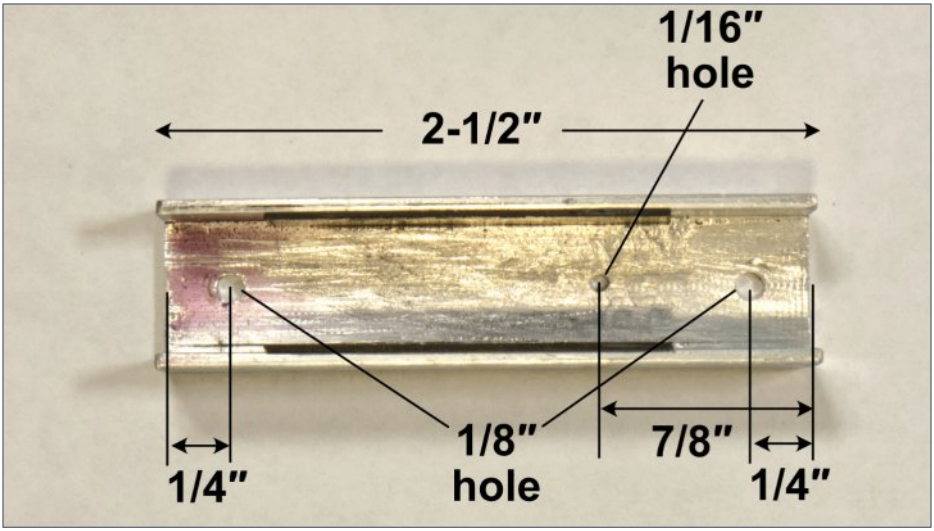
10. I use a length of half-inch aluminum channel to mount the servo underneath the turnout. For mounting screws, I just use the large screws shown here that come with the servo.

To make the throw bar wire, I use 0.030″ (0.75mm) steel music wire. With Tortoises, I used more stout 0.043″ (1.1mm) music wire since they're built like a tank, have a limited ability to control the throw distance – and I wanted the points solidly up against the stock rail.

With a servo, I can precisely control the throw, setting precisely the amount of tension I want with the points against the stock rail. If you repeatedly overdrive a micro servo, you will shorten its life. I have found using the lighter wire works just fine, and the extra flex takes some stress off the servo.

I cut a piece of wire about four inches long, then bend a z-hook in one end. I thread the z-hook end through the bottom hole of the vertical horn arm and then thread the wire up through the hole in the aluminum channel. I move to the topside, locate the end of the wire, and thread it up through the hole in the center of the throw bar.

Finally, I press the servo in place so that the wire is basically vertical directly below the hole to the throw bar.



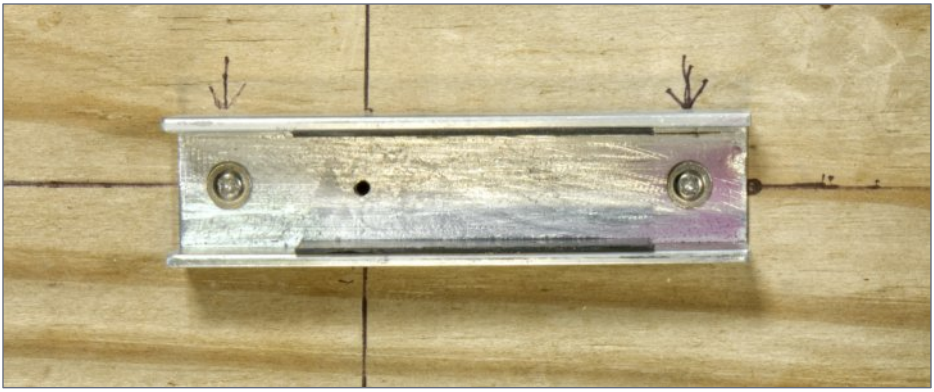
11. Servo mounting bracket dimensions as seen in [10]. Note the 0.020" black styrene I super-glued along the sides – I needed to add that to get a snug-enough fit so the servo would not move around.

At this point, I connect the servo control wire to a set of pins on the PCA9685 board – pin zero as shown in [3]. On to the configuration sketch so we can set the throw limits of the servo.

SERVO THROW CALIBRATION SKETCH

Let's take the last sketch we did in part 1 (you can download it from last month's bonus downloads [mrhmag.com/magazine/mrh2024-04/bonus-extras], it's called **sketch_servo-setup**), Now let's make it into a handy servo throw calibration program we can reuse as needed.

First, let's add a special function that will take an angle and return the PCA9685 servo position pulse value. Remember last time we were using pulse values like 625 for an angle of 180, 375 for an angle of 90 and 125 for an angle of 0.



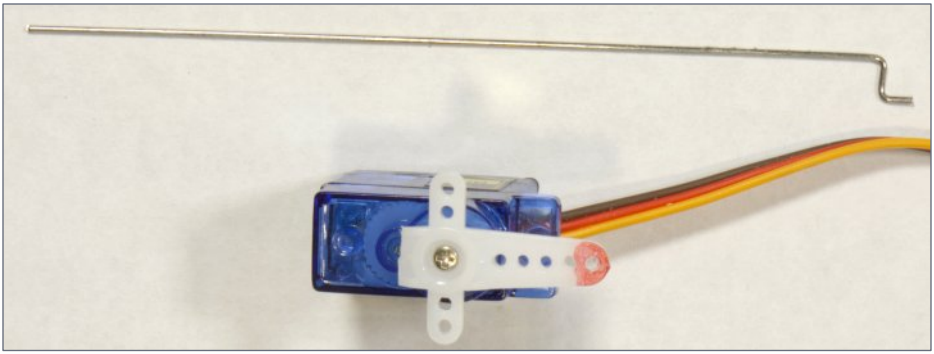
12. Once I had the starter holes for the mounting screws drilled, I mounted the aluminum channel on the underside of the roadbed with the mounting screws shown in [10]. Note how the half-inch hole crosshairs from [6] make aligning the aluminum channel easy – just make sure the thowbar wire hole is in the center of the crosshairs.

By setting up a special function we will call **setServoAngle,** we can use actual angles in the rest of our code – giving us a much more natural way to specify servo positioning.

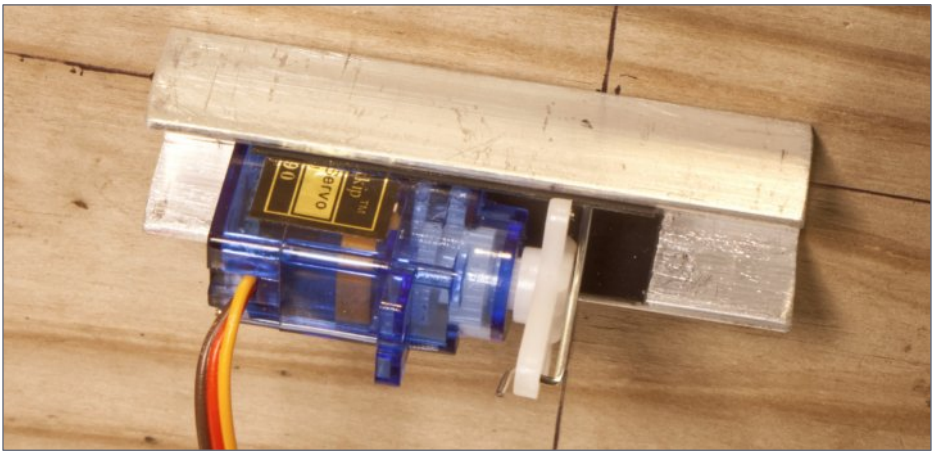
We add this code to the top of our sketch, right under the includes:

```
// servo limits min 110, max 665

const int SERVOMIN = 125;  // min pulse value for full left servo throw
(zero degrees)

const int SERVOMAX = 625;  // max pulse value for full right servo throw
(180 degrees)
```

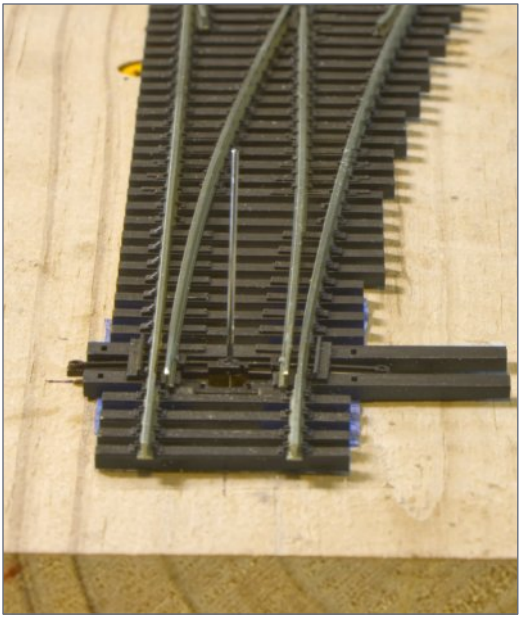
This sets up the values of 125 and 625 as convenient self-documenting SERVOMIN and SERVOMAX constants. As the comment says, the official servo limit min/max is 110/665. Servo positioning varies by brand, so you need to test each new batch of servos to determine what pulse value gives you 0, 90, and 180.

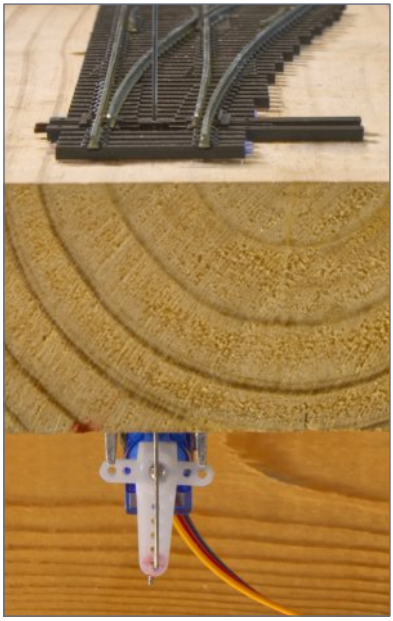


13. I fashion a 4″ piece of throw bar wire from 0.030″ music wire as shown, then thread it through the bottom hole on the servo horn shown in red.



14. Next I thread the wire up through the hole in the aluminum channel, and thread the wire topside through the hole in the throw bar. Then I press the servo firmly into the channel, aligning the wire so it's nicely vertical underneath the throw bar. With this, we're ready to begin configuring the final servo throw!





15, 16. Once the servo has been mounted in a centered position, this is how it should look. The turnout points should be centered between the two stock rails, and the servo horn should be pointing down in a vertical position. Now we're ready to set the turnout throw using the calibration sketch.

Now at the bottom of our sketch, let's add the **setServoAngle** function code:

```
/*
 * setServoAngle(int ang)
 * gets angle in degrees and returns matching pulse value
 */
int setServoAngle(int ang) {
  int pulse = map(ang, 0, 180, SERVOMIN, SERVOMAX);
  return pulse;
}
```

Hooray, the **map** statement does all the magic for us! Recall that in sketch_servo-setup, to move the servo to 90 degrees, we had to write:

```
pwm.setPWM(0, 0, 375);
```

Now we can write:

```
pwm.setPWM(0, 0, setServoAngle(90));
```

A bit more verbose, but it's a lot more obvious what we're doing.

Because we will be using this new sketch to calibrate servo throw, let's print out the servo angle and pulse values derived by the setServoAngle function (new lines of code in red):

```
int setServoAngle(int ang) {
   int pulse = map(ang, 0, 180, SERVOMIN, SERVOMAX);
   Serial.print("...Angle: "); Serial.print(ang);
   Serial.print(" / Pulse: "); Serial.println(pulse);
  return pulse;
}
```

When we set the angle to 90, for instance, this prints in the IDE Serial window:

```
… Angle: 90 / Pulse: 375
```

Now as we calibrate the servo throw, we get the pulse values for zero and 180, and later for the left and right throw that pushes the points in place snugly but minimizes excess servo overdrive.

Routinely overdriving a servo against some unflexible stop (in this case, the points pressing against the stock rail) can lead to early failure, so we want to avoid that.

Before I get into the code for **sketch_servo-calibrate-angle**, let me explain how I want it to work.

As in the previous version of this sketch, I want typing w and pressing return to center the servo to 90 degrees.

But when I type q and return, I want it to move left 5 degrees at a time. This way, I can keep nudging the points toward the stock rail until they touch it.

Then one more 5 degree nudge should press the points

firmly against the stock rail with moderate pressure, but not create excessive overdrive stress on the servo. I want the program to remember this left-most throw setting.

Having set the throw to the left, I want to type w and return to re-center the servo.

Now when I type e and return, I want it to move right 5 degrees at a time, letting me set the other direction throw just like I did the left throw. Again, I want the program to remember this setting.

Once I have set the throw for both directions, then I want to type t and return, and throw the turnout. Each press of t and return throws the turnout back and forth – just like throwing a control panel toggle switch will do – that's why I'm using the t key – I'm thinking of it as "throw" the turnout the other way.

For all this to work, we need to track the current servo position, as well as the servo left and servo right positions. Finally, for the toggle, we need a boolean (true/false) variable, basically to check if our program toggle is thrown or not thrown.

Let's add these new variables right under the AdaFruit servo driver declaration:

```
int servoPos = 90;
int servoLft = 90;
int servoRgt = 90;
bool thrown = false; // turnout is in normal position
```

Now down in the main loop() function, let's do the code for the servo centering, the W key.

```
if (inChar == 'w') {  //center the servo
    servoPos = 90;
    pwm.setPWM(0, 0, setServoAngle(servoPos));
    Serial.println("Set servo center ...");
 }
```

Simple enough.

Next, let's program the nudge left 5 degrees at a time using the Q key.

```
if (inChar == 'q') {  //adjust servo left 5 degrees at a time
    servoPos = servoPos + 5;
    if (servoPos > 180) {servoPos = 180;} // prevent going beyond 180
    pwm.setPWM(0, 0, setServoAngle(servoPos));
    Serial.println("New servo left ...");
    servoLft = servoPos;
}
```

The one new wrinkle here (the **if (servoPos > 180)** statement) is we're making sure we don't overdrive past the 180 degree servo left throw limit. The servo may let us try, but we'd prefer not to.

The code for nudging right with the E key is similar:

```
if (inChar == 'e') { //adjust servo right 5 degrees at a time
    servoPos = servoPos - 5;
    if (servoPos < 0) {servoPos = 0;} // prevent overdriving servo right
    pwm.setPWM(0, 0, setServoAngle(servoPos));
    Serial.println("New servo right ...");
    servoRgt = servoPos;
}
```

Here we're avoiding a servo angle less than zero. Once we hit zero, we're done.

And lastly, let's do the toggle throw code when we use the T key.

```
if (inChar == 't') {  //throw turnout the other way from where it is
    if (thrown) {
       pwm.setPWM(0, 0, setServoAngle(servoRgt));
       Serial.println("Throw right ... ");
    } else {
      pwm.setPWM(0, 0, setServoAngle(servoLft));
      Serial.println("Throw left ... ");
    }
    thrown = !thrown; // flip the turnout direction
}
```

We're assuming that true (thrown) means go right, and false (not thrown) means go left. The **thrown= !thrown** statement

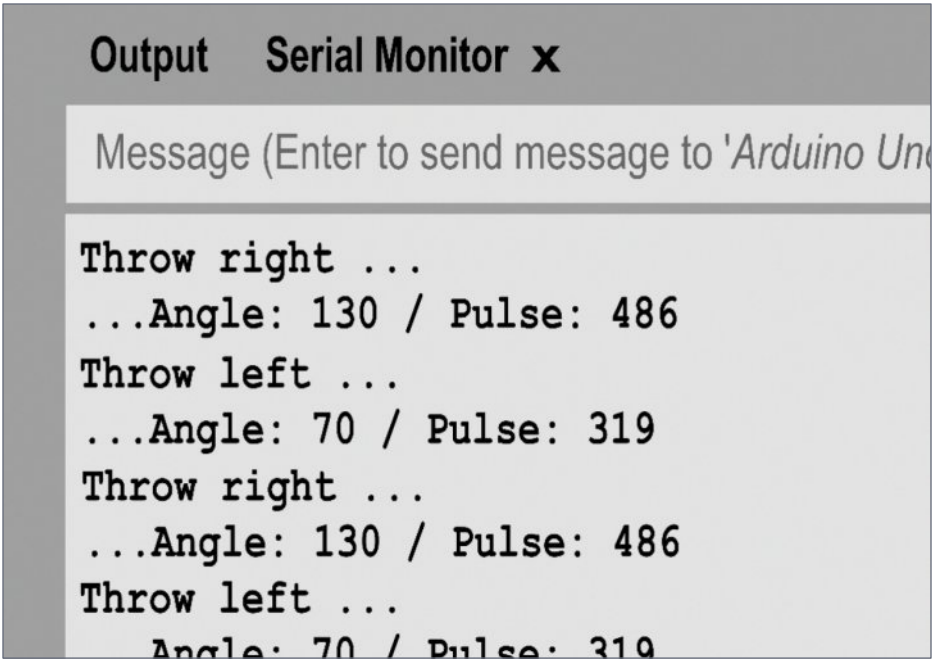
flips the value of thrown back and forth between true and false, giving us that nice back-and-forth action with the servo.

