Garden Railroading News

March/April 2025 • 2025 #2 • www.GRNews.org

R/C Installation in a 4-4-0

Club Corner: The Variety in Temporary Displays

SWSS Lake Junction Railroad

A Sampson Family Multi-Generation Enterprise

A free digital magazine produced by garden railroaders for garden railroaders

Garden Railroading News

March/April 2025 • 2025 #2 • GRNews.org

The community comes together.

In This Issue

Specials

Mixed Consist Club Interchange

Regularly Scheduled

Cover Photo: A Rio Grande Western C-16 pulls a freight consist around the curved trestle on the SWSS Lake Junction Railroad.
• *Proprietors The Sampson Family/Photographer Jeff Namba*

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Seen On the Tracks

Photo by Matt Hutson

Above: *January snow-clearing operations pass a siding in 7°F weather on Matt Hutson's railroad located at 8,300' in elevation. The mountain in the distance is 14,197' Mount Princeton; visible vegetation is native. Matt scratch built the snow dozer and the caboose; the GP7 is from USA Trains. Matt's railroad is based on the Rio Grande in the San Luis Valley of Colorado between 1945 and 1962.* • Chaffee County, Colorado

Below: *Due to rapidly rising prices in eggs since January 20, the management of the Rock Creek Railroad has been forced to request police protection for its egg shipments. Management regrets the inconvenience and extra cost of the eggstra security. Peter Drymalski* • Silver Spring, Maryland

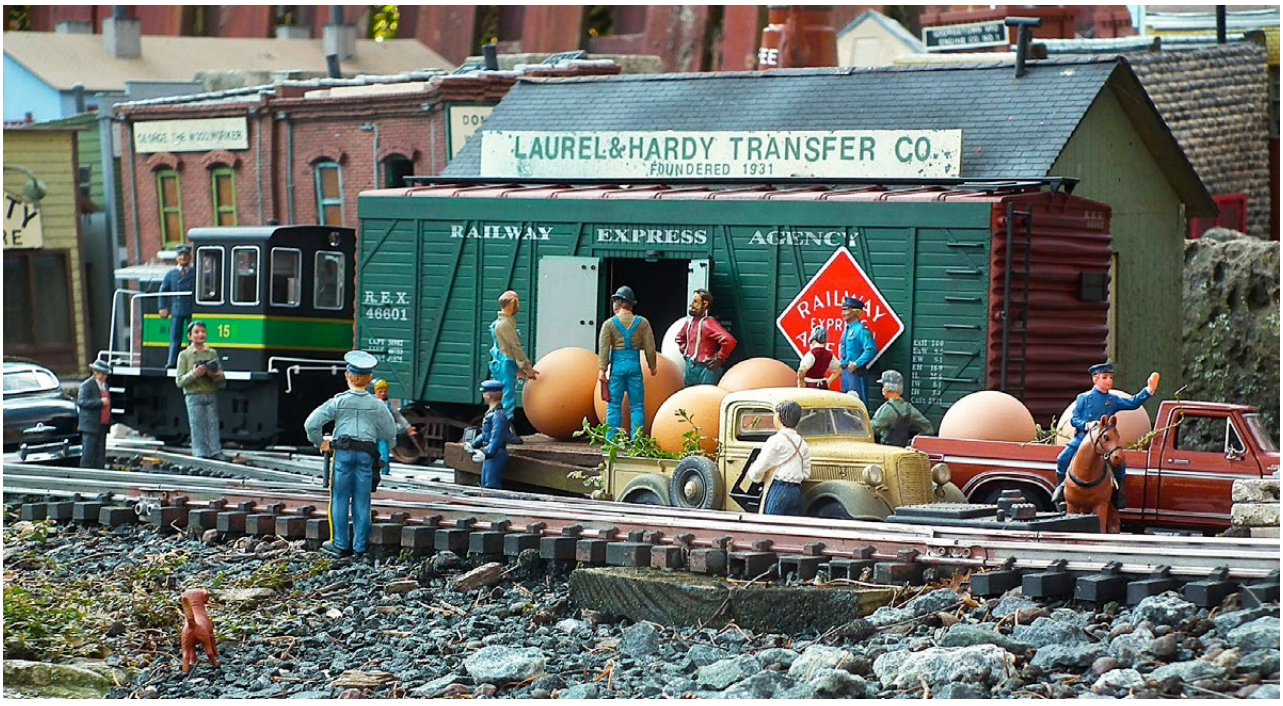

Photo by Peter Drymalski

A Great G-Scale Railroad Moves from Private to Public Display

The White Pass & Yukon G-Gauge Railroad Exhibit will be on display when the Railway Museum of British Columbia starts their "summer season" on April 18. The museum in Squamish, BC, exhibits a collection of 95 heritage railway locomotives and cars. David Jones, one of the group who started up *Garden Railroading News*, has led the crew who reassembled this 30+ year old layout originally built by Joel Bragdon for Canadian businessman, Carl Vanderspek [see *Garden Railroading News* March/April 2021]. The layout has been reconstructed in the museum "Car Shop" and now includes even more detail.

For museum information, go to: wcra.org

Rick Scott and David Jones pose between building the mountain peak.

White Pass & Yukon Railroad provided helpful route maps; Skagway detail is new.

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Garden RR Solutions Reintroduces the Bridgemasters Weighted Pad Track Cleaning Car

This pre-assembled track cleaning car, previously distributed by BridgeMasters, has an anodized aluminum, CNC-machined frame with a floating weight atop a replaceable Scotch-Brite™ brand abrasive pad.

The track cleaner weighs two pounds, providing good scrubbing/polishing action to keep your track clean. It has been improved with a coupler now at each end. The track cleaner measures about 8 inches long, not including the couplers. The cleaner is supplied with metal wheels and is ready to go.

Replacement pads are available from Garden RR Solutions at: gardenRRsolutions.com and are easily changed by releasing a thumb screw. Scotch-Brite™ pad material is also available at home improvement and paint supply stores.

Track Cleaners are currently available from Only Trains at onlytrains.com and from the Garden RR Solutions website at: www.gardenRRsolutions.com

New Bridge Sections from SplitJaw Products

Split Jaw has added a second, wider diameter, two-track curved bridge option and a single-track turnout/switch section to their all-aluminum bridge product line.

The double-track bridge sections have 15 degrees of curvature (24 pieces to a circle). The outer track fits LGB R5/18000 (15.2 ft diameter) sectional track; the inner track is a custom 14.3 ft diameter that can fit Split Jaw Flex track.

The new single-track turnout/switch bridges will accomodate several different LGB R3 turnouts (16040, 16050, 16140, 16150) and is available in either left-hand or right-hand configurations.

More information at: splitjawproducts.com or railclamp.com

2025 National Garden Railway Convention June 18 to 22, 2025

Register now for the **2025 Sacramento National Garden Railway Convention** scheduled from **June 18 to 22, 2025**.

For more information, go to: NGRC2025.org

Minimizing Maintenance Tip #1 by Mick Spilsbury

Dirtless Dirt

During dry weather conditions, regular dirt close to the tracks on our railroads is prone to blow as dust and impede switch operation. During wet conditions it can slurry on to our track. At any time, keeping it clean is a manual task.

There is no real dirt anywhere near my tracks. Lava sand is combined with 1-part TiteBond 3 and 3-parts water to form a red 'dirt' paste which is troweled in place.

It dries to a hard surface which gets harder over time as rain and sun does its magic. Leaves and other debris are easily removed with a shop vac which does not compromise the 'dirt.' Buildings stay cleaner. Gophers are less inclined to pay unwelcome visits!

Two German Tourist Line Locomotives and a Steel Industry Slag Car Will Arrive in the Second Quarter from LGB

LGB is offering two versions of an 0-10-0 steam locomotive introduced on German rails in the 1920s. Both locomotives are driven by two powerful motors with articulated running gear. These locomotives will handle tight two-foot curves like their narrow gauge prototypes. Steam exhaust synchronized with the wheels and cylinders, running lights, cab lights and flickering fire in the firebox (seen when smoke box is open) add to realistic operation.

L20483 Öchsle RR Steam Loco, No. 99 716

Öchsle Railroad Class VI K Steam Locomotive, road number 99 716, is a narrow gauge steam locomotive with ten driving wheels that is currently in use on the Öchsle Museum Railroad (Öechsle-Bahn) between Warthausen and Ochsenhausen in southern Germany. Since an overhaul in the 50s, the ladder has been permanently mounted on the left side.

SOEG (Saxony-Upper Lusatian Railway Co.) Class VII K Steam Locomotive, road number 99 731, is a ten-wheeler still in use on the Zittau Narrow Gauge Railroad today. SOEG employees returned the unit to its Era II look, and it mainly pulls the German State Railroad train. This locomotive, painted light photo gray, has appeared at the Zittau Narrow Gauge during their annual "Historik Mobil"/"Travelling History" event. In September 2024, the locomotive made the trip from Zittau to Leipzig for the "Hobbymesse Leipzig" trade fair. At the fair, artist Michael Fischer (Michael Fischer-ART) painted the prototype in one of his fun, colorful motifs *live* in front of fair attendees. LGB is offering a model with this colorful design.

L21485 SOEG Class VII K Steam Locomotive, road number 99 731

L40561 Slag Car

For the industry modelers, LGB is offering a steel plant Slag Car. These types of cars are used in steel plants for the transport of slag, the stony waste matter left after smelting. The cars also move liquid crude iron and molten steel. Their massive, heavy construction is a clue to their use. In most cases, these cars are grimy from use and are used only within the steel plant. (They could deliver Halloween candy on your railroad.) The LGB Slag Cars come with traces of "grime" and can be emptied digitally.

L40561 Slag Car

More information at: LGB.com or email customerservice@marklin.com

Something Old and Something Mid-Century from PIKO

PIKO is offering a new road name "Fort Steele" #1925 on a fresh run of Union Pacific wood coaches. There is also a baggage car to go into your turn of the century train behind Union Pacific 2-6-0T Saddletank locomotive #103 (No. 38256) or UP 2-6-0 Elk Art Mogul (No. 38236).

38675 UP Wood Baggage Car 38672 UP Wood Coach #1925

To travel on a western route with your UP tank car introduced last June, add a Mobilgas Flying Horse tank car (or several) to your consist. Expected for delivery in May, these welded-construction-style tank cars with Mobil logo would have been commonly seen in the second half of the Twentieth Century.

38977 Mobil Tank Car

Pennsylvania Railroad fans can look forward to creating an ore train on their railroad with the May introduction of a PRR 2-6-0T saddletank switcher with lights, smoke and sound. Then add your own load to PRR ore cars coming in a two-pack.

38253 PRR 2-6-0T Saddletank Loco

38927 PRR Ore Car, 2 Pack

More information at: www.piko-america.com

For the latest catalog and new items brochure: https://www.piko-america.com/pages/catalogs-brochures-and-flyers

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Large Scale Train Shows & Events

Make plans to attend a train show, layout tours and/or the 2025 National Garden Railway Convention.

