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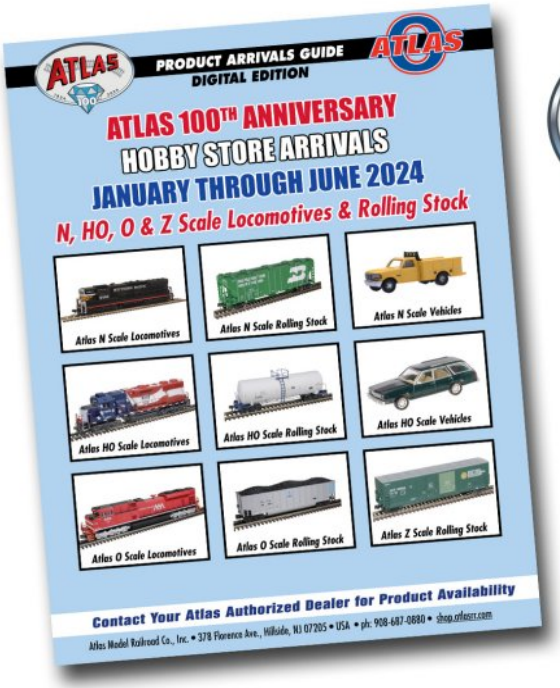
January-June 2024 Edition



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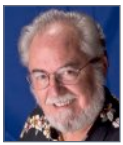
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GUEST EDITORIAL

PATTY FUGATE TELLS HER SIDE OF THE STORY ...

VIEW READER COMMENTS

AS THE GENERAL OFFICE MANAGER OF MRH MEDIA, and the Publisher's wife, we thought it might be interesting to hear from me.

How did a nice girl like me ever get involved with a foaming model railroader in the first place? Good question, because at first I had *no* idea what I was getting into.

1. Boy whatever happened to those days?

At the age of 16, I got a letter from my brawny boyfriend that had all sorts of pictures of steam trains in what seemed like normal outdoor backgrounds. No explanations at all. I was mystified why he sent pictures of trains? I found out later that he was testing me to see how I would react to his hobby. He wanted to know if I would think that he was crazy to be "playing with toys."

Even back then, Joe Fugate was already an accomplished scenery modeler, and I had no idea that those were small models. I thought they were the real thing! I wrote him back asking *why* he sent me pictures of trains? He explained that they were models of the real thing that he had made – I was fascinated!

That was my introduction to the hobby. From there on, I was quite aware of model trains, and Joe took me to the local club to visit with his mentors and see his work. It was a lot of fun!

After we married, we joined a museum club in Boise, Idaho, where we soon became the "scenery team." We modeled the plaster hills with rock castings, zip texturing, and lichens for sage brush. I found it to be intriguing fun, and I quickly became known as the "pucky-queen" whose duties were primarily slinging plaster.

After that, we helped a friend in Boise with his layout scenery, which I enjoyed a lot.

When we bought our first house, Joe finally could put his original module into the garage and enjoy it for awhile. But that was less than satisfying because we didn't have a good layout space in that house.

When we later moved to Oregon, we managed to find a two-story house with an ample basement. That was my dream. I wanted room for the family, and dedicated room for Joe's layout.

2. A trip to a park for some miniature live steam on Joe's birthday.

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Guest editorial | 3

Due to kids, work, and life happening, I didn't get to help that much with the layout he was building. Still, he would drag me downstairs to show off every little bit of progress.

Eventually I got curious about structure making, because we never had enough structures on the layout. I tried some small buildings, and learned about trying to make the walls perpendicular. I also did okay on painting and weathering. I would still like to do more structure building one of these days.

Recently, Joe moved us to Oklahoma, where we still need to build the outbuilding for the *MRH* office and new layout. I am looking forward to that, because I want to see him begin a TOMA layout.

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The thing I like about TOMA is that each scene has to be 100% completed before moved to its final placement. No left-over backdrop to paint, or structures and scenes to make! All *done!* That is the way to go to me.

How do I support Joe in the hobby?

My mother always taught me that the secret to a happy hubby is to find out what he likes to do, and do some of it with him. The model railroading hobby involves such a strong 3D art component that it was not very hard for me to see the craftsmanship involved from the start.

The challenge to model a scene realistically always fascinated me. Anything having to do with art is built into my makeup, and I absolutely love realistic landscapes! So to me, modeling is 3D landscaping. Yes, I enjoy seeing the trains chugging up a beautiful hillside, but the machinery is just a part of the landscape to me, unlike the fascination that most modelers have for the locos and rolling stock.

When Joe founded *MRH*, I immediately expected to be a contributing worker. My day job involved photo-typesetting, so page layout was my background. To this day, I do a great deal of the layout for the magazines and books, though I must say, I created a monster in Joe. He has such a creative, artistic, and computer literate bent, that it was not hard to teach him what I knew about typesetting and layout.

I also staff the booth at conventions, so if you are ever at one of them that we attend, come say hi!

The side effects of modeling

Joe often loves to play the game of "Is this a photo of a model, or a real scene?" I have been around so long in this hobby that I can usually pick out a model. However, if the picture is

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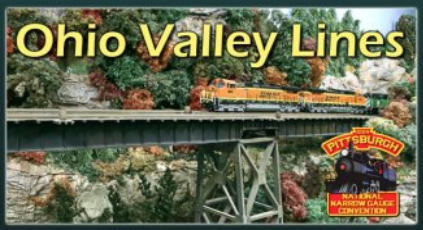

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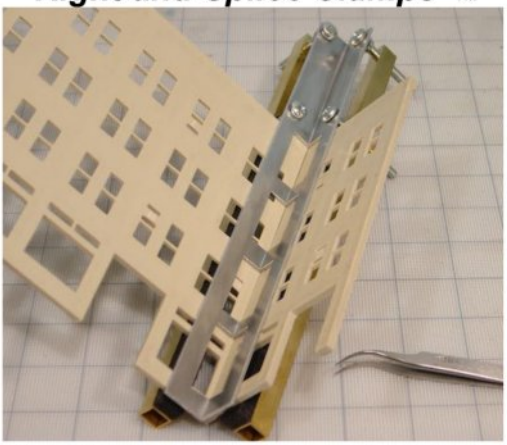

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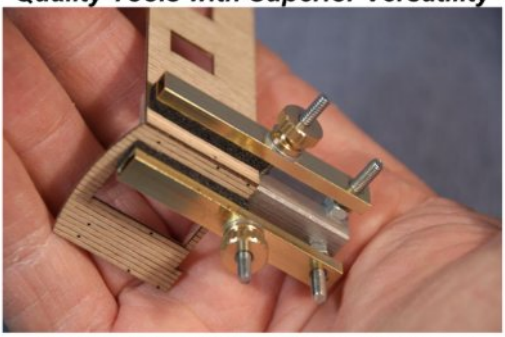

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heavily augmented with Photoshop and real sky backgrounds, it gets really hard! That's when Joe gets the better of me! We always get to admire all the wonderful modeler photos that we see, and that is part of the fun of the hobby.

I will tell you though, when watching old 1950s SciFis, that eye for models really wrecks my illusion, because I can spot the cheesey models every time!

WOULD I CONSIDER CREATING A LAYOUT?

If I had all the time in the world, I *have* considered trying a suitcase Z scale layout. I love compact stuff. I would need a huge amount of hand-holding though, because I am not the brightest bulb in the pack when it comes to electronics, track laying, or mechanical stuff.

I also have wondered if the Z scale locos have speeds other than tearing around like a racecar? I hate that! It destroys the illusion. Joe keeps himself really busy, so

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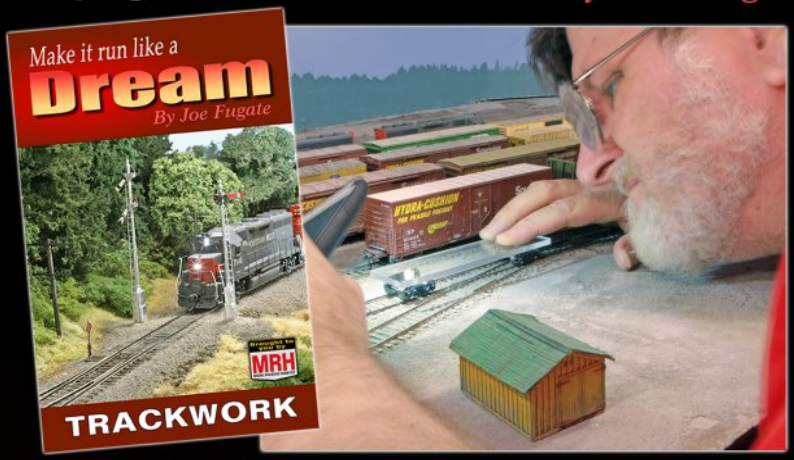

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I would probably have to get help from some of the local modelers. But wouldn't that be an adventure?

Some day I do see myself helping Joe with Siskiyou Line 2. I am sure he will have lots of jobs for me!

RECENT FUN

We got to check an item off of our bucket list when we recently rode Amtrak to Pittsburgh to shoot some TrainMasters TV layout video. What an interesting experience. We rode in two types of sleepers during some red-eye legs of the trip. You have not lived until you try to sleep on a top bunk, while lurching back and forth all night! We learned to be sardines, but it was nice to get horizontal after waiting *hours* in the waiting rooms. I still would not have missed that trip!

3. One of the Amtrak locos that pulled us to Pittsburgh.

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Well that's my story, and I appreciate all you wonderful modelers out there who help make the world more delightful with this craft we love! ☑

4. Its been a great journey with my wonderful model railroader, and I am sure that it will be trains to the end!

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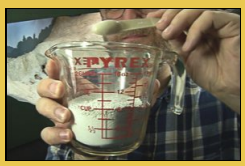

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Last issue likes

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

1st Electrical Impulses: Servos to control turnouts: 2
2nd Publisher's Musings: Down the servo rabbit hole
3rd The Ohio Valley N scale club layout

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

1st Corrimal Colliery Incline modular layout
2nd Limited Modeler: The Jamestown layout plans
3rd Getting Real: Car fleet assembly fixtures

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Best of the MRH FORUM THIS MONTH

Forum MRH mrhmag.com

Model Railroad Hobbyist | June 2024

Compiled by JOE FUGATE

Freight car underbody detail

MRH forum member **PaulieTes** (Paul T.) started a thread asking about underbody details. Paul says:

"I would appreciate any information as to the underside of rolling stock. I've looked at a couple of Car Builders' Cyclopedias, but the details are a little hard to read on the digital copies."

VIEW READER COMMENTS

Visit this thread for some great replies!

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 – done!

As we reported last month, *MRH* forum member **thewizard1** (Charles D.) has been journaling the process of kitbashing this brass steam loco into a freelanced cab forward.

Charles documented the entire process, step-by-step, and it's been quite an amazing journey. He's still adding details as we write this.

As you can see in the above photo, the model is now done. Charles says,

"I disassembled the frame and grit blasted all the pieces including the boiler, then epoxy primed the parts and baked them. I painted the frame and related parts black. I sprayed the green on the boiler now its time fun tape tape and more tape. The photo here [1] is not the final assembly, it's just a mock up."

Follow **thewizard1's** entire kitbash of a freelanced cab forward from inception to the finish line!

View the full thread on the MRH website

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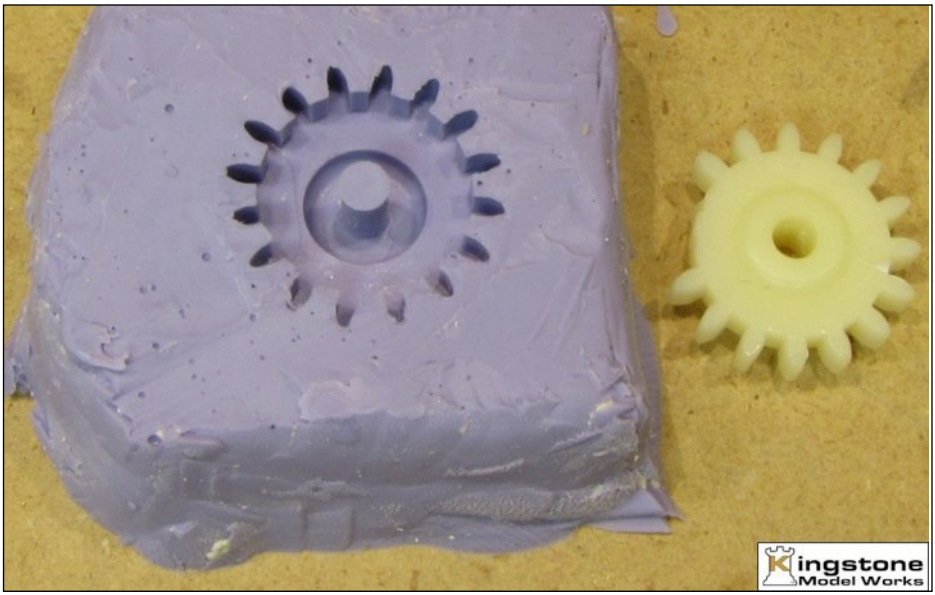

2. *MRH* author **Bernd** (Bernd Fanghanel) shows how he was able to take a gear that was missing teeth and make a mold with all the teeth intact. Very clever!

Denture plastic parts?

MRH forum member **railandsail** (Brian E) has been looking for various ways to repair broken gears in old locomotives where you otherwise just can't find a source of replacement parts.

As the above photo shows, MRH author Bernd Fanghanel came to the rescue with step by step photos of making a mold that includes the missing teeth and then casting a new gear.

If you've ever wondered how this could be done, Bernd showed exactly how to do it. Check out the thread for all the details!

View the full thread on the *MRH* website

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3. *MRH* forum member **Laming** (Andre M.) shows how he's mocking up scenery ideas with cardboard cutouts.

Meet the KC&G: Mainline to the Gulf

MRH forum member **Laming** (Andre M.) has a long-running journal/blog on the MRH forum about his layout construction efforts. One recent discussion a few months ago shows his clever use of cardboard cutouts to mock up up scenery.

"Though I was pleased with the previous scene, after a day or so, I felt it was lacking depth. I added a distant mountain into the corner scene. NOW it looks like the mountains go on forever and that the town of Ozarka is very much in the midst of some pretty hefty Ozark mountains."

We think this kind of quick scenery mock up is nothing short of brilliant. Follow this thread *MRH* forum to get this and other great ideas from Andre's layout blog!

View the full thread on the *MRH* website

Recent photo fun thread photos

Here's some recent fun photos from the weekly MRH Photo Fun thread. We look forward to this thread every week!

View photo fun threads on *MRH* website

4. MRH forum member **Ensign** (Greg) posted this really amazing model photo. He titled it, "An early evening crossing at Magoun pier" and we have to say it's nothing short of stunning. Everything about this photo loos right, including the clever lighting of the loco drivers with the car headlight. Can you say, *wow*?

5. Someone is having entirely too much fun with 3D scanned and printed figures. MRH forum member **gmpullman** (Edmund T.) says this is a "selfie" which we take to mean it's a 3D scan and print figure of him taking a photo. He is having some fun putting himself on a Conrail passenger train taking photos!

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WHAT'S NEAT column

Model Railroad Hobbyist | June 2024

KEN PATTERSON COVERS THIS MONTH:

- SP GS-4 FROM BROADWAY LIMITED
- GEORGE BOGATIUK ON MAKING ROADS, PT. 2
- MATT STERN OF BACHMANN TRAINS

VIEW READER COMMENTS

click to play video

PHOTOS AND VIDEO OF SUPERB MODELS

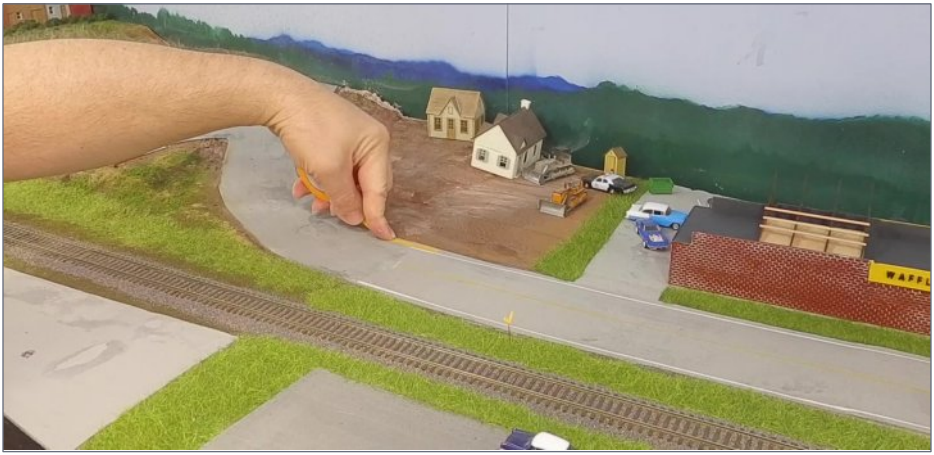
THIS MONTH, Ken shows off the Southern Pacific GS-4 in HO scale from BLI that he's photographing. George Bogatiuk shows how he stripes and weathers roads in Part 2 of his road construction tutorial. Bachmann's Matt Stern shows off some product samples at Bachmann Trains that will be arriving in stores soon.

Broadway Limited's SP GS-4 in HO scale

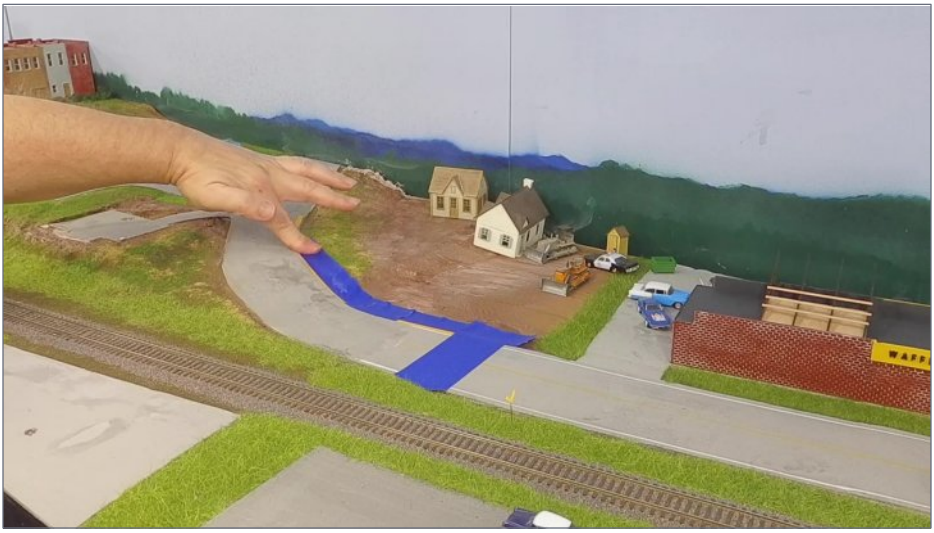
1. Broadway Limited sent Ken a brand-new HO scale GS-4 in a black-and-graphite paint scheme. As well as being a sharp locomotive to photograph, Ken discovered that it is a good runner as it ran laps around the basement layout. The locomotive is also available in BNSF Excursion Black, multiple Daylight schemes, American Freedom Train red, white, and blue; and an aluminum-and-orange Western Pacific scheme available only from Trainworld.
Info: broadway-limited.com

VIEW READER COMMENTS

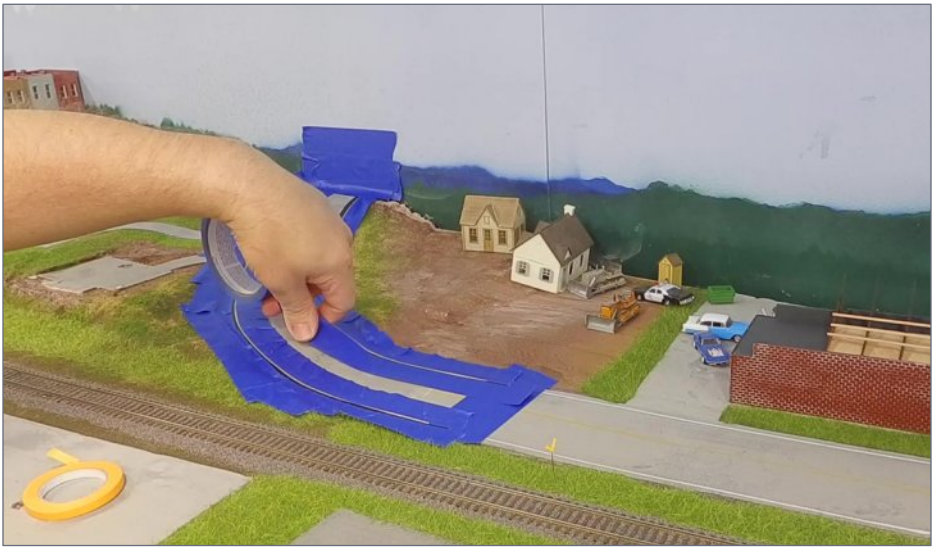
Part 2 of George Bogatiuk's road construction tutorial



2. George started by putting down thin masking tape along the road edge to outline where the white edge lines (fog lines) will go.



3. Wider blue painter's tape is used as overspray protection.



4. The yellow masking tape was not sticking properly, so George decided to only use the blue tape.

5. With all the masking in place, George airbushed the lines on using Tru-Color paint.

6. After allowing the paint to dry for a day, George carefully removed the tape.

7. George uses a personal blend of black, gray, and harbor grey paints to airbrush weathering onto the road, replicating the tire and oil markings down the lanes.

