HAVING FUN WITH TRAINS

MARCH 2022 | FREE

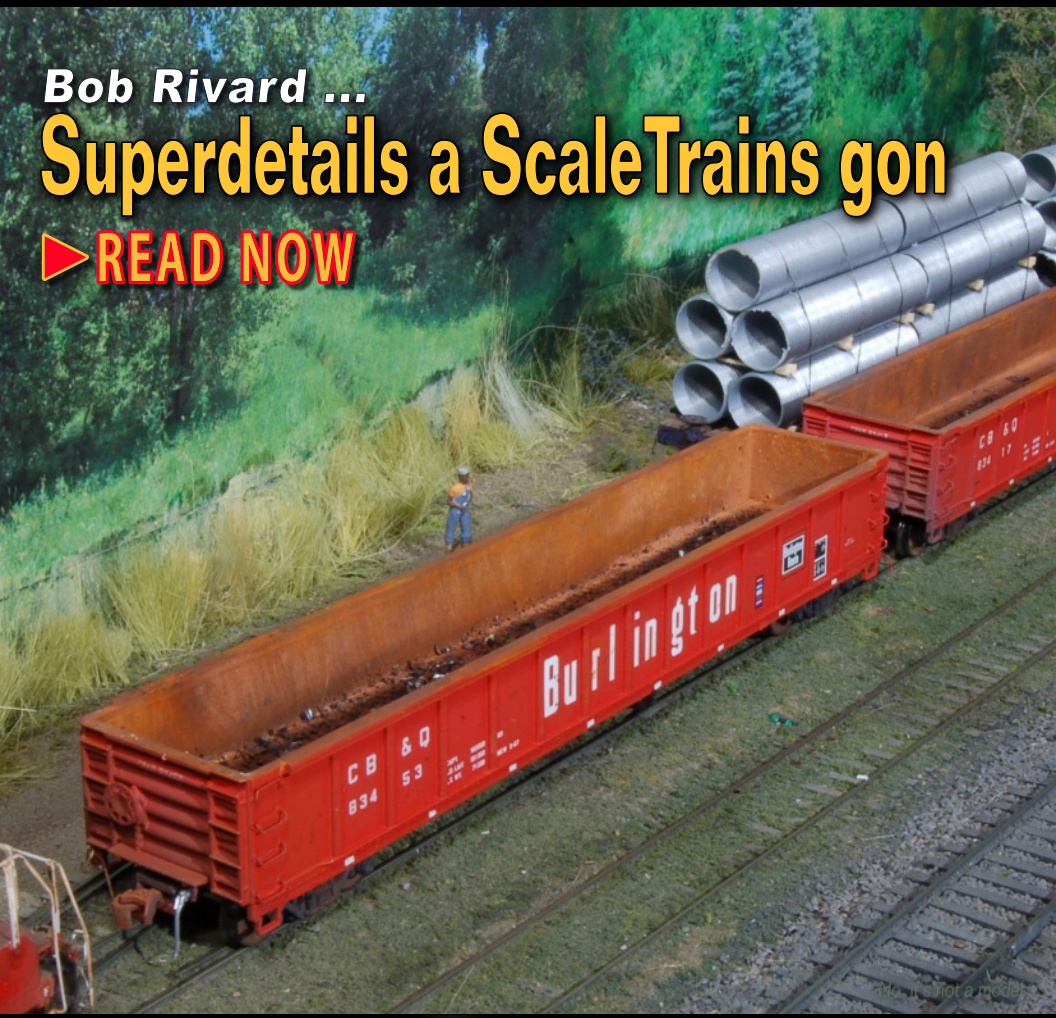
MRH

MODEL RAILROAD HOBBYIST

ALSO:

- Building a new layout with LCC
- Blend turnback curves into a scene
- Andrew Bobis' ATSF modular layout
- More modeler's survey of glues

... and more inside!



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INDEX

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HAVING FUN WITH TRAINS
MRH
MODEL RAILROAD HOBBYIST

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Model Railroad Hobbyist | March 2022

A - L

MRH Sponsors | 2

M - Z

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Table of Contents | MRH

March 2022

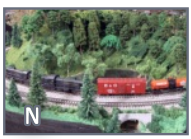
Publisher's Musings: Jim Six weathered steamer for sale ...
JOE FUGATE

MRH Website this month: flake-resistant handrail paint, ...
Compiled by JOE FUGATE

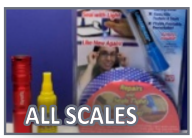
What's Neat: Andrew Bobis' ATSF modular layout ...
KEN PATTERSON

What we learned building a new layout with LCC
JESSE POOLE and DAN KUBARYCH

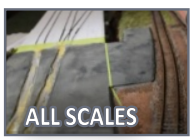
Super-detailing a Scale Trains gondola
BOB RIVARD



Blending turnback curves into a scene
RICK BALASSAITIS



Modeler's survey of glues, part 2
JEFF PALMER



Savvy Modeler online: Modeling paved areas
Compiled by the MRH STAFF

March 2022 news and events
RICHARD BALE and JEFF SHULTZ

PUBLISHER'S MUSINGS

Joe Fugate: We're selling a steam loco weathered by Jim Six ...

VIEW READER COMMENTS

Jim Six did a write up for us on a BLI 4-8-4 steam loco in *MRH Running Extra* last October. The 4-8-4 is an NP/SP&S prototype and not a locomotive Jim can use on his NYC layout. We're selling it on eBay and pricing it to sell.

The loco MSRP is $799 (it is a brass loco with a die-cast chassis, so it's essentially a brass model), but we're listing it with a buy now price of $699, even though it is essentially a brand new locomotive with zero miles on it. If you want a steam locomotive weathered by Jim Six, this is your chance.

The eBay listing doesn't start until March 16th at 6 pm Pacific and lasts for seven days.

1. We're selling this loco weathered by Jim Six on eBay. Jim weathered it to look like a well-maintained locomotive that's in the middle of its service life.

What Jim Six said about this model

I'm looking at the Broadway Limited Imports (BLI) Northern Pacific/Spokane, Portland & Seattle 4-8-4 Northern. The model is beautiful with perfect paint and fantastic detail [1]! The locomotive runs as well as it looks, and with a cast metal chassis and brass construction, it pulls like a beast.

BLI's model features its Paragon3 Sound & Operation System for DC and DCC operation, which links to BLI's proprietary Rolling Thunder sub-woofer system for extra bass sound. The locomotive sounds great! The locomotive includes a smoke unit with synchronized chuff and variable intensity and timing.

It can operate on a minimum radius of 22 inches, and code 70 rail.

Publisher's Musings | 3

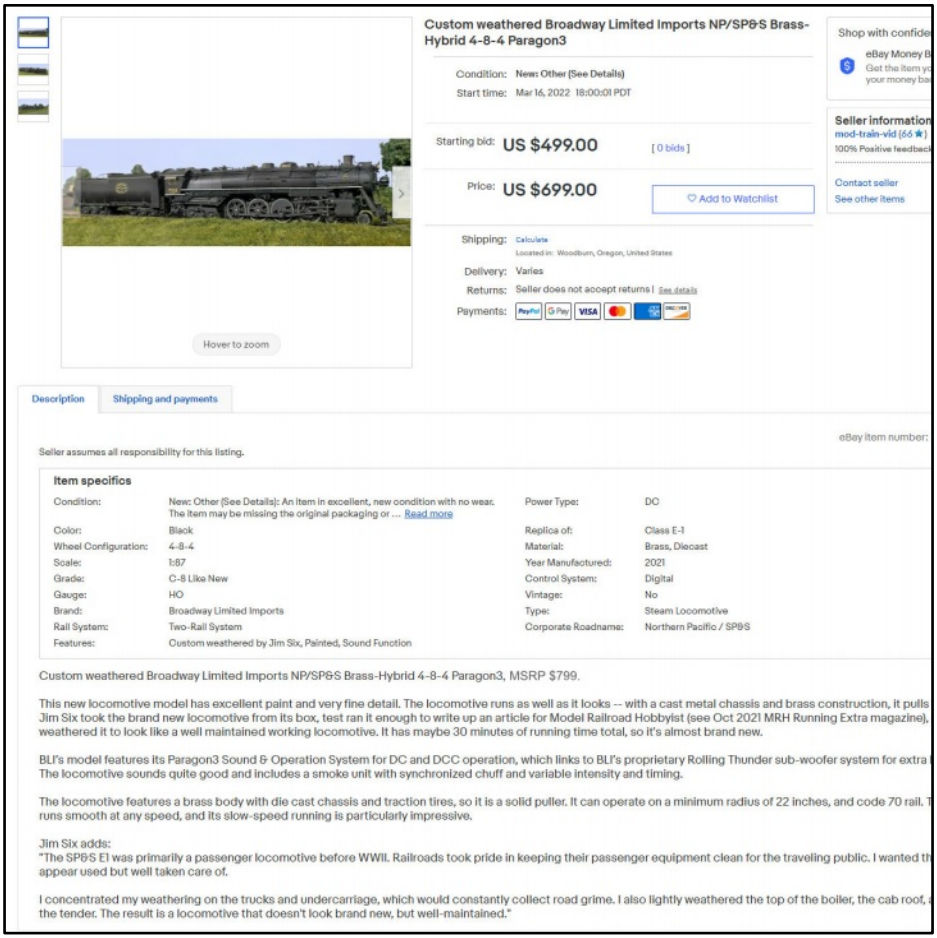
The locomotive features an excellent, smooth running mechanism at any speed, and I found its slow-speed running to be particularly impressive.

The locomotive is highly detailed, as one would expect for hybrid brass, with flawless paint. It even features a factory-installed crew. Good running, good detail, and good sound are all mandatory for me, and *this model has it all.*

2. Another view of the Jim Six weathered BLI 4-8-4 we're selling on eBay.

Jim Six's weathering comments

Taking an $800 model and applying weathering can put a huge lump in your throat! I recommend starting with smaller, less-expensive models to build confidence. I have weathered hundreds of locomotives over the years, so I did not hesitate to apply weathering to this model.



Custom weathered Broadway Limited Imports NP/SP&S Brass-Hybrid 4-8-4 Paragon3

Condition: New: Other (See Details)
Start time: Mar 16, 2022 18:00:01 PDT

Starting bid: US $499.00 [0 bids]
Price: US $699.00
Add to Watchlist

Shipping: Calculate
Located in: Woodburn, Oregon, United States
Delivery: Varies
Returns: Seller does not accept returns | See details
Payments:

Hover to zoom

Description | Shipping and payments

eBay item number:

Seller assumes all responsibility for this listing.

Item specifics

Condition:	New: Other (See Details): An item in excellent, new condition with no wear. The item may be missing the original packaging or ... Read more	Power Type:	DC
Color:	Black	Replica of:	Class E-1
Wheel Configuration:	4-8-4	Material:	Brass, Diecast
Scale:	1:87	Year Manufactured:	2021
Grade:	C-8 Like New	Control System:	Digital
Gauge:	HO	Vintage:	No
Brand:	Broadway Limited Imports	Type:	Steam Locomotive
Rail System:	Two-Rail System	Corporate Roadname:	Northern Pacific / SP&S
Features:	Custom weathered by Jim Six, Painted, Sound Function		

Custom weathered Broadway Limited Imports NP/SP&S Brass-Hybrid 4-8-4 Paragon3, MSRP $799.

This new locomotive model has excellent paint and very fine detail. The locomotive runs as well as it looks -- with a cast metal chassis and brass construction, it pulls Jim Six took the brand new locomotive from its box, test ran it enough to write up an article for Model Railroad Hobbyist (see Oct 2021 MRH Running Extra magazine), weathered it to look like a well maintained working locomotive. It has maybe 30 minutes of running time total, so it's almost brand new.

BLI's model features its Paragon3 Sound & Operation System for DC and DCC operation, which links to BLI's proprietary Rolling Thunder sub-woofer system for extra The locomotive sounds quite good and includes a smoke unit with synchronized chuff and variable intensity and timing.

The locomotive features a brass body with die cast chassis and traction tires, so it is a solid puller. It can operate on a minimum radius of 22 inches, and code 70 rail. T runs smooth at any speed, and its slow-speed running is particularly impressive.

Jim Six adds:
"The SP&S E1 was primarily a passenger locomotive before WWII. Railroads took pride in keeping their passenger equipment clean for the traveling public. I wanted th appear used but well taken care of.

I concentrated my weathering on the trucks and undercarriage, which would constantly collect road grime. I also lightly weathered the top of the boiler, the cab roof, the tender. The result is a locomotive that doesn't look brand new, but well-maintained."

3. The eBay listing for this new locomotive (MSRP, $799) will open on March 16th at 6 pm Pacific Time. Jim Six applied an expert weathering job to the loco to make it look like a well-maintained in service loco. See text for details.

I used Polly Scale Railroad Tie Brown as a base for weathering. Poly Scale is an acrylic that has been discontinued, but I stocked up on key colors while they were still available. I applied the weathering using my trusty Paasche Model-H airbrush, taking care to use a light touch.

In my opinion, model railroaders frequently over-weather their railroad equipment. Too many models appear as though they are near end of "life" and/or have never been washed or repainted since being delivered. This is not actually a good representation of the prototype – at least not before modern times.

In the case of passenger locomotives such as this model, and particularly for steam locomotives, the model needs to be cleaner and appear better maintained than a freight locomotive.

The SP&S used the E-1 featured here primarily as a passenger locomotive before WWII. Railroads took pride

in keeping their passenger equipment clean for the traveling public. I weathered this model to appear used but well taken care of.

I concentrated my weathering on the trucks and under-carriage, which would constantly collect road grime. I also lightly weathered the top of the boiler, the cab roof, and the top of the tender. The result is a locomotive that looks a slightly weathered, but well-maintained.

So if you'd like a honey of a brand new steam loco with a professional weathering job by Jim Six, keep an eye out for this eBay auction, starting March 16th at 6 pm Pacific:

WEB: www.ebay.com/itm/203865115385

3. Fireman's side view of the Jim Six weathered BLI 4-8-4 we're selling on eBay at this link: www.ebay.com/itm/203865115385 ... do note, the listing doesn't go live until 6 pm Pacific on March 16th.

More in-person conventions coming soon!

Now that public in-person conventions seem to be making a come-back again, the rest of the year is shaping up nicely for MRH. We're looking forward to seeing some of you at a real live convention again!

We will be attending the Pacific Northwest Regional Convention in Eugene, Oregon from May 11-14th. I will be giving four clinics (phew) and we will have a vendor table out in the general gathering area for the convention.

As for the clinic titles I will be giving, they are:

- Make it run like a Dream
- Painting models in a post-Floquil era
- Update on the Siskiyou Line 2
- Track Cleaning

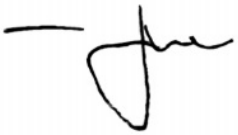
The track cleaning clinic is a new clinic for me, the others I have given before. For the new track cleaning clinic, I gave it this description:

> *Find out what causes the black gunk on our rails and how to reduce it. Get at least a year of flawless running between track cleanings!*

We also plan to attend the St. Louis NMRA National Train Show in August. The train show runs from Friday, August 12, 2022 thru Sunday, August 14, 2022. I also plan to be giving three clinics on Wednesday and Thursday of that week, and I plan to have some new TOMA modules on display in our booth.

We're also attending the National Narrow Gauge convention in Tacoma, WA from September 1 - 4th. I will also have the new TOMA modules on display at our tables.

If you're attending any of these shows, please stop by and say hello. I sometimes get a lot of folks around me asking questions, but I always appreciate a quick hello, regardless. ☑



Last issue likes

Most liked articles in the **February 2022 issue** of *MRH* are:

1st Better detail for model turnouts
2nd Easy DCC loco speed matching
3rd Best of the MRH website this month

Most liked articles in the **February 2022 issue** of *Running Extra* ...

1st Limited Modeler: Make most of a small layout space
2nd Getting Real: Fun modeling the prototype
3rd Rivarossi passenger car conversion

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

Best of the MRH WEBSITE THIS MONTH

Website MRH mrhmag.com

Model Railroad Hobbyist | March 2022

Compiled by JOE FUGATE

Flexible adhesion promoter for handrails

MRH forum new member **crazyivan** (Matthew K.) asked for advice on how to paint delrin loco handrails and avoid paint chipping.

Forum members provided a couple of useful methods and then Matthew tested them and reported back. If you've ever wondered how to avoid handrail paint chipping, be sure to check out this thread!

VIEW READER COMMENTS

View the full thread on the MRH website

▶ *MRH'S* MONTHLY GREAT MODELER POSTS

1. New MRH forum member **anteaum2666** has some fun posting stories as if he was able to visit places on his layout if they were real places.

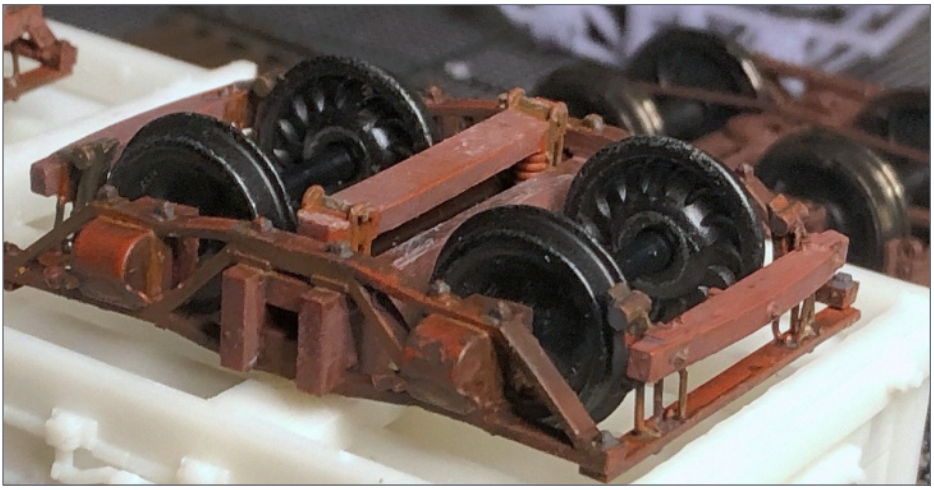
Fast times in Nicholas county

MRH forum member **anteaum2666** (*MRH author,* Michael Anteum) recently wanted to have some fun by posting photo essays of him visiting locations on his layout as if they were real.

"Not too long ago I took a trip to Nicholas County, WV. The scenery was so pretty and the weather so nice I decided to stop at the local diner for a cup of coffee. Turns out, the people are super friendly too. I struck up a conversation with some of the local railroaders, and they shared some mighty fine stories of their adventures running trains in the local hills and hollers."

So kick back, grab your favorite beverage, and read through the experiences Michel had when he visited locations on his layout and spoke with the people who live there.

View the full thread on the MRH website



2. *MRH* forum member **david_d** recently kicked off a forum thread for modelers with 3D printers to share their learnings and insights.

