

HAVING FUN WITH TRAINS

JUNE 2021 | FREE

# MRH

MODEL RAILROAD HOBBYIST

**ALSO:**

- Touring Ken Patterson's layout
- Model an Arduino speedometer
- Small N scale layout build continues
- Battery power in small scales?  
*... and more inside!*

*Verryl Fosnight and Dennis Drury*

## Signals on the Wyoming Division

▶ **READ NOW**



**ADAPTIVE EDITION**  
*Landscape or Portrait depending on screen size*



**DOWNLOAD**

**TABLE OF CONTENTS**

# This is the screen-adaptive PDF version of MRH magazine

*This PDF will try to fill the screen. If the screen is wide enough, it displays two facing pages (emulating the old landscape format), otherwise it displays one page in portrait.*

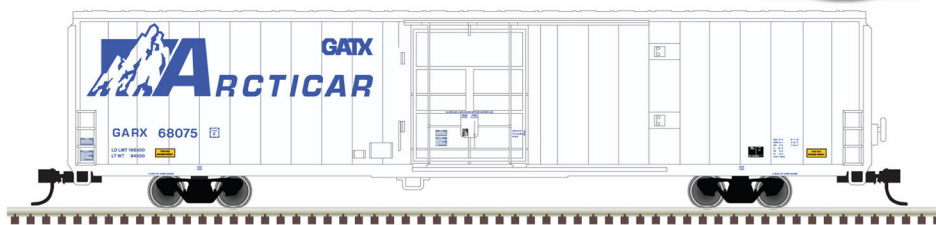
*On mobile devices, if you change your device orientation, the PDF adapts to fill the screen with either a portrait or a landscape view as appropriate.*

## **WORKS BEST WITH ...**

- Windows: open with Acrobat or Firefox
- Mac: open with Preview, Acrobat, or Firefox
- Linux: open with Acrobat or Firefox
- Apple iPad or iPhone: open with SideBooks app (free)
- Android tablet or phone - open with SideBooks app (free)

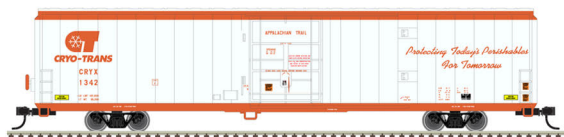
*If you're not seeing the PDF adapt, then your PDF viewer lacks the adaptive display feature. Please use one of the recommended free PDF viewing apps listed above to get the screen adaptive behavior. Or try the Wide Edition instead.*

AVAILABLE FOR PRE-ORDER IN JUNE 2020 FROM

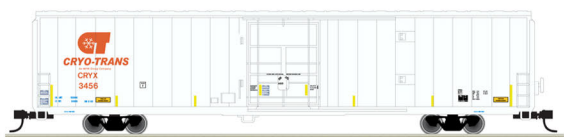


ARTICAR (GATX)

# ATLAS MASTER® N CRYOGENIC REEFERS



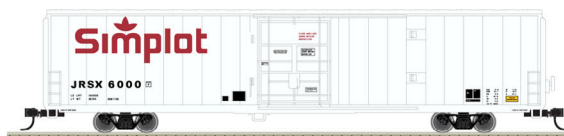
CRYO-TRANS



CRYO-TRANS (EX-LAMB WESTON)



CRYO-TRANS (CORNERSTONE)



JR SIMPLOT



LAMB WESTON

This new Atlas model features colorful paint schemes and represents a popular modern prototype. Cryogenic reefers have been used throughout the United States since the early 1990s to transport frozen food using cryogenic refrigeration technology.

Atlas' upgraded models will feature:

- Body mounted couplers
- Improved brake wheel
- Improved stirrups
- Improved crossover platform

**CLICK HERE!**

**GUARANTEE YOUR  
PRE-ORDER TODAY!**

FOR MORE INFORMATION OR TO LOCATE A DEALER, PLEASE VISIT [WWW.ATLASRR.COM](http://WWW.ATLASRR.COM).  
ATLAS MODEL RAILROAD CO, INC. • 378 Florence Ave., Hillside, NJ 07205



REGISTER  
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)

# STAFF

HAVING FUN WITH TRAINS

**MRH**  
MODEL RAILROAD HOBBYIST

Model Railroad Hobbyist | June 2021 | #136

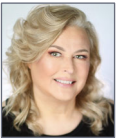
## Editorial Staff



Joe D. Fugate, Publisher and Editor



James Regier, Assistant Editor



Patty Fugate, Pasteup and Layout



Richard Bale, News and events



Jeff Shultz, News and events, Tech Assistant



Mike Dodd, Copy Editing



**RATE THIS ISSUE**

ISSN 2152-7423

## Advertising

Les Halmos, Account Manager

Jean-François Delisle, Marketing Assistant

## Regular contributors

Eric Hansmann, Contributing editor

Jim Six, Limited Modeler column

Ken Patterson, Reporter-at-Large

## Rotating Columnists

Jack Burgess, Getting Real column

Marty McGuirk, Getting Real column

Nick Muff, Getting Real column

Mike Rose, Getting Real column

Tony Thompson, Getting Real column

Rob Clark, Imagineering

Dave Meek, Imagineering

Ray Dunakin, Imagineering

Published for the glory of God. [What's this?](#)

# MRH SPONSORS



Model Railroad Hobbyist | June 2021

## A - L



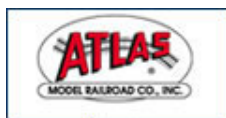
[acculites.com](http://acculites.com)



[railroadhobbyshow.com](http://railroadhobbyshow.com)



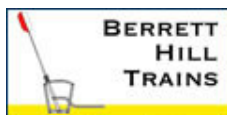
[archertransfers.com](http://archertransfers.com)



[www.atlasrr.com](http://www.atlasrr.com)



[bachmanntrains.com](http://bachmanntrains.com)



[berretthill.com/trains](http://berretthill.com/trains)



[blairline.com](http://blairline.com)



[coffmaneng.com](http://coffmaneng.com)



[deluxematerials.co.uk](http://deluxematerials.co.uk)



[www.digitrax.com](http://www.digitrax.com)



[drduino.com](http://drduino.com)



[dwarvin.com](http://dwarvin.com)



[esu.eu/en](http://esu.eu/en)



[handlaidtrack.com](http://handlaidtrack.com)



[iascaled.com](http://iascaled.com)



[krmodels.ca](http://krmodels.ca)



[litchfieldstation.com](http://litchfieldstation.com)

[Vendors: Get your clickable logo on these pages ...](#)



REGISTER  
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)

# MRH SPONSORS | 2

## M - Z



[micro-trains.com](http://micro-trains.com)



[store.mrhmag.com](http://store.mrhmag.com)



[www.modelrectifier.com](http://www.modelrectifier.com)



[handlaidtrack.com/mt-albert-scale-lumber](http://handlaidtrack.com/mt-albert-scale-lumber)



[ncedcc.com](http://ncedcc.com)



[nra2021.com](http://nra2021.com)



[www.pwrs.ca/main.php](http://www.pwrs.ca/main.php)



[rapidotrains.com](http://rapidotrains.com)



[ringengineering.com](http://ringengineering.com)



[roometteslighting.com](http://roometteslighting.com)



[scaletrains.com](http://scaletrains.com)



[soundtraxx.com](http://soundtraxx.com)



[sodigi.com](http://sodigi.com)



[sbs4dcc.com](http://sbs4dcc.com)



[tamvalleydepot.com](http://tamvalleydepot.com)



[trainfest.com](http://trainfest.com)



[walters.com](http://walters.com)



[woodlandscenics.com](http://woodlandscenics.com)

Looking for something? Check the MRH Marketplace!

MRH MARKETPLACE		MRH MARKETPLACE   2	
<p><b>CROW FEWER PRODUCTS</b></p> <p>Make your model railroad road complete!</p> <p>NEW! Crow Feeder</p> <p><a href="http://www.crowfeeder.com">www.crowfeeder.com</a></p>	<p><b>Squeaky's Trains</b></p> <p>Handcrafted &amp; Exclusive Models, DCC Products, Service Repairs</p> <p>Offering: Soundtrains, C&amp;W, Athletes, Atlas, Railcars, MRC, Bachmann, Scalextric, and many more! Following is a partial list of items available for sale.</p> <p><a href="http://SqueakysTrains.com">SqueakysTrains.com</a></p>	<p><b>WESTERFIELD</b></p> <p>NEW KIT: AT&amp;SF F-40-2-BE-V</p> <p><a href="http://www.westerfieldmodels.com">www.westerfieldmodels.com</a></p>	<p><b>SceniKing</b></p> <p>Modeling companies</p> <p><a href="http://www.sceniking.com">www.sceniking.com</a></p>
<p><b>miniPrints</b></p> <p>Custom quality custom figures, track, and scenery</p> <p><a href="http://www.miniprints.com">www.miniprints.com</a></p>	<p><b>PERKINS</b></p> <p>1/87 scale</p> <p>Great prices! Large stock, discounts, variety, and fast shipping.</p> <p><a href="http://www.perkinsmodel.com">www.perkinsmodel.com</a></p>	<p><b>MONROE</b></p> <p>1/87 scale</p> <p><a href="http://www.monroemod.com">www.monroemod.com</a></p>	<p><b>Precision Design Co.</b></p> <p>YOUR OWN PART IN JUST ONE DAY</p> <p><b>PDC.CA</b></p> <p>FULL COLOR &amp; SOLID WHITE</p>
<p><b>LOAD</b></p> <p>1/87 scale</p> <p>Custom details</p> <p><a href="http://www.load.com">www.load.com</a></p>	<p><b>INTERACTION</b></p> <p>1/87 scale</p> <p>Custom details</p> <p><a href="http://www.interactionmodel.com">www.interactionmodel.com</a></p>	<p><b>Great Decals</b></p> <p>1/87 scale</p> <p>Great prices! Large stock, discounts, variety, and fast shipping.</p> <p><a href="http://www.greatdecal.com">www.greatdecal.com</a></p>	<p><b>MONROE</b></p> <p>1/87 scale</p> <p><a href="http://www.monroemod.com">www.monroemod.com</a></p>
<p>REGISTER</p> <p>INDEX</p> <p>TABLE OF CONTENTS</p>	<p>MRHMAG.COM</p> <p>INDEX</p> <p>TABLE OF CONTENTS</p>	<p>MRHMAG.COM</p> <p>INDEX</p> <p>TABLE OF CONTENTS</p>	<p>MRHMAG.COM</p> <p>INDEX</p> <p>TABLE OF CONTENTS</p>

Take me there!



## **Publisher's Musings: Battery power in small scales ...**

*JOE FUGATE*



## **MRH Website this month: Stand alone DCC programming track, ...**

*Compiled by JOE FUGATE*



## **What's Neat: Touring Ken's layout, ...**

*KEN PATTERSON*



## **Building an Arduino speedometer**

*BRIAN KRUPICKA and JAMES REGIER*



## **Signals on the Wyoming Division, part 1**

*VERRYL FOSNIGHT and DENNIS DRURY*



## **Building a small N scale layout, part 3**

*DAVE KILBORN*



## **Savvy Modeler online: 1/87 scotch tape vehicle windows**

*Compiled by the MRH STAFF*



## **June 2021 news and events**

*RICHARD BALE and JEFF SHULTZ*



**REGISTER**  
*(free)*

**[INDEX](#)**

**[TABLE OF CONTENTS](#)**

**\*\*\* MRH June Running Extra delayed one month!**

# Open letter from MRH Owners, Joe & Patty Fugate

In late May, Joe and Patty Fugate both came down with Covid (no, they had not been vaccinated yet). The infection was moderate, meaning they did not need hospitalization but still had significant symptoms.

Joe and Patty are the core staff when it comes to magazine production. As a result, MRH Magazine release is a couple days late this month (16th-17th instead of the 15th). MRH Running Extra has been delayed an entire month – subscribers will get a one-month extension on their expiry date to account for the month delay.

Joe and Patty are still showing some post-covid symptoms. Most notably that includes significant fatigue as well as a very touchy stomach. In Joe's case, he's also dealing with shortness of breath and is on a post-Covid treatment designed to assist with lung healing.

A handwritten signature in black ink that reads "Joe and Patty". The signature is written in a cursive, flowing style with long horizontal strokes extending from the beginning and end.

Joe and Patty Fugate  
Owners, MRH Media



SEE THE DIFFERENCE



# RIVET COUNTER™

RAILROAD, ROAD NUMBER AND ERA SPECIFIC DETAILS

## RAILROAD SPECIFIC

Rivet Counter™ locomotives include custom features as ordered by railroads to accommodate for geography, climate, operations, etc.



CSX SD40-2 rebuild



C&amp;NW SD45: non-dynamic brake and gong bell



CN ET44: front &amp; rear operating ditch lights and red DPU lights



Chessie SD40-2: mailslot battery box doors



BNSF ES44 and ET44: C4 A-1-A Trucks

## ROAD NUMBER SPECIFIC

Locomotives from the same railroad and era often have different details. We capture these details from road number to road number.

8307: 123" "snoot" nose with class lights, L-window, red brake wheel, etc.

8558: 88" low short nose with blanked class lights, modified L-window, gray brake wheel, etc.



1995 - 2002

1999 - Present

2017 - Present

Over the years, railroads often make modifications to their locomotives and so do we.

## ERA SPECIFIC



ScaleTrains.com, Inc. 7598 Highway 411 Benton, TN 37307  
844-9TRAINS 844-987-2467 • International 423-299-3689

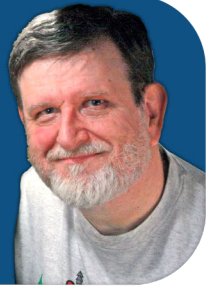


REGISTER  
(free)

INDEX

TABLE OF CONTENTS

# PUBLISHER'S MUSINGS



Model Railroad Hobbyist | June 2021

JOE FUGATE UPDATE ON BATTERY  
POWER IN THE SMALLER SCALES ...



**I DON'T THINK ANYONE WILL ARGUE THAT BATTERY POWERED DCC HAS BECOME A DEFACTO STANDARD FOR SERIOUS G SCALE MODELERS.** Even O scale modelers, especially those modeling in On30, seem to be exploring battery powered DCC with some gusto.

But what about battery powered DCC in the smaller scales such as HO and below?

For this discussion, I'm going to ignore non-DCC battery power options such as various Bluetooth offerings. They tend to provide just speed control, direction control, and some lighting. The feature set falls far short of what you can get with wireless battery-powered DCC.

I'm also going to ignore battery powered RailPro. It's a proprietary system that's not DCC – and I think the battery-powered option tends to be something of a niche-within-a-niche.

## MRH forum member made a prediction in 2015

Back in 2015, an MRH forum member became excited by the possibility of wireless battery powered operation in the smaller scales, so he made a bold prediction.

*“At the Amherst Model Railroad Show on January 24 and 25, 2015, I tried many wireless systems, some with entirely dead rail, some*

*with batteries charged through live rail, others that got all the power from the rails but the signal over the air. Train control is going wireless. DCC will fade away.”*

So here we are six and one-half years later. Does DCC show signs of being replaced by dead rail and/or wireless control? I would say not, especially in HO and below.

If anything, wireless/deadrail options are appearing that enable sending the DCC signal through the air directly to the locomotive and the loco gets its power from batteries.

### “Deadrail” as the term for battery powered

Before I move on to examine the state-of-the-art for wireless battery-powered DCC control in the smaller scales, I want to first discuss the term “deadrail.”

#### ADVERTISEMENT



### NEW DPM®/Roomettes Combos

- Save with 2-in-1 kit combos
- Includes DPM kit and Roomettes interiors
- With Just Plug® compatible LEDs



Click to purchase  
**WOODLAND  
SCENICS®.com**



**REGISTER**  
*(free)*

[INDEX](#)

[TABLE OF CONTENTS](#)

BACHMANN®

HO  
SCALE50  
AMTRAK

The future rides with us

Announcing the Amtrak®  
ALC-42 Charger in HO Scale

Limited-Edition #301 Arriving This Fall



WOWSound®

AMTRAK #301  
("Day 1" livery; illustration shown)  
Item No. 68303DCC  
SOUND  
ON BOARD

Click to learn more

Amtrak has announced the much-anticipated 50th Anniversary paint schemes celebrating the inauguration of service in 1971. The brand-new ALC-42 Charger #301, currently under construction and expected to enter service later in 2021, will wear a celebratory "Day 1" livery.

Bachmann is pleased to announce the upcoming release of the ALC-42 Charger in HO scale. **This highly detailed, limited-production model will feature the Day 1 livery and will be available in limited quantities.** Features will include a robust DCC WOWSound® audio package from TCS that accurately reproduces all the prototype's sounds. Every sound feature was field recorded by TCS and Bachmann.

Charge into your local hobby retailer to check out their preorder options today!

## Additional features include:

- DCC sound-equipped for sound, speed, direction, and lighting control
- TCS true CD-quality audio in 16-bit 44,100Hz sound
- Keep-Alive® device that keeps your engine running during power interruptions due to dirty track or loss of electrical contact
- voice-guided Audio Assist® programming tool for easy set-up of almost all decoder functionality
- dual-mode NMRA-compliant decoder
- directional headlights
- interior corridor work lights
- marker lights
- steady/alternate flashing ditch lights
- die-cast frame
- separately applied windshield wipers, grab irons and detail parts
- performs best on 22" radius curves or greater

OFFICIAL  
LICENSEE  
of  
AMTRAK®

Arriving Fall 2021

MSRP \$469.00 each

Visit [shop.bachmanntrains.com](http://shop.bachmanntrains.com) for more informationBachmann Industries, Inc. • 1400 East Erie Avenue • Philadelphia, PA 19124 USA • [www.bachmanntrains.com](http://www.bachmanntrains.com)

Click for more information.

[MRHMAG.COM](http://MRHMAG.COM)[INDEX](#)[TABLE OF CONTENTS](#)

**MICRO-  
TRAINS®  
LINE**
**UNION PACIFIC® 3-PACK**
**N®**  
SCALE 1:160



**NEW ALTERNATE ROOF  
WITH UP® SPECIFIC DETAIL**

## PUBLISHER'S MUSINGS | 3

I know deadrail excites the imagination and promotes visions of never needing to run a rail feeder again.

However, that's somewhat over-hyped for many reasons. Yes, some have achieved no-feeders, but that's far from common.

First, how do you check the battery level in your loco fleet and make sure all your locos get recharged before the next op session?

If you have a handful of locos, then removing the battery to test its charge level and recharge may not be that onerous, although having to disassemble my locos every op session sounds like a pain to me.

But when you start talking about a layout with a dozen or more locomotives, the recharging headache becomes significant. Imagine needing to disassemble, check, and recharge a dozen cell phones and you get the idea.



**REGISTER**  
*(free)*

[INDEX](#)

[TABLE OF CONTENTS](#)

# Coming attractions!

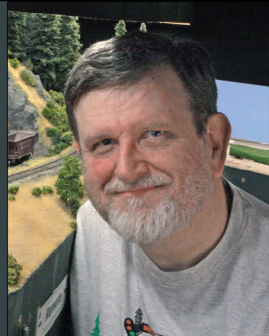
Charlie Comstock

Bear Creek & South Jackson layout update



Joe Fugate

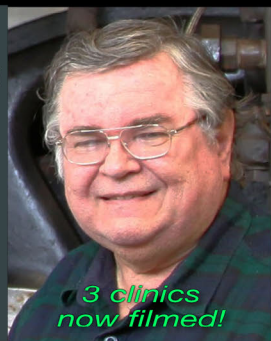
DCC Decoded topics  
3 clinics



Geoff Bunza

Layout animation techniques

**6 clinics**



*3 clinics now filmed!*

*Bruce Chubb*

Op Session on the Sunset Valley



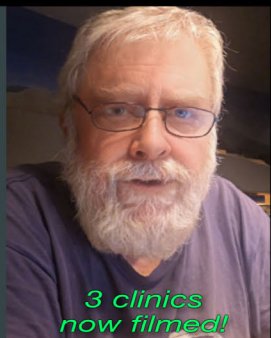
**New!**

*Already filmed!*

Rick Sutton

Photo-realistic modeling

6 clinics



*3 clinics now filmed!*

Greg Baker

Realistic scenery & weathering

**8 clinics**



*All 8 clinics now filmed!*



Special discount pricing available!

# TRAINMASTERS.TV

Don't miss out on these videos! **CLICK NOW**



Of course as an alternative, you can leave the batteries in the locomotives and have some way to check the charge and recharge the locomotive from the outside.

But that still means handling each locomotive every op session. That's some extra hassle not being openly discussed by deadrail advocates.

To me, the very best option is to actually trickle charge the batteries through the rails. We have a tailor-made system designed to get power inside the locomotive, why not use it?

The beauty of trickle charging is you keep the loco battery topped off all the time, effectively making the loco battery charge last indefinitely.

Now you will need to run feeders to at least some rails for this. I would envision all yard garden tracks (you can leave yard ladders and all their frogs unpowered), as well as the mainline and passing sidings. I'd also power the yard tracks in a staging yard. Any place where trains might end up sitting during and at the end of an op session.

I could see all industrial spurs and yard ladders left unpowered. I would also see leaving wyes, turntables, and reverse loops unpowered. No more polarity issue headaches.

However, you won't want your battery powered locos to be drawing power constantly, so once you end the session, you will want to turn the power off. Plus you will want to use a function switch on the decoder to turn off the battery feed to the rest of the loco circuitry – otherwise it will stay on even if you kill the layout power! (More on this later).

There's also those who, like me, want to do layout signaling. The most realistic and simplest signaling involves power rails and resistor wheelsets on the rolling stock.



# We don't just play with trains.



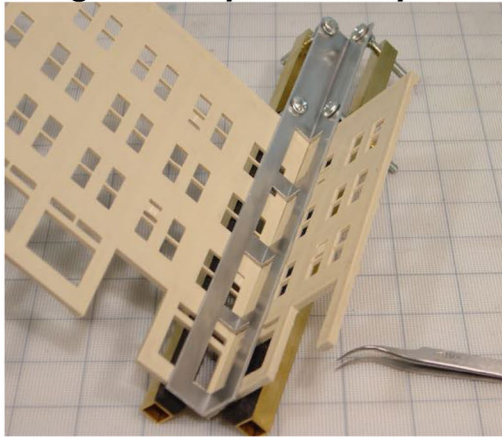
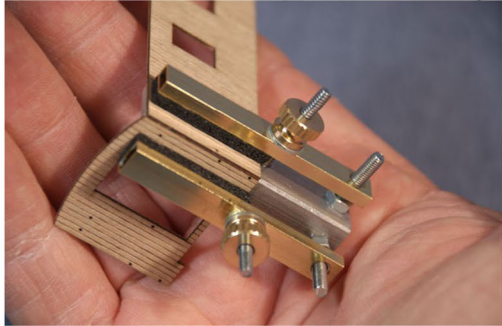
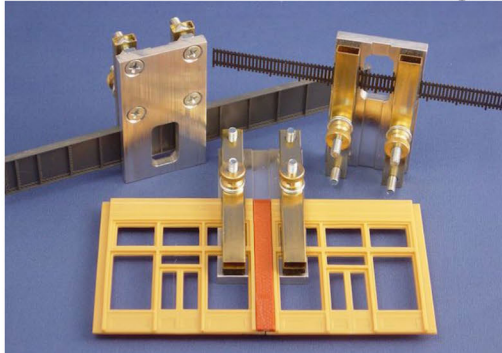
Model railroading is our lifelong pursuit for signature scenes and meticulous detail. For just shy of 90 years, Walther's has cultivated our craftsmanship and sparked our imaginations with everything needed to build our dream layouts. Becoming a Yardmaster rewards us with everyday special pricing and priority on the new products we love. That's why we're Walther's Yardmasters. Join us. Visit [Walther's.com/yardmasters-club](http://Walther's.com/yardmasters-club) to learn more.

# WALTHERS®

Support your local hobbyshop • visit [walther's.com](http://walther's.com) • call 1-800-4-TRAINS

© 2021 Wm. K. Walther's, Inc.



**"Right and Splice Clamps"™****Quality Tools with Superior Versatility****Essential Tools for Great Modeling**

**Coffman Graphic Solutions**  
1500 River Circle, Richmond KY 40475

**Click Here**

**Visit our new Website:**  
[www.coffmaneng.com](http://www.coffmaneng.com)

**PUBLISHER'S MUSINGS | 5**

At the end of the day, I see "deadrail" as an edge case for any but the simplest and smallest layouts. For that reason, I see the term "Power-on-Board" or POB as the more all-encompassing term for the concept of battery powered locomotives. Let's allow for deadrail as an option, but it's not the most practical if you have more than a few locos.

**POB DCC state-of-the-art**

So let's talk about Power-on-board DCC state of the art for the smaller scales of HO and below.

To do POB DCC means wireless DCC with the signal sent through the air direct to a receiver in the locomotive.

To me, one of the most practical offerings in the wireless DCC space is TAM Valley's DRS1 system. You hook up a \$70 transmitter to your NCE DCC system and voila! Adding a DRS1 receiver to your locomotives means they can get the DCC signal wirelessly.

*Text continues on page 7 ...*



**REGISTER**  
(free)

**INDEX**

**TABLE OF CONTENTS**



## THE SHAY

The Shay locomotive was the most widely used geared steam locomotive. The locomotives were built to the patents of Ephraim Shay, who has been credited with the popularization of the concept of a geared steam locomotive. Although the design of Ephraim Shay's early locomotives differed from later ones, there is a clear line of development that joins all Shays. In 1884, they delivered the first 3-cylinder (Class B) Shay.

Class B: three cylinders, two trucks. Weight between 10 and 60 short tons (8.9 and 53.6 long tons; 9.1 and 54.4 t) tons.

Our rendition of The Shay will feature ESU LokSound V5 sound decoder. Cast Chassis, working external valve gear and drive shafts. Working directional lamps front and rear.

**Limited production run**  
**Expression of interest link now OPEN**

**DCC Ready \$299**

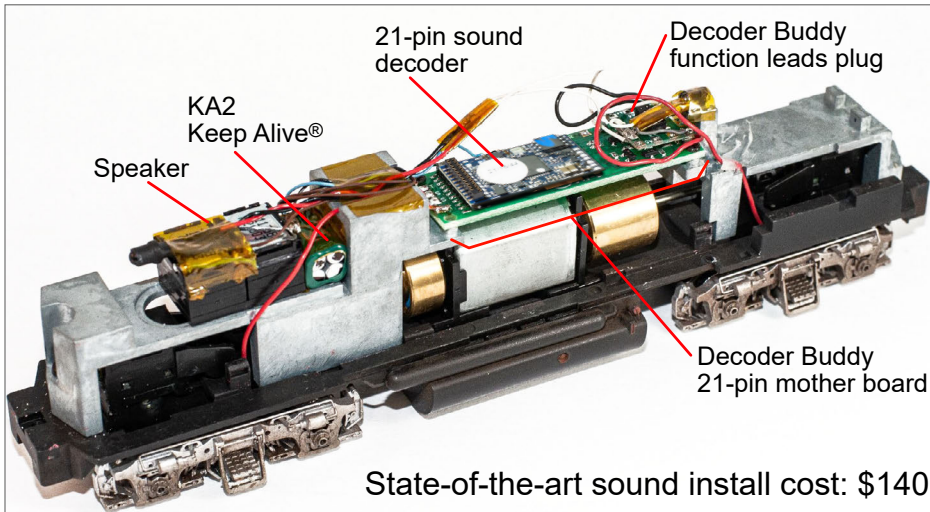
**DCC Fitted \$339**

**DCC Sound \$449**

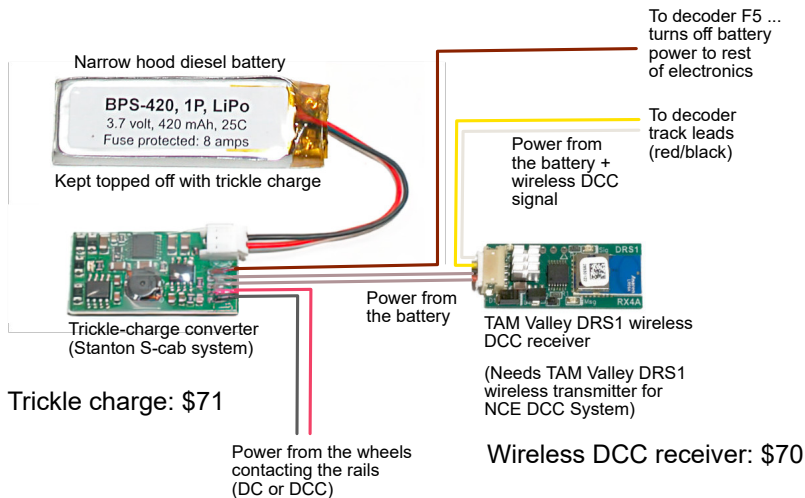
HO scale

**Expected delivery Fall 2022**  
 Easy pay 0% installment plan available

[www.krmodels.ca](http://www.krmodels.ca)



## Additional parts needed for Power-on-Board DCC



## Adding Power-on-Board DCC: + \$141

1. Up top I show a state-of-the-art sound decoder install with stay alive. Below I show the additional parts to add for Power-on-board wireless DCC.



