

Garden Railroading News July/Aug 2021 A Free Digital Magazine Produced by Volunteer Garden Railroaders

Garden Railroading, A Balance of Detail and Impressionism!

This issue features several railroads and techniques to add detail to your garden railroad, encouraging the freedom to sketch in some areas while letting the viewer fill in the story.

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To our readers accustomed to publications arriving with next month's date: We plan to adjust our issue distribution date in January 2022.

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or www.facebook.com/groups/gardenrailroadingenews









Photo by Ken Brody

Above: A busy day at Loganville Station on Dart & Dot Rinefort's OS&F RR. An LGB Mallet pulling freight passes through as an LGB Mogul drops passengers off. • Marin County, California

Below: This weathered Class B Climax, a Bachmann modified by Jim Rowson for his Durango-Jasper Railroad, climbs a rocky hillside. • East Bay in the Bay Area, California

Photo by Jim Rowson





GR News is highlighting a few **new G Scale public railroads** and garden railway club layout tours this issue. Look for G Scale in your area at county & state fairs, museums, botanical gardens, and parks. Even ice cream parlors and nurseries may feature G Scale.

Burlington Station: G Scale Trains in Twin Harbors, Minnesota

This summer Burlington Station opened in Two Harbors, MN, on Lake Superior's North Shore. Currently trains are running on two 320-foot loops over a 36-foot long, 7 foot high trestle. Floor train displays are planned to flow throughout the building, illustrating Two Harbor's history of shipping iron ore from Minnesota's Iron Range. Gift shops and Callie's Sweets are also open in the building.

This project of Mayor Chris Swanson, a member of Minnesota Garden Railway Society, is coming to life thanks to MGRS members who installed wiring, track, trestles, lighting and power sources.

For more information: www.burlingtonstation.com



Gulf Coast & Central Florida RR Museum: G Scale Train Exhibits & Ride-On Trains Open Saturdays starting September in Bushnell, FL

The Florida Garden Railway Society is designing an outdoor garden railroad for this new museum in Central Florida. The GC&CFRR Museum is dedicated to G Scale trains and includes a G Scale "Switching Puzzle" layout. Multiple trains run past model buildings with appropriate scenery backdrops for each area. Finish your trip with a ride around the grounds behind a 7 ½" ride-on diesel locomotive.

For more information: www.bushnellstation.com

The Great Pine Railway: A G Scale Exhibit at Old Westbury Gardens Long Island, New York



The Great Pine Railway opened this summer through Labor Day in Old Westbury Gardens on Long Island, NY. The Great Pine Rwy features Long Island landmarks set beside 220 feet of brass rail. Walk under two bridg-

es on the upper loop, or explore two lower tracks designed for Old Westbury Gardens. This is the first time for an outdoor model railroad at the Gardens, so be sure to mention that you enjoyed the railroad (to staff and on social media) if you visit.





For more information and tickets, go to: www.oldwestburygardens.org and click on The Great Pine Railway. Monthly Family Activity Guides with railroad trivia and a mobile app about the model trains can be downloaded there.

GR News hopes the Great Pine Railway held up well during Hurricane Henri.





www.thecgrs.org

Ohio G Scale has been very busy this summer. Cincinnati Garden Railway Society held Summer Layout Tours in July. Riverside Railroad Club in Northeast Ohio started a Large Scale Train Show & Swap Meet this year with plans for an annual event. Check out the websites and FaceBook pages of clubs in your area for local events.

Reindeer Pass Railroad Sale Completed

Per the Reindeer Pass website, "Mike & Renee are excited to announce that the sale of Reindeer Pass has been completed as of August 16th, 2021. We have really appreciated your past patronage over the years. Vernon & Elly will be moving the store to Owasso, Oklahoma, in the next couple of days. Shipping may

be slightly delayed due to this move of inventory. They look forward to meeting all your Garden Railroad needs in the future."

Info at: www.reindeerpass.com

A Coca-Cola® Crew Car (Speeder) Joins LGB's Coca-Cola® Series

Summer is a great time to run LGB's line of Yellow and Red (Era III) Coca-Cola® cars and locomotives. Some new for 2021, some announced in 2020, and some out of production to seek out, these consists look bright and cheerful in a garden. Be sure to include a flat of Coca-Cola with the tools if you add a work trailer behind the Crew Car.

Fun for summer 2021, LGB has a motorized Crew Car with headlights and marker lights that light up depending on direction of travel.