3D printing advice

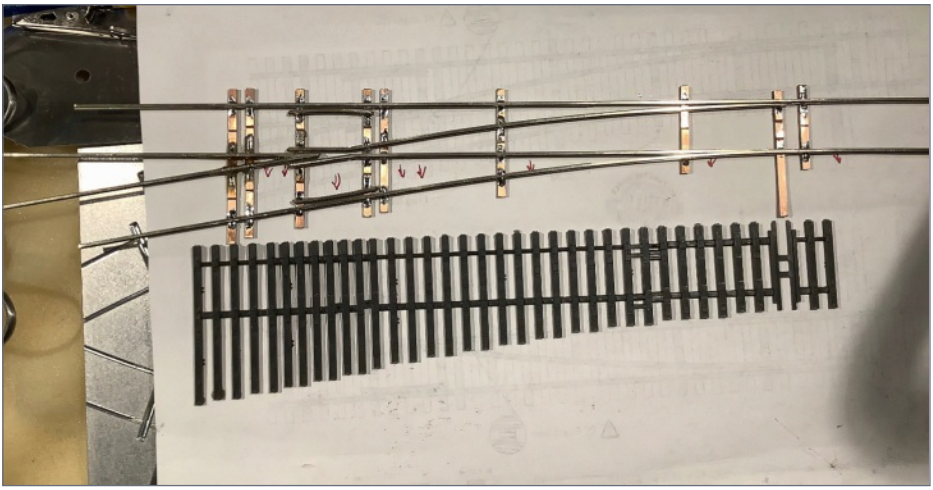
MRH forum new member **david_d** kicked off a new topic to for those using 3D printing to share their experiences.

"I've been doing a fair amount of 3D resin printing recently with very good results and thought I'd start a new topic to discuss. I've been printing trucks and car bodies in 0n3/30 for a project I've been working on – but interested in anybody else who has been using this tech."

For those of us interested in this technology, but who still have questions, it's very helpful to read the banter from modelers *actually using* 3D printing.

Not only are those who already do 3D printing picking up useful tips, but the rest of us can get an insider's view of what's involved if we were to get a 3D printer of our own.

View the full thread on the *MRH* website



3. *MRH* forum member **MikeHughes** wanted to explore if it's possible to put Central Valley turnout ties underneath a Fast Tracks jig-built turnout. Read on to learn the results.

Use CVT ties under Fast Tracks turnouts

MRH forum member **MikeHughes** recently began wondering if he could get Central Valley turnout ties to fit under a Fast Track jig-built turnout. This gives you nice tie plate and spikehead detail for your Fast Tracks turnout, as opposed to "QuickSticks" ties from Fast Tracks, which have no tie plate or spikehead detail.

"After some careful work with a magnifying glass, I was convinced this [fitting the CVT ties under a Fast Tracks turnout] could be done. I marked the edge of each tie to be removed with a red sharpie and then carefully cut the ones away that needed removal. Below are the sections that are left to be glued to the rails."

Read the full thread to see the results. Spoiler: it sort of works, but it's rather fiddily with a lot of test, cut, and fit.

View the full thread on the *MRH* website

Latest Weekly Photo fun modeling photos

The Weekly Photo fun thread always has fascinating model photos. This most recent thread is no exception ...

View the full post on the *MRH* website

4. *MRH* forum member **Mountaingoatgreg (***MRH author and TMTV video modeler,* Greg Baker) posted these nice photos of his latest modeling project: a 4″ x 4″ diorama of the RIP track crane at Wishram, Washington.

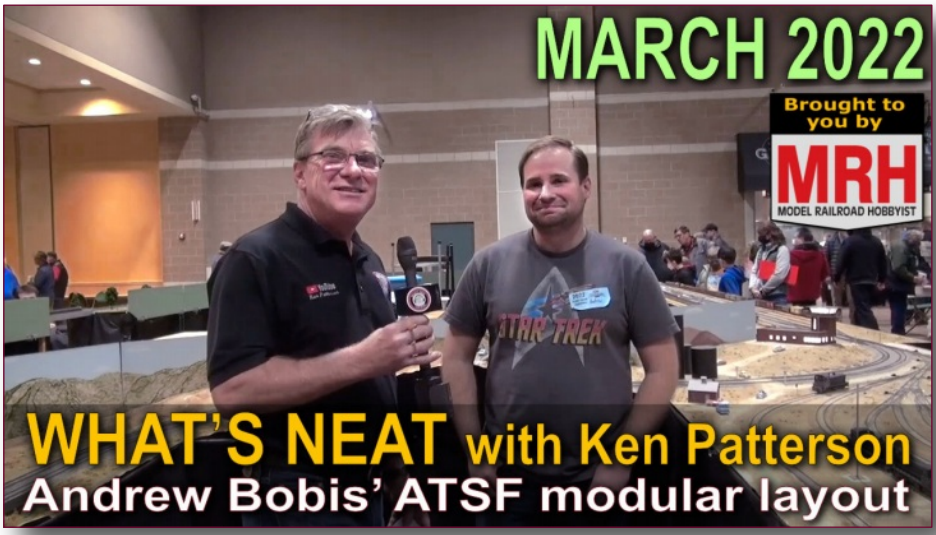
Greg said, "I lost count of the parts when I hit 100! I will be adding this to a larger diorama in the future." Greg is working on a new TOMA project layout series for TrainMasters TV – maybe we'll get to see this neat RIP track area on that layout?

WHAT'S NEAT column

Model Railroad Hobbyist | March 2022

Ken Patterson covers Andrew Bobis' ATSF modular layout, Modeling from Above - Rail Ferry Cherokee, and the Bachmann 2022 catalog cover photo shoot ...

This month Ken interviews Andrew Bobis, who brought a Santa Fe modular layout to a train show in the St. Louis area, the Modeling from Above segment features



click to play video

PHOTOS AND VIDEO OF SUPERB MODELS

drone footage from Jeff Nelson of the rail ferry Cherokee, and Ken Patterson describes how he built and photographed a diorama for the 2022 Bachmann catalog cover.

VIEW READER COMMENTS

Andrew Bobis' Santa Fe All the Way modular layout

1. Ken interviews Andrew Bobis, owner of the Santa Fe All the Way modular layout.

2. The layout, depicting the Santa Fe in 1959, features the Topeka, KS station. The layout is inspired by the O scale layout that was at the Chicago Museum of Science and Industry.

3. The layout height is 38 inches, making it easily viewable by children. The scenery depicts the Santa Fe between Chicago and California.

4. Andrew has hand-painted hardboard backdrops for the layout, except for the yard, which is open to both sides for accessibility.

5. Santa Fe's Barstow shops are also depicted on the layout, with basic interiors and LED lighting.

6. The full layout is 20½ feet by 44 feet.

Modeling from above – the rail ferry Cherokee in Mobile, Alabama

7. Jeff Nelson shot drone footage of the arrival of the M/V Cherokee in Mobile, AL, as well as showing it loaded with cars on 10 tracks on each of two decks.

8. The Cherokee, seen here departing for Coatzacoalcos, Mexico, can carry up to 135 railcars, and will be joined in March 2022 by identical sister ship Mayan. A round trip between the two ports is scheduled to take between 10 and 12 days.

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

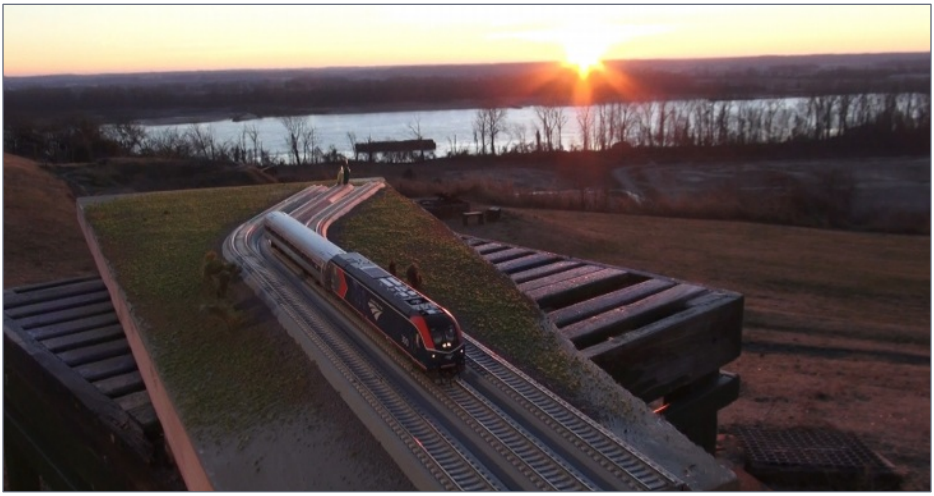
Creating the photography for the Bachmann 2022 catalog

9. Bachmann wanted the cover to feature their new concrete-tie EZ-Track, and provided Ken with a sketch of what they were looking for.

VIEW READER COMMENTS

10. Ken painted the foam base for the diorama with an earth-tone latex paint, glued down the EZ-Track, laid down some dirt and ground foam, and then feathered ballast between the track and the ground foam.

11. Ken sprayed Woodland Scenics Scenic Cement liberally over the diorama to lock down the ballast, ground foam and dirt.



12. Ken took advantage of the good weather to take a dawn photo of the diorama and the Charger locomotive. He took a 45-second exposure at f/22, using a side light for 1½ seconds to brighten up the engineer's side of the locomotive.

13. The result was this photo, which Bachmann will be able to use for publicity purposes. This photo was taken about 18 minutes prior to the sunrise for the best color effects.

14. Since Ken was already up, he also took this photo of the locomotive as the sun rose over the horizon. This shot, using the side light and f/22, was a less than a 1½-second exposure.

15. Two days later, after a snowstorm, Ken was able to take the diorama, now with bushes and trees added, outside for the cover shot.

16. For the bushes, Ken uses the armatures from the Bachmann wire foliage branches.

17. Ken wraps the armatures in polyfiber and then glues ground foam on them.

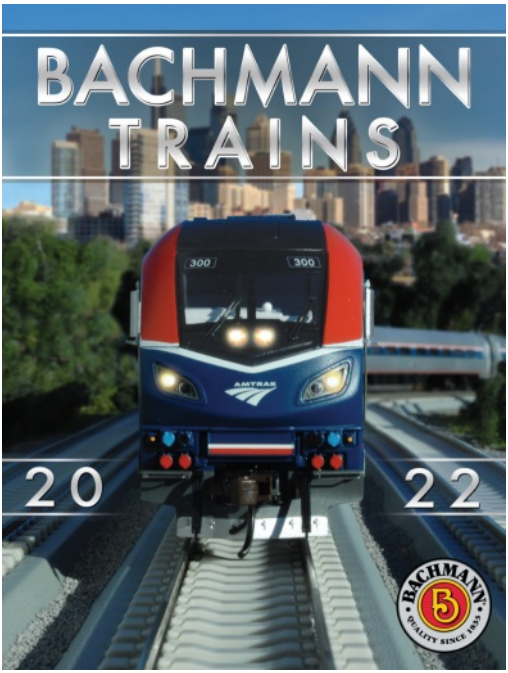
18. Using this method, he created whole sheets of trees at the same time.

19. Using various shades of ground foam, they make great looking bushes that will fit in many locations.

20. Ken also uses wire-armature trees, which can be used without flocking to make a dead tree or winter scene.

21. The wire-armature trees can be made in a variety of sizes and types.

VIEW READER COMMENTS



22. Bachmann took Ken's photograph and photo-edited it to add a city backdrop for the final catalog cover.

For the full video showing the entire Santa Fe All the Way modular layout, the Cherokee and its loading facility in Mobile, Alabama, and everything Ken did to create and photograph the diorama for the 2022 Bachmann catalog cover shot, click the video link at the beginning of this article. ☑

What we learned building a new layout with LCC

Electrical Impulses

Model Railroad Hobbyist | March 2022

A Southern Pacific freight crosses the Colorado River in Yuma, entering the state of Arizona. This is one of the few areas where we have completed scenery.

VIEW READER COMMENTS

Jesse Poole and Dan Kubarych discuss their experiences with Layout Command Control ...

In our opinion, LCC is the future of model railroading! LCC works well, is reliable, adaptable, and opens the possibility for all types of new innovations.

The Arizona Railroad Historical Society (ARHS) has the good fortune of building a new 1,000-square-foot HO layout in the Arizona Capitol Museum. Our layout is to represent all major cities in Arizona and depict the Five Cs of the state's economy: cotton, copper, cattle, citrus, and climate. That is a lot to pack in a small space [1].

Building a layout with LCC | 2

When we started the layout just over two years ago, we decided to use the new Layout Command Control (LCC) system pioneered by the NMRA. We were the first to attempt to design and build a large public layout from the ground up with LCC, so we were concerned about the availability of technical support.

None of our members had significant electronic, computer, or IT skills. Because we were among the first to try LCC on a major layout, there was not much of an experience base we could draw on. RR-CirKits LCC was the only major supplier at the time, so we were concerned about their motivation to provide the support we'd need.

Two years into the project, we can report that the system designers have provided support when requested, the manufacturer provides an outstanding product, and the

1. After 18 months of construction, the ARHS layout was running in December 2019. The trackwork on the benchtop level, representing the Southern Pacific from Phoenix to Tucson and Yuma, is mostly complete. The upper level representing the ATSF from Phoenix to Flagstaff is still in work. Yes, there is one place on the layout that is four levels high!

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2. The ARHS layout is still under construction, but the LCC system is almost all installed and working well just below the layout surface.

experience base is expanding with many others now using LCC. Our lack of experience has not proven to be an issue.

Today, the ARHS exhibit layout has a system comprised of 70 Signal Cards, 63 BOD4-CP cards (Block Occupancy Detection-Control Point), and an assortment of Tower, SMD8 (stall-motor Driver), and RB4 (Relay Board) cards, all housed in purpose-built troughs under the layout [2].

A central computer running JMRI connects to the LCC via a CAT-5 cable and to the NCE command station via a serial line. All operator interfaces are wireless; tablets command the LCC, wireless throttles operate the trains and cell phone applications can interface with both LCC and DCC.

Although we struggled over six months discussing whether to adopt LCC, it turned out to be our single best decision. We learned a lot installing this system, and felt that it was important to share those experiences with the rest of the model railroading community. If the ARHS can successfully install LCC, you can too!

J. Poole

AN LCC DEMONSTRATOR MODULE IS A VALUABLE TOOL

The best way to learn about LCC is to try it out. RR-CirKits offers a Starter Kit that includes a Buffer-USB to connect the LCC system directly to your computer, two LCC Terminators to give you terminal readouts, an LCC Power-Point to power and monitor the system, and a cable for less than the cost of a new locomotive.

This Starter Kit, combined with a Signal LCC card and a BOD4-CP card (Block Occupancy Detection for four Control Points), is enough to set up a demonstrator module with four detectable blocks and controls for two Tortoises and four signals. This system went together easily and convinced us to incorporate LCC in ARHS's exhibit layout [3].

Not only was the LCC demonstrator module a great tool to get us started with LCC, but it remains useful for testing new features before incorporating them in the layout.

3. ARHS members Dan Kubarych and Jack Wade with the LCC Demonstrator Module.

UNDERSTANDING THE BUILDING BLOCKS OF LCC

Planning is the most important step in setting up LCC. We discovered that designing an LCC system is a matter of adding "building blocks" – electronic cards – for each desired feature. You need to understand what each electronic card does, how to hook it up, where to place the card on the layout, and how it works with the rest of the system.

The first and most important component is the LCC Buffer-USB. Your system needs one to provide an interface with your computer and JMRI. Once set up, you can run LCC without a computer connected, but you need a computer for that initial setup [4].

Signal and Tower boards provide the logic or "brains" for the LCC system, both capable of internally processing up to 32 conditional statements. These cards receive input and provide

4. Every LCC system needs a LCC Buffer-USB module to interface with a computer. *RR-CirKits photo*

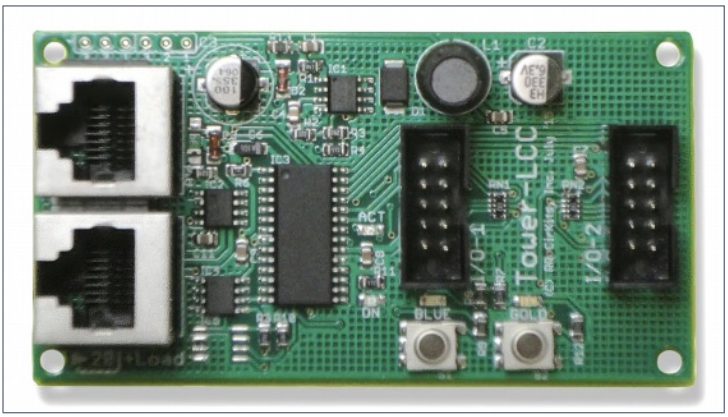
output to function boards in the system. They also communicate with each other and the central computer on the LCC communications bus; all communications pass through these two types of cards.

Tower-LCC cards have 16 lines of input/output and logic. Each can support two "daughter" input/output boards that provide actual layout functions. If your layout does not have any trackside signals, then you only need the Tower-LCC cards [5].

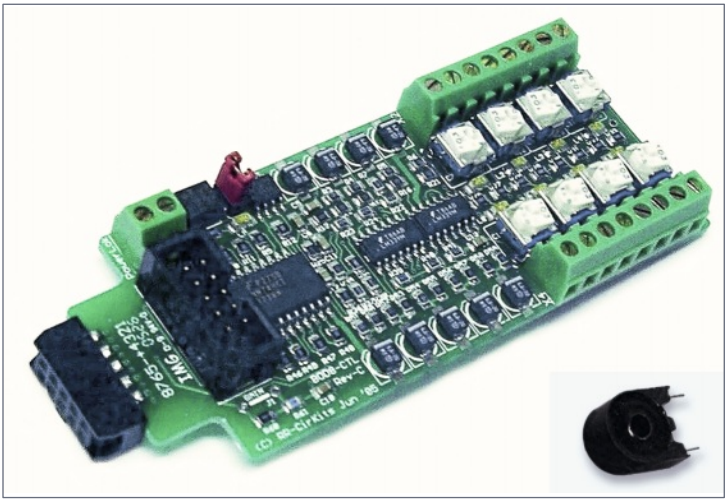
Signal-LCC cards have eight lines of input/output and will support only one daughter board. The Signal-LCC card provides logic for controlling up to four signal masts with four different LED aspects each.

The process of selecting Tower vs. Signal cards will become more obvious when we discuss the system installation. All Tower and Signal cards daisychain together with CAT-5 cables that should be a minimum of 12 inches long.

Input/output "daughter" boards connect to the Tower-LCC or Signal-LCC cards via 10-wire ribbon to accomplish the layout functions. The letters and numbers associated with each board spell out their function.



5. Tower-LCC cards provide logic to your LCC system. *RR-CirKits photo*



7. BOD8 boards provide block occupancy detection for up to eight blocks using CTs (Inset). RR-CirKits photo

BOD8 boards provide block occupancy detection for up to eight blocks using current transformers (CT) that you can connect. The CTs are coils that go over one bus wire somewhere between a circuit breaker and the first track feeder. The coil detects to current flowing through a passing train, and the BOD sends the signal that the block is occupied [7].

J. Poole

CTs CAN BE LOCATED ANYWHERE

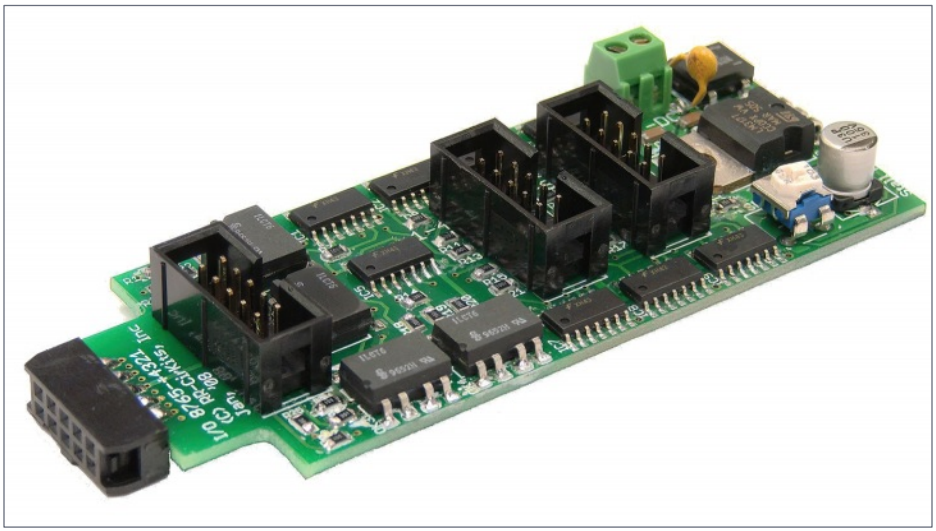
We set up a test using four blocks with lengths from 10 to 35 feet. Each block had two CTs: one at the circuit breaker and the other close to the first track feeder in the bus. We wired the two CTs for each circuit to a BOD8 card in positions directly opposite each other so we could watch when the occupancy lights came on.