So here is the complete code for **sketch_servo-calibrate-angle:**

```
#include <Wire.h>
#include <Adafruit_PWMServoDriver.h>

// servo limits min 110, max 665
const int SERVOMIN = 125;  // min pulse value for full left servo throw (zero degrees)
const int SERVOMAX = 625;  // max pulse value for full right servo throw (180 degrees)

Adafruit_PWMServoDriver pwm = Adafruit_PWMServoDriver();

int servoPos = 90;
int servoLft = 90;
int servoRgt = 90;
bool thrown = false; // turnout is in normal position

void setup() {
  // put your setup code here, to run once:
  Serial.begin(9600);

  pwm.begin();

  pwm.setPWMFreq(60);
  pwm.setPWM(0, 0, setServoAngle(90)); //set servo to center (90 degrees)

}

void loop() {
 // put your main code here, to run repeatedly:
 char inChar = (char)Serial.read();

 if (inChar == 'w') {  //center the servo
    servoPos = 90;
    pwm.setPWM(0, 0, setServoAngle(servoPos));
    Serial.println("Set servo center ...");
 }
```

```
 if (inChar == 'q') {  //adjust servo left 5 degrees at a time
    servoPos = servoPos + 5;
    if (servoPos > 180) {servoPos = 180;} // prevent going beyond 180
    pwm.setPWM(0, 0, setServoAngle(servoPos));
    Serial.println("New servo left ...");
    servoLft = servoPos;
 }

 if (inChar == 'e') { //adjust servo right 5 degrees at a time
    servoPos = servoPos - 5;
    if (servoPos < 0) {servoPos = 0;} // prevent overdriving servo right
    pwm.setPWM(0, 0, setServoAngle(servoPos));
    Serial.println("New servo right ...");
    servoRgt = servoPos;
 }

 if (inChar == 't') {  //throwturnout the other way from where it is
    if (thrown) {
        pwm.setPWM(0, 0, setServoAngle(servoRgt));
       Serial.println("Throw right ... ");
    } else {
        pwm.setPWM(0, 0, setServoAngle(servoLft));
       Serial.println("Throw left ... ");
    }
    thrown = !thrown; // flip the turnout direction
 }
}

 /*
 * setServoAngle(int ang)
 * gets angle in degrees and returns matching pulse value
 */
int setServoAngle(int ang) {
   int pulse = map(ang, 0, 180, SERVOMIN, SERVOMAX);
         Serial.print("...Angle: "); Serial.print(ang);
         Serial.print(" / Pulse: "); Serial.println(pulse);
  return pulse;
}
```

You can find this full sketch code in the May bonus downloads: mrhmag.com/magazine/mrh2024-05/bonus-extras



17. Once you have the servo calibrated, using **t** and **Enter** throws the turnout back and forth. Note the angle values in the IDE serial window. Mark an ID on this servo then make a record of these angles for that specific servo ID.

Also check out the shopping list link for this month: mrhmag.com/magazine/mrh2024-05/elec-impulses-shopping

If you're following along and are ready to take the next step, go ahead and build this turnout servo workbench test fixture, wire it up as shown in [3] and then do this sketch and calibrate some servos.

As you calibrate each servo, mark an ID on the servo and record the angles shown in the IDE serial window when you use **t** and **Enter** to throw the turnout back and forth.

These angles are the left and right values you'll need to put into the official layout control sketch we present next month to throw this servo once it's mounted under a turnout on your layout.

In my case, the values for the servo shown in this article came out as:

```
Throw right …
… Angle: 130 / Pulse: 486
Throw left …
… Angle: 70 / Pulse 319
```

The angle is what we need to record, the pulse is interesting info, but since we're using the **setServoAngle** function, angle is all we need.

Also next month, we will add using a real toggle switch to throw the turnout as well as how to add a micro-switch for routing frog power. We put all this into service using the final sketch for driving any number of servos on the layout. See [18] for a sneak peek! ☑

You can find this article's shopping list here:
mrhmag.com/magazine/mrh2024-05/elec-impulses-shopping

18. Next month, I show you how to add this micro-switch for frog power routing.

MRH MARKETPLACE

Have you seen these popular blogs on the MRH website?

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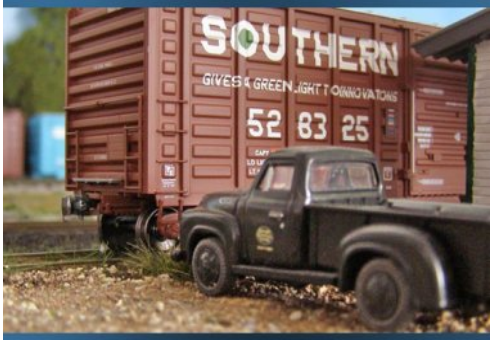

Ken Glover's Shelf Layout
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The Ohio Valley Lines: 2

Joe Fugate visits this Pittsburgh N scale club layout ...

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1. A double-headed mixed freight lead by two Pennsylvania class M-1 steam locomotives rumbles past this large coal-mining operation.

Model Railroad Hobbyist | May 2024

VIEW READER COMMENTS

THE OHIO VALLEY LINES CLUB LAYOUT (BOTH HO AND N scale) in the greater Pittsburgh area will be open for tours during September 2024 as part of the 2024 National Narrow-Gauge Convention. To learn more about this convention, and to register, please visit this website: 44nngc.com

I visited the Ohio Valley Lines Club in late February 2024 and toured the layout, taking photos and video. I sat down with Joe Yakubisin and discussed the club's N scale layout.

MRH: **Joe, before we get into the details of your club's N scale layout, tell us more about you. How did you first get started in the hobby?**

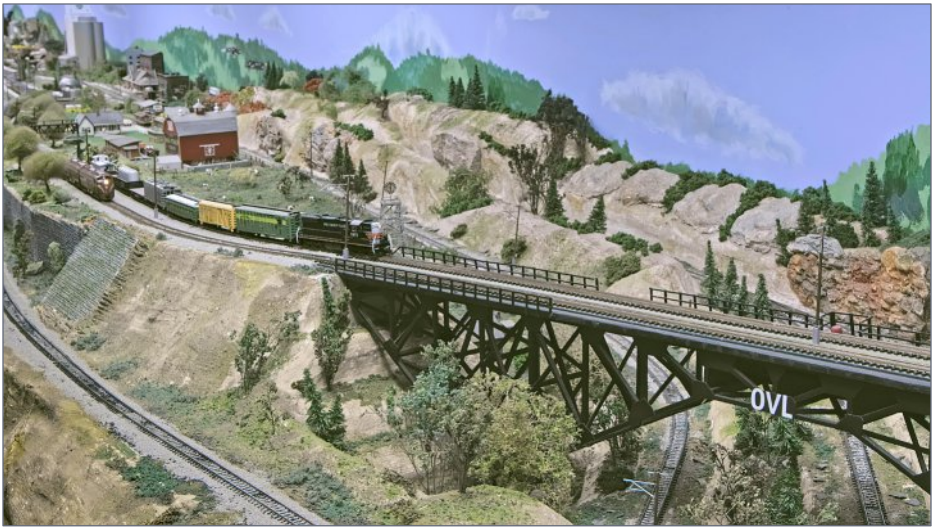
Joe Yakubisin: My dad bought me a Lionel set when I was three, and I played with it until about the sixties, and I switched to HO, and then I went into the service. And when I got out of the service, I was still living with my mother.

MRH: **How did the hobby progress for you after that?**

Joe: My wife and I got married and we moved to Providence, Rhode Island. We had a one-bedroom apartment, and it had no room for HO, and certainly no room for Lionel.

I went to a hobby shop and I saw these tiny new model trains and I asked, "What's this?" He says, "It's N gauge ." So that's where I got started with N gauge around 1969.

I built a little layout in our apartment. Then we moved back to Pittsburgh in '73. I had more room, but then there were three children, and there were four, then there were five, then there were six! So the hobby went to sleep for the next 10 to 15 years.



2. A short freight pulled by an SD9 in black widow livery crawls upgrade on the back track while being passed by a fast Pennsy passenger train (in the distance) on the front track. Note the OVL (Ohio Valley Lines) sign on the bridge.

MRH: **How did you then become a part of this club?**

Joe: There was an advertisement for a model railroad club in Sewickley, with the date and time for a meeting. It was right here on the corner in Ambridge. Seven or eight guys met in 1984, and we started the Sewickley club again. The club was originally started in 1952 but lost their lease in the late 1970s.

They had been in the Pennsylvania Railroad station in Sewickley, PA. When Conrail came about, they lost the station. So the club had no home for probably seven or eight years. The guys stayed together and reorganized the club at this meeting. We built an HO modular railroad in one member's basement, because he had a Shopsmith [saw], which allowed us to easily cut all the module benchwork.

We built four-foot modules, eight-foot modules, corner modules – and put them all together. This was about 1984. We assembled

all the modules in a fire hall over in Leetsdale, PA temporarily. One of the older guys had finagled us space in the basement of the old post office building in Sewickley.

So that's where the club settled, and we set up our modules there. We stayed there from the end of '84 until '86 when they finally threw us out [laughs]. Like many clubs, we were back looking for a home.

We found space here in Ambridge, down on Fourth Street in the second story of a body shop. We put the railroad back together there, and then expanded the modules. A lady that bought the building and the body shop wanted to change the lease. The lease says, no, you can't do that, so we got that settled after some flap. As time moved into the 1990s, the building fell into bad disrepair, so they eventually left.

Then in 1999, they found this building and bought it. One fellow bought the furnaces, two guys brought money for the down payment and so on. We once again had a home!

We paid off the mortgage at the beginning of last year. We have no mortgage now; the only thing we have is the utility bills and the upkeep of the railroads.

MRH: **You mentioned to us when we were talking offline that you moved away for a time, then came back to Pittsburgh.**

Joe: Yes, I moved to California from 1989 and then moved back to Pittsburgh when I retired in 2004. I had little time for model railroading, and no time for my favorite summer pursuit, golf. All I had time for work and six children. I always had a railroad something around like under the tree, and sometimes a tiny layout – something in N gauge , or in HO.

I like N gauge because for me it's kind of unique and I have a lot invested in it. But I like HO also because it's easier to work with the finer detail.

I used to do a lot of train photography, shoot video, and shoot stills. But then 9/11 came along and railroads got fussy. That pretty much ended my railfanning hobbies. Although I like to go out by the tracks every now and then and just see what's going on. Go up the mountain to Altoona, see what's on the curve, see what's downtown, and watch trains. They don't bother you too much anymore because the 9/11 concerns have worn off.

3. The N scale club exercised a slightly macabre sense of humor when they named this industry. The gangster slang term "concrete overshoes" comes to mind.

So here we are with our club, our building, and a nice group of members.

MRH: **How many members do you have in the club?**

Joe: Right now, we have approximately 40 full-time members. Some members are associate members who can run a train but they can't vote. Right now in the club, there's not a lot of work to do on the layout because the railroads are basically finished. That means we're a place for guys to come run trains, get together, talk, and sometimes work on the railroad a bit.

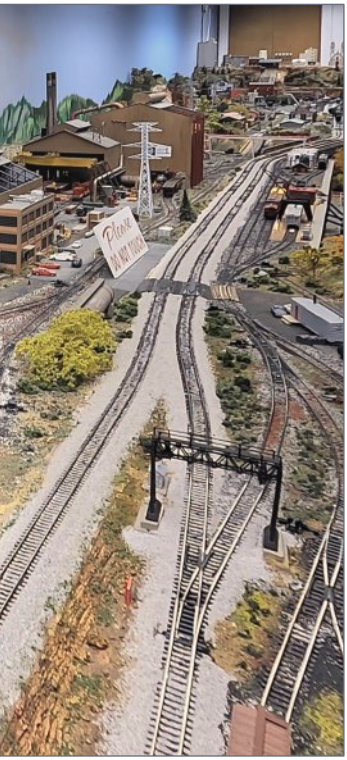
We do have some problems here and there because the building temperature varies a lot. The building stays at 55 when it's not occupied – and then folks come in and turn heat

up into the 70s, which sometimes leads to track buckles. And on the N gauge locomotives, those little motors don't want to turn when they've been sitting at 55 degrees for days on end.

MRH: **Tell us about this layout; what is it attempting to model?**

Joe: Our N scale layout is not designed to represent any specific place. We have coal mines, we have a steel mill, we have a big city, and we have towns. The layout's basic configuration is two main line tracks that interconnect in four locations. The city here represents any big city, and not necessarily Pittsburgh.

We built the railroad for two purposes: one is our annual open houses during the Christmas and New Year's holidays. The other purpose is for members to come run trains.



But as far as representing anything specific, not so much. Pittsburgh has been a steel mill town, so we had a steel mill donated to us. Pittsburgh has an incline, and we had an incline donated to us.

A couple guys joined the club six to seven years ago, and they wanted to know what they could work on.

I said here's a whole peninsula, go build a city, so they did. Most of the buildings and details were donated. They took all the donations, put them all together and added in more details and some animation.

4. On the far wall [6], the layout features a steel mill – what Pittsburgh area club layout would not feature the steel industry? This part of the layout is unique – it's a closed loop that's DC-powered.

The steel mill might represent Pittsburgh or it might represent Gary, Indiana. The person who donated it called it the Davis Works, rather than something more recognizable like US Steel. We aren't sure where the Davis name came from.

The incline was left at the front door in a box. So we installed it. We've also had a lot of track donated, and a lot of rolling stock donated. Matter of fact, one person donated almost 300 freight cars!

***MRH:* How did you develop the track plan?**

Joe: We started out with a couple of simple loops. As we progressed, we talked about it and tried some different things.

For this track plan, I went through old *Model Railroaders* and the *101 Track Plans* book. I'd find something I liked, for

example; I might pull out an industrial area yard plans and use it. I think the most fun with model railroading is building it. I enjoy laying track and figuring it out.

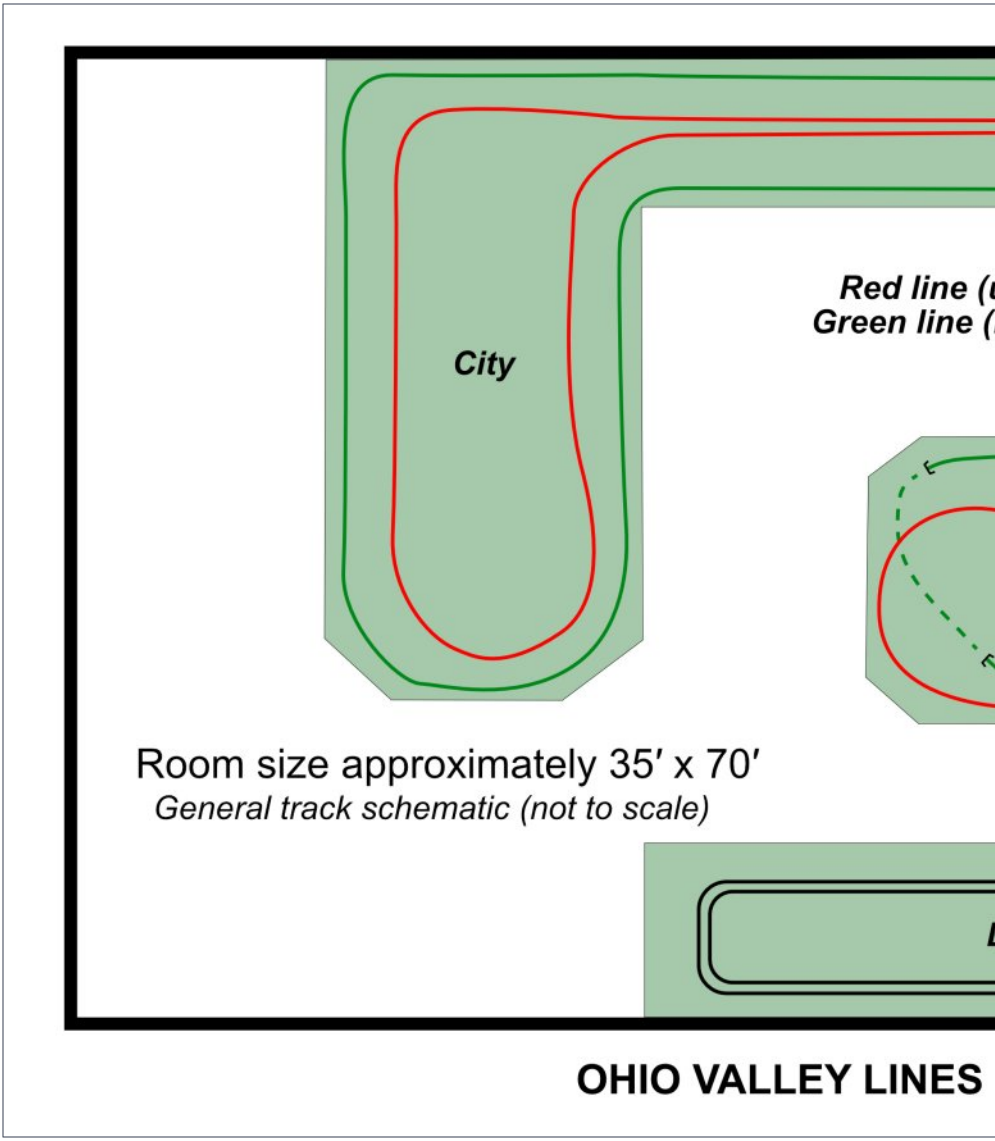
My method is to get brown paper and lay it on top of the benchwork. I get the turnouts and play with different arrangements. Once I get something I like, I draw the track plan on the paper with a magic marker. Later, I transfer it over to the benchwork.

Our plan was originally flat with several crossovers between routes, but guys kept running into each other, so we decided to rethink things. During shows, sometimes you'll have 25 or 30 people all asking questions, and you're trying to answer their questions and run trains. Guys would lose track of things and their trains would run into each other at crossovers. We thought about it and said maybe instead of all flat, we need to move some of the routes to another elevation.