L20064 Coca-Cola® Crew Car \$ 389.99





L40757 Coca-Cola® Caboose \$ 274.99

L27631 Coca-Cola® Switcher \$439.99





Wander the West Coast for G Scale late September and early October

Start your adventure with Live Steam (and battery-powered) trains in Portland, OR, Sept. 23-26 at the Staver Locomotive Fall Steamup. Then choose between track power and Live Steam. Follow the Live Steamers south to Lodi, CA, for the 2021 NSS National Steamup Spectacular from Sept 28–Oct 3, or base out of San Luis Obispo, CA, to explore garden railroad layouts (and railroads in other scales) on the Sept 30, Oct 1 and Oct 2 layout tours in conjunction with the 1:1 scale Central Coast Railroad Festival put on by the San Luis Obispo Railroad Museum from Oct 1–3.

> Staver Locomotive Fall Steamup: www.staverlocomotive.com





NSS National Steamup Spectacular: www.steam-events.org

Central Coast Railroad Festival: www.ccrrf.com



PIKO America Brings Good Cheer & "Spirits" to the Holiday Season

Holidays are coming and PIKO America has the rolling stock for your seasonal railroad. A new Christmas Freight starter set is coming... and a Santa Fe set for year-round running. A variety of Halloween and Christmas freight cars are here or arriving soon. The "Moonlit Monsters" Hopper (arriving September) even has glow-in-the-dark highlights.



38777 Central Park Christmas Tree Transport \$ 134.99



38905 Christmas Boxcar 2021



38915 North Pole Express Ore Car, 2-Pack \$159.99



38927 Halloween "Moonlit Monsters" Hopper (glow-in-the-dark)



38929 Halloween "Tacky Tombstones" Hopper \$109.99 And for Pennsylvania Railroad trainspotters:



38250 PRR 2-6-0 Saddletank Loco #825 w/Analog Sound \$ 349.99



Coming Soon in GR News: Experiences with a **Battery Conversion** Part One "A Doozie"

by Pete Hendel from the Denver Garden Railway Society Newsletter



Running sounds for the digital F7A Amtrak Locomotives work in analog operation.

The famous "Sunset Limited" train can be assembled using the new Amtrak cars. All cars include built-in LED interior lighting.

The Snow Creek Railroad • Bob Treat, Proprietor

Snow Creek Railroad: Twenty-eight Years of Railroading Evolution

By Bob Treat
Photos by Bob Treat
unless otherwise noted

At its inception in 1993, I wanted my railroad to be an outdoor model railroad rather than a garden railroad—something that would be visually unique, creating its own sense of place; a railroad emphasizing operation and originality.

Over the next 28 years, through three major incarnations, I've adhered to and hopefully improved on the original concepts that helped define the Snow Creek Railroad.

Like any model railroad, the SCRR required a lot of forethought and planning... and more planning. This has always been an exciting arena for me; designing, imagining, redesigning. Life lesson learned here — erasers are a lot easier to move than boulders.

When I was nine years old, I remember looking at a comic book in which Donald Duck was sitting in the middle of his model railroad with trains running all around him. I always thought this was really cool! Because of my railroad's large size and outdoors setting, I decided I could do this too. I really wanted to be in the same place the railroad occupied while operating it; not only by walking completely around it, but by walking into it and through it, viewing it from as many, varied vantage points as possible. This not only made my moderate size railroad feel larger, but made it more exciting to look at too.

Since my backyard is relatively flat and the railroad was designed to snake through rugged mountains, the solution was to bring in 10 dump truck loads of fill dirt. I used decomposed granite (DG), as it is clean, drains well, and left some cash to buy track. The basic mountains and canyons were terraformed and shaped with a Bobcat. The added DG also gave me the opportunity to raise



The town of Snow Creek sits above a canyon at the edge of a concrete mountain range.







Detail in cribbing, wall, trestle, bridge and tunnel construction is a hallmark of the Snow Creek RR.

track levels in active switching areas for better viewing and easier accessibility. Stakes, string, a borrowed surveyors transit, and a lot of shoveling fine-tuned my dirt placement.

Llagas Creek code 215 nickel silver track and turnouts were initially attached to small concrete bricks and ballasted with crusher fines from a

local quarry. This worked fine for the first few years but eventually track needed realignment, and the bricks became cumbersome and got in the way. They were eventually discarded and the track was laid directly on the DG. This allows the track to float for rail expansion/contraction and makes realignment easier.