Although the distance from the power source meant we had to adjust the BOD card's sensitivity potentiometer slightly, we found both CTs detected a train simultaneously once calibrated. From this, we concluded that we could locate CTs anywhere on the track bus. This means they can be grouped near the BOD card.

BOD cards have a PowerLok feature that holds the last block occupancy status if track power is cut, rather than revert to a false "clear" signal because current is no longer flowing to an occupying train. When the track power is restored, the BOD card resumes reading the occupancy state.

Because of the Power-Lok feature, all blocks on a single BOD card must be from the same circuit breaker for proper reading. If blocks from two or more circuit breakers share a BOD and power is cut to one, the PowerLok feature will activate for both. The BOD will not respond to changes in occupancy for the blocks still receiving power.

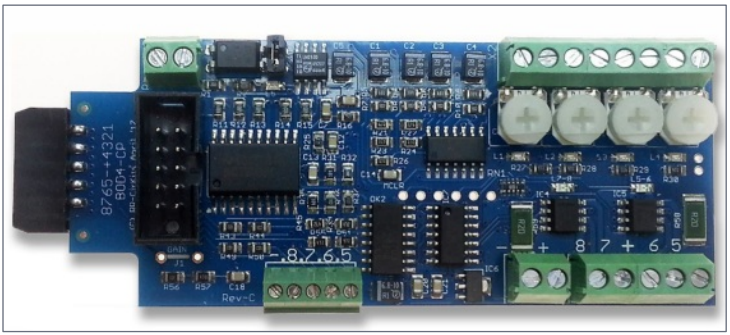
SMD8 boards are function modules with stall-motor drivers for up to eight turnouts each [8]. SCSD8 boards are similar in function, though they provide single-coil solenoid drivers for up to eight solenoids to control four turnouts.



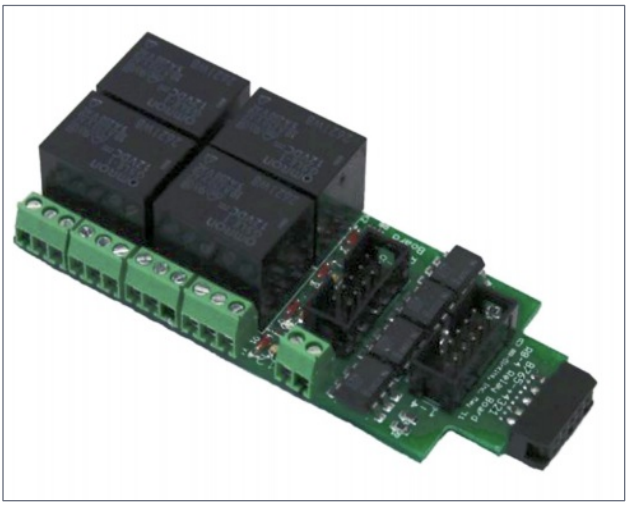
8. SMD8 boards can control eight tortoise-type stall-motor turnouts. *RR-CirKits photo*

BOD4-CP boards provide occupancy detection for up to four blocks with a control point function that operates everything necessary for a single-siding control point. It has dual turnout drivers for two turnouts. When connected to the Tower-LCC or Signal-LCC boards, it can receive discrete input and output from four pins [9].

The RB4 is a relay board with four independently controlled SPDT 10-amp relays. Each relay has its own LED indicator. The board is useful for switching high-current items including track busses or major lighting circuits [10].



9. BOD4-CP board. *RR-CirKits photo*



10. RB4 boards have four SPDT relays. *RR-CirKits photo*

The RR-CirKits website (www.rr-cirkits.com) describes these and many other components and provides manuals for each. In addition to the "cards." described above, there are a few others worth noting.

- Power-Points: These inject 15 VDC for operation of the cards. (Not to be confused with the Microsoft program PowerPoint which will be referenced later in this article).
- TYCO Mounting tracks: These are used to mount the cards. We used part number 3TK2-4W, which is a four-position, wide-spaced mounting track.

LCC COMMUNICATIONS IN BRIEF

LCC is a messaging protocol that sends messages (EventIDs) to LCC cards (nodes) on a network about things (events) occurring on the network. The nodes can send or receive EventIDs, and in some cases both.

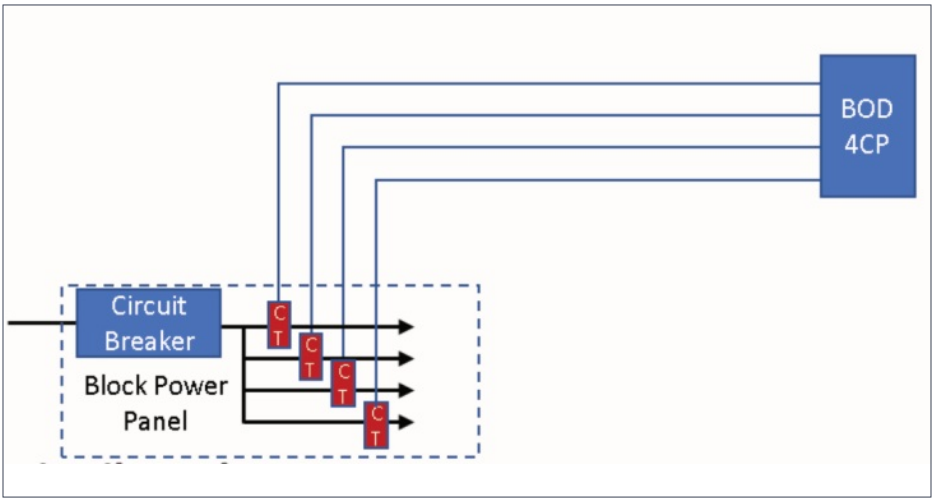
For example, a block detector sends an EventID in response to a train's position. Another node receives the same EventID as an instruction to throw a turnout. This, in turn, may trigger the node controlling the turnout to send another EventID into the network that other nodes respond to.

The key difference between LCC and DCC is in how each sends information to the layout. While DCC sends a direct command to a specific address, LCC transmits all EventIDs to all nodes on the layout. The nodes respond to messages based on their configuration.

Think of DCC as a cell phone call to one person in a crowded room. While others might hear the phone ring, only the person with the phone knows what the call is about. In a DCC setting, you send a set of commands to a specific locomotive or consist address to turn the turn on the headlight or proceed down the track.

If DCC is a cell phone call, LCC is a public address system that lets everyone in the room know that a blue chevy sedan in the parking lot has its headlights on. Those with blue Chevy sedans will respond. In a layout LCC setting, a node detecting a train occupying a block sends an EventID into the system that might trigger multiple responses from multiple nodes:

- JMRI Panel Pro registers the movement and changes the color of the rail on the dispatcher panel to indicate occupancy.
- The signals in the occupied block change to red.
- Surrounding block signals also change to indicate the next block is occupied.
- Perhaps a turnout or other device will also activate if so directed, and the turnout will report its actual position.
- Nodes not affected by the information in the EventID will not respond.

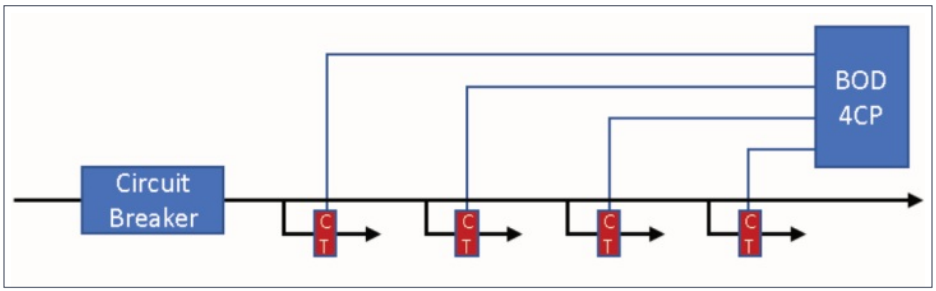


11. In the Associative approach, all block wires emanate from a single panel and CTs are centrally located.

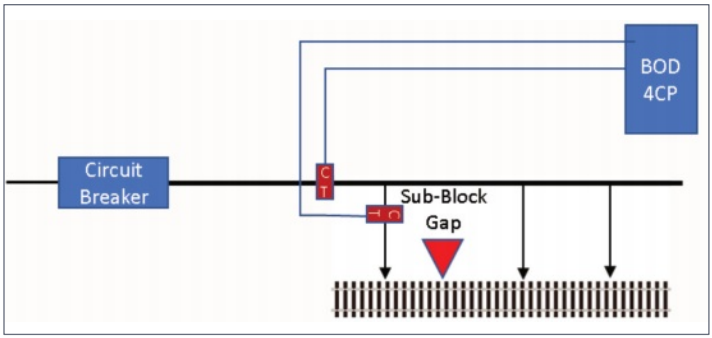
The availability of all information to all devices on a layout makes LCC a powerful system. Once you have the concept of sending/receiving data down, you will be well on the way to being an LCC expert.

TRACK BUS APPROACHES

Planning the track power block wiring with LCC presents the same choices and dilemmas as with DC or DCC wiring, with the additional consideration of the CT locations. The basic approaches for track busses are Associative, Distributed and Sub-Block [11, 12, 13].



12. In the Distributed approach, each block "splits" off from a central bus wire. CTs are located around the layout.



13. The Sub-Block approach is used within a block to trigger another function such as a grade crossing, turnout, or other animation.

The ARHS used the Associative approach for most of the track power wiring because it keeps all the wire junctions and the CTs for detection on the power panel in one easily identifiable location.

We used WAGO lever-action reusable connectors for the bus mains, which allows us to easily disconnect individual bus wires from a circuit. If there was a short during construction, we could easily fault isolate to a block rather than an entire circuit breaker.

We used the Distributed approach in a few cases, such as where we needed an additional block for trackside signaling.

The Sub-Block wiring approach allows a subsection of a block to be sensed separately from the rest of the block. This was important for automatically throwing a turnout. If the train is approaching from a long block, it is desirable to throw the turnout only as the train approaches it.

NAMING BLOCKS AND TURNOUTS

Planning the names and numbers for the turnouts and blocks is important because LCC requires each to have a unique identifier. The names are easy, as they identify the train location. The numbers are where a process is helpful.

For the ARHS, we assigned powered turnouts on the mainlines two-digit numbers from 01 to 99, and assigned track power blocks numbers in series from 100 to 800.

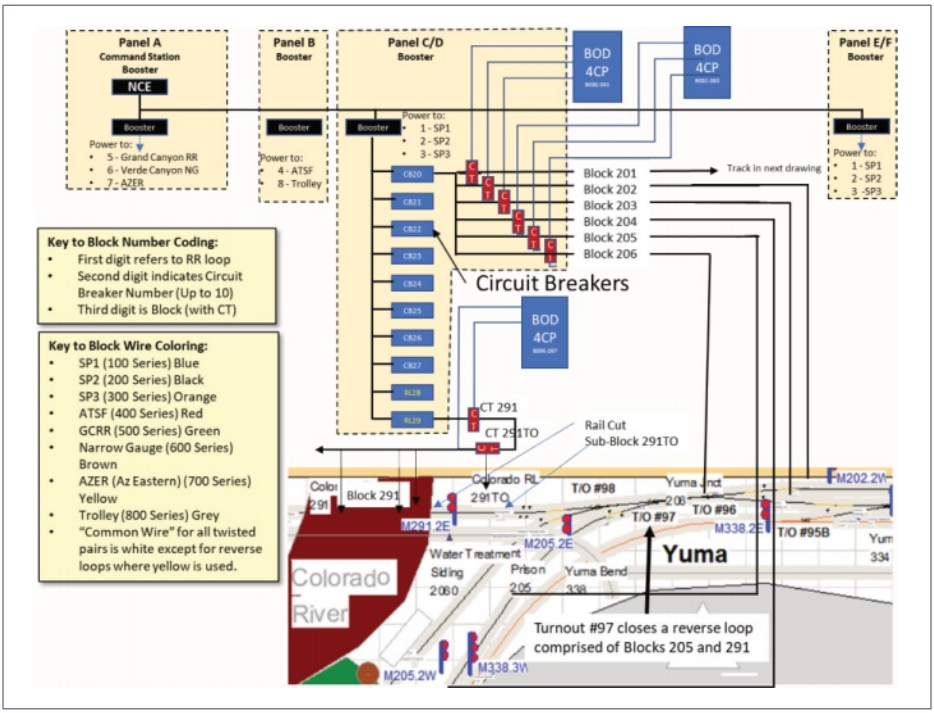
The first place of the three-digit track block numbers refers to each of the eight independent loops on the exhibit, i.e., Southern Pacific Loop 1 is SP1 and uses the 100 series, SP2 uses the 200 series and so on. The second digit refers the circuit breaker (or auto- reverse card) in that loop and the third digit to the actual block number used on the exhibit.

Figure [14] shows a high-level (single line drawing) track power distribution schematic with details for Circuit Breaker 20 and Reverse Loop 29. Circuit Breaker 20 has six blocks numbered

201 through 206 each with its own CT. The CTs are mounted on the power distribution panel and report to BOD4-CPs number B090.091and B092.093.

Block 291 in [14] is a reverse loop, but it has two CTs associated with it. The first is CT291, which detects occupancy in the entirety of Block 291.

The second is CT291TO which is a Sub-Block and used to automatically throw Turnout 97 (thus the TO postscript). We cut a rail about three feet (or one flex track length) from Turnout 97 and added CT291TO to the drop only (not the main bus wire) in this one section of track.



14. Track Plan of SP2 and SP3 on the 25-inch level in Yuma, AZ showing the Track Power assignment from Circuit Breaker 20 to Blocks 201 thru 206, Reverse Loop 291 with the associated CTs, and BOD4-CP cards detecting block occupancy.

A train anywhere in Block 291 will show occupancy on the JMRI panel. When a train is in the last three feet of the block, it will trigger Block291TO, which will position turnout 97 to the "closed" position.

If the train is entering the reverse loop through Block 291TO, then the command from 291TO to "Close" simply commands the turnout to the position it is already in. If the train is exiting the reverse loop through Block 291TO, then Block 291 is already showing occupancy, and when the engine reaches Block 291TO, the turnout reacts to the signal from Block 291TO, aligning the turnout to the proper position. Block 291, 291TO and Turnout 97 will be used as an example of configuring an LCC card later in this article.

THE RULE OF TWOS DRIVES LCC DESIGN

We found the "Rule of Twos" worked best when designing for LCC. The cards all have even numbers of inputs/outputs, and we found it easiest to design with an even number of features.

For example, using the SMD8 card for a staging or switching yard with up to eight tracks makes logical sense. A nine-track staging yard may be a delight to have, but it would complicate the LCC card layout. If you have choices in your design, keep things in multiples of two.

A corollary to the Rule of Twos is that you should group four Signal-LCC or Tower-LCC cards around a single Power-Point. Each Power-Point can theoretically drive up to eight LCC/BOD cards, but the precise number of cards varies based on the functions they drive. Distance from the Power-Point is also a factor, as the 24 or 28 AWG wires in the CAT-5 cable produce significant internal resistance that drops available voltage.

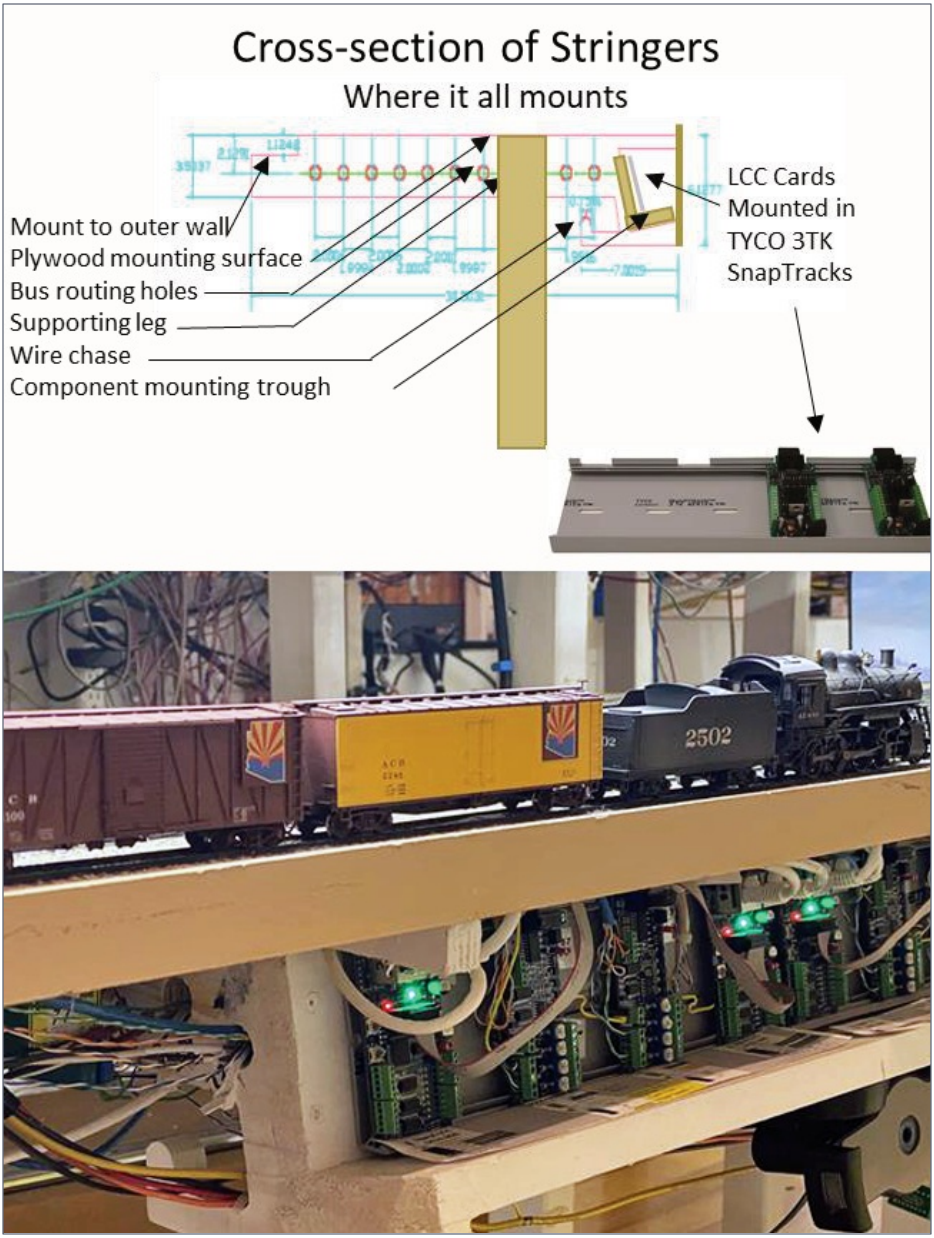
The "cluster of four," with one device on each side of the Power-Point is a simple solution to guarantee plenty of voltage for all boards and functions. Power-Points are relatively inexpensive, so this assurance is well worth the cost.