The **Staver Spring Steamup** will be running live steam G-Scale trains at Staver Locomotive in **Portland, Oregon**, for four days from **April 24 to 27, 2025**.
Info at: staverlocomotive.com

RLD Hobbies Spring Open House welcomes visitors to run trains and explore trains new and old from **May 1 to 3, 2025,** at the store in **Albion, Illinois**. Info at: rldhobbies.com

The **2025 Northeast Large Scale Train Show** sponsored by Amherst Railway Society will be in **West Springfield, Massachusetts**, on **May 3 and 4, 2025**. Info at: nelsts.org

The **Great Lakes Large Scale Train Expo** (formerly the North East Ohio Large Scale Train Show) sponsored by the Riverside Railroad Crew will be in **Girard, Ohio** on **May 9 and 10, 2025**; info at: www.greatlakestrainexpo.com

The Tulsa Garden Railroad Club is planning a **2025 Midwest Garden Railroad Gathering** from **June 4 to 7, 2025**, around **Tulsa, Oklahoma**. For registration information, visit: midwestgardenrailroadgathering2025.com

The Sacramento Valley Garden Railway Society invites everyone to the **2025 National Garden Railway Convention in Sacramento, California**. Layout tours, clinics, vendor hall and more will be happening from **June 18 to 22, 2025**. Registration is open now. More information at: ngrc2025.org

Georgia Garden Railway Society welcomes the **2025 National Big Train Operators Club Convention** based in **Helen, Georgia**. Convention activities are being planned for **July 13 to 18, 2025**. Info at: bigtrainoperator.com

2025 MO-KAN Garden Railroaders Layout Tours will be held by region in the greater Kansas City area: **Central July 12, East July 26,** and **West August 23**. Information at: mokangardenrailroaders.org

The **2025 National Steamup Symposium**, a gathering of live steamers, will be held **October 8 through 12, 2025** in **Lodi, California**. Details at: www.steam-events.org

Large Scale Conventions 2026 & 2027

Make plans to attend now.

Christchurch Garden Railway Group is hosting the **15th New Zealand Garden Railway Convention** in Prebbleton, New Zealand, from **February 6 to 8, 2026**. Layout tours currently include fourteen railroads, and registration includes the vendor hall, clinics, and two evening buffets. For information and registration form, email Iain Collingwood at: nzgrc2026@gmail.com

The Nashville Garden Railroaders have set dates for the **2027 National Garden Railway Convention**. Plans are being made for activities from **Memorial Day, May 31 to June 5, 2027**. More details to come under Upcoming Events at: nashvillegardenrailroaders.com

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Coming Soon in GR News: Gary & Jonette Lee's Baker & Grande Ronde Railroad

The Affiliated Clubs List Is Online at www.GRNews.org/ourclubs

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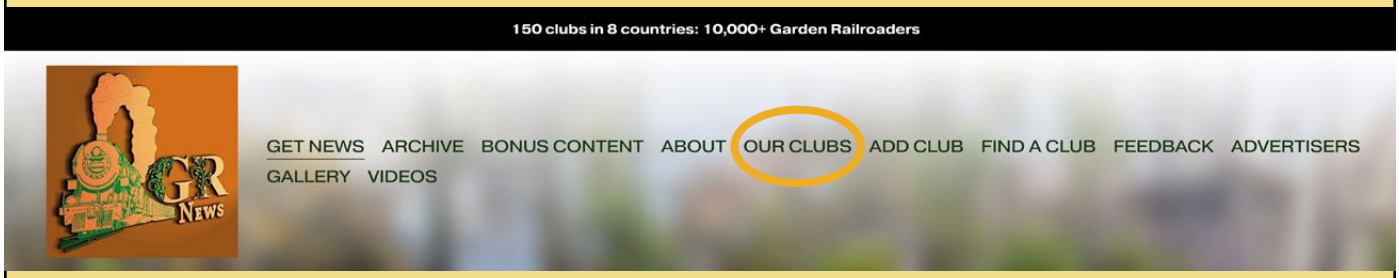

There you will find our affiliated clubs organized by country/state with main city location.

USA BY STATE
ID Southern Idaho G-Scale Railroad Society *(Boise)*
IL Chicago Area Garden Railway Society *(Chicago)*
IL LGB Model Railroad Club of Chicago *(Chicago)*
IL Midwest Rails *(Chicago)*
IN Illiana Garden Railway Society *(Valparaiso)*
IN Indiana Large Scale Railroaders *(Indianapolis)*

Almost all the clubs have websites or Facebook pages readily found on the web using any major search engine. You will find event and 'Contact Us' information on most club pages.

If you contact a club without getting a response or want to add your club to the list, email *GR News* at: marketing@GRNews.org and be sure to tell us which club (or clubs) you are writing about.

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SWSS Lake Junction Railroad: Where a Love of Trains Crosses Generations

By Joan Sampson and grandson Joshua Sampson, Sheridan, California

Photos by Jeff Namba unless otherwise noted

SWSS Lake Junction Railroad is the brainchild of Lee Sampson. Lee's love of trains began as a very small boy when he and his father frequented the train yard in Yakima, Washington. Later in his childhood, they built an HO layout in the attic of their home in the Bay Area. In this layout, the rails were laid down by hand with small spikes. Lee was also given a Lionel train set, some of which is now in the possession of his oldest son. As an adult, he built an HO layout in the garage of his home in the Bay Area, and had it rigged with pulleys to go up and down so it wouldn't monopolize the garage space.

His interest in G-Scale began after seeing a small layout set up in a toy store in Solvang during a visit. His wife later gifted him with an LGB "starter set" with her bonus for Christmas in the early 1980s. Later in 1985, during a trip to Germany, he purchased a Mogul engine from a local train store, the most expensive purchase on the trip as reported to customs when coming home. Both of these purchases, along with joining the Bay Area Garden Railway Society, helped to inspire his first garden railway. The original layout, constructed in Redwood City, was a simple design with a small footprint due to space constraints. After purchasing acreage in Sheridan in 2000, Lee was already planning the location of his new layout even before construction of his new home was completed. He envisioned a large layout on a raised bed as the centerpiece of a turn-around driveway, with a couple of trees and several plants to fill out the space. Shortly after moving to the Sacramento area, he joined the Sacramento Valley Garden Railway Society (SVGRS). This provided the opportunity to see even more layouts to be inspired by.

Photo by Carla Brand Breitner

Two Moguls momentarily run side by side.

continued on next page

A tree in a raised bed inside a circular driveway was central to the design of the Sampson SWSS Lake Junction Railroad.

Cattle are loaded into a stock car from a cattle pen in the switching yard outside town.

At first the trains and buildings could be housed in one of the home's bedrooms. However, as the layout grew, the construction of a "train shed" to accommodate the growing collection became a clear need. Lee constructed a workbench with all of his special tools so he could work on all of his projects without ever leaving the space. Even accounting for expansion, space in the shed has since been filled up with all of the custom projects that he continued to work on, often several at a time. Whenever he would go to a train show, he was always looking for vintage automobiles and trucks in the right scale to add to the ambiance of the layout. He also loved to collect unique items for the layout, such as a Coca Cola machine, milk cans, baggage carts, handcars, and anything else that caught his eye that was of the correct scale.

A handcar moves supplies out to trains.

Lee Sampson built this workshop/train shed to hold his growing collection.

A vintage oil truck waits at a crossing.

A painter works on the fishing dock shed.

Photos from 2016 (left) by Carla Brand Breitner

The initial footprint of the layout contained two main loops, each running through tunnels which went beneath a "large" hill on one side of the layout. The inner loop was later looped back on itself as a figure-eight design, going through the hill twice, and going up and over it onto a curved scratch-built trestle. These loops originally ran on track power, operated by a custom-built control board which would alternate locomotives on the outer loop each time they reached the station. Over time, the layout has grown and now consists of approximately 400 feet of track across the two main loops, as well as two smaller loops and a point-to-point. It also contains the four original tunnels, rolling stock, scratch-built trestles, a multi-level pond with bridges, and several scratch-built buildings including the main town square, a lumber mill, a gold mine, and a fishing dock. The original "town" facade that butted up against the fence in the Redwood City layout was reconstructed as a complete row of buildings in Sheridan.

continued on next page

Trains travel out of town through a rural landscape with a scratch-built gold mine, farms, and a saw mill .

Lee was the mastermind behind everything, however it was very much a family affair from the beginning. His three sons, as well as his grandchildren, were always involved in setting up the layout, often having spirited discussions as to what should go where for the best effect! Anytime there was an upcoming event, the family was all in and their enthusiasm was evident in the time they would spend to ensure that everything was just so. The grandchildren would also take turns running the trains, sometimes to the point of friendly argument over whose turn it was. Over the years, many train open houses, parties and events have been held with young and old coming out to enjoy the trains.

Being retired and wanting to share his love of trains, Lee became a docent for the California State Railroad Museum in Sacramento, where he served for several years. Ironically, the turntable he used to see at the train yard in Yakima is now a permanent fixture outside the roundhouse of the main museum.

continued on next page

Lumber from the saw mill is ready to ship to Orchard Supply.

Photo by Carla Brand Breitner

Lee Sampson used tunnels to traverse a hill between town and country.

This ranch keeps the "residents" busy.

This curved scratch-built trestle provides the crossover for a figure eight track.

A piano transfer goes awry in this vignette for 2016 layout tours.

Photo by Carla Brand Breitner

He loved working there and telling stories of the early days of the US railroads. His favorite station to man was the museum's Southern Pacific Railroad No. 4294 Cab Forward, both as a nice place to sit and as one of his favorite types of locomotive, next only to a Shay.

As time passed, Lee faced physical challenges maintaining the layout. These challenges, and the year of Covid, brought a brief halt for opportunities to host events, causing the layout to begin becoming overgrown. When he passed in 2022, the only proper way to honor him was with an open house showcasing both his life and his love of trains. Like so many times before, the whole family pitched in to help ensure the layout was in pristine condition. During the cleanup, several previously deceased “tenants” were discovered in the tunnels. Bushes and vines were trimmed, weeds eradicated, track cleaned and ballasted where needed.

The one unfortunate thing about having a mastermind is that they have everything in their head, and almost nothing on paper! Consequently, the control systems for several trains needed to be sorted out. In addition, he had recently installed a new loop that had never been run before, and its control system was not yet finished.

For Christmas later that year, Lee’s eldest grandson Joshua was gifted with a membership to the SVGRS and was tasked with helping to maintain the layout, both of which he took to quickly. Having grown up in a family of model train lovers, he jumped at the opportunity to help keep his grandfather’s passion alive. All of those years helping to set up and run trains for events from a very young age had helped develop his own love of model trains. Joshua had HO model trains growing up, which would make alternating appearances each year with his dad’s Lionel, and LEGO trains to set up around the house for Christmas time.