8. George finishes up detailing the road by gluing ballast down for the shoulders.

9. After letting everything dry, George adds some mailboxes, and with that, the road is complete.

Matt Gentry of Bachmann shows products arriving in stores soon

10. Packaging samples of the newly tooled 44-tonners in HO scale with Tsunami2 sound have arrived in Philadelphia.

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11. Here Matt shows off an upcoming HO scale locomotive, the 4-4-0 Leviathan. A model of a replica, the original Leviathan was built in 1868 by Schenectady. Lost to history, the replica was built by Dave Kloke in 2009. It was purchased in 2018 by the Stone Gables Estate (Star Barn) in Lancaster, PA for use on the Harrisburg, Lincoln, and Lancaster Railroad. The model will be DCC-ready.

For more photos and video of the BLI GS-4, all the steps George uses in striping, weathering, and building shoulders, and all of the products that Matt showed off, see the video linked at the beginning of this article. ☑

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12. Matt shows off some of the details on the upcoming Trinity 5161 covered hopper in HO scale. It will be available in BNSF, CSX, Norfolk Southern, and Canadian Pacific.

13. In 1:29 large scale, Bachmann will be releasing a riveted end tank car. Based on a mid-20th century design, it includes an openable manway in the dome, which can be used to fill the tank car with a live load. It will be available decorated for Shell, Quaker State, Texaco, and for the North Pole & Southern Christmas line. Info: bachmanntrains.com

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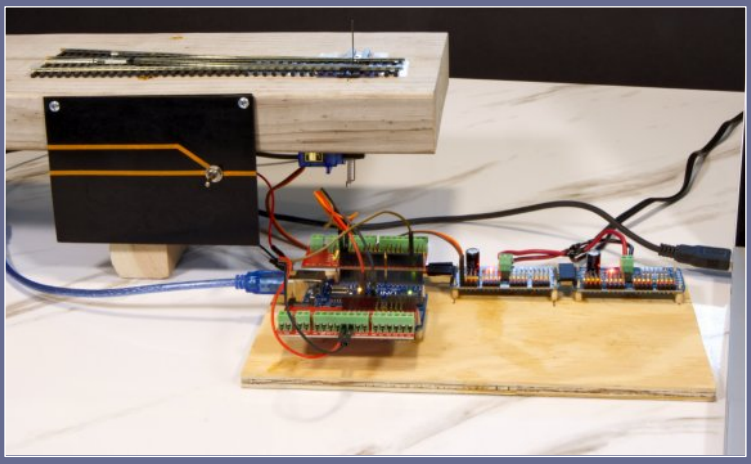
Using servos for turnouts, part 3



Electrical Impulses

1. The toggle switch mounted on the facia of this mockup controls the turnout servo.

Model Railroad Hobbyist | June 2024

VIEW READER COMMENTS

Joe Fugate moves toward a layout-ready turnout servo installation ...

In this part, I add toggle control of the turnout servo, moving toward a layout-ready servo installation. I will cover relays and layout wiring recommendations in Part 4.

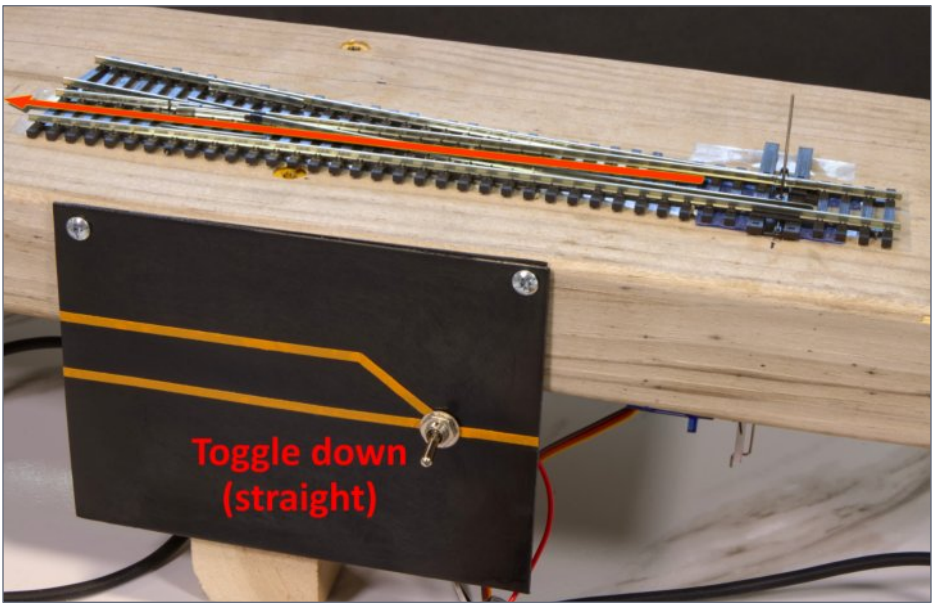
This time let's add toggle control of a servo by introducing the official layout-ready sketch. Also, we'll look at three different methods of frog power routing. Finally, we will look at some more robust servos for a longer layout service life.

LET'S ADD TOGGLE CONTROL

Looking at [1], you can see I've added a toggle to a control panel with a simple track diagram on it. When the toggle is thrown down, we're taking the straight route through the turnout. Flip the toggle up, we're taking the diverging route.

To add a toggle to control a servo's position, we need to wire it to one of the pins on the Arduino, and declare that pin to be an input. Pins 2-13 are available for this (12 pins), as well as Analog pins A0-A3 (four pins), for a total of 16 pins. Since analog pins A4 and A5 carry the SDA and SCL signal for the PCA9685 board(s), they are not available.

Since we have 16 pins and each toggle needs one pin to send an input signal to the Arduino, we can have up to 16 toggles control 16 turnouts. The PCA9685 board will control 16 servos, so it



2. The toggle is down, which means the points are set for the straight route through the turnout.

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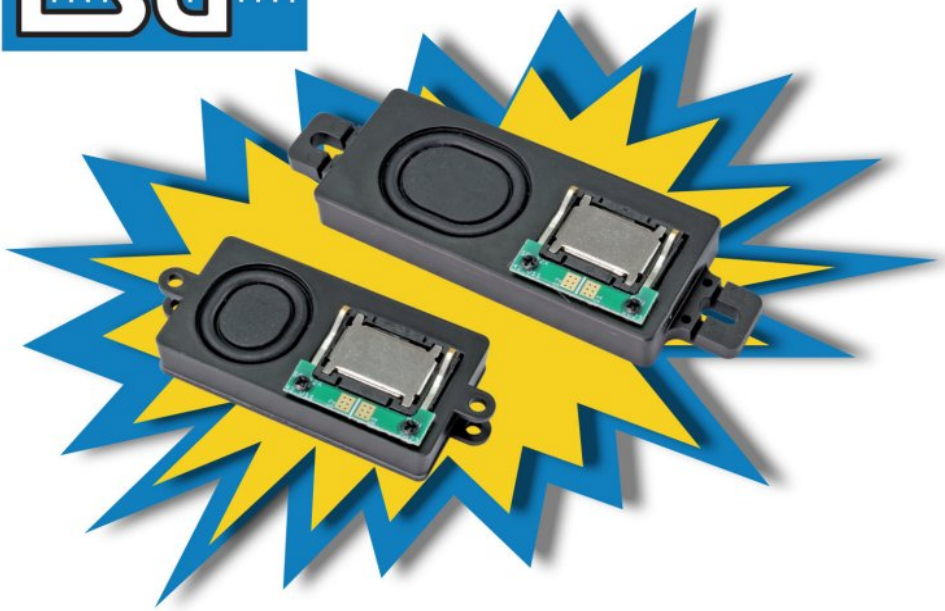

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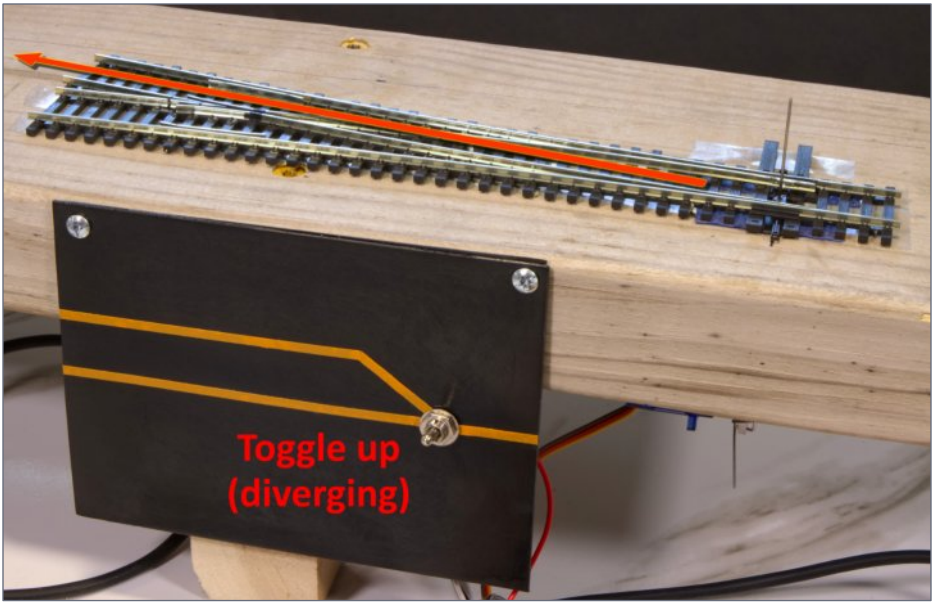


3. The toggle is up, which means the points are set for the diverging route through the turnout.

works out just right to use an Arduino Nano for toggle control with the PCA9685 board.

You might think all we need to do is connect a 5V feed through a SPST on-off toggle to an Arduino pin such as Arduino pin 2 – and then just throw the toggle to set pin 2 to HIGH [4]. Then in the sketch code, we read input pin 2 to see if it's HIGH, and move the servo one direction, and then when pin 2 is LOW, we move the servo to the other direction – throwing the turnout.

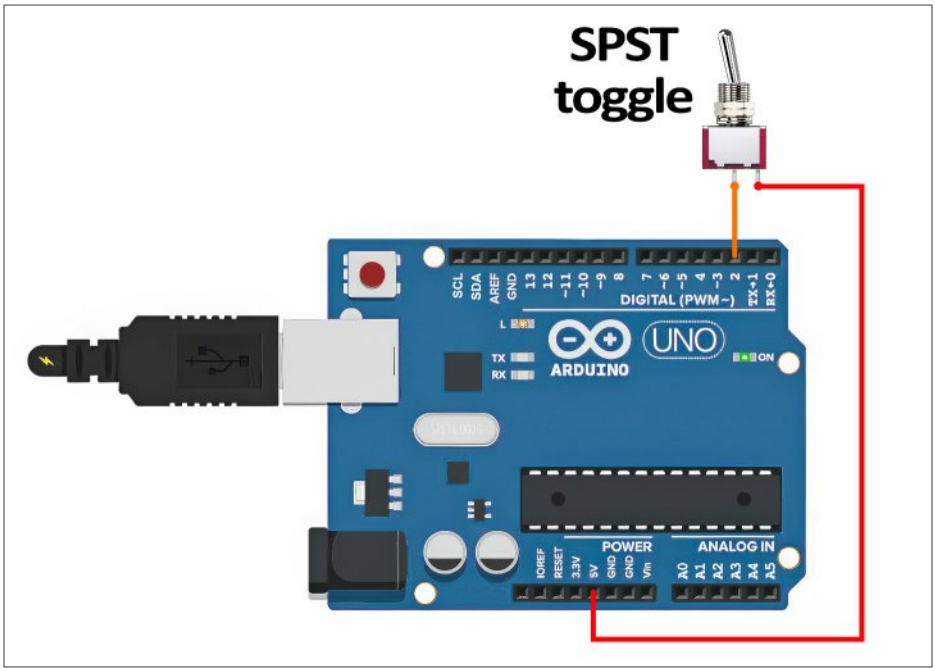
Close, but not quite. When the toggle is thrown on (to the right in [4]), then, yes, 5V flows to Arduino pin 2, and it indeed reads as set to HIGH. But when we throw the toggle to off (to the left as shown in [4]), then the pin is in limbo and its value is undefined.

To solve this problem, we can use what's known as a pull-down resistor connected to ground so when the toggle is turned off, pin

2 gets pulled down to ground to read a definite LOW, just as we want it to do. Diagram [5] shows a 10K resistor on the feed to pin 2 – when the switch is off (to the left in the diagram), then the pull-down resistor sets pin 2 to LOW.

While the pull-down resistor certainly works, it means every turnout control would need both a resistor and a toggle switch. There is an even simpler method that uses just a single toggle and nothing else. The trick is to use a SPDT toggle that has two feeds on it.

As you can see in [6], when we throw the toggle one way, we connect to 5V and pull pin 2 HIGH, and when we throw the toggle



4. Using a single-pole-single-throw switch to pull Arduino pin 2 HIGH. But there's a problem with this – in the off position shown here, the value on pin 2 is in limbo and is "undefined." See [5] for the solution.

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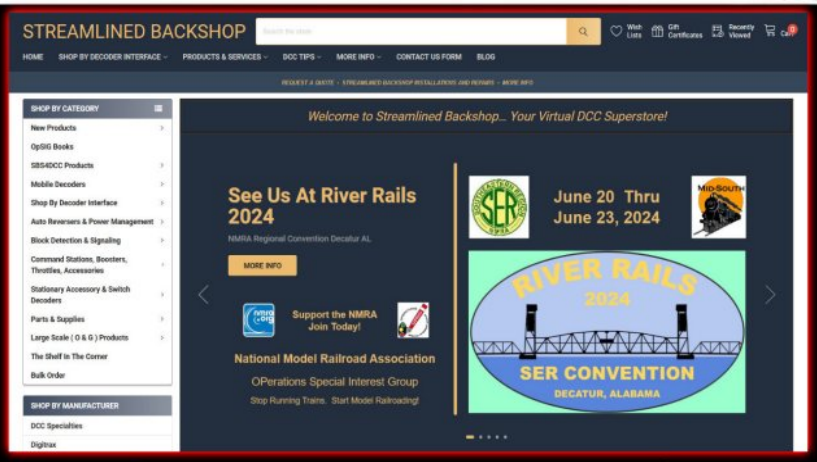

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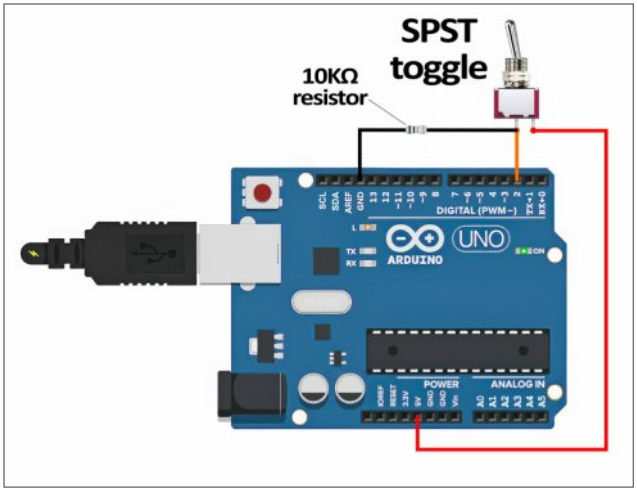
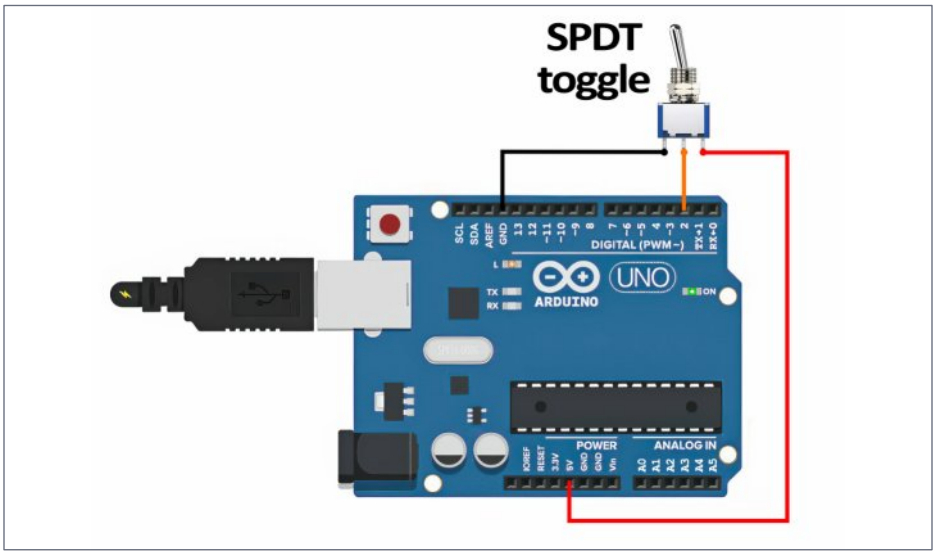


5. By adding a "pull-down" resistor wired to ground on the toggle switch pin feed, when the switch is turned off (to the left here), the resistor path pulls pin 2 down to ground, or LOW. The value of pin 2 is no longer undefined.

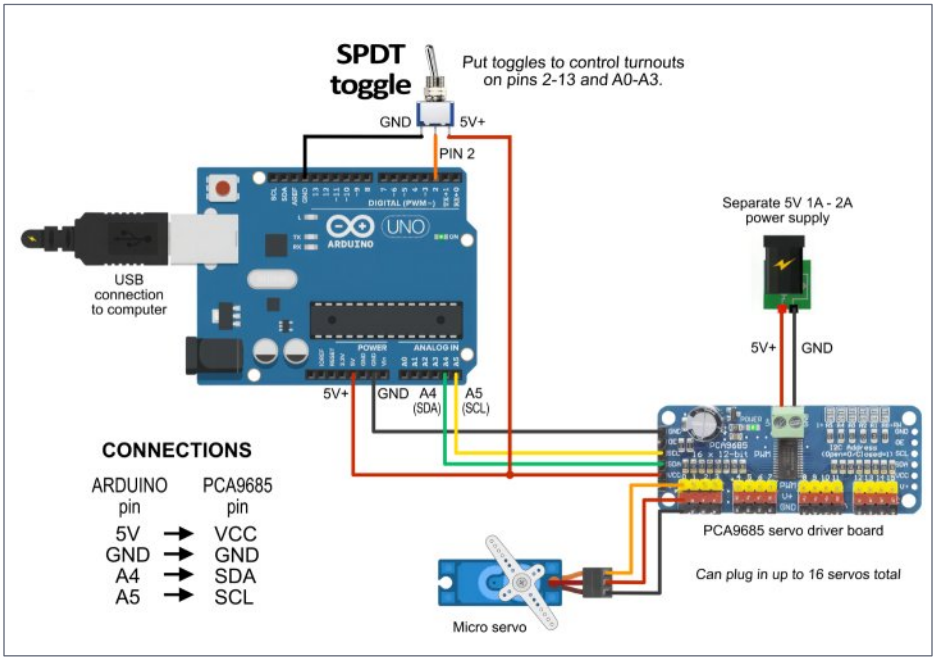


6. Using a SPDT toggle simplifies the circuit by eliminating the need for a pull-down resistor. Throwing the toggle one direction connects to 5V (HIGH) and throwing it the other direction connects to ground (LOW). No question when pin 2 is HIGH or LOW.

the other way, we pull pin 2 down to ground or LOW. Perfect – just one switch is all we need – and this is the method I use here for the final layout version of the sketch.

In [7] is the final layout-ready circuit for controlling servos with toggle switches, an UNO, and a PCA9685 board. This circuit shows a single toggle and servo – to control more turnouts, just attach the center pins of more SPDT toggles to other pins of the Arduino and attach more servos to the other PCA9685 board pins. It's just that easy!

You can connect toggles to digital pins 2-13, as well as to analog pins A0-A3, for a total of 16 toggles controlling 16 servos.



7. In this layout-ready circuit, we have one toggle on UNO pin 2 controlling one servo on PCA9685 board pin 0. To control more servos, just add more toggles on pins 3-13 and A0-A3, for a total of 16 toggles. Likewise, just add more servos to pins 1-15 of the PCA9685 board, for a total of 16 servos.