REGISTER  
*(free)*

[INDEX](#)

[TABLE OF CONTENTS](#)

# CONTAINERS



These exclusive containers showcase "The Z Factor", a unique design highlighting the ZIM company slogan and product logo. This branding is what makes ZIM recognizable not only to their Zimmer customers, but to transport watchers worldwide. We are planning a run of very few containers, so if you would like to own this special set, **you need to place your order now! Don't wait!**



Many of our customers asked us "What makes PT Trains so special?" "How do they compare to other containers?" It's all in the details. If you look at the top of the containers you'll see there are reporting marks, a triangular icon, and yellow and black stripes on the roof. Click here to find out what they mean.

## [Pacific Western Rail Systems](#)

# IT'S D10 TIME!



# CLICK HERE!



[REGISTER](#)  
*(free)*

[INDEX](#)

[TABLE OF CONTENTS](#)

The TAM Valley DRS1 receiver assumes battery power in the loco, so that needs to be provided as well.

For this, the best offering come from Neil Stanton, who offers a trickle charge battery feed option. This keeps the battery charged up and allows adding a smaller battery, saving space. It also solves all the loco recharging hassles before an op session, since all the loco batteries should have been kept topped off last op session.

See [1] on the previous page for how these extra POB components get added to turn your loco into a fully functional POB DCC locomotive that gets trickle charged through the rails. But it is an additional \$140 dollars of parts and you will need to find space for all that extra stuff inside your loco.

One other note, turning off the power to the layout will not turn off the battery power feed. It will keep right on powering the rest of the electronics in the loco until you deliberately turn the battery power off or the battery goes dead.

Fortunately, the Stanton trickle charge circuit has a brown wire that you connect to a function feed on the decoder (Stanton recommends the brown F5 lead). That way when you're done with the loco, press F5 to turn off the battery.

While this is borderline doable in HO, it does add \$140 to the cost of each loco and there's the extra hassle of getting the battery, trickle-charge board, and the DRS1 receiver to all fit.

Modern stay alive with a many seconds of power over any dead spots actually comes very close to POB DCC and it's certainly a lot cheaper (as well as smaller).

Do let us know if you're making any of this work in HO or smaller. We'd love to hear about it. As for this going mainstream, it needs to be smaller and cheaper before that's going to happen. ☑



A handwritten signature in black ink, appearing to be "John".

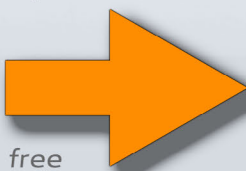
# Every little bit helps!



Registered MRH readers\* get **another** 10% off with the coupon code here:

[click here](#)

**Try it.  
It works!**



**Reveal my  
coupon code now!**

\*Registering is free



**Have a great  
Summer!**

**That's right, on top of our  
other sales and discounts, use  
this coupon code to get  
YET ANOTHER 10% off!**



**TMTV sale offers**

[click here](#)

**Model  
Railroad  
Hobbyist  
Store**

**MRH Store sale offers**

[click here](#)



**REGISTER**  
*(free)*

[INDEX](#)

[TABLE OF CONTENTS](#)



## LAST ISSUE RATINGS

Top rated articles in the [May 2020 issue](#) of *MRH* are:

4.8 Easy-to-build city structures

4.8 May 2021 news

4.6 Publishers Musings: Highway road markings

Issue overall: 4.7

Top rated articles in the [May 2020 issue](#) of *Running Extra* are:

4.7 Publisher's Welcome: Low-cost pre-wired LEDs

4.5 Ah-hah Moment: Safer airbrush cleaning solvents

4.5 The Roswell Mill

Issue overall: 4.7

**Rate the articles!** Click the comments button on each article and select the star rating you think it deserves. ■

Get the latest Model Railroading News, Tips, Reviews & Opinions



Our iTunes feed has changed search for  
"Crew Call with Mike Rose" to receive the latest episodes!

[www.themodelrailroadpodcast.com](http://www.themodelrailroadpodcast.com)

Host:

Mike Rose: [www.mrhobby.com](http://www.mrhobby.com)

Don't Miss our Monthly Interviews  
& Product Announcements



# WHAT'S NEW on TMTV!

Non-members: Watch episodes for \$1.99 ea, become a member for unlimited access

Brought to you by



**Modeling with light, part 1**

## BACKSHOP CLINIC

**BACKSHOP CLINIC**

Foam scenery: rocks, dirt, grass

**>Aha< moment**

Superglue for cardstock

**>Aha< moment**

Easily clean paint off railheads

**Episode 2: Intro to Arduino code editing**

Intro to Arduino code editing



# TRAINMASTERS.TV

Don't miss out on these videos! **CLICK NOW**



**REGISTER**  
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)

Best of the

# MRH WEBSITE

Website

**MRH**  
mrhmag.com

THIS  
MONTH

Model Railroad Hobbyist | June 2021

Compiled by **JOE FUGATE**



## Stand alone DCC programming track for the workbench!

MRH forum member **marcfo68** (Marc Fournier) shows how he easily built a stand alone workbench DCC programming track.

“You can use the Digitrax PR4 (\$69.95 from Tony’s Trains with power supply) as a stand-alone programmer – just add a length of track and your laptop running JMRI.”



[View the full thread on the MRH website](#)

▶ **MRH’S MONTHLY GREAT MODELER POSTS**



1. Marc Simpson documents many of his rolling stock builds on his *MRH* blog. His latest project is batch-building these welded gondolas.

## CN modern welded gondola kit batch-build

*MRH* forum member **mesimpson** (Marc Simpson) latest blog project documents a batch build of some gondola kits. Marc kicks off with some backstory on this build ...

*“CN has a sizable fleet of modern welded gondolas from a variety of builders. While Rapido Trains has come out with early riveted and welded cars, nothing has been available for the more modern cars. Recently Briggs Models ([www.briggsmodels.ca](http://www.briggsmodels.ca)) brought out 3D printed kits for CN Hawker Siddeley 52' welded gondolas. I ordered 5 kits (to start) and they arrived earlier this week. Other than grab irons, trucks and couplers, the cars are complete and as close to a ‘shake the box’ kit as you are likely to find.”*

Follow Marc’s build in his *MRH* forum blog.

[View the full thread on the MRH website](#)



[REGISTER](#)  
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)

# LET'S GET LIT!

**FREE SHIPPING  
CHECK 'EM OUT**

## Roomettes

Bring Your Structures to Light

**Lasercut structures. Highway, storefront and billboard signs.**

**Neat ag customer for your railroad:  
Farmers Fertilizer Supply**



**WHAT'S NEW?**



**Established 1993...**

# Blair Line



Where prototype modeling, operations & technology converge ...

Join us in Santa Clara for NMRA 2021. Key events and a virtual event ... click to learn more!



# Archer

**FINE TRANSFERS**  
PROUDLY SERVING MODEL BUILDERS SINCE 1989

THE ORIGINAL

**SURFACE DETAILS™**

**WE NOW HAVE MORE THAN 130 SHEETS OF RIVETS, LOUVERS, TREADPLATE, WELD SEAMS AND MORE CAST ONTO MICROSCALE CLEAR DECAL FILM**

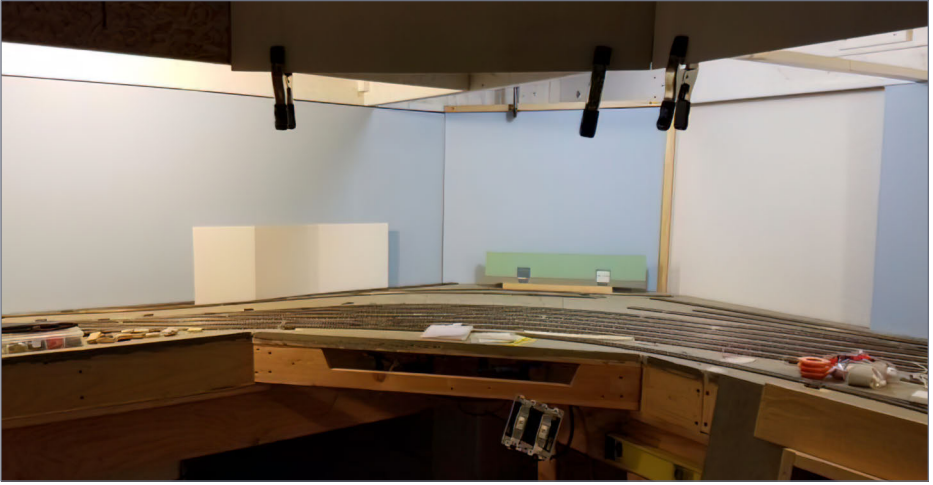
**LOW SHIPPING:**

**DOMESTIC USA ORDERS \$2.80**  
**INTERNATIONAL ORDERS \$9.95**

**CLICK HERE TO VISIT OUR WEBSITE!**



Archer Fine Transfers • PO Box 1277 • Youngsville, NC 27596 • USA (919) 570-1026 • info@archertransfers.com • archertransfers.com



2. Watching a layout take shape from a track plan can be exciting. *MRH* forum member **Joe W's** Sandpiper Bay Terminal is one such example.

## Sandpiper Bay Terminal

Forum member **Joe W.** (nogoodnik) launched his *MRH* blog back in 2018 by posting his layout track plan and its back story.

*"I always wanted a layout whose railroad met the ocean and something with a Pacific Northwest feel to it. My previous layout was rooted more in a prototype/freelance vein with real towns and mostly real industries running from Yakima to Olympia, Washington. This layout is more freelance and hence the reason for the railroad name; however, I still envision it being located around Seattle, Tacoma, or perhaps Anacortes, Washington. It is HO scale, set around 1979-1980, and the dimensions are roughly 11.5 x 13 feet. Track height is about 44 inches."*

Follow along to see how Joe proceeds on this layout!

[View the full thread on the \*MRH\* website](#)



[REGISTER](#)  
*(free)*

[INDEX](#)

[TABLE OF CONTENTS](#)

# FAST TRACKS

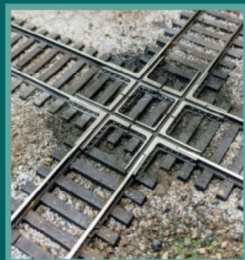
Build your own trackwork easily, quickly, and affordably.



## TRACK BUILDING SYSTEM



## Introducing Diamond Line Crossing Kits



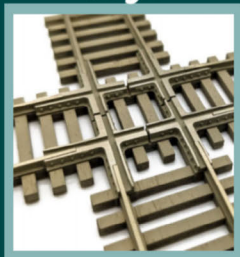
Building an accurate crossing has long been a challenge in our hobby.

### Not anymore with Diamond Line Crossing Kits!

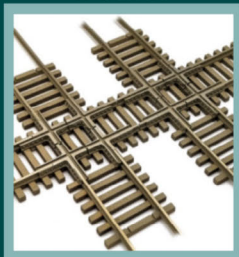
Fast Tracks Diamond Line Crossing Kits make the job of building a good looking, accurate crossing much simpler. Precision cast parts and matching laser cut ties work together to ensure quick construction. Each of the castings are designed to press into the laser cut ties, automatically locating all the parts and electrical isolation gaps. The parts are simply pressed and glued in place.

HO scale 90 degree versions are the first in what will be a large library of popular sizes

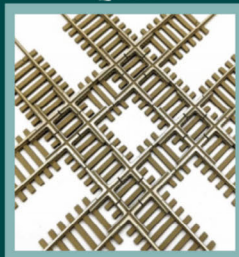
#### Single



#### Double



#### Quad



All Fast Tracks track fixtures  
and tools are NMRA compliant



**Easy Ordering • Fast Delivery • Free Shipping\***

\*applies to North America only on orders over \$150.00 US

shop online 24/7

handlaidtrack.com

1-888-252-3895

service@fast-tracks.net





3. *MRH* forum member Phil (hobbes1310) shows how he finishes up his track weathering process. You have to admit, sure looks great.

## Great track weathering results

*MRH* forum member **hobbes1310** recently returned to the hobby of model railroading and has been documenting his progress.

*“Base paint is Rustoleum Earth Brown, spray bombed over the tracks. After this I airbrush the rails a suitable greyish color. Then I do random ties airbrushed in different shades of light to dark browns.*

*I find taking pics is a good way to see where touch ups are needed. Will airbrush different shades of color to tone everything down. After that then add static grasses, which will be airbrushed as well to blend it.*

*Over spray isn't really a concern. Any tight areas, I mask around to limit over spray. And I use a gentle application of said spray ...”*

Follow Phil's blog on the *MRH* website.

[View the full blog on the \*MRH\* website](#)



[REGISTER](#)  
*(free)*

[INDEX](#)

[TABLE OF CONTENTS](#)

## Some amazing O scale photos

This month we've got a real photo treat: some amazing O scale model photos by Erik Lindgren.

View the full thread on the *MRH* website



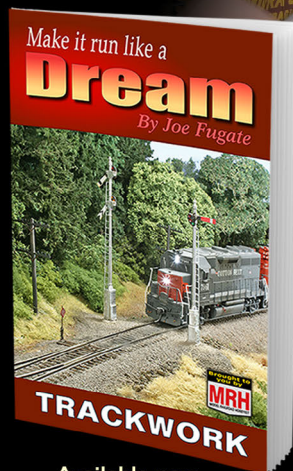
4. The top photo from MRH forum member Erik Lindgren is just one of several great photos on his MRH thread. Visit the full thread to enjoy the rest of the great photos. If you don't believe it's a model, the photo on the right should help!



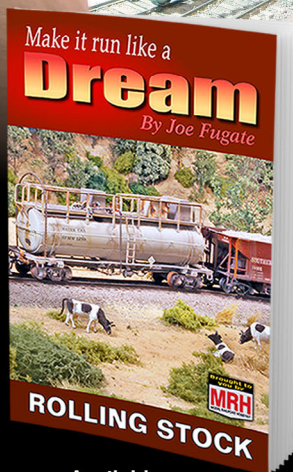
**RATE THIS ARTICLE**



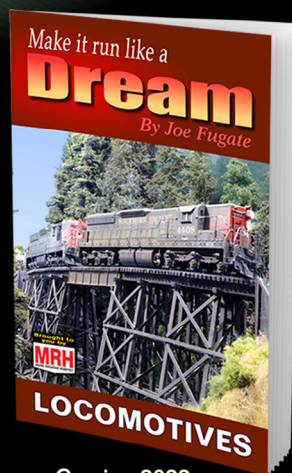
from the  
**Model Railroad  
Hobbyist** *Store*



Available now



Available now



Coming 2022

★★★★★ 5/5

"These books are remarkable and very well done."

- James S.

Get now and save - special summer pricing

PAPERBACK BOOKS: FREE SHIPPING US - 50% OFF SHIPPING FOREIGN

eBook download  
or  
Paperback book

Make it run like a  
**Dream**



REGISTER  
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)

# WHAT'S NEAT

column



Model Railroad Hobbyist | June 2021

KEN PATTERSON SHOWS US HIS HOME LAYOUT, WHICH WE'VE MOSTLY SEEN IN RUN-BY SEQUENCES AND CONSTRUCTION VIDEOS ...



*click to play video*

PHOTOS AND VIDEO OF SUPERB MODELS

## Ken's home layout



1. Ken's layout, which is modular in design and circles his entire basement, features a single 157' mainline with passing sidings. The modules are constructed of foam wrapped in red oak plywood for rigidity. The modules are supported by a tabletop shelf and are designed for ease in removing sections for photo shoots or exchanging them with new sections.

**Please include a phone number when emailing us if you need a reply!**

**(Just in case your spam filters eat our email response ... )**



**REGISTER**  
*(free)*

[INDEX](#)

[TABLE OF CONTENTS](#)



2. All the track on Ken's layout is Micro Engineering code 70, with code 55 on some sidings. Turnouts are Shinohara #8 and #10 with Micro Engineering #6. Turnouts are thrown with Caboose Industries N scale ground throws. Rail height is 50 inches with a minimum radius of 40 inches on the mainline.



3. This module, a scale 1200 feet long and 150 feet high, duplicates the bluff that Ken and Michelle live on, including a model of their house, seen painted in red. He used a laser rangefinder, GPS, and Google Maps to get the correct elevations, and used wire trees to duplicate the vegetation as closely as possible.



4. The Union Pacific's Desoto Subdivision runs at the base of the bluff below Ken's house and is also modeled. Carving the foam for this module took nine days.

To get more MRH ad-funded pages, please click on the ads.



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

**WATCH  
NOW >>**



**REGISTER**  
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)



5. Many of Ken's modules feature bridges, which are very photogenic in run-by photos and videos. This is a model of the Union Pacific (formerly Missouri Pacific) bridge over a creek in Kimmswick, Missouri. Ken considered the bridge interesting due to it featuring girder, truss, and concrete sections all in the same crossing.

**THE BEST OF MRH RUNNING EXTRA!**

Did you see this article?



Perfectly square  
magnetic jig

Get this eBook now ▶

[click here](#)

In the  
Oct 2020



**RUNNING**  
EXTRA  
Each eBook ~100 pages





6. Using Google Earth, a roller wheel, tape measure, and laser rangefinder, Ken measured and plotted out the scene to fit on a 4' by 2' 1/2" sheet of foam, carving the exact topography of the surrounding area. The bridge itself was constructed of Micro Engineering girders, Central Valley bridge parts, and wood for the piers. Here Ken has taken his module to the prototype location to see if he got the scene correct.

**THE BEST OF MRH RUNNING EXTRA!**  
Did you see this article?



Jim Six on how to do satisfied downsizing

[Get this eBook now ▶](#) ← click here

In the **MRH** Each eBook ~100 pages  
Nov 2018 **RUNNING**  
**EXTRA**



Also see the “What’s neat this week” weekly video podcast!

**WATCH NOW >>**



7. The Meramec River Bridge is also on the Union Pacific Desoto subdivision. Four miles south of Ken's house, it has three 85' girder sections and two 150' trusses. During the summer the river runs low, exposing a lot of sand and beach.



**DID YOU KNOW**  
***MRH* REGISTERED**  
**READERS GET**  
**FREE BONUSES?**

**CLICK TO REGISTER NOW - IT'S FREE!**





8. The Meramec River Bridge model is centered on two Walthers 150' truss bridges that match the prototype. The resulting module was 4' x 9' and was also wrapped in oak.

## THE BEST OF MRH RUNNING EXTRA!

Did you see this article?



**Art deco station  
build (2 parts)**

**Get both eBooks now ▶**

[click here](#)

In the  
Nov/Dec  
2018

**MRH** **RUNNING**  
**EXTRA**  
Each eBook ~100 pages



Also see the “What’s neat this week”  
weekly video podcast!

**WATCH  
NOW >>**

 **REGISTER**  
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)



9. Ken became interested in modeling river tow boats and barges around 2004, but there were no HO scale models available at that time. That interest resulted in this freelanced river scene where he could display his scratchbuilt models.

# Tell your friends about MRH!

**We depend on word-of-mouth to grow  
... if you don't share us, we don't grow**



10. The module measures 16' x 4' overall, and has become a signature scene on his layout, as well as the star of many outdoor photoshoots.

**THE BEST OF MRH RUNNING EXTRA!**

**Did you see this article?**



**Allagash gets a shortline connection**

**Get this eBook now ▶** ← click here

In the **MRH** Each eBook ~100 pages  
**Jan 2019** **RUNNING**  
**EXTRA**



Also see the “What’s neat this week” weekly video podcast!

**WATCH NOW >>**



11. The center section of the bridge is a BLMA 200' truss bridge with 85' girder sections on each side. The Central Valley 200' truss bridge is a drop-in replacement for the BLMA bridge and sits on the wood piers perfectly.

## THE BEST OF MRH RUNNING EXTRA!

Did you see this article?



**Creating a realistic  
log pond**

**Get this eBook now ▶**

[click here](#)

In the  
Jan 2020

**MRH** **RUNNING**  
EXTRA  
Each eBook ~100 pages

## THE BEST OF MRH RUNNING EXTRA!

Did you see this article?



**Stock cars used  
for other things**

**Get this eBook now ▶**

[click here](#)

In the  
Jan 2021

**MRH** **RUNNING**  
EXTRA  
Each eBook ~100 pages





12. This section, simply referred to as the Small River Module, was one of the first sections Ken built on his layout. It features a Central Valley 150' truss bridge with two 50' approach girders and wood piers.

**THE BEST OF MRH RUNNING EXTRA!**

Did you see this article?



**Make your own static grass tufts**

[Get this eBook now ▶](#)

[click here](#)

In the **MRH** **RUNNING** **EXTRA**  
Feb 2021  
Each eBook ~100 pages

**THE BEST OF MRH RUNNING EXTRA!**

Did you see this article?



**Preventing lead shot oxidation (weighting)**

[Get this eBook now ▶](#)

[click here](#)

In the **MRH** **RUNNING** **EXTRA**  
Jul 2020  
Each eBook ~100 pages





13. The water under the bridge is Envirotex resin and the ground cover consists of fake fur painted green with dirt mixed in. The module is 7' x 2' in size and has been featured in many run-bys and ad photos.

**THE BEST OF MRH RUNNING EXTRA!**  
Did you see this article?



Perfectly square magnetic jig for the workbench

**Get this eBook now** ← click here

In the **MRH** Oct 2020 Each eBook ~100 pages  
**RUNNING**  
**EXTRA**



Also see the “What’s neat this week” weekly video podcast!

**WATCH NOW >>**



14. The BNSF girder bridge is a location with a nostalgic connection for Ken. Located next to his old high school, it was where the kids would hang out after school to watch trains and play in the creek. The graffiti on the model was painted to match the prototype.

**THE BEST OF MRH RUNNING EXTRA!**  
**Did you see this article?**



**Jim Six on how to do satisfied downsizing**

**Get this eBook now ▶** ← click here

In the **MRH** Each eBook ~100 pages  
Nov 2018 **RUNNING**  
**EXTRA**



Also see the “What’s neat this week” weekly video podcast!

**WATCH NOW >>**



15. The main span of the bridge is an 85' girder with two 30' girder approach sections. As can be seen, this bridge replaced a trestle and the bases of the old bents are still visible underneath it. For more information on how Ken designed and built his layout, and how it has changed over the years (hint: some of these modules aren't around anymore), see the full video linked at the beginning of the article..

★ ★ ★ ★ ★  
**RATE THIS ARTICLE**



Also see the “What’s neat this week” weekly video podcast!

**WATCH NOW >>**



# From first train set to railroad empire...

*Our complete line of DCC products  
grows with you. Discover the fun!*

- Designed and manufactured in the U.S.A.
- Preferred for ease of use and ergonomic design
- Unlimited scalability for any size model railroad
- Plug-and-play means more time running trains
- Great customer service and excellent support



## See your dealer



REGISTER  
*(free)*

[INDEX](#)

[TABLE OF CONTENTS](#)



## Visit our new and improved web site for all your DCC needs!

- Get the latest new product announcements
- Watch our detailed how-to videos
- Browse the all-new Information Station
- Enjoy secure online sales, day or night!

Visit **ncedcc.com**





# Southern Digital

WWW.SODIGI.COM

*Celebrating 28 Years serving you*

## All New Items from **Digitrax** Complete Train Control



**Evolution Express Duplex Radio**  
List \$645, Your Price \$516



**Evolution Express**  
List \$460, Your Price \$365



**DT602D Radio Throttle**  
List \$260  
Your Price \$208



**UT6D Radio Utility Throttle**  
List \$170  
Your Price \$136



**DT602 Super Throttle**  
List \$195  
Your Price \$156



**UT6 Utility Throttle**  
List \$105  
Your Price \$84



**UR93 Duplex Receiver**  
List \$125  
Your Price \$99.95



**BD4N Block Detector**  
List \$36  
Your Price \$29



**BXPA1 Auto Reverser**  
List \$49  
Your Price \$39



**Ni-MH Battery for  
DT602 or UT6**  
List \$12  
Your Price \$9.60

## DCC Conversions, Service & Support

E-mail: [sales@sodigi.com](mailto:sales@sodigi.com) (770) 929-1888



**REGISTER**  
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)

# Building an Arduino speedometer



Electrical Impulses

Model Railroad Hobbyist | June 2021

JAMES REGIER SHOWS BRIAN KRUPICKA'S ARDUINO-BASED SPEEDOMETER YOU CAN BUILD...

1. Brian's speedometer readout includes a four-digit display for speed, a six-digit display for elapsed time, and three LEDs to represent the activation of each sensor and the system reset time between trains.

**IF YOU'VE EVER SPEED-MATCHED LOCOMOTIVES TO RUN TOGETHER IN** a consist, you know how a speedometer might come in handy. The precise readout of a speedometer works far better than the chase method of speed-matching.



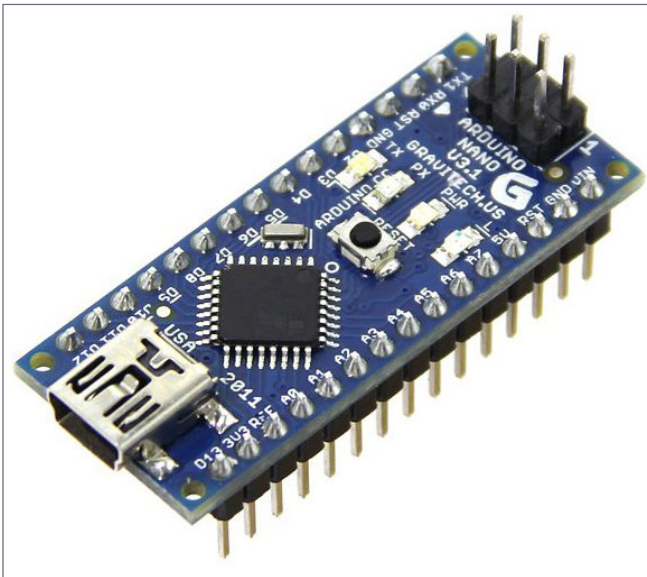
You can calibrate each locomotive separately and expect consistent results, even down to individual speed steps.

Brian Krupicka sent *MRH* his recent speedometer project he built using an Arduino Nano [2]. The speedometer is fully customizable. You can choose scale, sensor type, distance between sensors, and the sketch has the formula to give an accurate readout each time.

Several model railroad speedometers are on the market with a variety of prices and configurations. They range in price from about \$60 for a battery-operated, portable photo gate to several hundred dollars for fixed-location, auxiliary-powered units.

Each of these systems has its pros and cons, and each features a degree of customization. The customization of each system is limited to the variety of options and features a manufacturer is prepared to support.

The Arduino option potentially comes in much cheaper – about \$30 can purchase the necessary materials – and you can customize it and add features as desired. Not only can you



**2.** Brian used an Arduino Nano as the basis for his speedometer project. The Arduino runs off of a 5V power supply, or via USB. *Manufacturer photo*

# Easy Tsunami<sup>2</sup> Upgrade for Sound Value Diesel Models!

Easily upgrade your Bachmann Sound Value models with our newest Tsunami<sup>2</sup> decoder.