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A Shay pulls logging cars through a sweet alyssum meadow.

A railbus makes a whistle stop.

A train passes the gold mine ore tower.

Moguls were among the first G-Scale locos.

Buildings behind the Texaco station were built out from a facade on the original Sampson railroad.

Buying tickets.

With mostly indoor train experience, Joshua has had to learn just how quickly weeds can get out of control, and the importance of staying on top of landscaping after the rain to prevent wash outs. Several years of rain also meant that nearly the whole layout required re-ballasting both for function and form. Additionally, a lot of electrical wiring has begun to show signs of wear and needed to be replaced. Joshua has also been maintaining the trains to ensure they remain in working order, including figuring out the control systems that had not been finished. He leaves the pruning of bushes and plants to his Grandmother, who has much more experience in that respect.

Since joining the SVGRS, Joshua has volunteered for a number of club hosted events, including teaching a clinic to show off the capabilities for custom computer modeling in order to create your own objects with 3D printing. He has recently been writing articles for the club newsletter showcasing 3D printing and the possibilities it offers, both for the hobby and in general use. Being involved in the club has inspired him to purchase some of his own G-Scale trains and track. And when one of the other club members showed off a 3D printed engine, he was further inspired to print his own equipment, including some rolling stock.

Rock work frames this track crossover.

Lee may be gone but his legacy lives on with his family's great love of trains. Since Joshua lives with his brother, sister-in-law, and their boys, Josh's 3-year-old nephew has incidentally and very mysteriously developed a strong interest in trains as well, which means that another generation of train lovers is on the horizon! With SVGRS hosting the 40th National Garden Railway Convention this year, SWSS Lake Junction will be one of those open for viewing by Convention attendees and once again, it will be a family affair.

SWSS Lake Junction Railroad will be on layout tours at the 2025 National Garden Railroad Convention June 18 to 22, 2025. For information and to register, go to: www.ngrc2025.org.

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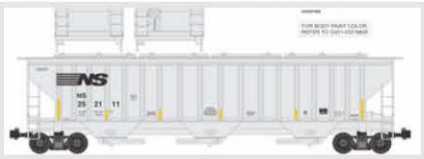

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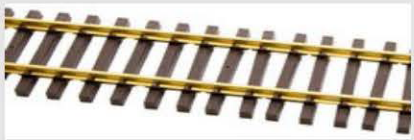

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Club Corner

Curated by Bill Derville, Past President
Rose City Garden Railway Society • Portland, Oregon

Train displays are a common way clubs introduce the public to our hobby and promote membership in their clubs. Many people are fascinated by model trains, and our G-Scale trains are not called “Large Scale” for nothing. Their detail captures the imagination. For some it’s the “Glory Days of Steam” and the smoke-belching monsters that won the West; for others, it’s the huge diesel engines of today’s railroads with their powerful big engines capable of pulling a hundred cars. And many like both steam and diesel trains running around a layout.

So many clubs build public displays for both their members and the public to enjoy. After surveying several clubs, I learned a lot about what clubs are doing today.

There seem to be three types of displays clubs build, each with their own set of features and challenges. These three types are:

1) Temporary layouts constructed at a train show or other sponsored public event.
2) Modular layouts that are set up using preconfigured tables with track attached to the tables.
3) Permanent layouts in public places.

I will devote the next few columns this year to discussing these three types of layouts, the challenges to set them up, staffing, and how clubs keep them running. I will include things that people have told me that have worked as well as what has not worked.

Gary Woolard discussed live steam test track layouts in the July/August 2024 issue of *Garden Railroading News*. I will discuss club live steam tracks in a fourth column.

Please join in the fun; email me at bill@derville4.com. I would love to hear how your club does public displays. We can all learn from each other.

I’ll start with temporary displays built on the ground, floor, or tables, but with track that is assembled on site for each display. Layouts can be as simple as a single circle or oval of track, or complex with multiple loops of trains like many of us have in our own gardens at home. It is a good idea to use rail clamps to ensure electrical connectivity if running track-powered engines.

Photo by Cherylene Evansl

Small table layouts like this Denver Garden Railway Society loop allow kids to run trains, are easy to put together, and promote the hobby to younger generations.

Photo by Sue Elliot

The Minnesota Garden Railway Society sets up over a dozen displays such as this one at county fairs and train shows to promote the club and the hobby.

Sue Elliot told me the Minnesota Garden Railway Society sets up displays on the floor at two or three county fairs a year for four to seven days, and layouts at a dozen train shows that last one to two days. They also set up tabletop trains at shows, fitting layouts onto 9x24 feet using exclusively 4-foot radius curves. The track is assembled after the carpet is put down or the tables are set up.

Back issues of Garden Railroading News are available for free to everyone on our website: www.GRNews.org/archive.

The North Texas Garden Railroad Club sets up three shows a year with 11 to 14 loops on the ground, so little ones can sit close to the trains, and adults don't have to hold them up to see.

Peter Drymalski of the Washington/ Virginia/Maryland club recommends having at least two loops with trains running in opposite directions to keep things interesting. Include long sidings where members can set up new trains and remove finished ones, so trains on the main line keep running.

Sometimes members bring their own track for the display, marking it with tape or paint under the ties. Other clubs have invested in club owned track so that there is always enough available for setting up these displays. Some clubs own their engines, cars and buildings used on their temporary displays.

Once the track is installed and tested with a train, scenery begins. Members usually bring buildings, landscape materials, figures, scale automobiles, and even materials for making mountains and tunnels. Mountains and tunnels can be constructed using foam blocks/board and cutting tools like the ones sold by Hot Wire Foam Factory, one of our advertisers. If you include tunnels, use tunnel portals and cover the inside of the tunnel with black plastic or dark fabric to keep light out of the tunnel. Bridges are popular structures that add diversity just like they do in our home layouts.

If the display is on the floor or outside on the ground, sometimes real dirt is used for topography. Live plants can be added, but keeping them watered is a complication that must be dealt with during the show.

Photo by Vard Moore

Multiple loops run at ground level in North Texas Garden Railway Society's annual display (under a tent in the rain) at Clark Gardens.

Photo by Chuck Klein

The San Diego Garden Railway Society built this at the San Diego County Fair. The Theme was "Let's Go Retro" so SDGRS recalled Route 66.

Real water features are not recommended, but some clubs experienced in building public layouts have included ponds with either a pond liner or plastic molded ponds with real water. You can also substitute mirrors, plexiglass, plastic, or even fabrics to simulate water.

You may need a barrier to keep visitors from entering the layout. Ropes are the easiest barrier, but cones also work. Elaborate layouts sometime include glass barriers that are installed to keep inquiring little hands from reaching into the layout. At a display at a garden center, live pots of plants often are used to create a barrier.

Members usually bring their own trains and cars to run, and trains are changed out so there is always at least one train in motion for the public to admire. These layouts are not just for the public, but also a way club members can run their trains even if they don't have a home layout.

Be sure your trains aren't boring. Avoid freight trains with repetitve box cars or coal trains with loads of coal; they may be prototypical, but not very entertaining. Add flat cars with interesting loads to your freight trains. You want lots of color, sound and lights wherever possible. Animation is very interesting too. Don't forget to include people and passengers. Include a "Thomas the Tank Engine" train on the layout. It can have it own siding to wait on, but when kids beg to see it run, it can be brought out on demand.

Photo by Peter Drymalski

This display, built annually at Brookside Gardens by the Washington-Virginia-Maryland Garden Railway Society, takes 800 to 900 man hours to construct. It is open from Thanksgiving through the end of the year.

Photo by Jay Kelly

Southern California Garden Railway Society lets kids operate loops with buttons on stands at the Lomita Railroad Museum Family Fun Day.

Peter Drymalski recommends getting visitors, especially children, involved by giving them an engine or car to hold in their very hands (under supervision, of course) and feel its weight and see its details. That makes it more "real" to them.

Consider showing observers how to use remote controls. The new Piko industrial diesel is good for that purpose, but it's not the only one. At many shows, the Washington/Virginia/Maryland club also sets up a separate loop run by a simple LGB transformer for the children to use. The transformer is attached to a podium so a small child can use it standing up.

Rose City Garden Railway Society uses fake trees and a snow blanket for the Christmas layout we set up at Al's Garden Center every year in Oregon. *[See Nov/Dec 2023 issue]* This display is up for two months. We are running an LGB Mogul owned by the club. We found the electrical pickups and gears wore out when it ran all day. We installed a button with a timer to run the train for three minutes so it would only run when people were watching. Store personnel turn it on and off each day and clean the track using a track cleaning car. If there is a bigger problem, they shut it down and call for me to fix whatever is wrong. Snow blanket material needs to be periodically removed from the axles of the car and engine.

Photo by Bill Derville

A Christmas layout is set up by the Rose City Garden Railway Society at Al's Garden Center in Sherwood, Oregon, every year. A button is used to start the train for 3 minutes.

One of the benefits of creating public displays is the comradeship created when club members come together for a common project. It is a great way to get to know other members better and for less experienced members to learn construction techniques from experienced members. Friendships develop from working together. It can be a challenge if several people have different ideas for track plans, so be sure someone is in charge to make the final decisions.

Then there is the issue of staffing. A schedule of people staffing the display needs to be created for all open days. Train shows have to be staffed during show hours, requiring a commitment to have people on site whenever the show is open. For a display in a store or museum, employees can be asked to turn on the trains each morning, turn them off at closing, and keep the trains on the track.

Have membership applications and information about your club on hand to pass out to interested visitors. A public display is an opportunity for new members to join your club.

Tear down always takes half the time it takes to set up the layout, but be sure to line up enough help to dismantle everything and cart it home. Make sure people mark all their engines, cars, buildings, figures, and plants before the show in case they get separated from their owners during tear down. Bring a shop vac to clean up the mess left behind. We put real ballast down on the track, and the first thing we do is vacuum the ballast and put it in a bucket for the next show.

In the next issue, I will discuss club modules with track permanently attached to tables. Then in the July/August issue I will discuss permanent club displays that are never torn down. The more we learn from each other, the easier it will be to build and operate club displays; then tear them down for the next show.

I am always happy to hear your club's experiences. You can email me at:

bill@derville4.com.

Loco of the Edition

Western Maryland #82, an EMD BL2 Diesel by Steve Bittinger

My scratch-built EMD BL2 #82 and #T-139 slug (used to increase tractive power with additional motors and weight from concrete in the shell) made their first public appearance at the East Coast Large Scale Show in 2023. After fourteen months of research, planning and scratch building, the BL2 diesel was finally finished. The engine is shown as it would have appeared in 1963. As a past employee on the Western Maryland Railway, I am proud to say that the real #82 is at the Durbin & Greenbriar Valley Railroad in Elkin in my home state of West Virginia. Its twin, #81, resides at the B&O museum in Baltimore, Maryland.