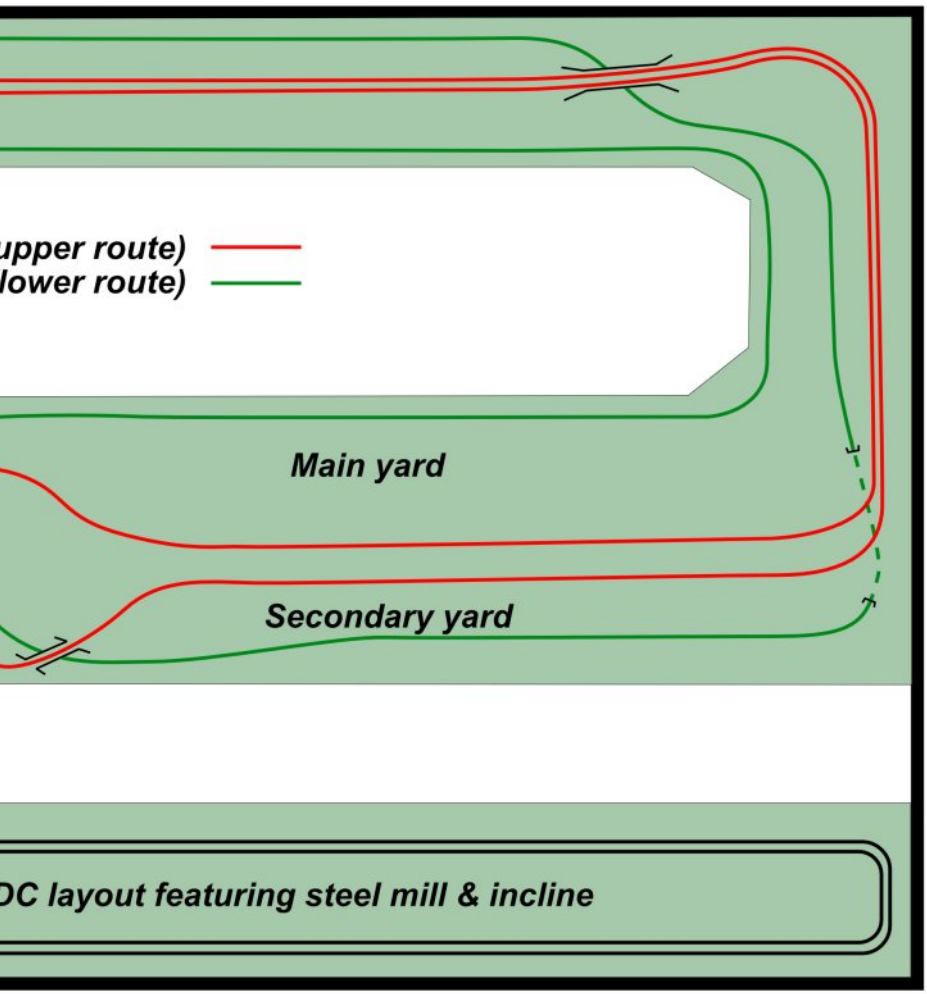
So we took the layout from totally flat to having elevated tracks. For our own enjoyment, like to do some simple operations, but we don't do car cards because in N scale car numbers are just too hard to read [laughs]. And the older you get, the harder they are to read.

When the guys come and operate and we say, "take seven or eight cars from here and move them over there and come back with seven or eight cars, but not the same ones you took."

5. The steel mill area has this cut-away scene showing what looks like ingot processing of hot metal from the blast furnace.



6. The N scale layout general track plan.



- N Scale layout schematic

VIEW READER COMMENTS

Our two main loops, the red and the green line as we call them, interchange in four spots allowing us to move trains between them. Both loops have reverse sections so we can turn the train and run it the other way.

MRH: **When did you start building this layout?**

Joe: We started in approximately 2009 with benchwork. As we progressed into 2010, we experimented with different track plans on the benchwork that was built. At that time there was no grade separation and no bridges.

This final track plan kind of evolved. I drew it and three other guys that were N gauge at the time said that looks good, let's do it that way. This doesn't represent anything in particular, so if someone looked at this and said, "Hey, that's my house" that would be totally accidental [laughs].

***MRH:* Did you have any nasty surprises come up during construction?**

Joe: While we were converting from a flat railroad to an elevated railroad, we had some problems in one area. Instead of keeping the grades at 2%, we ended up with one section at about four-and-a-half percent.

The guys say, I can't go up this hill. I tell them, then let's run in the opposite direction. Now you're coming downhill. But that only solves the problem temporarily.

We need to redo the whole corner and those two grades. On the green line the grade's okay, but this is the red line. It's a really tough grade. Construction wise, that's probably the biggest thing we ran into.

The guys who put the flat benchwork in *glued and screwed it* to the frame in some places. So the flat table top's not coming off. We used a saber saw to cut out those sections. When you put the second layer on, you need to have access so you can wire it and to put turnouts in.

It took a while, but we finally did raise it six inches. Raising some of the roadbed was not a part of the plan – the original plan was to make it all flat. But on a model railroad you want to have cuts, you want tunnels, and you like to have bridges. So with the elevation rework we got some of each.

7. Double-headed steam action featuring two M1 class Pennsylvania steam locomotives, complete with sound.

***MRH:* How did you do the track?**

Joe: Laying track in N gauge is more time-consuming because it's smaller. First we nail it down, then we ballast it.

Folks ask, what's ballast? It's all that white and dark rock that you see around the track; that's ballast. They ask how do you put that in? I explain to them that without Elmer's white glue, there would be no model railroading!

I tell them we spread the ballast out with a brush until it looks pretty good then we wet it down. I like to use 50-50 water and rubbing alcohol and then white glue that's diluted down. Some guys mix the white glue 50-50, but I like 30-70. If you want to take it apart later, it's easier to get the ballast off the tracks with the 30-percent glue mix.

Our track here is probably 95% Atlas code 83 flex track, and the turnouts vary. There's Atlas, there's Shinohara in there, and there's PECO in there. A lot of it was donated. I think we bought a dozen turnouts out of the 150 that are on here.

All our main line turnouts use the Tortoise machines. We control most of them with the Digitrax stationary decoders.

The yards have a lot of hand throws, because they're cheaper. The Tortoise machine today is running at best about 17 to 18 dollars. Stationary decoders are up around $40 to run four turnouts. Caboose Industries still sells hand throws at three bucks apiece.

Some of our turnouts are the old-style pushbutton with the twin coils – the old Atlas and AHM turnouts that have the little coils – as they burn out, we just replace them with hand throws.

I've only had one Tortoise fail in 10 years, and that's about it. The HO railroad upstairs, it's all Tortoise. Some of the Tortoises in the freight yards are manually controlled with pushbutton switches.

For the yards, we have a drawer you pull out with a board and a track plan on it. It has pushbuttons for all the turnouts. If it's not on the board, then it's a hand-throw. On the yard board, all the tracks have the ability to shut the power off so we don't waste power. We don't want engines sitting there idling all the time.

Even on the DC section over there, we did the same exact thing just to save power.

***MRH:* You use DC? I see some DCC throttles on the fascia. If so, what system do you use?**

8. The layout has several animations, one of which is this water tower. Compare with [9] and you will see the spout lowers. The animation includes sounds of the spout lowering, water going into the tender, the flow shutoff, and the spout raising again.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9. Same as [8], except with the water tower spout lowered. That looks like an articulated class HH1 Pennsylvania 2-8-8-2 “Chesapeake” locomotive.

10. This rare “into the sun” view of the bridge in [2] shows a Santa Fe Warbonnet F unit lashup rapidly approaching with its streamlined passenger train in tow.

VIEW READER COMMENTS

Joe: When we started this layout in 2009, were still debating DC versus DCC. We finally took a vote and DCC won. We went with Digitrax for locomotives, and we use Digitrax stationary decoders to run the turnouts.

The DCC system we chose is the same that the fellows have upstairs with the HO layout. That way, any of the fascia panels or turnout decoder modules could be interchanged. There really weren't a lot of expandable DCC systems out there 20 years ago.

There were probably only two systems that could work: Digitrax and NCE. You can put any manufacturer's decoder in your locomotive and Digitrax will run it, thanks to the NMRA standard. Also Digitrax has good stationary decoders that can run turnouts and even run signaling systems.

We haven't gotten into signals yet, but we've talked about it.

We did a do DC expansion on the other side with the steel mill. Because some members have older N scale DC equipment they can't easily convert to DCC, we decided to put in a DC track so they can run their DC engines.

That furthers our club goal of being a place you can come and run trains, even DC ones.

MRH: **What do you like most about this layout?**

Joe: As far as the layout goes, I like the fact that we can run long trains. We can run several trains at a time and not get in each other's way.

MRH: **What do you like least?**

Joe: I'm not happy we don't have any more room [laughs]. If we had more space, then we could do more things.

We would like to make our extension over here longer, but the stairwell got in the way. If we made it much wider nobody could go down the aisleways. We also don't like to see sharp curves; they look especially bad in N scale. That's why we tried to keep to a 17 or 18 inch radius on everything.

Maybe I wished we had put in hand throws where we have some of those Atlas electric switches. But then they were donated. I have a dozen of them

11. There's nothing like a photo of someone running a train to make it obvious the layout is N scale! Here club member Mike DeSensi runs a Santa Fe passenger train. Note the Digitrax DCC throttle; that's what the club uses on most of the N scale layout.

stored in the back that somebody just dropped off a couple months ago. Brand new never opened Atlas and AHM electric turnouts.

MRH: **If you had this to do over again, would you do anything differently?**

Joe: When first built, this railroad down here in the basement, we had three N gauge members. The guys upstairs call us the cellar dwellers and they tend to stay upstairs.

If we had to do this over again, we would have different grade separations from the start. We would have built the benchwork differently.

But if we did this over again, we have seven or eight guys now, with seven or eight heads rather than just three heads. That likely means we would change it if we redid it.

Maybe we'd add a helix or maybe have hidden staging and smaller yards up top. Now with more members, we could get more ideas.

MRH: **How often do you have open house events?**

Joe: Well, when it comes to open houses, we're open on Saturdays and Sundays from Thanksgiving til the weekend after New Year's. We don't do this just for fun only. It's a money-making project. This building is over a hundred years old, and most of the money coming in from our shows goes to the building. Without a building, no club. We need to maintain it, and we get our funds to do that from the open houses.

We probably have 1100 to 1200 adults come through on our weekends and maybe 200 or 300 kids. They enjoy it and we enjoy showing it to them.

We also have different special interest groups that come in. Special needs children, special needs adults, they come and we'll have an open house for them.

When the town has special weekends we are open, a couple times a year. They

12. On the front of the steel mill area is this scene of barges being loaded with coal. N scale allows creating much more expansive scenes like this that would take up too much room in HO.

have the auto cruises and we have a few club members that are Corvette Club members. So those guys bring their cars and park 'em out here on the street in front of the club.

I think there's five clubs in the whole Pittsburgh area, maybe six.

MRH: **When you do the shows, what kind of reactions do you get when folks come down into the basement here and see this large N scale layout?**

Joe: We have a lot of people who come to our open houses during the holidays. They come through the door and they say, "Wow, what's this? Who did all this?" Or they'll ask, "How long does it take you to put this up? Do you do this every year?"

We have to chuckle, then say "Well, we've been working down here for 13 years on this, and it doesn't come down

after the holidays."

Some folks aren't into the trains so much, but instead they're bringing their children to see the trains run.

During the open houses people like to see the scenery, they like to see the details, but mainly they want to see trains running. On the N scale layout, we try to keep at least six trains running at all times.

Depending on how many members we have here, that's how we determine the number of trains we can run.

The visitors ask a lot of questions. You can tell the non-model railroaders from the model railroaders because the modelers know what N gauge is.

There was a guy here this Christmas with his little son, he was probably five or six years old. The kid pushed the button down there for the water tank. The guy asks, "What's that next to the water tank?"

"A sanding tower," I said.

He says, "Sand? What do you use sand for?"

"Traction," I replied.

MRH: **Ha, that's great! What other kinds of questions to the show visitors ask?**

Joe: We get a lot of questions about the scenery, too like: what's the scenery made out of? How do you make it? Our scenery is all Styrofoam covered with plaster cloth, then detailed and painted.

Dick Jackson has done a lot of the

13. This downtown business-on-fire scene stands out in the city area of the layout.

scenery rock work, and folks will ask how do you get the rock to look like that? Dick always laughs and then shows them some of the different rock work around the layout.

He says, “You take this material called Sculptamold, which is just fancy paper mache. You put it on real nice and let it set up a bit. Then you take a spatula and cut strata the rock in with that. Then to color the rocks, we spray them with water and paint them with acrylics. People are always amazed at how it’s done.

There’s also casting rocks using rock molds. They don’t know what that is, so we show them the molds. One of the fellas in HO just takes silicone caulk and spreads it over rock to make a mold.

Then we fill it with Plaster of Paris or Hydrocal, which is a form of plaster. When it just starts setting up, press it right to

where you want it. It may crack, and may move, but that's good, it'll follow the contour. Let it set and dry out good. And then paint it.

Sometimes we use real rock, too. They might ask where we get this rock on the other side of the bridge? We tell them we just go collect some shards of shale up off the mountain in a box. Then we get a hammer or pliers and break it up. The result is miniature shale!

Another place over there, I used ceiling tile, from a technique in *Model Railroader* from the seventies. You break the ceiling tile into pieces with rough edges, then glue them together in layers. Then you put some plaster on it and paint it the color you want. They say, "Wow, that's how do you did that?"

We also get questions about how we made the bridges and the buildings, and got them to look so real. They're asking about the weathering.

I tell them we just go outside and look around. If you look at a street, at a building, at a house, most of the time it's not pristine. We just paint it to look like what we see.

Another favorite question: how much track is on this? I tell them I have no idea. I laid it, and a lot of it was donated. I just keep laying it until I run out. We've never

14. On the far end of the steel mill section, the layout features this working incline. It's another of the crowd-pleasing animations on the N scale layout.

bothered to measure it.

MRH: **The HO club upstairs gives the visitors a list of things to find. Do you guys do that with the N scale layout down here?**

Joe: People get fascinated with the detail, so yes, we give them a list of things to find, we call it a scavenger hunt down here. Can you find a dog chasing a cat? Can you find a lumber jack?

Or can you find a deer in the woods? The kids have a lot of fun with that.

The kids like to see the animation, and we're trying to put in as much animation as we can. It's a little tougher animating a dog and a cat in N scale than it is in HO [laughs]. We have a

sawmill over there that needs to be wired – we're waiting on a sound module for it.

Right now we have five or six animated features. It's difficult to animate everything – one guy this past Christmas asked why we can't make that crane move back and forth at the mill?

I told him I can't find the motor small enough to make it go. There's certain things you can do in a larger scale, that you just can't do with N scale.

We're also adding more lighting. We're working on the city here. We have probably a hundred lights that we're going to put in.

People often don't know model railroading, and they ask questions about how we do the modeling, but they also haven't got much of an idea how actual railroading works, either. For example, they'll ask why we have this big area with all these freight cars in it?

We'll tell them that's how railroads manage moving freight, it's called a freight yard. A lot of people don't know that.

MRH: **Tell us about your layout**

15. Joe Yakubisin demonstrates one of the club's pull-out control panels. This keeps the aisles free, yet enables having a generous-sized panel for easy wiring and operation. The panel itself just sits in slots on the framing, and can be lifted up for easy maintenance. The drawer has a bottom underneath the panel, which makes it easy to store a wiring diagram for the panel right there where you need it.

scenery.

Joe: I explain to folks that you don't have to be an artist to get decent modeling results. If you don't like it, just paint over it. If you don't like the way a building looks, just paint over it and start again. The scenery is the same way. If you don't like how your terrain looks, just take it out and start over.

Folks also ask how we make the water. I explain how we build the terrain for a river or a creek, and then put some sealant on it. Then we paint it, and flow in the water. It comes in a bottle, you pour it in, move it around with a toothpick, and at the end it looks like a river or a creek. They're kind of amazed with that.

They ask how we make trees, too.

I tell them it varies. Most of the pine trees we bought, but the rest of the trees we make from weeds! You know, you go out in a fall and you pick them. You put them in a little matte medium to toughen them up and you paint them.

One guy who visited said that was the first time heard of painting the trees. He asked if we use rattle cans, the spray cans with the little ball inside that rattles when you shake it. I said we just paint them, using any and every method of applying paint including rattle cans.

I did the backdrops for the railroad and people ask me how I got the contours to look real?

I tell them I just use different sponges when I'm painting. That's all it is. You know, dump a little green paint on here, and use four or five different greens. They're amazed, asking how did I know to do that?

I tell them I take a piece of chalk and draw something on the wall, then step back and look at it. If I don't like it, I get a paper towel and wipe the chalk off and then start all over again. From there I get the contours by applying darks and lights to develop look of a slope.

And as I've said, if I don't like it I just paint blue over it and take another shot at it. That's it, that's all we do.

16. One of the layout animations that's very popular with the kids is this operating helicopter. You push the button to trigger the animation and you're treated to a couple of minutes of rotor spin-up, the copter rising to a couple-hundred scale feet, hovering, and then coming back down and powering-down again. Of course, the animation includes sound! See [17].

It's all part of doing the modeling, and that's the hobby.

***MRH:* Do you run locomotives with sound?**

Joe: Sound is relatively new for N gauge , and it's probably only been in existence maybe eight or nine years because they had trouble making a speaker that size. A lot of the older N scale locomotives have a Z scale decoder in them.

With digital command control, you do need to pay attention when running at shows, because you can run into each other and have a cornfield meat. Our guys know the equipment costs a lot of money, so they're pretty careful. We can maybe run six trains with three fellas, where with the old DC control, it'd probably take 10 guys to run the same trains over this railroad.

Older locomotives that were converted to DCC and don't have sound are heavier and, they work okay up the grades. But on the newer locos, they cut the frames down almost in half so that they can put in the DCC decoders with sound.

You lose a lot of weight putting sound in an N scale loco. Two old engines without sound can pull up a hill okay, but with newer sound engines, you might need three or four diesels. With steam you double-head them or you cut your train length down.

The NMRA has a standard for car weight, but nobody here has time to reweigh and change the weight in 400 freight cars.

MRH: **What about op sessions, do you do those?**

Joe: When we're not having an open house, guys will come down and run whatever they want, wherever they want. They can run any road name they want. They can run diesel, they can run steam, they can run electric. We have no restrictions, just like we have no restriction on this is my house, or this is your building.

We haven't got to the point where we say let's sit down have an operating session next Monday, or whatever. It may come to that, I'd like to see it. But with N gauge it's awful hard to use car cards since you can't read those tiny car numbers.