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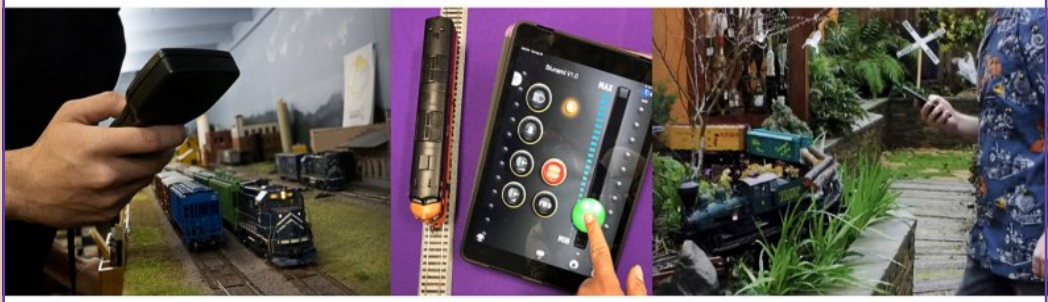

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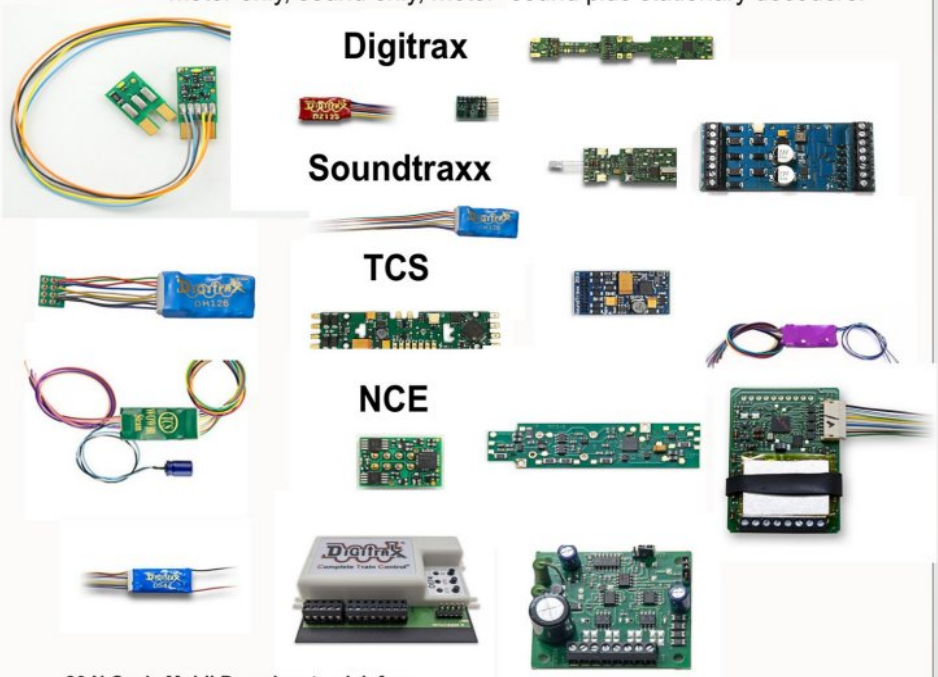

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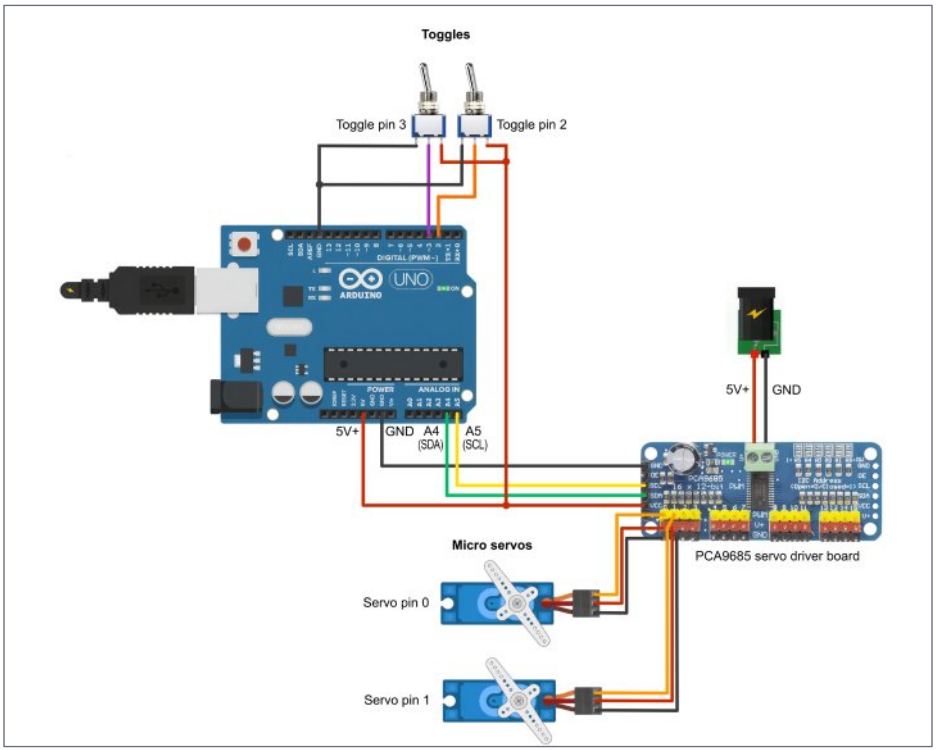
THE LAYOUT-READY SKETCH

Now that we have the final circuit, let's do a sketch to control servos using toggle switches. Because I want to show you how easy it is to add more toggles and servos, I've added a second toggle and servo to [7], giving me circuit [8]. I'm building a sketch to operate this circuit with two toggles and two servos. To add more toggles and servos, just wire them as shown and add them to the sketch as I will show.



8. For this layout-ready sketch, I've added a second toggle and a second servo. With your layout, just add more toggles and servos in the same manner as shown for the second toggle and second servo. The associated sketch can easily be extended to add a total of 16 toggles controlling 16 servos.

I'll walk you through the layout sketch piece-by-piece, then I present the full sketch at the end. This sketch builds on all we have learned in parts 1 and 2 of this series.

If you simply want to load the sketch and change it for your layout setup, and don't really care about how the sketch does what it does, then just go to the parts of the sketch marked in **red,** change them to suit your layout needs, and save the sketch. Done!

I start off with the includes and definitions like we've used earlier.

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

I do add one new constant, the value used to turn a servo completely off. This saves wear and tear on the servos, and helps prolong their life.

```
const int SERVO_OFF = 4096;  // pulse value that turns the servo pin off
```

I next initialize the PCA9685 servo driver board as we've done before, with one new wrinkle. In the past I've used empty parentheses, and let the code default to the as-shipped address of 0x40. It's a good habit on "production" code to explicitly declare the board address each time.

Later when we work with a second 9685 board, we alter the address from the default. That allows us to just copy the initialize line of code, give the new board its own name, and change the address to the new value We're all set.

```
Adafruit_PWMServoDriver Servos = Adafruit_PWMServoDriver(0x40);
```

Next, I've defined some values you can customize as needed for your layout.

First, let's set the total number of servos we will be driving. Enter a value from 1 to 16. In this example as per the circuit [8], I'm doing two servos.

```
#define NUM_SERVOS 2 // <-- Put the number of servos you are using here ***
```

Now here's where the magic comes in that makes this sketch adaptable for any number of toggles and servos from 1 to 16. I've created a table of values we can just type in for each servo: the servo pin number, toggle switch pin number, servo normal angle, and servo thrown angle – all stored as integers.

First, I define the table structure **TurnoutDefSt,** and define the cell names in the code using the **struct** command.

```
typedef struct {
  int ServoPin;
  int TogglePin;
  int ServoNormal;
  int ServoThrown;
} TurnoutDefSt;
```

Then, I load the table with the values I want. I have a servo-on-servo board pin 0 that I want controlled by a toggle on the UNO pin 2, and I have already determined the throw I need: 130° one direction and 75° the other direction.

For the next servo on servo board pin 1, I want the toggle on pin 3 to control it. I want the servo to throw 80° in one direction and 130° in the other (I predetermine this throw as well). Here's the code for entering these values into the table:

```
/* ***************************
   Put your servo pins, toggle pins, and servo angles here, one row for each turnout ...
   Code assumes toggle is mounted vertically and not-thrown (down) = LOW,
   toggle thrown (up) is HIGH.
   If it's backwards, then flip around the not-thrown and thrown angles
   in the table.
   *************************** */
const TurnoutDefSt TurnoutDef[NUM_SERVOS]= {
  {0,2,130,75}, // <-- servo pin, toggle pin, not-thrown angle, thrown angle
  {1,3,80,130}
};
```

Add as many rows as needed for each servo-toggle combination. Note each line in the table needs to have a comma after the bracket, except for the last line.

One of the cool things about the two angle values – when you throw the toggle to move the servo, if the turnout throw is backwards, then just swap the two angle values – super easy! You don't need to change any wiring.

Also, if the turnout throw ever needs adjustment (rare), just go back into the table and tweak the angle values for that row in the table by a few degrees until the throw is perfect again. Remember, you just want the points to put a moderate amount of pressure against the stock rails to keep the servo from over-driving and having its life shortened.

If you don't really care about how the sketch works, you can stop here. Just edit the **red** code in the sketch to have the total number of servos and add rows for the servo pin, toggle pin, the not-thrown, and thrown angles for each toggle-servo combination, and you're done! Remember the commas on all the rows except the last one or you will get a compiler error.

You can skip ahead to the frog powering section if you aren't interested in the gory details of this sketch.

HOW THE SKETCH WORKS (OPTIONAL)

If you really want to know how this sketch works, you can read on from here.

Finally, I add a couple needed working values: a table of current servo positions, and the active servo position goal based on the input toggle state (LOW or HIGH) we're checking:

```
int CurrentServoPos[NUM_SERVOS]; // current angle of each servo (current state)
int goal; // target angle of the active servo
```

That's all the definitions needed. On to the one-time setup section.

First, some basic setup we've seen before in article parts 1 and 2. I include 30 milliseconds of delay to allow the settings to take effect.

```
void setup() {
  Serial.begin(9600);
  Serial.println("PCA9685 Layout turnout driver v1");
  Servos.begin();
  Servos.setPWMFreq(60);
  delay(30);
```

Next in the setup, I set each active toggle pin to INPUT mode, then check every toggle and set each matching servo to the correct position based on the toggle position. This initial setup corrects any accidental flipping of toggles while the layout was powered down and makes sure all turnout positions match all toggle positions.

If the toggle position and servo position match, then nothing will happen. But if they don't match, you will hear a servo move to match the toggle.

```
 Serial.println("Set toggle/turnout initial position so they match.");

 for (int i=0; i<NUM_SERVOS; ++i) {
     pinMode(TurnoutDef[i].TogglePin,INPUT); // set toggle pin to input
   // determine toggle position and align servo to match toggle
   int toggleState = digitalRead(TurnoutDef[i].TogglePin);
   if (toggleState == LOW) {
     CurrentServoPos[i] = TurnoutDef[i].ServoNormal;
   } else {
     CurrentServoPos[i] = TurnoutDef[i].ServoThrown;
   }
   //default servo to match toggle position
   Servos.setPWM(TurnoutDef[i].ServoPin, 0, setServoAngle(CurrentServoPos[i]));
   delay (10);
```

```
    // Serial.print("Array row ");
    // Serial.print("   ServoPin: "); Serial.println(TurnoutDef[i].ServoPin);
    // Serial.print("  TogglePin: "); Serial.println(TurnoutDef[i].TogglePin);
    // Serial.print("ServoNormal: "); Serial.println(TurnoutDef[i].ServoNormal);
    // Serial.print("ServoThrown: "); Serial.println(TurnoutDef[i].ServoThrown);
    // Serial.println("----------");
  }
}
```

Notice I have commented out serial prints of each row in the table – those can be uncommented for de-bugging purposes when needed.

That's it for the setup. On to the normal continuously running loop.

```
void loop() {
  for (int i=0; i<NUM_SERVOS; ++i) {
    int toggleState = digitalRead(TurnoutDef[i].TogglePin);
    if (toggleState == HIGH) {
       goal = TurnoutDef[i].ServoNormal;
    } else {
       goal = TurnoutDef[i].ServoThrown;
    }
    delay(50);
    // Serial.println("CurrentServoPos: " + CurrentServoPos[i]);
    // Serial.println("goal: " + goal);
```

The code is pretty straightforward. I test the toggle pin state to see if it's HIGH or LOW, then set **goal** to the indicated servo angle. Finally, I delay 50 milliseconds to avoid any toggle state bounce. Also note I've commented out some serial prints that can be used for debugging as needed.

Next, I check the current servo position versus the goal, and move the servo if they don't match. If the servo is where it needs to be already, then I turn it off. I do this to save wear and tear on the servo, there-by lengthening its life.

```
  if (CurrentServoPos[i] != goal) {  // servo doesn't match toggle
    Serial.print("Move servo "); Serial.print(TurnoutDef[i].ServoPin);
    Serial.print(" from: "); Serial.println(CurrentServoPos[i]);
    Serial.print(" to: "); Serial.println(goal);
    // move servo to desired angle
    Servos.setPWM(TurnoutDef[i].ServoPin, 0, setServoAngle(goal));
    CurrentServoPos[i] = goal;
    delay(50);
  } else {  // servo already in position, turn off to prolong servo life
    Servos.setPWM(TurnoutDef[i].ServoPin, 0, SERVO_OFF);  // turn the servo off
    delay(50);
    // Serial.print("Servo goal: "); Serial.println(goal);
    // Serial.print(" Servo at: "); Serial.println(CurrentServoPos[i]);
    // Serial.println(" -- Servo already in position, servo turned off");
  }
 } // end of for i loop
}
```

That ends the main loop. Note when a toggle gets flipped, I serial print the movement details. I also have a commented out set of debugging serial prints when the servo gets turned off. Any servos already in po-sition will get the off command sent repeatedly, so only uncomment these serial prints when you need them for debugging.

I also add the **setServoAngle** function from part 2 below the main loop to make it easy to specify servo position just using angles.

```
/*
 * 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.println("Angle: " + ang);
   // Serial.println("Pulse: " + pulse);
   return pulse;
}
```

That's everything. You can use this sketch to throw turnouts on your layout with servos via a toggle switch.

Here's the full sketch – you can also find this sketch in the bonus downloads this month.

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

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)
const int SERVO_OFF = 4096;  // pulse value that turns the servo pin off

Adafruit_PWMServoDriver Servos = Adafruit_PWMServoDriver(0x40);

#define NUM_SERVOS 2 // <-- Put the number of servos you are using here ***

typedef struct {
  int ServoPin;
  int TogglePin;
  int ServoNormal;
  int ServoThrown;
} TurnoutDefSt;
/* ***************************

   Put your servo pins, toggle pins, and servo angles here, one row for each
turnout ...

   Code assumes toggle is mounted vertically and not-thrown (down) = LOW,

   toggle thrown (up) is HIGH.

   If it's backwards, then flip around the not-thrown and thrown angles
   in the table.
   *************************** */

const TurnoutDefSt TurnoutDef[NUM_SERVOS]= {
```

```
  {0,2,75,130}, // <-- servo pin, toggle pin, not-thrown angle, thrown angle
  {1,3,80,130}
};

int CurrentServoPos[NUM_SERVOS]; // current angle of each servo (current state)
int goal; // target angle of the active servo

void setup() {
 Serial.begin(9600);
 Serial.println("PCA9685 Layout turnout driver v1");
 Servos.begin();
 Servos.setPWMFreq(60);
 delay(30);
 Serial.println("Set toggle/turnout initial position so they match.");
 for (int i=0; i<NUM_SERVOS; ++i) {
   pinMode(TurnoutDef[i].TogglePin,INPUT); // set toggle pin to input
   // determine toggle position and align servo to match toggle
   int toggleState = digitalRead(TurnoutDef[i].TogglePin);
   if (toggleState == LOW) {
     CurrentServoPos[i] = TurnoutDef[i].ServoNormal;
   } else {
       CurrentServoPos[i] = TurnoutDef[i].ServoThrown;
   }
     //default servo to match toggle position
     Servos.setPWM(TurnoutDef[i].ServoPin, 0,
setServoAngle(CurrentServoPos[i]));
     delay (10);
     // Serial.print("Array row ");
     // Serial.print("   ServoPin: "); Serial.println(TurnoutDef[i].ServoPin);
     // Serial.print("  TogglePin: "); Serial.println(TurnoutDef[i].TogglePin);
     // Serial.print("ServoNormal: "); Serial.println(TurnoutDef[i].ServoNormal);
     // Serial.print("ServoThrown: "); Serial.println(TurnoutDef[i].ServoThrown);
     // Serial.println("----------");
 }
}
```

```
void loop() {
  for (int i=0; i<NUM_SERVOS; ++i) {
    int toggleState = digitalRead(TurnoutDef[i].TogglePin);
    if (toggleState == HIGH) {
        goal = TurnoutDef[i].ServoNormal;
    } else {
        goal = TurnoutDef[i].ServoThrown;
    }
    delay(50);
    // Serial.println("CurrentServoPos: " + CurrentServoPos[i]);
    // Serial.println("goal: " + goal);
    if (CurrentServoPos[i] != goal) {  // servo doesn't match toggle

      Serial.print("Move servo "); Serial.print(TurnoutDef[i].ServoPin);
      Serial.print(" from: "); Serial.print(CurrentServoPos[i]);
      Serial.print(" to: "); Serial.println(goal);
      // move servo to desired angle
      Servos.setPWM(TurnoutDef[i].ServoPin, 0, setServoAngle(goal));
      CurrentServoPos[i] = goal;
      delay(50);
    } else {  // servo already in position, turn off to prolong servo life
      Servos.setPWM(TurnoutDef[i].ServoPin, 0, SERVO_OFF);  // turn the servo off
      delay(50);
      // Serial.print("Servo goal: "); Serial.println(goal);
      // Serial.print(" Servo at: "); Serial.println(CurrentServoPos[i]);
      // Serial.println(" -- Servo already in position, servo turned off");
    }
  } // end of for i loop
 }