Photo by George Poknis

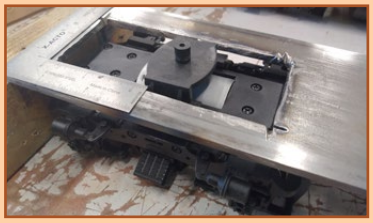
I have taken up building locomotives I have always wanted, but knew no manufacturer will probably ever make in G-Scale. General Motor's Electro-Motive Division (EMD) developed the BL2 as a "branch line" switcher in 1947. Fifty-eight units were built before EMD introduced the more popular GP7, which incorporated lessons learned, such as full-length walkways allowing the crew to move from one point to another on the locomotive during switching operations.

continued on next page

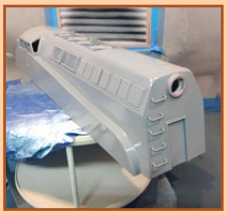
Photo by Randy Mower

Western Maryland #82 Continued

I built my BL2 on a ¼ inch steel frame for good support of the body shell and increased tractive power. I cut ¼" steel plate with a plasma torch to make the base frame for the BL2 locomotive.



Motor blocks were tested for fit prior to additional cutting of the steel frame. Once the steel received final cutting, the steel surface was given a skin of styrene sheet bonded to the steel.



I used a lot of styrene, Bondo and hours to shape the EMD BL2 shell.

The T-139 slug. The real slug unit was operated attached to the BL2 at the hump yard in Hagerstown, Maryland. The slug has two sets of electric motors identical to the ones in the BL2. Power was transmitted from the BL2 to the slug via electrical cables. Just like the prototype, the interior of the body is filled with concrete for maximum tractive effort. I built the slug model after completing the BL2.

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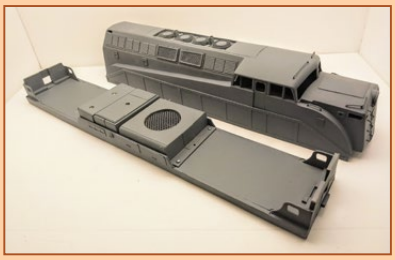
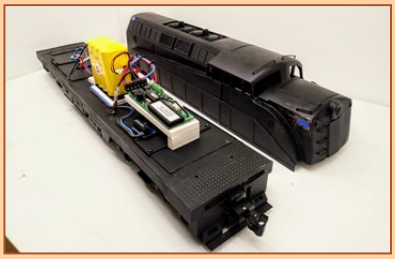
Western Maryland #82 Continued



Here the underside of the frame shows the speaker cabinet and fuel tanks. The frame details are finished on the sides.



The body in black primer is ready for final fine sanding before receiving additional coats of paint. The battery and electronics are mounted to white PVC and attached to the steel frame.

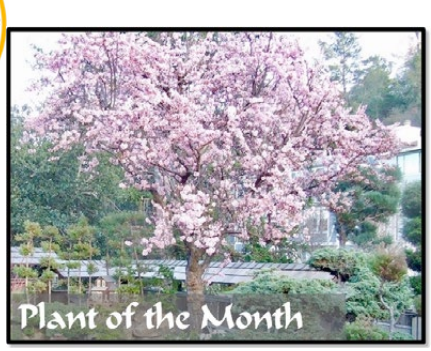
My scratch build of the WM Rwy BL-2 diesel ready for a final cleaning and paint job.

Applying decals from Shawmut Car Shops and installing handrails complete the model.

Photo by Kevin Strong

Until you start making a model from scratch you never realize how many parts there are. This is my third scratch build project. Definitely the most ambitious.

Submit your scratch built, modified, weathered or detailed—unique in some way— loco.
Send your photos and write-up to Editor@GRNews.org or Marketing@GRNews.org.



— **By Richard Murray**

BOTANICAL NAME: *Chamaecyparis lawsoniana*, 'Green Globe'

COMMON NAME: Green globe Lawson cypress

USDA HARDINESS ZONE: 5a through 9b (down to -20°F)

Description

Although *Chamaecyparis lawsoniana*, 'Green Globe' grows usually as a round ball, my plant in the photo has been pruned into a bonsai look. It is normally a small, round shaped selection of Lawson cypress with very tight dark-green foliage. It is one of the smallest cultivars known of this species. After 10 years of growth, this evergreen conifer will measure only 12 to 16 inches tall and wide. The plant in the photo is about 15 years old and is about 19" tall. The growth rate of 'Green Globe' in full sun is barely an inch per year. No pruning is normally required. It is considered one of the best dwarf globose forms. In fact, it has been given an Award of Garden Merit. At our recent Annual Meet, Nancy Norris said this was one of her favorite plants.

Cultivation

'Green Globe' likes moist, but well-drained, soil. It is tolerant of chalk soils, but prefers slightly acidic soil. It does best in full sun or partial sun. It is verticillium wilt resistant. Propagation is by grafting or using semi-hardwood cuttings. The plant is native to (or naturalized to) Oregon and is a miniature cultivar of Port Orford cedar. 'Green Globe' originated as a seedling selected in 1950 by Palmer & Sons Nursery, New Zealand.

Uses

This plant is ideally suited to low maintenance city gardens, courtyard gardens, rock gardens, containers, and believe it or not… garden railroads!!

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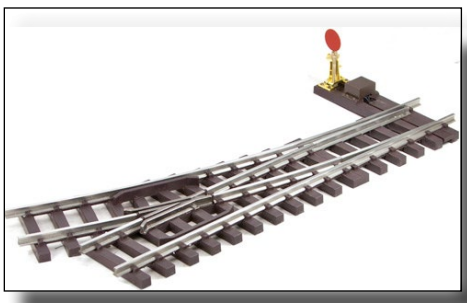

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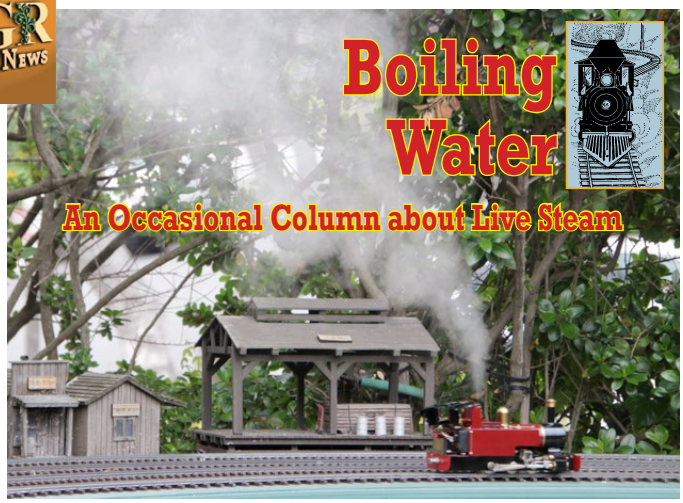


The Satisfaction of Steamups

By **Gary Woolard**

Photos by Carla Brand Breitner unless otherwise noted

Thank you to everybody for the positive and helpful respnses via email and social media to my first column in the July/August 2024 issue of *Garden Railroading News*. Some of the most helpful remarks shared one overall criticism, gently offered. The previous column may have made the idea of starting in steam seem too daunting, or even intimidating! This was certainly not my intention, but I can see on re-reading it how a newbie might get a discouraging impression. I will take the criticism to heart!

Yet there's no denying that operating a live steam locomotive is a bit more complicated than simply plugging in a transformer and turning a dial. What is it then, that makes it worth doing? What is it about running a live steam engine that makes it so interesting?

Well, there is clearly the idea that you are in some manner 'doing it like the big guys did it' in the golden age of locomotion — you're boiling water and making steam to push the wheels around. But I think there's a deeper satisfaction to be found. In this digital age where so much of our daily activity is a go-or-no-go matter of pushing the right buttons through a decision tree, there's something very 'analog' about running a live steamer. Rather than simply turning a dial and watching it go, you first must prepare your loco with the right proportions of lubricating oil, steam oil, fuel and water. You must ensure that it will get enough air to properly draft and feed the fire. In a sense, you're recreating the quest of the medieval alchemists — to mix the four elemental materials of the universe, earth, air, fire and water, in just the right proportions, with the right preparation, to bring something to life. Except that instead of using an alchemist's retort to distill it all together and to cook it in, you're using your locomotive, and it's the locomotive itself that you want to bring to a hissing, steaming life.

And when all those elements are in balance, there is a quiet satisfaction in seeing your locomotive running around the track, pulling the consist you selected at the speed you want, with the needle of the pressure gauge staying firmly in the middle. It's not stalling or popping off excess pressure; it's making just the right amount of steam to do its job. Under your breath, then, you can echo Victor Frankenstein's victorious "It's Alive!!"

continued on next page

Steve Heselton shovels more coal into his locomotive.

Eric Bowles at the throttle while a fan sustains air flow.

Debbie Bartle lights off her locomotive through the smokebox.

Richard Murray adjusts water level in his antique engine.

Debbie & Brian Bartle talk with David Lindholm while trains pass by at a Sacramento National Summer Steamup.

Help and advice are readily offered at steamups. Here Marc Horovitz explains a timing adjustment to Gary Woolard.

Another aspect of the live steam hobby is the social experience. Novice steamers will find more proficient steamers are ready to provide guidance for the beginner. I mentioned in my last column that live steam tracks and steamups act as a 'social attractor,' and none are more magnetic than the big steamups that last a few days and are generally organized as an annual event. Of these, I'm most familiar with the National Steamup Symposium, but there are others.

The 'Big Steamups' are similar to garden railroad conventions, but they concentrate solely on running trains with live steam engines, on semi-portable raised tracks; usually all together in one large hall.

I attended my first "NSS" in July of 2010 (when it was called the "National Summer Steamup") because I had purchased my first live steam engine, a variation of an Accucraft Ruby called the Fort Wilderness, but I couldn't get it to run very well. It worked better in reverse than in forward. This was common to Rubys, and could be easily fixed by a quick adjustment called 'reverse admission timing.' But I didn't know how to do it. A friend suggested I take it up to this big steamup happening soon in Sacramento, where somebody could help me.

"Somebody" turned out to be Marc Horovitz, the founding publisher and editor of *Garden Railways*. He was also one of the first people to import G-scale live steam engines into the U.S. Asking Marc to help me time my engine felt sorta' like asking Yo Yo Ma to tune up your cello for you — I was a bit intimidated. But Marc not only adjusted my Fort Wilderness Ruby, he showed me the how and why of the adjustment. Seeing my little engine now running happily around the track, along with the engines of a dozen other steamers on adjacent tracks... well, I just fell deeply down the live steam rabbit hole and haven't come up since.

The 'National Summer Steamup,' now the "National Steamup Symposium" has been running every year since 1997, with the exception of 2020 during the Covid Pandemic. The 2024 Steamup last October in Lodi retained the same general configuration as it has since I first attended; a four to five day gathering of Gauge One live steamers operating on six 'portable' elevated layouts, each with two tracks, for a total of more than 2,000 feet of 45 mm track; three tracks are double-gauged to allow 32 mm running. Two of the larger tracks are maintained by the umbrella organization of hobbyists that keeps the show running, Steam Events L.L.C.; all the other layouts are brought in by volunteer owners. Attendance has varied as the location and then the time of year changed; this year there were approximately 130 attendees.

continued on next page

Helping hands are seldom far away at steamups.