More likely it will be: here take 10 cars from here and go over there – and then come back with 10 cars, but not the same

17. Here the helicopter in [16] has reached its maximum altitude. It hovers here for maybe 10-15 seconds, then begins its descent back down to the landing pad.

ones you went with. Just take a train from one of the yards or take it from the mill and bring it to a yard, or take it from the mine and bring it to the yard.

Or go to the mine and come back from the mine. You know, a turn. you Or run a local that can go here to there to there from yard-to-yard. Or take a through train and go around both red line and the green line.

But right now we're happy with the freestyle running.

MRH: **How do you do a club well?**

Joe: When it comes to forming a club you need like-minded people. I think as far as a club goes, it's designed for people that don't have the space or the funds to build their own railroad. I think that's the philosophy – to get group of guys

together who aren't fighting and arguing.

When this club was built, the membership was small and we didn't have a lot of funds. We were scrounging wire to wire the modules. Now we use our open houses to help cover our expenses. Monthly dues cover the monthly bills like electricity, heat, water, sewage, insurance, and fire protection. The club dues cover all that.

Without a building, you have no club. We've experienced that. Some people knit, some people play golf, some people quilt, some people paint. We play with trains [laughs].

MRH: **Any final thoughts?**

Joe: This conversation has me thinking back about the club's history and how the Ohio Valley Lines Model Railroad Club was reincarnated in 1982 by some fellows who were still around after it went dormant in the late 1970s. It was four fellows who restarted the club: Glen Coatz, Joe Durry, Mr. Lance, and Mr. Shirley (his nickname).

They called Mr. Shirley "god" because he's the one that made the trees.

Our goal at the time was to build an HO modular railroad by NMRA standards to a 10 by 24-foot railroad that we could put together and take apart, move here, and move there. Sitting in the fire hall watching the trains go around without any scenery got old after about two days.

18. On the city peninsula, you find this operating T scale (1:450) layout animation. That's right, this train runs!

So we opted for a new space in Sewickley, in the old post office building. We put the modules together, did the scenery, did the wiring, built an appendage to it, and put a branch line in.

Then we got thrown out, so we moved over here to Ambridge. We redid the modules and added more areas to it. It evolved into more of a permanent railroad than a modular railroad.

We had about 10 people when the club re-started back in '82. On the plaques upstairs, there are maybe 20, 25 members that have passed away, including the original founders.

But we keep getting more new members – there's three or four new members that filled out applications this past holiday season. One fellow showed up two weeks ago when we had our last meeting.

Said he just moved here from Vermont. He worked for Tony's Trains up there, but now he's retired. He moved back to Pittsburgh because his wife is from here. There's another one!

We get phone calls from people who want to know if we can move something, you know, the Ohio Valley Lines? They think we're a trucking company [laughs]!

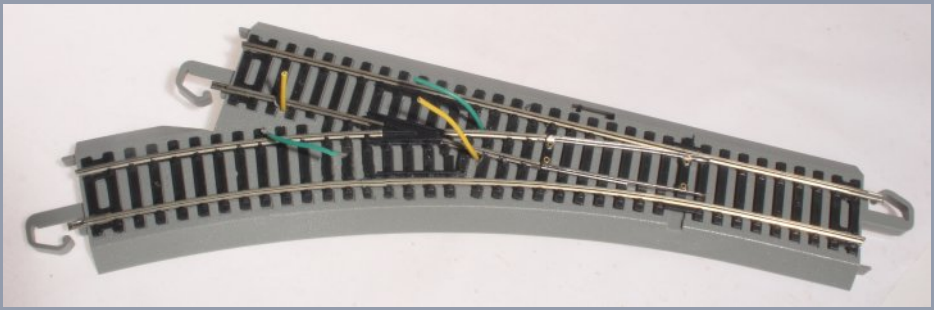
Members go, guys move away, guys pass away. We like to get younger members to keep the club vibrant. We have several younger members now who are still teenagers. We hope they'll stick around and become full-time members, vote, and even run for office.

Who knows, maybe the young guys will want to tear this down and build something new. It'll be totally up to them. As full-time members, if they want to change it, then they can change it! ☑

19. The layout features a number of mini-scene vignettes such as this one of a road crew at work.

20. The layout was originally built as flat, but was later retrofitted to have an elevated route with bridges. We have to admit, scenes like this add a lot of interest to the layout.

Trouble free staging with Bachmann E-Z Track



Model Railroad Hobbyist | May 2024

VIEW READER COMMENTS

ROBERT SCHLEICHER BUILDS TROUBLE-FREE STAGING...

I WAS PLEASED WITH THE CONCEPT OF USING ACTUAL TRACK pieces to design a model railroad that would have nearly perfect track for smooth-running trains (See: "E-Z Track for Track Planning" October 2023 *Model Railroad Hobbyist* - online.fliphtml5.com/buups/agyb/index.html#p=87). As I progressed with the design of the staging deck, I realized I wanted to build it using E-Z Track for optimal reliability.

This layout is designed for mostly "through" traffic, running around an oval in a scheduled timetable sequence. It is essentially a module, with loops on both ends that route the trains to and from staging. I planned the radius for those loops to be as tight as possible, while still allowing 12-car passenger trains to run smoothly [1].

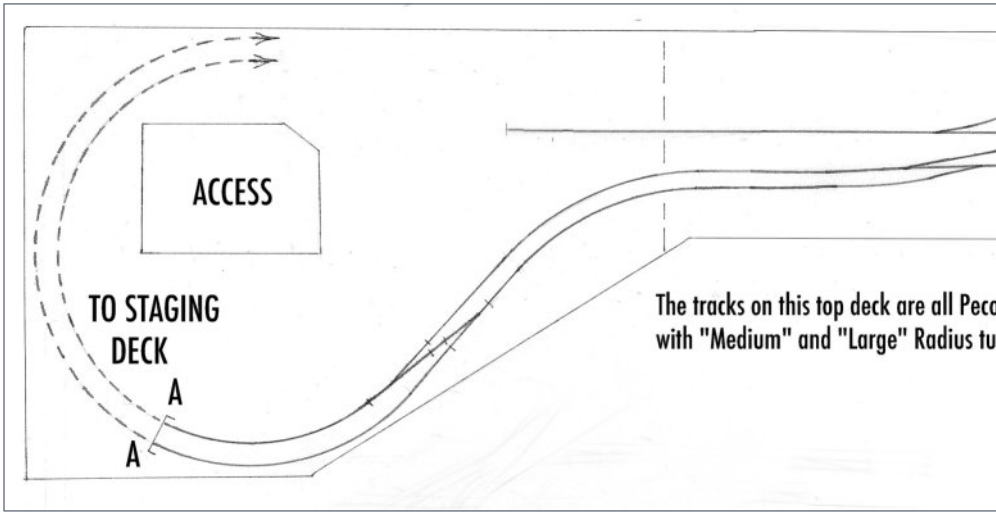
The tracks on the staging deck hold the trains until they are scheduled to appear on the visible tracks of the upper deck. There are two crossovers in staging that can be actuated to rearrange the order of trains, so the last train in does not always have be the last train out.

I also wanted to include reversing loops, so a train could disappear into staging, and then reappear on the same end of the layout, traveling the opposite direction. To avoid having to back a train through a reversing loop, I decided to build one on each end of staging, to handle trains traveling in either direction. I built the reversing loops to fit within the loops taking the trains between staging and the main level, but again with enough of a radius to accommodate passenger trains [2].

I chose E-Z Track for staging because it can be assembled to create a layout with minimal chance for derailment or electrical problems.

The staging deck is only five inches below the upper deck. The staging tracks are either along the front of the layout, or accessible through access holes on the ends of layout. Code 100 rail was not an issue for a staging yard.

I scraped the outer sides of the rails near the rail joiners clean with a jeweler's file. I used a 50/50 rosin-core solder (Ersin-brand) with a 100-watt soldering gun.



1. The visible upper deck.

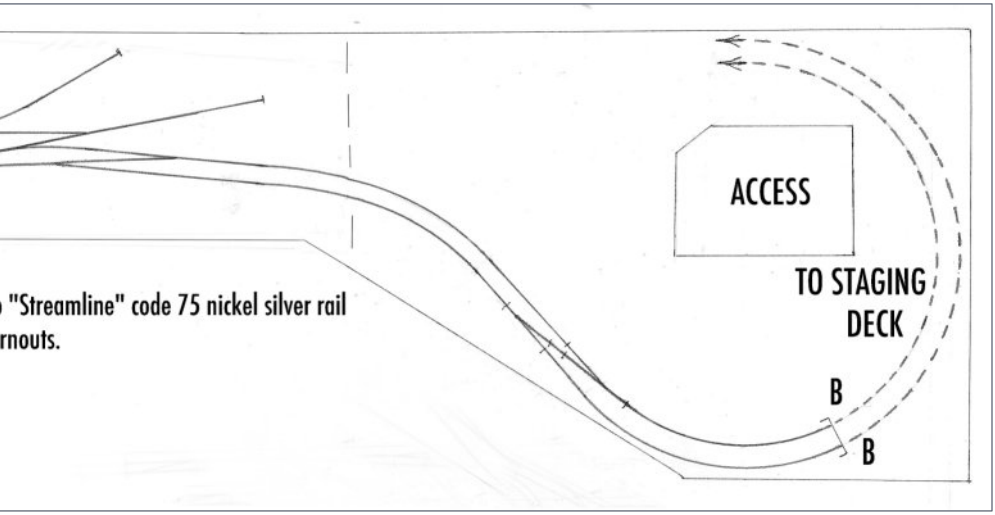
I soldered the joint on the outside of the rail, heating the rail joiner so the solder flowed along the joiner. Then I removed the heat to avoid softening the ties, which could lead to misalignment [5].

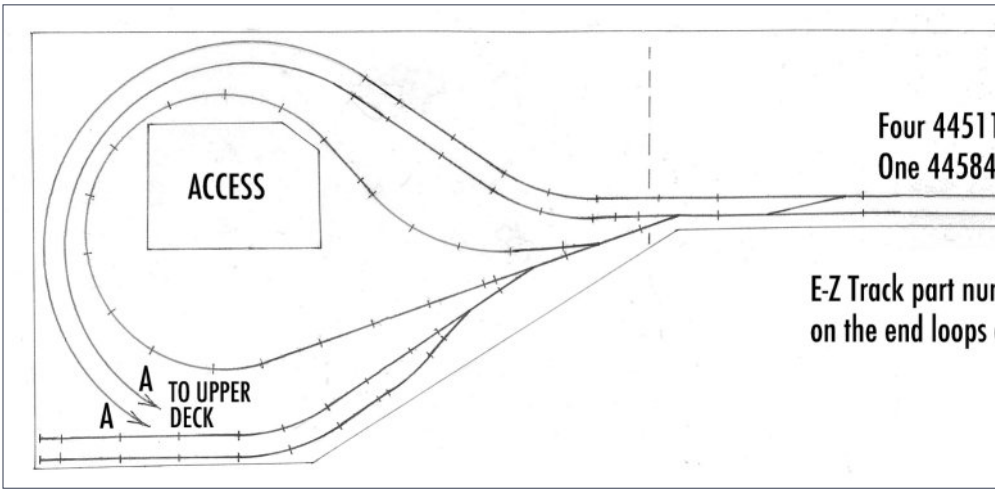
I soldered on the outsides of the rail, and I was careful to clean away the remaining rosin [6]. The Ribbonrail gauges were cleaned after an hour or so of construction.

SOLDERING THE JOINTS

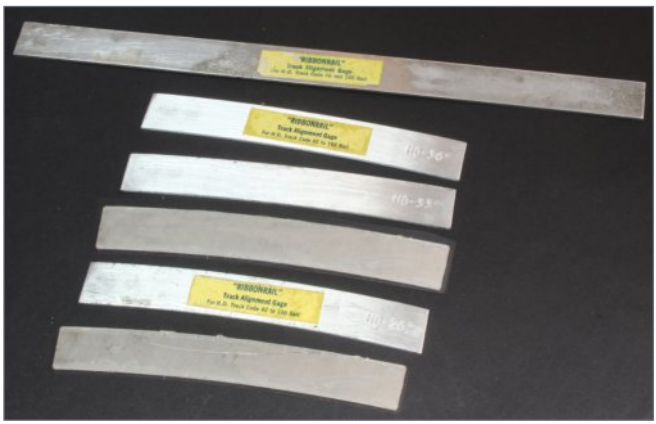
The E-Z track sprung-plastic joining clips hold the track nicely, even on a carpet. However, if the track is bumped from the side, it can pry apart just enough to create misalignment. In staging, there was strong likelihood of someone bumping the track from the side while placing or rerailing a train. To eliminate that possibility, I decided to solder every track joint to freeze the alignment.

The soldered joints make E-Z Track as reliable and smooth-running as any sectional or flex track. To be dead-certain that each joint is

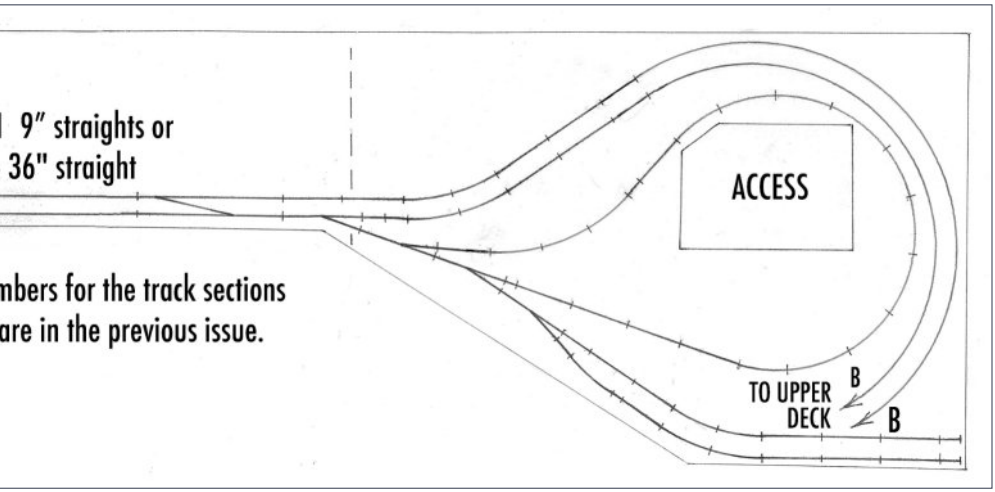


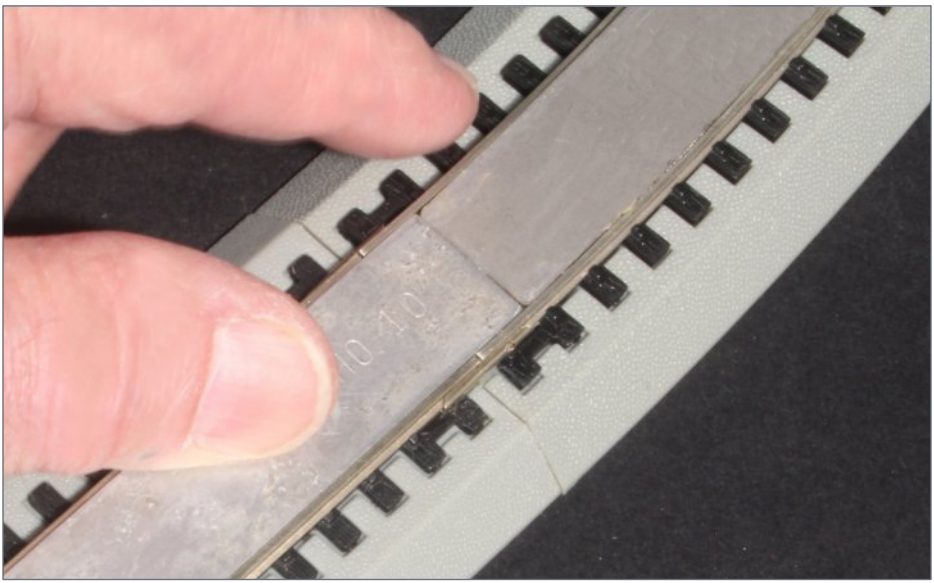


2. The E-Z Track reverse loops are fitted at the ends of this 8 x 24-foot layout. The two outer curves at each end are assembled with the E-Z Track 44504 33.25″-radius 18-degree curves on the inner track, and 44507 35.50″-radius 18-degree curves on the outer track. These will be elevated to reach the visible upper deck of the layout. The other track sections are shown in the October 2023 issue of *MRH*.



3. I used Ribbonrail (Baumgarten) rail gauges to hold the rails at the track joint during soldering. These six gauges match the available radii from E-Z Track: 22, 26, 28, 32 and 35 inches. You will also want one of the straight track gauges.





4. To be sure there are no kinks where a curve joins a straight, I slide a straight gauge about 1/2-inch into the curve and hold the curve with the proper-size curve gauge.

perfectly aligned, I inserted a Ribbonrail (Baumgarten) track gauge between the rails while the joint was being soldered [3, 4].

I scraped the outer sides of the rails near the rail joiners clean with a jeweler's file, then soldered.

I soldered the joint on the outside of the rail, heating the rail joiner so the solder flowed along the joiner. Then I removed the heat to avoid softening the ties, which could lead to misalignment [5].

I soldered on the outsides of the rail, and I was careful to clean away the remaining rosin [6]. The Ribbonrail gauges were cleaned after an hour or so of construction.

5. I used a 100-watt soldering gun with 50/50 rosin-core solder. I touched the tip of the gun to the rail joiner, positioned the solder against the top corner, and removed the gun the moment flow occurred. It pays to practice this technique on old track sections.