 /*
 * 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.println("Angle: " + ang);
    // Serial.println("Pulse: " + pulse);
    return pulse;
}
```

POWERING THE FROG

Next, let's discuss powering the frog.

In the early days of my Siskiyou Line 1 layout, I left the frogs unpowered/dead. As I started using sound decoders, they would cut-out over the dead frogs, even though most locomotives rolled over them without a problem, so to solve this I powered the frogs with a microswitch.

These days, putting stay-alive in all my DCC locos sufficed, so I could go back to dead frogs again, rendering this whole discussion moot. However, not everyone uses DCC, nor does everyone on DCC have stay-alive in all their locos. From here-on I'm assuming we *do* want to power the frog.

If you're using DCC, you have two options for powering the frog:

1. Use contacts to power the frog

2. Use a frog juicer to automatically swap frog polarity

If you're using straight DC and want the frog powered, then you have only option 1 – using contacts. If you are using a frog juicer, you must be using DCC, since a frog juicer does not work on a DC layout. For the purposes of this article, I'm going to consider using a frog juicer to be out of scope, and I'm only going to focus on option 1.

I can power the frog using a microswitch as mentioned. Since I'm using an Arduino, I can also use inexpensive logic-driven-relays, so I will discuss that option as well. In [9], I show the options and the cost of each per turnout.

The least-expensive approach is to use a microswitch, although that complicates the servo install. I need to mount the microswitch on the side of the aluminum angle, and I need to add

a music wire on the servo horn to trip the microswitch when the servo rotates. You can see this all in action in this series of photos [10a, 10b, 11a, 11b].

If you visit the comment thread for this article, I've posted some animated versions of these photos so you can study the action.

On the throw bar, I use 0.030″ (7.5mm) music wire to get the desired stiffness. On the microswitch, the moment arm is a lot shorter, and I'm more interested in making the wire easy to adjust. I use lighter 0.025″ (6mm) music wire, and I find finger adjusting the trip wire to get just the right tension on the microswitch easy to do.

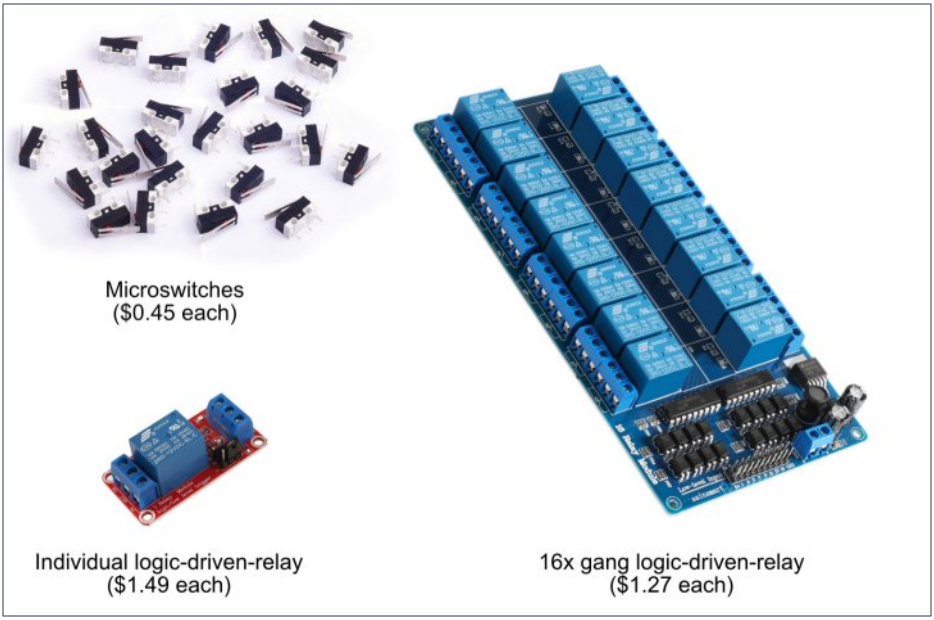
Before I mount the microswitch, I solder 4″ long red, black, and green jumper wires with male pins in them to the microswitch. Later, I wire them up with female jumper extensions as shown in [12].

To mount the microswitch on the aluminum channel, I build up a 3/8″ thick x 3/4″ long x 1/4″ wide block of styrene. I have found using this thickness of styrene block puts the microswitch far enough away from the center of the servo rotation that I can finger-adjust the microswitch trip wire for the right tension.

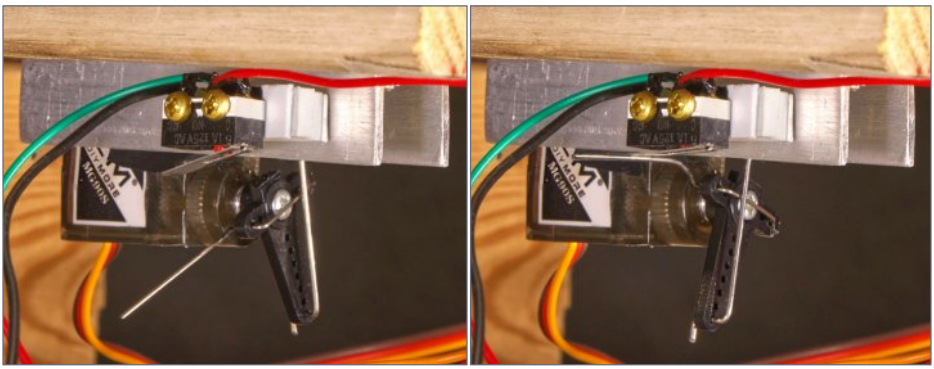
If I mount the microswitch directly on the side of the aluminum channel, the trip wire becomes so short I must use needle-nose pliers to adjust the short wire tension. That's a lot harder to do without dislodging the servo. It becomes a real exercise in frustration that I would rather avoid.

Anyhow, to mount everything, I drill two 7/64″ holes through the styrene block (screws will just slide through) so they align with the holes in the microswitch. I drill two #50 holes on the side of the aluminum channel aligned so the microswitch is centered over the servo horn from the side. I space the holes on the aluminum channel to match the holes in the microswitch.

I also carefully drill-out the holes in the microswitch with a #40 bit to make them ever-so-slightly larger to allow the 2-56



9. Here are the options for controlling frog power on the servo-controlled turnouts, along with the prices for each. Cost includes mounting hardware for the microswitches and the extra PCA9685 driver board for the relays.



10a, b. In this side view, you can see how the extra music wire arm on the servo horn activates the microswitch.

screws have a slip fit. Otherwise the microswitch holes are too small for 2-56 screws.

I then tap the holes in the aluminum channel for 2-56 threads. I use two 1/2″ long brass 2-56 screws to fasten everything to the aluminum channel.

Using the microswitch can get fiddly and is one more thing that may need adjusting from time-to-time. If you'd rather avoid all that, using micro-relays costs only slightly more and it's a whole lot more convenient. But to add the logic-driven-relays, we need to use a second PCA9685 board, since the board settings to drive relays are different from driving servos. My cost comparisons in [9] include the cost of the extra 9685 board per turnout assuming 16 turnouts.

Let's look at adding a second PCA9685 board next.

ADDING ANOTHER PCA9685 BOARD

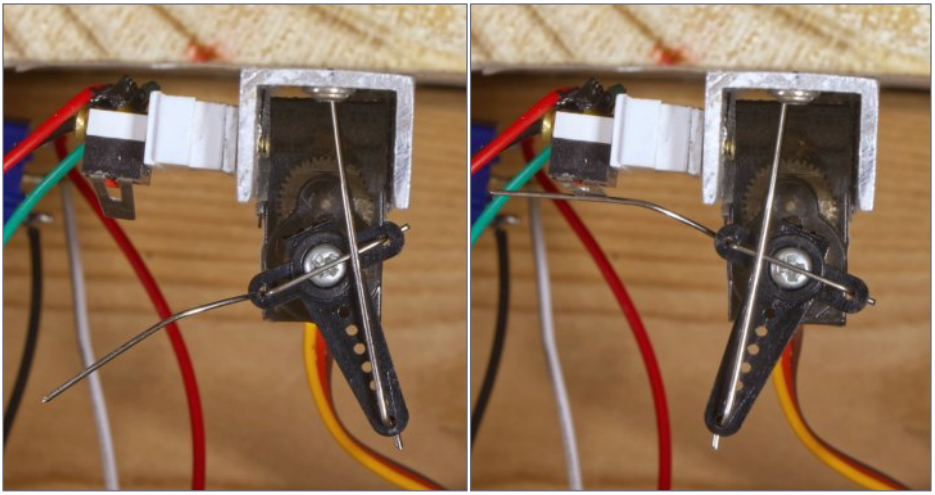
Adding a second PCA9685 board [13] is easy enough.

I added the 6-pin header on the right of the first board [14a, b], plugged the two boards together, and added a second 5V power feed to the new board. I also bridge-soldered the upper right two pads to change the second board address from the default x40 to x41.

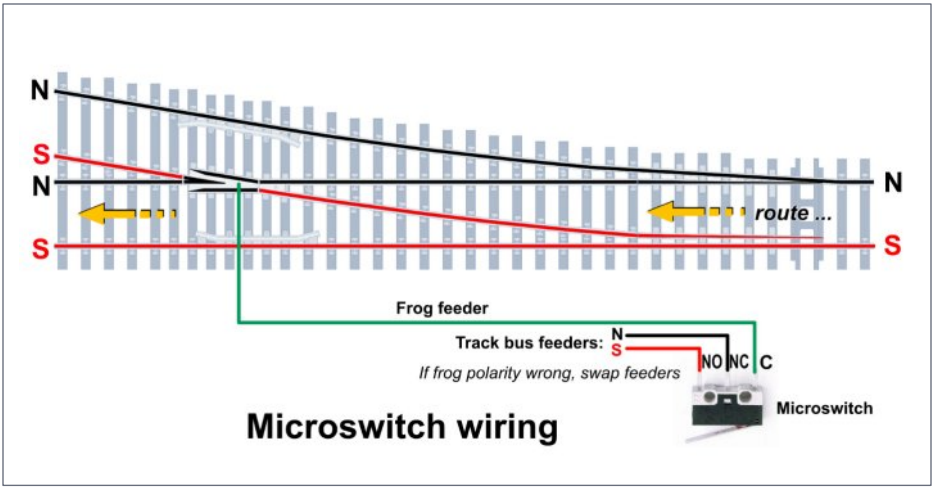
With this, I'm ready to wire in the logic-driven-relays for routing frog power. I'm going to cover adding the relays and extending the sketch to control frog power [15] with the relays in Part 4. I'm also going to cover how to add LEDs to indicate turnout position on a control panel, and cover layout wiring strategies.

See you then! ☑

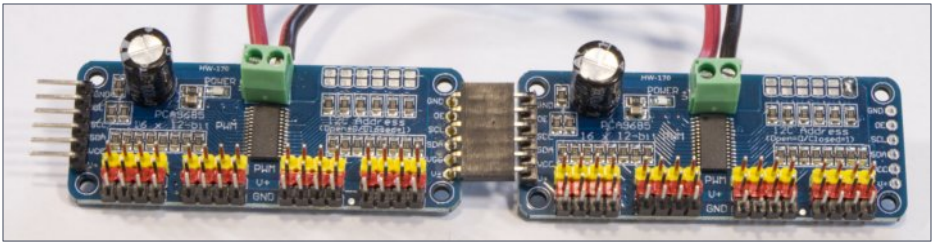
To find the shopping list for this article, visit this link: mrhmag.com/magazine/mrh2024-06/elec-impulses-shopping



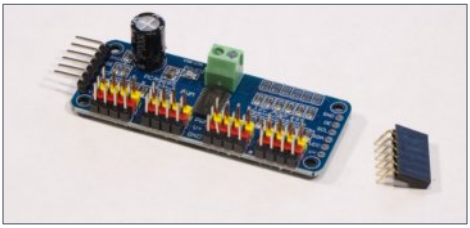
11a, b. An end-on view of the extra music wire on the servo horn activating the microswitch.

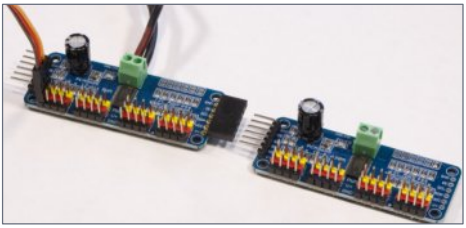


12. To wire the microswitch, connect the center (C) green wire to the frog. Then connect the rail feeder N and S wires to the contacts. If the polarity is wrong on the frog, then just swap the feeders.

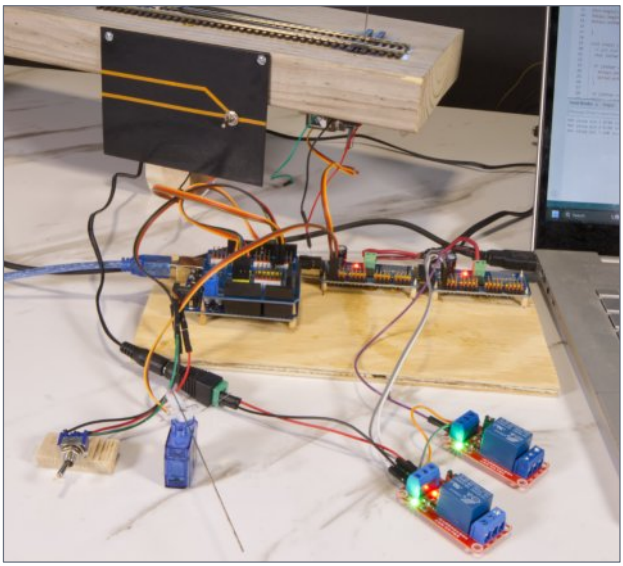


13. I added a second PCA9685 board so I can use logic-driven-relays to route frog power.





14a, b. I bought a six-pin header with the 90-degree bend shown here. I soldered the six pins onto the first board and then plugged the two boards together.



15. Coming next month – frog power routing with inexpensive logic-driven-relays.

VIEW READER COMMENTS

J. Fugate

More robust servos

I've been on the lookout for the best price-performance servo deal I could find, and I believe I have found it – the DIYMore MG90S servo. This servo has rave reviews on Amazon, with at least one person reporting, "I have found my new source of quality yet highly affordable servos."

These servos use all-metal gears from top-to-bottom, with no plastic gears in the gear train at all. They operate very smoothly with no perceptible center drift over time. They appear to be quite well-built, and several reviewers on Amazon reported these have a very substantial feel to them as compared to the cheaper all-plastic SG90 servos.

When I ordered a set of these servos from Amazon, I was pleasantly surprised to get an email from DIYMore telling me they stand behind their product, and if I have any issues, please don't hesitate to contact them. I was impressed!

At $3.38 each via Amazon Prime, they look like a real bargain, and they should have a good service life. See the article shopping list for how to buy them.

16. The DIY MG90S servo with all metal gears and great reviews on Amazon.

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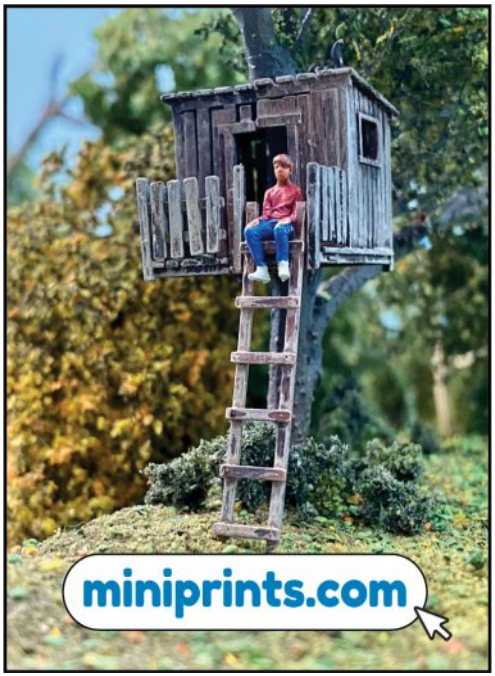

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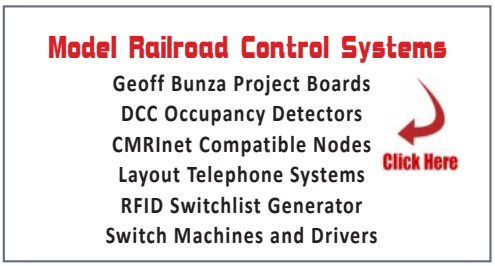
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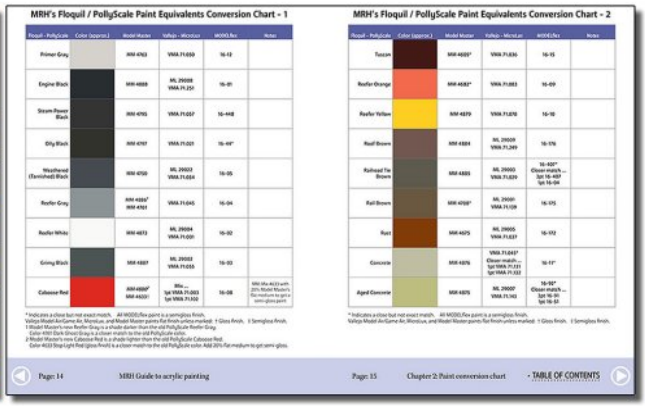

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Bob Prehoda's Huntingdon Northern

Joe Fugate visits this coal-hauling protofreelanced layout ...

REGISTER *(free)* INDEX TABLE OF CONTENTS

1. A freight headed by three SD9s rolls past the big mine in Coal Valley on Bob Prehoda's HO scale Huntingdon Northern.

VIEW READER COMMENTS

BOB PREHODA'S LAYOUT 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

Bob Prehoda

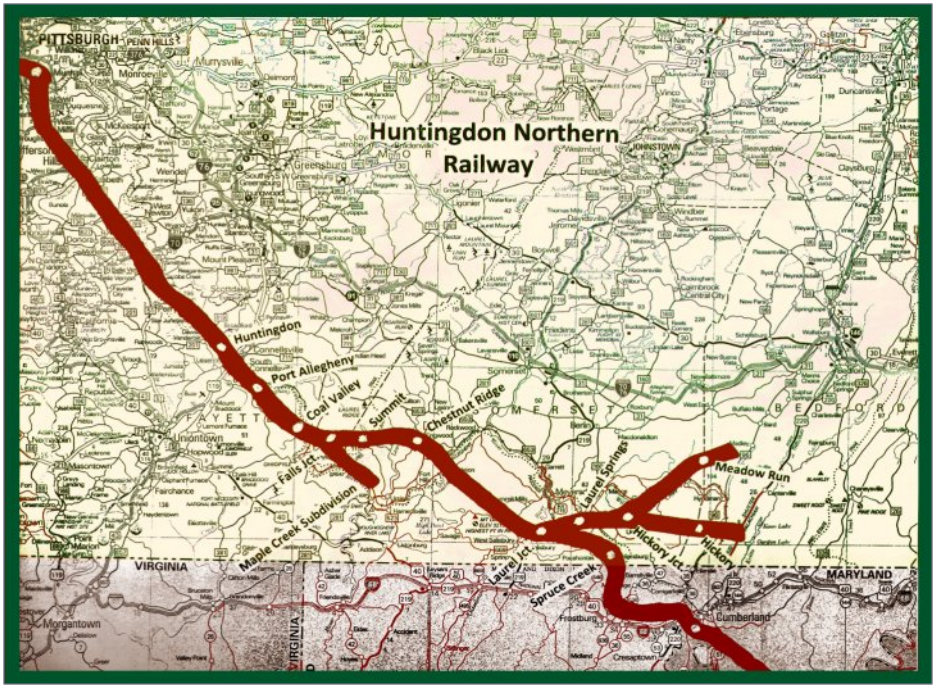
I visited Bob Prehoda's layout in late February 2024 taking photos and video. I sat down with Bob and we talked about his beautiful HO layout.

MRH: **Bob, before we get into the details of your layout, tell us more about you. How did you first get started in the hobby?**

Bob Prehoda: I got started in this hobby at a very young age. I was born in August, and the next Christmas at four months old I got my first train set. Of course, I don't remember that, but I do remember when I was around three or four, my parents would set up a platform in the dining room. Then they would take all the dining room furniture out and move that platform down into the basement and it became a model railroad!

On Christmas day, they decorated the tree, staying up a good portion of the night. When my siblings and I woke up, the Christmas tree was all decorated and the Lionel trains were out. So I just kind of grew up with model trains. As I got older, maybe 10-12 years old, I still had that same layout set.

At that time, my parents would leave the trains up until about February, and then take them down for another year. I was so



2. Bob put together this route map for his Huntingdon Northern through southwest Pennsylvania and has it on the wall in the dispatcher's area.

depressed that the trains were being put away, that I vowed that when I got older, I was going to keep the train set up all year long. And that's what I did!

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

Bob: I switched to HO when I was in junior in high school, and one of my high school classmates brought me over to his place to show me his trains. He happened to have HO, and that was the first time I'd ever seen that scale. I immediately fell in love with it because of the detail.

He didn't have much of a layout, because it was just a circle of track on a four x six platform. There was no scenery - nothing. It didn't matter, because I immediately fell in love.

Once I got out of the Navy, and was in college, I moved and got married. My wife and I moved into our first apartment, and I had a model railroad in our bedroom. We only had a bed, and a few folding chairs, but we had a three-foot by eight-foot model railroad, and I haven't looked back.

Now I have a house, I have a basement of about 24 x 26 feet, and I'm building my dream layout.

It's been a wonderful journey!

MRH: **So tell us about this "dream layout" you're building.**

Bob: Basically this layout is depicting the Pittsburgh area in southwestern Pennsylvania. I grew up there, and I currently live in Pittsburgh. I named my railroad Huntingdon Northern, because I live in North Huntingdon Township, which is a suburb of Pittsburgh. I had custom decals made for the cars and the locomotives, that say Huntingdon Northern.

I thought that was kind of clever to just reverse that name and make it sound like it was a real railroad. It's a walk-around type of railroad, so you have to follow the aisleways, and you can see as you walk around that the backdrop goes right down through the peninsulas. The backdrop prevents a person from actually seeing the whole railroad from one location, which makes the railroad look bigger than it actually is.

The trains go through Southwestern Pennsylvania [2], and the buildings represent the forties and fifties. There's a lot of coal mines on the railroad and we do move a lot of black diamonds. This is how I play, because I never really grew up. I'm in my mid-eighties right now, and I'm just happy to say that I can still play.

MRH: **What era are you modeling?**

Bob: When I first started this railroad I was modeling 1965. I had a lot of diesel engines, and I was too poor to own steam. Gradually, as I started to accumulate some steam, I had to backdate. Currently I have moved the era back from 1965 back to 1957.

3. We love this weathered row of company houses in Coal Valley. Notice one of the tenants, perhaps the mine foreman, has invested in some whitewash for their half of the building. It's fun when modeling suggests more to the story like this.

I probably should move it even earlier than that because I'm running so much steam on the railroad now. But I think I'll just stick to that date.

Most of my car fleet has always been in the forties and fifties, so I never upgraded the railroad rolling stock. It was all from the forties and fifties, so it became southwestern Pennsylvania in 1957.

We try to run this railroad like a real railroad. It's a point-to-point railroad, running between Pittsburgh and Cumberland, Maryland. It has a number of small towns and small industries that we serve with both freight and and coal.

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

Bob: The track plan evolved based on layouts I saw in the train magazines. My hobby heroes have been Allen McClelland and Tony Koester – especially Tony's Allegheny Midland before he built his current railroad. I liked their track plans. They were basically point-to-point, and that's what I've emulated.

4. A short coal drag departs Huntingdon, pulled by Consolidation #453.

5. Spruce Creek sports an extensive yard, enginehouse, and wye. It looks like whomever gets the yard job here during op sessions will stay plenty busy.

My plan is a walk-around with peninsulas and aisleways, and designed for operation with a lot of car movements. I do the car movements with car cards. I use the old four-position waybills. Usually the cars come onto the layout from an interchange, then they go to an industry like a mine or a baking company. The next session they're pulled out of those industries, and they're shipped to some other type of interchange.

I designed the plan to generally move coal east from Pittsburgh toward Cumberland, Maryland. I have a number of interchanges with other railroads on the system as well.

I interchange coal and merchandise with the Western Maryland. I also interchange with the B&O railroad, and of course, I interchange with basically everybody else at Cumberland and Pittsburgh.

MRH: **Did you go through many iterations of the track plan?**

Bob: When I designed the railroad, I started with a track plan, and I made a scale drawing of it. It has remained the way it was first designed. The only exception to that is, I had a simulated branch that was basically just an interchange.

A major flaw in the railroad was that I did not have a separate branch line. I didn't have a lot of room for that, but I managed to squeeze it in and it has added so much to the operation.

MRH: **So tell us about your layout op sessions.**

Bob: During a month's time, we move close to 600 cars on and off the railroad during the different operating sessions. I operate twice a month. I have a retirees group that meets the third Wednesday of the month, and they arrive about 9:30 in the morning.

They bring their own lunch, just like they're going to work, and we run until noon time. Then we go upstairs, sit around the dining room table, chitchat, eat lunch, and then we come back down and run for another three hours. This is a call-board operation, and it has two shifts.

I usually have about nine people coming to an op session. If they're assigned to a yard the first shift, then I make sure that they are on the extra board the second shift. That way I rotate the crews from first shift, and they all get a chance to run the whole railroad.

I don't assign anyone to the dispatcher's position unless they ask for it. When they do, I reward them by presenting them with a Huntingdon Northern hat. There's a number of my regulars who have earned their hats.

There was one guy who that earned his hat in a somewhat different way. I heard he criticized the way I was dispatching, so he had to dispatch the railroad [laughs]. But he got his hat!

It's been a fun journey. I like to say I look for people who are smarter than me.

I tease everyone that I'm the dumbest one here, but I figure if they understand I have been choosing some smarter people, they should eventually understand exactly how the railroad operates.

6. A clamshell crane loads a river barge at Port Allegheny.

***MRH:* So back to the track plan – how long did it take you to build this layout plan?**

Bob: I started this layout back in 1987, but it took me until about 1990 to get decent scenery. It was rough scenery, but it looked fairly presentable at that time. I opened the layout for visitation during the national convention back in 1990. A number of people got to see the railroad at that time.

Progress has been slow. The benchwork went fairly smoothly since I had help with that part. It's all L-girder benchwork and along-the-walls shelf with a couple peninsulas.

I used 24-inch radius curves, but all of the curves have easements leading into the 24 inch radius, so they don't look as tight as they really are. I got the templates for the easements from Model Railroader. I copied them and cut them out of the magazine.

***MRH:* What has been your greatest challenge in building this layout?**

7. Yard switcher #279, an 0-6-0, builds a coal train in the yard at Huntingdon.

Bob: I haven't really had much of a challenge building the layout. I've been able to come down here in the evenings and on week-ends and work on it. My wife is very cooperative, in fact she didn't like seeing all the stuff that model railroaders stuff underneath the layout, so she built beautiful curtains that hang from the fascia, and it looks more presentable down here now.

I painted the fascia black. I used a theater technique, and of course, the black curtains plus theater techniques gives a nicely defined look to the railroad.

I've tried to avoid having track parallel to the benchwork. I do have straight track, but it's not parallel with the edge of the fascia. I made the fascia free-flowing, so it gives things a pleasant look.