The TSU-BH1 offers 8 function outputs and is available in 3 sound profiles EMD, GE, and ALCO. Simply replace the Sound Value decoder and enjoy all of the Tsunami<sup>2</sup> features you love!

The TSU-BH1 is designed to replace the factory board in the following Bachmann Sound Value Models: FA-2, FB-2, S-4, E7-A, GP7, SD70ACe, ES44AC, GP30, GP38-2, GP40, and SD40-2.

Shop at **SOUNDTRAXX.com**  
or your local retailer today!



ADVERTISEMENT

## RailPro™

## NEW TECHNOLOGY

## RE RING™ ENGINEERING

# DCC + RADIO CONTROL

## HO Scale Locomotive Module

**ULTIMATE  
SERIES  
SOUNDS**

**TRUE  
MOTION  
TECHNOLOGY**

**LIGHT  
EFFECT  
EDITOR**



New Sound Technology and Mathematical Model Motion Control + more!!!



+



Equals  
"DUAL MODE"  
Control by DCC +  
Radio Control

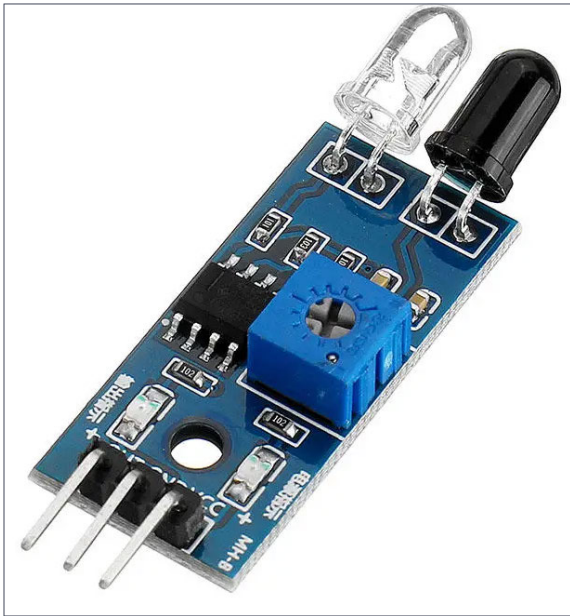
**Click Here to  
Watch Video**

For more information visit our Internet site: [www.RingEngineering.com](http://www.RingEngineering.com)

choose the scale for your speedometer, but you can program-in a wide variety of features, include any kind of sensor you like, and so on. The only limit is your imagination.

As configured, the train passes two infrared obstacle detection sensor units [3], which are spaced along the track. These sensors operate reflectively, that is the IR sender LED is constantly on, but the IR receiver gets the signal only when a passing train reflects the beam. In this default setting, you set the NC/NO switch or hard-wire the system so that Digital Pin 8 connects to the Ground [11].

You can also use interruption-detection sensor units, whereby the sender and receiver are on opposite sides of the track, and the signal between sender and receiver is constant until a train interrupts it. Set the NC/NO switch or hard-wire the system so that Digital Pin 8 connects to 5V for this setting, and the Arduino sketch will automatically take it from there.



**3.** Brian's system uses two infrared obstacle-avoidance sensor modules spaced along the line to detect trains and determine their speed. Each module consists of an IR sender LED (clear) and an IR receiver (black). *Manufacturer photo*

Note that you only set the NC/NO switch once at initial system setup. Brian recommends that you decide whether to use detection or disruption mode, and hard-wire the connection you need, rather than use the switch. That way, you won't accidentally toggle the switch later on.

Once you have the detectors set up, measure the distance between them in inches – Brian spaced his 47.5" apart – and enter that into the Arduino sketch. As the train passes through the sensors, the Arduino automatically determines the direction of travel and measures the number of milliseconds it takes the train to travel between the sensors. Although Brian's coding uses imperial measurement, converting it to use metric would require only a few changes.

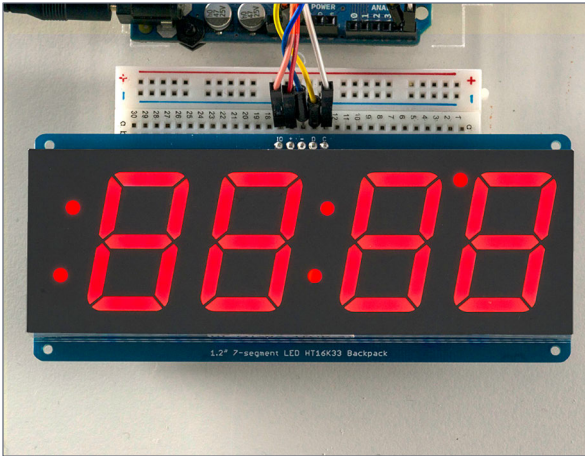
The sketch's coding includes equations to convert the number of inches to miles (63,360 inches/mile) and milliseconds to hours (3,600,000 milliseconds/hour). Simplified, this equation is:  $(\text{distance in inches} \times 56.8182 / \text{elapsed milliseconds})$ . Then, multiply the result by the scale (87.1 for HO) to calculate the speed in scale mph.

The Arduino transmits the calculated speed to a four-digit display, and time elapsed to a six-digit display on your layout fascia [4, 5].

For many folks, this amount of information would suffice. In fact, if you prefer to set up the system with only the detectors and digital displays, the sketch would work.

However, Brian has also added a function to his speedometer sketch to enforce a layout speed limit – in this case 50 scale mph. If the system clocks a train at 50-69 mph, the display flashes and an audio alert sounds from a connected MP3 player [6]. If the train pushes 70 mph or more, the speedometer escalates its warning with a faster display flash and another, more serious audio alert from the MP3 player.

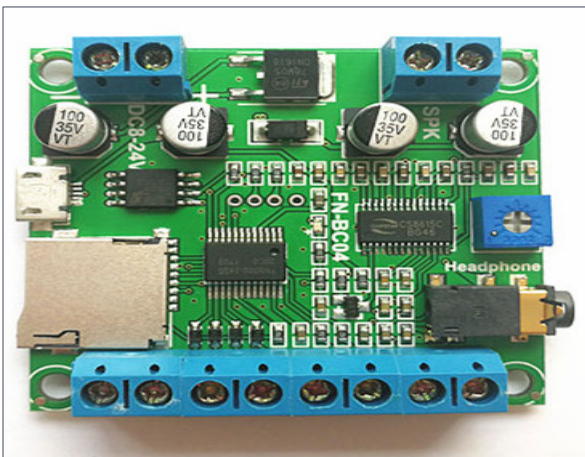




4. This Adafruit 0.56" four-digit, seven-segment display shows the speed readout. *Manufacturer photo*



5. This Digitem 0.56" six-digit timer displays the elapsed time as the train rolls by. It requires an independent 12V power supply. *Manufacturer photo*



6. The project uses a FlyRon MP3 player to sound warnings. Simply find a suitable audio notice file, upload it to the micro SD card, and you're in business. The FNBC04 requires a 12V power supply. *Manufacturer photo*



REGISTER  
*(free)*

[INDEX](#)

[TABLE OF CONTENTS](#)

**TamValleyDepot.com**

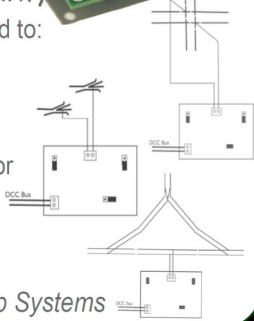
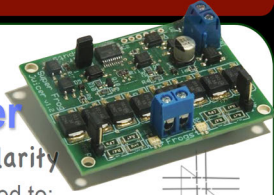


Home of the  
Frog Juicer

## Dual Frog Juicer

Automatic DCC Polarity Reverser can be used to:

- Power Two Frogs
- Crossovers
- Crossings
- Automatic Reverser for Turntables
- Wyes, Loops
- Circuit Breaker



Use with 2-10 Amp Systems

**www.SBS4DCC.com**



**SOUNDTRAXX**



**DCC Specialties**  
INNOVATION FOR DCC



**ACCUTRACK II**  
SPEEDOMETER

**SPROG DCC**  
the DCC Programmer and Control Family

**Digital plus**  
by Lenz

**TAM VALLEY DEPOT**  
Great Electronics for Great Model Railroads



**TEAM DIGITAL, LLC**  
Improving the world of DCC

**N - HO - HOOn3 Scale Trains**

Your ad here could  
reach 65,000+  
for as low as \$222  
a month.

Click to learn more ...



soundBytes™



**LEARN MORE**

```
System Ready****  
Seconds: 2.40  
Scale MPH: 96.64  
Level Two Speed exceeded
```

```
System Ready****  
Seconds: 4.36  
Scale MPH: 53.32  
Level One Speed exceeded
```

```
System Ready****  
Seconds: 10.78  
Scale MPH: 21.54
```

```
System Ready****  
Seconds: 6.73  
Scale MPH: 34.53
```

Example Displayed On The  
System Monitor

## 7. The Arduino sends notes on the engineer's compliance with speed limits – or lack thereof – to the Arduino IDE serial monitor on your computer.

Brian even notes that you can configure the system to activate a power relay to cut power to the track if the engineer is especially reluctant to reduce speed. The sketch and materials are not so-configured for this article, but it does once again show just how customizable this system can be.

If you connect your Arduino to a computer with a USB cable and open the Arduino integrated development environment (IDE) application, the speedometer will transmit text to the serial monitor window, providing a readout of elapsed time and speed recorded. If an engineer happens to be traveling over-speed, the display will include the degree of the infraction [7]. Once a train has passed, the system will go into its reset mode, which is coded as a 10-second delay. The sensors and the system will be unresponsive to avoid false positives as the system resets itself. Until the next train arrives, the speedometer will continue to display the train's speed and elapsed time.



*20th Anniversary*

# Litchfield



# S T A T I O N

YOUR

HEADQUARTERS

DCC

- NCE
- Digitrax
- SoundTraxx
- Speakers
- Train Control Systems
- ESU LokSound
- Tam Valley Depot

623-298-7355

[www.LitchfieldStation.com](http://www.LitchfieldStation.com)

[sales@litchfieldstation.com](mailto:sales@litchfieldstation.com)

Brian mounted his sensors to the back side of a shed on his layout. This keeps them hidden from view, while allowing them to emit their infrared beam across the tracks. A train reflects the beam back as it passes, to trigger the sensor [8, 9].

Brian used a dual-size blank electrical wall plate to create the display panel for his layout fascia. He cut holes sized to accommodate the speed and elapsed-time displays. In addition, he drilled three holes to accommodate three LEDs: two to indicate direction of travel, and a third to indicate the speedometer is resetting between trains [10].



8. This shed houses the two infrared sensors on the back side, facing the tracks behind the building, hidden from viewers.



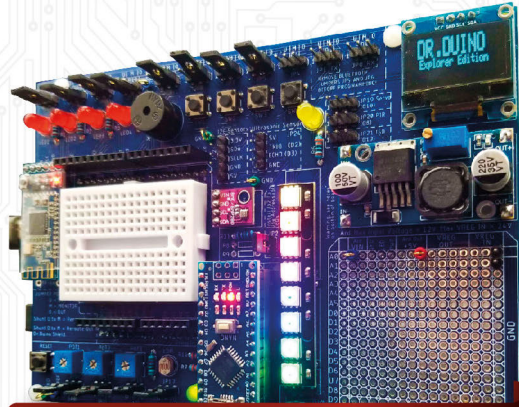
REGISTER  
*(free)*

[INDEX](#)

[TABLE OF CONTENTS](#)

**DR.DUINO**<sup>TM</sup>

# FINALLY AN ARDUINO COMPATIBLE MODEL RAILROAD KIT!



[CLICK HERE TO LEARN MORE!](#)

DEMO CODE  
INCLUDED  
TO CONTROL



SIGNALS



TURNOUTS



BLOCK  
DETECTION



SERVO



LIGHTING



MUSIC & SFX

## ADVERTISEMENT

Make LocoNet wiring extremely simple!



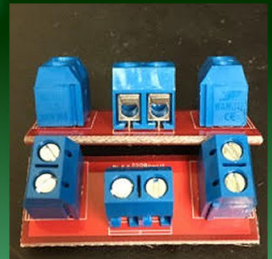
**ACCU-LITES, inc**

Your DCC Center!



**Suitcases belong in your baggage cars,  
not under you layout!**

**Check out the DCC Vampire II ...  
this guy does the job of two suitcase  
connectors!  
And really holds the connection good  
too!**

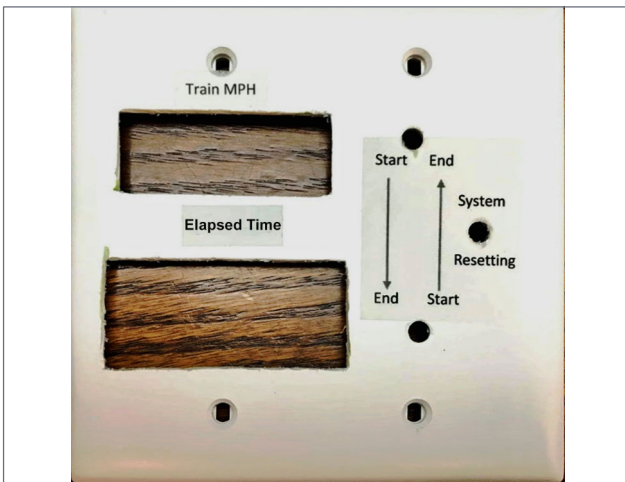


**CLICK NOW TO DISCOVER THE AMAZING VALUE!**

Dealer Inquiries Accepted



9. The infrared sensors shine a beam across the track to detect trains, which reflect it back to the sensors.



10. Brian modified this dual-size wall plate to hold the two displays and three LEDs.



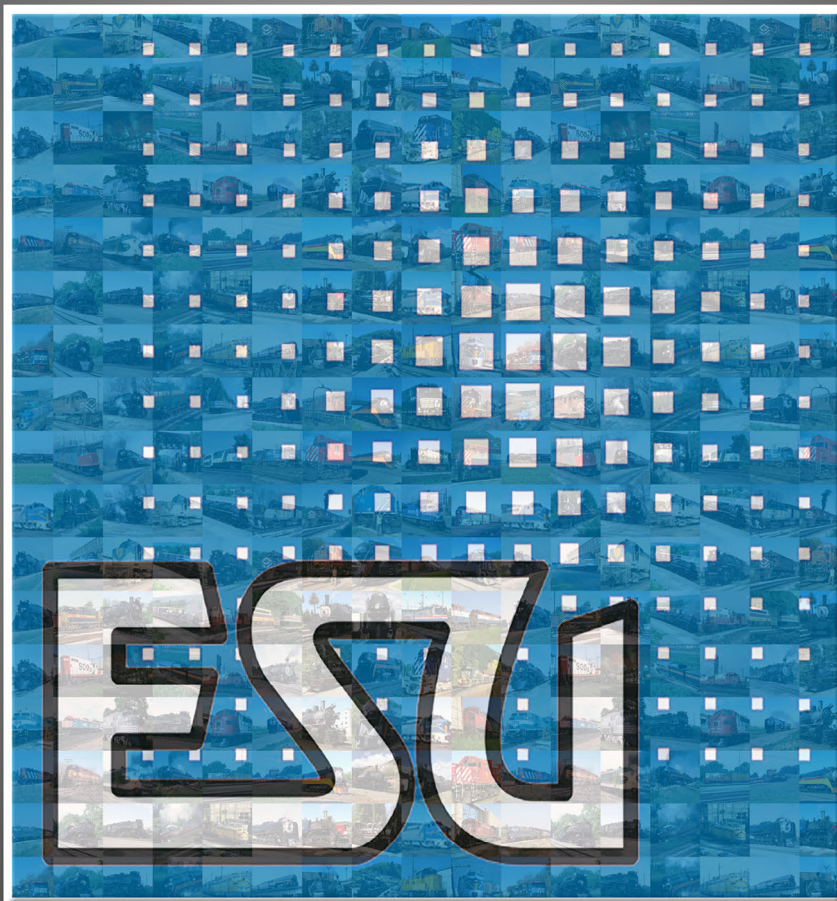
[REGISTER](#)  
*(free)*

[INDEX](#)

[TABLE OF CONTENTS](#)

Don't settle for all your locos  
sounding the same!

ESU now has **OVER 100**  
"LokSound" files to choose from!



Because "Close Enough" is no longer  
"Good Enough"

LokSound.com



Brian's speedometer project should make for a fine addition to his layout. Its speed display is a useful feature, while its over-speed warnings will certainly add interest. Hopefully, it'll inspire you to explore the possibilities of programming with Arduino and building your own projects.

Please click this link for the Arduino sketch: [github.com/jpregier/ModelRailroadingProjects/tree/master/ModelRailroadSpeedometer](https://github.com/jpregier/ModelRailroadingProjects/tree/master/ModelRailroadSpeedometer).

*See the final electrical diagram on the next page ...*



## BRIAN KRUPICKA



Brian has been into model railroading for 20 years. He has belonged to several model railroad clubs over the years: two N scale, an HO scale, and an O scale. His HO scale layout at home includes 11 scale miles of single-track main line and nine industrial districts, with over 20 animation and automation features. His layout can operate with DC or with Digi-trax DCC and JMRI automation.

Brian is also into amateur radio, traveling, and fishing. ■



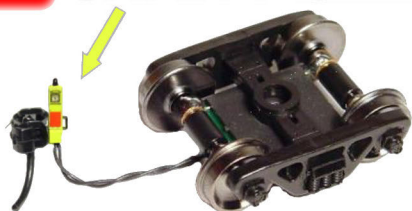
REGISTER  
*(free)*

[INDEX](#)

[TABLE OF CONTENTS](#)

# END OF TRAIN DEVICE

**NEW SAFETY GREEN**



**Patented Technology - US Patent 7,549,609**

**Bright Red  
Flashing Light!**

**Installs in minutes!  
No freight car  
modification required!**

**Does not affect Load!**

↓ Car without Load ↓

↓ Car with Load ↓



**Click Here to  
Learn More**

**RE RING™  
ENGINEERING**

## Great control in a tiny package



**Original  
Touch Toggles**

- Touch Toggle™ plug in controls
- Bright clear indication
- Easy setup
- Flexible system

Stall Motors, Twin-coils,  
Power, and Servos

Now for Tam Valley Depot  
and MRservo too!

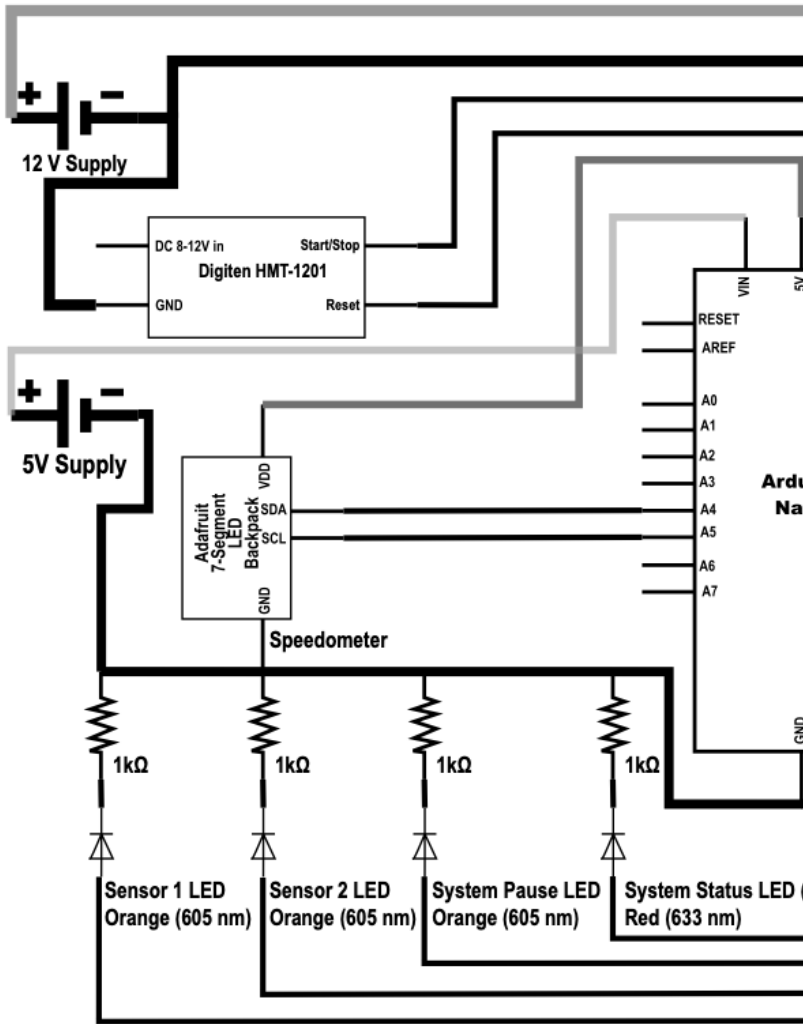


Made in the USA



What will they think of next?

[www.berretthillshop.com](http://www.berretthillshop.com)



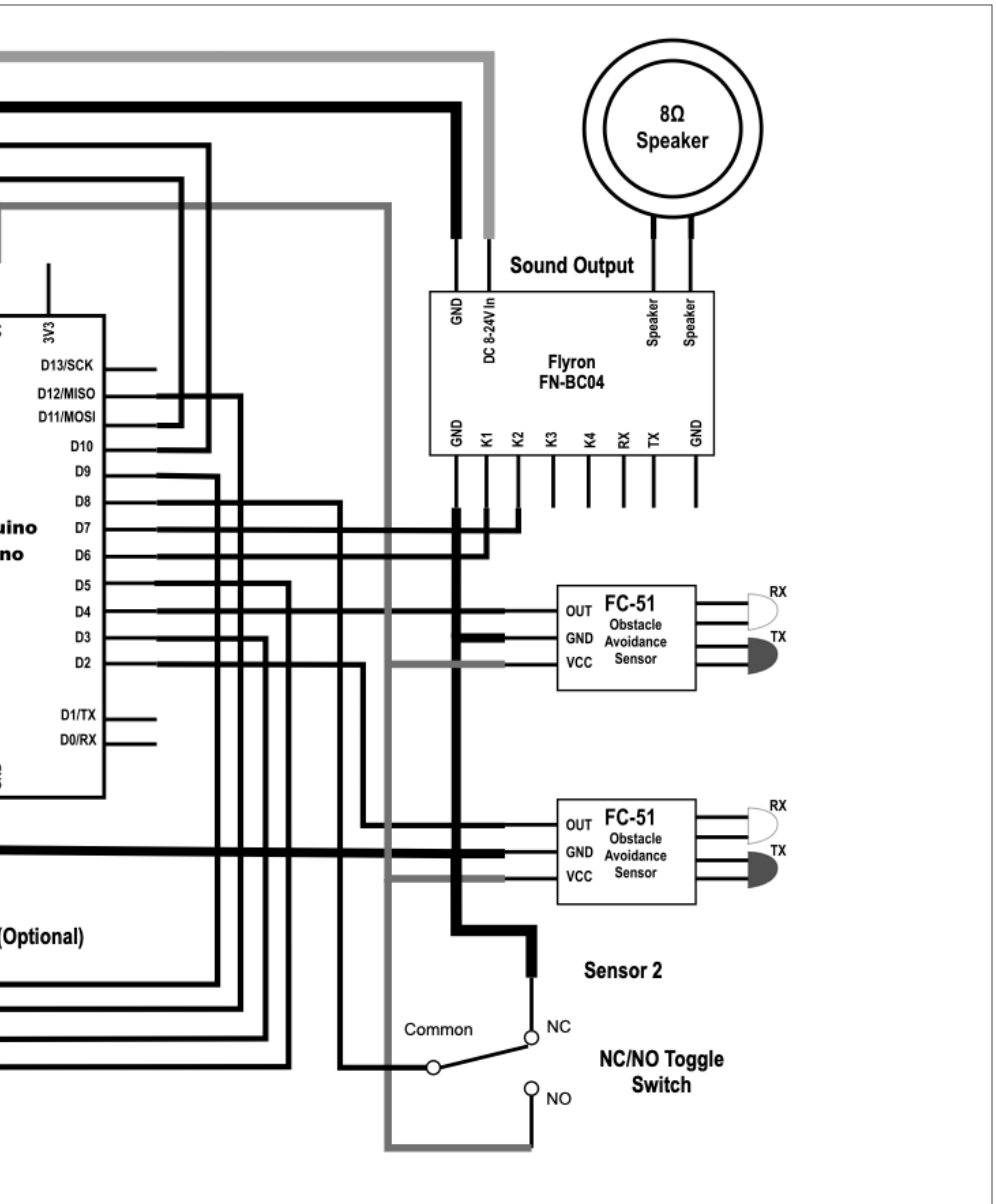
11. Wiring schematic for the speedometer sensor project. The Arduino also has a micro USB port – not shown in diagram – to connect it to your computer.



REGISTER  
*(free)*

[INDEX](#)

[TABLE OF CONTENTS](#)



**RATE THIS ARTICLE**



*The*



Complete Train Control

## *The next Evolution in* Complete Train Control®

- Premium Advanced 5/8 Amp Starter Sets.
- Throttles include a Color 2.4" LCD Screen.
- Starter sets are available as standard tethered or duplex radio.
- The system features a DCS210+ Advanced Command Station, DT602 series throttle, and includes a power supply to make getting started easier than ever.
- The DT602 series throttles can be purchased separately from the Starter Set.

Find out more @ [www.digitrax.com](http://www.digitrax.com)



REGISTER  
*(free)*

[INDEX](#)

[TABLE OF CONTENTS](#)



EV  
St  
DT  
PS

EV  
DT  
DT  
UR

# Evolution<sup>TM</sup> Express

## of Starter Sets



**Evolution Express (shown) | \$460 MSRP**

Standard Set Includes: DCS210+ Advanced Command Station, DT602 Super Throttle with Color Screen, UP5 Universal Panel, PS615 power supply, and a PS615 power supply.

**Evolution Express Duplex | \$645 MSRP**

Duplex Set Includes: DCS210+ Advanced Command Station, DT602D Super Duplex Throttle with Color Screen, UP93 Universal Panel, and a PS615 power supply.

# MRH MARKETPLACE



**MOUNTAIN SUBDIVISION HOBBIES**

[www.modelrrsupply.com](http://www.modelrrsupply.com)

FREE USA SHIPPING OVER \$49.00

MRH Readers save with code:

**MRHMAG19**

*click to learn more!*



**East Coast Circuits**  
Innovating Your Model Railroad Layout

P.O. Box 25412  
Providence, RI 02905

Lighting Circuits For Your Layout

Random Lighting Circuit - Burning Fire Circuit  
Traffic Light Circuit - Crossing Signal Circuit

Custom Lighted Vehicles  
HO & O Scale Emergency Vehicles  
HO & O Scale Trucks & Cars

[Eastcoastcircuits.com](http://Eastcoastcircuits.com)

[Eastcoastcircuits@gmail.com](mailto:Eastcoastcircuits@gmail.com)

*click me!*



**Pursuing  
Excellence**

**THE TRAINMASTER, LLC**  
Detailed Craftsman Kits

[www.TheTrainMaster.com](http://www.TheTrainMaster.com)



Keep having fun with  
trains this summer!

Out with the old, in with a **NEW** generation!

Signal Animator/2

Block Animator/2

Grade Crossing Pro/2

New features, improved detection!

Please visit our website and online store!

**LOGIC RAIL™**  
TECHNOLOGIES

(281) 251-5813

[info@logicrailtech.com](mailto:info@logicrailtech.com)

[www.logicrailtech.com](http://www.logicrailtech.com)

**PRE-SIZE**  
MODEL SPECIALTIES

P.O. Box 6 Paonia, CO 81428

Ph. 970 527 4586

Made in The USA

Cast resin items for All Scales.

Tunnel portals, bridge piers, abutments,  
culverts, and retaining walls.

Trackside details and sage brush tree  
armatures.