6. Allow the solder to cool. Scrub the joint with a damp paper towel to remove any soldering rosin.

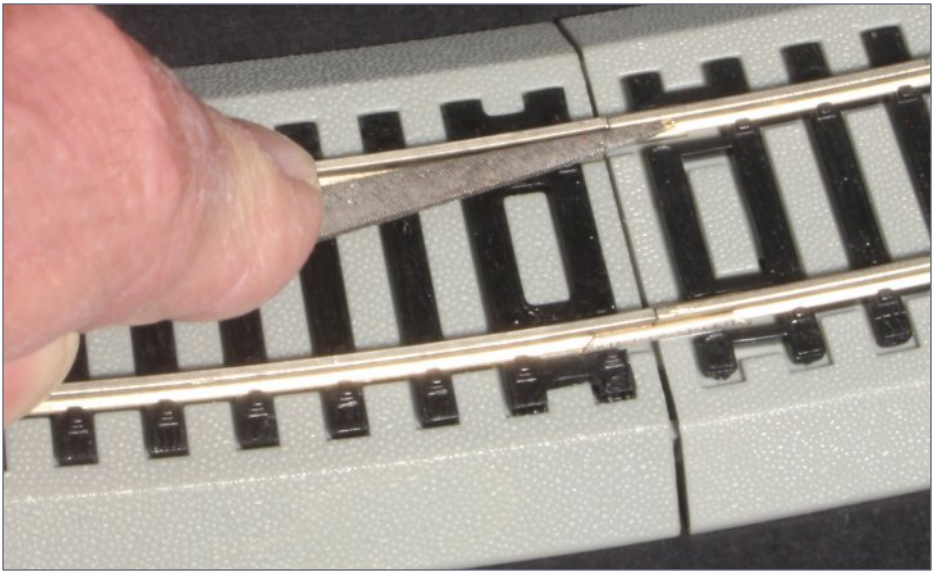
I used a jeweler's file to clean up any solder that might have flowed across the top to the inside of the rails. This removed any errant solder blobs or burrs from the rails [7]. When finished, I smoothed the tops and inside edges of both rails with a fine emery board, and gave a final polish with a track-cleaning eraser [8, 9].

The soldered joints produce an unbroken rail running the entire length of the staging deck, except for insulated gaps, so it should be reliable. They also eliminate any worry about loose track joints causing erratic electrical flow.

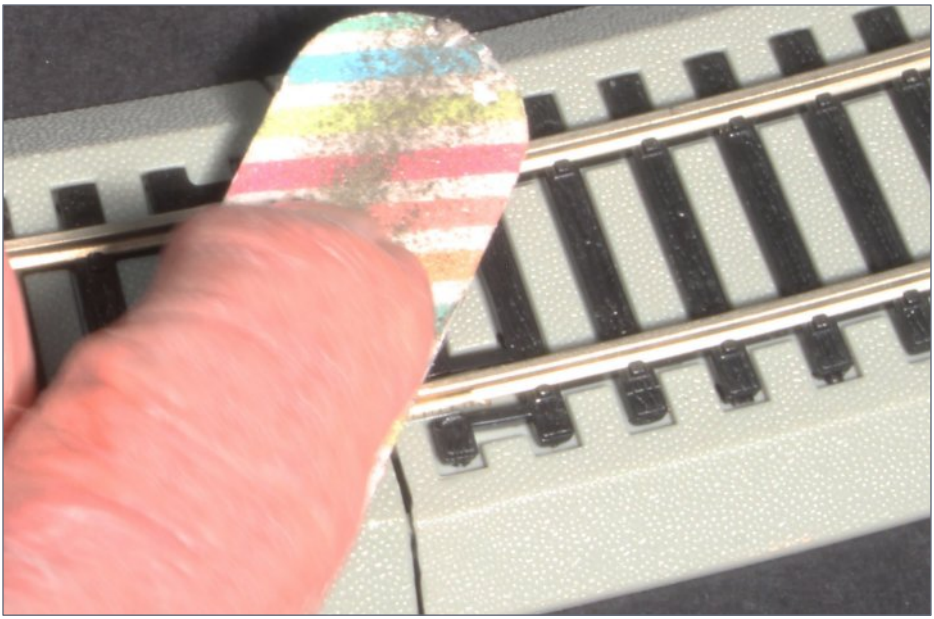
I operate with DC power. There are about a dozen blocks, plus two reverse loops to isolate. Most of those would also be necessary with a DCC-powered layout.

I wanted bulletproof operation on the staging deck, so I did everything I could imagine to prevent derailments. All the major curves have easements, and there is at least a foot of straight between every S-bend.

I also operated on all the track on the staging deck for a few weeks, running 12-car passenger trains and 15-car freights in both directions. To challenge the track, I ran them all at slow speeds in reverse around every inch of track.

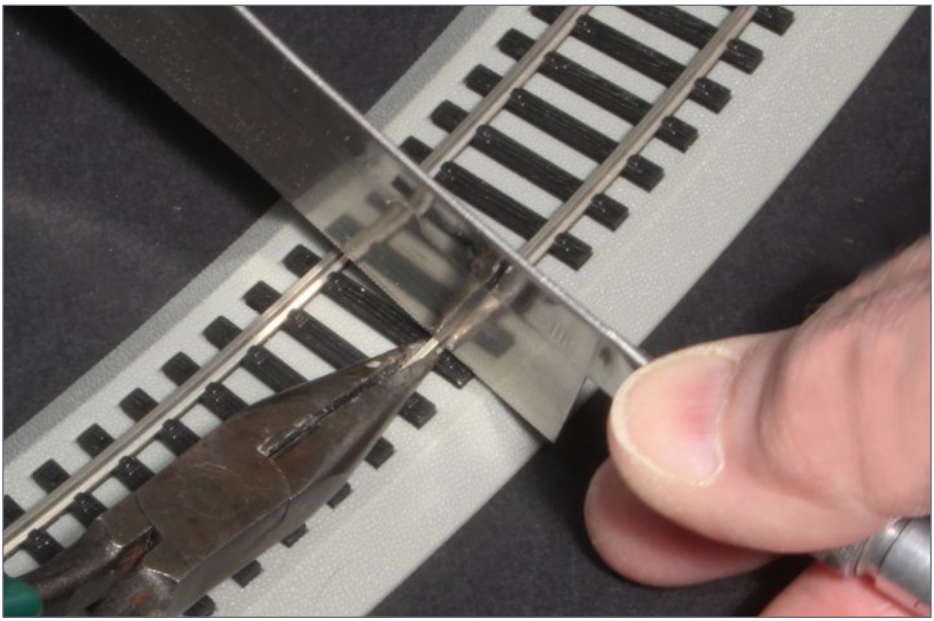


7. Cleaning up the inside of the rails with a jeweler's file.



8. I smoothed the tops and inside edges with a fine emery board.

9. I polished the tops and inside edges of the rails with a track-cleaning eraser.



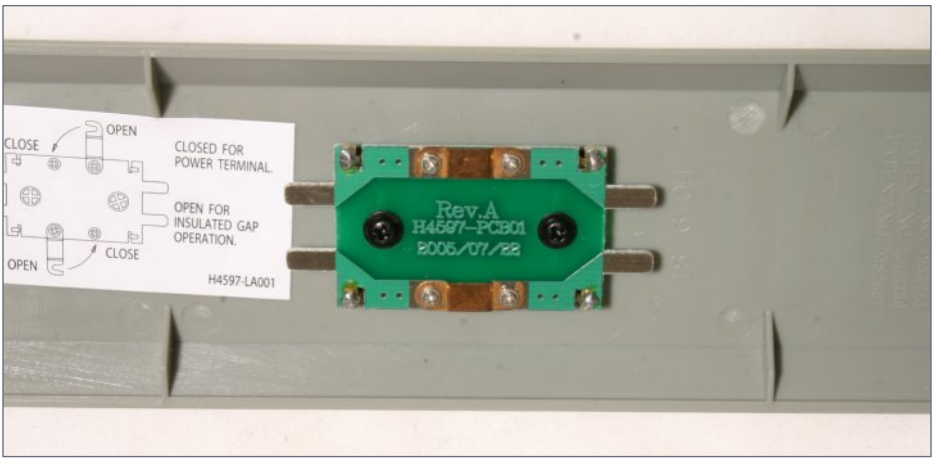
10. I used a razor saw to cut the insulating gaps in the rails. I held the rail tightly with needle-nose pliers. This reduced the risk of ripping the rail from its plastic ties. I then smoothed the tops and sides of the cuts with a rail cleaning eraser.

The E-Z Track plastic roadbed and ties will not expand or contract as much as wood benchwork, but heat and cold can force the rails to expand and contract. The gaps for blocks were enough for rail expansion or contraction. I cut insulating gaps with a razor saw so the openings would be as thin as possible so they would not jar the wheels [10].

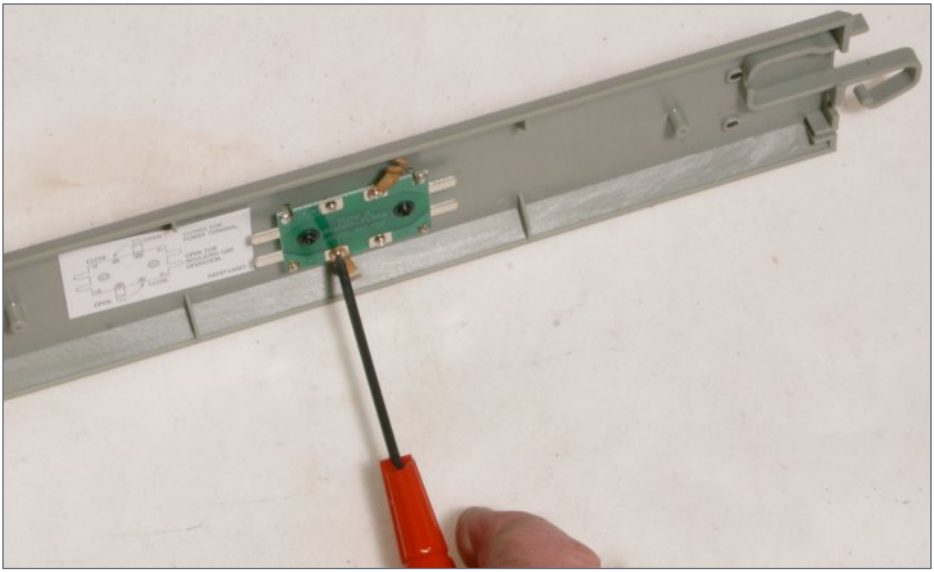
POWER CONNECTIONS

E-Z Track offers nine-inch terminal rerailers (44510), with wire that can be used either as a power-connector or to provide an insulation gap [11, 12]. There's a pair of pivoting copper contacts that can be rotated 90-degrees to allow the track to serve as an electrical block. There are power connections on both sides of the pivoting contacts, so power for the two blocks can be connected to both blocks at this one site.

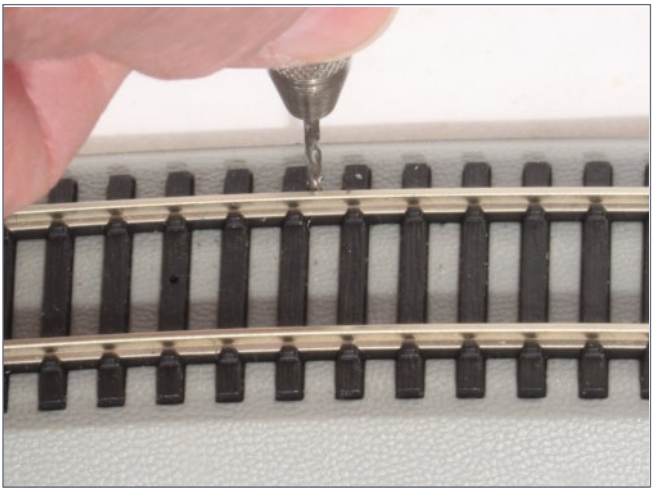
I did not want risk any electrical wires disconnecting, so I did not use the E-Z Track power-connections. I soldered all the wire connections to the rails. To avoid derailments, all wires are soldered to the outside of the rails. The process follows in photos [13-16].



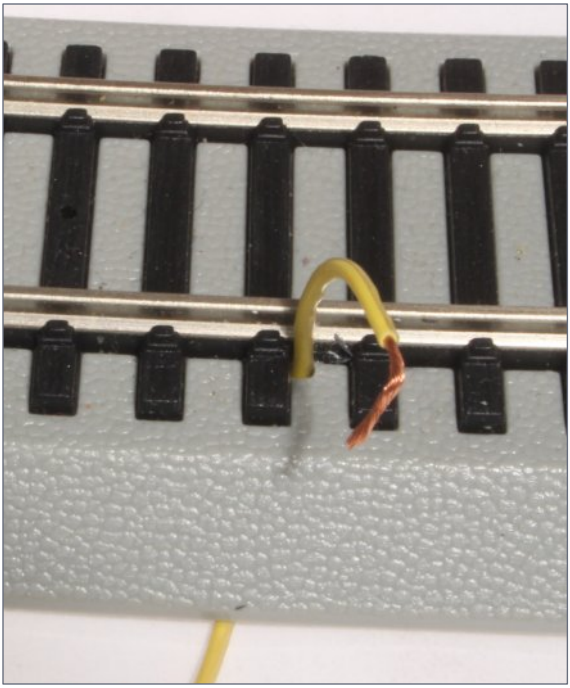
11. The E-Z Track 9″ terminal rerailer can be used either as power-connector or to provide an electrical insulation gap.



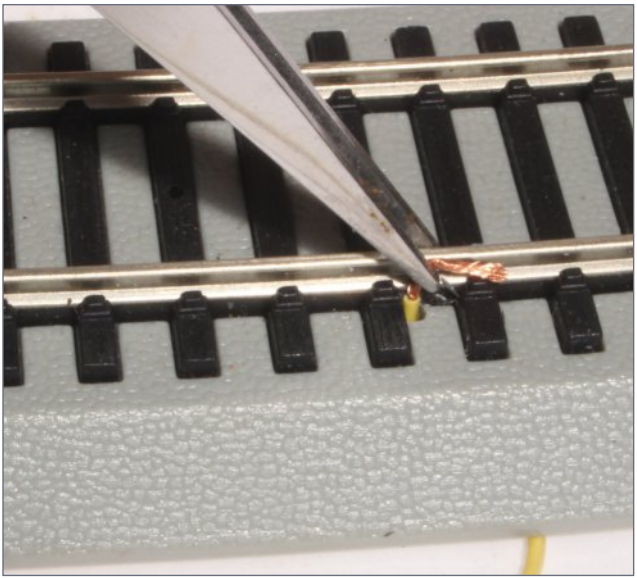
12. Loosen the screws, and the pair of pivoting copper contacts can be rotated 90 degrees to disconnect the two halves of the rails to allow the rerailer to serve as an electric block. There are power connections on both sides of the pivoting contacts, so power for the two blocks can be connected to both blocks at this one site.



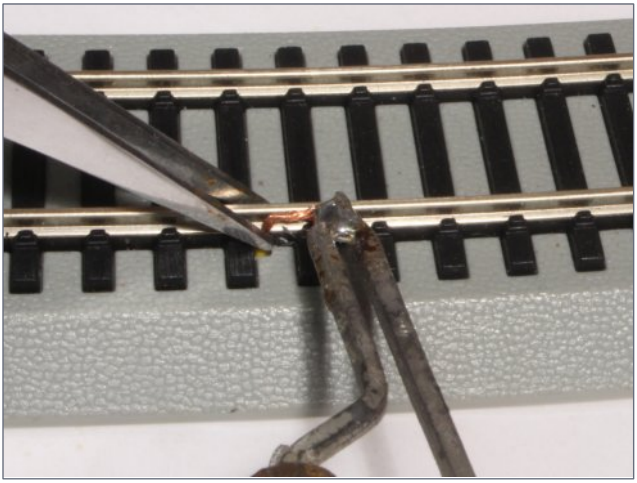
13. Drill a 1/16-inch hole next the base of the rail.



14. Slip the wire up through the track from the bottom. Strip 1/4-inch of insulation, twist the strands tightly and bend them over 90 degrees. Scrape the web of the rail clean with a jeweler's file.



15. Use tweezers to hold the end of the wire's insulation against the web on the outside of the rail.



16. Touch the tip of the soldering gun to the outside edge of the wire while you also position the solder against the bare wire. Try to keep the tip away from the solder. You want the rail to get hot enough to melt the solder. Once the solder melts, it should flow through bare wire strands. The moment that flow occurs, remove the soldering gun.

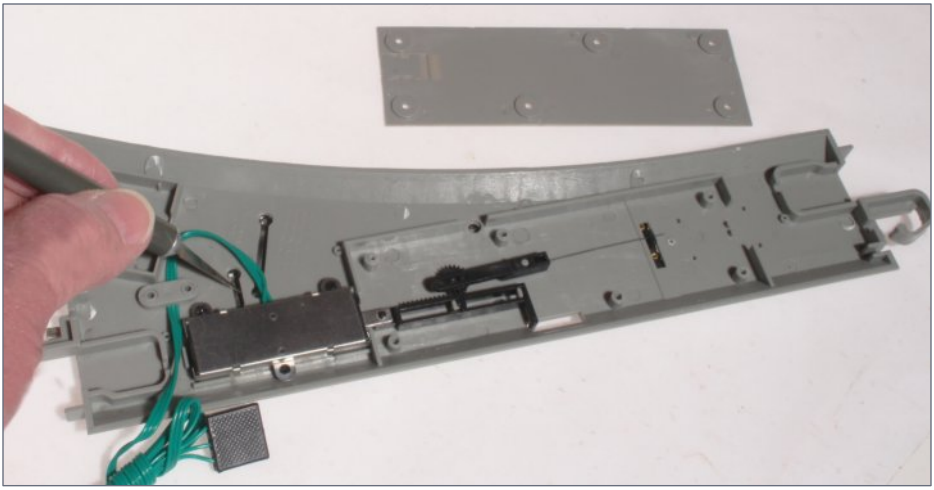
POWER-ROUTING TURNOUTS

E-Z Track turnouts are designed so both straight and diverging routes are powered. That works well for DCC-powered layouts, and it is usually okay with DC layouts.