Most of the towns have some scenery below the track level as well. I tried to make the layout more interesting to look at. I also elevated the coal mines relative to the regular mainline going through.

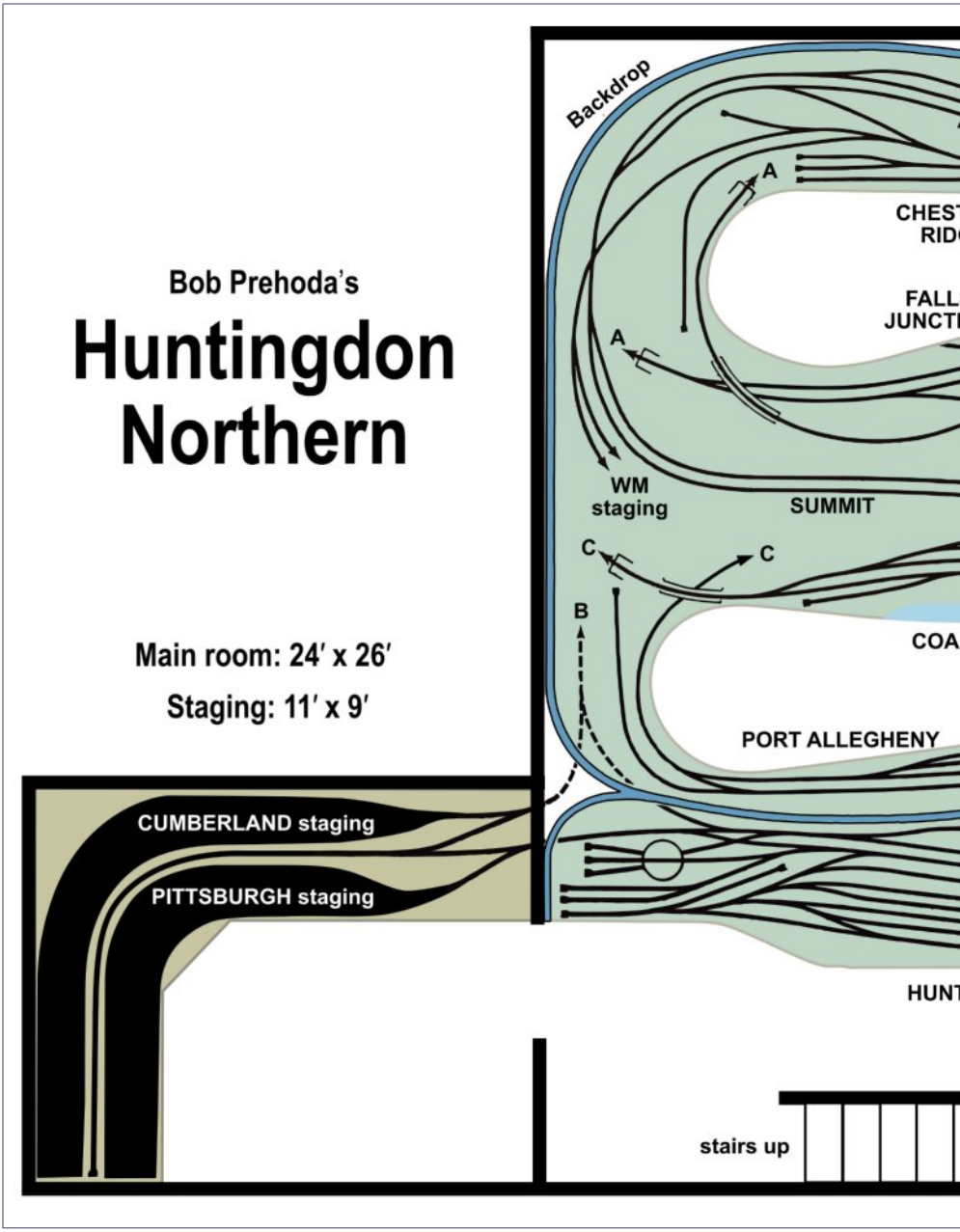
MRH: **Any nasty surprises with this layout?**

Bob: Yes, there was a nasty surprise. I came down to the railroad room, and in the back corner after a heavy rain, there was water coming into the basement. After some thinking on how to fix this problem, I decided to break up the concrete floor in the back corner and put a sump pump in.

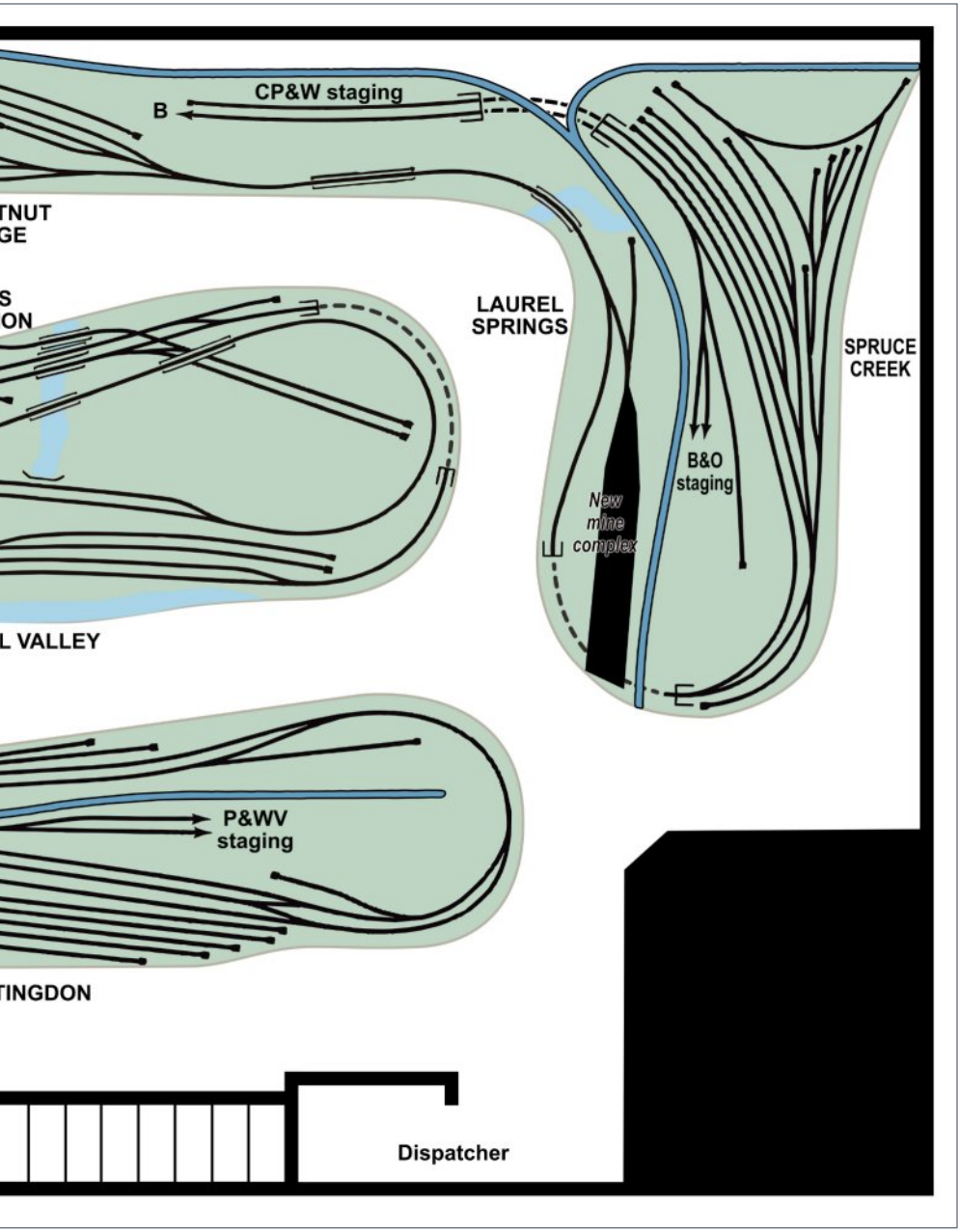
I used a five gallon bucket then went to Lowe's and picked up a submersible pump. I diverted the water to the rain water downspouts and out to the street. That eliminated this particular water problem.

Another basement water nasty surprise greeted me when I came back from Florida one

8. The Laurel Springs area features a number of high bridges – here a long mixed freight rolls carefully through the scene.



9. The Huntingdon Northern track plan.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TINGDON
Dispatcher

time. We usually spent the winter in Florida, and my son-in-law came over to watch over our place. He told me about this new water problem.

I started debating whether I should tear the railroad down and put in an inside French drain around the place. Fortunately, I did not have to do that, the problem kind of took care of itself.

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

Bob: It has almost flawless operations, but it took me a while to pull that off. I generally didn't have a problem when I was running a lot of diesels. They're a lot more forgiving.

But as soon as I started running steam engines, those crazy pilot trucks started derailing in different locations. Sometimes

10. The train climbs through this scene on three different levels. Bob says Allen McClelland's original V&O layout inspired this track arrangement. Also see [11] and [12].

the rail was tilted a bit, so I corrected that by putting extra guardrails in.

If a pilot truck derailed on the right side of the track, then I put a guardrail on the opposite rail to hold it physically in place. I must have 50 or more of those extra guardrails. Maybe it's not that prototypical to have all those guardrails, but the guys don't notice when trains aren't derailing any more.

Now we have almost flawless runs.

Another thing is the railroad lacks details. I do have some details, and the railroad's big enough that most people don't notice the lack of detail.

For example, I don't have streetlights in my towns. I don't have telephone poles along the right-of-way like I should, and now I'm just too lazy to do the work!

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

11. The train in [10] has gone through the first tunnel spiral loop and emerged on the second level.

Bob: I'm not sure I would change that much. I'm completely satisfied with the way the railroad operates. We have fairly prototypical operating sessions, and I'm not having problems getting guys to come and spend several hours operating.

I have two groups: one retiree session during the day, and a Friday evening session. So far, I haven't had any problems getting people to fill them. I guess my only regret is that when I put a sunroom on the back of the house for my wife in order to get complete ownership of the basement, I was too cheap expand the basement another four feet under the sunroom.

Some of my guys later volunteered, “We’ll help you dig it out!” To that, my wife warned, “You put a crack in the floor of the sunroom, and you're dead meat …”

12. The train in [10 and 11] went to the left around another loop (this time no tunnel) and reached the top level. This is an effective way to gain a lot of track height in minimal floor space – in this case, more than 12 inches of elevation increase.

***MRH:* What's the layout height, and why did you choose that height?**

Bob: I made the height 43 inches. That's the main height, but because I'm representing Southwestern Pennsylvania and we're crossing the Allegheny Mountains, I had to have grades.

The highest point on the railroad is actually 58 inches from the floor, so it climbs from 43 inches up to 58, and then it comes back down.

That means we have an opportunity to run helper engines up the east slope, as well as the west slope of the Alleghenies. Cumberland and Pittsburgh are my end points, and they're located in a separate room. Both of those towns happen to be 43 inches.

I have a hidden switch that I can bypass both Cumberland and Pittsburgh, converting this railroad from a point-to-point to continuous running, which is great for open houses and display running.

***MRH:* What's the ruling grade getting from 43 inches to that 58 inch summit?**

Bob: The ruling grade on the railroad is a little steeper on the west slope. It's at 2% with the curves, and it graduates to somewhere around 2.5%. The east slope is a little less than that, but we still need helpers to get over the summit, and that just adds to the operations.

Not all trains require helpers, but many of the longer ones do. I happened to pick those elevations because I'm not super tall, and I wanted to be able to work the towns.

The highest yard on the railroad happens to be at 56 inches. We do have a step stool back there that I stand on if I'm running that yard, so it gives me a little bit more elevation. But, I like a railroad that I can see.

***MRH:* What control system do you use on this layout?**

Bob: I started with Wangrow back in 1998 when I installed DCC. I picked Wangrow because Wangrow, NCE, and Ramtrax

were three different companies all making the throttles that were interchangeable.

I figured that one of them was bound to survive. Don Wangrow passed away but I'm still using his Wangrow Power boosters. But I had to upgrade to NCE to keep up.

When I first started with Wangrow, I used throttle plugin jacks.

I wanted wireless throttles, so I needed a more modern system because Wangrow couldn't handle the radio. I've been very satisfied with NCE. I've had very little trouble with the system and their support is great. I just sent a throttle to them recently that we dropped on the floor.

One of the guys dropped it, and it would just shut down like it

had low batteries, even though the batteries were still fresh. I sent it to them and I got it back about a month later – no charge. I was shocked.

I was willing to pay for repairs, and I certainly hope they don't go under by being so generous. But it's been a wonderful system it's easy to understand. I'm not a computer person, but I did read the manual on how to program locomotives.

MRH: **What kind of loco decoders do you use?**

Bob: Some of the decoders I use are the non-sound decoders from NCE. I have some Digitrax decoders with back EMF "cruise" control. You set it, and the trains will maintain that speed, whether it's going upgrade or downgrade. I kinda like that feature, but they didn't have sound.

I do have a few Soundtraxx locomotives, and I was able to convert some of my steam engines into sound. It was just a plugin type of sound, which I liked. I also have a couple of ESU decoders too. Most of my trains have sound, which makes it more realistic I think.

MRH: **Some folks use JMRI to program their decoders. Do you use JMRI?**

13. Here is the loco servicing facility in Huntingdon, complete with a turntable (behind the locomotives). Also see [14].

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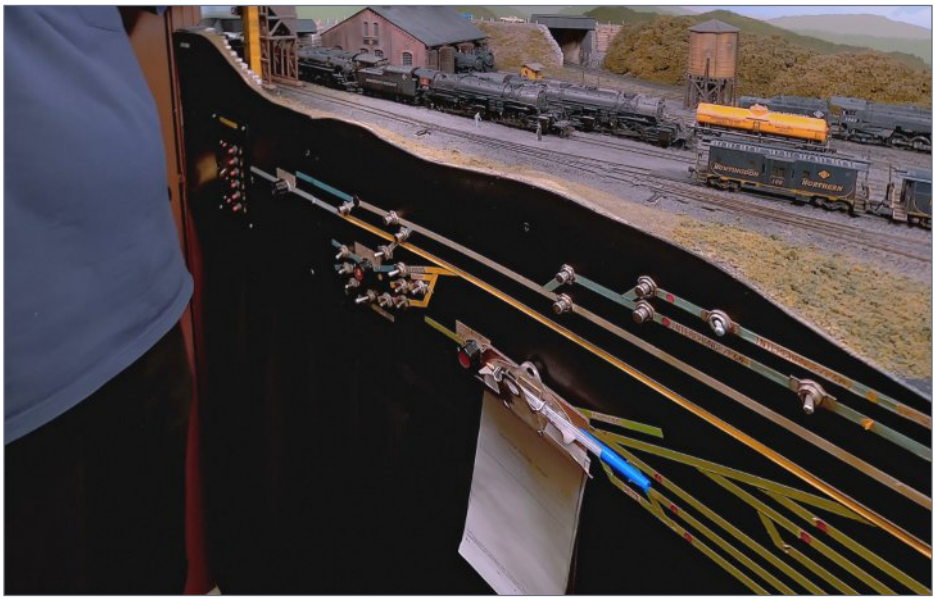
Bob: I don't use JMRI because I don't understand it. I'm not a computer person, and someone would have to explain it to me. They say that it's easy, but I just use the CVs.

Usually CV five and six are the high speed and mid range. I also use CV 66 and 95 to help adjust the top speed. I try to keep my equipment running at slow speeds.

I force my guys to run much slower than they might like, but the engines aren't tearing around the railroad that way. This is a mountain railroad, and the prototype doesn't run real fast around mountain line curves.

I put a value in momentum CVs three and four around two or three, especially for my switchers in the yards. I have just a bit of momentum, but not a whole lot. I stick to low amounts of



14. Stepping back from the view in [13] to show the track diagram and controls on the fascia. Bob uses the fascia as the layout control panels, which is quite effective and conserves aisle space.

momentum because I don't want the engine to keep on rolling when I need it to stop.

MRH: **What's your least favorite part of doing a layout?**

Bob: Probably the least enjoyable thing is crawling around under the benchwork now that I'm in my eighties. It's a bit hard for me to get underneath there and get back out.

I do have a few switch machines under the table, and I'm just praying they keep on working. There was a crossover that I had to convert to manual. Fortunately I could reach it.

I also sometimes need to crawl under and retrieve stuff that has derailed. Usually the derailments are operator error. If they run through a switch, you generally get a derailment.

MRH: How do you feel about your layout size? This layout isn't exactly small.

Bob: Well, the layout size for this layout is 24 x 26, and it's comfortable for me to maintain. But, I imagine, a layout this size might be too large for some people. I think as you age, that might be a factor too.

I know now I can't do the things that I wanted to do when I was younger. My hands aren't as steady as they used to be. Eyesight probably would affect some people but I've been fortunate there.

This layout size has been comfortable for me, and I think I could handle a little larger layout. But I'm pretty satisfied with this layout.

MRH: **Tell us about your layout scenery, how important is scenery to you?**

Bob: I personally like layout scenery. I think it makes the trains look better going through the scene. I've tried to make the scenery interesting on this layout by avoiding the completely flat look.

My railroad yards, for example, slope downgrade at about a quarter to a half percent. When I'm pulling a cut of cars out of the yard, I have those permanent magnets between the rails, and I don't have false uncouplings.

By having that downgrade, it gives me a chance to build retaining walls made out of either block or wooden matchsticks. I like the visual interest small retaining walls add to the railroad. I've also tried to avoid having track parallel with the fascia.

I have scenery below track level, as well as above. Since I model southwestern Pennsylvania, I needed a lot of trees, so I used puff-ball trees. Don Kassler was a local modeler, he's passed away now, but back in 1990 he had a Model Railroader article that told how he made trees for his layout.

I used Don's method, for example three trees were a medium green, two trees were a dark green, and one tree was a light

15. As this coal train rounds the curve out of Huntingdon, we looked up to notice this hobby shop, named after Bob!

16. On the curve out of Huntingdon, if you look left of the scene in [15] at the town above, you find this accident victim retrieval in progress. Bob says when he opens the layout for a public showing, the kids always ask about this scene.

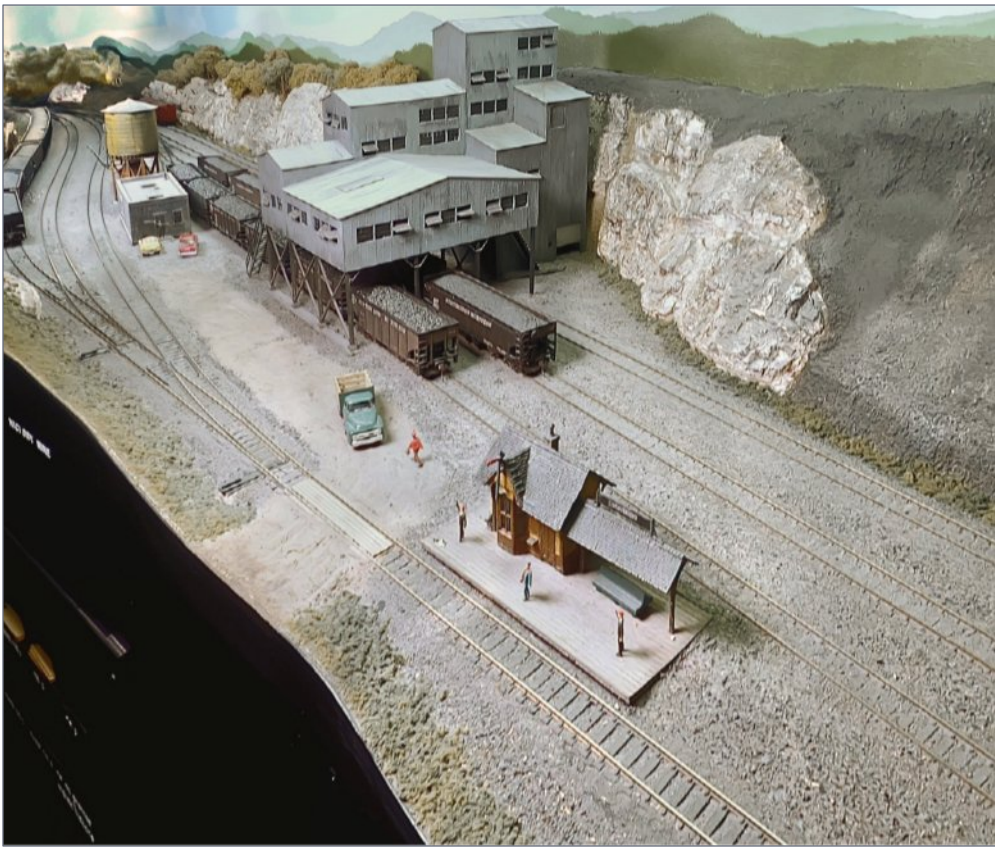
17. Articulated W&LE #8003 rolls off a curved steel deck girder bridge at Laurel Springs. The loco was moving, so we panned the camera to get this shot.

green. You just mix the colors randomly, and it looks pleasing to me, even though I'm a little bit colorblind. I'm representing the mountains of Pennsylvania.

MRH: **Do you have any favorite scenery techniques?**

Bob: The scenery techniques that I've used have been published in the model press. I like using gypsum pearlite plaster. I'm not sure it's even available today.

The gypsum pearlite plaster has little specs in it, and it doesn't give you a completely smooth surface like Hydrocal. Plus it sets up a lot slower than Hydrocal.



I've like using rock castings, and some I've made myself, although most of them I purchased from Woodland Scenics.

***MRH:* What time of year are you modeling?**

Bob: I'm modeling summer. I stayed away from the fall season because being colorblind, I would have a problem with that.

It's summer, year round, and I put the date that we're operating down when we have op sessions, except I use 1957 for the year. That means when we have an operating session in January, when you go out to the railroad room, it's summer. I guess that's one of the flaws in dating the session for the current day!

***MRH:* Tell us about your operation sessions.**

Bob: I host two operating sessions a month. I have a retirees group that comes once a month and a Friday group that comes the second Friday of the month.

During COVID I had to shut down operations for a bit. We started back after COVID and we had three crews out in the railroad room. I was in here, as the dispatcher, and then we went to five crews, and now we're up to nine. We have had 11, but since COVID I've limited it to nine.

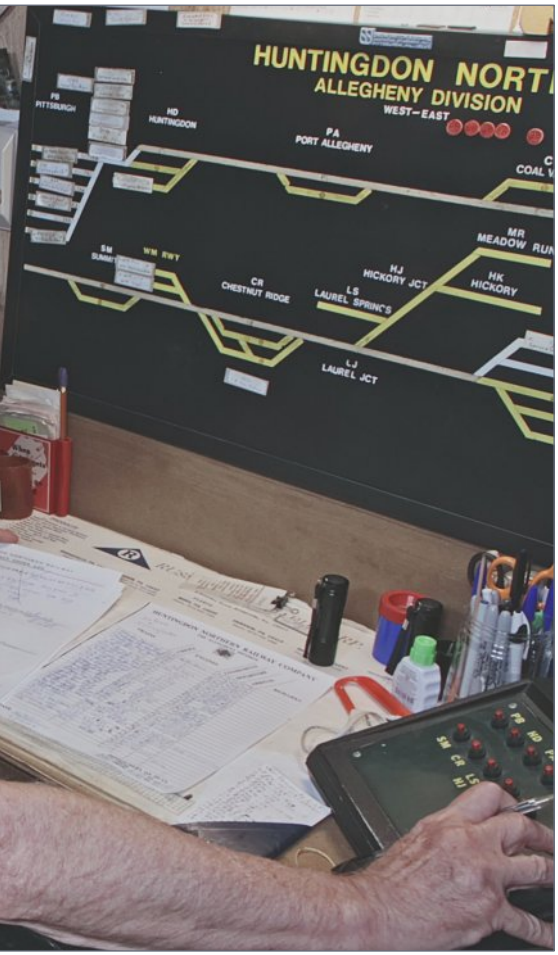
18. Bob has recently expanded this area above Laurel Springs to include this new mine complex. He's still working on the vegetation for that ridge behind the mine.

That's four crews on the fixed positions like dispatcher, Huntingdon Yard, Chestnut Yard, and Spruce Creek Yard. And then the other five are Extra Board, and they run the trains, they do the work, they copy the orders and repeat them back. So it's been working wonderfully.

I have more people that want to come, I just don't have the room for them. I wish I had a bigger railroad for that purpose, but I guess I have to draw the line somewhere.

When I'm dispatching, of course, I'm out here in the laundry room. I don't get to see the trains run unless I set up a three-way meet up at Summit. I might wander out there just to see how the guys are pulling it off.

Typically with the reports I get over the telephone, I have a visual perspective of what's happening out there. Most of the guys are here to run trains and they picture themselves engi-



19. It's clear Bob's very much into operations with this layout. His dedicated dispatcher's area has a magnetic track schematic for marking the progress of trains, as well as a phone board and a train order signal board (out of view to the right).

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neers. I hear a lot of whistles being blown at grade crossings, I hear the bells, and so they must be pretending they're in the locomotive cab.

I sometimes get a chance to run the trains. I'm normally the dispatcher, but I have one crew in the retirees group that likes to dispatch, and I have him dispatch every other week, every other month.

I have another crew on the Friday night group, and there's a young fella who likes to dispatch, so I let him dispatch.

When they take a turn dispatching for half the session, then I'm out in the railroad room, and I might take over a yard. I will do one yard, one month, and another yard another month. And sometimes I'll even run a train, if I get a chance.

Now if there's a couple weeks between operating sessions, I might go down here by myself. I'll run all of the freights. I'll pull the interchanges with all the freight cars, make up the freight trains, and run them.

Then I'll put everything back. Another time I'll run all the coal trains, just focusing on hauling coal.

Several years ago, my guys came up with the idea of forming a Union. They call themselves the Brotherhood of Model Locomotives. Now another layout nearby has the Brotherhood of Model Locomotives as well, but they dubbed him Local Number One. My guys started Local Number Two.

They pulled a strike on me a few years ago. We've had some fun with it – I wrote some columns in our local newsletter about one of the railroad structures that got burned to the ground.

I have a station that's nothing but charred wood, and a signal that's turned sideways because the station is no longer operable. I have blamed the Union and I've been able to show some evidence of that [laughs].

So we've had a lot of fun with the labor management issue on

the railroad. We did have a collective bargaining agreement too stipulating after a run, the crew can come in to the lounge and have some light refreshments before going back out on another run.

So we're having a lot of fun. ☑

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MODELING PAVED-OVER TRACKS

1. Streetcar tracks and sett paver bricks under asphalt.

Model Railroad Hobbyist | June 2024

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DAVID STECKLER SHOWS HOW TO REALISTICALLY COVER OVER UNUSED TRACKS ...

STREET MAINTENANCE NEAR WHERE I LIVE REVEALED OLD BRICK PAVING blocks under the asphalt. This is not uncommon in urban areas, and sometimes you can even see old streetcar or railroad track running through the brick [1].

The street pavers in my area are known as sett pavement or Belgian blocks, which Wikipedia describes as rectangular quarried granite. Clay brick pavers were also used in many areas using similar technique. Modeling pavers under asphalt is surprisingly easy.

I use air-dry clay to create the pavers. Air-dry clay comes in a container or a brick, and is pliable. Some brands are more pliable than others. It dries hard in 24 hours with exposure to air. Air-dry clay is available for well under $10 with discount coupons from stores such as Michaels.

I prefer to buy clay in a sealable container, such as a 2.5-pound tub from Crayola [2], which is more than enough for this project, but it is also available in larger containers. Take out what is needed, and keep the rest sealed to preserve the clay's freshness.

If you buy a brick, be sure to store it in an airtight storage bag or container when not in use. Even in sealed storage, the brick tends to harden faster than clay sold in sealed containers. This is why I prefer clay in a container.

So, how do you get the paver pattern into the clay? Green Stuff World makes textured rolling pins that fit on a small handle. One of the tex-