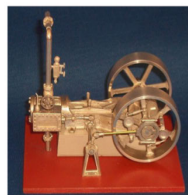
"FREE SHIPPING see website for details"

**WEATHERING  
POWDER**

**MONROE  
MODELS™**

[www.monroemodells.us](http://www.monroemodells.us)

**CROW RIVER PRODUCTS**



"O" Scale Kit 325 Automatic Steam Engine \$75.00  
Note 325 Steam Engine is Shown Un-painted

"O" Scale Industrial Horizontal Boiler \$90.00  
All Items made in USA

**HO & O Scale Machinery, Derricks,  
Engines, Hardware & Waterfront Models**

Pawtucket, RI 02861 Tel 401-723-0065

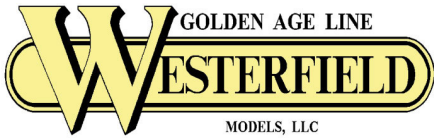
[www.crowriverproducts.com](http://www.crowriverproducts.com)



**REGISTER**  
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)



**NEW KIT: AT&SF  
Fe-Q/Fe-R/Fe-V**



[westerfieldmodels.com](http://westerfieldmodels.com)

**Summer is for  
camping!**



Kit HO-7002

[www.interactionhobbies.com](http://www.interactionhobbies.com)



**MONASHEE  
LASER  
ENGINEERING**

**COME VISIT US  
CLICK HERE**

**MANUFACTURERS OF FINE RAILROAD  
STRUCTURES AND ROLLING STOCK MODEL KITS**

**WE'RE BEHIND YOU ALL THE WAY**

**Sceniking<sup>®</sup>.com**  
*...nothing compares...*  
*Click to learn why!*

**PRECISION DESIGN CO.**

**CUSTOM DECALS FROM  
YOUR OWN ART IN JUST ONE DAY**

**PDC.CA**

**FULL COLOR & SOLID WHITE**

**Great Decals!™**

FEC, Interstate, Virginian  
Railway, & L&N Titles  
After Hours Graphics Line  
Coupler Gages and More  
In O, S, HO, and N Scales

**Human[city] Junction**

Model Railroad Videos | Tutorials, Reviews, Interviews, Hangouts

**YouTube Channel Sponsored By**

**CMR Products | 7% off on House Brands**

**Iron Planet Hobbies | 10% off and Free  
Shipping in the USA**

**Use Discount Code "HUMAN"**

Please visit us out at [www.humancityjunction.com](http://www.humancityjunction.com)



**LOOK**  
at what's new at  
Black Cat this month

[Click here for  
our website](#)

CPR "N" scale decals:  
CPR 301021-N flat cars  
CPR 191220-N Fowler car  
CPR EX&TR-N CPR EX-N  
CPR TR-N Smith#multi-N  
express & transport  
blue multimark trailers

Black Cat Publishing  
(204)489-5005  
ajfergus@mymts.net  
blackcatdecals.com



Have you seen these  
popular blogs on the  
MRH website?



**John Winter's PRR**

117,000 reads

[CLICK TO READ IT NOW](#)



**Squeaky's Trains**

Handcrafted & Exclusive Models  
DCC Products, Service, Installations

Let's play with trains!

Offering:  
SoundTraxx, TCS, NixTrainz,  
Atlas, RailPro, MTO Battery, Kadee,  
and many more Railroading Supplies!



[SqueakyTrains.com](http://SqueakyTrains.com)



**Randy Seiler's B&O/PC**

431,000 reads

[CLICK TO READ IT NOW](#)



## Model Railroad Control Systems

Geoff Bunza Project Boards  
DCC Occupancy Detectors  
CMRInet Compatible Nodes  
Layout Telephone Systems  
RFID Switchlist Generator  
Switch Machines and Drivers



**REGISTER**  
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)



*It's all about trains*



*All things train related,  
whenever, wherever.*



**[WWW.24TRAINS.TV](http://WWW.24TRAINS.TV)**

**On 24TRAINS.TV you can find:**

videos | travel reports | magazines | vlogs

model railways | workshops | documentaires | holidays

[MRHMAG.COM](http://MRHMAG.COM)

[INDEX](#)

[TABLE OF CONTENTS](#)

# SIGNALS ON THE WYOMING



Model Railroad Hobbyist | June 2021

**VERRYL FOSNIGHT AND DENNIS DRURY**  
SHOW HOW THE **WYOMING DIVISION**  
USES **AUTOMATED BLOCK SIGNALS** FOR  
OPERATIONS ...



**IN THIS SERIES,** I convey some of the experiences we had creating a signaling system for my Wyoming Division layout, representing the Union Pacific between Cheyenne, Wyoming and Ogden, Utah. For this month, we'll begin with an introduction to the layout, its operations, and the role that signaling plays in those operations.



**REGISTER**  
*(free)*

[INDEX](#)

[TABLE OF CONTENTS](#)

# DIVISION: PART 1

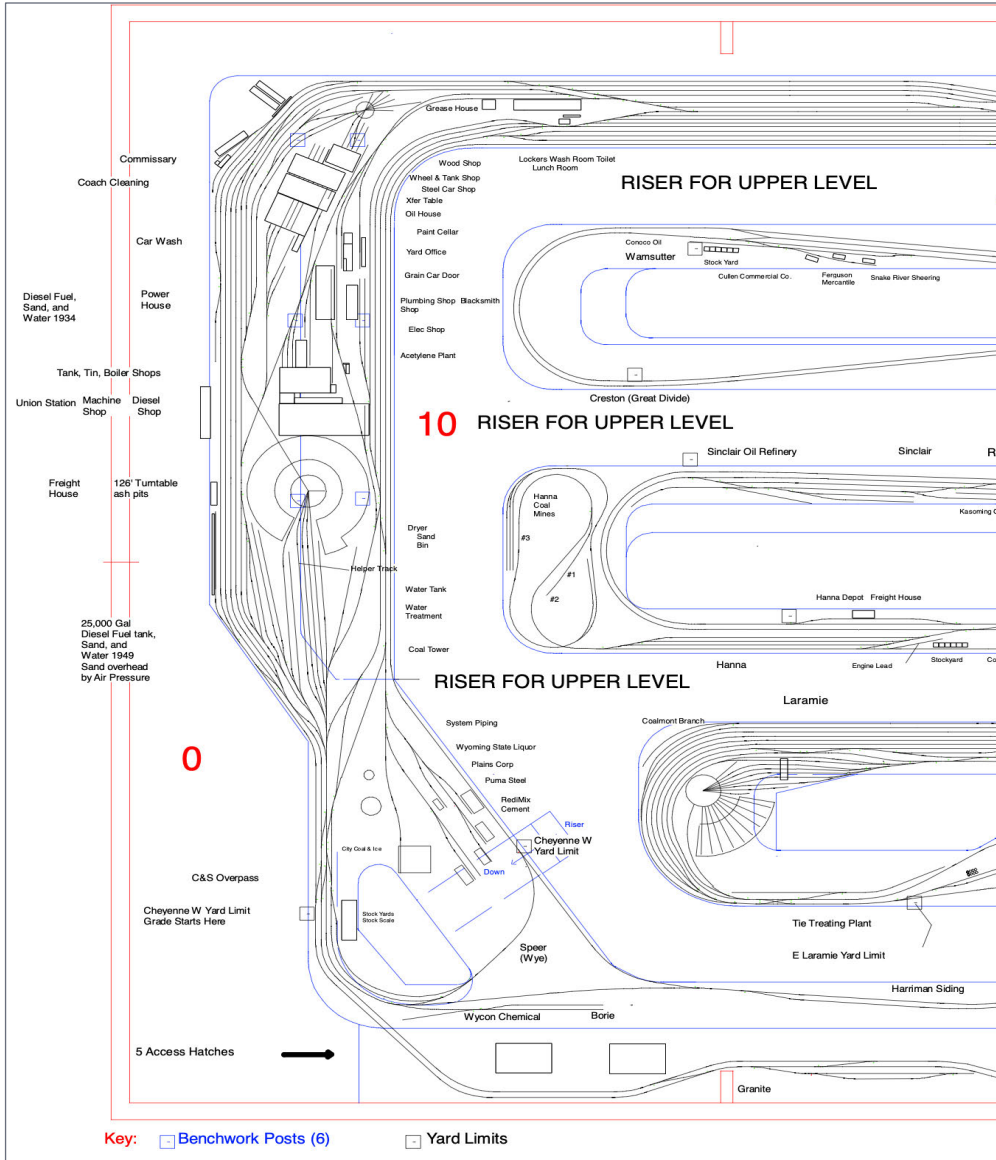


## THE WYOMING DIVISION LAYOUT

The Wyoming Division is a large HO scale layout, representing the Union Pacific from Cheyenne, Wyoming to Ogden, Utah. built in a free-standing 50 x 75 ft building. Verryl designed and built the layout for operations. The layout uses Automated Block Signaling (ABS) but also has some special signal requirements.

The layout has a free-standing mushroom design with three bench levels and aisles on all sides. The upper two levels contain the layout with scenery, plus the non-scenery staging. A proper description of the signals requires an understanding of the layout track plan [1, 2, 3].

# SIGNALS ON THE WYOMING DIVISION | 3



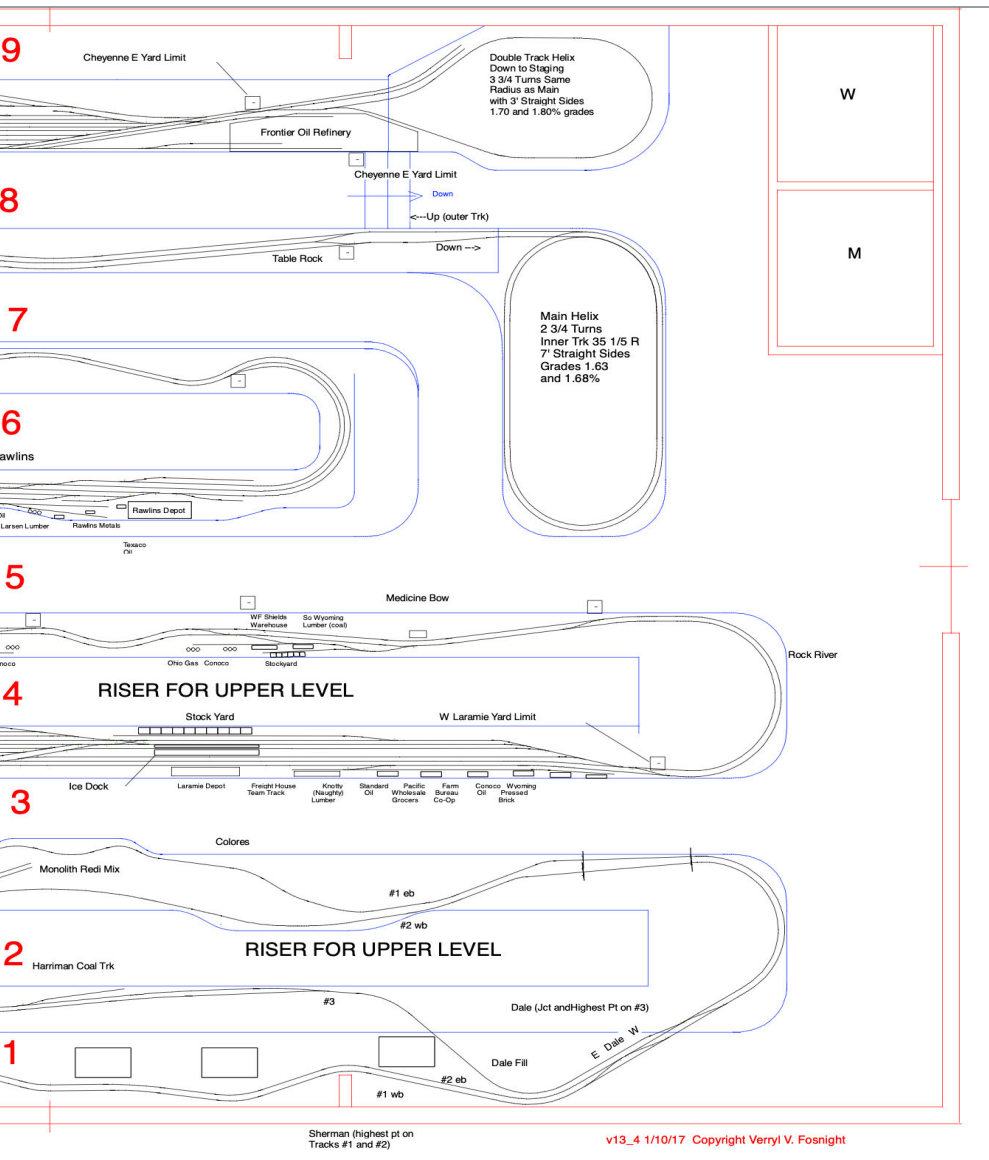
1. The tracks on the upper level of the Wyoming division flow counterclockwise from the double track helix to staging (top right), past the classification and steam yards and depot at Cheyenne (left). The three-



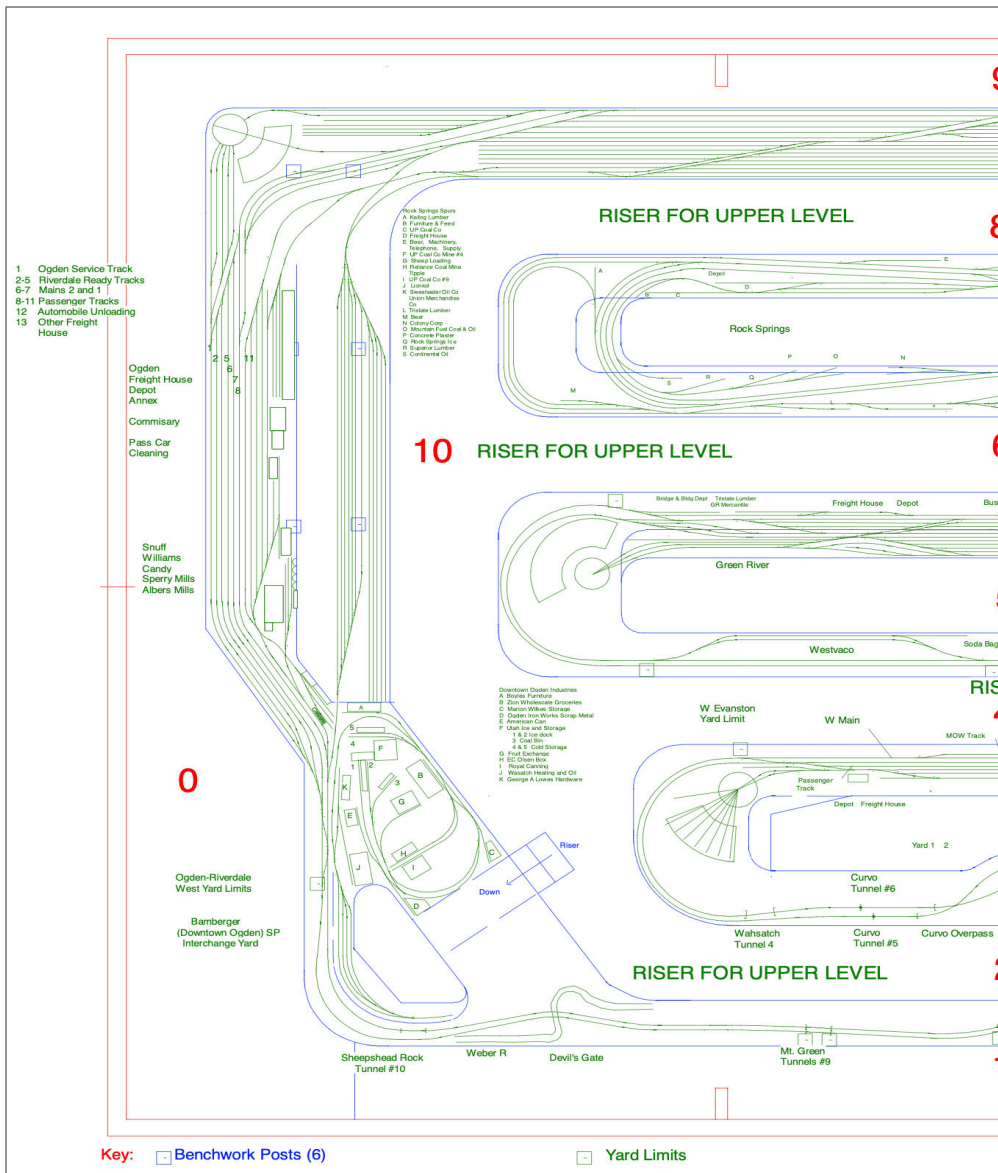
**REGISTER**  
*(free)*

**INDEX**

**TABLE OF CONTENTS**



track route up Sherman Hill with Harriman Cutoff are on the bottom bench. Tracks 1 and 2 continue over the remaining benches to the small helix (vertical oval on right). *Zoom into this plan to study it more closely.*



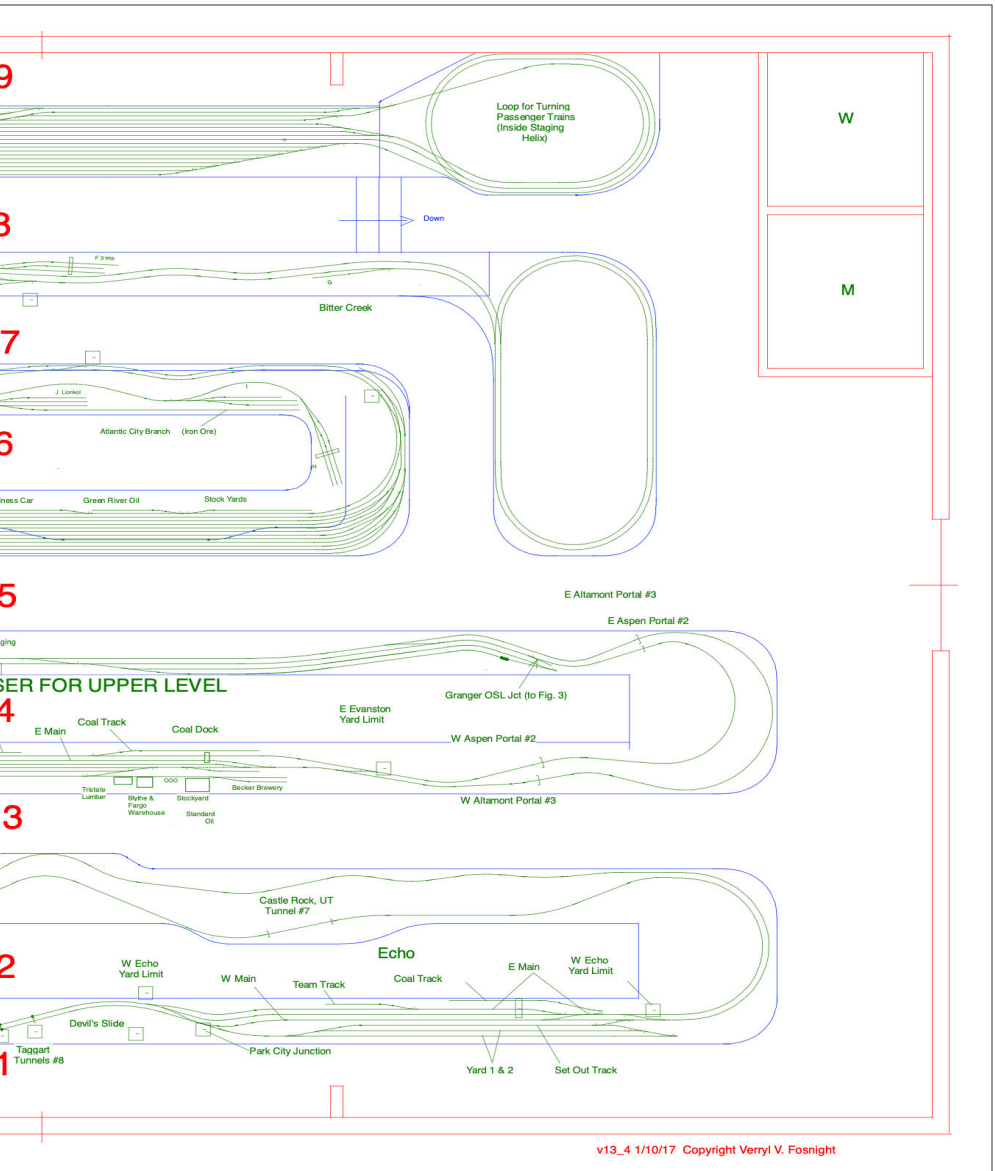
2. The middle level flows counter-clockwise from the main helix (vertical oval) to Ogden, Utah (left). Main staging and the helix to Cheyenne are beyond (smaller oval, top). The Oregon Short Line (OSL)



**REGISTER**  
(free)

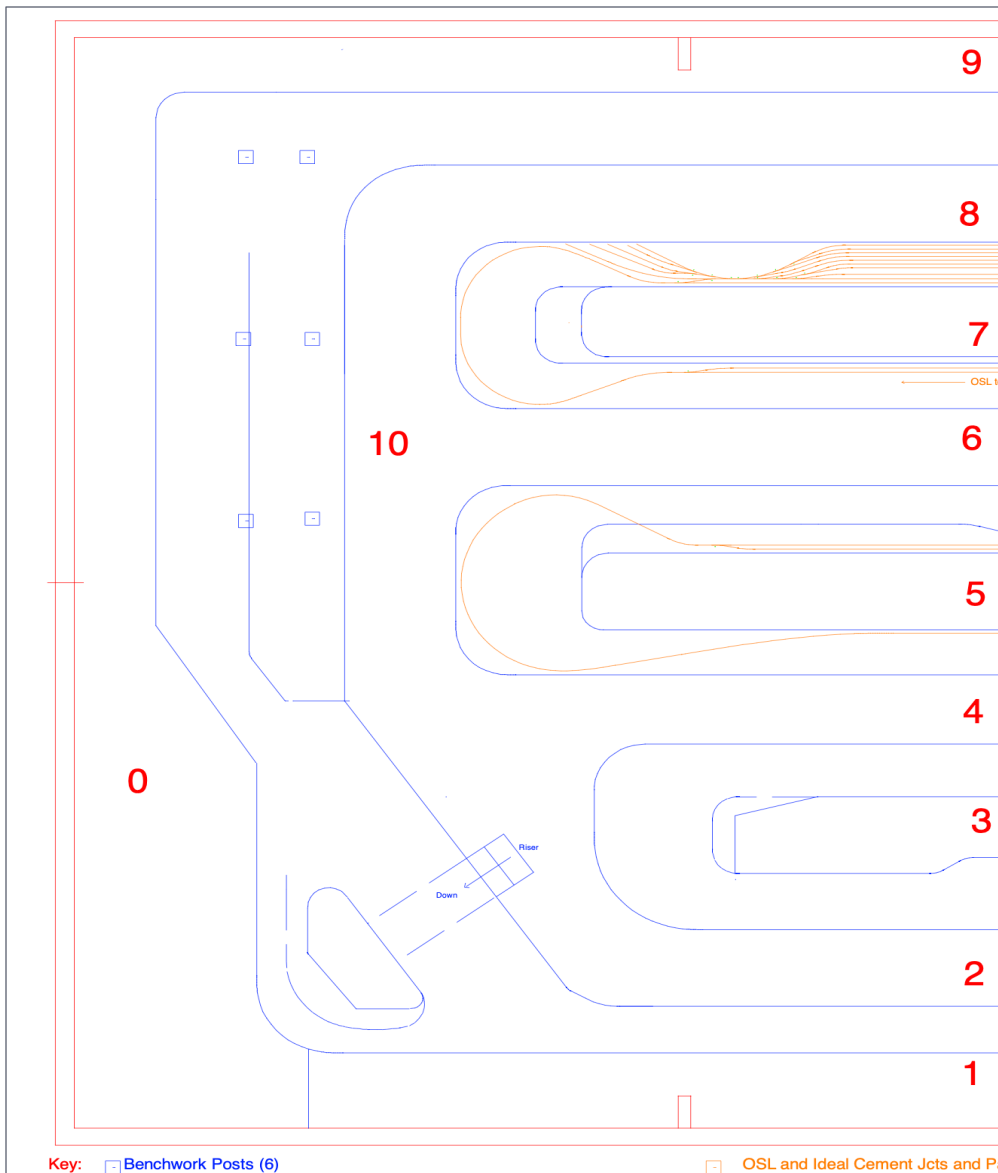
[INDEX](#)

[TABLE OF CONTENTS](#)



branches off to the lower level at Granger (mid right), and the Park City Branch departs for the lower level at Echo (bottom right) [3]. *Zoom into this plan to study it more closely.*





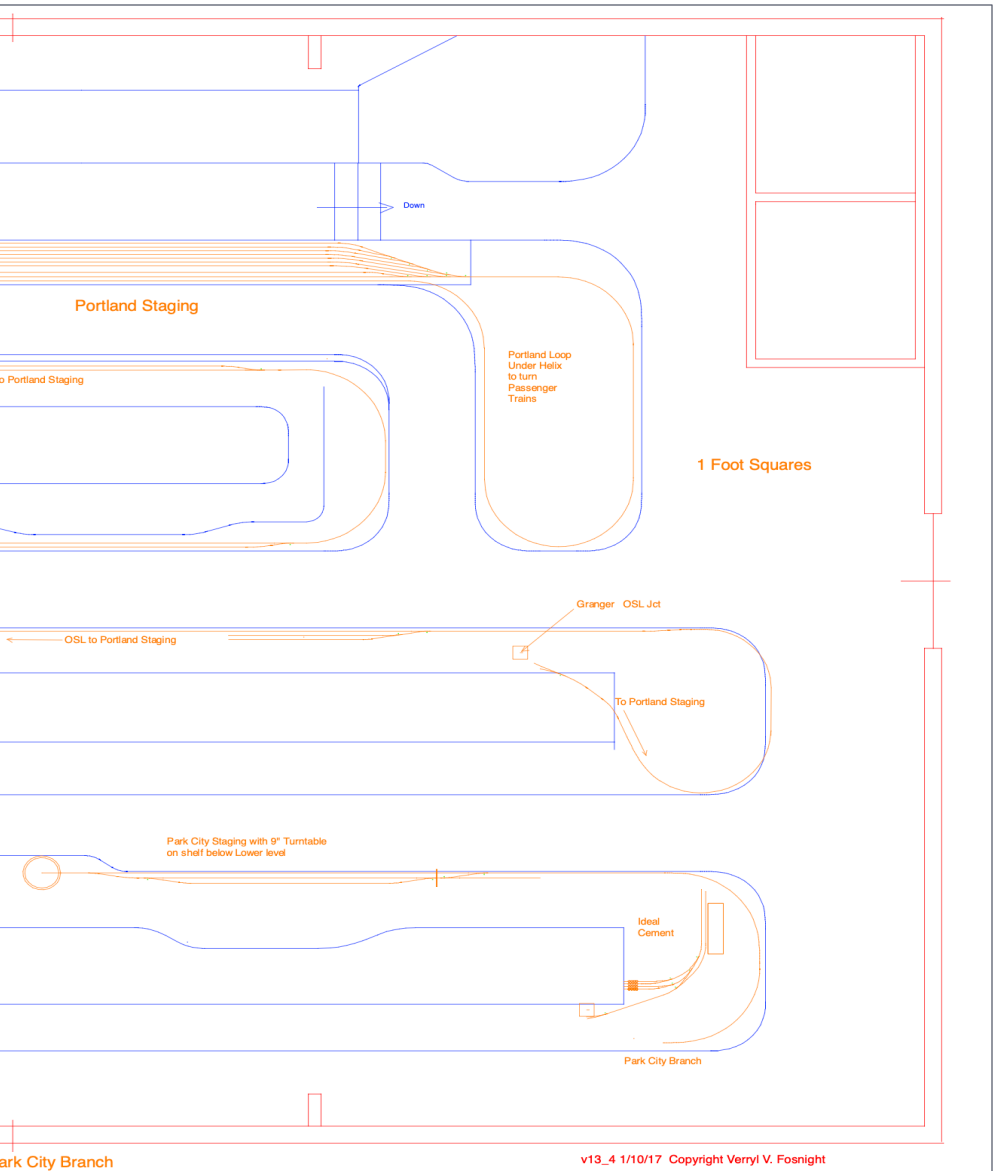
3. The third level is for hidden track without scenery or signals. The OSL originates at Granger [2], cuts across aisle 4, and wraps around toward Portland staging, with a return loop.