Photo by Stephanie Huntingdale

Many ride-on live steamer groups also have G-Scale loops.

Water was boiled and steaming occurred — in all scales and sizes that could run on 45 mm track, from tiny scratch-built single-cylinder oscillators to massive 7/8ths scale Forneys, gas fired, alcohol fired, and coal fired. The tracks were running from seven in the morning to eleven at night. And when steamers weren't steaming, they were perusing the swap tables of used locos and rolling stock, or the sale tables of Accucraft and the Train Department. Or perhaps they were attending one of the clinics in the next room on 3D printing or CAD. And of course everybody was schmoozing with friends they hadn't seen in a year, either clustered around the many work tables or adjourning to one of the several excellent restaurants or pubs Lodi has to offer.

Another highlight of the steamup, as noted in the Nov/Dec 2024 issue of *GR News*, was the visit of five Aster engineers from Japan, including the esteemed Susumu Fujii, under the aegis of the owner of Accucraft, Bing Cheng. They brought and ran their second prototype "Benkei/Oregonian/Black Hills" Porter Mogul. It ran very well, although Fujii-San said that the production model would have "better" wheels and larger cylinders, with drive rods adjusted appropriately. I had the distinct pleasure of arguing the pros and cons of gas firing versus alcohol with Fujii-San, and we both agreed with grins that the other was wrong.

I've attended the National Summer Steamup/Steamup Symposium for 15 years now, so every year it's like getting back to a hundred old friends. But there are other multi-day 'rendezvous' steamups around the country and the world. They're a great place to 'dip a toe' into the boiling water and get a sense of this part of the hobby.

Here are some of them.

International Small Scale Steamup (aka "***Diamondhead***") is the Granddaddy of them all, and has been happening in January for thirty years at the Ramada Inn at Diamondhead, Mississippi.

diamondhead.org

Contact Richard Jacobs at trainmax@yahoo.com

Cabin Fever Model Engineering Expo & Auctions in Lebanon, Pennsylvania, focuses for two days on all sorts of model engineering, including model engines, tractors & trucks, stationary steam engines and Gauge One locos. The next Expo will be January 16–17, 2026.

cabinfeverexpo.com

Email: info@cabinfeverauctions.com

Steam Over Spencer Is an annual event organized by Jay Kovac and The Train Department, hosted at the North Carolina Train Museum, in early spring.

www.nctransportationmuseum.org/steam-over-spencer

Staver Locomotive hosts seasonal steamups on a single, very long track housed in a large antique industrial building in Portland, Oregon. Although there are many sidings, the single track requires attentive driving and coordination between steamers. A unique experience! Next Spring Steamup scheduled for April 24th-27th.

staverlocomotive.com

Contact info@staverlocomotive.com

Aikenback Live Steamers Is a popular Gauge One Live Steam Club that runs an annual Steamup at the Steamtown historic site in Scranton, Pennsylvania; they will be at Marshall Steam Museum in Hockessin, Delaware, for Train Day on May 4 this year. They also organize steamups at the East Coast Large Scale Show.

National Steamup Symposium, mentioned above, will be in Lodi, California, from October 8 to 12, this year. Registration is now open at: steam-events.org

Pennsylvania Live Steamers, which operates a large ride-on scale operation, hold their Gauge One "TurkeyTrot" every year around the Thanksgiving holiday. Gauge One Affiliates pay a reasonable membership fee. The next one is November 28, 2025

www.palivesteamers.org

Email for information: secretary@palivesteamers.org

Great Southern Steamup is a three-day steamup in Gembrook, Australia with multiple 45mm and 32mm layouts to run on. Last year's steamup was in November.

Contact rego.gssu@gmail.com for info.

Crest Revolution Conversion – Part 1

Battery Plus Radio Control

By Peter Thornton

Photos by the Author

I have been converting and running battery-powered locomotives with radio control for many years, since before my first digital camera. With the advent of small transmitters with knobs or buttons, instead of those stick thingies the aircraft guys use, the experience has been great. I'm no longer tethered to a control panel, and I wander around the railroad with my loco, just like a real engine driver. (Well, almost!) Most people who have tried it agree that it adds a lot of fun to the experience of running trains.

I've done a few r/c conversions recently using the Crest Revolution board, now sold by RevoElectronics.com as the Train Engineer Revolution. One was a Bachmann C-19, which has a plug-n-play (p-n-p) socket in the tender. In addition, I acquired a Hartland 4-4-0 for my Civil War train and, as I had a complete Crest Revolution system that had been removed from a C-16, and as I was planning to go to a local track to show off the Civil War train, and as there was no track power, it seemed like a good idea to convert the 4-4-0 to battery and r/c.

The Crest system includes a neat handheld transmitter and a steam or diesel receiver. I believe the latest receiver models can be loaded with a sound file. I find the range more than adequate for a typical garden. I used a 14.4V battery pack and that is adequate performance for a small loco. Some may run faster on a higher battery voltage. I find I get at least 3 to 4 hours run time from these batteries, though I never run them until the loco stops because the battery pack is exhausted. For a review and lots of comments, check out Greg Elmassian's pages: https://elmassian.com. Drop down the LS Trains tab and select Remote Control (non DCC); then choose Train Engineer Revolution.

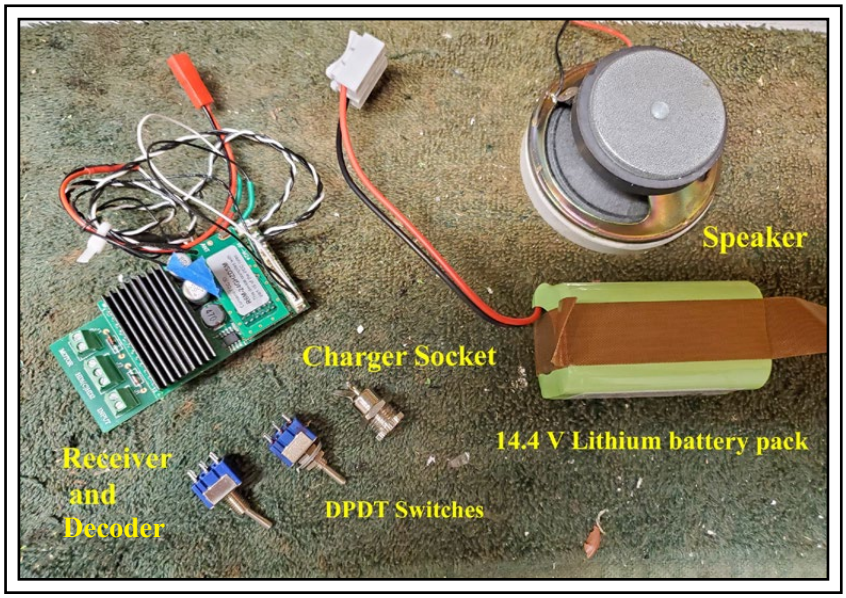
I will try to be as general as possible, but as the saying goes, your mileage may vary. This is a tender conversion, which gives you a bit more room than trying to cram everything into a tank engine. It also applies to locos with the Aristo plug-n-play socket, referred to by Bachmann as the "open and nonproprietary plug-and-play electronics socket," on engines such as on their C-19 2-8-0 and Forney. The socket makes things a lot easier, as you will note in my comments. *[Ed. Note: More Thornton on plug-n-play will be in a future issue.]*

First, the basic decision [not applicable if you have a p-n-p socket as those locos have a track/battery switch]. Track power: remove or modify? I elected to modify. The Hartland 4-4-0 has nice driving wheel pickups, and one of the tender trucks also picks up power. I decided to use just the tender trucks and to isolate the loco wheels. That was easy to do, by removing the screw in the middle of the wheel, levering the driving wheels off with a flat screwdriver, and pulling the brush and holder out of the chassis. Then put the wheels back carefully.

This also applies to a Kalamazoo 4-4-0, which doesn't have tender pickups so you won't have the track/battery switch option, and you can skip all the complicated tender truck wiring. I do recommend fitting the tender with Bachmann's small (24.5mm) wheels; otherwise it's a little on the light side.

(Continued Next Page)

Other locos may need you to dismantle the engine and get at the motor in order to isolate the track pickups. Some LGB locos have plugs with wires on the ends of the pickups that you can pull off, after opening the bottom of the loco. Almost all of our G-Scale locos are a little different in design.



COMPONENTS

Switches: I am using two double-pole, double-throw (dpdt) switches, one for the main on/off-charge and the other for track/battery. They don't need to have a center 'off' option, as turning the main switch to off kills everything and lets you plug in the charger. Most conversions like this do not need a track/battery switch, so consider it an option only if you have tender pickups.

Batteries: The battery in the HLW 4-4-0 tender is a brick: 4x18650 lithium ion 14.4–14.8V cells arranged in a rectangle (2x2). I think it was sold for a robot floor cleaner. You can also get double size batteries, with twice the cells and twice the capacity, in either a brick or a flat pack. You must get one that is protected by a BMS – battery management system: a printed circuit board that monitors charge/discharge levels and turns off the battery pack when any limit is reached. If your loco stops after a while, that's probably the BMS doing its job. I recently discovered that you can buy a 'kit' of the on/off switch and charging socket, already wired. https://www.rldhobbies.com

Speaker: The speaker in the photo came out of a large 1:20 Accucraft C-16 locomotive, where it sounded great. It was really too much for the little 4-4-0, so after the first outing it got swapped for a smaller, quieter one.

Receiver/Decoder: The Crest Revolution receiver I am reusing from the C-16 has a small add-on board with connector blocks, and a lot of wires left over from the C-16. The little connector board on the left provides screw sockets for power in from the battery and power out to the motor. The other connectors are for headlights, etc., which I did not use. They all come in the box with the Revolution receiver ("RX"). Also in the box is a smoke unit control circuit board and connector wire, which is plugged in to the receiver if you have a smoke unit to connect; smoke units usually require a separate power supply.

Receiver Wiring: The wires that you see all curled together consist of

> **Speaker connection wire:** black/white pair with big red plug on the end,

> **Binding (aka Linking) switch** (hidden under board): red push button, which you use to tell the RX board to go into bind mode and listen for a transmitter signal. When it finds one, it 'binds/links' itself and expects that transmitter to send it commands.

> **Chuff trigger wires:** The chuff trigger is not strictly necessary; these Revolution receivers will chuff quite realistically based on the speed you tell the loco to go. I like them so this loco is getting one.