PLAN "OTHER THAN LCC" FEATURES IN ADVANCE

While planning for LCC, make sure you consider other features around the layout. The use of Wi-Fi-equipped touchscreen tablets was a design decision that made wiring the ARHS exhibit much simpler and took maximum advantage of LCC capabilities.

The tablets are mounted around the exhibit and interface with JMRI Panel Pro to display panels showing the entire exhibit or any local section desired [15]. The panels use track color to indicate block occupancy and provide full turnout control with a screen tap.

15. This operator throws a turnout ahead of a train approaching Tempe on the layout. Turnouts can be thrown by touchscreens located trackside or on the dispatcher computer screen.



16. Construction details of the LCC circuit board "troughs" on the ARHS layout, making mounting of the boards easy.

Because of the tablets, the layout has no use for toggle or pushbutton switches on the fascia or the complicated wiring that goes with them. The tablets only need power cables to keep them charged. The tablets made wiring easy and provide a clean looking fascia on the exhibit.

We knew that lying on our backs was no way to hook up the large number of electronic components the exhibit would require. We machined the horizontal layout support beams from plywood as part of the original design. These beams had provisions for a trough and wire chase behind the trough for mounting the LCC or any other electronic components [16].

This allowed for easy mounting of the LCC cards and simplified the wiring. All control wires come in over the top of the card, and the wires run in a chase behind the card and in front of the layout leg. An unplanned benefit of this approach is that the design moved the support legs about a foot back from the front edge, giving the illusion that the exhibit is suspended in midair!

LOCATE THE SIGNAL-LCC AND THEN BOD CARDS

The next step is planning the physical location of the required LCC cards on the layout. This really involves two steps; first, where should the card be located to be near the function it controls, and second, is there a space in that area of the layout to mount it? Referring to the "Rule of Twos" and the "Clustering" of four LCC cards is an important consideration.

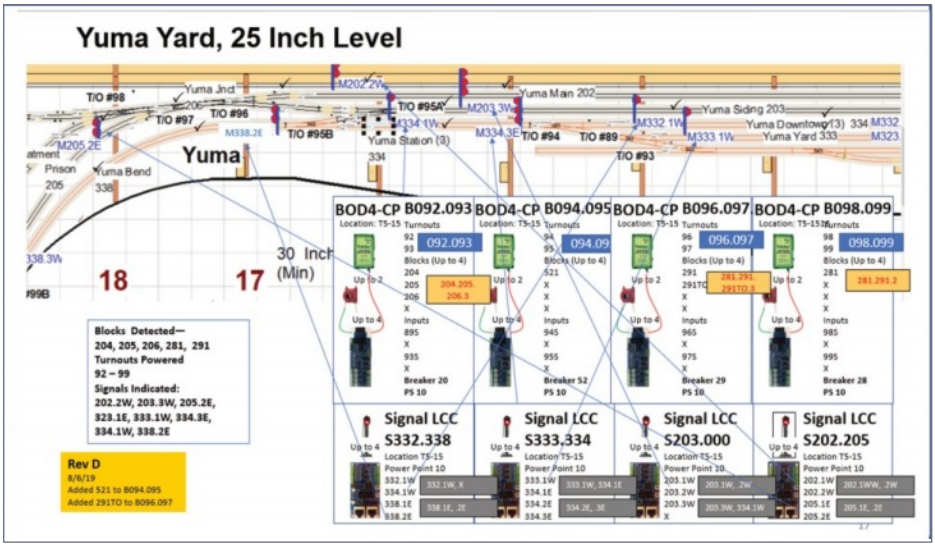
Most of the ARHS layout has trackside signals, and we found that the Signal-LCC card was the most critical. We located these cards as near as possible to the trackside signals they would control. We added a BOD4-CP card to most Signal LCC cards based on the number of nearby turnouts, and assigned blocks from a single circuit breaker to each BOD4-CP card.

In areas that ran dark (i.e., no signals), we used almost the opposite approach. First, we assigned either a BOD4-CP or

combinations of SMD8 and BOD8 cards based on the number of turnouts, and added sufficient Tower-LCC cards to support these function boards.

An example of the ARHS approach is shown in [17], which is a segment on the lower level of the layout at Yuma, Arizona. A graphical representation of the Masts (Signals), Turnouts, and Blocks was extracted from 3rd PlanIt and templates of individual LCC cards were superimposed in Microsoft PowerPoint. Each signal mast could have up to three "targets" where a target is defined as a possible track route.

In [17] the masts are shown as vertical blue lines and the targets are round red circles attached to the mast. Three factors identify the mast: the block number it controls, the number of aspects and whether it is at the East (E) or West (W) end of the block. Thus,



17. This is an actual page from the ARHS design file showing the allocation of Turnouts, Blocks and Signal Masts to BOD4-CP and Signal cards around Yuma, AZ. Each BOD4-CP card is shown with its associated Signal LCC card.

mast number M334.3E is located on the East end of Block 334 and has three aspects. This one mast requires three of the four outputs of Signal Card S333.334. The number assigned to the Signal Card is derived from number of the Masts the yard controls.

In this case, Mast M333.1W occupies the first position and M334.3E occupies the other three positions so the card number uses an S to identify it as a Signal Card and then the two Mast numbers resulting in S333.334.

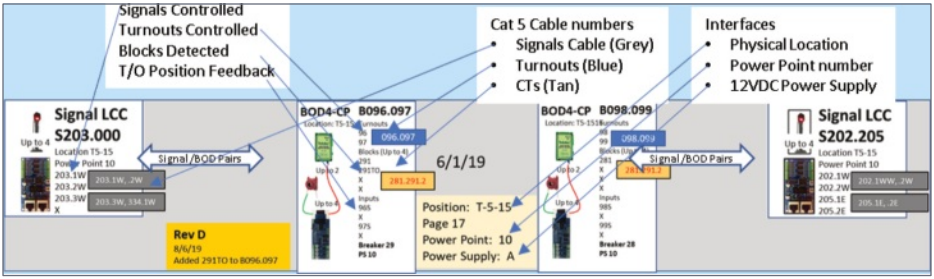
In the (rare) case that all four positions on the Signal LCC card are not populated, the digits 000 are used for the unoccupied position. So, the next card to the right in [12] has mast 203.3W in three positions, but there wasn't another single mast in the area, so this card is S203.000.

A single BOD4-CP is shown above each Signal Card and the two are connected by a 10-wire ribbon cable (not shown). Each BOD4-CP is assigned a maximum of two turnouts and four CT detection circuits.

The identification convention used for the BOD card is simply a B indicating that it is a BOD card and the numbers of the two turnouts that it controls. B096.097 is a BOD card that controls turnouts 96 and 97. The CTs providing input to this board are entered on the graphic (on this case blocks 291 and 291TO) as well as the position feedback from each Tortoise (numbers 96 and 97).

There are three other items noted as information on the graphical representation of the BOD4-CP card: location, breaker, and power supply. The location is simply a description of where to find the card on the exhibit (which in this case is T5-15, or Trough 5 at the 15th frame).

One of the advantages of LCC is locating the cards near the point of use, so it is good to have "map coordinates" for finding them when troubleshooting is required. The breaker is the breaker number that will activate the PowerLok feature (in this case



18. As an installation aid, we rearranged the drawings of the cards in [17], and placed them on strips representing their arrangement on the layout in the TYCO 3TK mounting strips to assure fit. We installed the components and wires as shown on the strip.

number 29 which are the first two digits of the blocks which can be assigned to the card), and finally, the power supply is the number identifier (in this case number 10) of the LCC Power-Point supplying up to 15V to the card.

The final planning step is assuring there is a physical space to mount each LCC card. For this step we took each of the local LCC Layouts as shown in [17] and rearranged the Signal and BOD4-CP cards into the positions they would occupy in the mounting troughs.

The Signal LCC and BOD4-CP were laid out in pairs to fit in TYCO 3TK mounting strips (which are separately supplied by RR-CirKits and hold up to four cards of any type) [18]. Notice that the associated pairs of cards (such as S203.000 and B096.097) were kept together. This strip was then printed, and all the strips were arranged in the troughs to determine where each card would be located.

When the strip locations were satisfactorily spaced (and Power-Point adequately arranged), the actual card installation could begin. After we installed the cards, we used the "strip" as a wiring guide. Every wire and cable is shown on this strip, simplifying the

wiring installation. We found it was easier to configure the Signal- and Tower-LCC cards on a separate computer prior to installation.

CONCLUSION

The obvious question at the end of all of this is "Would you choose LCC if you had it to do all over again?" The answer is a resounding YES! For a large layout and/or a club layout, LCC is clearly the way of the future.

A second question might be "Is it right for my layout? Only you can answer that question. Using an analogy to DCC, installing a decoder in a poorly functioning engine will not make it a stellar performer. However, if you have a good-running engine that simply needs modernization, then upgrading is certainly the way to go. The larger and more complex the layout, the more you will appreciate LCC and the capabilities it provides.

Hopefully, this article has lowered any angst you may feel about jumping into something new and provided the confidence to try LCC. Fear not, others have now been before you, and more and more modelers are succeeding!

If you are in the Phoenix area, come and visit our layout. You will have a visible demonstration of LCC in action with some incredibly happy LCC users! ☑

Jesse Poole

Jesse Poole is native to Washington DC, and grew up in the Maryland suburbs within earshot of the B&O tracks.

He built his first layout while in fourth grade and ran it for many years. In college he earned a degree in aerospace engineering, and is currently retired in Arizona.

He was in a train club that lost its modeling space, and the Arizona Capitol Museum offered an opportunity. The design phase and, the management of the project is well underway, until COVID intervened.

He has raised three daughters, and has had the chance to introduce his grandchildren to the wonders of the hobby. ■

Dan Kubarych

Dan has been addicted to modeling since the age of six, with American Flyer trains. He earned a degree in anthropology, and worked toward a career building museum exhibits.

Now he is working in a museum with the Arizona Railroad Historical Society building a train layout. He has been heavily involved in getting LCC to control lighting, sound and automation effects. He is scratchbuilding a model of a Blaisdell Slow Sand Filtering machine used by the Yuma Water utility to filter Colorado River water. ■

MRH MARKETPLACE

Improving the new CB&Q Havelock Shops gon from Scale Trains

Bob Rivard talks about how he alters a Scale Trains gondola to be more like the prototype ...

INDEX TABLE OF CONTENTS


66A
66B

Model Railroad Hobbyist | March 2022

VIEW READER COMMENTS

I NOTICED THE ADVERTISEMENT FOR THE NEW SCALE TRAINS HAVELOCK Shops gondolas last year. Prototype accuracy is very important to me, and after studying the information in the Scale Trains ad, I decided to order three cars.

Before I placed my order, I searched some prototype freight car websites for photos of these cars with the same numbers offered by Scale Trains. I found many photos of these unique cars and, yes, even the same numbers offered by Scale Trains.

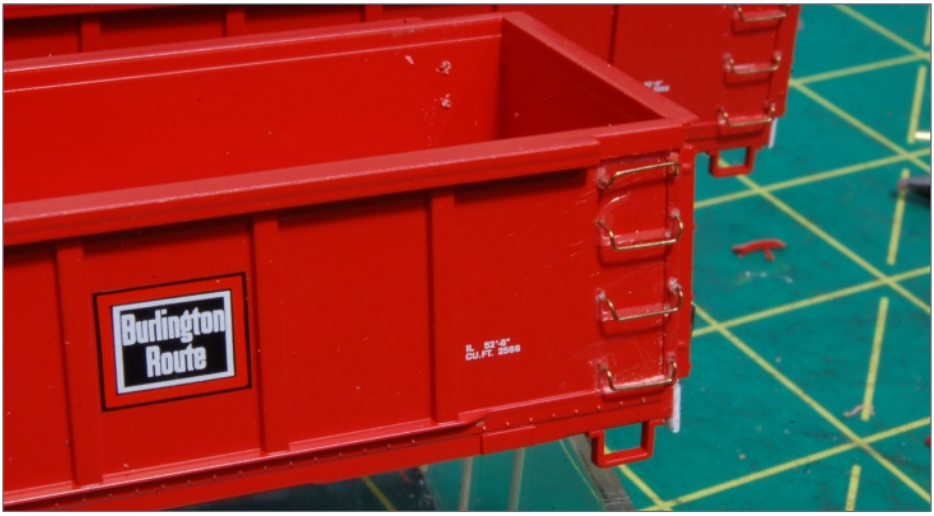
Knowing the locations of the ACI and lube plate data is important to me. Photos taken around my 1977 modeling era also allowed me to capture the weathering patterns. When my gondolas arrived from Scale Trains, I was eager to start weathering them.

1. I removed the 16 cast-on grabs with a no. 17 blade.

While I could live with the molded-on details on the ends of the car, I was not satisfied with the molded-on grab irons. I replaced them with pre-formed 18-inch drop-style wire grab irons from Tichy Trains (number 3015). I used a new sharp no. 17 X-Acto blade to carefully remove the 16 cast-on grabs on each of the three models [1].

I used the "shadows" from the cast-on grabs to position the new Tichy wire grab irons. I used a safety pin to center-punch mounting holes and drilled them with a no. 76 bit. My Mini-Craft motorized drill made the task easy, which was important because I had 32 holes to drill on each of three cars [2].

2. I put the grabs in place with needle-nose pliers. The "shadows" from the cast-on grab irons made it easy to place the mounting holes.



3. The newly installed wire grab irons look good.

4. Although I found all three cars on the Rail Pictures Archive website, I decided that the photo for 83417 – not among my models – was more inspiring because it was still wearing the ACI label. I scraped off the final digit on my 83416 with a no. 11 blade and replaced it with a "7" from a MicroScale CB&Q boxcar set.

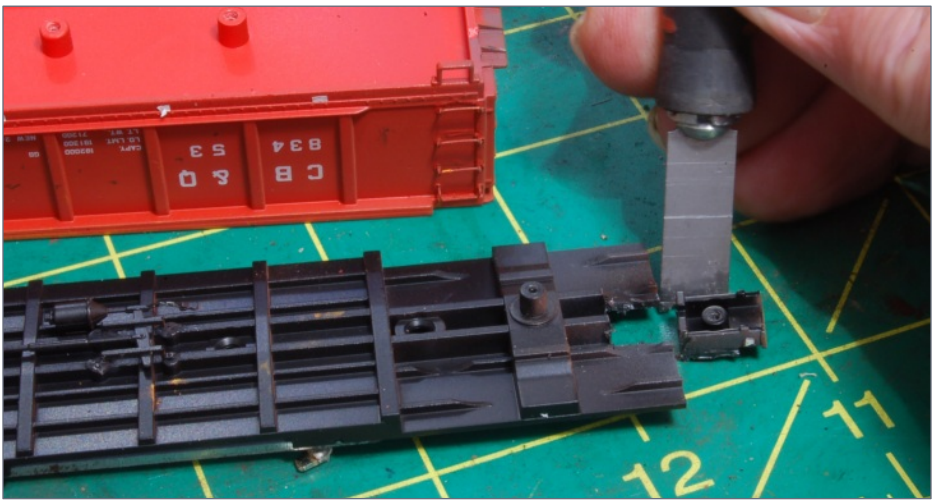
5. The model wearing the correct matching road number. The ACI plate and correct-style lube plates still need to be applied.

6. Although I have bent hundreds of coupler cut levers from 0.012” brass wire, I found Tangent makes the appropriate cut lever (TSM 204). This was much more convenient, especially since I was doing three cars!

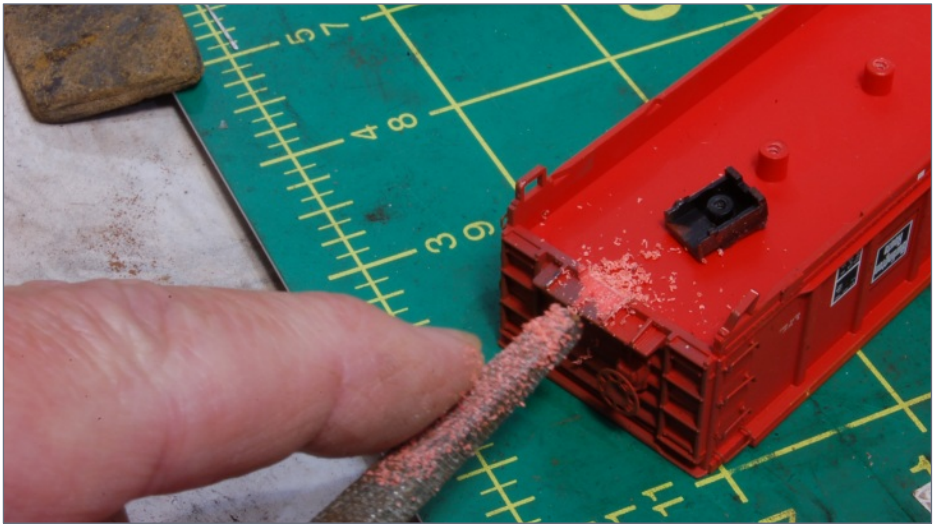
7. I airbrushed the wire grab irons with ScaleCoat II Santa Fe Red paint, which was a good match. Applying the paint with a brush also would have worked.

8. Next I cut out and applied the small white rectangles from MicroScale white trim film.

9. I studied the prototype photos and applied the ACI and lube plates. When dry, I applied Testors Dullcote to give a dead-flat finish.



10. Looking at the prototype photos, I realized the coupler pockets should extend to the ends of the foot platforms on the ends of the car. I needed to modify the model to match. I cut out the stock coupler pocket from the underframe using a no. 17 blade.



11. I used a file to remove enough material from the bottom of the car ends to allow the coupler pocket's extended location.

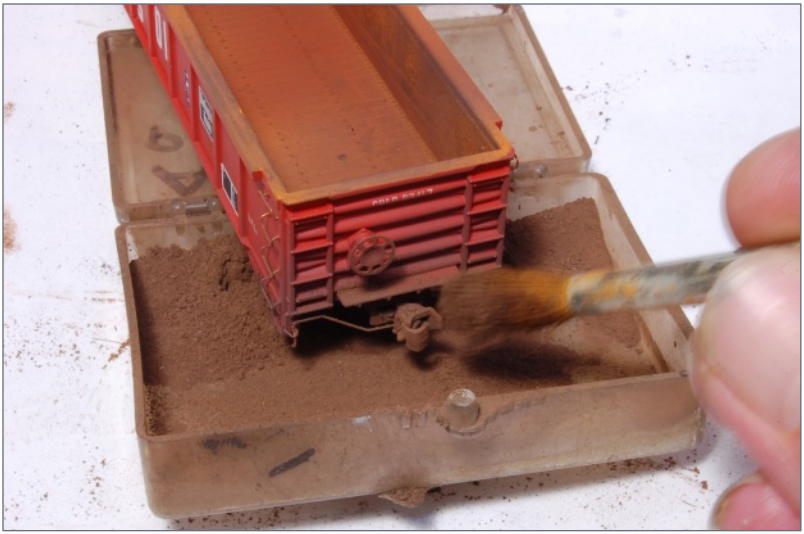
12. That's more like it!

13. I began the weathering with the inside of the gondolas. Because I was using oil paints, I started by applying Turpenoid paint thinner with a brush. Turpenoid is an odorless product available from many art supply stores.

14. I studied a photo of the inside of a prototype gondola, and chose Cadmium Orange for a rusty-orange base color.

15. When the paint was dry, I applied dark weathering powders.

16. I next applied ScaleCoat II Flat Grimy Black with my airbrush.



17. I applied appropriate weathering powders to the ends and couplers.

18. I weathered the trucks by airbrushing Flat Grimy Black onto the wheels and side frames. Next I applied rust-colored weathering powders to the sides of the wheels. Using the powders does a nice job to capture the gritty, dirty look of a prototypical truck.