REGISTER  
*(free)*

[INDEX](#)

[TABLE OF CONTENTS](#)



The Park City Branch (bottom) originates in Echo [2], and wraps around to terminate at Park City staging, with a turntable. *Zoom into this plan to study it more closely.*

Nearly all the mainline on the top two levels is signaled. The exceptions are the four main yards, Cheyenne and Laramie on the upper level [1], plus Ogden and Green River on the middle level [2]. These four yards have assigned yardmasters (YM) and switching foremen during operation responsible for controlling traffic within yard limits.

The main line passing through minor yards at Hanna, Rawlins/Sinclar Oil, and Wamsutter on the upper level [1] and Evanston and Echo on the middle level [2] is ABS signaled. Local freight crews and a floating yard master are responsible for directing switching operations at each of these yards, but the main is ABS.

Rock Springs on the middle level should have a yard, but we opted to use the bench space for 20 industries [2]. All freight traffic into and out of Rock Springs goes through Green River, with a road switching operator shuttling cars between Green River and Rock Springs, and handling all Rock Springs switching. The mains through Rock Springs also have ABS.

There are two hidden tracks on the bottom level [3], neither of which uses signals at this time, except for protecting traffic entering the main. The Oregon Short Line (OSL) departs the main at Granger [2] and continues to a staging yard representing Portland, Oregon. Beyond Portland staging is a turnaround loop for turning passenger trains.

Eventually, I plan to signal the bidirectional single-track OSL and its three sidings. With the exception of the wide-radius curves at the bench ends, the OSL track and its sidings are near the bench edges, so operators can see them [3].

The other hidden track is a short representation of the Park City Branch from Echo to Park City, Utah [3]. For operations, a local leaves Ogden, switches Echo [2], and continues to Park City. The crew leaves cars at the Park City yard, turns the locomotive on a manual turntable, and picks up a new train for the return trip to Echo and Ogden.



## OPERATING SYSTEM USED FOR SESSIONS

The Wyoming Division uses a unique four-card car forwarding system that includes a one-sheet, pre-printed Train Order (TO) and car, block, and locomotive cards, as described in the May 2020 *MRH* article, "Lightweight Operations." The TOs simulate pre-generated track warrants to simplify paperwork and avoid the delays associated with using individual handwritten order slips.

Rule 251D governs directional double-track running, so a dispatcher is not strictly necessary for operations, though a dispatcher can help direct passenger and priority trains around slower trains, and help protect MOW crews, switchers working on the main, or other unusual situations. Because UP primarily used phone or wire communications between stations and the dispatcher in 1957, the layout uses a 16-phone network for engineers/conductors to communicate with the remote dispatcher, report position "on sheet," and receive orders.

Trains move with a simplified form of Direct Train Control (DTC) under ABS protection. DTC is like Track Warrant Control (TWC), though with fixed instead of variable operational blocks.

The UP used CTC on the single-track Harriman Cutoff and the OSL, though the layout does not because neither has enough traffic to keep a dedicated CTC operator busy. These stretches use rule 271 instead, which treats the trains in either direction as if they are on the timetable and under strict dispatcher control.

Only passenger trains operate on a timetable. Following the UP's practice of sending freight trains as soon as they were ready, the staging YM sends freights out as soon as an engineer is ready for one.

## AUTOMATIC BLOCK SIGNALS DESIGN CHARACTERISTICS

We completed an ABS system for the Wyoming division in March 2017. The signals are generally three-color. Green indicates the next two blocks are unoccupied and authorizes full speed; yellow indicates the track two blocks ahead is occupied and authorizes restricted speed; and red requires the train to stop, because the next block is occupied.

Red has two aspects, “permissive” and “absolute,” both of which requires the train to stop. Permissive red signals, however, allow the train to proceed at restricted speed after stopping, slow enough to stop safely ahead of any collision or other obstruction causing the red signal. Most red signals along the unidirectional, double-track main are permissive.

Absolute red signals require the train to wait until the signal changes or the dispatcher/yardmaster(YM) authorizes movement. Absolute red signals protect entry into manned yards and



the bi-directional Harriman Cutoff. Road hazards and maintenance can be signaled by a signal man, and such signals are an absolute red as described below.

*Note: there is no provision to set an individual signal manually (other than the yard entry signals described in the following paragraph), thus hazards and maintenance must be flagged red, but any such instances will cause a signal to turn and stay red due to track being occupied.*

Red and yellow signals protect the four manned yard entries, and these are always normally red. Trains approaching must stop, notify the YM, and wait for the YM to align a path and clear traffic. The YM then manually changes the signal to red/yellow [red + yellow] and verbally instructs the train to approach at restricted speed. The signal automatically reverts to red after 30 seconds [4].

Standard tri-colored signals protect egress from all manned yards onto the main between Cheyenne and Ogden, though the train crew must contact the dispatcher for clearance prior to departure. This allows the dispatcher to record the train's movement and position. The dispatcher may also hold the train to avoid delaying a higher priority train [5].

In the case of track hazards such as derailments or maintenance of way, the cleanup or MOW crew will place a DCC flagman to signal all oncoming trains to stop. The DCC flagman has

4. (Left) The West side of the signal bridge at the west entrance to Cheyenne yard. Signals controlling entry into the yard have red and yellow aspects, with default of red. Incoming trains must wait until the YM admits them with a yellow signal. From left, the tracks are the eastbound main, the westbound main, the Harriman cutoff, and tracks to the Cheyenne Stockyard. Note only the westbound main and the Harriman Cutoff are signaled inbound.



REGISTER  
*(free)*

[INDEX](#)

[TABLE OF CONTENTS](#)

5. (Top-left) A westbound view of the same signal bridge as [4], this time departing Cheyenne. Note that the signals for Harriman Cutoff (second from left) and the westbound main are green, indicating the next two blocks are clear.

6. (Bottom-left) The DCC flagman. – manufacturer’s photo: ([www.modelrailroadcontrolsystems.com/dcc-flag-man-track-power-tester-4-pack](http://www.modelrailroadcontrolsystems.com/dcc-flag-man-track-power-tester-4-pack))

electrical contacts to activate block occupancy and to light the flagman’s red LED lantern. These lanterns are an absolute red, with only the MOW or cleanup crew authorized to remove them [6].

## DISPATCHING SPECIAL SITUATIONS

Outside of manned yard limits, DTC supplements ABS with track warrants. This provides for dispatcher control when a dispatcher is present and/or simulated ABS of special simulations on the layout. When a dispatcher is present, crews must communicate their trains’ locations so the dispatcher can keep track of them.

A dispatcher may help high priority trains overtake slower trains, or route trains around stationary trains or those temporarily on a main (switching or under a coal tower) by dispatching by dispatching them onto the left track, against traffic. While the train’s presence automatically sets opposing ABS signals red or yellow, respectively, for the next two blocks, such movements require the dispatcher to monitor oncoming traffic and delay it as needed to allow the trains to cross over back to the right track safely.

In other cases, a crew might have to access, cross, or work around the main to complete its work at an industry or unmanned yard. The operator must contact the dispatcher and



wait for clearance before proceeding. The dispatcher waits for traffic to clear, then provides a work window during which the operator may complete work.

In sessions without a dispatcher, operators are responsible for monitoring other trains around them and taking sidings as needed to allow high-priority trains to get by. Usually, crews' views are long enough that this is not a problem. As an added insurance against delays for priority trains, each yard includes three main lines – one in each direction and an alternate, passing lane.

With or without a dispatcher, an operator needing access to the main should protect their actions with a flag, either in the form of a DCC flagman or of a folded cardstock tent, to alert oncoming crews to the hazard ahead. Main line operators, meanwhile, must remember to watch the signals.

## COMING UP

Next month, we will get into the process we used to design and build an ABS system to govern and protect most traffic on the Wyoming Division. We will take a look at the equipment we installed and how it works together to protect operators and keep operating sessions safe.



**THE BEST OF MRH RUNNING EXTRA!**

**Did you see this article?**



**Art deco station build (in 2 parts)**

**Get both eBooks now ▶** ← click here

**In the Nov/Dec 2018**

**MRH** Each eBook ~100 pages

**RUNNING**

**EXTRA**



**REGISTER**  
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)

## VERRYL FOSNIGHT



Verryl Fosnight lived his early years in Wyoming. His family moved to southern California just as he was entering high school. After graduating as a physicist from Stanford, he researched electric propulsion for space use and RF proton sources for injection of extremely high density, high energy proton beams into nuclear fusion devices such as tokamak fusion reactors.

Verryl left tech for the family real estate business in the late '80s. He later retired and moved to Arizona. He built a house and observatory to do astronomy and astrophotography. He also included model railroading.

Verryl hosts operating sessions on his railroad that draw 20 to 30 modelers from all over AZ. In addition he hosts an annual session specifically aimed at operators from other states. ■

## DENNIS DRURY



Dennis Drury provided the electrical engineering expertise to make signals on the Wyoming Division happen.

A former signalman and engineer for Southern Pacific, he has conducted clinics on setting up and using JMRI for operations.

Dennis models the Southern Pacific's Klamath Falls Subdivision. ■

use code: **DOWNLOADSALE**

*month long*

**INDEPENDENCE DAY SALE**

**Save 35.52%\***

**ON ALL DIGITAL DOWNLOADS** *\*(17.76 x 2)*  
eBooks • video downloads

use code: **DOWNLOADSALE** to save 35.52%

**START SAVING NOW** ▶

use code: **DOWNLOADSALE**

Exclusively on the

**Model Railroad  
Hobbyist** *Store*



**REGISTER**  
*(free)*

[INDEX](#)

[TABLE OF CONTENTS](#)

# BUILDING A SMALL N SCALE LAYOUT PART 3



Model Railroad Hobbyist | June 2021

DAVE KILBORN ADDS WATER AND GROUND  
COVER TO HIS N SCALE LAYOUT...



**LAST MONTH**, I formed the mountains from foam on my layout. I created tunnel walls and installed portals, then carved and painted the foam mountains to look like rocks. This month, I added ground cover and landscape materials, ballasted the tracks, prepared and poured the river, and finished the abandoned mine scene.

## SEALING THE RIVER BOTTOM

To prevent gases from the foam creeping into the resin and creating bubbles and other abnormalities in my river, I began by sealing the river bottom with Woodland Scenics Flex Paste [1]. I scooped out the Flex Paste and smoothed it onto the foam with a wide craft stick. I made sure I had complete coverage, smoothed it with wet fingers, and let it dry completely before painting.

## GROUND COVER BETWEEN THE MOUNTAINS

I used two methods to develop my ground cover base for the layout. In the areas between the major foam mountains, I used



1. I sealed the river bottom with Flex Paste from Woodland Scenics.



REGISTER  
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)

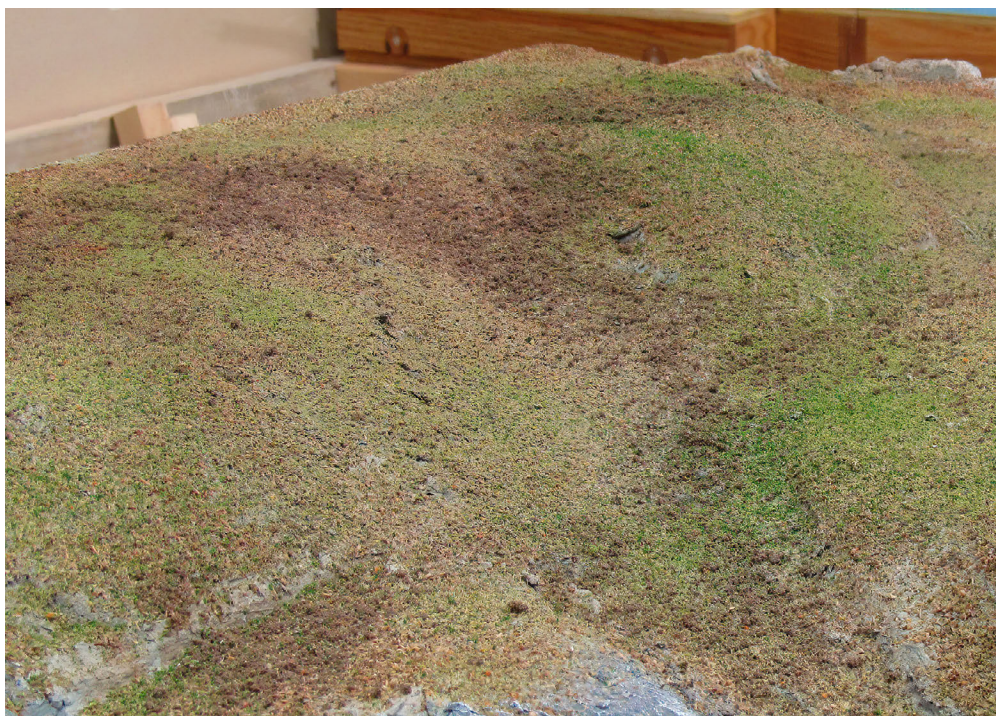


**2. A base gray craft paint blended with two or three other earth tones provided a varied base for ground cover.**

ground goop to build up undulations. For the foam mountains, I roughed up, shaved down, and painted.

I started on the top of the mountain with the foam base. I used the same gray craft paint for the base coat and blended in two or three other earth-tone colors [2].

I had several pieces of foam of various heights at track level, and the risers had slits in them. I used my ground goop in this area to form and smooth it as I filled in the gaps [3]. I mixed the wrong paint into this batch of goop, so the color was wrong. I simply painted over it with the correct color and corrected any remaining coloration issues with ground cover [4].



**REGISTER**  
*(free)*

[INDEX](#)

[TABLE OF CONTENTS](#)



3. (Upper-left) I used the wrong paint in my goop for this low scenery area.

4. (Upper-right) After painting the goop and adding ground cover, my mistake faded away.

5. (Left) A couple colors of ground foam created a scenic foundation with nice variation and depth in only a few minutes.





## BUILDING A SMALL N SCALE LAYOUT | 6

Once the goop was dry, I applied a layer of brown Noch Scatter Material (#08441) over the area to add color and texture to the base coat. Once I had the material down, I used a sprayer to soak the area with Scenic Cement. I kept the sprayer at a distance to avoid blowing the light material away.

I worked in layers to build up ground cover, beginning with a green fine turf blend from Woodland Scenics. I sprinkled it over the area, trying to use just enough to add color variation, but not so much that I had solid coverage. I added Woodland Scenics soil in similar fashion, then sealed it all in with a misting of Scenic Cement [5].

### THE GROUNDWORK FOR A MOUNTAIN VILLAGE

I shifted focus to covering the blue and pink foam on the rest of the layout with ground goop. I worked in sessions to fill in gaps and smooth transitions between the various heights of foam, mixing only enough goop for each session. I didn't concentrate on color consistency between batches [6].



REGISTER  
*(free)*

[INDEX](#)

[TABLE OF CONTENTS](#)

I blended the layers of ground goop with a dark gray wash, causing any blotchiness from the previous step to disappear. I then added several grades and colors of talus between the tracks. I secured this layer by first misting the area with isopropyl alcohol and then Scenic Cement [7].

## BUILDING A RIVER BED

I wanted some rock outcroppings along the river, so I was sure to have several lightweight Hydrocal rocks handy while applying the ground goop. I pushed the rocks into the ground goop immediately after applying it and smoothed them to look like they were emerging naturally [8].

6. (Left) I added ground goop in batches, not worrying about color consistency between batches.

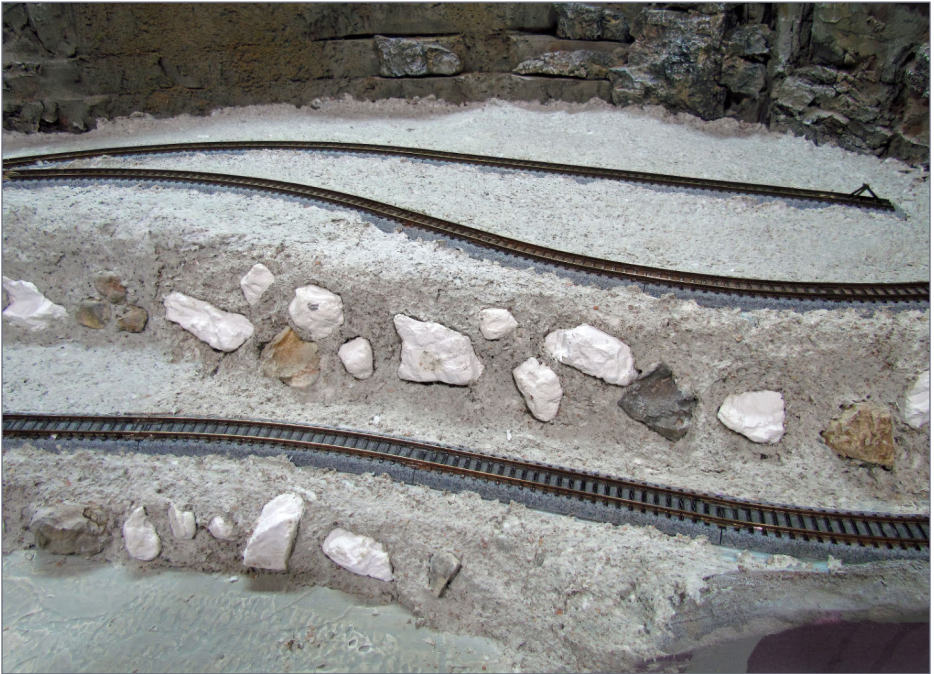
7. (Below) A dark gray wash of acrylics and varying grades and colors of talus tied together the batches of goop.



I applied a few washes of Woodland Scenics Liquid Pigments, including Yellow Ochre, Burnt Umber, Raw Umber, Slate Gray, and Stone Gray. I dabbed spots of two or three colors on each rock in a leopard-spotting process. I then used Slate Gray or Stone Gray as an overall wash [9].

I made a slight depression in the goop between the two levels of rock outcroppings for a small pond. I painted the bottom of the depression to give the future pond illusion of depth.

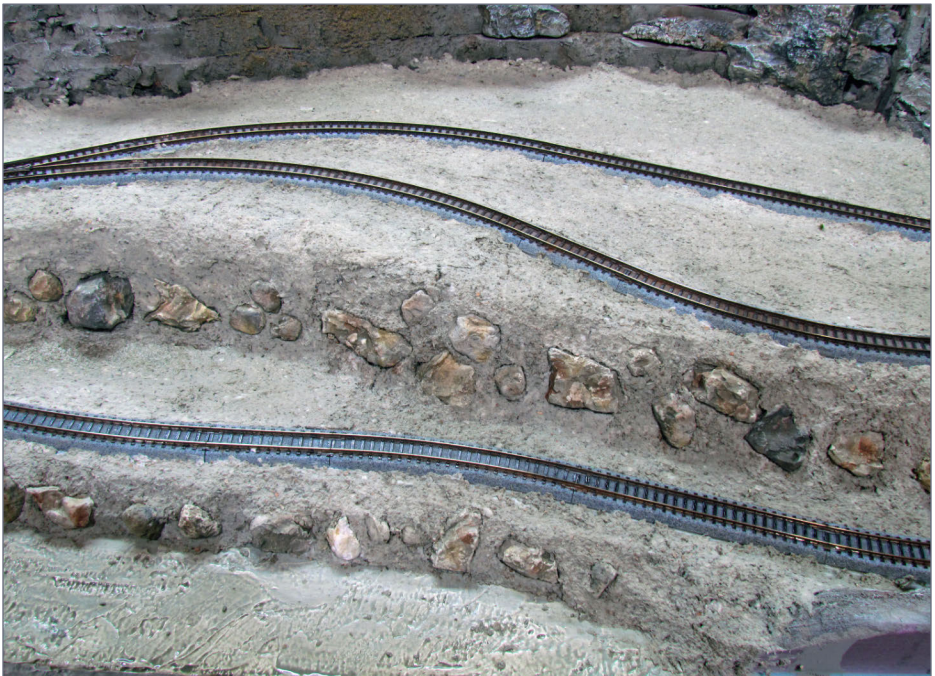
I used a foam brush to apply full-strength white glue to the steeper parts of the river bank. I placed a few coarse pieces of talus along the bottom edge, then sprinkled various colors of medium and fine talus in various colors on the slopes [10].



**8. I used lightweight Hydrocal rock castings to create rock outcroppings along the river.**

I continued with the lower banks, starting with a few pieces of randomly placed, coarse talus, then medium, then fine. I used a wide brush to sweep the talus and form it into a naturally sloped bank [11].

Once I was satisfied with the banks, I used an eyedropper to saturate the rocks with isopropyl alcohol and then Scenic Cement. I experimented skipping the alcohol, but Woodland Scenics talus tends to float and move around without alcohol to break the surface tension. I checked for loose material as the cement dry and reapplied cement as needed.



9. I painted the rocks, then gave them a gray wash. I left a slight depression in the goop above the lower track for a small pond.



REGISTER  
*(free)*

[INDEX](#)

[TABLE OF CONTENTS](#)

I decided to ballast the track while I was working on the river banks using ballast from Kato. I found it trickier to ballast Unitrack than track without built-in roadbed because it took considerably less than the roadbed I was used to, and it took me a while to adjust [12].

## PAINTING AND POURING A RIVER

I used Woodland Scenics Olive Drab to provide the illusion of depth to the river bottom. Working a few inches at a time, I applied full-strength paint down the center of the river. I wet

10. (Left-top) Medium and fine talus along the upper river bank helps blend in the rock outcroppings.

11. (Left-bottom) I also used medium and fine talus to represent a rocky mountain riverbed.

12. (Bottom) With the eyedropper, alcohol, and scenic cement already in play, ballasting the tracks was a natural next step.



my brush and feathered the paint outward to create a gradient from dark center to the lighter shore line [13].

With the paint and talus in place, I was ready to prepare the river bed for resin. First, I masked-off the edge of the layout where the river ends to prevent resin spilling over. I sealed the tape with caulking on both sides just to be sure.

Woodland Scenics Deep Pour Water resin has a formula on the package to calculate the amount needed. I calculated that I would need nearly a full package of for the river. I slowly stirred in 32 drops of sage green to give the water a greenish tint.

Beginning at the waterfall and working toward the edge, I poured the resin slowly and steadily onto the river bed. I poured until it just crept up to cover the shore line. I had just a bit left over [14].

I worked out any bubbles by gently blowing the area with a straw. I used a toothpick to work the resin evenly around the rocks along the shore. When I was satisfied, I left the resin to cure overnight.

While having a slight slope to the river might be prototypical, it wasn't conducive to pouring resin. I discovered the next day that the resin had pooled significantly toward the edge of the layout, and had flowed away from other areas, leaving them shallower than intended.

I built a dam at the narrow point of the river using Woodland Scenics Water Waves. The dam held its shape well and set clear [15]. This allowed me to add resin – Realistic Water this

**13. (Top-right) The painted river bottom with the color feathered toward the banks.**

**14. (Bottom-right) I used Woodland Scenics Deep Pour Water to pour the river base. Unfortunately, the layout's river bed slopes, so the resin pooled at the far end, but was too shallow at the near end.**







time, since that's what the local hobby shop had – to the shallow end of the river, up to the level of the dam [16].

When the second pour had cured, I attempted to remove the tape dam I had made at the edge of the layout, only to discover that it had bonded with the resin. I was able to get most of the tape off and decided I could cover the rest with the layout's fascia.

### FINISHING THE BANKS AND THE AREA BELOW THE ABANDONED MINE

I added some scatter material, talus, fine gravel, and a dusting of green-blend fine turf along the track above the river, toward the pond, securing it with the alcohol/Scenic Cement. I painted the pond bottom the same way I did the river base and poured Realistic Water into the depression to form the pond once the paint was dry [17].



15. A dam of Woodland Scenics Water Waves compensated for the slope of the river and allowed me to add resin to the shallow end. I might camouflage this later with rapids.

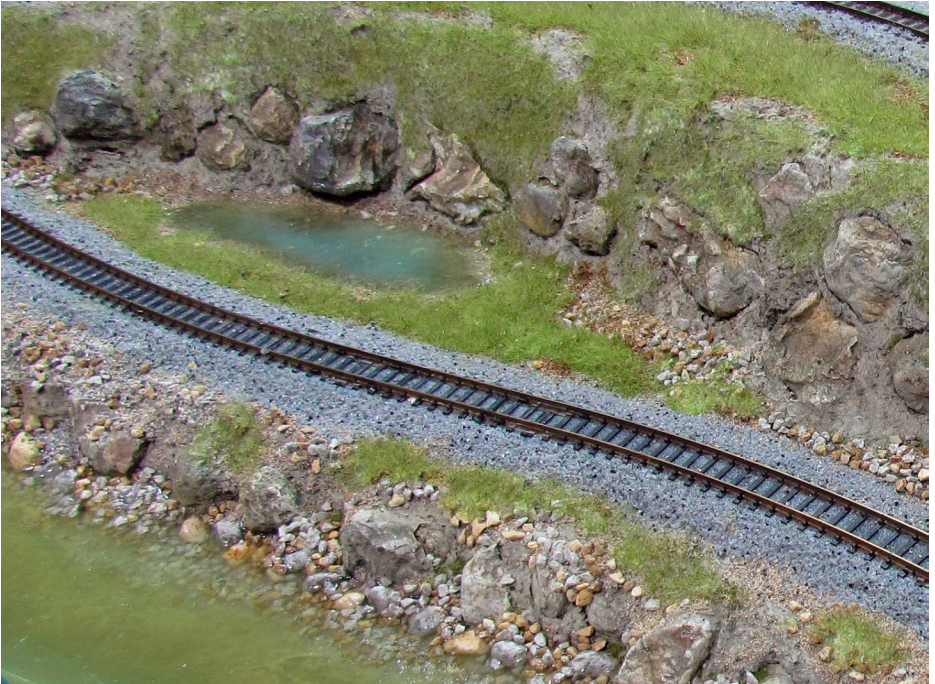


I added static grass to the area around the pond once the resin had cured. I applied Static-Tac from Woodland Scenics to the area in spots, then loaded my home-made static grass applicator with 2mm and 4mm static grass in various shades of green, and went to work.

I put a piece of pantyhose over my vacuum cleaner nozzle to clean up surplus grass for later reuse. I used the handle of a foam brush to push and prod randomly into the static grass while the glue was still wet to add some variation to the static grass and make it look more natural [18]. When the glue set, I followed-up with another round of 4mm static grass in various shades of brown [19].



16. With the dam in place, I made a second pour into the high end of the creek to achieve the depth I was after. The dam (top, center) all but disappeared as the resin set.