Charger Socket (and Charger): I use a 5.5 mm x 2.1 mm power plug and socket, as they are standard in the LED strip business and therefore available quite inexpensively. If you haven't had much experience with Lithium batteries, then get a decent charger, like the Tenergy one: https://power.tenergy.com and search for "4000 Universal Smart Charger for LI-ion battery pack."

If you have one of those, then there are some chargers that are much less expensive for backup; some even have a red/green LED to indicate charging status: https://www.aliexpress.us/item/3256804989830376.html (Just make sure you get one with a US wall plug, and the type for your battery: 14.8V DC LI batteries charge at 16.6V.)

(Continued Next Page)

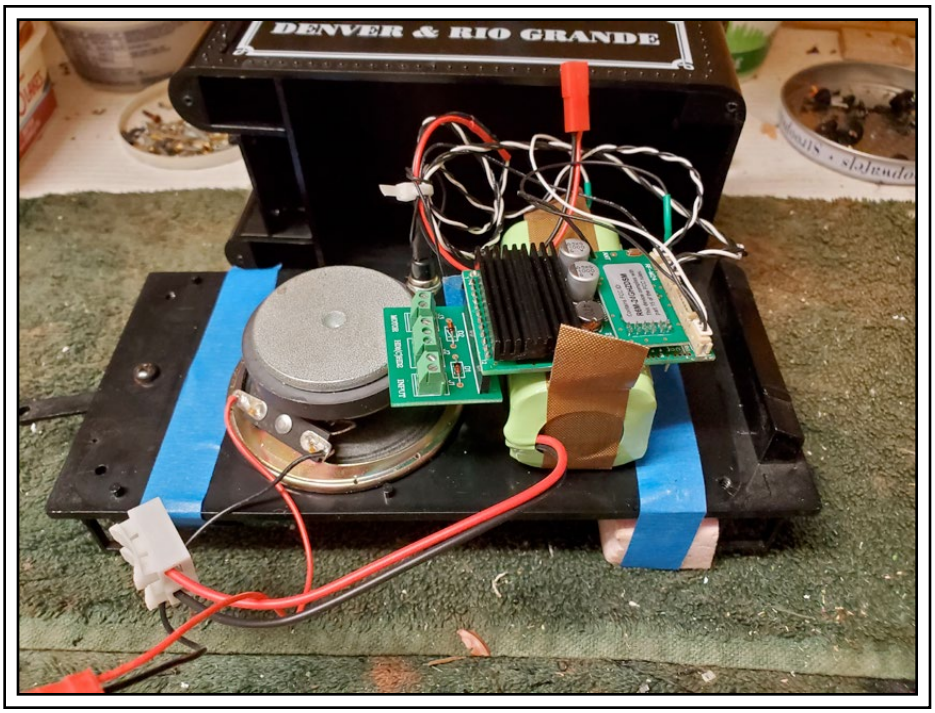
TENDER

Then I turned to the 4-4-0 tender and removed the trucks and the 4 screws from underneath. [Most tenders come apart that way, either with screws underneath or hidden somewhere on top.] You may have to disconnect wires from the trucks if it has pickups. The HLW truck wires stayed underneath and came away with the truck, so it was easy. There may also be a wire to the rear lamp, or to the rear power sockets, so you will have to decide what you are going to do with them. As a general comment, adding R/C is just substituting power to the motor from the on-board receiver board, instead of collecting it from the track. The lights should continue to work as they did, unless you want to change them — swap the bulbs to automatic directional operation LEDs, or make them controllable by the receiver electronics. This tender has room for everything and is a sealed box, which is good! I also taped some styrofoam underneath to protect the steps, which protrude underneath, while working on the installation. You can imagine that working on the tender floor is going to put strain on them unless they are protected.

…and now we can start figuring out where everything is going to go.

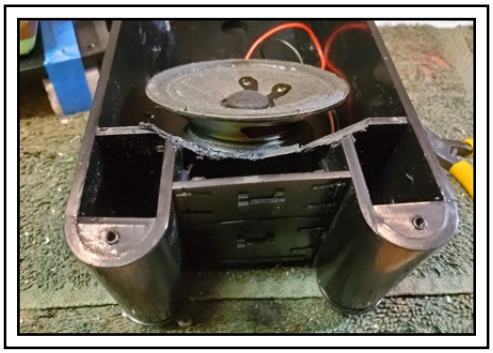
LOCATING COMPONENTS

In the photo right, I am juggling the components, to see whether to put the battery in the back and the speaker in the front, or what. The tape is useful for marking center-lines, etc. The final arrangement of pieces is much like you see here.



With a p-n-p socket, the board location is preordained. I found the Bachmann C-19 had a speaker mounted in the tender, but curiously not connected to the mother board of the p-n-p socket! The Bachmann Forney has a socket but no speaker, so you have to figure out where to put it.

In the HLW 4-4-0, I decided to fit the speaker in the front, as there are several bits of bodywork that get in the way of a battery. It was easy to use my Dremel on some of the walls to make the speaker fit as far forward as possible.

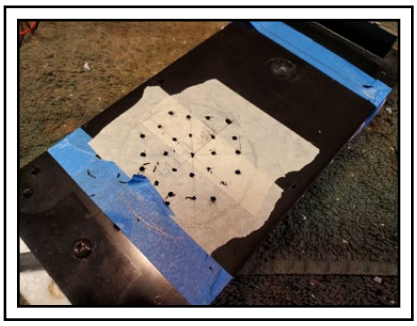


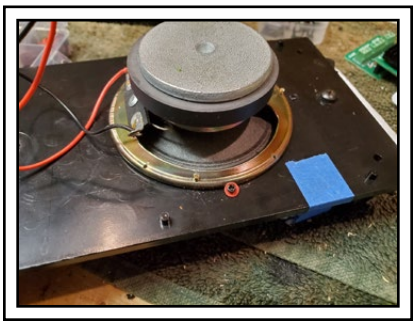
One issue to be aware of is that the speaker will sound much better if you enclose the rear side of it, so the sound from the back doesn't interfere with the sound from the front. I did cut a wall to isolate the speaker, but decided it wasn't needed as the tender shell is solid and will form a box when screwed down. Lots of tenders have open tops, or holes for this or that, which upsets the sound.

Then I taped over the floor and starting planning the holes to make a "grill"

(Continued Next Page)

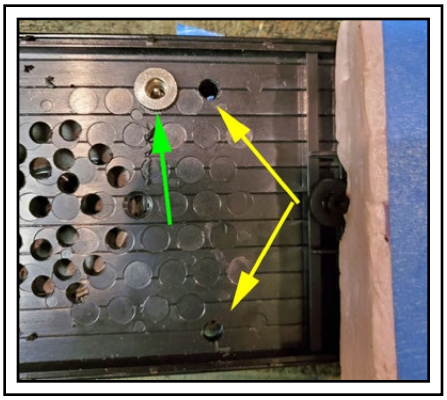
for the speaker sound; the floor was solid. I started by drilling pilot holes to guide the bigger 1/4" holes. The speaker was then fitted on the front. The conventional way is to clamp it with some screws, as you see here. You might also notice the tiny bolt head; the previous owner used 1.6 mm bolts all around the circumference of the speaker. I used a few, and added the screws for safety.





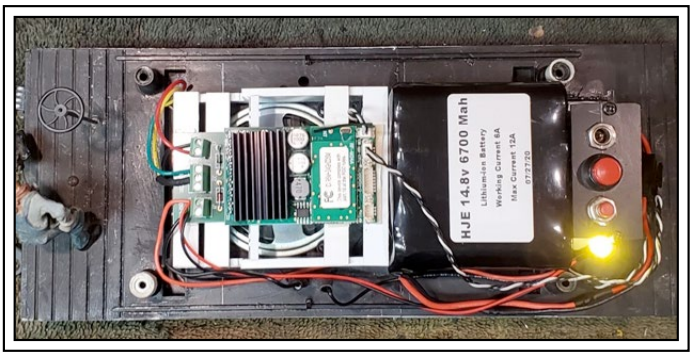
CONTROLS

Having figured out where the major components were going to fit, I looked at where to position the controls. I needed to include a charging jack, an on/off switch, and a track/battery switch. The picture on right is of the underside of the HLW 4-4-0 tender floor showing the holes for the 2 switches (yellow arrows) and the charging jack (green arrow.) The 1/4" holes I drilled for the speaker are visible.



On a p-n-p loco, you will still need a battery charging jack and an on/off switch. On the C-19, I made up a small panel fitted to the end of the battery pack.

Some indicator that the system is on is always a good thing. The photo right is a generic installation in an old Bachmann 4-6-0 tender. Lots of room, and the water fill hatch cover is hinged, so the charge socket, on/off switch, and bind/link button are mounted (not by me) on a panel under the water hatch. I added the bright LED, which is to the side of the panel, so it shows when you lift the hatch cover but not otherwise.



MOUNTING COMPONENTS

Below is a picture of the inside of the tender floor with the switches, battery charging jack, and the speaker mounted. I then positioned the remaining components and drilled holes for them — one for the track pickups to the track/battery switch wires; one for the wires going underneath to the motor in the loco; one for the wires for the chuff trigger; and one for a battery monitor, an inexpensive, last minute addition which is going to be mounted underneath.

Now to install the other major item, the battery. I had always intended it to be strapped in place, so I went looking for a strap — and found a piece of brass strip the right size, and (surprise!) it had holes in the right place! I also added a couple of plastic blocks to stop the battery moving sideways. If things are loose, it could cause a derailment and a lot of other issues.