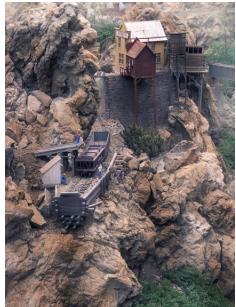
Snow Creek Railroad Design Basics

Because of the extreme nature of the mountains that I wanted to represent, I decided to make my own rocks. Using many of the same techniques as my previous indoor layouts, I cast "slabs" of rock from concrete (instead of hydrocal plaster) that I pour into aluminum foil or silicone rubber molds. Once the slabs dry, I arrange them into cliff and mountain shapes, then secure everything in place with more concrete. The completed cliffs are stained with washes of transparent artist's oil paint or acrylics and augmented with real rocks to represent boulders and tailings.

It seems I've always had something of a brown thumb, and since I would rather be playing with trains than tending plants, it seems logical to use rock formations rather than plants. As for the plants I did use, I chose mostly low maintenance, drought tolerant scale foliage. I found that a limited pallet of sedums and various junipers all worked well, giving me greenery that is varied in size and texture.

Structures were limited primarily to railroad oriented buildings, stations, water tanks, industries etc. with the exception of a small grouping of buildings representing the town of Snow Creek. It only takes a few buildings to represent a large town. To help keep the flavor of a remote mountain railroad, it was important to me that the line did not feel overrun with structures. I was more interested in what was between the towns (mountains, bridges, tunnels) rather than what was in the towns. Most of my buildings are either modified kits or scratch built from wood, acrylic, styrene or high density urethane (Precision Board).

In the giant scope of Mother Nature, many of the modeling details that were so meticulously put on equipment or buildings tend to get lost outdoors, both visually and physically. So it seemed logical to me to not sweat the details. Because we model in a constantly changing environment of wind, rain, light, critters, et cetera, it became



The realistic mountainsides are concrete castings stained with acrylics. Right: A pass being rebuilt in 2012.





Photo by Carla Brand Br





Snow Creek Railroad runs alongside Snow Creek for a while, then crosses the creek heading into a juniper forest.



The railroad daily switches consists in the town of Snow Creek.







more important for me to create the illusion of detail by using a little paint and a lot of creative common sense. I realized that, for me, if an outdoor scene looked convincing from two or three feet away, this overall "correct" feeling was more appealing than the myriad of details that I could have incorporated into the scene. Placing a few details in select spots set up a visual rhythm, continuing the illusion of more detail than what is really there. Architect Mies van der Rohe was right: less is more.

Operations on the Snow Creek Railroad

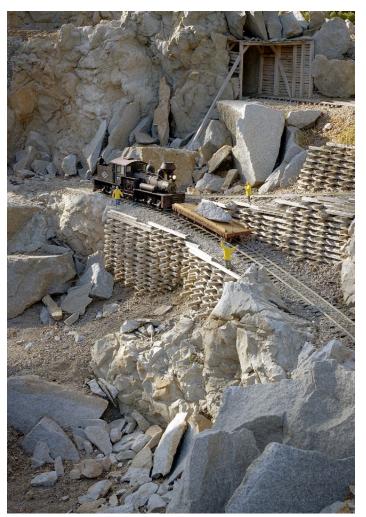
I like to think of the Snow Creek Railroad as a freelance, present day, narrow gauge short line. This broad concept gives me the freedom to operate virtually any narrow gauge equipment I choose; steam or diesel locomotives, delicate wooden passenger cars, or hefty steel freight cars. And since there is no specific location being modeled, this allows the exaggeration of scenery and structures, capturing the essentials instead of accurately reproducing the prototype. The only rule I follow is to make sure my creations stay within the bounds of reality (scale, logic, gravity, and so forth).

The SCRR has only a handful of locomotives in its roster, all relatively small. They are either Bachmann or LGB. Most of the rolling stock is either AMS or Bachmann. Moderate weathering gives the feeling that everything operates in the same region, creating a sense of place and belonging.

I wanted to participate as much as possible in the functions of the model railroad, to feel like I was running a real railroad. Therefore I've tried to incorporate as much handson operation as possible. All turnouts are manually thrown, uncoupling functions are performed with chopsticks, and all motive power is radio controlled so operators get to walk with their trains around the railroad. Not only does this simplify maintenance, but it adds a lot of fun.

To maintain interest in the railroad, over time I've experimented with different operation concepts: car cards, tabs on cars, dice rolling. I eventually settled on pre-thought out switch lists.