REGISTER  
*(free)*

[INDEX](#)

[TABLE OF CONTENTS](#)

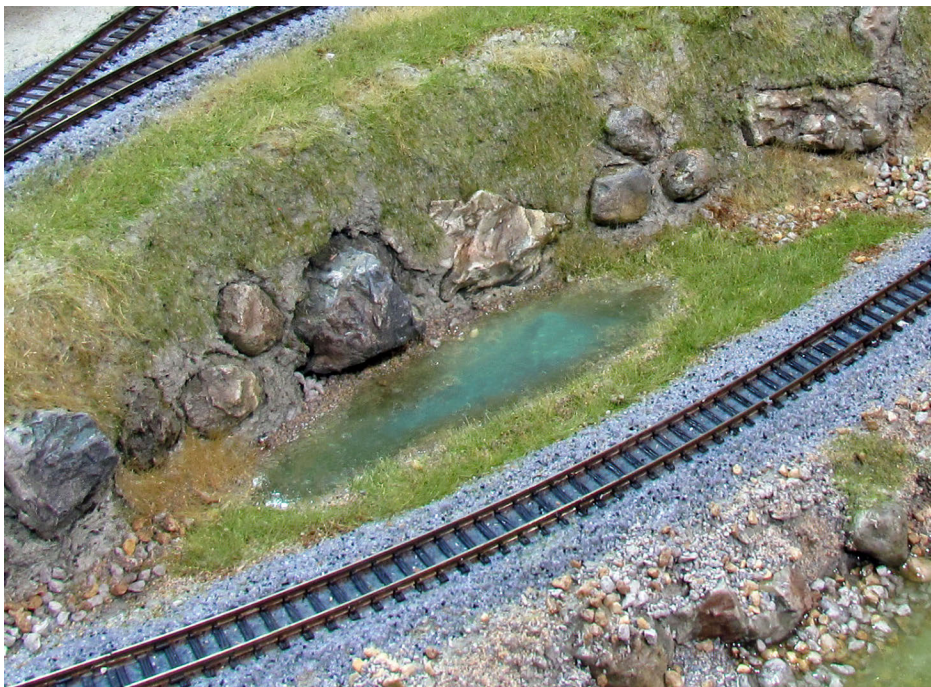
## “PLANTING” HIGHER GROUND COVER

I had many varieties and colors of Woodland Scenics Underbrush, bushes, clump foliage, ground foam, and Fine Leaf Foliage, as well as some natural lichen, and I used many of them for a diverse scene. I fitted pieces of the ground cover material in and around the rocks and grass, and secured it in place with hot glue when it looked right [20]. I used some Ivy material from MiniNature to fill the gap along the bridge abutment.

17. (Left-top) I made the small pond between the tracks using the same techniques I used for the river.

18. (Left-bottom) Getting there. The addition of green static grass helped this scene to come to life.

19. (Below) The varied shades of grass really give this the feel of a mountain meadow.



I followed Joe Fugate's tip of wearing rubber gloves when using the glue gun to avoid burns. Hot glue was the most efficient way of putting down the foliage, "stringies" notwithstanding. I cleaned up all the "stringies" when done.

## MAKING AN ACCESS ROAD

I needed a seldom-used access road that would have served a long-abandoned mine. I already had the area covered with gravel from earlier steps, so I used an N scale truck to



20. A variety of ground coverage and foliage made the scene complete. Note how natural the rock outcroppings appear.



REGISTER  
*(free)*

[INDEX](#)

[TABLE OF CONTENTS](#)



**21. The mine road, a few trees, and a variety of ground foams completed the scene. Can you make out the wheel tracks?**

determine the proper width and used static grass to establish the edges.

I created some wheel ruts in the road with the truck, added some natural fine dirt to the ruts, and secured it with alcohol and Scenic Cement. The wheel ruts are too fine to see unless you look very closely, but I know they're there. Fine leaf, clump foliage, and a few JTT conifer trees completed the scene [21].

I finished with some Woodland Scenics yellow Flowering Foliage material to simulate some dandelions and the scene was essentially complete [22]. It wasn't perfect and I was already thinking of some things I could change or add later. But this was good enough until I finished the other areas.

## LESSONS LEARNED

I noticed that the pond developed bubbles over time, so I may not have sealed it as well as I thought. I have an idea of how to fix this, but if that doesn't work, I'll cut it out, seal it with Flex Paste and re-finish it. I'll update that project in the next article.



22. For more than 30 years, I dreamed watching a passenger train snaking along a river. My 16-year-old self would have been overjoyed to have this scene.



REGISTER  
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)

Next month, I'll finish the town scene and add the waterfall and some rapids to the river. I'll also add some trees and details and finish the layout with a fascia. ☑

## DAVID KILBORN



David lives in Saskatoon, SK Canada with his wife, his mother, and his two adult children. He has loved model railroading since four years old, when he saw his dad's model trains.

Issues with dexterity and vision in 2013 resulted in a switch from N scale to HO scale, but he missed N scale. When the Covid-19 lockdown hit, he decided to build this N scale layout that he wanted since he was 16.

David has worked at a remote mine site for 18 years, supporting management systems and regulatory compliance. He loves to travel, and looks for opportunities to do so by train. He plays bass guitar and dabbles in writing music and arranging. ■



**RATE THIS ARTICLE**

### THE BEST OF MRH RUNNING EXTRA!

Did you see this article?



**Allagash gets a shortline connection**

**Get this eBook now ▶**

← click here

In the  
Jan 2019



Each eBook ~100 pages

**RUNNING**  
EXTRA



# WEATHER

*like a pro.*

(No airbrush required!)

Go from this ...



To this ...



Volume 1:  
Freight cars

Volume 2:  
Diesel locomotives

Click me to  
**LEARN MORE ...**

“Simple, effective, and a lot quicker than an airbrush ...” - *Koos F.*

DVD or Digital download - From the MRH Store: [store.mrhmag.com](http://store.mrhmag.com)



REGISTER  
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)

# SAVVY MODELER *Online*



RATE THIS ARTICLE

Model Railroad Hobbyist | June 2021



## Adding scotch tape windows to 1/87 vehicles

YouTube model railroader **onequiknova** shows how he makes very realistic HO scale vehicle windows using ordinary scotch tape. The windows look superb, very shiny, and perfectly see through. He picked this technique up from none-other than Mike Budde on Ken Patterson's show!

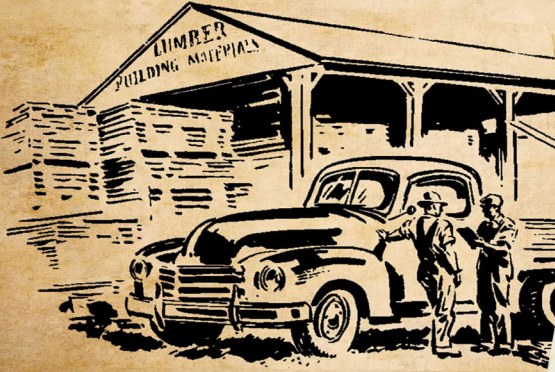
So check out this video if you'd like to see how to add these great looking windows to your HO vehicles!



▶ GREAT MODELER VIDEOS ON THE WORLD WIDE WEB



# Introducing THE LUMBER STORE



## ROTATING STORAGE RACK

On its own, or fully loaded with Mt. Albert Scale Lumber!

[handlaidtrack.com](http://handlaidtrack.com)

1-888-252-3895

Did you know  
there's an  
**MRH/RE index**  
available?

CLICK TO FIND OUT MORE



REGISTER  
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)

# JUNE NEWS

column



Model Railroad Hobbyist | June 2021

**RICHARD BALE AND JEFF SHULTZ**  
REPORT THE LATEST HOBBY  
INDUSTRY NEWS ...



## INDUSTRY NEWS

**M.T.H.** reports it will continue to produce and market RailKing models. After founder Mike Wolf announced plans to retire, M.T.H. successfully negotiated the sale of much of its tooling, with HO and S scale items going to **Scale Trains.com** and **Atlas** purchasing the tooling for selected O scale items. M.T.H. was reportedly less successful in liquidating its RailKing assets and subsequently decided to continue producing selected O and G scale items under the RailKing brand. M.T.H. is currently downsizing operations and is relocating its principal sales and parts center to Elkridge, Maryland. The company's R&D operation will remain in Western Michigan. For additional information go to [www.mthtrains.com](http://www.mthtrains.com).

---

**THE LATEST MODEL RAILROAD PRODUCTS, NEWS & EVENTS**

## NEW CLUB CARS



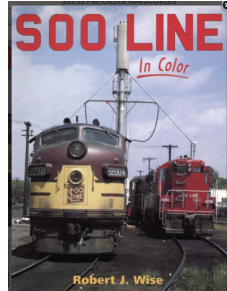
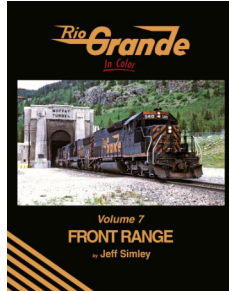
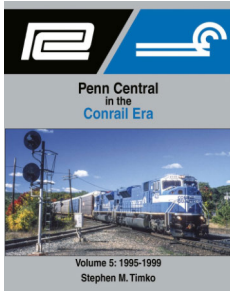
In a fundraising project, the non-profit **New England Steam Corporation** is selling a steel gondola decorated for the Philadelphia, Bethlehem & New England Railway.



The HO scale model accurately represents a 70-ton 52' 6" gondola built by Bethlehem Steel in 1957. Five PBNE road numbers are available. The well-detailed ready-to-run model was produced for NESCO by Tangent Scale Models. For more information including ordering instructions visit [www.newenglandsteam.org](http://www.newenglandsteam.org).

---

## NEW PRODUCTS FOR ALL SCALES



New publications from **Morning Sun Books** include *Penn Central in the*

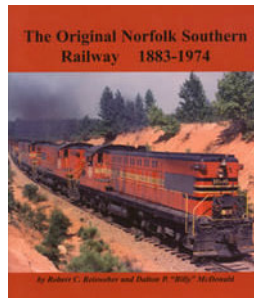
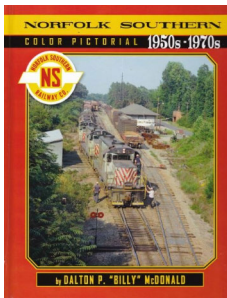
*Conrail Era, Volume 5*, in which author Stephen M. Timko delivers a final year-by-year look at former Penn Central structures, motive power, and rolling stock under Conrail ownership from 1995 to 1999.

Also new is Jeff Simley's *Rio Grande in Color, Front Range, Volume 7*. Here we witness Rio Grande-powered trains in the

1990s as they negotiate two percent grades, ten-degree curves, and 28 tunnels to the great Moffat Tunnel at the Continental Divide. Coverage extends west through Byers Canyon and Gore Canyon to see the Rio Grande moving freight through the Rockies, not around them.

*Soo Line in Color* is an inexpensive digital reprint that presents a comprehensive look at the SOO from the days of steam to the SD60M. For additional information contact a dealer or visit [www.morningsunbooks.com](http://www.morningsunbooks.com).

---



Two reprints of original Norfolk & Southern books are now available from the **Norfolk & Southern Historical Society**. The books include *Norfolk Southern Color Pictorial* by Dalton P. Billy McDonald,

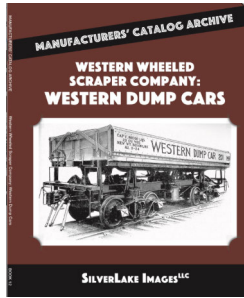
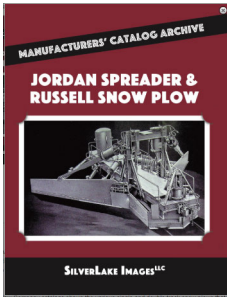
who presents a detailed look at NS during the 1950s, 60s and 70s.

The second publication, by Robert C. Reisweber, documents the original *Norfolk Southern Railway from 1883 through 1974*. For additional information visit [www.facebook.com/groups/NorfolkSouthernHS](http://www.facebook.com/groups/NorfolkSouthernHS).

---

Among the newest softcover equipment catalog reprints from **SilverLake Images** is *Jordan Spreader & Russell Snow Plow*, and *Western Dump Cars from Western Wheeled Scraper Company*.

The 92-page Jordan/Russell book reproduces several catalogs and brochures that describe and illustrate equipment



manufactured by the O.F. Jordan Company and the Russell Car Snow Plow Company. The catalogs cover single and double track snow plows, spreaders, ditchers, ice cutters, and flangers.

The 82-page Western Wheeled Scraper Company publication provides details on the construction of both the Western Dump Car and the Western Air Dump Cars. The catalog looks at a variety of cars produced by the company, including photos and specifications for various models from large 45-yard capacity cars down to 3-yard cars. There is also a section on narrow gauge cars, end dump cars, and spreader cars. For additional information contact SilverLake Images LLC or visit [www.ronsbooks.com](http://www.ronsbooks.com).

---

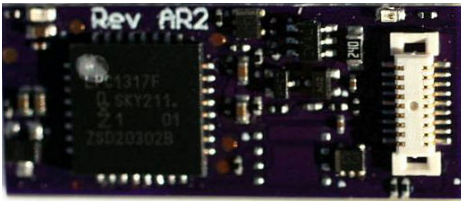
## MULTIPLE SCALE PRODUCT NEWS



**Miniprints** has introduced two-person railbikes to their line of 3D-printed figures and vehicles. Available in O, S, and HO

scales, the railbikes do not roll. For more information visit [miniprints.ca](http://miniprints.ca).

---

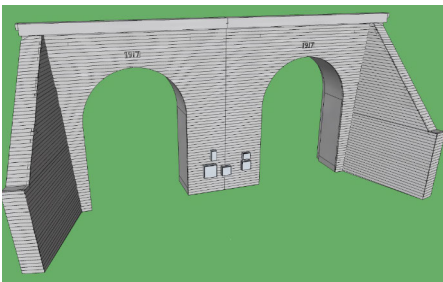


**SoundTraxx** has announced the TSU-N18 decoder.

Intended for small HO and N scale locomotives that are equipped with a NEXT18 socket. The TSU-N18 will be

available with the Steam-2, EMD, EMD-2, GE, Alco, Baldwin & other diesels; and Electric sound profiles. Equipped with 6 function outputs and selectable sound effects, the TSU-N18 can be wired to a CurrentKeeper capacitor energy storage device. For more information visit [soundtraxx.com](http://soundtraxx.com).

---



**ZYX Creative** is offering the double-track Hermosa tunnel portal from Union Pacific's Sherman Hill in Wyoming. Available in both HO and N scale, it features 1901 and 1908 build dates, raised board form surface detail, optional

utility boxes, and paper printed tunnel numbers. 3D printed in fine detail resin, integrated tunnel liners will be available separately. For more information visit [www.zyxcreative.com](http://www.zyxcreative.com).

---

## LARGE SCALE PRODUCT NEWS



**Piko America** plans to add Union Pacific and Denver & Rio Grande Western road names to its list of available 2-6-0 Mogul steam locomotives

in July. The G scale model is currently available decorated for Colorado Southern, Santa Fe, New York Central, and Pennsylvania Railroad.





Features include a five-pole can-type ball-bearing motor; directional lighting, detailed cab interior; a painted crew figure, ball-bearing drive wheels, and

hook and loop type couplers. Selected units come with DCC installed and digital sound by Soundtraxx. For additional information contact a dealer or visit [www.piko-america.com](http://www.piko-america.com).

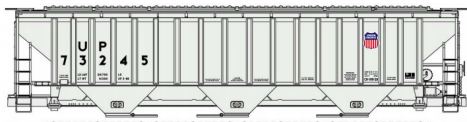
---

## HO SCALE PRODUCT NEWS



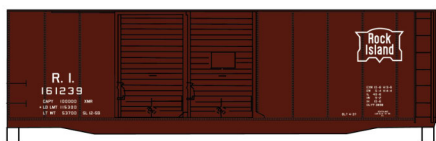
Heading the list of new HO scale car kits from **Accurail** is this Clinchfield 50' exterior-post steel boxcar

with 10' plug doors. The model is based on a Plate C prototype built in November 1973.



Accurail has released a 3-car set of Union Pacific Pullman-Standard triple-bay covered hopper cars. Each of the

4750 cu. ft. cars feature a three-color UP herald.



This 40' Rock Island steel boxcar with double Youngstown sliding doors is based on a prototype built new in April 1937.



ACF built the full-sized version of this Erie Lackawanna twin-bay Center-Flow covered hopper in 1967.



**REGISTER**  
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)



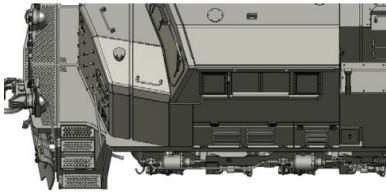
Completing Accurail's list of recently released HO scale kits is this 36' Canadian Pacific Fowler wood boxcar. All

Accurail HO car kits include Accumate couplers and appropriate trucks with Delrin wheelsets. For additional information contact a dealer or visit [www.accurail.com](http://www.accurail.com).

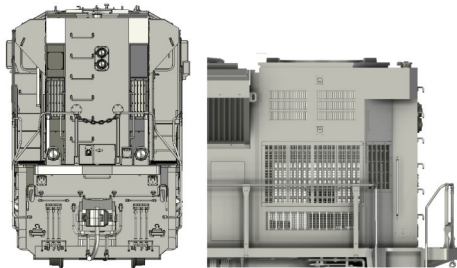
---



**Athearn** is preparing new tooling for a Genesis 2.0 model of an EMD SD90MAC diesel locomotive. The HO scale model will be based on prototypes built in 1995 that utilized EMD's 4,300hp 16-cylinder 710G3 engine. Availability of the model is planned for June 2022.



This computer-generated drawing of Athearn's Genesis 2.0 SD90MAC shows nose detail and the see-through steps.



Computer renderings show the rear detail of a CEFX SD90MAC with ditch lights (left), and the Chicago Blower visible through the vents at the back of the locomotive.



Canadian Pacific SD90MACs in the Golden Beaver paint scheme will be available in three road numbers. Road specific details include CPs unique cab and access doors.



Four Union Pacific versions of Athearn's SD90MAC will be available with each of the Genesis 2.0 models having specific road number details.



A choice of three CEFX-CIT Group road numbers will be available in the bluebird scheme.



Indiana Railroad SD90MAC units will be available in the road's standard red livery as well as in the one-off 25th anniversary Warbonnet scheme on



locomotive No. 9025.



HO scale SD90MACs scheduled for release in June 2022 includes three ex-UP units patched for Norfolk Southern. Athearn Genesis 2.0 SD90MACs feature an onboard DCC decoder with SoundTraxx Tsunami2 sound that functions in both DC and DCC environments.

**THE BEST OF MRH RUNNING EXTRA!**  
Did you see this article?  
  
Creating a realistic lumber mill log pond  
[Get this eBook now](#) ← click here  
In the **MRH** **RUNNING** **EXTRA**  
Jan 2020 Each eBook ~100 pages



**REGISTER**  
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)



R. Bale

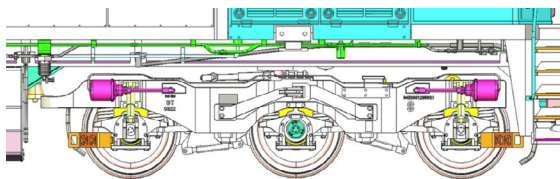
## STEERABLE LOCOMOTIVE TRUCKS

Railroad trucks, including those on diesel locomotives, normally turn or rotate as a unit. In recent years, some large diesel locomotives have been equipped with three-axle trucks that allow axles to shift laterally as the locomotive proceeds through curved track work. Such trucks are commonly called “steerable”. Since the steerable truck frames are not rigid, the lateral resistance of the first axle entering a curve is high enough to align it in radial direction. Specialized linkage connecting the first and third axles transfers the movement of the first axle in a counter direction to the third axle. The resulting lateral shift of the axles allows for smoother movement through the curve, improved adhesion, and reduced wear on the locomotive wheels as well as the rail.



Athearn is also preparing new tooling for an HO scale AC4400CW diesel locomotive. The model replicates a 4,400hp locomotive introduced by GE Transportation in 1993.

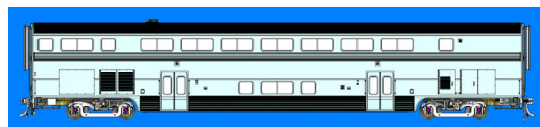
The prototype featured AC traction motors instead of DC, with a separate inverter for each motor. Selected road names of



Athearn's AC4400CW will be available with steerable trucks. Additional information, including road names, is pending.

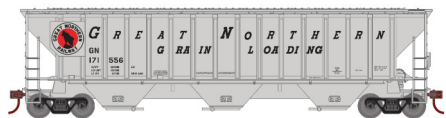


Additional projects underway at Athearn include development of a group of Surfliner intercity railcars. The HO scale models will be based on bi-level cars built by Alstom Transportation of Hornell, New York, beginning in 1982.



Athearn's models will feature both interior and exterior road-specific details. Sound equipped

Surfliner models will have cube speakers and a decoder similar to the type Athearn uses in its Genesis-series cabooses. Road names and release dates are pending.



Athearn's June 2022 production schedule includes a new run of Pullman-Standard PS 4740 cu. ft. triple-bay covered hopper cars. The models will have roller-bearing trucks with 36" machined metal wheels.



The HO scale Ready-to-Roll PS 4740s will be available decorated for Great Northern,

General American Marks, Illinois Central, Norfolk Western, and Missouri-Kansas-Texas. Athearn has included an AACX (State of



**REGISTER**  
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)

Alaska, Division of Agriculture) car in this run of Pullman Standard PS 4740 cu. ft. covered hoppers, although the actual cars owned by the Alaskan railroad were 4750 cu. ft. cars built by Thrall.



Also coming next June is a steel 52' mill gondola with wire grab irons and etched metal end platforms.



Road names for the HO scale model will be CIT Group, Northwestern Oklahoma, Rock Island, Wisconsin Central, and Washington Central. Completing this release will be a Kansas City Southern gondola pre-weathered in Athearn's Primed for Grime.



Athearn has included a 16,000 gallon slurry tank car in its June 2022 schedule. The models will have wire grab irons and

railings, full brake rigging, and see-through photo-etched walkways and end platforms. The roller-bearing trucks will have 36" machined metal wheels.



Decorating schemes will be Union Tank Car, Dry Branch Kaolin, SHPX, OMYA Limestone Slurry, PCS Phosphate Co., and J.M. Huber.



Intermodal equipment coming from Athearn next June includes a selection of 45' corrugated containers. Carrier names will be HMM-KOBC, Crowley, APL, and Dong Fang. Primed for Grime schemes will be available for NOL, and Horizon Lines.



The HO scale model will be available in 3-packs with different numbers.



rubber tires and clear window glazing.



In addition to the multi-color anniversary scheme, the Ford panel truck will also be available decorated for Railway Express, Bell Telephone, Harrison's Hardware, MidTown Appliance, and Reliable Plumbing. F-100 panel trucks decorated with Police and Fire Rescue schemes will have roof-top emergency lights.



New **Roundhouse** brand models coming from Athearn in June 2022 include this wide-vision caboose.



Road names for the HO scale model will be Great Northern, Rock Island, Burlington Northern, Northern Pacific, Canadian Pacific, Ferromex, and two Frisco versions including a Bicentennial scheme. For additional information contact a dealer or visit [www.athearn.com](http://www.athearn.com).

**THE BEST OF MRH RUNNING EXTRA!**  
Did you see this article?  
  
Stock cars used to haul other things  
[Get this eBook now](#) ← click here  
In the Jan 2021 **MRH** Each eBook ~100 pages  
**RUNNING**  
EXTRA





R. Bale

## EMD GP7

Introduced in 1949, the GP7 was the first model in EMD's GP (general purpose) series of locomotives. It was also the first EMD road locomotive to utilize a hood instead of a full car body design. Although narrow enough to allow outside walkways, the full height hood easily accommodated EMD's 1,500hp 16-cylinder 567 diesel engine. The hood concept was an immediate success since it cost less to build, was cheaper and easier to maintain, and offered much better fore and aft visibility for the operating crew. When shopping for new locomotives, many railroads found it more economical to rebuild their reliable GP7s rather than to purchase new equipment.



**Atlas'** next production run of GP-7 locomotives will have several upgrades including a new diecast frame/sill.

Availability is planned for the second quarter of 2022.

Additional features include fine scale painted handrails and stanchions, wire grab irons, MU hoses and uncoupling bars, golden-white LED directional lighting, and two painted crew members. Road specific options include an 800 gallon or 1,600 gallon fuel tank.



Road names will be Florida East Coast, Guilford Rail System, Maine Central, Maryland & Pennsylvania, Missouri Pacific,

Texas Mexican Railway, Western Maryland, Burlington Northern, Chicago & Eastern Illinois, Reading, and Conrail.

Atlas' GP-7 will be available with the LokSound Select Dual-Mode DCC system. Standard DC analog units will have a plug to





simplify installation of an aftermarket decoder.

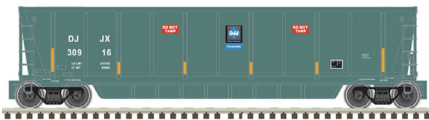


Atlas' second quarter 2022 production schedule includes a Master series ACF Coalveyor bathtub gondola.



The HO scale ready-to-run model features a die-cast chassis, interior bracing, and 100-ton roller-bearing trucks.

Each Coalveyor comes with a removable coal load.



Road names will be Albert Brothers, RMG Leasing, Wilmont Transportation, CMHX-Reisner Scrap Metals, Cobra Trading, FICX-Frontier

Scrap Metals, Chicago & Illinois Midland, Kansas City Power & Light, UFIX-Utility Fuels, and three David Joseph schemes.



ACF 5701 and 5800 cu. ft covered hoppers with four discharge bays are included in Atlas's second quarter 2022 production schedule.



Details on the Master series model include etched metal roof walks, ten 20" hatches, and 100-ton roller-bearing trucks.



Decorating schemes will be ASOX-Americas Styrenics, ALAX-Cain Chemicals, DOWX, XOMX-Exxon Mobil, ACFX-J.M.



**REGISTER**  
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)

Huber, OFOX-Residco, CCBX-Union Carbide, CRDX-Interstate Seed, and ADM.



Specialized intermodal equipment coming from Atlas next year includes Thrall 53' three-unit articulated well-cars. Spotting features of the Thrall design include angular wheel

cut-outs, and the combination of three flared-bottom wide and eight narrow side posts.



Road names will be BNSF, TTX (yellow & black), TTX(ex-DDT patch, blue & white), TTX (small logo), and TTX (large logo). The Three-unit articulated models

will negotiate an 18" track radius, however Atlas recommends a radius of 22" for trouble free operation.



Intermodal fans can look forward to three new HO scale containers coming from Atlas during the second quarter 2022. The trio includes a 40' high-cube ISO Type 45R1 refrigerated container.



The forty-footer features doors with five-hinges, four locking bars, and

OUT style handles. Decorating schemes on this release will be ZIMonitor, CSAV, Evergreen, SZLU-ONE, and Crowley.



The second new container coming from Atlas is a Master series 53' corrugated dry-van container based on a prototype

manufactured by the Jindo Company of South Korea.



Details include individual placard holders, 8-55-8

corrugated sides, a 6-54-6 corrugated roof, and 1-3-1 beveled doors.



The 53' Jindo containers will be

decorated for CSX, Swift, Ferromex, EMP (ex-hub), EMP (ex-Pacer), and Milestone (ex-Pacer).



A similar HO scale 53' dry container coming from Atlas follows a

CIMC prototype produced by the China International Marine Container Company. The CIMC containers will be available for HUB Group, Canadian Pacific, and EMP (ex-FEC).



All of the HO scale Atlas containers mentioned in this

report will be available in 3-packs.



Also announced is an HO scale Hooded Modern Bi-Directional Signal. Joining single direction single and multi-head signals, the Hooded Modern Bi-Directional Signal is part of Atlas' HO scale signal system. For additional information contact a dealer or visit [www.atlasrr.com](http://www.atlasrr.com).



**Bachmann** has completed another release of its HO scale 56' ACf quadruple-bay Center-Flow covered hopper car.



REGISTER  
*(free)*

[INDEX](#)

[TABLE OF CONTENTS](#)



Road names for the ready-to-run Silver Series model include BNSF, Cargill Salt, Chicago & North Western, Conrail, Continental Polymers, CP Rail, CSX, Great Northern, and Shell.



The model comes with appropriate trucks molded in Celcon with blackened machined metal wheels.



Bachmann's HO scale 52' depressed-center flat car is now available for Conrail, New York Central, and Frisco. An unlettered black version is available with a transformer load.



The Silver Series models come with heavy-duty six-wheel trucks with blackened machined metal wheels with non-magnetic brass axles.



For additional information contact a dealer or visit [www.bachmanntrains.com](http://www.bachmanntrains.com).