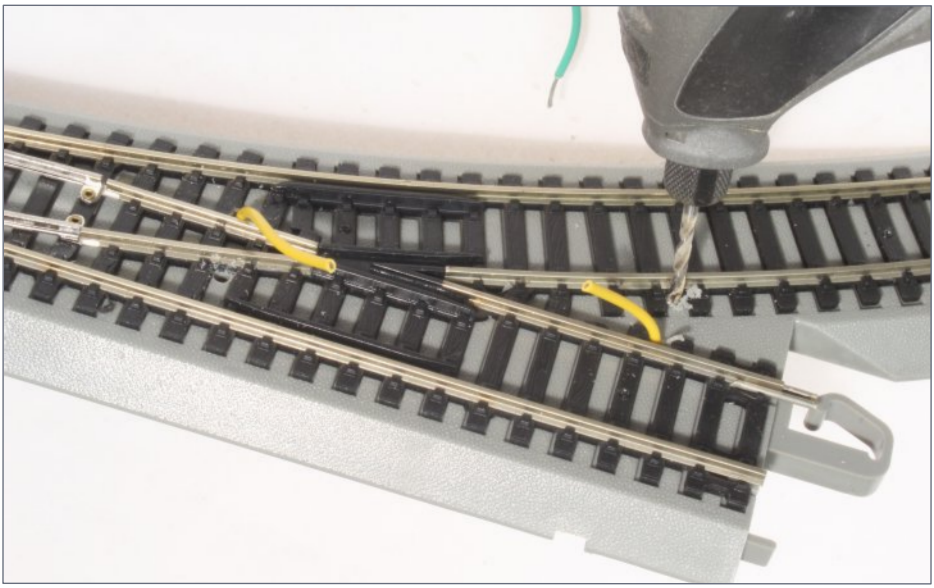
But sometimes you want the turnout points to turn off power to the unselected route. I have a stub-ended staging yard with five tracks from a string of four E-Z Track turnouts. I wanted all the tracks to be dead unless the connecting turnout is thrown to that track.

E-Z Track turnouts have thin copper strips on the underside that connect the rails, so I simply cut the strips. I then soldered a 22AWG copper wire to each of the rails that cross the frog to provide power around the frog. See photos [17-20].

I used this same technique to isolate the parallel tracks on the double crossovers. The process follows in photos [21, 22].



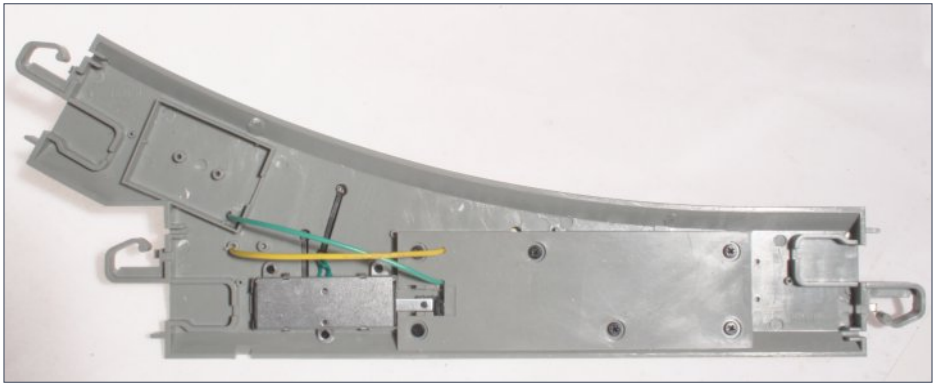
17. E-Z Track turnouts have thin copper strips on the underside that connect the rails on both sides of the frog. Use a hobby knife to cut both.



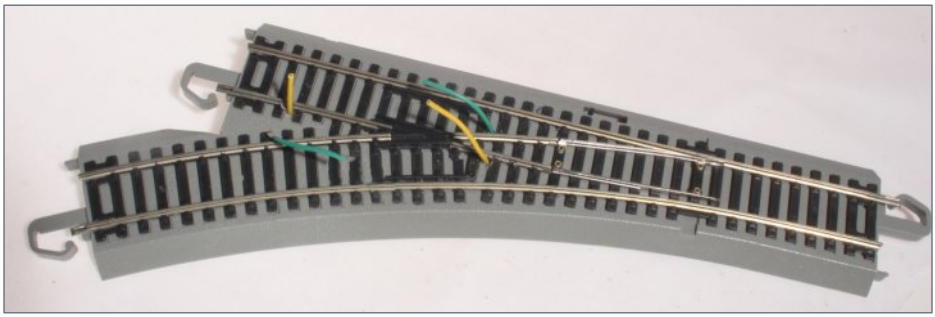
18. Drill four 1/16-inch holes to the outside of both outer rails so these yellow and green "jumper" wires can be installed.

TROUBLESHOOTING

I wanted to avoid the need to troubleshoot track, so I examined every inch for burrs or possible problems. I pushed a freight car truck over the entire layout with my fingertip so I could both feel and see where it moved erratically. I completed the track and wiring on the staging deck first, and to be certain of perfect operation, I ran trains on it over several months before building the upper deck.

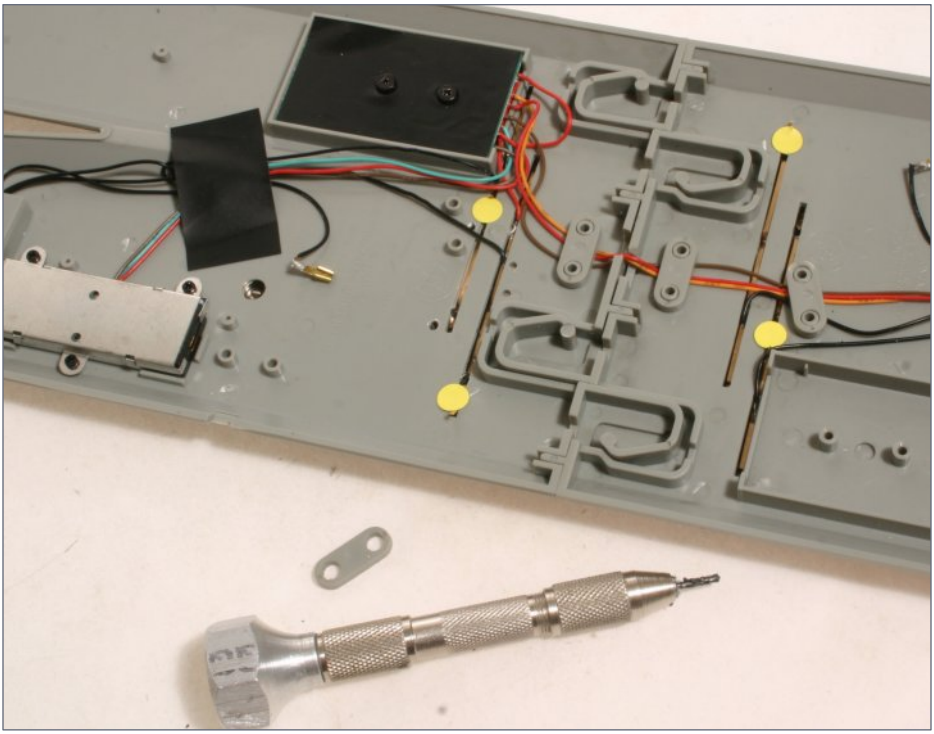


19. The jumpers carry power around the frog; yellow for straight, green for diverging.

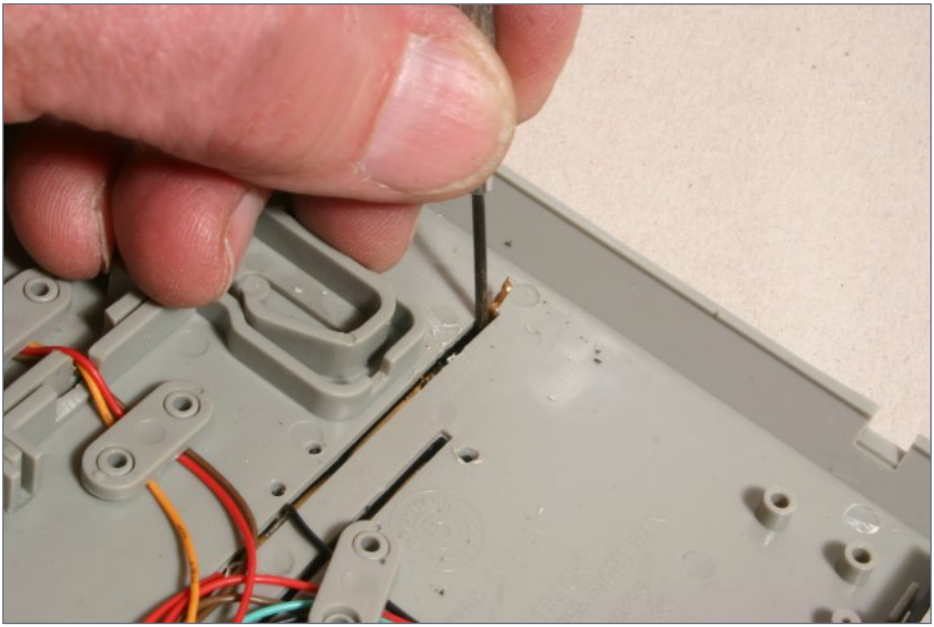


20. Strip ¼-inch of insulation of each wire, and solder them to the outside of the rails.

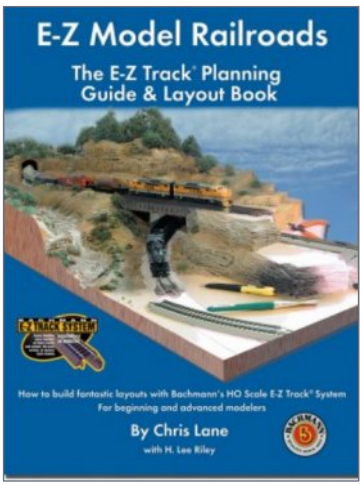
All the rail joints had been soldered as part of the assembly process, so the tiny burrs that are often at the rail ends were removed when the rails were sanded and polished. There are some sharp corners on some of the turnout frogs and especially at the sharp tips of the moving switch points – all were smoothed with a jeweler's flat file.



21. E-Z Track crossovers are also wired so both routes are powered. To modify the crossover so power is directed only to the selected route, cut the four thin copper strips on the bottom of the turnout. Use a 1/16″ bit to drill through the strips at the points indicated by the yellow dots. Remove the small dumbbell-shaped tabs covering the copper contacts.



22. Pry the copper strips loose from the bottom of the turnouts, and remove them. Finally, connect the inner rails with wires to route power around the frogs, as shown for modifying the single turnouts.



23. *E-Z Model Railroads: The E-Z Planning Guide & Layout Book* includes six in-depth layouts, 20 additional layout designs, and tips for modelers of all skill levels.

CONCLUSION

E-Z Track has served very well for creating a reliable staging deck. For more information, Bachmann offers a 124-page guide-book by Chris Lane: E-Z Model Railroads: The *E-Z Track Planning Guide and Layout Book* [23].

HO SCALE E-Z TRACK WITH NICKEL SILVER RAIL

- 44501 18″ radius curve
- 44502 18″ curved terminal rerailer
- 44503 22″ radius curve
- 44504 33.25″ radius 18 degree curve
- 44505 15″ radius curve
- 44506 28″ radius 18 degree curve
- 44507 35.50″ radius 18 degree curve
- 44508 33.25″ radius 9 degree curve
- 44509 33.25″ radius 12 degree curve
- 44510 9″ terminal rerailer with wire
- 44511 9″ straight
- 44512 3″ straight
- 44513 2.25″ straight
- 44514 4.50″ straight
- 44519 26″ radius 18 degree curve
- 44528 9″ straight rerailer
- 44529 18″ curved rerailer
- 44530 one-third section 18″ radius
- 44531 half-section 18″ radius
- 44532 half-section 22″ radius
- 44557 #4 turnout left
- 44558 #4 turnout right
- 44559 #6 turnout left

- 44560 #6 turnout right
- 44561 "18-inch radius" REMOTE turnout left
- 44562 "18-inch radius" REMOTE turnout left
- 44565 #5 turnout left
- 44566 #5 turnout right
- 44569 #5 wye turnout
- 44757 remote #6 crossover left
- 44576 remote #6 crossover right
- 44584 36″ straight BULK pa k of 25)
- 44591 Hayes bumper
- 44592 Connector Track Asst. (.75, 1.00, 1.25, 1.50 & 2″ straights – only in this pack)
- 44597 9″ power terminal w/gap

ROBERT SCHLEICHER

Robert was editor of *Railmodel Journal* for 19 years and, prior to that, editor of *Model Railroading* magazine. He has also authored over a dozen model railroad books including the *Tyco Model Railroad Big Book Of Model Railroad Track Plans* and three books for Lionel. Bob has been a consultant to several manufacturers and helped to kick-start the Railroad Prototype Modelers concept. He is modeling the standard gauge Colorado & Southern in northern Colorado circa 1959 in HO scale. ■

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INDUSTRY NEWS

Firecrown Media buys Model Railroader magazine
Kalmbach Media, which includes *Model Railroader, Trains, FineScale Modeler, Classic Toy Trains, Classic Trains, Garden Railways,* and *Astronomy* magazines; Trains.com, Kalmbach Books, and the company's e-commerce stores, has been purchased by Firecrown Media, a rapidly growing publisher based in Chattanooga, TN. Kalmbach will retain its online *Discover Magazine,* which focuses on science news, and Saturn Lounge, its digital marketing agency.

Magazines currently published by Firecrown include *Flying, Boating, Yachting, Salt Water Sportsman* and *FreightWaves.*

According to Kalmbach CEO Dan Hickey, about 67 of the company's 120 employees are affected by the sale. Firecrown plans to open an office in Wisconsin and retain many of the purchased magazines editorial staff.

The driving force in Kalmbach's portfolio was *Model Railroader*, a magazine launched 90 years ago by founder Al Kalmbach. For many years MR was the leading publication for railroad hobbyists. It has, however, faced a steady decline in recent years.

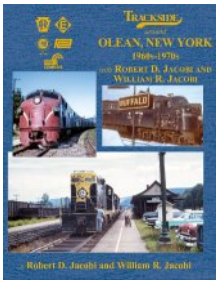
Paid circulation last year was 69,726, down from a peak of 224,389 in 1993.

Dennis Eugene Storzek 1952-2024
Dennis Storzek, co-founder of Accurail lost his battle with ALS (Lou Gehrig's disease) in April 2024. Dennis was well-known as a modeler, author, inventor and tool maker. He was active as a researcher and historian with the Soo Line Historical Society and the Illinois Railway Museum. Dennis established Modelmaker in 1983 to produce a line of prototypically correct HO scale resin kits, initially in aluminum filled epoxy before becoming an early adopter of impact resistant urethane resin. He partnered with Robert Walker in 1986 to found Accurate Finishing, Inc. which later became Accurail, Inc., a major manufacturer of HO scale plastic freight car kits. Storzek was responsible for Accurail's tool design and toolmaking from 1990 forward and was granted two US patents in 1997 for the Accumate coupler.

Production of AMB LaserKITs to continue
The well-regarded line of HO and N scale LaserKITs developed by American Model Builders (AMB) will continue to be produced and marketed by **Berkshire Valley Models** (BVM) and **Lake Junction Models** (LJM). The extensive selection of AMB structure kits created by the late John Hitzeman will be available from Berkshire Valley. Richard Rands of BVM said the lengthy process of converting AMB's unique CAD data will need to be completed before actual production can begin. Bill Hoss, owner of Lake Junction Models, has acquired the rights to produce the complete line of both HO and N scale AMB caboose kits.
Info: lakejunctionmodels.com and berkshirevalleymodels.com

NEW PRODUCTS FOR ALL SCALES

New titles coming from **Morning Sun Books** include *Trackside Around Olean New York 1960s – 1970s* Authors Robert and William Jacobi have assembled a fitting tribute to operations on the Eire and Pennsylvania railroads at Olean including the



mainline to Cuba Summit, the highest point on the Erie between Hoboken and Chicago. Info: www.morningsunbooks.com

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HO SCALE PRODUCT NEWS

R. Bale

FOWLER BOXCARS

Canadian Pacific master car builder, W.E. Fowler, patented his single-sheathed boxcar in 1911. The Fowler design featured a steel underframe with single-sheathed wood sides and ends. There were three panels on each side of the door with diagonal steel braces applied only on the two inner side panels. Between 1912 and the mid 1920s nearly 80,000 cars of Fowler design were manufactured by various North American car builders. Canadian versions of Fowler cars were often called Dominion cars.

New wallet-friendly HO scale kits coming from **Accurail** include a 36′ Fowler single-sheathed wood boxcar decorated for the Gulf Mobile & Northern Railway. The HO scale kit represents a prototype built in 1925.

Also new from Accurail are kits for a Union Railroad 41′ steel gondola and a Great Northern 40' steel boxcar with a combination plug and Youngstown-style sliding door.

This 50′ Grand Trunk Western steel boxcar with welded sides is based on a prototype built in 1957 and rebuilt in 1977. It carries GT's The Good Track Road slogan.

Kits for this Pittsburgh, McKeesport & Youghiogheny 41′ steel gondola are available singly and in a three-pack with different road numbers. The model represents a prototype car built in 1922 and rebuilt in 1952. All Accurail HO scale car kits in this report come with appropriate trucks with Delrin wheelsets and Accurail Knuckle couplers.
Info: www.accurail.com

VIEW READER COMMENTS


R. Bale

GE GENESIS LOCOMOTIVES

The General Electric Genesis (not to be confused with Athearn's Genesis models) is a series of passenger diesel locomotives built by GE Transportation for Amtrak, Metro-North and VIA Rail between 1992 and 2001. Three models of Genesis were built by General Electric, the P40DC, P42DC, and P32AC-DM. A total of 321 units were produced. The P40DC (originally known as the AMD-103 or Amtrak Monocoque Diesel - 103MPH) is the first model in the Genesis series, built in 1993. A feature unique to the P40DC and P32AC-DM is a hostler window at the rear of the locomotive. The Genesis series is the lowest North American diesel electric locomotive at 14′ 4″. This allows for unrestricted travel through low-clearance tunnels in the Northeast Corridor (NEC). The GE Genesis series stands out for its unique, lightweight monocoque car body that provides improved aerodynamics and fuel efficiency. However, the complexity of the monocoque design results in slightly higher maintenance and repair costs. Amtrak equips its Genesis locomotives with bolt-on nose cones to facilitate rapid repairs in the event of a grade crossing collision. The Genesis is a fully computerized locomotive. Its onboard computer systems automatically manage various functions, including real-time adjustments to engine output in response to overheating, low oil pressure, or reduced airflow intake. This ensures continued operation during minor operational deviations, streamlining maintenance requirements.