2. Air-Dry Clay.

3. Sett pavement and Dutch brick patterns, in two scales. Note the difference between the two patterns.

tures is sett pavement. They also offer Dutch Bricks. Different sizes of bricks are available to fit various scales. Green Stuff World offers pins that are 15-20mm (1/87-1/72), and 28-32mm (1/64-1/48), which are suitable for HO scale through O scale [3].

The manufacturer's website shows the textured rolling pins to be out of stock, but may be available on Amazon or eBay. They're also available from Cobbco: cobbco.store/collections/textured-rolling-pins-take-your-putty-game-to-the-next-level

For O scale, Etsy offers 28 - 32mm brick and cobblestone rollers [4]: www.etsy.com/search?q=texture+roller&ref=lp_queries_external_top-1.

Now comes the fun part! Start by taking two pieces of wax paper, each about 12 inches long. Pull out a piece of clay about one inch square for HO, two inches square for O.

Place the clay between the two pieces of wax paper. Using a kitchen rolling pin, roll out the clay in both directions at least until it's about ¼" thick. The thinner the better.

Remove the top piece of wax paper, dampen the textured pin, and roll it across the clay, pressing down hard enough to indent the pattern into the clay [5]. Make all the rolls in the same direction, either horizontally

4. Cobblestone textures on Etsy.

5. Sett pavement pavers indented horizontally across the clay.

or vertically across the clay. Don't roll over the same area twice, or you'll mess up the pattern.

Because the clay is so thin, it may lift up when you use the textured pin. Dampening the pin before rolling usually prevents this.

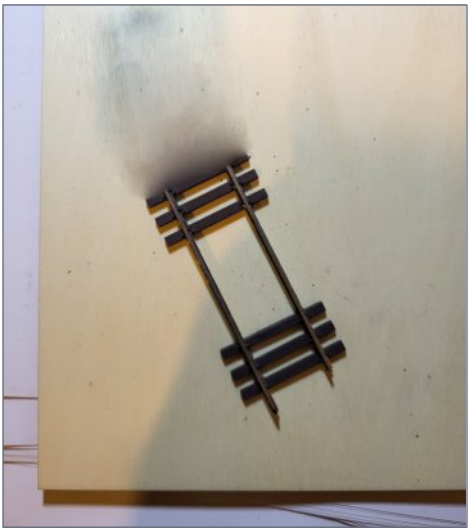
The clay will dry in a few hours. Do the next step while the clay is still soft.

Track and bricks typically seen under worn-away asphalt don't extend very far, usually no more than 5-10 feet. I take a piece of track and remove enough ties to match the length to be revealed under the asphalt. Leave enough ties on both ends to maintain the gauge of the rails [6].

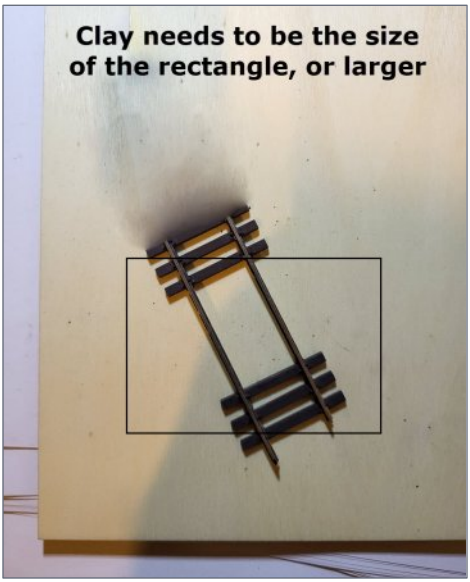
Decide what direction the track should appear under the asphalt on your street. I chose to have the track 45 degrees to the street.

Lay the indented clay on a hard surface, in the direction you want the pavers to appear, e.g., across the street or in the same

direction as the street. The clay needs to be long and wide enough so that the track without ties completely fits on the clay [7]. Turn the track upside-down and orient it over the clay at your desired angle.



6. Track with ties removed.



7. Use a large enough piece of thinned clay.

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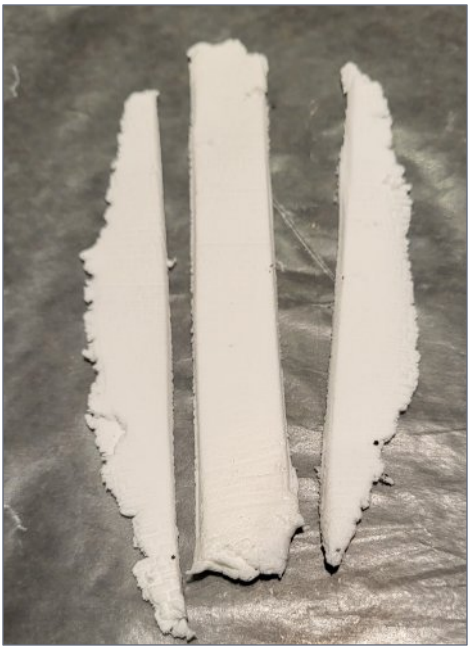
I press the track without ties into the clay, hard enough to almost cut through it. Remove the track and set it aside. The indentations will make it easy to remove the clay outside the rails with a hobby knife. This creates three pieces of clay: one piece for between the rails, and two pieces for outside the rails [8].

The modeled hole exposing the track and pavers through the asphalt is like a pothole, which is never perfectly round or square. It can expose the track with pavers between the rails, or even include pavers outside the rails.

The clay outside the rails can be a different length than the clay between the rails. The ties and rails at the ends of the track section will be hidden under the asphalt. Glue the track to your street at the angle used to cut the clay.

When the track glue has dried, trim the dried center clay piece to fit inside the section without ties. Place dried clay outside the rails as well if desired. I use white glue to hold the clay in place.



8. Clay pieces before trimming.

It's not uncommon to see pavers outside the rails, extend below where the pavers end between the rails [9]. It's prototypical to see asphalt on the exposed rail.

Coloring brings the brick pavers to life. For black pavers, I use a mixture of 1 teaspoon black India ink to ½ pint of 70% isopropyl alcohol. You can also use a commercial black wash if you don't want to mix your own. Brush it on or use an eyedropper. After the ink mixture or wash dries, apply a second coat if you want a darker color. Additional weathering comes after laying the asphalt street.

9. Track running through brick pavers. This track is laid parallel to the street, with the brick pavers oriented perpendicular to the street.

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SPREADING ASPHALT

There are several materials used to model asphalt roads. Some modelers use sandpaper, while others use joint compound mixed with black tempura paint. The *MRH* forum had a thread in 2014 where a modeler used black craft foam.

I prefer to use pre-mixed charcoal tile grout [10], which has the appearance and consistency of freshly laid asphalt. It is available at big-box hardware stores or on Amazon.

Use a putty knife to scoop out some grout and spread it evenly on the road. I smoothed the grout so there were no high or low spots.

I used a small trowel to feather the grout right up to the track and pavers. It's okay for the grout to cover the edges of the pavers outside the rails. The grout should be thinnest where it touches the pavers or track. Michaels sells a clay modeling kit that includes a mini trowel that works well for this task [11].

10. Charcoal tile grout. This is one gallon, but is also available by the quart, which should be more than enough for the project.

I'm modeling track that's been exposed due to wear-and-tear of the asphalt. On the prototype, the asphalt layer is higher than the rail and brick paver layer. A single coat of grout usually doesn't come up to the height of the rail, and the rail should be no higher than the asphalt.

The solution is to let the first coat of grout dry overnight, and then add a second coat. Use the small trowel to feather the grout up to the rails or pavers. If necessary, let this coat dry overnight and add a third coat; this is likely needed if modeling in O scale, owing to the height of the rail relative to the height of the grout.

This technique also works for modeling exposed pavers without buried tracks.

11. Clay modeling tools.

WEATHERING

The dried grout has a rough texture, just like real asphalt. I start by using Pan Pastel raw umber [780.3] and burnt sienna shade [740.3] on a cosmetic sponge. Wipe off most of the pastel on a paper towel, then lightly scuff the sponge over the grout where vehicle wheels would leave tire tracks and dirt stains. You can also use Monroe Models weathering powders, such as Medium Earth [3103], Dark Earth [3107], and Dry Mud [3122].

Use a rust color on the rail tops. Monroe Models makes Rusty Brown [493-975] and Real Rust [493-973] washes that work well. Apply with a small micro brush or a fine-tip paint brush. A Tidy Track rust coloring track pen from Woodland Scenics [TT4581] works well here, too.

AK Interactive makes Asphalt Road Dirt pigments [AK146], which is perfect for weathering streets. I stipple it on with a stiff brush. Vallejo's Brown Splash Mud [73.805] and Humbrol Dust Wash [AV0208] can be brushed on the asphalt and pavers [12].

12. Weathered asphalt street.

On the lower left and right of [12] are two patches of worn-away asphalt that expose pavers where there is no track. In the upper center, the worn asphalt reveals track with pavers between the rails. The pavers without track are in the same orientation to the street (perpendicular) as are the pavers between the rails.

These techniques are an easy way to model a gritty and realistic feel to an urban scene. ☑

DAVID STECKLER

David's interest in model railroading began as a young child, even before he received his first Lionel train set. Growing up in New York City and Long Island, he rode behind EMD FL9s and Alco C420s as a youngster to visit grandparents in Connecticut and the Bronx, becoming a big fan of the New Haven RR and Long Island RR.

As a teenager he modeled in N scale. After college and law school, David married and shortly thereafter built the first of several HO scale shelf layouts.

After retiring in 2011, David began building his current shelf layout, modeling the Long Island RR and the New Haven RR. His favorite parts of the hobby are electrical/wiring, and ballasting and weathering track.

David is married to Sharon and lives in Ft. Worth, TX with their two dogs. He is an NMRA member and enjoys photographing railroad museums and working railroads, both locally and around the world. ■

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Model Railroad Hobbyist | June 2024

VIEW READER COMMENTS

The MDC Shay Handbook

JEFF SHULTZ REVIEWS A BOOK ON MAKING THE ICONIC MDC SHAY INTO A TROUBLE FREE MODEL ...

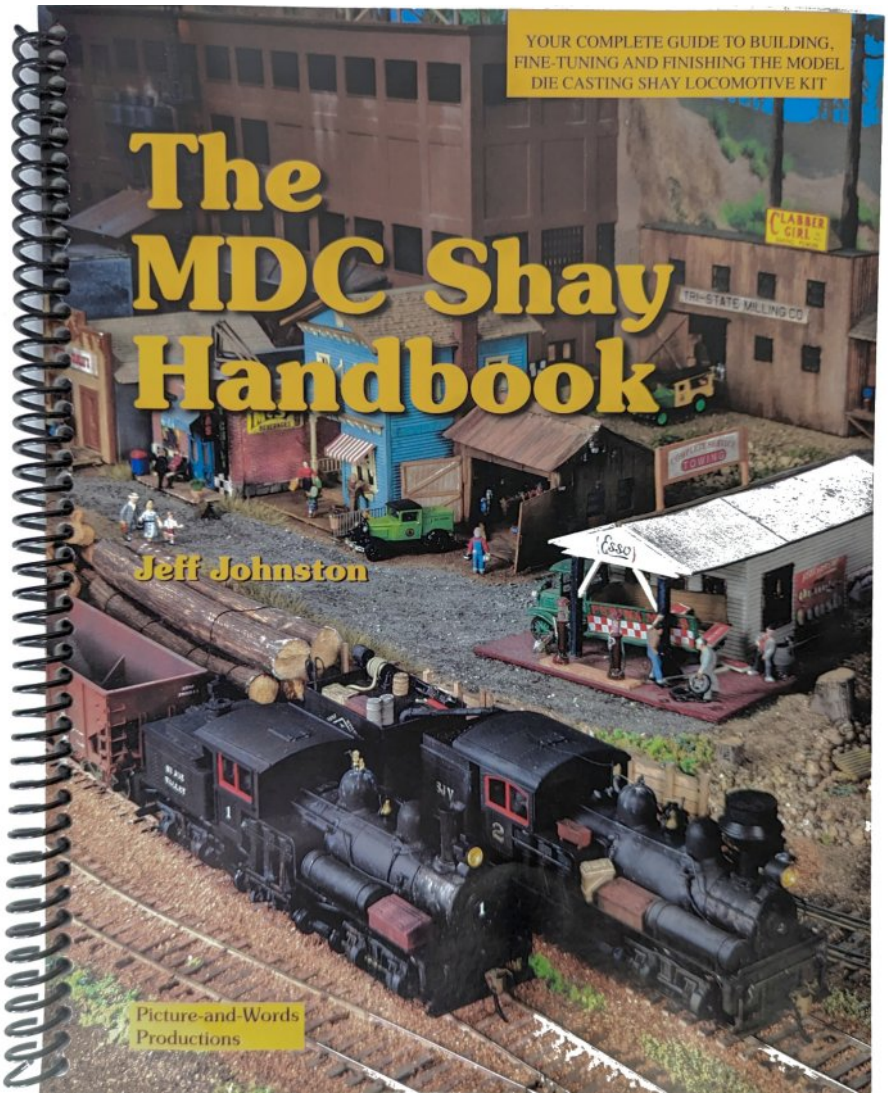
OCCASIONALLY YOU FIND A BOOK THAT MAKES YOU SAY, "this would have been really useful 25 years ago." For me *The MDC Shay Handbook* is that book. In 1996 I was building an MDC two-truck Shay locomotive kit I'd purchased at The Peach Creek Shops in Laurel, MD.

I got as far as completing the inner and outer drive train, and running it at an open house my modular club was participating in. Later that afternoon I met a young woman. Even though that relationship lasted only about four months, the Shay remained unbuilt for the next 10 years or so.

Unfortunately for me, the first printing of this book wasn't until 1997, when the Army had me busy doing other things. I gave away the incomplete Shay in the mid-2000s, and by that time, it

was missing parts. Its new owner sent me a very nice photo of it as a static model.

Because *The MDC Shay Handbook* has just been released in an updated edition for its third printing, you don't have to end up



1. The cover of The MDC Shay Handbook.

like me. The HO scale MDC Shay kit is still a staple of swap meets and dusty train store corners. With the information contained in the book, you can turn the kit into a model that looks good and runs well.

If you've already built one, you can use the information therein to make it an even better model. A softcover, spiral-bound book, *The MDC Shay Handbook* is 96 pages long. It includes an index and features over 230 photos and diagrams.

Chapter One is Getting Started. It details the contents of the book, gives a very brief history of the Shay, and provides general information on useful tools and preparation for building the kit.

Chapters Two through Six detail building a reasonably stock model of the 2-truck Shay from the kit. It recommends only a few changes in parts to improve reliability, but offers many suggestions and techniques to improve the model's appearance and operation.

Chapters Seven through Twelve are on building the 3-truck Shay kit. They build on the previous instructions, and introduce aftermarket parts to take a Shay model to the next level of appearance and performance. These include metal gears and brass details.

Chapter Thirteen covers items specific to the HOn3 version of the kit. It discusses coupler installation and the mildly controversial topic of the locomotive's size, which may be an issue on HOn3 layouts with tight clearances.

Chapter Fourteen is a gallery of 14 photos of various MDC Shay models. It includes 2- and 3-truck models, HOn3 models, and photos of models that have been kitbashed into Sn3 and On20 scales. The captions include the builders and a short list of modifications they made to the models.

A feature of the new printing is Chapter Fifteen, the Buyer's Guide. It contains the names and contact details of companies

that make aftermarket detail and upgrade parts for the MDC Shay model. While it lists some of the parts, at least one company's catalog is large enough that it recommends a visit to their website.

The Appendix includes:

- Tools and parts lists for the construction projects in Chapters Two through Twelve,
- Books and other items and their sources for prototype photos, data, and specifications,
- A bibliography of magazine articles on the MDC Shay and other geared locomotives,
- Shay locomotive and logging videos,
- Logging specific magazines,
- A list of non-Shay-specific manufacturers whose products might be useful in finishing a Shay kit.

Jeff Johnston and his wife Pam model the Sugar Pine Lumber Company/Minarets & Western Railway circa 1927 in HO scale in their house in Eugene, OR. His articles and photos about his layout, the MDC Shay, and other model subjects have appeared in *Model Railroad Hobbyist, Railroad Model Craftsman, Model Railroader, Timber Times,* and *Sn3 Modeler.*

Jeff has built both the 2-truck and 3-truck Shay models depicted in this book, as well as upgraded numerous other locomotive models.

The MDC Shay Handbook is published by Pictures-And-Words Productions and is available from The Sugar Pine Shop at thesugarpineshop.bigcartel.com for $29.00 + shipping.

Maybe I need to go find one of those Shay kits again. ☑

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Breathe new life into old freight cars

YouTuber **HO Scale Rio Grande** demonstrates the process he uses to take old cheap low quality train cars and turn them into superb looking and running models.

VIEW READER COMMENTS

In this video, **Rio Grande** takes a car he bought for $1 at a train show and walks through each step in the upgrade process. Many of his techniques can be used on any similar car and he shows them up close with good lighting and focus. This 30-min video is well worth it just for the car upgrade techniques. ☑

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JUNE NEWS column

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

VIEW READER COMMENTS

INDUSTRY NEWS

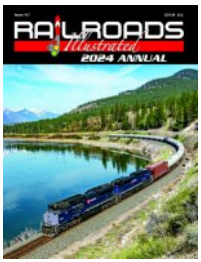
Eric Courtney (1949-2024)
Eric James Courtney, founder of Miniatures by Eric, passed away May 6, 2024 at his home in Busby, Alberta, Canada. Beginning in 1989, Eric combined his love of model trains and his skill as a jeweler to create HO and O scale urethane and lost wax brass detail parts. Over a period of time he developed a short but highly detailed line of parts for both Canadian and U.S. prototypes. He is survived by his wife Diane.

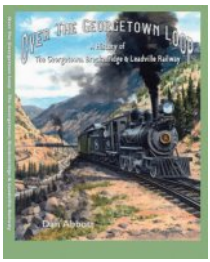
Jack Leroy Baer (1943-2024)
Jack Baer, owner of the Litchfield Station hobby shop in Avendale, Arizona since 2010, passed away after a long fight with cancer on May 18, 2024. A major supplier of DCC and related products, the future of the Litchfield Station store is unknown at this time.

THE LATEST MODEL RAILROAD PRODUCTS, NEWS & EVENTS

NEW PRODUCTS FOR ALL SCALES

New from **Ring Engineering – RailPro** is the TC-1 Turnout Controller Module. Capable of operating four turnouts per module, both twin-coil (snap) and motor driven turnouts can be run by the TC-1. The TC-1 is set up and controlled via a RailPro controller such as the HC-3. The TC-1 replaces the AM-1 accessory module.
Info: www.ringengineering.com





New books coming this summer from **White River Publications** include the *2024 Railroads Illustrated Annual* and *Over The Georgetown Loop.* The Annual follows the established format of exceptional railroad photography ranging from the Montana Rail Link, to the Florida East Coast to the lesser known Fort Worth & Western Railroad. Lots of eye candy here for fans of America's railroads.

Built in 1883, the Loop on the Georgetown, Breckenridge and Leadville Railway was an engineering marvel of the day. More than 4.6 miles long, the famous loop included two hairpin turns and a viaduct where the route looped 100 feet over itself within the narrow mountain valley. In addition to serving the mines, the line proved a popular tourist destination. This new 192-page hardbound book by Dan Abbott details the history of the line until its abandonment in 1938.
Info: shop.whiteriverproductions.com

O SCALE PRODUCT NEWS

Atlas Model Railroad Co. has announced the production of a Premier O Monon Streamlined Passenger Set exclusively for the retailer Mr. Muffins of Atlanta, Indiana. The four cars will feature the Monon black and gold livery and include Baggage #109, RPO #45, Diner #80002, Coach #44, Coach #45, and Observation #59.

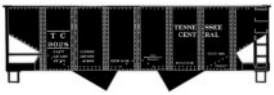
The cars are a scale 70′ long and include ABS bodies, stamped metal floors with detailed undercarriage, die-cast 4-wheel trucks, two operating die-cast metal couplers and O scale Kadee-compatible coupler mounting pads, constant voltage LED interior lighting, detailed interiors, and 10 hand painted figures in each passenger car.
Info: shop.atlasrr.com

HO SCALE PRODUCT NEWS

New economy-priced HO scale freight car kits coming soon from **Accurail** include this ACF twin-bay covered hopper car built 4-67 and decorated for USLX Morton Salt.

This Illinois Terminal Railroad 36′ double-sheathed wood boxcar with sliding wood side doors and a high horizontal brake wheel represents a prototype car built in 1924.

Missouri Pacific 50′ exterior-post steel boxcar with Youngstown sliding doors. The HO scale model is based on a prototype built in May 1974.



Built in 1926, this Tennessee Central twin-bay open hopper is based on an earlier USRA design. All Accurail HO scale car kits in this report come with appropriate trucks with Delrin wheelsets and Accurail knuckle couplers.
Info: www.accurail.com

R. Bale

ELECTRO MOTIVE DIVISION GP40-2 LOCOMOTIVE

The EMD GP40-2 is a four-axle diesel-electric locomotive introduced by General Motors Electro-Motive Division as part of its Dash 2 line in 1972. The locomotive's power is provided by an EMD 645E3 16-cylinder engine that generates 3,000hp. Spotting features of the GP40-2 are three large radiator fans and a turbocharger stack. Although the GP40-2 was among EMD's most successful models, with a total of 1142 units being built, production ended in 1986 as interest in high-powered locomotives shifted to six-axle models.

Athearn has released its production schedule for October 2025 with pre-orders due by June 28, 2024. Heading the list is a Genesis series GP40-2 in seven road names with numerous road number specific details.