**Broadway Limited** is quoting an August 2021

delivery date for its latest production run of Union Pacific 4-8-4 FEF steam locomotives. The HO scale model is based on the class FEF-3 prototype and will be available in both excursion and in-service paint schemes.

This release will be equipped with Paragon4 sound control system and variable synchronized exhaust sound and smoke. Additional features include controllable LED lighting for the

head and rear lights, cab light, front number boards, front marker lights, and rear tender deck light; engineer and fireman figures, rubber traction tires, and centipede-style oil tenders. The chassis, boiler/superstructure, and tender body are diecast metal. A minimum track radius of 22" is recommended for the 4-8-4 steam locomotive.

Decorating schemes include Union Pacific Heritage Fleet locomotive No. 844 (previous page) with a controllable Mars light and containment dam on the oil tender.



Road No. 840 will be available in the 1946-49 two-tone

gray scheme with yellow lettering. A choice of four road numbers will be available in the FEF's 1952-1959 standard black and graphite livery. Road No. 835 will have a triple exhaust stack with all other versions in this release having a double stack.



A black unlettered version will also be available.



Also announced is the EMD F3/F7 in HO scale. The F3A and A & B sets will be available in ATSF-

Warbonnet, B&O, CGW, CNJ, DLW, NYC, PRR, and WP.

Additionally, The F3B will be available separately in ATSF, B&O, NYC, PRR and WP.



F7A and A&B sets will be available in ATSF-Cat Whiskers, Erie, KCS, NP, PRR, Southern, SP, and Wabash. F7B

units will be available separately for all the above road names except Wabash. Both the F3 and F7 models feature Paragon4 sound and control.



**REGISTER**  
(free)

[INDEX](#)

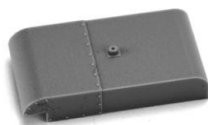
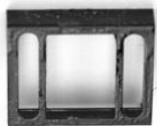
[TABLE OF CONTENTS](#)



Finally, the Reading T-1 4-8-4 is available for pre-order.

Rebuilt between 1945 and 1947 from I10-sa class 2-10-0 locomotives, they only stayed in regular service until 1954, with a brief return in 1955. All but four were scrapped or off the roster by 1958. Used in excursion service, all four still exist today, with the 2124 currently on display at Steamtown USA in Scranton, PA. Featuring Paragon4 sound and control, the T-1 includes puffing smoke synchronized with chuff sound. The T-1 is available in several road numbers in "in service" and Iron Horse Ramblers excursion schemes, as well as both the 1975 and 1976 American Freedom Train schemes, the Chessie Steam Special scheme, Blue Mountain & Reading, Delaware & Hudson, and two fantasy schemes - Christmas and Independence Day. For additional information contact a dealer or visit [www.broadway-limited.com](http://www.broadway-limited.com).

---

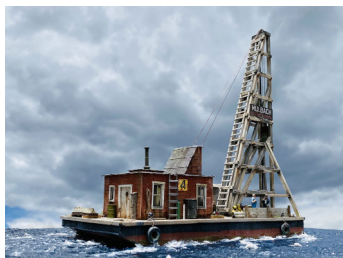


**Cal Scale** has added to its extensive line of detail parts.

Recently announced items include three types of All-Weather cab windows, a Canadian winterization hatch, steam generator exhaust stacks, dynamic brake roof grids, "X" air filters, an assortment of air filters, and a highway reefer unit with diesel fuel tank. For more information visit [www.bowser-trains.com/history/hocalscaleindex.html](http://www.bowser-trains.com/history/hocalscaleindex.html).

---

**Fos Scale Models** is selling a kit for a 1:87 scale Floating Pile Driver. The kit features laser-cut walls, scale lumber, laser-cut windows and doors, and several metal detail parts. The

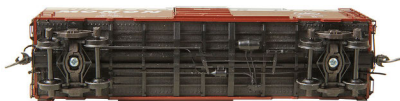


completed model measures 4" x 8" x 9" tall. The step-by-step assembly instructions include drawings and templates. For additional information visit [www.fosscalemodels.com](http://www.fosscalemodels.com).

---



The latest HO scale freight car from **Kadee** is a 40' PS-1 boxcar decorated for the Chicago, Indianapolis & Louisville Railway, aka the MONON. The ready-to-run model replicates a prototype built by Pullman-Standard with 7' Superior 5-panel sliding doors.



Kadee's model is decorated to reflect the 1953 factory-new paint scheme of black roof and ends. The sides are boxcar red except for a wide band at the top for the Hoosier Line slogan. Kadee models come with Kadee metal couplers and self-centering trucks. For more information contact a dealer or visit [www.kadee.com](http://www.kadee.com).

---



**KatoUSA** has released three new HO scale Amtrak Superliner Phase VI cars including the coach shown above. Additional body types include a sleeper and a lounge car with overhead windows.



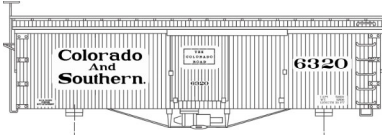
Kato's Amtrak Superliner cars feature interior detailing in both the upper and lower levels, prototypical fluting



on the exterior of the cars, trucks with working bearing caps, and tinted flush-mounted windows.



Optional interior lighting kits are available as a separate purchase. For additional information contact a dealer or visit [www.katousa.com](http://www.katousa.com).



**LaBelle Woodworking** has re-issued wood kits for three 34' boxcars of the truss-rod era. The HO scale kits are available for

Colorado & Southern, Bellefonte Central, and Detroit, Mackinac & Marquette. The body kits include appropriate decals. Trucks and couplers are not included. For full details visit [www.labellemodels.com](http://www.labellemodels.com).



**Moloco** is accepting reservations thru June 30, 2021 for another run of PCF 50' boxcars with 10' offset plug doors. Delivery is planned for the second quarter of 2022. The HO scale models are based on prototypes built in the early 1960s as RBLs.



Road names include Western Pacific DF with a Cushion Protection slogan as built in 1962, and an insulated TPFX-Triangle Pacific insulated car built without loaders.



Southern Pacific removed the running boards, lowered the brake wheel, and repainted this car in Sacramento in 1979. The car has crossbar locking plug doors.





This NIRX (Erie) car was built in 1962 with DF-B bulkheads and 10' offset doors. For additional information including placing

reservations visit [www.molococtrains.com](http://www.molococtrains.com).

---



**Monster Modelworks** is selling a craftsman kit for an HO scale brick Post Office. The structure is fundamental in design and can be re-signed to represent a variety of purposes. The walls, corners, cornice pieces and brick overlay are composed

of 3D-engraved American bond brick stock. The terra cotta coping wall caps are also 3D-engraved. The side door awning, windows, doors, shutters and tar paper roofing material are all laser-cut peel & stick.



Additional components in the kit include laser-cut wood entrance floor, roof pipe, porch pillars, and signage. Dimensions of the fully assembled structure are 5.5" x 7.75" x 3.875" high. For additional information visit

[www.larkspurlaserart.com/monster-modelworks-products](http://www.larkspurlaserart.com/monster-modelworks-products).

---



**Rapido** is tooling a 1980s Chevrolet Caprice sedan and wagon that will be available in a wide selection of decorating schemes. The 1:87th scale vehicles will accurately replicate the prototypes Chevrolet produced from 1977 through the end of the '80s.



**REGISTER**  
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)



Special features on Rapido's new vehicles will include multiple 1980s front grille

designs, rubber tires including white walls where appropriate, multiple rim designs including wire spokes, and realistic chrome finish on bumpers, rims and trim. Equipment for emergency cars includes spotlights, three styles of roof-mounted lightbars, and push bumpers.



The Caprice Estate Wagon with simulated

wood panels will be available in yellow, brown, and light blue. The wagon will also be available decorated as a Fire Chief vehicle with a Code 3 Lightbar on the roof. The Chevrolet Caprice sedan will be available in green, dark red, and dark blue. A yellow taxi version will also be available.



Emergency sedans with roof lights will be

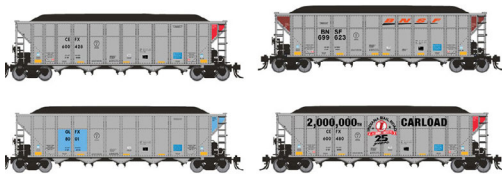
available for Amtrak police, CN police, blue police, white and blue Metro Police, and black & white police. Emergency vehicle detail parts including three light bar options, spotlights, and push bumper will also be available as a separate item. Availability is planned for late 2021.



Rapido's new products team is working on an HO scale version of an AutoFlood III coal hopper. The model is being developed from prototype plans of the 4200 cu. ft. all-aluminum, exterior post, rapid discharge hopper car.

Features on Rapido's new AutoFlood III coal hopper include diecast frame and floor, interior rivet and K-member details, detailed end cages including separate air and brake piping, detailed outlet gates, etched cross-over platforms, and factory

installed grab irons. The models will be equipped with Barber S-2 100-ton trucks with metal wheels. A removable coal load will be included with each car.



Road names will include BNSF, CEFX-CIT Group, CEFX Indiana Railroad, GLFX-Gulf Power, GATX Corporation, KPLX-Western Resources, PGNX-

Carolina Power & Light, and Union Pacific. Unnumbered six-packs will be available for all road names. Availability is planned for 2022. An order deadline is pending.



R. Bale

## MLW FPA-2/FPB-2

Under license from American Locomotive Company, the Montreal Locomotive Works (MLW) delivered six sets of FPA-2 and FPB-2 locomotives to Canadian National in 1955. The addition of the P

identified the locomotives as passenger units with a steam generator to heat the passenger cars. In a 1958 program to improve their reliability Canadian National rebuilt two pairs of FPA-2 and FPB-2 units with 1,800 hp ALCo 251 V-12 engines. These units were given the designation FPA-2u and FPB-2u. The four units would survive into service with VIA Rail Canada and FPA-2u 6758 would go on to live beyond its VIA years with the New York & Lake Erie Railroad. The two rebuilt A-B sets would become the prototypes for the production of the MLW FPA-4 and FPB-4 locomotives, built in 1958 and 1959, a distinctly iconic locomotive operated in passenger service by both CN and VIA Rail Canada.



REGISTER  
*(free)*

[INDEX](#)

[TABLE OF CONTENTS](#)



Rapido has announced plans to produce an HO scale model of the unique FPA-2u and FPB-2u diesel locomotives produced by Montreal Locomotive Works. It is important to note that this is a conditional product announcement that will only go forward if enough preorders are

received by September 15, 2021, to justify production costs.

As planned, Rapido's HO scale MLW FPA-2u and FPB-2u units will feature operating headlights, classification and back-up lights; multi-color interior, full underbody piping and conduit, separate grab irons and handrails, correct MLW-specific large-capacity fuel tanks, and Canadian-cast Dofasco Type B trucks. The model will be driven by Rapido's improved 5-pole motor with dual flywheels. DCC models will have an ESU LokSound decoder with authentic sounds recorded from the full sized FPA-2u locomotive No. 6758. DC non-sound models will come with a 21-pin connector to adapt an aftermarket decoder.

The models will be available in two A-B pairs per paint scheme, which include VIA Rail Canada, and 1954 and 1961 Canadian National schemes. For additional information, including entering advance reservations, contact an authorized dealer or visit [www.rapidotrains.com](http://www.rapidotrains.com).

---

**THE BEST OF MRH RUNNING EXTRA!**  
Did you see this article?



Make your own static grass tufts

Get this eBook now ▶ ← click here

In the Feb 2021 **MRH** Each eBook ~100 pages **RUNNING** **EXTRA**





R. Bale

## GE ES44 DIESEL LOCOMOTIVE

In 2002, GE introduced its GEVO series of modern diesel locomotives. The first two units were the ES44DC (Evolution Series 4400hp DC traction motors) and ES44AC. The ES44C4 followed a few years later. The GEVO series was designed to replace earlier AC4400CW and Dash 9-44CW units, while complying with new emission standards imposed by the Environmental Protection Agency (EPA). The EPA established allowable emission levels, or tiers, based on a locomotive's date of manufacture. Tier 2 took effect in 2005 followed by Tier 3 in 2010. Although EPA Tier 4 standards went into effect in 2015, ES44s continued to be built. This is due to a complicated government formula that allows sharing and redistribution of emission credits between GE and the operating railroad. The external appearance of ES44 locomotives is similar to the AC4400CW, with the most significant visual difference being the larger wing structure over the radiator cab. The thicker radiators and related equipment work to cool the exhaust, which reduces emissions. The ES44 has become the best-selling diesel locomotive of all time.



**ScaleTrains.com** is booking reservations for a new production run of GE ES44 GEVO locomotives.

The HO scale Rivet Counter models are scheduled for release in March 2022. Decorating schemes will include several Norfolk Southern units in nostalgic heritage schemes. Shown above is an ES44AC wearing an original NS scheme reflective of the 1942-1974 era.



NS Heritage schemes coming next March include Pennsylvania with five pin



**REGISTER**  
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)

stripes, and a green and white Southern scheme with heralds stating Southern Railway Serves the South at the front and rear of the locomotive.



Two Canadian Pacific DRF-44 (ES44AC) locomotives are in this release including one with Lord Strathcona's crest on the cab side.



Ferrocarril Mexicano is well represented by two unique liveries including a new zebra scheme. Details specific to the Ferromex units are exterior cameras mounted to both cab sides, and anti-vandalism grilles over the windows.



A Union Pacific ES44 with the Flag scheme and commemorative 5,000th Evolution Series Locomotive label is included in this run.



Additional road names are

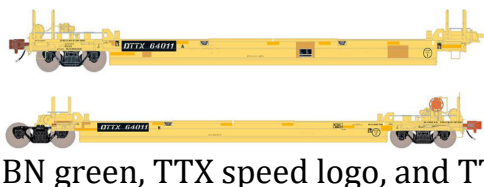
Norfolk Southern (Horsehead scheme), Norfolk Southern/Heritage Interstate, and Citirail.



Rivet Counter ES44 GEVO locomotives will be available with ESU

LokSound 5 DCC & sound decoder with dual cube speakers. Analog DC units will have a 21-pin connector for installation of an aftermarket decoder.

Also available for pre-order are HO scale Rivet Counter "Backpacker" 5-unit articulated well car sets. Featuring three new road names and paint schemes, the 40' well cars can accommodate 40' containers in the bottom position and 40',



45', 48', and 53' containers in the top position. New road names and paint schemes include BNSF/ex-BN green, TTX speed logo, and TTX heritage logo.



In the Operator line, ScaleTrains.com is introducing an all-new HO

scale 40' modern container. The prototype features welded construction, all-corrugated sides, and 0-3-0 end door corrugations. Available in both singles and 3-packs, road names include American President Lines-APZU, CMA/CGM, Mitsui OSK Lines-MOFU, Mediterranean Shipping Company-MSCU, NYK Line-NYKU, Oceanic Network Express-ONE, and undecorated. Singles and 3-Packs may have different paint schemes available.



Additionally, ScaleTrains.com is offering a new Operator 40' tarp top

container. Featuring simulated canvas tops, the prototype CIMC container allows hauling oversize or other types of bulky cargo. The model has full corrugations on the sides and either 0-3-0 or 1-3-1 door corrugations. Road names include Cosco, Hapag-Lloyd, Zim, and undecorated.



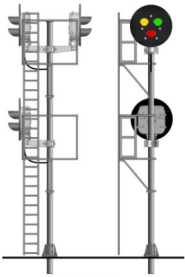
Finally, ScaleTrains.com is releasing a new run of HO scale Union Pacific

water and fuel tenders in their Rivet Counter line. Originally designed for use with UP steam locomotives, after most of the locomotives were scrapped in the late 1950s, some tenders were saved for use with the UP's gas turbine locomotives, running behind the 8,500hp "Big Blow" turbines. When those locomotives were retired in 1970, the remaining tenders were reassigned to MOW service as fuel tenders and painted silver with black billboard lettering.



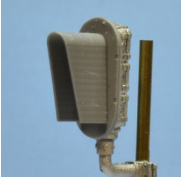
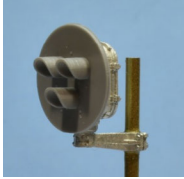
ScaleTrains.com is offering the tenders in original black, MOW silver, and the pre-2006 and post-2006 steam excursion train schemes. For additional information visit [scaletrains.com](http://scaletrains.com).

---

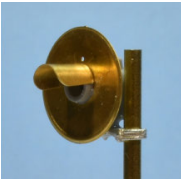
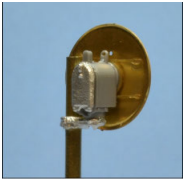


TRI-LIGHT  
SIGNAL HEAD

**Showcase Miniatures** has updated and expanded its selection of HO scale signals and signal masts. Four different mast/ladder assemblies and four different signal heads are now available.



The selection includes tri-light and vertical hooded signals, US&S H2 and GRS SA signal heads.



A magnetic “break-away” base has been developed to minimize damage to signals mounted on layouts.

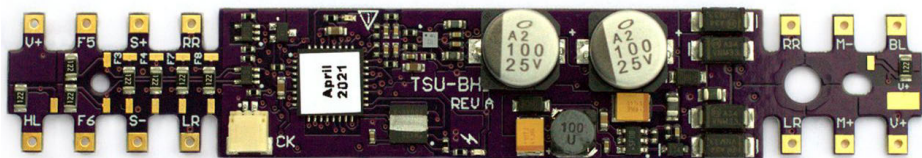


Showcase Miniatures has reissued its 1:87 scale 1980s GMC Brigadier tractor and dump truck.

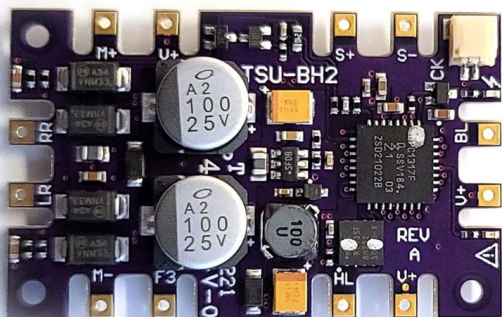
For additional information visit [www.showcaseminatures.net](http://www.showcaseminatures.net).

---





**SoundTraxx** has announced several additions to the Tsunami2 line of sound decoders. Designed for Bachmann Sound Value decoder equipped diesel locomotives, the TSU-BH1 is a factory board replacement for the FA-2, FB-2, S-4, E7A, SD70Ace, ES44AC, GP30, GP38-2, GP40, GP7, and SD40-2 models. Available in EMD, GE, and Alco versions, the TSU-BH1 offers 8 function outputs and 16 sound channels.



The TSU-BH2 is intended to replace the factory Sound Value board in Bachmann's 2-6-0, 2-8-0, 4-6-2, 4-8-4 Class J, and GS 4 models. Also offering 8 function outputs, the TSU-BH2 includes a large

selection of sound effects, such as 10 exhaust chuffs, 12 bells, 90 whistles, couplers, dynamos, and more. Both the TSU-BH1 and BH2 include a socket for a CurrentKeeper capacitor energy storage device. For more information visit [soundtraxx.com](http://soundtraxx.com).



**Tangent Scale Models** is selling an HO scale Pullman-Standard 40' PS-1 boxcar with 9' doors. The model replicates prototype cars built by PS between 1951 and 1962. Features on the well-detailed model include Pullman-style bracket grab irons and ladders, rubber hoses, five



**REGISTER**  
(free)

[INDEX](#)

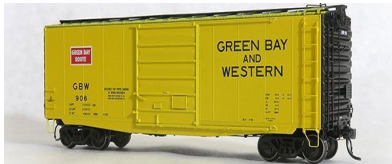
[TABLE OF CONTENTS](#)

different brake wheels and housings (Equipco, Ajax, Klasing, Miner, or Universal), Kadee couplers, and prototypically accurate trucks with 33" machined metal wheels.

Road names include a Southern Railway boxcar with 9' Superior 7-panel doors, Miner handbrakes, and Barber S-2 50-Ton plain-bearing trucks.



This Chicago & North Western PS-1 rides on 50-ton ASF A-3 plain-bearing trucks. The 9' Superior 6-panel sliding door has a different horizontal pattern than the Southern car.



The ASF A-3 trucks on Tangent's Green Bay and Western PS-1 are fitted with Timken roller bearings. Stenciling to the left of the 9' Superior 6-panel doors states

*"When empty return to Green Bay and Western R.R."*



Pullman Standard built this Milwaukee Road PS-1 with 9' Youngstown sliding doors, Ajax handbrakes, and 50-ton S-2 Barber trucks with Timken roller bearings. Tangent's PS-1 boxcars with 9'

doors are also available as undecorated kits. For additional information visit [www.tangentscalemodels.com](http://www.tangentscalemodels.com).



**Walthers** is releasing a group of HO scale 50' Pullman-Standard PS-2 2893 cu. ft. triple-bay covered hoppers late this month.

The Mainline series model features separately applied brake gear, round loading hatches, and appropriate trucks with 33" metal wheels.



In addition to Chicago & North Western, road names will be Chicago, Burlington & Quincy; Santa Fe, Baltimore & Ohio, Milwaukee Road, Southern Railway, New York Central, and Penn Central. An undecorated model will also be available.



Walthers has added two new 1:87th farm vehicles to its farm equipment collection. They include a hay trailer complete with five round loads, and a general duty farm trailer. Both trailers come with rubber tires. For additional information contact a dealer or visit

[www.walthers.com](http://www.walthers.com).

---

## N SCALE PRODUCT NEWS



New N scale models coming from **Athearn** in June 2022 include a steel 52' mill gondola.

The N scale model will have body-mounted couplers and screw-mounted trucks.



Heading the list of road names is a Kansas City Southern car in pre-

weathered Primed for Grime paint. Additional road names will be CIT Group, Northwestern Oklahoma, Rock Island, Wisconsin Central, and Washington Central.



Athearn has included a group of 45' corrugated containers its June 2022 production schedule. Carrier

names will be HMM-KOBC, Crowley, APL, and Dong Fang.





NOL, and Horizon Lines will be available in Primed for Grime schemes. For additional information

contact a dealer or visit [www.athearn.com](http://www.athearn.com).



R. Bale

## EMD SD60, SD60M AND SD60E DIESELS

EMD introduced the SD60 in the summer of 1984. The clean lines of the large body were similar to its SD50 predecessor. Most of the changes were internal including a new 16-cylinder 3,800 hp 710 prime mover, wheel slip control, and microprocessor controls. Production continued through 1991 with nearly 600 SD60s purchased by American railroads. Five years later EMD unveiled the SD60M; an SD60 modified with a safety cab with a wide nose that featured a distinctive three-piece windshield. In the late 2000's, Norfolk Southern looked for ways to extend the life of their sizable SD60 fleet. The extensive program included upgrading the prime mover, the fuel tank, microprocessor controls, and a new cab. NS units with the upgrades are identified as SD60E.

### THE BEST OF MRH RUNNING EXTRA!

Did you see this article?



Preventing lead shot oxidation (weighting)

Get this eBook now ▶

← click here

In the  
Jul 2020

**MRH**

Each eBook ~100 pages  
**RUNNING**  
**EXTRA**





locomotives during the second quarter of 2022.



SD50 models will be available decorated for Denver & Rio Grande Western, Southern Pacific, Lake State Railway, and Reading & Northern.



A basic Electro Motive SD60 decorated as an EMDX demo unit will be included in this release.



Road names for Atlas's N scale SD60M diesels with wide safety cabs will include BNSF, Buffalo & Pittsburgh, Terminal Railroad Association, and Carload Express.



Completing this release will be Norfolk Southern SD60E units decorated for NS, NS GoRail, and two special commemorative schemes honoring Veterans and First Responders.



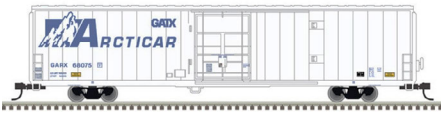
All of Atlas's N scale SD50, 60, 60M, and 60E diesel locomotives mentioned in this report will be available for standard DC operation or with a factory installed ESU DCC sound decoder.



REGISTER  
*(free)*

[INDEX](#)

[TABLE OF CONTENTS](#)



Also coming from Atlas during the second quarter of 2022 is a new production run of N scale Cryogenic reefers. The Master series model will be available decorated for Simplot, Lamb Weston, and GATX Arcticar.



Six Cyro-Trans cars with individual names on the plug doors will be available for American Falls, St. Mary's, Blue Ridge Mountains, Appalachian Trail, Cornerstone, and Sun Valley.



ACF 5701 and 5800 cu. ft covered hoppers with four discharge bays are included in Atlas's second quarter 2022 production schedule.



Details on the Master series N scale models include etched metal roof walks, ten 20" hatches, and 100-ton roller-bearing trucks.



Decorating schemes will be ASOX-Americas Styrenics, ALAX-Cain Chemicals, DOWX, XOMX-Exxon Mobil, ACFX-J.M. Huber, OFOX-Residco, CCBX-Union Carbide, CRDX-Interstate Seed, and ADM.



An N scale Thrall 4750 cu. ft. triple-bay covered hopper is also scheduled for release during the second quarter of 2022. Atlas's economy-priced Trainman series model will be available decorated for CIT Group, David J. Joseph, Midwest

Railcar (ex-Rock), EAFX-Rail Logistics, Peavy, and Transportation Corporation of America.



Thrall 4750 covered hoppers owned by railroads will be available for Minneapolis Northfield & Southern,

Canadian National, and an ex-BN car with conspicuity stripes decorated for BNSF.



N scale intermodal equipment coming from Atlas during the second quarter of next year includes 40' Daikin refrigerated containers. The ISO Type 45R1 containers feature doors with five-hinges, four locking bars, and OUT style handles.



Evergreen, SZLU-ONE, and Crowley.



includes 53' 8-55-8 corrugated containers.



roof in a 6-54-6 arrangement.



three ex-HUB units decorated for EMP. The containers will be sold in 3-packs. For additional information contact a dealer or visit

[www.atlasrr.com](http://www.atlasrr.com).



REGISTER  
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)



**Bachmann** has added cars decorated for Scoular and Canadian National in oxide red to its selection of N scale cylindrical Canadian

quadruple-bay grain hoppers.



The full lineup of paint schemes includes Alberta, Canada Grain, Demonstrator (rainbow scheme), CP Rail, Heritage Fund, Potacan, Potash, Santa Fe, Saskatchewan,

and two Government of Canada schemes.



Bachmann has added new road names to its selection of N scale old time boxcars.



Truss rod-era boxcars available now include Baltimore & Ohio, Chicago & North Western, Union Line, and Rome, Watertown & Ogdensburg.



Also available now from Bachmann is a series of N scale 56' quadruple-bay ACF Center-Flow hopper cars.



Road names include Great Northern, Continental Polymers, and Hammond Plastics.



For hobbyists modeling the modern era Bachmann has released a new production run of ACF 50' 6" outside braced boxcars with Youngstown sliding doors.





Road names available now include CN, CSX, Conrail, Maine Central, McCloud River, Middletown & New Jersey, Montana Rail Link, and Penn Central.



All of Bachmann's N scale models mentioned in this report have trucks with blackened machined metal wheels, and magnetically operated

E-Z Mate couplers. For additional information contact a dealer or visit [bachmanntrains.com](http://bachmanntrains.com).

---



R. Bale

## GE AC600CW LOCOMOTIVE

The locomotive horsepower race between Electro-Motive Division and GE Transportation peaked in the mid-1990s when GE countered EMD's SD90MAC with the AC600CW. Both locomotives

featured 6,000hp V-16 diesel prime movers. GE's initial production was troubled with various mechanical problems that centered around the 6,000hp engine which suffered from excessive vibration. While solving the problem, GE delivered 106 AC600CWs with 4,300hp engines to Union Pacific which classified them as AC4460CWs. Plans to refit the UP units with corrected 6,000hp engines never materialized. The concept behind higher HP units was to replace two or three locomotives with a single high horsepower unit capable of handling an average 50 to 100 car train. There was, however, one serious catch; failure of a single high horsepower unit would cause the entire train to become stranded, causing delays and traffic congestion. In addition to their impressive 76' length, spotting features of GE's AC600CW include two-piece front cab windows, a relatively short nose with beveled corners, a large 5,500 gallon fuel tank, and twin radiator fans projecting out in wings at the rear of the locomotive.