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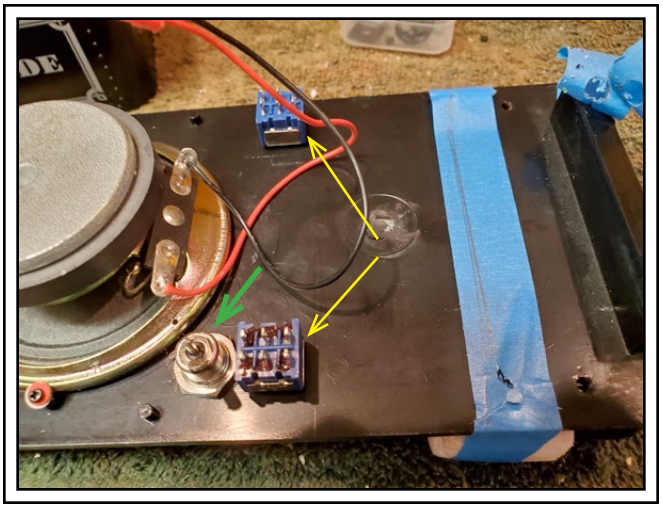
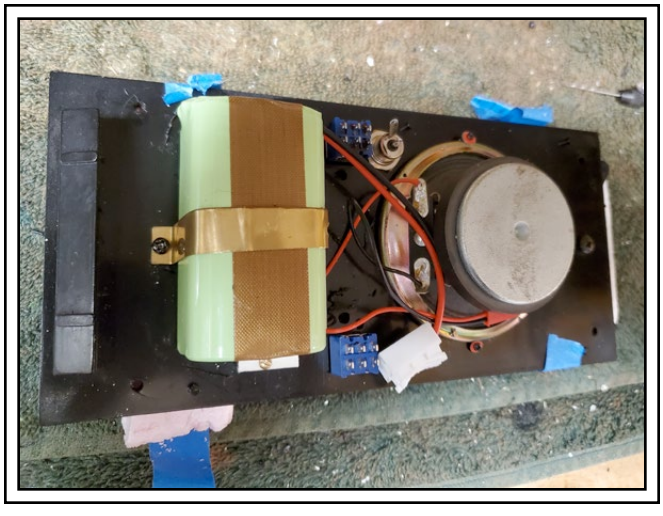
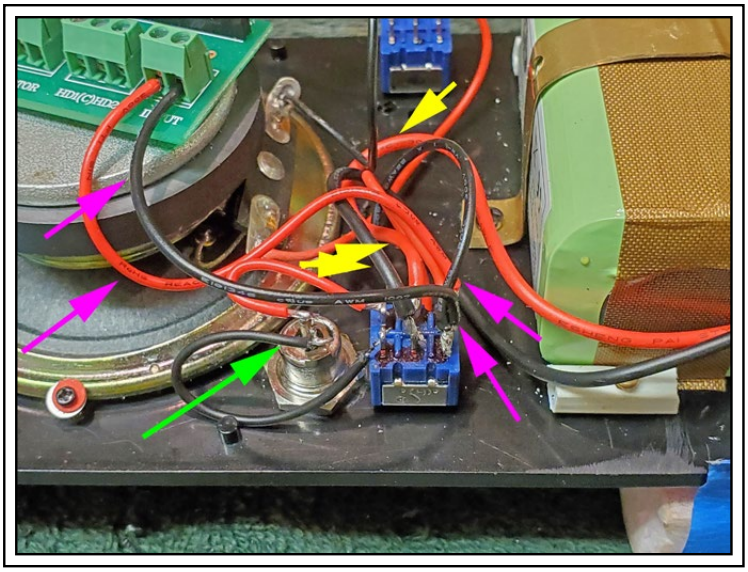




WIRING

Here's the tender with the main components in place, and the wiring for the battery and receiver:



> The Magenta arrows indicate the main power to the Revo receiver from the power switch. Also connected to them are a pair of wires to the battery monitor under the floor, but they aren't visible.

> Yellow arrows indicate the two big thick red+black wires from the battery which go to the center terminals of the On/Off-Charge DPDT switch.

> The Green arrow indicates the two wires from the left side of the switch to the charging socket.

The power wiring is pretty common for any type of receiver; you need to be able to charge the battery and turn it on or off. Locos with a p-n-p socket have screw terminals labelled 'Battery' on the mother-board, but they can be a pain to access.

WIRING DIAGRAM

Here's the wiring diagram I created for another install which is typical. This one includes a separate pair of wires for the headlight which can be controlled remotely, although when switched to track power the headlight is disconnected and the sound will not operate.

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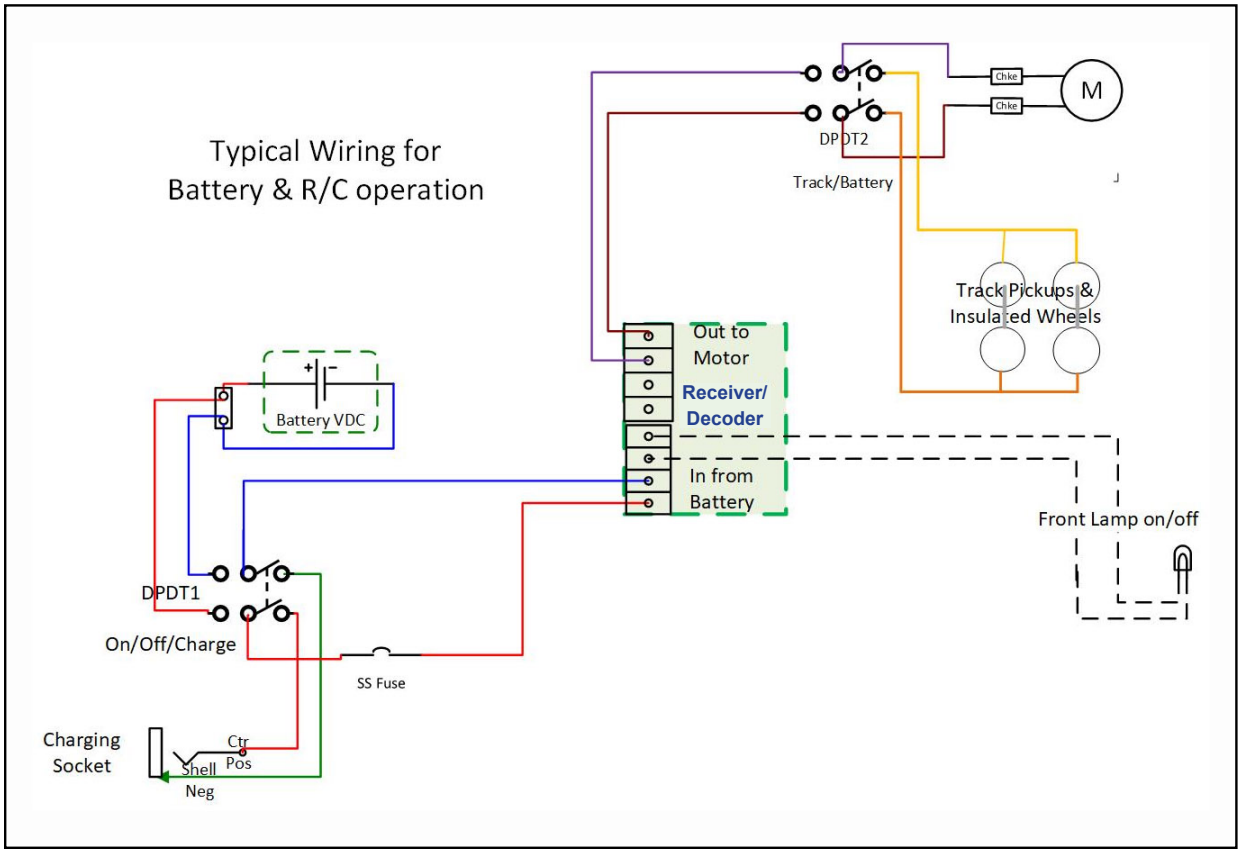
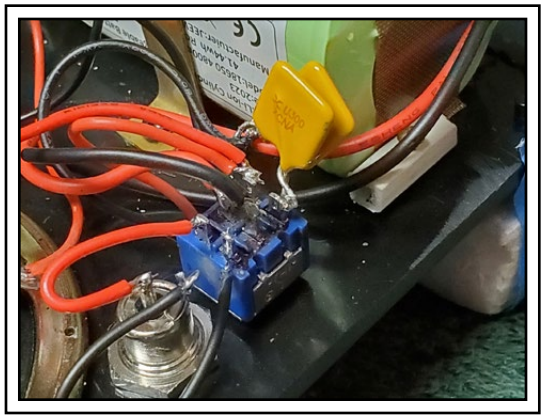
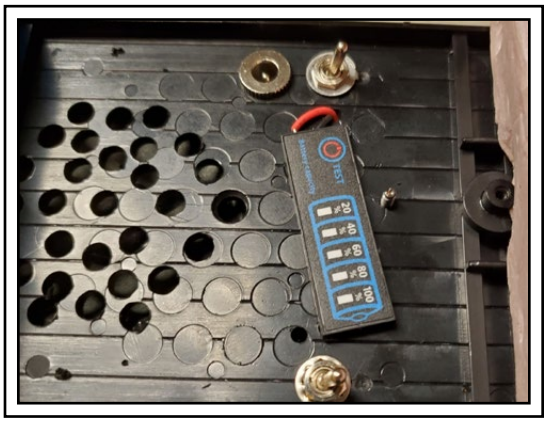


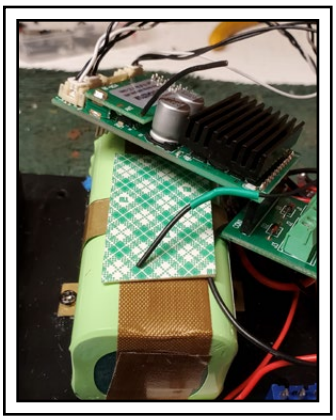
Here is a slight modification which I added later — an optional fuse. Those two square yellow things are "Polyfuses." They work just like a regular fuse, but reset themselves after the problem goes away — much like a thermal cutout on an (old) power pack. These are 2A each, and can be attached in parallel to gain as much fuse protection as you desire. So I have protection here for spikes over 4 amps.



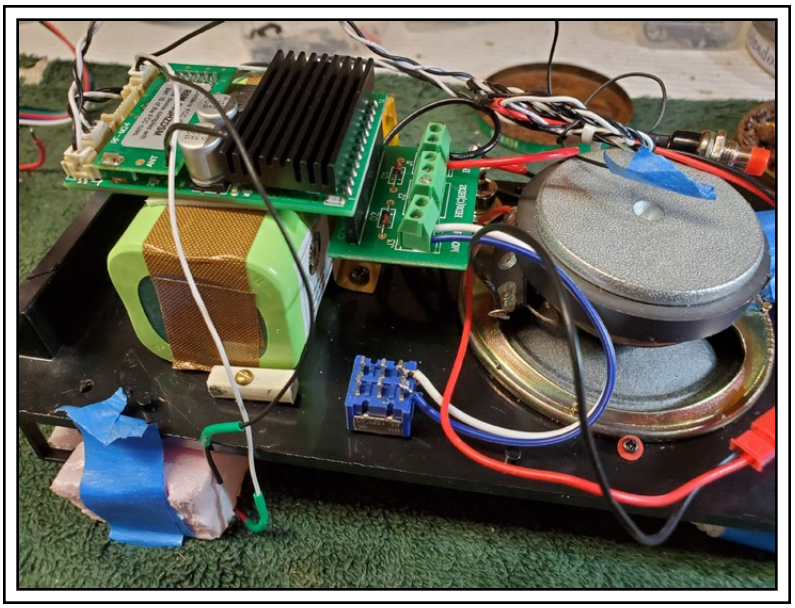
You could leave the fuses out. Your battery will have a BMS (Battery Management System) inside the wrapper, and it will prevent damage to the battery if there is a short circuit. The issue to be aware of is that Lithium batteries can produce a high current (amps) for a short period (which is why they are used to jump-start a car!). The BMS will limit the current, but probably to 10–15 amps! That's a lot for us; most large scale motors pull about 2 amps max. So if you have a short circuit, the wires could melt before the BMS decides the battery needs to be protected… or, you could use an auto-type 5A tab fuse; or a regular glass fuse. If you go with that option, be sure and mount it in an easily accessible fuse holder, so you can just pull it out to see if it blew and insert a new fuse. Any of these options will protect the electronics – ask me how I know! You can buy fuse holders designed to be used in a circuit at your local auto parts store, for modern or old fuse types, or do a search on Amazon or eBay. Photo to the right shows the battery monitor, mounted underneath so you can see it when you turn on the power.