GP40-2 models decorated for Denver, Rio Grande & Western will have EMD's early body with chicken wire grilles, lit classification lights, a cab beacon light and front and rear ditch lights. Three D&RGW road numbers will be available in this release.

Models decorated for Richmond, Fredericksburg & Potomac and Chessie System share several of the same details as the D&RGW version. Additional details include a Leslie 3-chime horn and a large Sinclair antenna.

To celebrate EMD's 50th Anniversary a Chessie System GP40-2 was given a unique gold paint scheme that it continued to wear from 1972 until 1984.

Spotting features on Southern Pacific GP40-2s include L-style cab windows, roof mounted A/C units and a large front plow.

Four SP road numbers will be available including one in the Kodachrome scheme in anticipation of the merger with ATSF which was ultimately denied.

Athearn has included two Union Pacific GP40-2s in the October 2025 production schedule. The Genesis models represent faded SP prototypes patched in 2016 for UP.

Three CSX road numbers available in the Boxcar decorating scheme will have front ditch lights.

Three Florida East Coast GP40-2s will be available in this release. FEC road No. 414 is based on an early prototype with chicken wire grilles. Later production units with corrugated grilles will be represented by No. 421 in standard FEC paint and No. 430 in a special red, white and blue Honoring Our Veterans scheme.

Details on all Athearn Genesis GP40-2 models include coupler cut levers, trainline and MU hoses, textured walkway tread, windshield wipers, lift rings, wire grab irons, Celcon handrails, sanding lines, lit number boards, etched metal fan grilles, a detailed fuel tank with fuel fillers, fuel gauges, and breather pipes; Blomberg trucks and McHenry knuckle couplers.

Athearn's Genesis series GP40-2 will be available for DCC and sound operation with a SoundTraxx Trunami2 decoder and dual cube speakers.

Athearn has included another run of F89-F bi-level auto racks in its October 2025 production schedule.

The model is based on Whitehead & Kales auto racks mounted on an 89′ Bethlehem Steel flatcar.

Open racks will be available for Frisco, Chicago, Burlington & Quincy and Northern Pacific. Road names for racks enclosed with side panels will include Southern Railway, Rock Island and Norfolk & Western.

Notable features on the HO scale model include an undulating safety railing, wire grab irons, coupler lift bars, brake and trainline hoses, McHenry double-shelf knuckle couplers and 70-ton roller-bearing trucks with rotating bearing caps. A package of end bridge plates is included for customer installation if desired. The model requires a minimum track radius of 22″.

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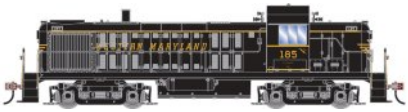
R. Bale

AMERICAN LOCOMOTIVE RS-3 ROAD SWITCHER

Alco introduced the 1,600hp RS-3 road switcher locomotive in May 1950. Designed specifically to compete with EMD's GP7, the RS-3 would become the most commonly seen Alco locomotive across the country. Schenectady-based Alco and its Canadian counterpart, Montreal Locomotive Works, built 1363 of these versatile locomotives before production ended in late 1956. Spotting features of the familiar and reliable RS-3 included pronounced rounding at the corners on the cab and long, low hoods, giving the locomotive a more streamlined appearance than its RS-1 predecessor. The radiator-fan housing was also rounded. The short hood could accommodate a steam generator. Because of this option, and the RS-1s good looks, some railroads elected to employ theirs in passenger/commuter service.

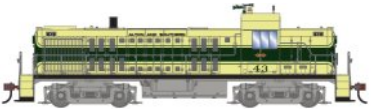
Athearn's October 2025 production schedule includes Alco RS-3 diesel locomotives in six road names including Long Island Rail Road, Southern Railway, Missouri Pacific, Susquehanna, Western Maryland, Alton & Southern.



The HO scale model will have a newly engineered can motor designed to provide quieter, more powerful operation.

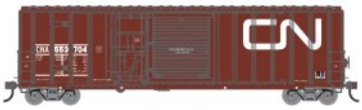
The LIRR and Southern versions will have steam generators.

RS-3s decorated for Missouri Pacific will feature dual beam headlights while all other road names will have single beam lights.

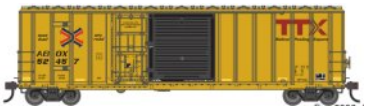


In addition to a new motor with all-wheel drive and electrical pickup, Athearn's ready-to-run RS-3 locomotive will feature LED lighting, metal grab irons, see through etched metal radiator fans and cab windows. Athearn's RS-3 will be available for DC operation with DCC-ready features including a Quick Plug 21-pin NEM connector. DCC models with sound will have a SoundTraxx Econami decoder and cube speakers.

Rolling stock on Athearn's October 2025 production schedule includes a 50′ FMC 5277 boxcar with a combination of a plug door and a sliding door.



Features include separately applied wire grab irons and etched end platforms.



Road names available on this release will be Railbox (early), Railbox (late), Canadian National (patched ex-Railbox), TTX and Minnesota, Dakota & Western.

Roundhouse brand models coming from Athearn include this 50′ exterior-post, high-cube boxcar with a plug door.

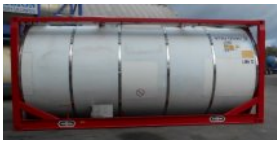
Road names will be Conrail, Denver & Rio Grande Western, Frisco, St. Lawrence & Atlantic, Nebraska, Kansas & Colorado Railnet (CP) and Mississippi Tennessee Railroad LLC.

VIEW READER COMMENTS

R. Bale

ISO Tank Container

In the 1960s containers became the preferred way of moving goods around the world. The appeal was that every container conformed to sizes defined by the ISO (International Standards Organization). In due course the concept of fitting a stainless steel cylinder inside the standard 20' frame was adopted and the ISO Tank was born. ISO Tanks became the standard for the transportation and storage of both hazardous and non-hazardous chemicals including fuel, gases, and even some types of food.



New models coming from Athearn in late 2025 include this 20′ ISO tank container.

Decorating schemes on this initial release will be Almar, SCF, RMI, Stolt, TAL and SAU.

The ISO tank containers will also be available on a drop frame truck chassis.

The well-detailed chassis will be available decorated in blue, green and for Penn Intermodal Leasing. Each chassis will be packaged with two cargo lifting bag option, either in transit locked down, or unlocked and lifted for tank draining.
Info: www.athearn.com

To mark its 100th anniversary, **Atlas Model Railroad Co.** has issued a special commemorative edition of an HO scale ALP-45DP locomotive. Atlas's HO scale model is based on

the dual-mode prototype locomotive capable of drawing power from overhead wire or its own pair of 12-cylinder Caterpillar diesel engines. Built by Bombardier, the unique locomotives were designed to provide a direct commute from various diesel-only territory in New Jersey to the electrified lines into New York City's Penn Station.

Designed from prototype drawings and field research, the HO scale model features ditch lights, marker lights, directional LED headlights and a positionable non-functioning pantograph. Each model comes with a package of grab irons and a drilling template for customer application. The ALP-45A locomotive is available in both DC (Atlas Silver series) and DCC sound-equipped versions (Atlas Gold series). Multi-level cab cars and trailers are also available in the Atlas anniversary scheme.

The ALP-54A locomotive, cab cars and trailers are also available decorated for NJ Transit.
Info: shop.atlasrr.com

R. Bale

CANADIAN CYLINDRICAL GRAIN HOPPERS

To address the perennial shortage of cars suitable for transporting Canada's huge grain crop, in the late 1960s the Canadian Wheat Board, the provincial governments of Saskatchewan and Alberta, and the Canadian federal government authorized the construction of over 13,000 unique cylindrical covered hopper cars. Most of the cars were steel, but 2,424 of the cylindrical hoppers needed for lighter branchline service were constructed of aluminum. Manufactured by National Steel Car, Hawker Siddeley and Marine Industries, spotting features of the distinctly Canadian design included the pronounced cylindrical sides, a flat roofline and colorful decorating schemes.

Bachmann is selling an HO scale version of Canadian four-bay cylindrical covered hopper cars. In addition to the CN Demonstrator scheme shown above, Bachmann's Silver Series model of the grain cars are available decorated for Canadian National, Canadian National (Oxide red), Canadian National (North American logo), Canadian National (Environmental Mode), Great Northern and Potash Corporation.

Additional decorating schemes include Saskatchewan Grain Car Corp., Alberta/Edmonton, Canada Grain, Government of Canada (Orange and yellow), Government of Canada (Red), Government of Canada (Yellow), Santa Fe and Scoular.

Also new from Bachmann is an HO scale single dome tank car representing prototype cars built from about the late 1920s through the mid-1940s.

The ready-to-run model features an injection molded body, separately applied ladders, metal hand rail, body-mounted E-Z Mate couplers and Bettendorf-type plain-bearing trucks with blackened metal wheels.

Decorating schemes on this release are SHPX-C.F. Simon's Sons, UTLX-Gramps, GATX-Clark Oil Refinery, QSOX-Quaker State, WSRX-Staroline Gasoline and Southern Pacific.

Info: www.bachmanntrains.com

Home Shops is accepting pre-orders for Trinity 50′ high cube boxcars produced by Prairie Shadows and decorated for freelance model railroad layouts.

Roadnames in this run include Chris Gilbert's Brownville & Ashland, Damon Curtis' MDRAIL, and Greg McComas' Michigan Interstate. Three road numbers for each railroad are being offered and only 50 cars in each number were produced.

The Prairie Shadows 50′ high cube boxcars include separately applied metal grab irons, Kadee metal couplers, full underbody brake rigging, separately applied coupler cut levers, and 36″ machined wheels in 100-ton trucks.
Info: homeshops.net

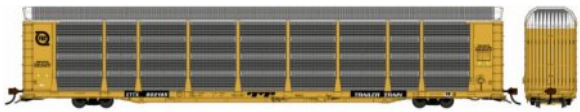
Available for pre-order from **Intermountain Railway Co.** is this S-40-4 Harriman stock car in HO scale. Formerly a Red Caboose product, the prototype was built in the late 1910s and ran through the 1960s after rebuilding.

In addition to Southern Pacific and Union Pacific paint schemes, several paint schemes of subsidiary or nearby railroads such as the Northwestern Pacific, Texas & New Orleans, Pacific Electric, Galveston Harrisonburg & San Antonio, Western Pacific, and Oregon Short Line will be available.
Info: www.intermountain-railway.com

Prairie Shadows is accepting preorders for two models in HO scale. The first is the second run of the Treton Works 5250 Hopper. Built in Nova Scotia for the Canadian grain service, the cars held more grain than the average covered hoppers then in service, with over 1000 cars being built for Canadian National alone. Road names in this run include two CN versions, NKLX patch, WCRC, WCRC POOL, CEFX, FURX POOL, and the FURX Ghost POOL scheme.

Prairie Shadows has tooled five body variations, three different outlet gates, three different manufacturer's handbrakes, multiple trough hatches, and two separate Barber truck types – S2 Sway and S2 Straight Back. Details include etched roof walks and crossover platforms, full endcage details, and 36″ CNC metal wheels.

Also available for preorder is an HO scale 89′ 4″ Tri-level autorack car featuring Portec fully enclosed racks mounted on Pullman-Standard F89CHW, F89WHW and PLH10W flatcar bodies. Modeled with Portec RAVE end doors, the models will feature photo-etched side screen panels, Ride Control D4 low-level trucks with 28′ wheels, Kadee long-shank couplers, metal grab irons, and underframe and brake rigging details.



Road names and reporting marks in the first release will include GTW/ETTX, UP/ETTX, Conrail/ETTX, FEC/ETTX, CN, and CNA.

Info: prairieshadows.com

R. Bale

GENERAL ELECTRIC C36-7

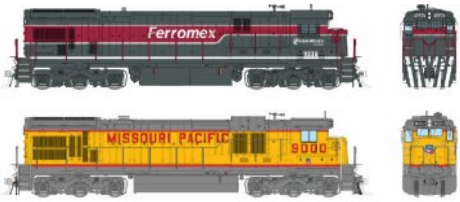
GE's C36-7 is a six-axle 16-cylinder 3,600hp diesel electric locomotive built between 1978 through 1989 by GE Transportation Systems, GE of Brazil and A. Goninan of Australia. Visually, the C36-7 is similar to the GE C30-7 but has larger air intakes under the radiators. The dynamic brake grids of later C36-7 units are located in a roof-top box behind the cab. Of the 599 C36-7s built, 422 were exported to China. GE of Brazil built 15 C36-7s for Mexico. After several years of service in Australia, three units built there by Goninan were shipped to the United States where they were sold to various railways. As the result of mergers Union Pacific acquired 58 former Missouri Pacific C36-7s. R.

Rapido is booking preorders on a new HO scale model of a General Electric C36-7 diesel electric locomotive. Features on Rapido's GE C36-7 units include operating headlights, rear lights, step lights and lit number boards; separate grab irons, traction motor details, innovative straight metal side handrails with plastic stanchions and a detailed cab interior including a lighted control stand. Both DC (silent) and DCC versions with ESU Loksound V5 decoders will be available.

Rapido's HO scale C36-7 will feature numerous road specific details. Units decorated for Burlington Northern will have raised number boards, ditch lights and a firecracker antenna.

Conrail units will have Rockwell trucks, ditch lights, Leslie RS3L horns and CR-style marker lights.

GE delivered C36-7 units to Ferrocarriles Nacionales de Mexico with Adirondack trucks frames and a unique four-window cab. A spotting feature on units decorated for Ferromex include a two-window cab with rock guards on both windows.



Missouri Pacific and Union Pacific versions of the C36-7 will both have large 4,300 gallon fuel tanks. Additional shared details include Rockwell truck frames, a boxy dynamic brake housing, two-window cabs, ditch lights and a UP-style pilot plow at the front.

Units delivered to Norfolk & Western in 1978-79 had six-wheel trucks with Adirondack truck frames.

Norfolk Southern took delivery of GE C36-7s in 1982. They had Rockwell trucks and front and rear ditch lights. Details common to both N&W and NS locomotives include firecracker antennas, two-window cabs, and a N&W style lower pilot step.

VIEW READER COMMENTS

R. Bale

DODX FLAT CARS

During the Korean War (1950-1953) the Department of Defense took delivery of a fleet of 650 heavy duty flatcars from the Magor Car Corporation. The 54' flatcars were capable of transporting tanks, APCs, gun barrels and other heavy military hardware. Rated at 100-tons, the DOD flats had heavy steel frames, wood decks and six-wheel Buckeye plain-bearing trucks. Over the years they received a variety of military paint schemes. Cars assigned to the U. S. Navy were painted silver. In the mid-1960s, many of the cars still in service had their plain-bearing trucks retrofitted with roller-bearings. In the 1980s Magor's 54' cars were replaced with a 68' DODX flatcar capable of transporting heavier loads including the mammoth Abrams tanks.

Rapido has announced plans to produce an HO scale model of a Magor 54′ DODX Department of Defense flatcar. The model is being developed using Magor original blue-prints augmented with measurements and scans of museum cars.

As with all Rapido models, special attention is being given to faithfully recreate the underbody details. Depending on the era of the car being modeled, the DODX flats will come with Buckeye six-wheel plain-bearing or retrofitted roller-bearing trucks.

Decorating schemes will be USAX (1953+),

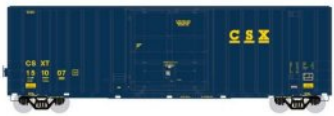
DODX (1960+), DODX (1975+), DODX (1980+) and DODX (USN silver 1975+). Unlettered cars will be available painted gray, green and black.

Rapido is currently developing accurately detailed loads, including military tanks, for the 54′ DOD flatcars.

Info: www.rapidotrains.com

Scale Trains has announced a model of an HO scale PC&F R-40-2 wood reefer in the Fox Valley Models line. Introduced in 1929, the R-40-2 served through the 1950s. The 40′ ice reefer includes cast stirrup steps and end ladders and includes a detailed underbody brake system and brake wheel. Factory-applied wire grab irons, semi-scale plastic Type-E couplers, and plain bearing trucks with machined 33″ metal wheels are included.

Road names in the first run include Burlington Refrigerator Express/ BREX, Merchants Despatch/MDT, Northern Pacific, Pacific Fruit Express-Southern Pacific, Pacific Fruit Express-Western Pacific, and Santa Fe/SFRD.



A new run of ExactRail Evolution series Gunderson 6269 high cube boxcars in HO scale has also been announced by ScaleTrains. The fully assembled cars are equipped with narrow-style draft boxes with shank wedges and striker castings, wire grab irons, nailable steel floor, and separately applied door tracks and door bars. 36″ machined metal wheels are mounted in ASF Ride Control 100-ton trucks.

Road names in this release include Crab Orchard & Egyptian, CSX, GATX/GACX, Norfolk Southern, Tomahawk Railway, Trailer Train/ex-CSX, Trailer Train/ex-Illinois Central, Trailer Train/ex-Northwestern Oklahoma Railroad, and undecorated. 22'' minimum radius is recommended.

A new run of the GE ET44 Tier 4 emissions compliant locomotive has been scheduled for arrival this fall, with new road numbers and paint schemes, including BNSF, Canadian National/Aboriginal Affairs with white roof, CSX, Norfolk Southern, and Union Pacific.

Three new paint schemes have been announced for the latest run of ExactRail Platinum HO scale Berwick 7580 appliance boxcars. In addition to the eight previously announced paint schemes, the models will be available in Family Lines (ex-Seaboard System patch) and two CSX (ex-Family Lines patch) paint schemes.

Preorders for a new run of Rivet Counter SD40T-2 Tunnel Motors in HO scale are being accepted. Expected in January 2025, this run includes two Denver & Rio Grande Western, four Southern Pacific, and four Union Pacific ex-SP patch paint schemes.