I enjoy having small groups of model railroaders over to run trains and drink beer. (Sometimes the latter takes precedence.) Each train has an engineer and conductor. Their switch list indicates what cars are to be picked up and dropped off along the route. The layout can easily accommodate two trains with operators.



The quarry blends real rock and concrete castings.



After 28 years, this extensive curved trestle remains in service.

Photo by Carla Brand Br

Carla Brand Breitne

2011 A Rebuild Simplifies the SCRR

A while back I realized that I was starting to get older, like a lot of garden railroad baby boomers, and it was not a pleasant realization. My railroad was becoming more of a cumbersome annoyance than a form of enjoyment. After almost 20 years, the maintenance was getting out of hand. There were too many weeds to pull and trees to trim — and too much track to repair. With my bad knees, crawling between bridges and balancing over track to pick up leaves was becoming an impossibility. I realized that not only was I wearing out, so was the railroad. The creek was leaking badly and some of the rock facades were beginning to collapse. Procrastination and apathy began to set in. I was losing interest in my railroad; it just wasn't fun anymore. If I was going to remain in the hobby that I loved, some changes would have to be made. So in early 2011, I made the decision to rebuild the Snow Creek Railroad.

This time around I decided to simplify the layout. Even though I wanted to keep the basic footprint of the railroad in the yard, less track meant less maintenance. The main station was relocated to a more prominent location, new pathways were created through the layout...a reverse loop was added... the original town of Snow Creek was simplified... new rock cliffs added. The railroad was now perfect! Or was it...?

In the back of my mind was the annoying realization that the new layout just didn't have the visual drama of the original one.



Above: By 2012, Snow Creek flowed through a desert landscape planted with water-saving succulents. Below: The businesses in the town of Snow Creek changed.





The view from the patio. Above: In 2008, greenery dominates. Below: In 2012, Nemo Station is now prominently featured.



Above: In 2004, Nemo Station included cattle pens and a loading ramp. Below: By 2012, the pen sits near a pasture.



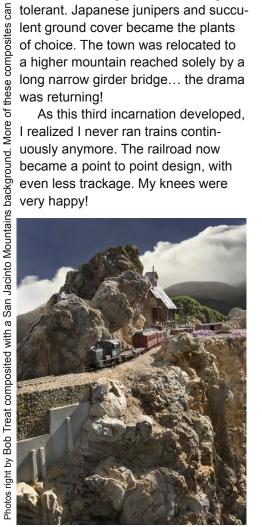
Brand Carla



2016 Rebuild #2: The Drama Is Back!

So in 2016, out came the shovels once again. By this time climate change was affecting the more fragile plants. The railroad was now forced to be less lush and become a more desert landscape with even more rocks. Most of the foliage was now drought tolerant. Japanese junipers and succulent ground cover became the plants of choice. The town was relocated to a higher mountain reached solely by a long narrow girder bridge... the drama was returning!

As this third incarnation developed, I realized I never ran trains continuously anymore. The railroad now became a point to point design, with even less trackage. My knees were very happy!



2021 The SCRR Continues to Adapt

I've noticed over time that the theme of the railroad has changed. Its imaginary history has evolved, making it feel even more like a real railroad. As the track plan was altered time and again, many of the old bridge piers remain in place. Twenty-five years ago Snow Creek Railroad started out transporting tourists part time; it now has become solely industrial. Passenger cars now accommodate workers to the various mines and industries along the route. And just as the namesake town was undergoing a revitalization with new industries, Mother Nature had other ideas and took out the girder bridge in a windstorm. With only a few abandoned rails left in the town, Snow Creek is now gradually becoming a ghost town. Ain't history wonderful!

The Story of New Snow Creek by Bob Treat

Once upon a time, in a small mountain town there was a big nasty windstorm. The citizens of Snow Creek woke up to find they had been cut off from railroad service by the collapse of the 450 foot girder bridge that connected them to the rest of the world.

The townspeople were devastated! How were they to get their building supplies? Dry goods? Their produce? And worst of all, the Slippery Pickle's beer supply. No more "happy hours"!



It was apparent that the citizens of Snow Creek and their goods needed their rail service back. But the town and railroad had not the funds (actually, no incentive) to replace the bridge. Fortunately, Snow Creek's primary industry, the Cielo Water Co., was on the "railroad side" of the destroyed bridge. A short stub trestle was quickly constructed to allow for a longer tail track so cars could be shunted onto the water company's siding. The industry was saved!