So, moving along, the next process was to install the Crest Revolution receiver. I stick them down with double-sided foam tape; photo on right shows tape before removing top strip. The loose wires are going to the speaker, eventually.



Once the receiver was fastened in place, I added the wires to the receiver motor output terminals. I have wheel pickups on the tender so I have a DPDT switch that supports Track or Battery operation. The center of the switch will go to the motor, one side comes from the receiver output (Blue&White in this photo), and the other side will be wired to the trucks. If your tender has no wheel pickups, or if you do not want to use track power, then the receiver motor output would go straight to the front of the tender to a plug which would carry the power to the motor. (A "Plug-and-Play" socket loco should manage to send the output to the motor and most other functions to the loco without any wires or switches from you.) In my case, all of the various bits have to fit inside, so I have done a test-fitting of the tender top at each step to make sure everything still fits.



TENDER TRUCKS

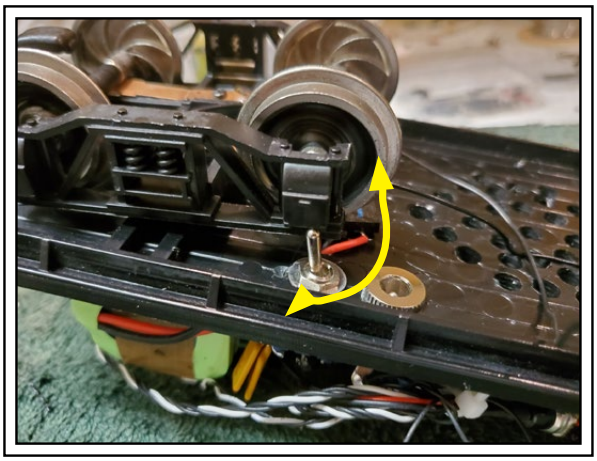
I spent an hour or two wrestling with the undercarriage. This work is only necessary if you want your engine to still be operable from track power, and have installed a Track-Battery switch. *[Ed. Note: Truck modification details will be in a separate article in the next issue.]*

For this installation, I added an additional pair of wipers to pick up track power and a 'chuff' trigger, and prepared to connect the wiring.

And then I found a real problem, which I had not anticipated (my bad.) This is a short tender, and I hadn't checked wheel clearances underneath.

(Continued Next Page)

As you can see, the switch hits the truck! So I had to swap the charging socket and the switch and move the track/battery switch on the other side. I also had to move the battery monitor, and re-arrange some wires. All unexpected work, but my own fault for not thinking of checking first. You know what they say: measure twice and cut once. If I did this more often, I might remember to check!



FINAL CLEAN-UP

I moved what had to be moved, and reattached the trucks. I then finished the wiring of the track pickups, etc. There are a total of 4 pairs of wires from the underside to the inside of the tender plus the power feed and speaker wiring to the receiver on this installation:

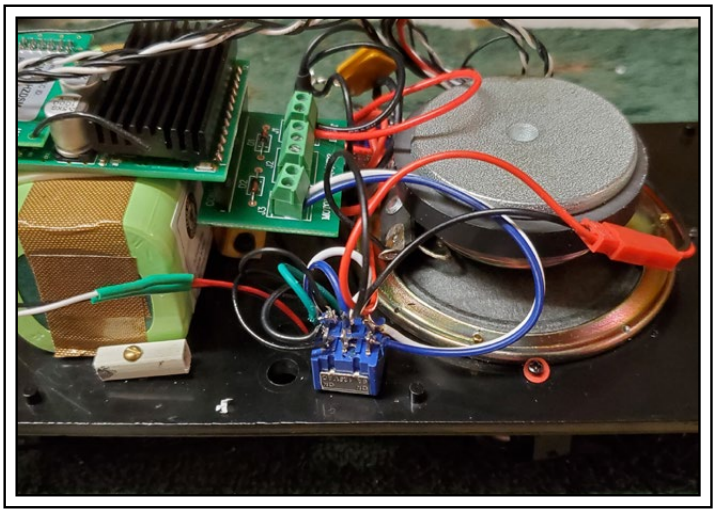
> The switch has the 2 pairs of wires from the two trucks' pickups.

> The blue-white wires go to one side of the switch from the receiver.

> The blue-white pair of wires from the center of the switch will connect to the motor feed plug in the front of the tender.

> The red-black wires from the 'chuff' Reed switch wires are spliced to the black/white wires, seen on the left, going to the chuff trigger port on the Revo receiver.

And that's it. Turn it on, follow the instructions in the manual to "bind/link" the RX (Crest receiver) to the TX (transmitter) and away you go!



A Follow-Up to the Review of PIKO's 25-ton Diesel Switcher
Some History and Suggestions to Improve Pulling Ability

by Steve Bittinger

Peter Drymalski's review of PIKO's model of the 25-ton GE diesel switcher with sound, remote control and battery power was republished from the Washington/Virginia/Maryland GRS *WVM Line* in the January/February issue of *Garden Railroading News*. I want to thank Peter for his excellent article. I'd like to add my own comments on the history of the prototype, and the capabilities of PIKO's model of it.

SWITCHER HISTORY: Beginning in 1941, General Electric Corporation began manufacturing the 25-ton diesel switcher. It was designed for low-speed switching duties in rail yards, industries and other places where tight clearances were an issue. Powered by a 150 horsepower diesel engine connected to the drive axle by a chain drive, the engine was restricted to a maximum speed of twenty miles per hour. G.E. marketed the engine as a low-cost replacement for steam-powered switch engines. Switching times could be reduced by fifty percent using the small diesel. Labor costs were significantly reduced as two crew members could operate the engine as compared to five on a steam engine. The 25-ton diesel was one of the most successful engines ever built, with nearly 550 units produced.

Product Photos from PIKO-America

PIKO HISTORY: The G scale model manufactured by PIKO is typical of the common design produced by G.E. Like the prototype, it is built for low speed operation and moving a small number of cars. The model is a true switcher. PIKO has offered several variations. The first was a track powered model. Thereafter they introduced a battery-powered model and, most recently, a unit with sound. A purpose-built variation is available for track cleaning duties. The battery version is available with a remote control and sound.

POSSIBLE IMPROVEMENTS: As Peter pointed out, the pulling power of the engine is limited. This is largely due to the lack of tractive power. Simply said, the engine doesn't weigh much, barely two pounds. But it's important to know that the motor block itself is quite capable of pulling several cars. To help operators with this situation, there are several solutions to improve operation. With the track power version, there are no traction tires to help grab the rails. The battery powered version has traction tires on every wheel. Thus if you want to operate with more cars, then the battery powered unit is the better choice.

It is also possible to add weights to the locomotive's frame or inside the body shell. The front nose of the track powered version is nearly empty and has room for weights, and the cab floor and underside of the roof has room as well. This will give better traction directly over the front and rear axles. In the battery version, the nose contains the batteries, leaving little space for weights; however it is possible to add thin weights to the bottom of the front frame.

I have used the PIKO motor block to scratch build a slightly larger 35-ton switcher with battery power. I added lead weights in every possible location. (The frame of the 35 tonner is longer so it gave me extra space and the battery.) After adding the extra weights, my 35-tonner is readily capable of pulling seven full-sized freight cars. switching duties, or short trains at low speed. I want to emphasize here that the PIKO motor block is very well built. PIKO designed their motors for future use in larger locomotives. After multiple years of use as a switcher, my 35-tonner variation shows no significant wear.

Photo by Steve Bittinger

Bittinger 35-Ton Switcher

The real damage to engines is done not by adding weight, but rather by continuous operation on tight radius track. Circling round and round creates a lot of friction and drag. I realize that people buy small locomotives in order to operate in limited areas. However, by running the engine for briefer periods of time and by turning the engine to run in the opposite direction, a significant life span will be added.

Seen On the Tracks

Photo by John Cushman

Above: *This is the refurbished Boulder Valley & Pacific Transportation Hub. Completed two years ahead of schedule, three modes of transportation link up here to assure seamless travel connections for people attending the Sundance Film Festival following its move to Boulder, Colorado for the 2027 annual winter event. There are no additional charges for baggage handling on the railroads of Boulder Valley.* • Louisville, Colorado

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Look for the arrow.

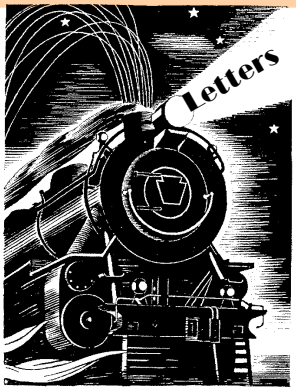
Photos Welcome for Seen on the Tracks

A G Scale Realistic Scene Photo Gallery

Please send uncompressed photo (with caption information describing the scene, rolling stock, railroad name & proprietors, location, and photographer's credit) to:

Editor@GRNews.org

Photos may also appear on the ***GR News*** website and social media.



Straight from the Iron Horse's Mouth

Letters to the Editor should be sent as e-mails only to Carla Brand Breitner at: Editor@GRNews.org

Letters will then be addressed accordingly and/or passed on to the author for further edification. Unless marked otherwise, letters to this publication are assumed to be submitted for print. Please include your name and club affiliation. Please note that we may not be able to print all letters, though we will try to respond to them. Letters may be edited for length and clarity. We are unable to answer requests for information about specific products or systems; these are best addressed to the appropriate manufacturer.

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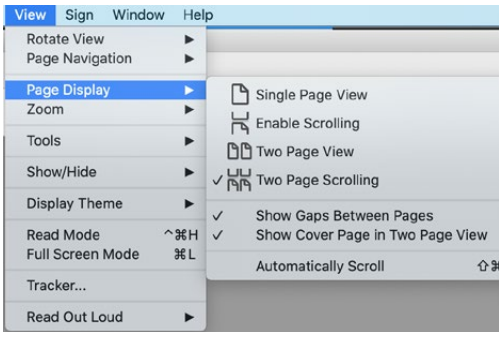
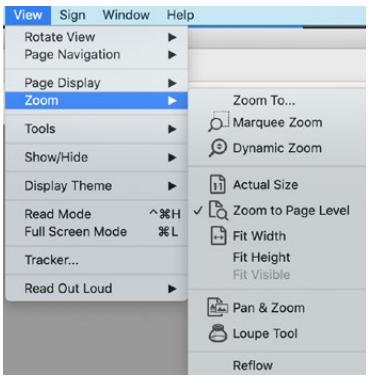
Hope these explainers make reading *GR News* more fun. Enjoy.





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Send your *How-To Tips or Tale of the Track* to editor@GRNews.org with illustrating images.