Also announced are Rivet Counter models of the first two ES44AC GEVOs painted in the new Canadian Pacific Kansas City paint scheme. CPKC #9375 is sublettered for CP and CPKC #4805 is sublettered for KCS, as the railroad's locomotive fleets are still being integrated.

Additionally, five new Rivet Counter models of the CSX ES44AH Heritage Units have been announced, with paint schemes for the Atlantic Coast Line, Louisville & Nashville, Monon, New York Central, and Richmond, Fredericksburg, & Potomac heritage units being added to the previously announced B&O, C&O, Chessie System, Conrail Quality, and Seaboard System schemes.

Preorders for the Berwick 7580s, SD40T-2s, and ES44AC/AH GEVOs close on June 24, 2024, with delivery expected in late 2024 or early 2025.
Info: www.scaletrains.com

Tangent Scale Models has released a second production run of HO scale Greenville 60′ 6,000 cu. ft. auto parts boxcars in five new paint schemes. Prototype cars built during 1963-1964 had a narrow 41′ 3″ wheel base while cars produced in 1965 and 1966 had a 46′ 3″ wheelbase. The models adhere closely to the prototype with diagonal panel roofs, Stanray ends, Greenville's distinctive fishbelly sill, a pair of 8′ Youngstown plug doors and correct truck centers dimensions.

New releases include this Detroit, Toledo & Ironton model decorated in a 1978 green repaint. Details unique to the DTI car include 46′ 3″ truck centers, a double pair of auxiliary crank arms added to the plug doors and no running board. The ladders have been shortened except on the B end where a high ladder and an Apex brake step provide access to the Ajax power brake.

Models decorated for Green Bay & Western and New York Central share several details including narrow 41′ 3″ truck centers, full

height ladders, Apex running boards and crossover platforms, and a Morton brake step. The GBW car has an Ajax power brake while the NYC version is equipped with a Champion-Peacock 1600 power brake. Also unique to the NYC car are 100-ton Barber S-2 plain-bearing trucks. All of the other cars in this release have roller-bearing S-2 trucks with Timken rotating end caps.

Completing Tangent's second release of Greenville 60' 6,000 cu. ft. auto parts cars are models decorated for Nickel Plate Road and Detroit & Toledo South. Details shared between the two road names include narrow 41′ 3″ truck centers, Apex running boards, full height ladders, Ajax hand brakes, Morton brake steps and Apex crossover platforms.

Tangent is also offering five different versions of the model in undecorated kits.

Info: www.tangentscalemodels.com

Walthers has scheduled the release of a group of EMD SD70M, SD75M and SD75I diesel locomotives for this coming fall. The HO scale models will be available with a choice of standard DC operation with a 21-pin plug and with factory installed ESU Sound and DCC decoder.

SD70M units with a Phase 1 nose, safety cab and a high headlight will be available decorated for CSX, Lake State Railway, Norfolk Southern and

Union Pacific. The CSX locomotive will be equipped with HTCR-1a (High-Traction Self-Steering Radial) trucks and a window in the nose door. LSR, NS and UP versions of the SD70M will come with HTCR-1b trucks. They will not have a window in the nose door.

Walthers SD75I (The I indicates an isolated cab) will feature an isolated Whisper Cab. Road names on this release will be Canadian National and Ontario Northern Railway.

Walthers SD75M units with a standard North American cab and an extended compartment on the engineer's side will be available decorated for Santa Fe and BNSF. Both road names will come with HTCR-1a trucks

All of Walthers Mainline SD70M, SD75M and SD75I models in this release with have working ditch lights and constant directional lights.

VIEW READER COMMENTS

R. Bale

ORTNER HOPPER CAR

The Ortner open hopper is a distinctive square bodied car with a unique system of air-operated rapid-discharge bays developed by Robert Ortner in 1960. Although the large square body with high sides has an interior length of just 30′ the full weight of the car is spread over a frame that is almost 44′ long. Although designed for hauling coal, the Ortner cars high-capacity and rapid-discharge system proved equally efficient for unit trains of other bulk commodities including limestone, iron ore, gravel and sand. Trinity Industries purchased Ortner Freight Car Co. in 1986 and continued to develop the rapid-discharge system.

Also due from Walthers this fall is a new release of a 40′ Ortner 100-ton open hopper cars. The HO scale model will come with a removable aggregate load.

Road names will be Conrail, CSX, Georgetown Railroad, Norfolk Southern, Florida East Coast and Western Railroad. Features on the Walthers Proto series model include wire grab irons and end railings, and detailed air-operated discharge doors.

New models coming from Walthers this summer include a Mainline series 60′ high-cube Plate F boxcar.

The Mainline series model will have X and diagonal panel roofs, a detailed underbody with cushioned underframe and

brake gear and 100-ton roller-bearing trucks with 36″ machined metal wheels.

Road names will be Norfolk Southern, TFM- Transportación Ferroviaria Mexicana, TTX, TTX-TBOX, Wisconsin Central and Union Pacific

A 73′ woodchip hopper car with six discharge bays is also scheduled for release later this summer. The Walthers Mainline series model is based on a Greenville prototype. Details include interior bracing door latches and 100-ton trucks with 36″ machined metal wheels.

Road names will be Apalachicola Northern, Atlanta & St. Andrews Bay, CSX, Louisville & Nashville Family Lines System, Norfolk Southern, Seaboard System and Southern Railway.

Completing Walthers summer release of new HO scale freight cars is a Pullman-Standard PS-2 2,893 cu. ft. triple-bay covered hopper. Spotting feature on this version of a 2893 include ten round roof hatches. The Mainline series model will come with Bettendorf-style plain-bearing trucks with 33″ machined metal wheels.

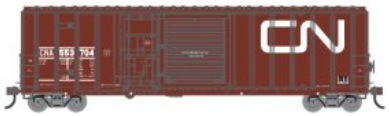
Four road numbers each will be available for Atlantic Coast Line, Burlington Northern, Chicago & North Western, Conrail, Denver & Rio Grande Western and Soo Line. All Walthers models in this report come with Proto MAX metal knuckle couplers.
Info: www.walthers.com

N SCALE PRODUCT NEWS

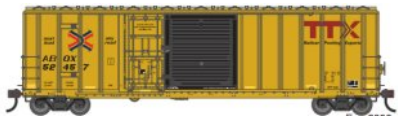
Athearn's October 2025 production schedule includes an N scale F89-F bi-level auto rack. The model is based on Whitehead & Kales auto racks mounted on an 89′ Bethlehem Steel flatcar.

Open racks will be available for Frisco, Chicago, Burlington & Quincy and Northern Pacific. Road names for racks enclosed with side panels will include Southern Railway, Rock Island and Norfolk & Western.

An N scale 50′ FMC 5277cu. ft. boxcar is also scheduled for release from Athearn in October 2025. The model is based on an FMC prototype equipped with a combination of a plug door and a sliding door.



Road names available on this release will be Railbox (early), Railbox (late), Canadian National, TTX and Minnesota, Dakota & Western.



All Athearn N scale models come with body-mounted McHenry scale knuckle couplers.
www.athearn.com

Bachmann his selling an N scale version of Canadian four-bay cylindrical covered hopper cars. In addition to the Saskatchewan Grain Car Corp. scheme shown above, the N scale ready-to-run model is available decorated for Canadian National, Canadian

National (Demonstrator), Canadian National (Oxide red), Canadian National (North American logo), Canadian National (Environmental Mode), Great Northern and Potash Corporation.

Additional schemes currently available include Alberta/ Edmonton, Canada Grain, Government of Canada (Orange and yellow), Government of Canada (Red), Government of Canada (Yellow), CP Rail, Santa Fe and Scoular.
Info: www.bachmanntrains.com

Kato has announced a new run of the EMD NW2 end cab switch engine in N scale. With 1,145 NW2s produced from 1939 to 1949, as well as 41 of the related TR series locomotives, the 1000hp locomotive was not produced from 1942-1945 due to WWII production limitations.

The Kato model will be available in two numbers each for Burlington Northern, Santa Fe, and Union Pacific. It will feature body mounted Kato magnetic knuckle couplers and directional golden-white LED headlights. The locomotive will be available in DCC+Sound, DCC, and Analog/DC versions, with the Analog/DC model suitable for drop-in decoders from multiple manufacturers. Photos from previous runs.
Info: katousa.com

R. Bale

THE PORTLAND ROSE

In 1930, the Union Pacific's Portland Limited was renamed The Portland Rose. The heavyweight steam powered train offered through service between Chicago and Portland via Kansas City and Denver. Throughout the mid-1930s the Portland Rose was periodically upgraded with lightweight equipment and diesel power at the front end. The introduction of the City of Portland in 1935 replaced the Portland Rose as the UP's fastest scheduled train to the northwest. The Rose, however, continued as an important name train until 1971 when Amtrak took over the nation's passenger service.

Railsmith has announced plans to produce an N scale version of the Portland Rose, one of Union Pacific's premier lightweight trains to the Northwest. The typical consist of the Portland Rose during the lightweight era included three to four mail storage cars, an RPO, a baggage dorm, three coaches, a diner and four to five sleepers. Advance reservations are currently being booked for a pair of UP general service chair car/coaches built by Pullman-Standard in 1950.
Info: lowellsmith.net

ScaleTrains has announced a new run of the GE ET44 Tier 4 emissions compliant locomotive has been scheduled for arrival this fall, with new road numbers and paint schemes, including BNSF, Canadian National/

Aboriginal Affairs with white roof, CSX, Norfolk Southern, and Union Pacific.
Info: scaletrains.com

STRUCTURES AND SCENIC SUPPLIES

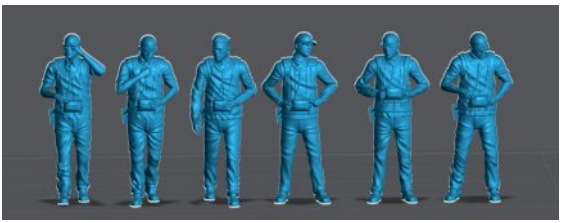
The latest HO scale craftsman structure kit from **Berkshire Valley Models** is the Corner Drugstore. The kit is composed of laser-cut wood parts and white metal detail parts. The first floor is a pharmacy and soda fountain, with the second floor used as an office. The building is designed to allow for interior details to be added if desired. Figures shown are not included. The building has a foot print of 7″ by 10″. Interior details for the first and second floor are available separately.

Also new from Berkshire Valley Models is an HO scale kit named Elevated Warehouse. The small structure can be signed for a variety of industrial, commercial or farm purposes. The assembled building has a footprint of 5.25″ x 2.5″. A small loading dock, that can be positioned on the side or end of the building, extends out another 1.5″. Assembly and painting are required.
Info: berkshirevalleymodels.com

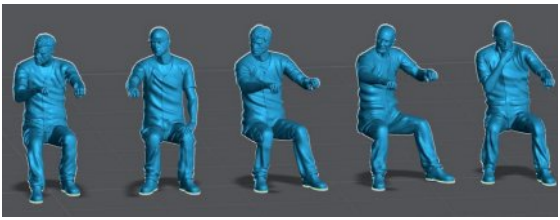
Frenchman River Model Works has an HO scale resin kit for two urban retail stores: a one-story Barber Shop and a two-story Tobacco Store. The barber shop is a three sided building that can be positioned

on either side of the larger building. The skylight and large front windows encourage interior detailing.

The kit includes cast resin structure components, a skylight assembly, chimney, barber pole, Cigar Store Indian, window glazing, venetian blinds, tar paper roofing material, metal smoke jack, a fire escape and decal signage. The assembled structure has a footprint of approximately 3″ wide by 2″ deep. Painting and assembly are required.
Info: www.frenchmanriver.com



Maple Leaf Trains continues to expand its line of HO scale 3D printed figures. The newest item is a set of six Beltpack Operators in different positions. The unpainted figures represent railroad yard workers wearing compact belt controllers .



Also new from Maple Leaf are a set of seated, unpainted locomotive engineers, positioned for use within the cab of HO scale locomotives.

Info: www.mapleleaftrains.com

Mine Mount Models continues to expand its Echo Point Harbor series, with the Echo Point Charters building in HO scale. A small structure at 2 1/2″ x 2 1/2″ x 2 1/2″, the structure uses plywood

sides, a Tichy window, and a laser-cut door. Roofing is Mine Mount Model's Straight Shake Shingles material. Resin details such as the rope, garbage cans, and life preserver, as well as sign and flag materials, are included.
Info: minemountmodels.com

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miniprints has updated its set of two remote control Beltpack operator figures with 3D scans of 1:1 scale CN employees George Taylor and Andre Chartrand. Made in partnership with Rapido Trains to pair with the new GP9RM Mother and Slug set, these new figures replace the Custom Crews 03 figures. The figures are can be ordered in N, HO, S, and O scales and are available both painted and unpainted.
Info: www.miniprints.com/product/rco

New molded plastic structure kits coming from **Walthers** later this summer include Victoria Springs Station and a classic Trackside Signal Tower. Figures and scenery items shown in the illustrations are not included. The new Cornerstone kits require assembly and painting.

Walthers is also introducing four new wood laser-cut kits this summer. The SceneMaster kits include illustrated instruction for assembly and painting. Individual kits in this release include a Fisherman's Shanty, an Elevated Deer Stand, a Forest cabin and a pair of outhouses. Figures and scenery shown

in the illustrations are not included.
Info: www.walthers.com

DECALS AND FINISHING PRODUCTS

Great Decals has released a white N scale decal lettering set for Akron, Canton, & Youngstown ex-N&W twin-bay open hopper cars.
Info: www.greatdecals.com

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BRIEFLY NOTED AT PRESS TIME ...

With a release date targeted for the 2024 Christmas season **Kato** is preparing an HO starter set that will include a GE Genesis P42 locomotive, baggage, coach and lounge cars plus track and a power pack …

Morning Sun has released volume two of *Just Geeps* that thoroughly documents in color the exceptionally popular GP9, GP18 and GP20…

New HO scale rolling stock coming from **Walthers** this fall includes a newly-tooled Proto series 52′ single-hood cushion coil car based on a National Steel Car prototype. Also due this year is a Mainline series 50′ mechanical plug-door reefer. Newly tooled Mainline models nearing completion include an early version of a PRR 40′ X-29 boxcar and a 40′ wood stock car… ■

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SELECTED EVENTS

June

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

June - July 2024

NEW ZEALAND, ASHBURTON, July 6-7, 2024. Ashburton Model Train Show. Tinwald Memorial Hall, Graham Street, Tinwald.
Info: ashburtontrainshow.co.nz
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, LONG BEACH AREA, June 22, 2024. Railroad Day Open House and Swap Meet – Three layouts:
Belmont Short Model Railroad Club, 3601 Gaffey St., San Pedro, in Angels Gate Park
Info: belmontshorerr.com/train-day-2024
Los Angeles Model Railroad Society, 26008 S. Western Ave, Harbor City.
Info: lamrs.org
Angels Gate Hi-Railers Model Railroad Club, 3601 Gaffey St., San Pedro, in Angels Gate Park
Info: aghrtrains.com
ILLINOIS, COLLINSVILLE, July 19-20, 2024. St. Louis RPM. The Gateway Center, 1 Gateway Center Drive.
Info: stlrpm.com

MASSACHUESETTS, ORLEANS, Wednesdays, July-August 2024. Nauset Model Railroad Club Open House with G, O, S, HO, and N scale layouts. Rear of Hilltop Plaza, 180 Rte 6A.
Info: www.nausetmodelrrclub.com

OHIO, DAYTON, June 22-23, 2024. 2024 Carillon Park Rail Festival. Carillion Park, 1000 Carillon Blvd.
Info: railfestival.com

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

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

Future 2024 by location

CANADA, ONTARIO, BRESLAU (Kitchner-Waterloo), September 29, 2024. Breslau Train Show, sponsored by Western Ontario Division, NMRA. Breslau Community Centre, 100 Andover Drive.
Info: www.youtube.com/watch?v=sSC-TA_feMM

ARIZONA, PRESCOTT, August 10th, 2024. Beat the Heat Model Train Swap Meet. Embry-Riddle Aeronautical University Event Center, 3700 Willow Creek Rd.
Info: camrrc.com/bth

CALIFORNIA, CROCKETT, 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, GREELY, September 21, 2024. Colorado Rail Proto Meet. Zoe's Café and Event Center, 715 10th Street.
Info: corpm.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, 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

MASSACHUESETTS, ORLEANS, Wednesdays, July-August 2024. Nauset Model Railroad Club Open House with G, O, S, HO, and N scale layouts. Rear of Hilltop Plaza, 180 Rte 6A.
Info: www.nausetmodelrrclub.com

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, MIDDLEBURG HEIGHTS (Berea), October 5-6, 2024. 50th Annual Great Berea Train Show, hosted by the North Coast Division, NMRA. Cuyahoga Country Fairgrounds, Bagley Road entrance only, 19201 Bagley Road.
Info: thegreatbereatrainshow.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, ALTOONA, September 14-15, 2024. 2024 Mike Phillips' N scale Weekend, presented by the Altoona Association of Model Railroaders. Blair County Convention Center, 1 Convention Center Dr. .
Info: www.theaamr.org/n-scale-weekend

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

PENNSYLVANIA, LINDEN, October 19, 2024. Annual Fall Train and Craft Meet. Woodward Fire Company, 4147 N Route 220 Hwy.
Info: www.ccmrr.org/events.html

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

TEXAS, FOREST HILL (Fort Worth), October 25-26, 2024. DFW-Red River RPM. Forest Hill Civic Center, 6901 Wichita St.
Info: redriverrpm.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 ■

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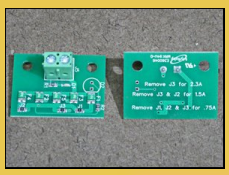
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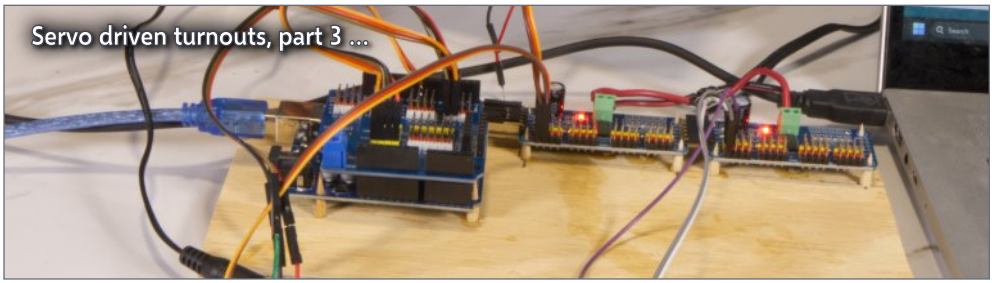

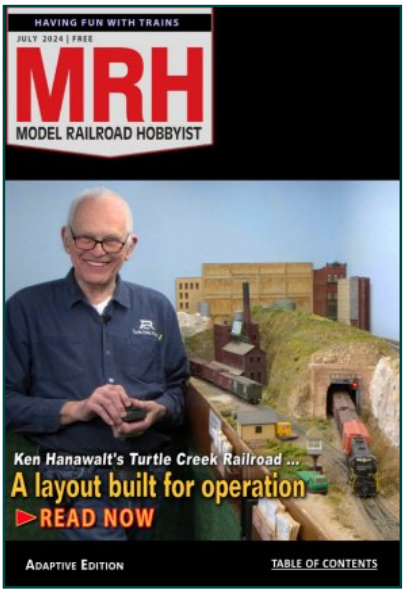

... coming July 15th in the July MRH

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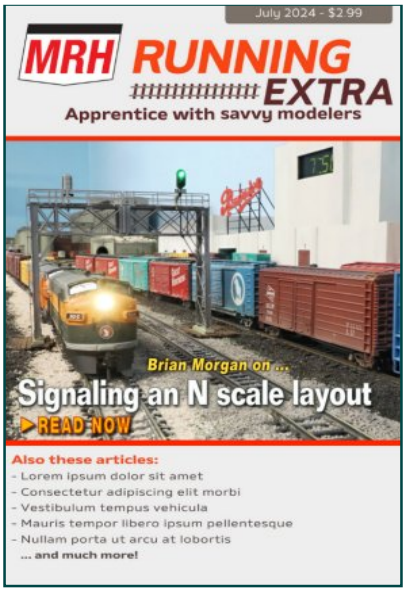

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