19. My favorite air hose is Detail Associates number 6206. A true scale air hose model for sure.

20. Weathering is complete!

21. After years of service transporting loads of scrap, even an empty gondola will have a junky floor. I scraped scraps of real rust from the bottom of my barbecue grill, and added them to the floors of my models. I used Testors Dullcote to fasten them in place. Someday I will have prototypical loads for my gondolas.

22. Prototype photos (background) were helpful for modeling the inside of the gondolas. This step was important because we often view our models from above.

24. An overhead view of the gondolas in service at Cardigan Junction. ☑

23. In service on the layout, CB&Q gondola 83400 takes on a load at Greenburg Scrap in St. Paul.

BOB RIVARD

Bob Rivard has been fascinated with trains since the age of 5 when he received his first train set, the proverbial Lionel.

He really enjoyed his job at KARE TV, working there for 43 years as a broadcast technician. He recently retired. He ran the robotic cameras during the 10 p.m. news. ■

Blending turnback curves into a scene

1. The hillside gives this train the appearance of working its way through rough terrain and a reason for the curve.

Model Railroad Hobbyist | March 2022

VIEW READER COMMENTS

RICK BALASSAITIS SHOWS METHODS TO GIVE LAYOUT CURVES A REASON TO EXIST ...

TWO THINGS CAN RUIN THE REALISM OF A MODEL RAILROAD: turnback curves and running tracks parallel to the edge of the layout.

The tracks parallel to the edges of the layout can be simple to fix, so let's look at the more complex issue of turnback curves.

Unless the curves fit into the more photogenic John Armstrong-like scenic curves, any large turnback curve has the potential to turn an otherwise attractive model railroad into a "train set" layout. The target is to cleverly *hide* them.

90-DEGREE CURVES

The best way to obscure a 90-degree curve is to give it a realistic reason for being there. Railroads do not veer from a straight run of track unless there is a reason, such as an impediment that is too expensive to get through or over.

Impediments include large rocks, mountains, water obstacles, and buildings or land that the railroad does not own. Sometimes tiny hills could be plowed through with digging equipment, gullies can be filled, and bridges can keep you going straight over water. At other times you just must curve off [1, 2].

Rivers offer a valid reason for track deviations and some scenic opportunities [3, 4].

City buildings also mandate curves. At about 54 inches, my layout is close to eye level, which gives N scale trains a more

2. An overpass helps obscure the curve as the tracks go through the backdrop to staging. *Randall Gustafson*

3. The tracks follow the rivers on Lee Weldon's old Western Maryland/ Laurel Valley RR Thomas Sub.

4. Lee Weldon's LRV Maryland Junction. The rivers determine where the tracks go.

realistic look. As such, the city buildings do a good job of providing an avoidance reason AND hiding the trains [5].

Whatever your choice, make sure there is a reason for the curve, an obstacle that cannot be easily broached.

Having something to draw your eyes away from the curve helps, like a yard with lots of freight cars [6] or city scenes: a kid's corner basketball game [7], an ice cream truck with a crowd, a corner store, animated signs, etc.

Chris Schmuck does a great job on both curves on his door layout [8]. The layout has a scenic divider down the middle. The far end tracks curve to avoid the large imposing buildings.

His near-end curve utilizes a road underpass to break up the curve. He effectively uses the square platform end for detailed stores which immediately become the most interesting part of the near scene, effectively drawing your eyes to them.

5. WY841 leaving the Camden urban jungle for Deepwater.

6. Pavonia yard draws your eyes away from the end curve.

7. Kids playing basketball, the ice cream truck, the corner store, animated signs all help draw your attention away from the curve.

Whatever your choice, make sure there is a reason for the curve, something that demands that the tracks can no longer go straight.

360-DEGREE CURVES

360-degree curves are the next easiest to deal with. The obvious "go to" here is a mountain with the track either invisible inside the mountain or running along the outside. A portion popping out of a tunnel and spanning a spindly trestle before slinking back into another tunnel can be a stunning scene with the side benefit of hiding the curve.

If the track is outside the mountain, try to place it so the lower track is out of sight behind the mountain. It helps if something else diverts the viewer's attention.

I placed a farm on the side of a hill [9] to draw viewers away from the circular track and the S-curve coming off the end has a

8. Chris Schmuck's Door Layout. *Photo by Chris*

9. The Haines-Falcone dairy farm helps hide the 360-degree curve.

pleasing attention-drawing effect [10]. In this situation, an adjoining station scene with two crossings and a couple of switches also draws attention away.

The interior of the 360-degree curve usually requires an access hatch to reach derailments that inevitably occur in hard-to-reach places. My Glassboro Loop started off with a pop-out hatch [11].

I wanted better stability for the farm scene, so I converted it to a

half-hatch with arm access for derailments. This room corner was near a staging yard and too dark, so I put a short pole lamp in to provide some light. The hill/mountain hides most of it from view [12].

180- TO 270-DEGREE CURVES

180- to 270-degree turns are among the most difficult turnbacks to work into a layout. Because they are usually located at the end of a platform or peninsula, urban scenes do not offer much help unless they are massive and can obscure most of the curve.

Lowering the track into an "urban cavern" may help somewhat, but typically, a mountain or a hill offers the most convincing help. Or you can just surrender and build the scenic divider all the way to the end of the peninsula.

10. Sweeping S-curves are always attention grabbers.

11. The Glassboro Loop access hatch in its original configuration.

12. The access hatch (in the distance) is now hidden more effectively.

On one of my previous layouts (4′x8′), I hid the curved tracks in tunnels [13, 14] on both ends. Problem solved.

On another old layout, the tracks went behind a large hill while the eyes were drawn to a scenic S-curve in the foreground [15].

On my current layout, I split the hill in half. My prototype had a lake at the north end of town surrounded with tree-covered, sloping hills. I merged that into the adjoining hillside, which

13. On my old 4x8 layout, I hid all the curve ends in mountains and concentrated on the side scenes.

14. The trains on my old layout looked like they were passing throughs scenic valleys, rather than traveling in a loop.

included an ascending road with houses in an area that had a lot of trees [16-18].

Road overpasses also serve well in dividing the curve. Here is the view going around the horn on my peninsula [19-25]. I think you can get the idea of breaking the curve into individual scenes.

THINKING OUTSIDE THE BOX

There are many creative solutions, so don't restrict your dreaming. Lee Weldon sent me a photo of how Kevin Beck enclosed his 360-degree helix in aluminum shrouding to make it look like the rear end of a round-tail observation car [26]. Think that started any train conversations?

15. Sharks glide past Island Yard.

16. Woodbury Lake will occupy the right side, framed by tree-covered slopes.

17. Except for the track curvature, the ascending Hunter Street in Woodbury is a prototypical scene.

18. The North Woodbury side.

19. The Hunter Street bridge bisects the curve, creating two separate scenes. On this side, we see a town.

20. On the other side of the Hunter Street bridge, we have wooded countryside.

21. Next the lake scene with fishing dock and canoes draws attention away from the curve.

22. This portion could use some rock face.

23. Approaching North Woodbury housing.

24. The “Round the World” tour is now into industrial trackage and we have successfully broken the turnback into 6 separate scenes.

25. I keep trying different styles of trees. Sometime soon I'll need to settle on a homogeneous variety. A scenic divider board blends into the far side of the hill.

KEEPING YOUR EXPENSIVE TRAINS OFF THE FLOOR

Space was at a premium in my loft, and my peninsula tracks were less than two inches from the end of the world, so I needed a mechanism to minimize my equipment losses.

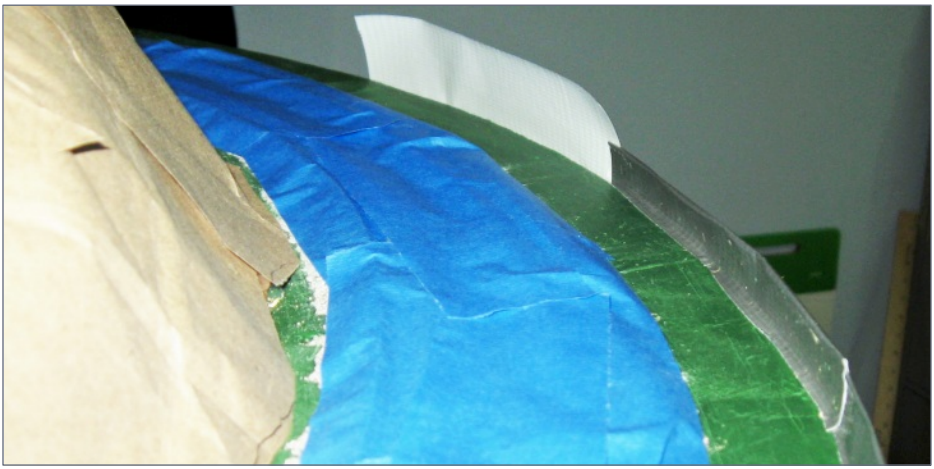
First, I built as much of a "lip" as possible between the curve and the floor. I took a roll of duct tape, attached it to the end of the 5/8" plywood and folded it back on itself. This doubled its strength, and it left a shiny, non-stick side facing the tracks [27, 28].

I then put as much Sculptamold as I could on a slope between the tracks and the duct tape. Then I painted and "grassed" it to provide a safety lip [29, 30].

Next, I took bottle brush fir trees and drilled and "planted" them all along this lip [31, 32] Their strong wire core will repel anything hurled at it and toss it back onto the layout.

Now I had an almost impenetrable barrier [32]! (Yes, it is only a matter of time until I have to eat those words.)

26. Kevin Beck's enclosed helix. *Photo by Lee Weldon*



27. Duct tape edging from the layout facing out.

28. The duct tape edging facing the layout.

29. Sculptamold lip.

VIEW READER COMMENTS

30. The sculptamold embankment continues to the Hunter Street bridge.

PROTECTING ASSETS ON THE EDGE

There are still instances where you must resort to other less-elegant measures to protect your inventory. The Glassboro loop has a steep fall off [10] so I used plexiglass panels to protect the trains from operators who like high speed (one once brought a bullet train to run on my 1950s layout).

I also employed the plexiglass at some elbow-danger locations. My refinery is at risk of me clumsily exiting my computer desk [34] and Buzby Brothers [35] has already had its towers smashed to smithereens.

There must be a nicer way to protect buildings from elbow bumps, so I am looking forward to more elegant reader solutions.

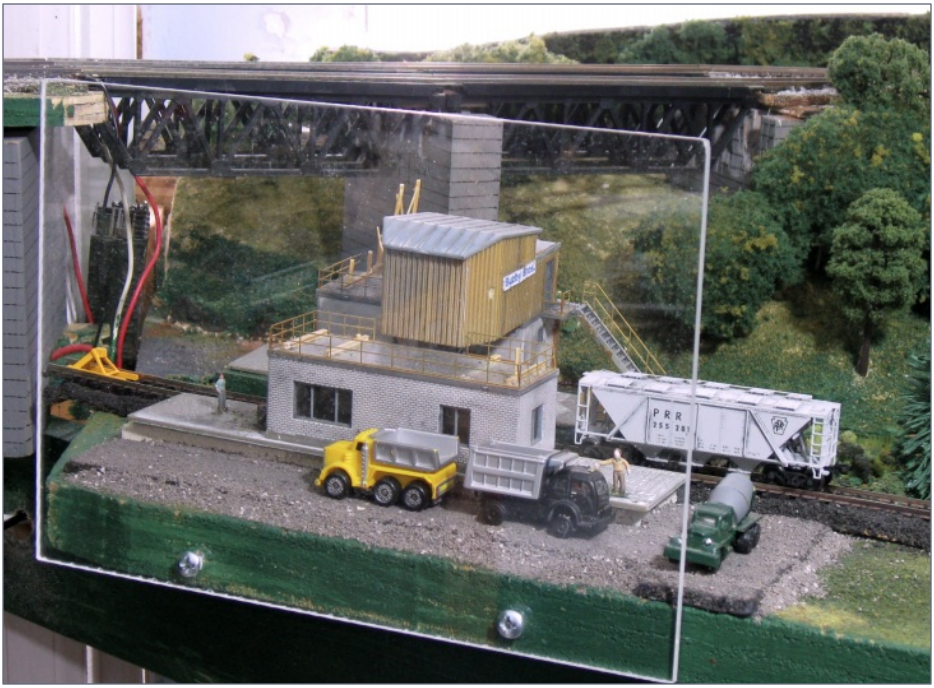
Until then: Keep 'em rollin' (and off the floor). ☑

31. Bottlebrush barrier.

32. These bottle brush trees will catch most derailments.

33. Standing ready to deflect all attempts at going over the edge of the world and descending into the darkness below.

34. Texaco Refinery Plexiglass shields.



35. Buzby Bros. Protection.

Modeler's survey of glues Part 2

1. RapidFix (left) and Lazer Bond are two brands of UV-cured glue. Lazer Bond is a bit thicker in its liquid form.

Model Railroad Hobbyist | March 2022

VIEW READER COMMENTS

JEFF PALMER STICKS WITH THE TOPIC OF ADHESIVES FOR MODEL RAILROADING …

THIS IS PART TWO OF MY GLUE NOTES. In the first part we discussed PVA (white glue), PVP (glue stick, hairspray), CA, plastic (solvent and bonding), and epoxy. In this section, we discuss UV plastic, contact cement, transfer tape, spray adhesives, goo, hot glue, and various caulks.

UV PLASTIC

Ultraviolet (UV) glue is a liquid polymer that cures to a clear, solid plastic when exposed to UV light for a few seconds. Once

cured, it forms a strong, non-brittle bond that you can drill, sand, and shape like any other plastic. Getting started with UV glue is a little pricey, since the initial investment includes a UV flashlight to cure it – alas, I got rid of my black light at the end of the 60s.

My first experience with UV glue was not in an adhesive application at all. When I saw the above properties in an advertisement for RapidFix, one of the UV glue brands, I wondered if it might work to make a lens for the Cal Scale Baldwin headlight on my Climax locomotive. I had thought about 3D-printing a lens, though I don't own a 3D printer, and RapidFix was supposed to have similar properties to the UV printer resin, so I thought that it might work [1].

I filled the light cavity of the Baldwin headlight with the clear plastic and cured it with 10 seconds of UV exposure. With UV light shining on the glue, it shines a florescent blue, but when set, it is clear. The UV glue proved more than up to the task, and the LED headlight worked well.

In my first gluing application, I used Rapid Fix UV glue to repair an earpiece on my wife's reading glasses. I repaired that same pair of glasses a couple of times since, each time with Rapid Fix. They've never broken in the same place twice, which makes Rapid Fix a winner.

2. Bondic UV glue.

Since I began experimentation with UV plastic, I've learned about UV glues that are thicker and more gel-like in their liquid forms. Bondic and Lazer Bond, are two brands that offer the thicker gel. I like working with this because it allows me to shape the glue while applying it.

It is important to note that UV glues work only if they are exposed to UV light. This means UV light must be able to penetrate to the surfaces you are attempting to bond.

CONTACT CEMENT

I've never had much use for contact cement until I started building my own switches and hand-laying track. Contact cement works by coating the two surfaces to be joined with the cement, letting it dry, then pressing them together. The two major glues of this type I've used are:

1. Pliobond – I use Pliobond to glue turnouts I've built using Fast Tracks jigs to the ties. This is the last step of construction. Fast Tracks made me a believer in Pliobond [3].

3. Pliobond contact cement

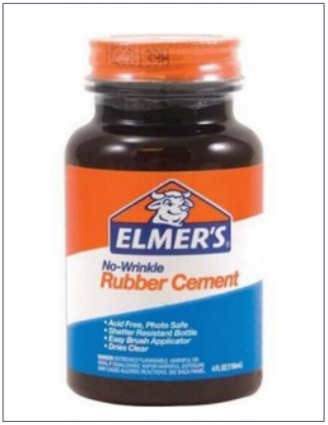
VIEW READER COMMENTS

2. Elmer's Rubber Cement – I used Elmer's Rubber Cement [4] for years to represent peeled paint on structures: stain the wood, let it dry, dab on rubber cement, paint over the glue, and remove the glue once dry. I've stopped using this technique as there are better alternatives.

TRANSFER TAPE

I consider adhesive transfer tape to be a contact glue. It has all the same features of contact cement and allows you connect two dissimilar materials. It's a cleaner application method than glue, and you don't have to worry about the adhesive easing through material.

My friend Scotty Mason introduced me to transfer tape as a method for attaching roofing material and siding. While I liked the idea, I found its lack of working time vs. glues to be challenging. There were times when I did not have the position of the part as exact as it needed to be, but had no leeway for repositioning because of the nature of transfer tape.



4. Elmer's Rubber Cement.

5. Transfer tape.

I got better at lining shingles and tar paper roofing with practice. I especially like using transfer tape for adding the corrugated roofing and siding to a model. Most glues don't hold the corrugated material well over time.

SPRAY ADHESIVE

My wife introduced me to spray adhesive while we were working on an antique travel trunk. It's an excellent product anytime you need to glue paper or metal foil to another surface. As with spray painting, spray adhesives are best applied with a steady smooth motion for even coverage.

Spray adhesive does not give much work time, so don't wait too long to apply the paper or the foil once you've sprayed. Be careful to keep your fingers out of the glue. Most messes will clean up with a rag and odorless mineral spirits.

There are many different chemical bases for the glues, so be sure to read the Tech and MSDS sheets. Some spray adhesives are contact cements, though I am primarily talking about general purpose spray adhesives.

6. 3M 45, 3M Super 77, and Loctite are among the spray adhesives I use most.

As stated earlier, many of the spray glues are contact cements, so it is important to read the label. You want a general-purpose spray adhesive. As you can tell, I'm a 3M fan, but I have been exploring, and I'm liking the Loctite product as well.

Goo

Goo is a specialty glue group with several different brands. Goo is a styrene-butadiene rubber or synthetic rubber compound that was developed during World War II. Some of my favorite brands are Shoe Goo and E6000 [7].

Shoe Goo is a strong adhesive that dries clear and remains flexible. I use it to glue-down structures on the layout. Placement of a structure is never final for me, and occasional repositioning or other movement is a given.

I also use Shoe Goo for general-purpose gluing that will never be seen, like for LED lead wires in a structure. E6000 has the added advantage of going on and setting clear.

7. Shoe Goo and E6000.

Room Temperature Vulcanizing (RTV) adhesive sealant is a goo-like silicone glue used for making/installing gaskets and seals. I first used it when I was working on my '69 GTO. One of its qualities is its tolerances for high temperatures and vibration.

I have found RTV adhesive sealant useful in mounting replacement motors in brass locomotives. It withstands the rigors and occasional hot

8. Permatex RTV Gasket Maker.

running of modern high-torque can motors. Just make sure the surfaces you want to glue are clean and free of oil or other lubricant.

HOT GLUE

Hot melt adhesive (HMA), or hot glue, is a polymer-based adhesive that you melt for application. Four of the major HMA types include: ethylene-vinyl acetate (EVA), polyolefins (PO), polyamides (PA), and thermal polyurethanes (TPU), which are also known as low-temp hot glue.

PO-based hot glue has a melting point of 450 degrees, well beyond the heat output capabilities of most consumer glue guns, which operate between 380-400 degrees. This high melting point provides a very strong bond and is resistant to most environmental issues and is especially useful for gluing nylon or Delrin. Its application is primarily industrial, not so much for hobbies

PA glues have a melting point between 375 and 450 degrees, which is still higher than most consumer glue guns will handle. Again, the application is primarily industrial and would be overkill for most hobby applications.

Most of us use EVA hot glue, which melts at 350 degrees. This is hot enough to cause severe burns, so use caution. EVA forms a strong bond as it cools.