Athearn has announced details on another production run of HO scale Genesis series GE P42DC locomotives. The models are scheduled for release in September 2025 in multiple road numbers in a variety of Amtrak decorating schemes.

P42DC locomotive No.164 will be available in Amtrak's Phase IV Heritage paint scheme.

Locomotives No. 69 and No. 123 will be available in Amtrak's Phase V, the standard paint scheme for most Amtrak P42DC locomotives from 2000 until 2022. Unit details include road number specific antenna configurations and angled air dryer guards.

Phase VII locomotives No. 82 and No. 42 salute America's veterans.

Amtrak#1 in Phase III scheme and NEC No. 101 in Phase IV paint have as-built nose configurations, five-chime forward facing horns and front and rear marker lights.

Features on all Athearn Genesis P42DC series locomotives include four different nose variations, operating marker lights front and rear on Tsunami2 equipped models, newly tooled functioning number boards, flexible rubber MU and trainline hoses, wire handrails, photo-etched metal radiator fan grilles, and LED lighting including operating ditch lights and red marker lights.

Athearn has announced details on another production run of Genesis F3, F7 and F9 models in September 2025. Features include uncoupling levers, trainline and MU hoses, windshield wipers, lift rings, wire grab irons, separately applied photo-etched metal and injection molded detail parts, fuel tanks detailed with fuel fillers, fuel gauges, breather pipes and retention tanks; full cab interior, etched metal fan grilles and Blomberg trucks with sanding lines and brake details. All lighting, including directional headlights, will utilize LEDs. Decorated models will be available as individual FA units and as matching FA-B sets.

Santa Fe units will be Phase 1 F7s in blue and yellow. They will have Farr side grilles and dynamic brakes with a 36″ fan. The skirts have been removed.

Units decorated for Florida East Coast will represent late versions of F3s with Farr side grilles, a standard freight pilot and no skirts.

Both F7 and F9 units will be available decorated for Louisville & Nashville. The F7s will have full skirts, a standard EMD freight pilot and a Leslie 5-chime air horn. The L&N F9 No. 924 will have no skirts.

Rock Island F3 diesels in Athearn's September 2025 release represent ex-Union Pacific units in faded yellow paint. The models replicate prototypes with dynamic brakes with a 48'' fan and still have full skirts.

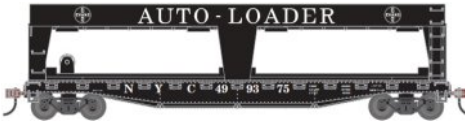
F7s decorated in Missouri-Kansas-Texas "John Deere" green represent Phase 1 production. Spotting features include roof mounted cooling coils but no skirts.

Athearn EMD F units decorated for SNCR – Seattle & North Coast Railroad, are ex-BN F7 Phase 1 production with Farr side grilles, a winterization hatch and no skirts.

Athearn P42DC and F-unit models mentioned in this report will have a factory installed DCC decoder with SoundTraxx Tsunami sound. DCC-ready models operate on standard DC and come with a QuickPlug 21-pin NEM connector for installation of an aftermarket decoder.

Athearn's September 2025 production schedule includes a short selection of unique IMPACK spine cars decorated for Burlington Northern, Santa Fe, and Trailer Train. Built in 1981, the

prototype IMPACK (Inter Modal Package) cars were based on the 1978 Santa Fe 10-unit Fuel Foiler design. They were designed to carry 40′ and 45′ trailers in car sets from four to 10 units. The plastic injection molded cars will have a hidden die-cast weight. They will come with 28″ nickel silver wheels



Hobbyists modeling the 1950s and 60s will be pleased to learn that Athearn has included this 50′ double-deck auto carrier in its September 2025 production schedule. The injection molded ready-to-run model will have Bettendorf-type plain-bearing trucks with 33″ machined metal wheels. Three road numbers each will be available for carriers decorated for Santa Fe, Pennsylvania, Union Pacific, New York Central, St. Louis-San Francisco and Grand Trunk Western.
Info: www.athearn.com

Bachmann has released an HO scale version of a Siemens Venture medium-distance railcar. The well-detailed model is based on prototype equipment currently in use by Amtrak in the Midwest and California and by VIA Rail Canada

Bachmann utilized original design documents in developing the HO scale version. The newly tooled model features lighted interiors, Celcon trucks with blackened metal wheels, and Bachmann E-Z Mate Mark II couplers. A minimum track radius of 22″ is recommended.

Bachmann Trains has released a new 2-6-2 steam locomotive in three different road names. The HO scale ready-to-run model is available decorated for Pennsylvania Railroad, Canadian National, and Northern Pacific.

Features include a working smoke unit, operating headlight and heavy die-cast chassis. One set of drive wheels is equipped with traction tires. The model comes with Bachmann's E-Z Mate Mark II couplers. Info. www.bachmanntrains.com

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Bowser Trains has scheduled a new production run of HO scale 55-ton fishbelly coal hopper cars for release next spring.

55-ton coal hoppers with peaked ends will be available decorated for Atlantic Coast Line and Norfolk Southern.

Coal hoppers with straight ends will be available decorated for Baltimore & Ohio, Central of New Jersey. Chesapeake & Ohio, Delaware & Hudson, Lehigh Valley, three schemes for Reading and two Western Maryland schemes.

A new production run of 70-ton twin-bay covered hopper cars is also scheduled for release from Bowser in the spring of 2025.

HO scale ready-to-run models of the covered hopper with closed sides will be available from Bowser decorated for D&TS Union Carbide Linde, Union Pacific (ex LNE), and US rPhosphoric Poducts.

Road names for cars with open sides will include ALCO Aluminum, Chicago Great Western, Lackawanna, Delaware & Hudson, Detroit Toledo & Ironton, Lehigh Cement, Minneapolis & St. Louis, New Haven, Nickel Plate Road, Norfolk & Western, Penwalt Chemicals, Southern Pacific, Spokane International, Weyerhaeuser, and XTRA Western Pacesetters.

The order deadline for both the 55-ton coal hopper and the 79-ton covered hopper is May 31, 2024, with delivery planned for spring 2025.
Info: bowser-trains.com

Broadway Limited is developing an HO scale version of Union Pacific's business car No. 119 Kenefick. Delivery is scheduled for spring 2025.

Built as a coach by Pullman in 1950 the prototype car was rebuilt as a business car No. in 1963. In 1988 the car was assigned No. 119 and named in honor of former UP president John C. Kenefick. No. 119 has been In Union Pacific's heritage fleet since 1966 and is frequently assigned to VIP business trips and UP steam excursions.

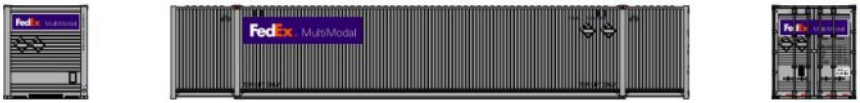
Broadway Limited will offer several versions of the model with variations in the drumhead and shield at the rear. The business car will also be available UP gray livery with black trucks. All versions will feature a lighted interior, marker lights, taillights, and individually controllable ditch lights. Specific details tailored to each car include antenna arrangement, appropriate trucks and underbody details, and other roof features.

Other HO scale projects underway at Broadway Limited include a second run of EMD GP30 and GP35 diesel units, a Pennsylvania Railroad B6sb 0-6-0 steam switcher and heavyweight combines and observation cars.
Info: www.broadway-limited.com

InterMountain Railway is accepting advance reservations through June 30, 2024 for an HO scale ACF 8,000 gallon Type 27 riveted tank car.

The model represents a common prototype built by ACF during the 1920s and 1930s to transport a variety of bulk liquid commodities.

Decorating schemes for this production release will be WRNX-Gulf Oil, SHPX-Pan-Am Oil, TCX-Texaco, KOPX-Koppers, GRYX-Franklin Oil, SDRX-Sinclair, and D&RGW. Delivery is planned for late this year.
Info: www.intermountain-railway.com



Jacksonville Terminal Company is accepting pre-orders for three-packs of HO scale 53′ high-cube corrugated containers with 8-55-8 side. Decorated for Amazon, Walmart, YRC, and Fedex, the containers include JTC's magnetic connection system and stack with other major brands of containers such as Atlas, Athearn, ClassOneModelWorks.com, and Rapido.
Info: www.jtcmodeltrains.com


R. Bale

COMPARTMENTIZER

Pullman-Standard developed a load securing system consisting of a group of easily moveable gates within the boxcar that would subdivide the car into compartments, restrict load movement, and minimize reliance upon the skill of the workers loading the car. P-S coined the term Compartmentizers from the most obvious feature of their new system. For partially loaded or lcl cars, Compartmentizers would prevent freight from toppling or scattering under impact. The standard installation consisted of two parts of gates, providing for three compartments, but additional gates could be used. With the securing holes spaced on three-inch centers, the size of the compartments could be varied for each run on increments of this dimension. Western Pacific became the first railroad to acquire the new load securing devices in November 1951.

Kadee's newest release is a 50′ PS-1 boxcar decorated for Milwaukee Road PC Compartmentizer. The HO scale ready-to-run model comes with Pullman six-panel sliding doors, a Miner brake wheel, full height ladders, a metal running board and Bettendorf-type plain-bearing trucks with metal wheels.
Info: www.kadee.com

Rapido has completed a licensing agreement under which it will use Cannon & Company HO scale fans to enhance the highly visible roof top details on its future GP38 and GP40 diesel locomotive models. Fans and other HO scale diesel components produced by Cannon & Company have

earned a reputation for being unsurpassed in accuracy. A Cannon & Company 48″ 8-blade radiator fan is shown above. Rapido's latest news has stated that the Cannon fans will not be included on the GP38.

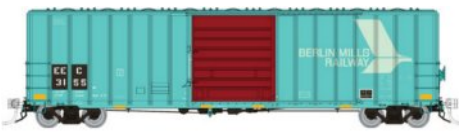
Rapido is booking orders for another release of its well-regarded HO scale Procor GP20 20,000 gallon general purpose tank car. The HO scale model is based on a GP20 prototype designed by Procor for lighter density commodities which would not congeal or freeze in cold weather. The car could also be equipped with interior heater coil pipes. The same basic design — including tank diameter and length — was manufactured from 1969 through 1984.

Rapido's HO scale Procor GP20 tank car features photo-etched metal walkways, detailed vent stacks, loading hatches, air tanks and braking equipment; and metal knuckle couplers.

Decorating schemes include Sunoco-NCTX (1967+), Texaco-UTLX (1971+), Irving Oil-NCTX and Irving Oil–UTLX (1972+), Mitsui & Co Canada-UTLX (1974+), Sunoco-UTLX (1974+), Union Carbide-UTLX (1975+), and Turbo Resources-CGTX (1976+). Newer paint schemes include CN-Company Service (1985+) and Safety Kleen-PROX (1991+).

Early units will have 70-ton trucks with 33″ wheels and an exposed drain valve while later styles will have 100-ton trucks with 36″ wheels and a reinforced drain valve housing.

Work continues at Rapido on finalizing the all-new HO scale Pacific Car & Foundry Berlin Mills boxcar. The HO scale model replicates a 50′ prototype PC&F built in 1979. Depending on the interior configuration the cars were rated at either 5,241 or 5,317 cu. ft.



The Olympic Railroad in Washington State and Boston & Maine Railway each acquired 200 of the cars from PC&F with the remaining 399 going to Berlin Mills Railway, a New Hampshire short line that served paper mills in Berlin and Cascade. The prototype cars became known as the Berlin Mills boxcar because of the iconic paint scheme on the largest batch of cars and its distinct appearance that included its uncommon flat roof and large end ribs.

Rapido's all-new HO scale Berlin Mills boxcar will feature an accurately scaled underbody, three door styles, separate wire grab irons, metal couplers and appropriate trucks with machined metal wheels.

Decorating schemes on the initial release will include Berlin Mills, St. Lawrence & Atlantic, Saratoga & North Creek, BKTY (three schemes), two EEC schemes, and Boston & Maine along with the subsequent repaints of Guilford and Pan Am.

Rapido has released details on the Enterprise twin-bay covered hopper currently under development. In 1939-40, just before World War II, the New York Central built several different groups of Enterprise covered hoppers for its own use as well as for some of its subsidiaries. Slightly larger cars with a 2,000 cu. ft. capacity were built in 1948.

The post-war cars utilized Standard Railway Equipment's steel roof panels with four offset roof hatches on each side versus the five hatches per side on the pre-war cars. A later

series had diagonal panel roofs but were otherwise identical. A small number of cars were fitted with circular hatches for handling flour and sugar loads. The Canadian National Railway built 150 similar cars in 1948. The CN cars differed in the design of roof panels, side panels, hatch spacing and minor construction details.

Rapido is developing correct HO scale versions of both the New York Central and CN cars. Both versions will have individual wire grab irons, fully detailed body and underframe, metal couplers and appropriate trucks with machined metal wheels.

Decorating schemes on the initial release of the New York Central version will be NYC (Roman and Gothic), Revere Sugar, T&NO, Canada Southern, MSGX (FloSweet), GFCX and two Penn Central schemes. The Canadian National version will be available for CN (as delivered), CN (Noodle), CN (MOW) and CN (OCS sand service). Both the NYC and CN versions will be available undecorated. The order deadline is September 17, 2024, with delivery TBA.
Info: www.rapidotrains.com

Scale Trains has announced it's first steam locomotive, the HO scale Norfolk & Western Class J 4-8-4. To be carried in the Fox Valley Models line, the model will be equipped with an ESU Loksound 5 decoder with two speakers and an ESU PowerPack. Lighting will be with LEDs, including a directional front headlight, directional tender backup light, number boards, cab interior, and off/white/green class lights. The Spirit of Roanoke modern excursion version of the 611 will be equipped with a twin beam headlight. Other road numbers offered include the 600, 602, 611 as-built, and 613.

To accompany the Class J locomotive, Scale Trains will also be producing the N&W Powhatan Arrow in the Fox Valley Models line. The premier train of the Norfolk & Western Railway, the Powhatan Arrow traveled between Norfolk, VA and Cincinnati, OH from 1946 to 1969. In the inaugural run, Scale Trains is producing the P1 class 48 seat coach with crew room #501, the P2 class 66 seat divided coach #511, the P3 class 56 seat coach in four road numbers, the D1 class 36 seat diner #491, and the P4 class lounge-tavern-observation car #581.
Info: www.scaletrains.com

Tangent Scale Models has completed another release of its unique three compartment tank car. The exquisite HO scale RTR model accurately replicates the distinctive 6,000 gallon three-compartment prototype introduced in 1928.

Tangent's version a COSX Mid-Continent D-X triple compartment tank car displays a 1939 repaint. The scheme is notable in that it includes the gallonage of each compartment on the end of each dome.

Two road numbers are also available for this silver GATX Pittsburgh Coke & Chemical with red lettering from 1952. Cars with the tank body painted aluminum are also available decorated for MPCX Magnolia Petroleum Company (1935+) and GATX Silver Lease (1958+).

This GATX three compartment tank car replicates the distinctive green Celanese paint scheme from 1959.

The HPCX Hercules Powder Company scheme on this 1970 paint scheme includes an ACI label on the side of the tank. Other models decorated in basic black are available correctly lettered for GRYX John H Grace Black Lease (1968+), MOBX Mobil Oil Company (Lease 1960+), STCX Standard Tank Car Company (Lease 1930+), and GATX (1941+).

Completing this release of Tangent 6,000 gallon three compartment tank cars is an HHCX Champlin Refining Company car as repainted in 1952 with dark blue and black lettering and a distinctive red and white logo.
An undecorated RTR model is also available along with an undecorated kit which does not include couplers.
Info: www.tangentscalemodels.com

Walthers has announced plans to decorate a full-length dome car in four Amtrak schemes including a unique foliage wrap that was applied to a prototype car during the 2010 fall color trips.

In addition to the foliage scheme, the model will be available in Amtrak Phase III, IV and VI liveries. The Walthers HO scale model, like the Amtrak prototype, is based on a former Great Northern 85′ dome lounge car built by Budd.

The models will feature unique six-wheel trucks, tinted windows with gasket details,

sprung operating diaphragms and with optional extended drawbars to facilitate 22″ radius curves. The cars will be available with and without interior lighting. Availability is scheduled for next winter.

Different Roadnumber Shown

New freight cars coming from Walthers this summer include a 40′ steel refrigerator car with Dreadnaught ends.

Features of the newly tooled Mainline series models include see-through running boards, AB brakes and Bettendorf-type plain-bearing trucks with 33″ machined metal wheels.

Decorating schemes include ARLX-Armour Refrigerator Lines, BREX-Burlington Refrigerator Express, FGEX-Fruit Growers Express, Pacific Fruit Express with an Overland herald, PFE with UP and SP heralds and WFEX-Western Fruit Express with GN Goat.

Walthers has also scheduled a 2024 summer release for a new 36′ 10,000 gallon insulated tank with a large dome and bolted-on jacket.