REGISTER  
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)



Canadian Pacific, CSX, BHP Iron Ore, GE Demonstrator, and Union Pacific.

**Broadway Limited** has released an N scale version of the GE AC6000CW diesel locomotive. Road names are Southern Pacific (Bloody Nose scheme), SP (Daylight scheme), BNSF (Swoosh),



The N scale model is available with BLI's Paragon3 Rolling Thunder Sound & Control System. For more information contact a dealer or visit [www.broadway-limited.com](http://www.broadway-limited.com).



Pacific, Canadian National, and CSX models.

**KatoUSA** has added BNSF and Union Pacific to the selection of road names for its N scale GE ES44AC diesel locomotive. The new road names join the previously released Canadian



DC versions of the BNSF and UP units are scheduled to be released this month. Locomotives equipped with Digitrax DCC and ESU LokSound DCC will be available in July. For additional information contact a dealer or visit [www.katousa.com](http://www.katousa.com).

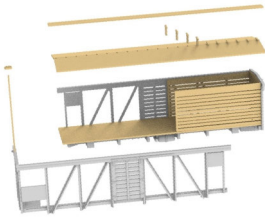
DC versions of the BNSF and UP units are scheduled to be released this month. Locomotives equipped with Digitrax DCC and ESU LokSound DCC will be available in July. For



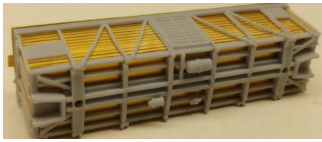
**Leadville Designs** is selling a kit for an N scale Chicago, Burlington & Quincy 36' steel frame stock car. The model

# JUNE NEWS N SCALE | 40

replicates CB&Q series 58000-59000 cars built by AC&F in the early 1920s.



The kit is composed of well-detailed 3D ABS prints, etched brass parts, Z bracing stock, wire, and a wood roof. Both AB and KC WABCO brake systems are included. A water slide decal with ten complete number sets and redundant lettering sets completes the N scale kit.



The kit is designed to accept Micro-Trains trucks and couplers which are to be supplied by the hobbyist. For additional information visit [leadvilledesigns.com](http://leadvilledesigns.com).



New N scale models from **Micro-Trains** include this heavyweight Union Pacific observation car decorated in Pullman green with gold lettering. Inspiration for the model is from a prototype car built by Pullman in 1924.



This modernized 3-2 heavyweight business car is painted in Chesapeake & Ohio's tricolor scheme. Built by Pullman in 1926, C&O acquired the car from Pere Marquette in 1947 and used it as a business car through the 1960s.



Micro-Trains N scale version of this ATSF 100-ton class HT triple-bay hopper car comes with Barber roller-bearing trucks.

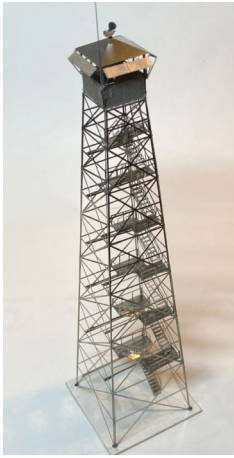


REGISTER  
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)

The running board on this 40' standard box car has been removed, however, the ladders remain full height. The N scale model is decorated as a Baltimore & Ohio class B-6 boxcar. For additional information contact a dealer.



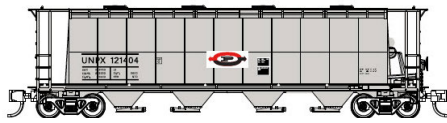
**The N Scale Architect** is selling a kit for an 8" tall Fire Tower. The N scale structure is composed of photo-etched stainless steel parts and a laser-cut base that measures 2" x 2". For full details visit [www.thenarch.com](http://www.thenarch.com).



**Prairie Shadow** is taking reservations for an N scale 3800 cu. ft. cylindrical hopper with delivery planned for May 2022. The model is based on a prototype that was somewhat shorter than familiar 4350/4550 version of the iconic Canadian car. The CN rainbow scheme will be available on a 6-panel car with round hatches.

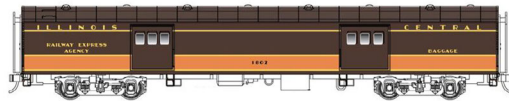


Canadian Pacific 6-panel cars with trough hatches will be available in both script and Multimark paint schemes.



Cars with 11 panels and round hatches will be available decorated for CN (noodle), UNPX/Procor, and Canpotex. Prairie Shadow's N scale model will have body-mounted Micro-Trains couplers and 100-ton roller-bearing trucks with metal wheels. For additional information visit [www.prairieshadows.com](http://www.prairieshadows.com).

---



**Rail Smith** has released a limited number of N scale lightweight baggage and mail storage cars.



The selection includes cars decorated for Illinois Central City of Miami, and Union Pacific City of San Francisco.

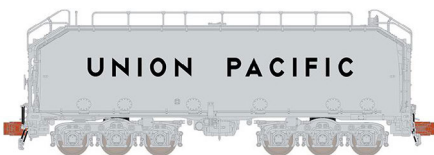


Additional schemes include Northern Pacific 1947 North Coast Limited and New York Central Royal Palm.



For additional information visit [www.lowellsmith.net](http://www.lowellsmith.net).

---



**ScaleTrains.com** is releasing a new run of N scale Union Pacific water and fuel tenders in their Rivet Counter line. Originally designed for use with UP steam locomotives, after most of them were scrapped in the late 1950s, some were saved for use with the UP's gas turbine locomotives, running behind the 8,500hp "Big Blow" turbines. When those locomotives were retired in 1970, the



REGISTER  
*(free)*

[INDEX](#)

[TABLE OF CONTENTS](#)

remaining tenders were reassigned to MOW service as fuel tenders and painted silver with black billboard lettering. ScaleTrains.com is offering the tenders in original black, MOW silver, and the pre-2006 steam excursion train scheme. For more information visit [www.scaletrains.com](http://www.scaletrains.com).

---



**Trainworx** plans to deliver a 52' 6" gondola with corrugated sides during the second quarter of 2022. The N scale model is based on a Thrall prototype. Road names in this release will be Union Pacific, Burlington Northern, Norfolk Southern, and Santa Fe.



Features include etched metal grab irons, ladders, foot boards, stirrups, tow rings, and retaining valve linkage. The ready-to-run model comes with 100-ton trucks with Fox Valley metal wheels.



Reservations are being booked now by InterMountain, Trainworx' national distributor. Availability is scheduled for the second quarter of 2022. For more information contact a dealer or visit [www.intermountain-railway.com](http://www.intermountain-railway.com).

---

**Voltscooter** has introduced N scale kits for creating models of Southern Pacific 36' narrow gauge stock cars. Components in the kit include appropriate decals and 3D UV resin body, chassis, and doors. Trucks, couplers, brake wheel, and weight are not included. For additional information visit [voltscooter.com/?page\\_id=483](http://voltscooter.com/?page_id=483).

---



## DISCLAIMER .....

The opinions expressed in this column are those of the writer and do not necessarily reflect the opinion of Model Railroad Hobbyist or its sponsors. Every effort is made to provide our readers with accurate and responsible news and information, however, neither Model Railroad Hobbyist or the writer of this column can be held responsible for any inaccuracies or typographical errors that may inadvertently appear in this column.

### THE BEST OF MRH RUNNING EXTRA!

Did you see this article?



Perfectly square magnetic  
jig for the workbench

Get this eBook now ▶

← click  
here

In the  
Oct 2020



Each eBook ~100 pages  
**RUNNING**  
**EXTRA**



Use our custom  
Google search on the  
MRH website to find  
topics of interest

[CLICK TO FIND OUT MORE](#)



[REGISTER](#)  
*(free)*

[INDEX](#)

[TABLE OF CONTENTS](#)

## BRIEFLY NOTED AT PRESS TIME ...

**Bachmann** has released a new N scale 100-ton Bethlehem Steel triple-bay open hopper. Road names include Conrail, Norfolk Southern, Pennsylvania railroad, Pennsylvania Power & Light, and Union Pacific...

Due from **Morning Sun Books** next month is *Chicago Intercity Passenger Trains* which presents more than 300 pre-Amtrak color photos in the hub of America's passenger train activity...

**Rapido** has announced surprise (non-preorder) runs of GE B36-7 locomotives and HO scale 53' Husky Stack Well Cars in HO scale. Also announced was a new HO scale Single Sheathed USRA boxcar and an N scale PC&F B-100-40 boxcar. ■



**RATE THIS ARTICLE**

**THE BEST OF MRH RUNNING EXTRA!**

Did you see this article?



**Jim Six on satisfied downsizing**

[Get this eBook now ▶](#)  
click here

In the **MRH RUNNING EXTRA**  
Nov 2018  
Each eBook ~100 pages

**THE BEST OF MRH RUNNING EXTRA!**

Did you see this article?



**Art deco station build (2 parts)**

[Get both eBooks now ▶](#)  
click here

In the **MRH RUNNING EXTRA**  
Nov/Dec 2018  
Each eBook ~100 pages



# SELECTED EVENTS



Model Railroad Hobbyist | June 2020

JUNE

*Due to COVID-19 restrictions, please check with any organization hosting an in-person event for the latest status of the event. ■*

## Ongoing 2021

**ONLINE, Zoom**, dates vary, see website. Operation Special Interest Group Meetups – limited attendance available. For more information visit [www.opsig.org/Virtual](http://www.opsig.org/Virtual). Past meets are available online at [www.opsig.org/Virtual/Past](http://www.opsig.org/Virtual/Past).

**ONLINE, Zoom & YouTube**, Wednesday & Saturday, see Facebook page. “New Tracks” Meetup, hosted by Jim Kellow, MMR. See [new-tracksmodeling.com](http://new-tracksmodeling.com) for more information.

**ONLINE, Facebook & YouTube**, dates vary, see Facebook page. “NMRax” organized by Gordy Robinson, Martyn Jenkins, Gert Muller, Jordan Kramer. See [www.facebook.com/groups/nmragroup](http://www.facebook.com/groups/nmragroup) for announcements. Note: Taking a break for June/July due to NMRA online National Convention, back in August.

**ONLINE, YouTube**, every other Saturday. 4th Division, Pacific Northwest Region, NMRA hosts online layout tours and clinics. Archive available at [www.youtube.com/c/4DPNRMovies](http://www.youtube.com/c/4DPNRMovies).

**ONLINE, Zoom**, Second Tuesdays, 8pm EST. “Off the Beaten Track” featuring Narrow Gauge layouts, clinics and manufacturers. For more information visit [groups.io/g/NNG](http://groups.io/g/NNG).



REGISTER  
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)

## June – July 2021

**CALIFORNIA, SANTA CLARA, CONVERTED TO VIRTUAL** – July 6-10, Rails By The Bay, 2021 NMRA National Convention. Video clinics, layout tours, prototype tours, 100 breakout rooms, Q&A sessions, Virtual Operating sessions, panel discussions. For more information visit [www.pcrnmra.org/NMRA2021](http://www.pcrnmra.org/NMRA2021).

**COLORADO, AURORA (Denver area)**, June 17-20, 2021 O Scale National Convention, Hyatt Regency Aurora-Denver Conference Center, 13200 East 14th Place. For more information visit [oscalenational.com](http://oscalenational.com).

**FLORIDA, TALLAHASSEE**, June 26-27, 30th Annual Tallahassee Model Railroad Show and Sale, sponsored by Big Bend Model Railroad Association, 441 Paul Russell Rd. For more information visit [www.facebook.com/events/745873359647741](https://www.facebook.com/events/745873359647741).

**ILLINOIS, COLLINSVILLE (St. LOUIS)**, July 30-31. St. Louis Railroad Prototype Modeler's Meet. Gateway Convention Center, 1 Gateway Dr. For more information visit [stlrpm.com](http://stlrpm.com).

**ILLINOIS, GALESBURG**, June 26-27, Railroad Days Train and Toy Show, Knox College, T Fleming Fieldhouse, 199 E. Knox St. For more information visit [galesburgtrainandtoyshow.com](http://galesburgtrainandtoyshow.com).

**NEVADA, ELY**, June 25-26, Bristlecone Bricks & Train Show, Nevada Northern Railway Museum Freight Barn, 1100 Ave A. For more information visit [bristleconebricks.com](http://bristleconebricks.com).

**OHIO, VAN WERT**, July 24-25, 18th Annual Van Wert Railroad Heritage Weekend Model Railroad Show and Swap. Van Wert County Fairgrounds, 1055 S Washington St. For more information visit [www.vwrrhw.com](http://www.vwrrhw.com).

**OKLAHOMA, YUKON**, June 26-27, Route 66 Charity Model Train Show sponsored by Operation Christmas Train Set Foundation, Archery Traditions of Oklahoma, 328 Elm Ave. For more information visit [operationchristmastrainset.com](http://operationchristmastrainset.com).

**PENNSYLVANIA, KUTZTOWN**, July 17, August 28. Renningers Model Train Meet, 740 Noble Street. For more information see [renningers.net/events/model-train-meet](https://renningers.net/events/model-train-meet).

**PENNSYLVANIA, MONROEVILLE**, July 24-25, Greenberg's Train and Toy Show, Monroeville Convention Center. For more information visit [trainshow.com](https://trainshow.com).

**TEXAS, FOREST HILL (Fort Worth)**, June 26th, Red River RPM, Forest Hill Civic Center, 6901 Wichita St. For more information visit [redriverrpm.org](https://redriverrpm.org).

## Future 2021-2022 by location

**AUSTRALIA, SYDNEY**, October 16-17, Great Train Show, sponsored by the Epping Model Railway Club, Grand Pavilion, Rosehill Gardens Racecourse, James Ruse Drive, Rosehill. For more information visit [www.eppingmodelrailway.org.au/exhibition](https://www.eppingmodelrailway.org.au/exhibition).

**CALIFORNIA, IRVINE**, September 8-11, Pacific Southwest Region/NMRA Convention, "Orange Blossom Special." Hilton Irvine/Orange County Airport Hotel, 18800 MacArthur Blvd. Visit [www.psrconvention.org/OrangeBlossomSpecial2021](https://www.psrconvention.org/OrangeBlossomSpecial2021) for more information.

**FLORIDA, MELBOURNE**, June 5, September 4, December 4, Original Melbourne Train and Toy Show, sponsored by Schultz Space Coast Trains, Azan Shrine Center, 1591 W Eau Gallie Blvd. For more information visit [schultzspacecoasttrains.com](https://schultzspacecoasttrains.com).

**GEORGIA, CARTERSVILLE**, October 2-3, 2021 Piedmont Division Model Train Show, Clarence Brown Conference Center, 5450 GA-20. For more information visit [themodeltrainshow.com](https://themodeltrainshow.com).

**ILLINOIS, BELLEVILLE**, October 2-3, Great Train Expo. Belle-Clair Fairgrounds and Expo Center, 200 S Belt E #2650. For more information visit [bcfairgrounds.net/belleville-great-train-expo](https://bcfairgrounds.net/belleville-great-train-expo).

**ILLINOIS, WHEATON**, August 8, September 12, October 10, November 14, December 12, Great Midwest Train Show, Dupage County Fairgrounds. For more information visit [trainshow.com](https://trainshow.com).



REGISTER  
*(free)*

[INDEX](#)

[TABLE OF CONTENTS](#)

**KANSAS, HUTCHINSON**, June 5-6, 2021, Center of the Nation Model Railroad Expo, Pride of Kansas Building, Kansas State Fairgrounds. For more information visit [www.kansascentralmodelrailroaders.org/train-show.html](http://www.kansascentralmodelrailroaders.org/train-show.html).

**MARYLAND, LINTHICUM HEIGHTS (BALTIMORE)**, September 10-11, 2021, Mid-Atlantic Railroad Prototype Modelers Meet, Doubletree by Hilton – BWI, 890 Elkridge Landing Rd. For more information visit [www.marpm.org](http://www.marpm.org).

**MARYLAND, HUNT VALLEY**, October 21-24, 2021, Mid-Eastern Region Convention – Mount Clare Junction Model Railroad – NMRA membership not required, Delta Hunt Valley, 245 Shawan Road, [mtclarejct.com](http://mtclarejct.com).

**MASSACHUSETTS, WESTFORD**, October 8-11, 2021, Mill City 21, the NER Convention. Westford Regency Inn, 219 Littleton Rd. For more information visit [millcity21.org](http://millcity21.org).

**MISSOURI, SPRINGFIELD**, August 21, 2021, Ozarks Model Railroad Association Train Show, Oasis Conference Center, 2546 N Glenstone Ave. For more information visit [www.omraspringfield.org/train-shows.html](http://www.omraspringfield.org/train-shows.html).

**MISSOURI, St. LOUIS**, August 7-14, 2022, NMRA National Convention and National Train Show.

**NEW JERSEY, EDISON**, August 14-15, 2021, Greenberg's Train & Toy Show, New Jersey Expo Center. For more information visit [trainshow.com](http://trainshow.com).

**NEW ZEALAND, CHRISTCHURCH**, October 2-3, 2021, The BIG Model Train Show, Pioneer Stadium, Lyttelton Street. For more information visit [trainshow.co.nz](http://trainshow.co.nz).

**NEW ZEALAND, LOWER HUTT (Wellington)**, November 14-15, 2021, RailEx Model Train Show, Walter Nash Centre, 20-22 Taine St., Taita. For more information visit [www.railex.org.nz](http://www.railex.org.nz).

**NORTH CAROLINA, HICKORY**, September 1-4 2021, 41st National Narrow-Gauge Convention, Hickory Metro Convention Center and Crowne Plaza Hotel. For more information visit [41nngc.com](http://41nngc.com).

**OHIO, DAYTON**, August 14-15, 2021, Great Train Show, Montgomery County Fairgrounds. For more information visit [trainshow.com](http://trainshow.com).

**OHIO, TOLEDO**, October 21-24, 2021. Black Swamp Junction – NCR 2021 Convention, hosted by the NMRA, open to all, featuring clinics, tours, layouts, op sessions, and door prizes. Radisson Hotel at the University of Toledo, 31100 Glendale, Ave. For more information visit [www.divisiononencr.com/2021](http://www.divisiononencr.com/2021).

**OREGON, EUGENE**, May 10-14, PNR 2022 Regional Convention, Valley River Inn.

**PENNSYLVANIA, KUTZTOWN**, July 17, August 28. Renningers Model Train Meet, 740 Noble Street. For more information see [renningers.net/events/model-train-meet](http://renningers.net/events/model-train-meet).

**PENNSYLVANIA, OAKS (Philadelphia area)**, August 21-22, 2021, Greenberg's Train & Toy Show, Greater Philadelphia Expo Center. For more information visit [trainshow.com](http://trainshow.com).

**TEXAS, STAFFORD (GREATER HOUSTON)**, August 14, 2021, Greater Houston Train Show, Stafford Centre, 10505 Cash Rd. For more information visit [sanjacmodeltrains.org](http://sanjacmodeltrains.org).

**VIRGINIA, FREDERICKSBURG**, August 7-8, 2021, Greenberg's Train & Toy Show, Fredericksburg Expo & Conference Center. For more information visit [trainshow.com](http://trainshow.com). ■



Get all these layout tours for just \$9.99

Ordinarily ...  
1 week rental is \$1.99 per video

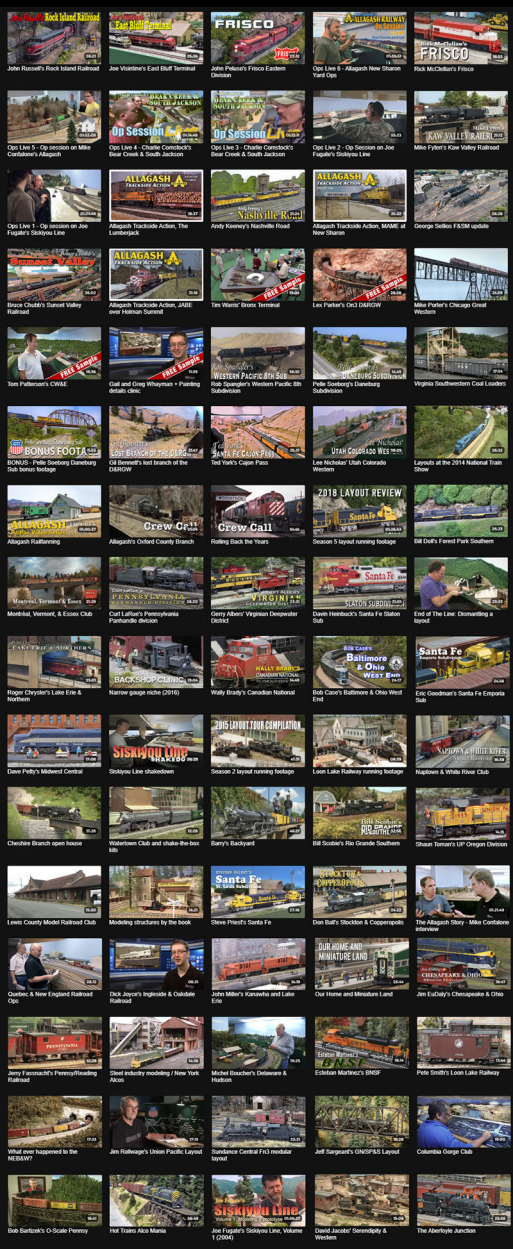
Watch free samples >>

Pay just **9.99** 94% discount!

And get unlimited access to all 80 layout tours!

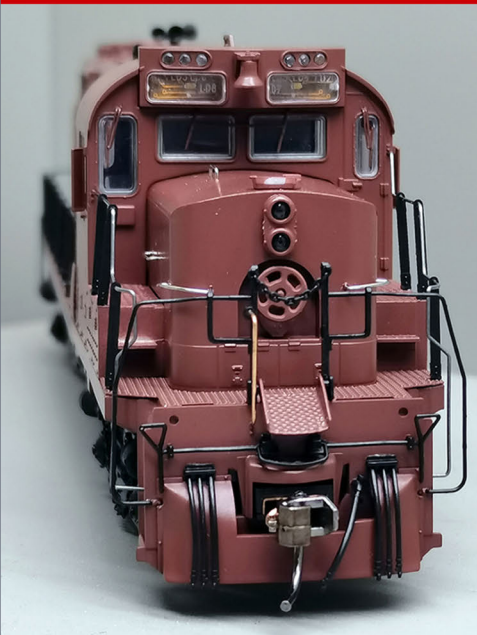
Get layout tours >>

(Or get a full access membership and view all these layouts + 500 more videos ...)



www.trainmasters.tv

# CHOP NOSE!



# CLICK HERE!



[REGISTER](#)  
*(free)*

[INDEX](#)

[TABLE OF CONTENTS](#)

# CLICKABLE ADVERTISER INDEX

[Accu-Lites](#)  
[Archer Fine Transfers](#)  
[Atlas Model Railroad Co.](#)  
[Bachmann](#)  
[Berrett Hill Trains](#)  
[Black Cat Publishing](#)  
[Blair Line](#)  
[Canyon Creek Scenics](#)  
[Coffman Graphics](#)  
[Crew Call with Mike Rose](#)  
[Crow River Products](#)  
[Digitrax \(2 page spread\)](#)  
[Dr.Duino](#)  
[East Coast Circuits](#)  
[ESU LokSound](#)  
[Fast Tracks](#)  
[Great Decals](#)  
[Humancity Junction](#)  
[Inter-Action Hobbies](#)  
[Iowa Scaled Engineering](#)  
[KR Models](#)  
[Litchfield Station](#)  
[Logic Rail Technologies](#)  
[Micro-Trains Line](#)  
[Model Railroad Control Systems](#)  
[Monashee Laser Engineering](#)  
[Monroe Models](#)  
[Mountain Subdivision Hobbies](#)  
[MRH Store \(1\)](#)  
[MRH Store \(2\)](#)  
[MRH Store \(3\)](#)  
[Mt. Albert Scale Lumber](#)  
[NCE \(2 page spread\)](#)  
[North American Railcars \(PWRS\)](#)  
[Pre-Size Model Specialities](#)  
[Precision Design Co.](#)  
[Rails by the Bay](#)  
[Rapido \(1\)](#)  
[Rapido \(2\)](#)

[Ring Engineering \(1\)](#)  
[Ring Engineering \(2\)](#)  
[Roomettes](#)  
[ScaleTrains.com](#)  
[Sceniking.com](#)  
[Soundtraxx](#)  
[Southern Digital](#)  
[Squeaky's Trains](#)  
[Streamlined Backshop Services](#)  
[Tam Valley Depot](#)  
[The Trainmaster Inc](#)  
[TrainMasters TV \(1\)](#)  
[TrainMasters TV \(2\)](#)  
[TrainMasters TV \(3\)](#)  
[24 Trains.tv](#)  
[Walthers](#)  
[Westerfield Models](#)  
[Woodland Scenics](#)

**THE BEST OF MRH RUNNING EXTRA!**  
**Did you see this article?**



Allagash gets a shortline connection

**Get this eBook now ▶** ← click here

In the **MRH** **RUNNING** Each eBook ~100 pages  
Jan 2019 **EXTRA**

**THE BEST OF MRH RUNNING EXTRA!**  
**Did you see this article?**



Creating a realistic lumber mill log pond

**Get this eBook now ▶** ← click here

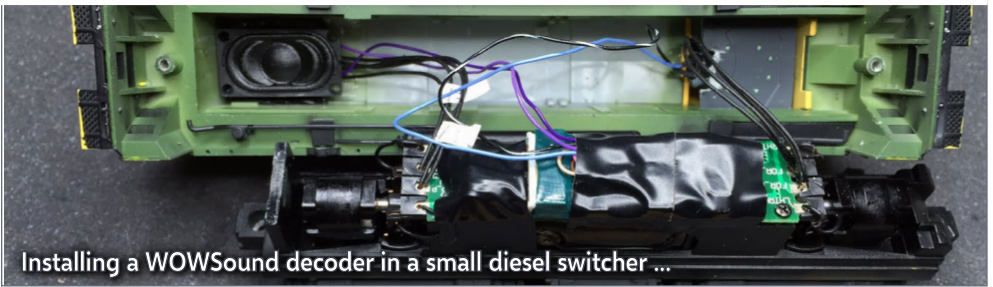
In the **MRH** **RUNNING** Each eBook ~100 pages  
Jan 2020 **EXTRA**

Clickable "other" index  
[Other – Contents](#)  
[Other – Cover](#)  
[Other – MRH Marketplace](#)  
[Other – MRH Sponsors](#)



# Coming next month in MRH ...

Bob Rivard weathers and finishes some NP Tangent box cars ...



Installing a WOWSound decoder in a small diesel switcher ...

HAVING FUN WITH TRAINS  
JULY 2021 | FREE

# MRH

MODEL RAILROAD HOBBYIST

Bob Rivard on  
**Weathering Tangent boxcars**  
▶ READ NOW

ADAPTIVE EDITION      TABLE OF CONTENTS

Finishing up the N scale layout project ...



... coming July 15<sup>th</sup> in the  
July MRH



**REGISTER**  
(free)

[INDEX](#)

[TABLE OF CONTENTS](#)

# Coming next month in Running Extra ...

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

Jeff Palmer rebuilds a Roundhouse Climax (4 part series) ...



**Delayed  
due to core  
staff  
getting  
covid**



Eric Hannsman shows how to do effective pin wash weathering ...

June/July 2021 - \$2.99

**MRH RUNNING**  
##### **EXTRA**  
Apprentice with savvy modelers

**Jeff Palmer does a Roundhouse climax rebuild (4-part series)**  
▶ **READ NOW**

**Before**



**After**



**Also these articles:**

- Lorem ipsum dolor sit amet
- Consectetur adipiscing elit morbi
- Vestibulum tempus vehicula
- Mauris tempor libero ipsum pellentesque
- Nullam porta ut arcu at lobortis
- ... and much more!



Mike Rose models a paper mill ...

... all this and much more!

**SUBSCRIBE AND SAVE UP TO 75%**