I seldom use hot glue for layout structures, but have found it useful for bonding trees, shrubs, weeds, and other ground cover to scenery. I use a hybrid scenery methodology of hard shell and foam sheets, and hot glue excels in this environment. It doesn't melt the foam, and it has enough substance to form a good surface mount on plaster.

I have also found EVA hot glue useful in bonding cardboard strips together to form structural webs for terrain. I even use it to apply cross members to my benchwork for improved strength.

Low-temp hot glue melts at about 250 degrees and is good for most wood, cardboard, and paper applications, with lower burn risk. The nozzles for low-temp glue guns have a finer tip that delivers a narrower, more-precise bead of glue. For these reasons, low-temp hot glue has been gaining in popularity.

While a standard hot glue gun designed for use with EVA would certainly put out enough heat to melt low-temp hot glue, the excess temperature actually weakens its bonding capabilities. Many hot glue vendors have adopted a different diameter for low-temp glue sticks so they will not fit standard glue guns. You should always use the proper hot glue gun for your application.

9. A Stanley GR35K glue gun with some multi-temp glue sticks.

Hot glue can be messy, in that the gun nozzle tends to drool, so it's best to place the gun on cardboard or another easily cleaned surface like glass when not in use. Be sure to use paper towel when cleaning the nozzle, as its burn point is higher than the glue gun's operating temperature.

ADHESIVE CAULK

Most modelers primarily use interior-grade adhesive caulk for various model railroad construction activities: laying roadbed, laying rail ties, and laying flex track, just to name a few. There are four kinds of interior grade caulk: acrylic-latex, polyurethane, solvent-based, and hybrid.

Several outdoor-grade caulks may be useful for garden layouts, but that would be a topic for another article. Similarly, each of the various kinds of caulk is available with silicone, which has many good qualities such as water resistance, color stability,

10. An assortment of acrylic-latex-based caulks.

superior adhesion, and resistance to UV light, oxygen, and ozone. But these benefits of silicone caulk don't really improve it significantly for model railroading purposes, at least not enough to justify the additional costs.

Acrylic-latex-based caulk is paintable, which is an important feature. I use caulk to glue down my flex track, and I don't want the white glare of clipped ballast shining through. Not only does the caulk take paint well, but it is also receptive to the PVAs I use to glue down ballast and scenery along the track. I use Liquid Nails Projects to glue my layers of foamboard together.

Polyurethane caulk is a great adhesive and sealant good for a broad range of material including concrete, wood, glass, plastic, and metal. It has taken all the best qualities of the other sealants and rolled them into one, but it is difficult to use. Polyurethane caulk is sticky and putty-like to work with, and it is very messy. Mineral spirits are the solvent of choice when working with this type of caulk.

Most solvent-based caulks are specialty items designed for specific tasks, with only marginal use beyond those tasks. Concrete-fix adhesives and sealants generally belong in this group. As many solvent-based caulks have environmentally toxic qualities, they are gradually being phased out.

11. A few polyurethane caulks.

Hybrid caulks combine the best properties of silicones and urethanes. These new sealants are making headway because of their

12. Solvent-based caulks.

13. Hybrid caulks.

14. I always make sure the caulks I use are labeled "paintable."

15. Resealable caulks.

environmentally friendly properties and advanced adhesion. At present, hybrid caulks tend to be pricey.

Using caulk can be a messy and awkward job, especially when you factor-in the caulk gun. I've also never had success storing an open caulk cartridge. I've tried the various "caps" available, but the caulk still dries out after a couple of months.

When I'm shopping for caulk, I look for resealable packaging. I have kept caulk for more than a year when I was able to reseal it. Screw-on caps work best for me. ☑

JEFF PALMER

Jeff spent 50 years developing software, and 25 years as a college professor. During that time, he was a modeler. He loves to build structures, bridges, scenery, and locos, and his interest is in logging and mining (narrow gauge). He enjoys the ruggedness of logging and mining railroads, and the scenery and landscape. Model railroading allows him to expand his skill set, work with his hands, and share with his friends, the things he has learned.

About two years ago, he completed his MMR (Master Model Railroader) certificate from the NMRA. During that journey, he had the privilege of meeting many modelers he looked up to. He hopes to be a part of that group someday. ■

SUMMARY CHART

Type	Finish Color	Brittle	Material	Thinner/Cleanup	Use	Notes
UV Plastic	Clear	No	Plastic	N/A	General Construction, Filler	Bonding Agent, bonds anything together, Adds strength. Fast drying.
UV Plastic - Thick	Clear	No	Plastic	N/A	General Construction, Filler	Bonding Agent, bonds anything together, Adds strength
Contact	Not Clear	No	Wood, Plastic, Paper, Metal	Acetone	General Construction, Track to ties, Paint weathering	Bonding Agent, bonds anything together. Fast drying.
Goo	Clear	No	Wood, Plastic, Paper, Metal	Toluene, Naphtha	General Construction, out of sight gluing	Bonding Agent, bonds anything together. Fast drying.
Spray Glue	Not Clear	No	Wood, Plastic, Paper, Metal	Mineral Spirits, turpentine	Adding paper to a surface	Bonding Agent, bonds anything together, Fast drying
Transfer Tape	Clear	No	Wood, Plastic, Paper, Metal	Adhesive remover, Goo Gone	General Construction Used to add roofing and siding. Corrugated roofing and siding.	Bonding Agent, bonds anything together. Roofing. Corrugated roofing and siding.
Hot Glue (EVA)	Clear	Yes	Wood, Plastic, Paper	**Isopropyl alcohol, Acetone**	General Construction	Bonding Agent. Fast Drying. It will burn you. Fast drying.
Adhesive Caulk (Acrylic Latex)	White	No	Wood, Plastic, Paper, Metal	Water, **Isopropyl alcohol, Acetone**	General Construction Roadbed, Flex Track	Bonding Agent, bonds anything together. Slow drying
Polyurethane Caulk	White, Clear	No	Wood, Plastic, Paper, Concrete, Metal	Mineral Spirits, Goo Gone	General Construction Roadbed, Flex Track	Bonding Agent, bonds anything together. Slow drying

16. Adhesive summary chart

Savvy Modeler Online

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Modeling realistic paved areas (part 1)

YouTube channel **Boomer Diorama** has interesting how-to videos about all aspects of this hobby. In this video (1 of 3 parts), ***Boomer*** builds paved areas and models a realistic pavement look.

Part 1 (37 min) starts with a few notes on wood boards around the track and then shows the full pavement process. We'll do part 2 next month: testing the paved track area to make sure things still run okay. ☑

VIEW READER COMMENTS

GREAT MODELER VIDEOS ON THE WORLD WIDE WEB

MARCH NEWS column

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

VIEW READER COMMENTS

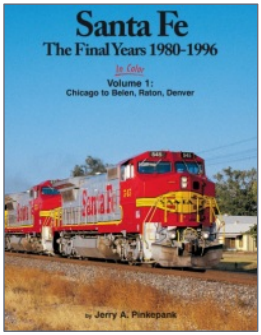
NEW CLUB CARS

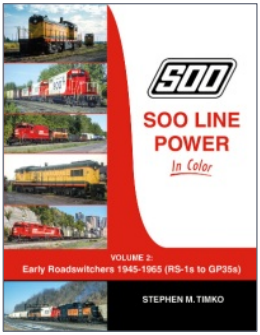
To mark their 50th Anniversary, the **Associated Model Railroad Engineers of Coshocton** (Ohio) is selling a kit for a 50′ boxcar specially decorated for the Toledo, Walhonding Valley & Ohio Railroad. Accurail produced the HO scale kit which includes a number jumble decal sheet for customizing the car number.
Info: Contact amrecrrclub@gmail.com

NEW PRODUCTS FOR ALL SCALES

DCC-EX has announced the release of version 4.0 of the DCC++EX command station software with EX-RAIL automation and accessory control. DCC++EX is a free, open-source command station solution designed to run on an Arduino microcontroller with an attached motor shield and a computer running JMRI. The EX-RAIL (Extended Railroad Automation

Instruction Language) is used to automate the operation of trains, turnouts, signals, lights, and animations, as well as sensors, switches, servos, motors, and outputs.
Info: dcc-ex.com





New books from **Morning Sun** include *Santa Fe, the Final Years, 1980-1996.* The colorful last years of the Santa Fe saw red and yellow SPSF liveries mix with red and silver Super Fleet Warbonnets. Famed author Jerry A. Pinkepank takes Santa Fe rail fans across the Transcon from Chicago to Belen and along the Front Range from Denver to Raton.

Also new is *Soo Line Power in Color, Volume 2,* in which Stephen Timko presents the Soo's early road switchers ranging from the Alco RS-1 to the EMD GP35s. GP7s, GP9s, GP30s. Rebuilt variations are included, as are the Baldwin road switchers.
Info: www.morningsunbooks.com

Deepwoods Software has released an ESP32 PWM Half-Siding Node kit for LCC. The boards feature two stall motor drivers with point sense, two occupancy detectors, and 16 LED signal lamp drivers. The boards come with all SMD components soldered on, with some through-hole parts included to be soldered by the modeler. The kits include the board, through-hole parts, a Lily-Go TTGO-T1 ESP-32 module, a thumb drive with software and a 40+ page instruction book.

Info: www.thecountryrobot.com/product/esp32-pwm-half-siding-node-kit

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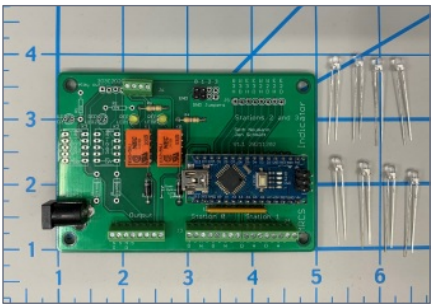
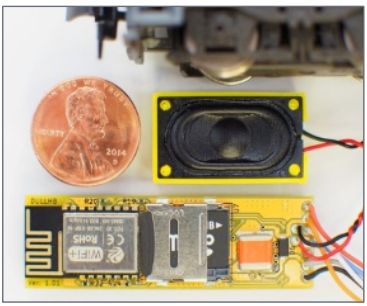


Model Railroad Control Systems is now selling a TT&TO Approach Indicator. The Approach Indicator board alerts a train order operator or Yardmaster that a train is approaching, and the dispatcher should be contacted to determine if there are additional orders for the train. The Approach Indicator can cover up to four stations, two with photo transistors and two more with the logic output from a detector circuit. Multiple versions are available, with one or two circuits with 4 analog sensors per circuit or with four circuits with two analog and two digital inputs. The circuit can be used to trigger a sound module such as the Iowa Scale Engineering SoundByte.
Info: www.modelrailroadcontrolsystems.com



WiFi Model Railroad has released LocoFi 3 (DULLHB), the third generation of its WiFi based receiver module capable of providing user-editable sounds. LocoFi 3 is a universal sound module that may be customized for diesel, steam or electric locomotives.
Info: www.wifimodelrailroad.com/product-page/dullhb-locofi-3-next-gen-wifi-sound-decoder-for-ho-locomotives

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O SCALE PRODUCT NEWS

Atlas O has made some surprise O scale announcements for March, leading with the Premier GE Genesis P42 locomotive in the Amtrak Operation Lifesaver 50th anniversary paint scheme. Available in both 2 and 3-rail versions, the model features an ABS body, metal chassis and detail parts, movable roof fans, hand painted cab figures, and die-cast truck sides, pilots, and fuel tank. Equipped with Proto-Sound 3.0, the locomotive has scale MPH increment speed control and a ProtoSmoke diesel exhaust unit.

A special run of a 2-rail 40′ steel Fruit Growers Express reefers is also part of the March announcement. It features true 1/4″ dimensions and details, die-cast ladders stirrups, and grab irons; 50-ton Bettendorf trucks, scale 33″ wheels, and scale couplers.
Info: shop.atlasrr.com/d-673-march-2022-surprise-o-scale.aspx

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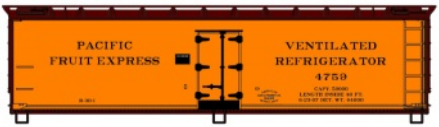
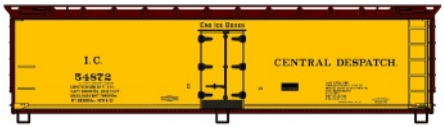
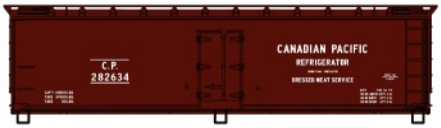
HO SCALE PRODUCT NEWS



New economy priced HO scale freight car kits from **Accurail** include three versions of a 40′ ACF wood refrigerator car with 4′ insulated swing doors.



Decorating schemes include an R-30-1 class PFE Ventilated Reefer, an Illinois Central car



built in 1921, and a Canadian Pacific refrigerator car fitted with brine tanks and designated for Dressed Meat Service.

Kits for ACF twin-bay Center Flow covered hopper cars are available from Accurail decorated as a Chicago, Burlington & Quincy car built in 1968, and a Burlington Northern version repainted in 1979.

Accurail has released a kit for a Canadian National 40′ single-sheathed wood boxcar. The HO scale model is based on a prototype built in 1924 with wood ends and doors.

This Canadian Pacific 40′ riveted steel boxcar with Youngstown sliding doors represents a prototype built in 1959. Completing Accurail's list of new HO scale kits is a 40′ Milwaukee Road rib side automobile boxcar with double doors. The decorating scheme includes an angled Milwaukee Road herald and a Route of The Hiawatha slogan.

All Accurail HO scale freight car kits come with Accumate knuckle couplers and appropriate trucks with Delrin Wheelsets.
Info: www.accurail.com

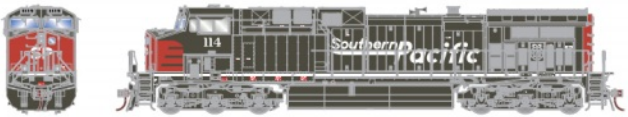
Last June **Athearn** announced it was developing new tooling for an HO scale General Electric AC4400CW locomotive. Scheduled for release in April 2023, the project has been upgraded to the Genesis 2.0 level with several railroad specific details including variations in fuel tanks, horns, pilots, trucks, and handrail configurations.

The list of road names begins with a CIT Group of three CEFX road numbers featuring notched fuel tanks, front ditch lights, and GE Hi-Adhesion trucks.

Chicago North Western units will have low number boards, fuel tanks without a notch, and an early version of the Hi-Adhesion trucks with struts on all four corners of each truck.

AC4400CW units decorated for CSX will have low number boards and front ditch lights. The lightning bolt under the road number indicates these units have AC traction motors.

Kansas City Southern units, in the road's attractive Southern Belle paint scheme, will have high number boards, a late version of a notched fuel tank, front and rear ditch lights, and GE steerable trucks.



Spotting features on Southern Pacific units include high

number boards, an early fuel tank without a notch, alternating front ditch lights, and GE Hi-Adhesion trucks.

Union Pacific units, formerly owned by SP, will be available in Athearn's Primed for Grime scheme. Current ownership will be identified by a yellow renumbered patch over the faded SP paint. Athearn's Genesis 2.0 AC4400CW locomotive models will be available for DC operation and with factory installed SoundTraxx Tsunami2 sound with dual cube speakers.

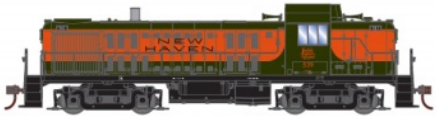
Athearn's April 2023 production schedule includes a Genesis HO scale model of a Trinity triple-bay covered hopper.

Decorating schemes will be available for CAGX-ConAgra, DJTX-Joseph Transportation, INTX-Interstate Commodities, AGPX-AG Processing, KRIX-Kyle Railways, GCCX-General American Marks Co., and Dakota, Minnesota & Eastern.

Features of the Genesis model include separately applied end cages, etched-metal end platforms, a photo-etched metal roofwalk, McHenry knuckle couplers, and 100-ton roller-bearing trucks with 36″ machined metal wheelsets with rotating end caps.

Also coming from Athearn in April 2023 is an HO scale Ready-to-Roll model of an Alco RS-3 road switcher. This will be Athearn's first release of this model with factory installed LED lighting and Tsunami2

sound with a cube speaker. An added feature on the RS-3s is a newly designed can motor. The list of road names begins with a CP Rail unit in the road's Action Red multi-mark scheme as applied to the prototype in the 1970s.

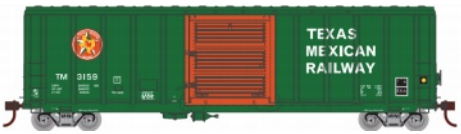


New Haven units will have forward and reverse horns, a steam generator stack, and a single headlight.

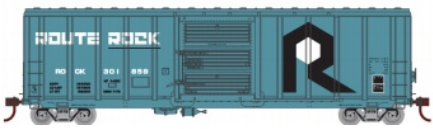
Athearn's version of a Green Bay & Western RS-3 will have a warning beacon on the cab roof, and partially-blanked cab windows.


Like the prototypes they represent, Athearn's Denver & Rio Grande Western and Burlington Northern RS-3s will be fitted for operation with the long hood forward.

Features on all of Athearn's HO scale RS-3 models include metal grab irons, a see-through etched metal radiator fan, and all-wheel electrical pickup. DCC sound versions will be available with Tsunami2 sound and a cube speaker. DC versions will be DCC-ready with a 21-pin connector.



Athearn's April 2023 schedule includes a 50′ Pullman Standard 5344 cu. ft. boxcar with outside posts and 10′ Youngstown sliding doors. Road names will be The Rock, North Louisiana & Gulf, Sandersville, South Branch Valley, Winchester & Warren, and Texas Mexican Railway.



The HO scale model will feature separately applied wire grab irons, knuckle couplers, and appropriate trucks with 33″ machined metal wheelsets.

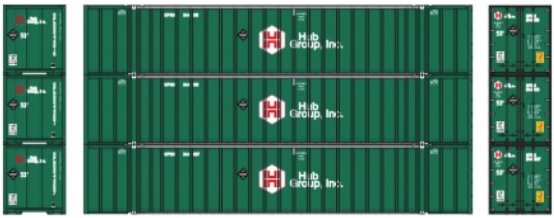
Reaching back into Horizon's collection of tooling acquired in the 2004 acquisition of Model Die Casting, Athearn is upgrading the original dies cut by Clarence Menteer in the 1970s. Upgrades to the shorty passenger cars with the distinctive Harriman arch roof include new steps, separate grab irons, vestibule partitions, a removable magnetically attached roof, and body-mounted knuckle couplers. The trucks have also been upgraded and will be fitted with 33″ metal wheelsets.

Cars in the 2023 release will include an RPO, baggage car, coach, and diner/ observation decorated for Union Pacific, Pennsylvania, Illinois Central, and Southern Pacific. Gray MOW versions will also be in this release.

Athearn reports it will include a mill gondola with positionable drop ends in its April 2023 schedule. The 65′ 6″ gondola will have individual wire grab irons and show some interior detailing.

Road names will be Southern Pacific, Santa Fe, Alaska Railroad, Lehigh Valley, Missouri-Kansas-Texas, and Chicago, Burlington & Quincy.

Athearn will release a group of containers next year based on a 53′ corrugated steel prototype made by Stoughton Trailer in Stoughton, Wisconsin. The HO scale stackable models will be available in 3-packs with individual numbers.