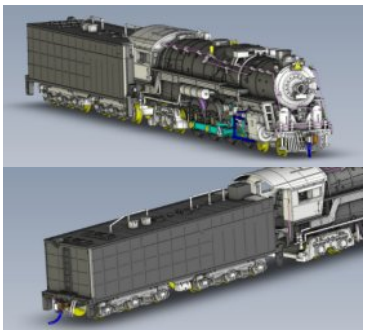
Decorating schemes available on the initial release will be CNCX-Columbia Nitrogen, CCLX- Corn Products Company, KPCX-Koppers Chemicals, NATX-Engelhard Minerals & Chemicals, HOKX-Hooker Chemicals and ACFX-National Starch & Chemical. All of the Walthers HO scale models mentioned in this report will come with Proto MAX metal knuckle couplers.
Info: www.walthers.com

N SCALE PRODUCT NEWS

Bachmann Trains has released a new 2-6-2 steam locomotive in four different road names. The N scale ready-to-run model is available decorated for Chicago Burlington & Quincy, Santa Fe, Boston & Maine and Baltimore & Ohio.

Features include a die-cast chassis, a skew wound motor and electrical pickup in both the tender and locomotive. One set of drive wheels is equipped with traction tires. An E-Z-Mate Mark II coupler is mounted on the tender. A minimum track radius of 11.25″ is suggested for reliable operation.
Info: www.bachmanntrains.com

Long range projects under development at **Broadway Limited** include an N scale version of Santa Fe's legendary 4-8-4 No. 3751.

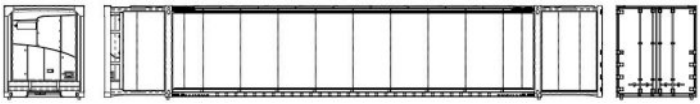


Construction details are pending at this early date however Broadway Limited provided MRH with screenshots of some computer renderings still in progress.
Info: www.broadway-limited.com

InterMountain Railway is accepting advance reservations through June 30, 2024 for an N scale ACF 8,000 gallon Type 27 riveted tank car.

The model represents a common prototype built by ACF during the 1920s and 1930s to transport a variety of bulk liquid commodities.

Decorating schemes for this production release will be WRNX- Gulf Oil, SHPX-Pan-Am Oil, TCX-Texaco, KOPX-Koppers, GRYX- Franklin Oil, SDRX-Sinclair and D&RGW. Delivery is planned for late this year.
Info: www.intermountain-railway.com



Jacksonville Terminal Company is releasing N scale CIMC 53′ reefer containers. Two-packs will be available decorated for CPKC, JB Hunt, Marten, CP Rail 'TempPro', Infinity Intermodal, and NFI Roadrail. Additionally, CPKC and JB Hunt will be available in three-packs. The containers will feature a Thermo King reefer unit, single or two strap fuel tank, and JTC's magnetic connection system.
Info: www.jtcmodeltrains.com

Newly released N scale models from **Micro-Trains Line** include this 50′ GATX boxcar that promotes GATX's environmental position with the headline "Shipping by Rail Helps Reduce Greenhouse Emissions".

Representing an earlier era is this wood sheathed NADX-North American Despatch refer leased to poultry specialist Noack & Sons.

Micro-Trains has released this 40′ Illinois Central Gulf boxcar to its dealer network. The N scale model is based on a prototype equipped with roof hatches to facilitate bulk loading of salt.

Info: Contact a dealer.

RailSmith is booking reservations for a light-weight Pennsylvania 10-6 sleeper. Named Blue Ridge, the two-toned gray sleeper provided coast-to-coast service when regularly assigned to Southern Pacific's San Francisco Overland
Info: lowellsmith.net

Rapido Trains has announced that the minimum number of pre-orders for the N scale RDC models announced in the February 2024 edition of Model Railroad Hobbyist has been more than met. Work on creating production tooling has been approved. Watch MRH for additional information including delivery dates.

Rapido has issued an update on its N scale project for Santa Fe RR-56, RR-60 and RR-61, mechanical refrigerator cars. Orders for models with new reporting marks

and paint schemes will be booked through June 17, 2024 with delivery TBA. Classed as all-purpose MTC (mechanical temperature control) cars, Santa Fe launched the RR56 cars in 1955. The fleet of 200 retained their original car numbers when the SFRD reporting marks were changed to SFRP in 1963. Santa Fe built the RR-60 and RR-61, reefers in 1958. They were the same as the RR-56 except for the insulation.

Rapido's N scale version of the Santa Fe reefers features separate door posts, door latches and uncoupling levers: a fully detailed underframe, positionable roof hatches, see-through grilles and Trane diesel generator details.

The cars will be available with a variety of Santa Fe slogans including Chief, Super Chief, San Francisco Chief, Texas Chief, El Capitan and Santa Fe all the way. MOW paint schemes will be available for ATSF and BNSF Buffer Car/Rail Train.
Info: www.rapidotrains.com

STRUCTURES AND SCENIC SUPPLIES

Athearn plans to release an HO scale version of a Ford F-850 in September 2025. Features include interior details, separately applied steering wheel, clear window glazing and rubber tires. The model comes with a load of special grain boxes molded in a single unit. Decorating schemes include trucks with a choice of orange or white cabs. Ford F-850 grain trucks with logos of agricultural companies on the cab door will be available for ADM, Scoular, Purina Mills, and Cargill.
Info: www.athearn.com

ClassOneModelWorks has released several new HO scale wheel loads and racks. The factory-painted wheels come in several sizes and styles, with 30-count packages of 33″, 36″, and 28″ wheels coming in both "Three bearing" and "Blue Brenco" styles.

Additionally, wheel racks for 60′ flatcars with 22 assorted wheelsets and 50′ flatcars with 16 assorted wheelsets are also available. All of the wheelsets and racks are made of cast resin.
Info: www.classonemodelworks.com

Frenchman River has introduced a Thomas Yorke designed craftsman kit for a 1:48 scale Victorian structure named the M. Spillane Building. The well-detailed kit combines brick and cut stone in an 1890-era two-story structure with a corner turret with a witch's hat roof. Signage suggests several enterprises including a soup kitchen at street level and the office of private eye, M. Spillane, on the second floor. The kit includes some 60 resin pieces, 3D printed parts, a fire escape for the apartments on the second floor, decals and signs. Sections of sidewalk are included with opening doors for the freight elevator to the basement.
Info: www.frenchmanriver.com

ITLA Scale Models has introduced Tri-State Fabricators, an HO scale kit that represents a large concrete industrial structure with 16 exterior wall panels that can be configured in multiple positions from a flat background (up to 36″ long) to being fully

enclosed structure in a dozen or more footprints. The wall panels are 7″ tall.

The structure, which features truck and rail loading docks, can be finished era-specific using over 45 3D printed details including CCTV cameras, air conditioners, exterior light fixtures, Jersey road barriers, a marquee billboard sign and other roof top details. Laser-cut parts include bins, wall and roof details, drainage pipes and brackets, dumpsters, garbage bags and more.

The kit includes a color instruction booklet, painting and weathering ideas, color sign sheets and ideas for configuring the walls.
Info: itlascalemodels.com

Mine Mount Models has released a new kit titled Kooning Rope & Pulley in HO scale. The first kit to expand the Crown Transfer kit series, the structure is a laser-cut two story building with large cargo doors on the front and a stairway up the side to the second floor. The walls and roof are laser cut, with Tichy doors & windows, straight shake shingles, simulated metal roofing and tarpaper, signs, and 3D-printed detail parts. The completed kit measures 4″ x 4″.
Info: minemountmodels.com

Showcase Miniatures has an HO scale kit for a gas pump topped with a lighted globe. The kit includes a pump, hose, clear globe, LEDs, oil rack and appropriate decals for the pump and oil rack. Assembly and painting are required. Detailed instructions are

available online.
Info: www.showcaseminiatures.net

Walthers plans to release an HO scale kit for a bowling alley that will include an oversized 3D bowling ball and two pins mounted on the side of the building. In addition to clear plastic, the Walthers Cornerstone kit is molded in five colors and includes a vintage mid-century sign that is approximately 5.2″ tall. The main structure has a footprint of 12.38″ x 7.44″ x 3″. Availability is scheduled for this summer.
Info: www.walthers.com

BRIEFLY NOTED AT PRESS TIME ...

May 30, 2024 is the deadline to preorder **Broadway Limited's** Stealth/DCC –Ready HO scale Challenger and N scale Big Boy locomotives. As of May 3, the minimum number of orders needed to justify production had not been met…

The latest release from **Chicago Links Decals** are circa 1987 CSX beige patches…

After a 10 year pause, **KatoUSA** has scheduled another run of its N scale EMD NW2 switch engine. A delivery date is TBA…

RailSmith plans to release preordered N scale fluted diners this month… ■

SELECTED EVENTS

May

Please submit your event information, including website, to model-railroad-hobbyist.com/contact/News_event_-_product_announcement

Ongoing 2024

ONLINE, Zoom, dates vary, see website. Operation Special Interest Group Meetups – limited attendance available.
Info: www.opsig.org/Virtual
Archive: www.opsig.org/Virtual/Past

ONLINE, Zoom & YouTube, Wednesday & Saturday, see Facebook page. "New Tracks" Meetup, hosted by Jim Kellow, MMR.
Info: newtracksmodeling.com
YouTube: www.youtube.com/channel/UCMA_VhPb5pjdkAYTdXLceJA

ONLINE, Facebook & YouTube, dates vary, see Facebook page. "NMRAx" organized by Gordy Robinson, Martyn Jenkins, Gert Muller, Jordan Kramer.
Info: www.facebook.com/groups/nmragroup

ONLINE, YouTube, every other Saturday. 4th Division, Pacific Northwest Region, NMRA hosts online layout tours and clinics.
Archive: www.youtube.com/c/4DPNRMovies

ONLINE, Zoom, Second Tuesdays, 8pm Eastern. "Off the Beaten Track" featuring Narrow Gauge layouts, clinics, and manufacturers.
Info: groups.io/g/NNG

AROUND THE USA, IN-PERSON, Various dates. ScaleTrains.com Road Trip.
Info: www.scaletrains.com/roadtrip

May - June 2024

CANADA, BRITISH COLUMBIA, SURREY, May 22-26, 2024. Surrey Excursion, NMRA PNR 2024 Convention. Sheraton Vancouver, Guildford Hotel, 15269 104th Avenue.
Info: www.pnr2024.7divpnr.ca

ALABAMA, DECATUR, June 20-23, 2024. River Rails 2024, SER Convention. Doubletree by Hilton Hotel Decatur Riverfront, 1101 6th Ave NE.
Info: midsouthnmra.org/Convention.html

CALIFORNIA, CROCKETT, June 22-23. Carquinez Model Railroad Society Open House. 645 Loring Avenue.
Info: cmrstrainclub.org

CALIFORNIA, SANTA CLARA, May 24-26, 2024. O Scale – S Scale – Narrow Gauge West Meet. Hyatt Regency Santa Clara, 5101 Great America Pkwy.
Info: oscalewest.com

OHIO, MIDDLEBURG HEIGHTS (Cleveland), May 16-19, 2024. North Coast Limited, Mid-Central Region 2024 Convention. Crowne Plaza Hotel, 7230 Engle Rd.
Info: northcoastlimited2024.org

OREGON, PORTLAND, June 15, 2024. 21st Annual Garden Railways Tour, sponsored by the Rose City Garden Railway Society.
Info: rosecitygardenrailwaysociety.wildapricot.org

PENNSYLVANIA, ALTOONA, May 8-11, 2024. Pennsylvania Railroad Technical & Historical Society 2024 Annual Meeting. Blair County Convention Center, 1 Convention Center Drive.
Info: prrths.org

PENNSYLVANIA, BETHLEHEM, June 18-23, 2024. 2024 National N Scale Convention. Wind Creek Bethlehem, 77 Wind Creek Blvd.
Info: www.nationalnscaleconvention.com

TEXAS, FOREST HILL, June 24, 2024. Red River RPM Event. Forest Hill Civic Center, 6901 Wichita Street.
Info: redriverrpm.org

Future 2024 by location

NEW ZEALAND, ASHBURTON, July 6-7, 2024. Ashburton Model Train Show. Tinwald Memorial Hall, Graham Street, Tinwald.
Info: ashburtontrainshow.co.nz

CALIFORNIA, CROCKETT, June 22-23, August 24-25, September 14, October 26-27, December 7-8, 2024. Carquinez Model Railroad Society Open House. 645 Loring Avenue.
Info: cmrstrainclub.org

CALIFORNIA, LONG BEACH, August 4-11, 2024. Surfliner 2024 NMRA National Convention & National Train Show. Westin Long Beach, 333 East Ocean Blvd.
Info: surfliner2024.org

COLORADO, PUEBLO, October 10-13, 2024. Rio Grande Modeling & Historical Society joint convention with Missouri Pacific Historical Society. Pueblo Convention Center, 320 Central Main Street.
Info: www.eventbrite.com/e/2024-mphs-rgmhs-joint-convention-tickets-794966836207

ILLINOIS, COLLINSVILLE, July 19-20, 2024. St. Louis RPM. The Gateway Center, 1 Gateway Center Drive.
Info: stlrpm.com

ILLINOIS, NAPERVILLE, October 10-12, 2024. RPM Chicagoland 2024.
Info: www.rpmconference.com

INDIANA, FRANKLIN, August 3-4, 2024. Franklin Train Show, sponsored by the Central Indiana Division NMRA. Johnson County Fairgrounds, 250 Fairground St.
Info: www.cidnmra.org

MARYLAND, BALTIMORE, September 6-8, 2024. Mid-Atlantic RPM. DoubleTree by Hilton BWI.
Info: www.marpm.org

NEVADA, SPARKS, October 16-19, 2024. San Francisco Overland, 2024 SPH&TS Convention. Nugget Casino Resort, 1100 Nugget Avenue.
Info: sphts.org/convention

NORTH CAROLINA, DURHAM, October 17-20, 2024. Piedmont Junction 2024, Mid-Eastern Region NMRA Convention. Raleigh-Durham Marriott.
Info: piedmontjunction.cpd13.org

OHIO, CAMBRIDGE, October 27, 2024. Sixth Annual Buckeye Division Train Show. Pritchard Laughlin Center, 7033 Glenn Hwy.
Info: div6-mcr-nmra.org/trainshow.html

OHIO, MARION, October 10-12, 2024. Central Ohio RPM. Marion Union Station.
Info: centralohiorpm.wordpress.com

OREGON, PORTLAND, October 5, 2024. Bridgetown RPM Meet. Shilo Inn Portland Airport, 11707 NE Airport Way.
Info: www.brpmm.com

PENNSYLVANIA, HARRISBURG, September 21-22, 2024. Anthracite Railroad Modelers Meet XII. Reading Railroad Heritage Museum, 500 South 3rd Street.
Info: readingrrmm.com

PENNSYLVANIA, PITTSBURGH, September 11-14, 2024. 44th National Narrow Gauge Convention. Doubletree by Hilton Hotel Pittsburgh – Green Tree, 500 Mansfield Avenue.
Info: www.44nngc.com

TEXAS, AUSTIN, August 24-25, 2024. Austin 2024 Train Show. Palmer Events Center, 900 Barton Springs Road.
Info: austintrainshow.org

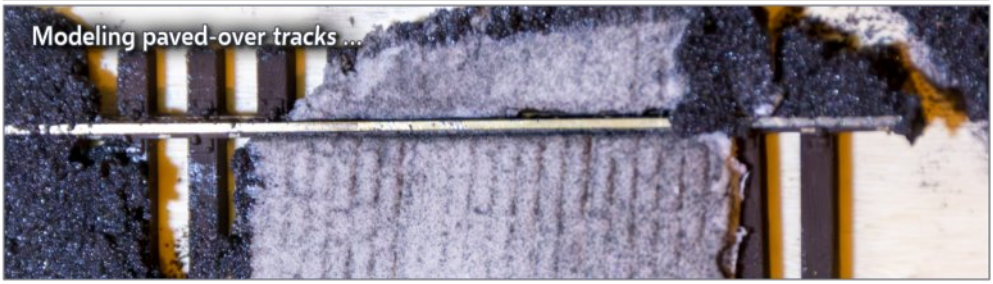
WISCONSIN, MILWAUKEE, November 23-24, 2024. Trainfest – America's Largest Operating Model Railroad Show. Baird Center, 400 W Wisconsin Ave.
Info: www.train-fest.com

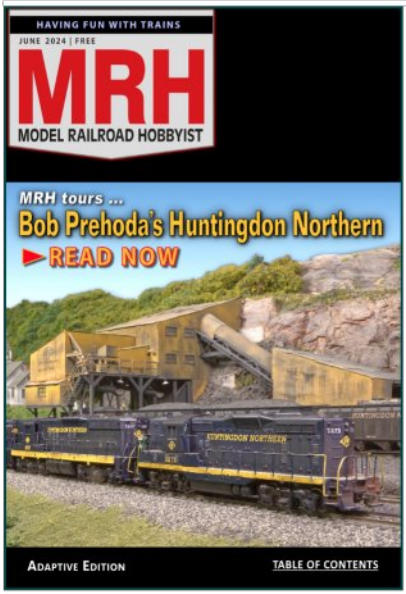
WYOMING, EVANSTON, July 24-28, 2024. N-Scale Evanston 2024. Historic Roundhouse and Machine Shop, 1500 Main St.
Info: nscalemeet.info ■

Clickable advertiser index

Clickable "other" index

Coming next month in MRH ...

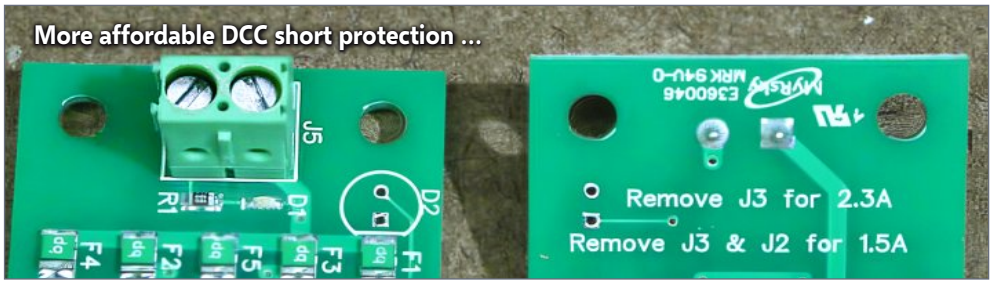




... coming June 15th in the June MRH

Coming next month in Running Extra ...

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



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