Carrier names in this release will be Swift, HUB Group, EMP, Schneider National, and Optimodal. Info: www.athearn.com

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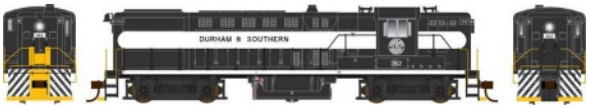


Bowser is accepting reservations for a group of HO scale Baldwin AS16, AS616, AS416 and DRS 4-4-1500 road switchers. DRS 4-4-1500 models based on a four-axle 1500hp prototype will be available decorated for Durham & Southern Railroad and Soo Line.

A six-axle DRS 6-6-1500 will be available for Soo Line and the Union Railroad.

Baldwin pushed the prime mover up to 1600hp in the AS-616 unit and equipped it with a motor on each of the six unevenly spaced axles. Bowser will offer the AS-616 correctly decorated for Chesapeake & Ohio, Baltimore & Ohio, Milwaukee Road, Penn Central, Pittsburgh & West Virginia Railroad, and Duluth, South Shore & Atlantic.

Four-axle AS-16 units will be available for Erie, Erie-Lackawanna, and Baltimore & Ohio. Completing this release is a Baldwin AS-416 unit with A1A-A1A trucks decorated for Norfolk Southern.

Features on all of the Bowser models in this release include correct MU hoses, air hoses, windshield wipers, operating headlights, window glass, can motors with flywheels, blackened nickel silver wheels and knuckle couplers. The ready-to-run models will be available with LokSound (sound and DCC) or for analog DC (DCC-ready) with a 21-pin connector for easy installation of an aftermarket decoder.
Info: www.bowser-trains.com

R. Bale

PRR E6 4-4-2 STEAM LOCOMOTIVE

The E6 was the final class of 4-4-2 Atlantic steam locomotive built by the Pennsylvania Railroad. After the pilot engine proved successful, PRR ordered 80 E6s from its Juniata Shops. They were all delivered by 1914, and all were still in service in 1947. Following his successful transatlantic flight from New York to Paris, Charles Lindbergh returned to the United States on June 11, 1927, and was greeted in Washington DC by President Calvin Coolidge. There was intense competition between various newsreel companies to be the first to get footage of the ceremony back to New York to show in theaters. Several companies chartered aircraft, but one chartered a special train from the Pennsylvania Railroad. A plane could get from Washington to New York faster than a train, but the train could carry a darkroom to develop the film while en route, making the train competitive. E6 locomotive No. 460 was assigned the high speed job of hauling a baggage car equipped with a darkroom and a P70 coach to carry PRR and newsreel officials. The line was cleared and the crew was authorized to run as fast as they considered safe. The newsreel brought by train reached the cinema screens over an hour before the ones flown by air. The Lindbergh engine, PRR E6 No. 460, is preserved at the Railroad Museum of Pennsylvania at Strasburg, PA.

In addition to the Lindbergh edition with gold pin striping, **Broadway Limited** is producing both pre-war and post-war versions of the Pennsylvania Railroad's E6 4-4-2 Atlantic steam locomotive.

Production of the HO scale model will include a pre-war version of the prototype as it appeared in 1927. The pre-war models have a standard round headlight, clawfoot markers on the pilot and smokebox, and a superheater damper on the smokebox.

The post-war models have the standard round headlight, clawfoot markers on the pilot but not on the smokebox, a whistle shield on the firebox, a wind deflector at the rear of the cab roof, and no superheater damper on the smokebox. Both versions come with a PRR 70P66 coal tender.

In addition to authentic PRR schemes, Broadway Limited is offering the PRR E6 in a fantasy Southern Pacific Daylight scheme. This release, which is scheduled for July, also includes an undecorated model.


R. Bale

Great Northern's S-2 4-8-4 steam locomotive

Baldwin delivered six 4-8-4s to GN in 1929. Classified as S-1s, they had 73'' drivers and, like most GN steam locomotives, Belpaire fireboxes. They were intended for passenger service but were soon relegated to hauling freight. The following year GN took delivery of 14 Baldwin-built class S-2 passenger 4-8-4s. They were built with 80'' drivers. To reduce weight, the S-2s were delivered with a radial stay boiler, nickel steel boiler plates, cast steel cylinders, dual air pumps mounted on the smoke box front, and a 17,000-gallon welded Vanderbilt tender. They all had chrome plated cylinder covers and steam chest heads. All S-2s were delivered in the Glacier Green paint scheme except for Number 2577, which wore light grey or aluminum paint on the boiler and cylinder jackets. It was eventually repainted to Glacier Green, matching the rest of the class. By the 1950s, all engines had received the more economical all-black paint scheme. Vestibule cabs were added to engine Number 2577 in the early 1930s and engines 2582, 2586, 2587 and 2588 by the late 1940s. Great Northern's S-2s spent most of their career pulling premier passenger trains between St. Paul and Seattle, including the Empire Builder and the Oriental Limited.

Broadway Limited has scheduled a May release date for another production run of Great Northern class S-2 4-8-4 steam locomotives. The HO scale model will be decorated in GN's distinctive Glacier Park scheme that features a green boiler, red cab roof, and chrome plated cylinder covers and steam chest heads.

Three road numbers each will be available for models with open cabs and closed vestibule cabs. One S-2, Number 2584, will have a black boiler. BLI's HO scale model is composed of a handcrafted brass superstructure mounted on a heavy die-cast

chassis. Both the PRR and GN steam locomotives in this report will feature Broadway Limited's Paragon4 sound and control system that functions in both DC and DCC environments.
Info: www.broadway-limited.com

ExactRail has scheduled the release of a new production run of its HO scale GSC depressed center flatcar in March. The Evolution series model replicates the one-piece cast-steel prototype developed by General Steel Industries.

Road names available on this release include TTX, TTX (new logo repaint), Erie-Lackawanna, Norfolk Southern, Norfolk & Western, and Penn Central.

ExactRails HO scale version features wire grab irons, Kadee No. 58 knuckle couplers, and ASF 100-ton Ride Control trucks with machined metal wheelsets.
Info: www.exactrail.com


R. Bale

PRR X-29 BOXCAR

In the early 1920's the Pennsylvania Railroad's engineering department developed plans for a 40' 50-ton all-steel box car. Designated X-29, production of the then state-of-the-art car began in 1924 and continued into 1934. During this 10-year period, nearly 30,000 Pennsylvania X-29 cars were built -- but not all X-29's were the same. The car body and its dimensions were consistent, but variations occurred in frame components, brake systems, arrangement of the steel sheathing, and the selection of ends and doors. Power assisted hand brakes on the X-29 were a mix of Ajax, Universal and Ureco. One common accoutrement was Apex metal running boards which were applied to all X-29s. The otherwise successful X-29 had two significant flaws: a short 8' 7'' interior height and deteriorating side panels at the floor level. To remedy these issues, subsequent rebuilding programs involved replacing the entire X-29 body with an AAR car body with a 10' 6'' interior height. Despite its shortcomings, the PRR X-29 was considered a highly successful design. Nearly identical cars were built by other railroads including New York Central, Baltimore & Ohio, Reading, Central of New Jersey, Maine Central, Lehigh & New England, and Wheeling & Lake Erie.

InterMountain Railway is soliciting reservations for another production run of Pennsylvania Railroad X-29 boxcars. The HO scale model will be produced from the well-regarded tooling original developed by Red Caboose. The ready-to-run models will include a mix of Dreadnaught and flat plate ends.

Models with 3-panel Creco doors will be available for PRR (Circle Keystone), Nickel Plate Road, and Chicago Great Western.

A PRR X-29 wearing a Shadow Keystone will have a Youngstown door.

InterMountain's release will include several road names that built close copies of the PRR's X-29. This group includes Baltimore & Ohio, Central of New New Jersey, Maine Central, Norfolk & Western, and Lehigh & New England. The models will have knuckle couplers and Bettendorf-type trucks with 33″ machined metal wheelsets.

InterMountain Railway has released 14 panel Coalporter gondolas in 12 paint schemes. Railroad names for the HO scale models are Conrail, Canadian National, and BNSF.

Coalporters decorated for power companies include SULX-Sultran, FPPX- Fayette Power, HIPX-Houston Lighting & Power, TGNX-NRG Energy, WFAX-Western Fuels, GSNX-Gulf States Utilities, JECX-Jeffrey Energy Center, MBKX-Mitsui Rail Capital, and WEPX-Wisconsin Electric Power. InterMountain's Coalporters come with 100-ton trucks with 36″ machined metal wheelsets.

InterMountain is accepting reservations until March 25, 2022 for a 70-ton flatcar. The HO scale models feature laser-cut wood decks, metal knuckle couplers, and appropriate trucks with machined metal wheelsets.

New road names in this release include

B&O-Chessie System, Baltimore & Ohio repaint, Delaware & Hudson, and Western Maryland.

Rerun road names with new numbers will be available for Santa Fe, Central of New Jersey, New York Central, Wabash, and Chesapeake & Ohio.
Info: www.intermountain-railway.com

Kadee is selling three different undecorated versions of its acclaimed HO scale PS-1 boxcar. A 40′ PS-1 boxcar with narrow bolster tabs as built by Pullman-Standard from 1950 to 1953 is available with a 6′ corrugated Youngstown sliding door. A post-1954 version is available with an 8′ Youngstown door.

An undecorated 50′ PS-1 boxcar with a 9′ Youngstown door is also available.
Info: www.kadee.com

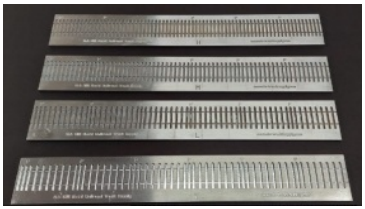
KR Models is booking reservations for an HO scale Class B three-cylinder, two-truck Shay steam locomotive. Delivery is planned for the 4th quarter of this year. The HO scale model will have working drive shafts, external valve gear, and front and rear directional lighting.

KR's HO scale model will be available for DC operation (DCC ready), with DCC, and with ESU LokSound V5 decoder. All versions will be fitted with a speaker to ease installation of an aftermarket sound decoder.
Info: www.krmodels.net

Moloco has released the third run of its HO scale 50′ Santa Fe Fe-34 class boxcars. The highly-detailed HO scale model represents cars built at Santa Fe's Topeka Shops beginning in the early 1960s.

This production run will include Fe-34 class boxcars with double plug doors.

Bx-94 class cars with 10′ offset plug doors and a similar Bx-97 class car with alternate lettering have also been released. Each version will be available in six road numbers.
Info: www.molocotrains.com



Oak Hill Model Railroad Track Supply has announced four straight track template designs. The designs feature different tie spacings to represent different types of track. Heavy Freight features a tie spacing of 19.78″ apart, Medium freight has a tie spacing of 22.25′, Light Traffic tie spacing is 25.75″, and Yard/Industry has ties that are 29.67′ apart. Additionally, the templates include a "p" marking, which indicates where PC ties can be used, and every other "p" on the top and bottom indicates a 39′ spacing, to locate jointed rail ends.
Info: www.ohrtracksupply.com

Plate C Model Prototypes has released six new HO scale freight trucks. The correctly scaled resin trucks are created using 3D printing. The trucks come with machined metal wheelsets with code 88 treads.

The new 3D trucks include an ASF A-3 50-ton converted to roller-bearing (left) and a Symington-Wayne XL-70 truck with roller-bearings (right). Also available now are Barber S-2 50-ton roller-bearing trucks with early caps, the same truck as used by ACL/SCL, and three versions of Barber S-2 100-ton plain-bearing trucks converted to roller-bearing with and without journal box lids.
Info: www.platecmp.com

R. Bale

ACR BOXCAR

In the years just before and immediately following World War II, several railroads built various classes of 40' and 50' boxcars of lightweight design. Since these cars were built using thinner side sheeting to save weight, they needed additional support posts behind the sides. The posts required an additional row of rivets down the middle of each side panel. These added vertical rows of rivets were generally spaced twice as far apart as the rivets along the panel edges, giving an alternating pattern and a unique appearance. Rail fans and some historians dubbed the cars Alternating Center Rivet or ACR boxcars.

Rapido Trains has added a Union Pacific postwar 40′ ACR boxcar to its list of essential HO scale freight cars. Classes B-50-39, B-50-41, and B-50-42 will be available for the car with side panels with alternating center rivets.

Each class will reflect the changes that occurred on the prototypes over a relatively short period of time. Rapido has tooled two styles of roof (straight and diagonal panel), two styles of end (early and late Improved Dreadnaught), four styles of brake wheel (with the correct corresponding gear housings), and two varieties of etched-metal running board and brake platform.

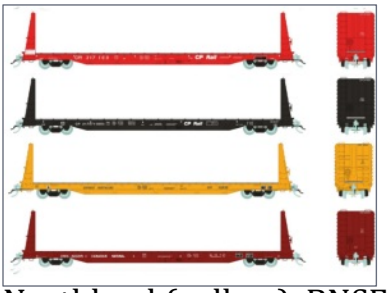
The initial release will include 1947-era Class B-50-39 cars with 4/4 Improved Dreadnaught ends, a straight panel roof, and with *Route of the Streamliners* and *Serves All the West* paint scheme.

Class B-50-41 cars built in 1950 with R+3/4 early Improved Dreadnaught ends, diagonal panel roof, black ends and roof, with *Route of the Streamliners* and *Be Specific Ship Union Pacific* are next up. A class B-50-42 representing cars built in 1951 will have the same details as the B-50-41 except it will not have the black ends and roof.

Completing this release are two 1956 cars: a class B-50-39 with 4/4 early Improved Dreadnaught ends, straight panel roof; and a class B-50-41 with R+3/4 early Improved Dreadnaught ends and a diagonal panel roof. Both cars will have the *Be Specific* slogan.

Rapido is booking pre-orders for an all-new Canadian-built 66′ bulkhead flatcar. The model is based on prototypes built in the 1970s and 80s by Marine Industries and National Steel. Notable details on Rapido's HO scale version include etched metal bulkhead end sheets, tie-down loops, and cross-over end platform, individual grab irons, metal knuckle couplers, and 100-ton Barber S-2-c trucks with machined metal wheelsets.

Variable details include three different bulkheads, two styles of laser-cut wood deck, four different jack pad arrangements, and two different end sills.



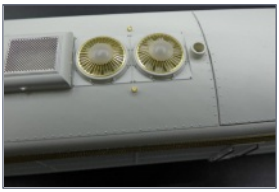
Six road numbers will be available for cars decorated for CP Rail (Action Red and black), Canadian National and CNIS (International service, both cars in mineral brown); British Columbia, BCIT, and Iowa, Chicago & Eastern (all in dark green scheme); Ontario Northland (yellow), BNSF (mineral brown), and BNSF (grey with ex BC patch).

Most of the development work on Rapido's new HO scale E8/9 has been completed with production planned for later this year. The project includes numerous road-specific

versions of both E8A and E8B units. To replicate the EMD nose accurately, Rapido commissioned a 3D laser scan of UP E8 #942 at the Southern California Railway Museum. Variables on the E8 nose include different nose doors, single or dual headlight configurations and three different arrangements of lifting lugs and grab irons. Other variables include three different back ends, and 36″ or 48″ fans or non-dynamic brake options.

Decorating schemes on the initial release include Amtrak Phase 1 and Erie Lackawanna, two roads whose E units shared several features, including horizontal air grilles, Hyatt journal boxes, and blanked portholes on the side of the body. All other road names have portholes.

E8s decorated for Illinois Central, New York Central, Southern, and Union Pacific will have freight pilots, Farr grilles, and trucks with Hyatt journal boxes. Pennsylvania and Burlington E8s will have passenger pilots, and horizontal side grilles.



Canadian E8s decorated for VIA and three unique CP paint schemes will all have portholes, skirted fuel tanks, freight pilots, horizontal side grilles, and trucks with early square journal boxes. The VIA

unit in this group will have operating ditch lights. To see Rapido's pre-production E8 in action visit: www.youtube.com/watch?v=KJQhUPhHu8Q.

In response to numerous inquiries, Rapido has announced that in addition to several authentic decorating schemes, the HO scale Fruehauf trailers announced last month will also be available undecorated. The group, which includes 35' trailers and 40' exterior post and fluted side trailers, including side door versions, will all be available painted silver without any lettering.
Info: www.rapidotrains.com

Smoky Mountain Model Works is accepting reservations for a rerun of an HO scale resin kit for a Southern Railway and Norfolk Southern G82/GS50 wood chip gondola. The model was formerly marketed by Crosstie Models using a body casting produced by Smoky Mountain Model Works. The model replicates prototype cars built by General Steel Casting in 1985 and Trinity, successor to GSC, in 1986.

The kits will consist of a one-piece cast urethane body, Plano etched metal crossover platforms, detail parts including brakes, ladders, stirrups, and styrene strip; phosphor bronze wire, weight, Kadee shelf couplers, Tichy truck sideframes, and Kadee 36″ code 88 wheelsets. Decals covering 1985 or 1990 to present are included along with detailed assembly instructions on

a mini-CD supported by 23 prototype photos. Note that production of this model is dependent upon receiving sufficient reservations. Info: smokymountainmodelworks.com/HO_wood-chip-gon.html

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Walthers has released HO scale models of 53' General Steel Casting bulkhead flatcars.

Road names for the Walthers Mainline series ready-to-run model are Santa Fe, Burlington Northern, Northern Pacific, Soo Line, Union Pacific, and Chicago, Burlington & Quincy.

Also available from Walthers is an 89' flatcar with C-shaped channel sides to facilitate piggyback loading of trailers.

The HO scale Mainline series model is based on class F89R cars owned by Trailer Train.

Channel side flatcars decorated for Trailer Train, JTTX, and KTTX are available in multiple road numbers.

Walthers is quoting a June release date for a new production run of 60′ Pullman-Standard flatcars.

Road names scheduled for this release will be Trailer Train HTTX (heavy duty service), MTTX (general loading), OTTX

(modernized version), and VTTX with loading fixtures for 20′ and 40′ containers.

Walthers also plans to release 60′ Pullman-Standard bulkhead flatcars in June.

Decorating schemes scheduled for this release are Canadian National, Canadian Pacific, Indiana Harbor Belt, Trailer Train, Trailer Train with B&O bulkheads, and Weyerhauser.

All the flatcars in this Walthers report come with Proto MAX metal knuckle couplers and appropriate trucks with 33″ machined metal wheelsets.

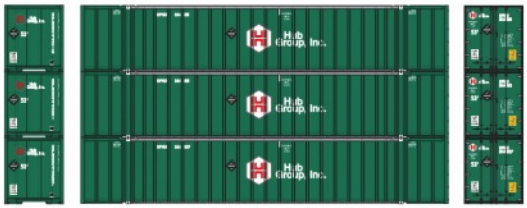
Walthers has an upgraded 60′ Pullman-Standard auto boxcar with double sliding doors due for release in June.

The Mainline series HO scale model features one 10′ and one 6′ sliding door on each side. The ready-to-run model comes with metal knuckle couplers and 70-ton trucks with 33″ metal wheels.

Road names include Erie Lackawanna, Penn Central, Conrail, CSX, Norfolk & Western, Rock Island, SSW-Cotton Belt, and Union Pacific. An undecorated model will also be available in this release.
Info: www.walthers.com

N SCALE PRODUCT NEWS

Athearn has scheduled the release a group of N scale 53′ containers for April 2023. The models are based on a corrugated steel prototype made in Stoughton, Wisconsin. The N scale stackable models will be available in 3-packs with individual numbers.



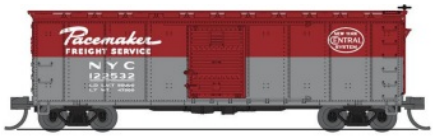
Carrier names in this release will be Swift, HUB Group, EMP, Schneider National, and Optimodal.
Info: www.athearn.com

Bachmann has released a USRA 55-ton 2-bay hopper in N scale. The fully assembled model features accurate details, needle-point axles, NMRA RP-25 profile metal wheels, and body-mounted E-Z Mate Mark II couplers.
Info: shop.bachmanntrains.com

Broadway Limited is quoting a May release date for a new 40′ all-steel boxcar. The N scale model is patterned after a large group of prototype cars built by the New York Central Railroad beginning in 1922.

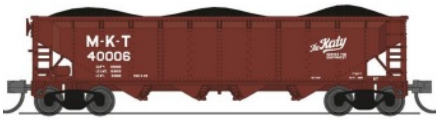
Broadway's N scale version will have rectangular-paneled roofs, AB brakes, Bettendorf-style trucks, and metal running

boards. They will have a mix of Dreadnaught and Murphy corrugated ends.



In addition to three NYC paint schemes, nine fantasy cars will be available for railroads that operated similar cars. They include Boston & Maine, Chesapeake & Ohio, Chicago North Western, Delaware & Hudson, Great Northern, New Haven, Southern Pacific, and Union Pacific.

Also coming from Broadway Limited in May is a new ARA 70-ton quadruple-bay coal hopper car.



The ready-to-run injection molded plastic models have appropriate trucks with metal wheelsets and a removable coal load.

Road names will be Baltimore & Ohio (W2b), B&O-Chessie System, Boston & Maine (post 1947 Minuteman scheme), Chesapeake & Ohio (H7-13), Milwaukee Road, and Missouri-Kansas-Texas.

Fantasy schemes for railroads that owned similar equipment include Santa Fe, Canadian National, Canadian Pacific, Reading, Southern Pacific, Union Pacific, and Western Maryland. Info: www.broadway-limited.com

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Jacksonville Terminal Company's February releases include 53′ True Ocean containers with ISO castings at the 53′ corners.

Roadnames include three APL schemes, Trailer Bridge (ex-APL), Crowley blue, Crowley brown, and OCEANEX LTL.

53′ high cube containers have been released in PACER, EMP green, UMAX (ex-PACER), and HUB Group patch.

40′ high cube containers are available in CMA CGM (Globe logo), CMA CGM (logo only), and HAPAG Lloyd. Info: jtcmodeltrains.com

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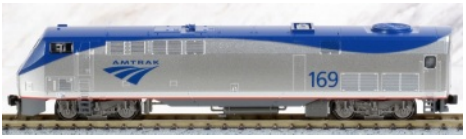
R. Bale

GENESIS P42 LOCOMOTIVE

The Genesis P42 is a passenger diesel locomotive produced between 1992 and 2001 by GE Transportation. A total of 321 units were built for Amtrak, Metro-North, and VIA Rail. The Genesis series were the lowest North American diesel locomotives until the introduction of the Siemens Charger. This height restriction allows the locomotive to travel through low profile tunnels in the Northeast Corridor. The GE Genesis series is unique among North American passenger locomotives in that it uses a single, monocoque body making it lighter, more aerodynamic, and more fuel efficient than its predecessors. However, monocoque construction is more costly and time-consuming to maintain and repair. In 2004, Amtrak started installing bolt-on nose cones on its units for easy replacement in the event of a grade crossing collision. The P42 is a fully computerized locomotive which automatically controls all on-board functions. The trucks of Genesis locomotives were made in Germany by Krupp Verkehrstechnik, which has since been absorbed by Siemens. Trucks on the newest Genesis locomotives carry the Siemens name.



KatoUSA is preparing to release its N scale version of General Electric's P42 Genesis locomotive in the latest Amtrak schemes. Locomotive No. 169 in Amtrak's Phase V scheme will be available during the first quarter of 2022.

A P42 in the same Phase V scheme plus a 50th Anniversary logo will be available this summer.

Also coming this summer is Amtrak No. 100 in Midnight Blue with a 50th Anniversary logo.

Locomotive No. 160 displaying a 50th Anniversary logo with the Phase III "Pepsi Can" paint scheme is scheduled for release in early fall 2022.

The final N scale P42 coming from Kato in this release will be No. 203 in a striking Operation Life Saver scheme that includes Amtrak's 50th Anniversary logo.

Kato has expanded the list of road names available for its N scale EMD F7A / F7B diesel sets.

The added road names are Baltimore & Ohio, Union Pacific, Southern Pacific, and Milwaukee Road. The previously announced Canadian National and Santa Fe in both traditional Warbonnet and Yellow bonnet schemes continue

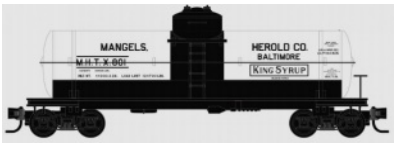
to be available. F7A units in this release will have illuminated number boards and directional LED headlights.

Kato will release a DC version of each P42 and F7 first, followed about one month later with DCC models with a choice of Digitrax DCC or ESU LokSound DCC and sound.
Info: www.katousa.com

Micro-Trains' latest list of new N scale releases includes two versions of 50' boxcars with short ladders and no running board. The Union Pacific car has a 10′ Youngstown sliding door while the Burlington Northern boxcar has a pair of 8′ Youngstown doors.

Micro-Trains N scale Chessie System flatcar represents a prototype built in 1956 at B&O's shops at DuBois, PA. The N scale model comes with an unpainted vessel head load.

This Louisville & Nashville 100-ton triple-bay coal hopper is based on a prototype built by Bethlehem Steel in 1971. Micro-Trains N scale version comes with Barber roller-bearing trucks.



The full-size version of this MHTX 8,000 gallon tank car was built in 1926 by American Car & Foundry. The Mangels Herold Co. used it to transport table syrup.
Info: Contact a dealer.

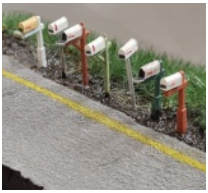
Scale Trains has announced new variations of their N scale UP Turbine. UP #6 includes dual Farr Dynavane air intakes on the B unit and UP #30 includes a special air intake system on the B unit that includes two long pipes. The modifications were intended to reduce the amount of maintenance required by these units.
Info: scaletrains.com

NEW STRUCTURES & SCENIC SUPPLIES

Frenchman River Model Works has introduced three new 1:48 scale structure kits designed by Thomas Yorke. Betty's Bakery (left) has a footprint of 2.5″ wide by 4.75″ deep. Dr. Gordon Painless Dentist, right, occupies a space approximately 2.75″ wide by 5.75″ deep including the boardwalk.

For added scenic interest, Frenchman River's third new 1:48 kit, Standard Mercantile Company, is designed to be positioned on a slope. This model has a footprint 3.75″ wide by 8.75″ deep.

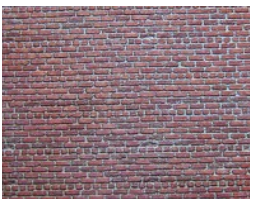
All of the kits are composed primarily of unpainted cast resin parts, plus roofing material, window glazing, and decal signage. The kit for the Standard Mercantile Company includes tar paper sheets and corrugated roofing material.
Info: frenchmanriver.com




Maple Leaf Trains has an assortment of nine 1:87 scale mailboxes with three types of posts, and three options: flag down, flag up, and open box. Also new from Maple Leaf Trains is a set of five HO scale Rail Yard figures. All items in this release are unpainted resin castings.
Info: www.mapleleaftrains.com



Mine Mount Models has released six separate kits under the theme "The Sheds." Each shed design is different, varying in size from 1.25″ x 1.25 to 2.6 x 1.5. The models feature Mt. Albert Scale Lumber, Tichy doors and windows, and rolled roofing materials.
Info: minemountmodels.com/shop/ols/products




After an extended period of inactivity while battling COVID 19, **Monster Model Works** has reissued several products including sheets of scale brick, stone work, and wood siding in HO, S, N, and O scales.


Tie plates and road work materials are also back in stock.
Info: www.larkspurlaserart.com/monster-modelworks-products

Oxford has released three new 1:87 scale cast metal vehicles including this 1936 Buick Special convertible coupe in Cardinal Maroon. Note the red interior and twin side mounts in the front fenders.

Oxford's latest release of a 1957 Dodge D100 pickup is decorated in Tropical Coral and Glacier White. The wrap-around windshield and finned rear fenders were standard for the period.

1954 Pontiac Chieftain 4-door sedan in maize yellow shows lots of chrome.
Info: www.walthers.com

Rusty Rails has released 1:87 scale cast resin models for 1935 Fords. A four-door sedan and a five-window coupe are available now. Some minor assembly is required for the unpainted resin models. A Ford Model T and a Fordson tractor are currently under development.
Info: www.rustyrail.com

BRIEFLY NOTED

AT PRESS TIME ...

James Sacco, personable owner of City Classics, passed away in Pittsburgh, PA on March 7, 2022. Mr. Sacco established City Classics in 1989 and in subsequent years developed an impressive line of HO scale kits for urban structures, and interior and roof top details. A memorial service is pending.

Mask Island Decals has released HO scale decals for six piggyback trailers including GTW, Clinchfield, XTRA (25000) , XTRA (regular logo),Trans America (with both large and small logos), and Realco. Info: www.maskislanddecals.com ■

SELECTED EVENTS

March

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, YouTube & Facebook, March 21-24. NERx Virtual Convention, Northeast Region Virtual Event.
Info: www.nerx.org

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

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

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

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

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

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

March – April 2022

CANADA, SASKATCHEWAN, REGINA, April 30-May 1. Regina Railfest 2022. Caledonian Curling Club, 255 Sandra Schmirler Way.
Info: reginarailfest.com/railfest-2022

NEW ZEALAND, CHRISTCHURCH, April 15-18, 2022. Back on Track National Model Railway Convention 2022. St. Andrews College, 347 Papanui Rd.
Info: www.modelrailcon.nz

CALIFORNIA, ROHNERT PARK, April 21-24, 2022. Return to the Redwoods, Pacific Coast Region NMRA Convention. Doubletree by Hilton Hotel Sonoma Wine Country, One Doubletree Drive.
Info: www.pcrnmra.org/conv2022

COLORADO, DENVER, April 2-3, 2022, Rocky Mountain Train Show – Spring 2022. National Western Complex, 4655 Humboldt St.
Info: rockymountaintrainshow.com

GEORGIA, SAVANNAH, March 25-26, 2022. Savannah Prototype Modeler's Meet. Southside Assembly of God, 401 Tibet Ave.
Info: www.savannahrpm.com

ILLINOIS, URBANA, March 26-27, 2022, Lincoln Square Train Show, sponsored by the Illinois Terminal Division, NMRA. Lincoln Square Village, 100 W High St.
Info: itd.illinoisterminaldivision.org/show/show.htm

INDIANA, NAPPANEE, March 19, 2022, 17th Annual Nappanee Train Show, sponsored by the Elkhart Model Railroad Club. Claywood Event Center, 13924 N 1100 W (County Line Road).
Info: www.emrrc.com

KENTUCKY, LOUISVILLE, March 19, 2022. 32nd Annual Division 8, MCR Train Show and Sale. Holy Family Parish Saffin Center, 3938 Poplar Level Rd.
Info: div8-mcr-nmra.org/site/index.htm

MARYLAND, TIMONIUM, April 2-3, 2022. Great Scale Model Train and Railroad Collectors Show, Maryland State Fair, 2200 York Rd.
Info: www.gsmts.com

NEW YORK, BATAVIA, April 3, 2022. The Great Batavia Train Show, Richard C. Call Arena, Genesee Community College.
Info: www.gsme.org

OKLAHOMA, TULSA, March 18-20, 2022, Layout, Design, Operation Weekend (LDOP), sponsored by the Indian Nations Division of the NMRA. Akdar Shrine Center, 2808 S Sheridan Road.
Info: www.tulsanmra.org

OREGON, CORVALLIS, March 19-20, 2022. Winterail 2022, Railroad photography exposition and collectables sale. Corvallis High School, 1400 NW Buchannan Avenue.
Info: www.winterail.com

OREGON, ELSIE, April 2, 2022. 2022 Pacific Model Loggers' Congress. Camp 18 Restaurant & Museum, 42362 Highway 26.
Info: pacificmodelloggerscongress.org

PENNSYLVANIA, MALVERN, March 24-27, 2022, Valley Forge Railroad Prototype Modelers 2022. Desmond Malvern Conference Center.
Info: www.rpmvalleyforge.com

SOUTH DAKOTA, SIOUX FALLS, March 26-27, 2022. Greater Sioux Falls Model Train Show, sponsored by the Dakota Southeastern Division. Multi-Cultural Center, 515 N Main Ave.
Info: dakotasoutheastern.org

TEXAS, NEW BRAUNFELS, April 9-10, 2022. New Braunfels Railroad Museum Spring Train Show. New Braunfels Civic Center, 375 South Castell Avenue.
Info: newbraunfelsrailroadmuseum.org/nbrr/train-shows

WASHINGTON, TACOMA, March 17-20, 2022. First Annual Rails to Sails Train Show, sponsored by the Foss Waterway Seaport Maritime Museum. 705 Dock Street.
Info: fosswaterwayseaport.org/blog-post/rails-to-sails-train-show

WISCONSIN, ONALASKA, March 19-20, 2022. 41st Annual La Crosse & 3 Rivers' Model Railroad Show also featuring Doll Houses & Miniatures. The Omni Center, 255 Riders Club Road.
Info: www.facebook.com/events/1001728953764113

Future 2022-2023 by location

NEW ZEALAND, DUNEDIN, May 7-8, 2022. Dunedin Model Train Show. Taieri Bowling Club, 12 Wickliffe Street, Mosgiel.
Info: dunedinmodeltrainshow@gmail.com

UNITED KINGDOM, CREWE, November 4-6, 2022, Crewe North Junction 2022, British Region NMRA Regional Convention. The Heritage Center, Emperor Way, Crewe Business Park, CW1 6BD.
Info: convention.nmrabr.org.uk

CALIFORNIA, SAN DIEGO, September 7-11, 2022. Back on Track in 2022, Pacific Southwest Region convention. Four Points by Sheraton San Diego, 8110 Aero Drive.
Info: web.cvent.com/event/1474b6bc-b18a-49ec-9b4e-9f58fb4665cd/summary

CALIFORNIA, SANTA CLARA, May 26-28, 2022, O scale - S scale - Narrow Gauge West. Hyatt Regency Hotel, 5101 Great America Parkway.
Info: www.oscalewest.com

COLORADO, LAKEWOOD, June 2-5, (Proposed) Sn3 Symposium. Sheraton Denver West, 360 Union Boulevard.
Info: groups.io/g/NNG/topic/87954737#1335

CONNECTICUT, WINDSOR, September 15-18, 2022. Connecticut Yankee, Northeastern Region Convention 2022. Marriott, Hartford/Windsor Airport, 28 Day Hill Road.
Info: ner-conventions.org/connecticut-yankee

INDIANA, INDIANAPOLIS, May 18-23, 2022. Indy Junction 2022, the Midwest, Mid-Central, and North Central Regions NMRA Convention. Indianapolis Marriott East, 7202 East 21st Street.
Info: www.indyjunction2022.org

INDIANA, INDIANAPOLIS, May 18-22, 2022, RPM Conference at Indy Junction 2022.

MAINE, WESTBROOK, May 14, 2022. Southern Main Model Railroad Club Train Show. Westbrook Community Center, 426 Bridge St, off exit 48 I-95).
Info: southernmainemrc.wordpress.com

MASSACHUSETTS, ORLEANS, December 18th, 2021, Nauset Model Railroad Club Open House. Rear of Hiltop Plaza, 180 Route 6A.
Info: www.nausetmodelrrclub.com

MINNESOTA, SAINT CLOUD, May 14, 2022. Granite City Train Show, River's Edge Convention Center, 10 4th Avenue South.
Info: www.granitecitytrainshow.com

MISSOURI, St. LOUIS, August 7-14, 2022, NMRA National Convention and National Train Show. St. Louis Marriott Grand Hotel, 800 Washington Avenue.
Info: gateway2022.org

NORTH CAROLINA, CHARLOTTE, October 20-23, 2022. Carolina Special Look South 2022, Mid-Eastern Region Regional Convention. Hilton University Place, 8629 M Keynes Drive.
Info: www.carolinasouthern.org/MER2022.html

OREGON, EUGENE, May 10-14, 2022. Make Tracks to Eugene, PNR 2022 Regional Convention, Valley River Inn, 1000 Valley River Way.
Info: pnr.nmra.org/1div/Eugene2020/home.htm

PENNSYLVANIA, HARRISBURG, June 10-11, 2022. 2022 Harrisburg Narrow O Summer Meet. New Hope Church, 584 Colonial Club Drive.
Info: www.facebook.com/modelingevents

PENNSYLVANIA, HAMBURG, September 16-18, 2022. Reading Railroad Modelers Meet X, hosted by the Reading Company Technical & Historical Society and the Anthracite Railroads Historical Society. Reading Railroad Heritage Museum, 500 S. Third St.
Info: readingrrmm.com

TENNESSEE, JOHNSON CITY, June 3-4, 2022, George L. Carter Railroad Museum Big Train Show, East Tennessee State University Mini-Dome, State of Franklin Road.
Info: www.etsu.edu/railroad/events.php

TENNESSEE, NASHVILLE, June 15-19, 2022. 28th Annual National N Scale Convention, Sheraton Music City, 777 McGavock Pike.
Info: www.nationalnscaleconvention.com

TEXAS, GRAPEVINE (Dallas Area), Summer 2023. NMRA National Convention, Gaylord Texan Resort & Convention Center, 1501 Gaylord Trail.
Info: www.2023texasexpress.com

TEXAS, TEMPLE, May 5-7th, 2022. Where Modeling meet Prototype Convention, Lone Star Region Regional Convention, Mayborn Convention Center, 3303 N 3rd Street.
Info: lsr2022.org

VERMONT, WHITE RIVER JUNCTION, October 16, 2022. Upper Valley Model Railroad Show, sponsored by the Connecticut Valley Model Railroad Club. Connecticut Valley Auto Auction Building, 1567 VT-14.
Info: cvrr.railfan.net/cvmrr

WASHINGTON, TACOMA, September 1-4, 2022. 42nd National Narrow-Gauge Convention, Hotel Murano, 1320 Broadway.
Info: www.seattlenngc.com

WYOMING, CHEYENNE, May 14-15, 2022. Sherman Hill Train Show. Event Center – Archer, 3801 Archer Parkway.
Info: www.shermanhillrails.org/trainshow

WYOMING, CHEYENNE, May 11-14, 2022, Union Pacific Historical Society Convention. Red Lion Hotel, 204 West Fox Farm Road.
Info: uphs.org/conventions/future-conventions ■

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MRH Store (3)
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Pre-Size Model Specialities
Precision Design Co.
Rapido (1)
Rapido (2)
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Other – Cover
Other – MRH Marketplace
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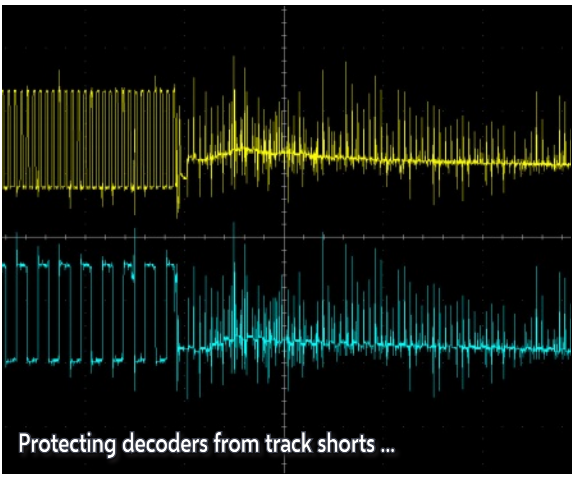

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