The town Council debated over brews at the Slippery Pickle and decided to construct a makeshift road leading up to a small station platform at the track's end. Now the Snow Creek Railroad could once again service the people, the stores and the bars of Snow Creek. — As told in the San Diego GRS News March 2021



Email Bob Treat at treat@cox.net; Check out Snow Creek photography and Bob's art at www.roberttreat.com and two books on the SCRR at www.blurb.com/bookstore (search: Robert Treat Snow Creek)

Bob's latest book, "Nemo to Snow Creek ...and places in between," composites the Snow Creek Railroad with backgrounds from the San Jacinto Mountains. Over 40 photos bring the fantasy of a garden railroad to life on the page in this three year labor of love.



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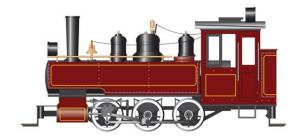
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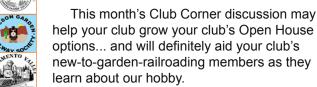






CLUB CORNER

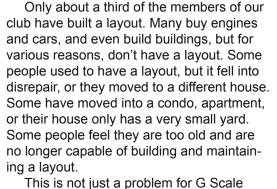
Curated by Bill Derville, Past President Rose City Garden Railway Society • Portland, Oregon



even lunch for the workers. But usually everyone brings a sack lunch and enjoys the drinks provided by the host. By the end of day, usually the first train is running on the new layout.



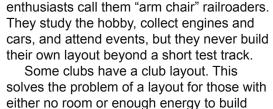
Work parties break the barrier of getting started building a railroad. We have built several layouts this way. Not only does the layout get built, but newer members learn new skills as they work side by side with more experienced railroaders.



Some people aren't sure where they want to lay track. They have room for a layout but haven't decided on a track plan. Sometimes we have track planning parties where members are invited to visit and just discuss track plans or get more ideas on what they want to build. These are social events, but sometimes we even bring a laser level to check out grades to insure they will not be too steep. The final track plan is of course decided on by the owner, and usually not during the party. But the fresh ideas provide much food for thought. My own layout was dramatically changed due to the suggestion



of one of our members.



One measure of the strength of a club

members. To help members build a layout,

our club offers work parties to aid in con-

struction. The owner figures out the track

and members sign up to come help build

a layout for a day or even a few hours.

plan, announces and schedules the event,

Usually work parties involve laying track, so

members bring their own tools which often

include a shovel and a hex screw driver for

installing rail clamps. The host usually pro-

vides drinks, refreshments, and occasionally

and maintain a full layout of their own.

is the number of layouts owned by club

hobbyists. The smaller scale model railroad

Building a new layout is fun, and it strengthens the club when there are more layouts to visit. As people build layouts, problems are encountered that other club members can help solve. If you haven't built a layout yet, think about having either a track planning party or a work party to implement your plans. It will get you started.



I welcome your ideas to strengthen our garden railroad clubs. Share your ideas with me by e-mail at bill@derville4.com and your experience may be in a future column.



























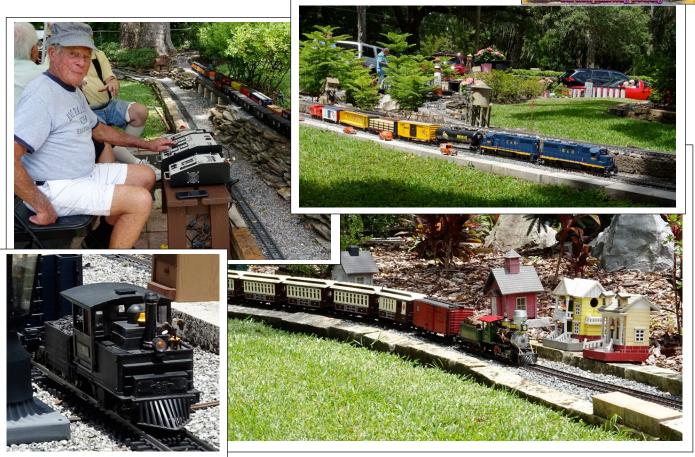






Reflections from Charlie Beall's Fun Run

A Florida Garden Railway Society Meet







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Reflections from Charlie Beall's Fun Run





FGRS members gathered outside Orlando to spend the day enjoying trains running on a spectacular layout! Built in 2006, the layout is roughly 70 x 90 feet with about 1,200 feet of track, including sidings. There is a waterfall, koi pond, long truss bridges, and varied, beautifully landscaped terrain throughout the track-powered layout. Charlie ran many of his 20 locomotives and 111 cars. To see more pictures of this fine layout, check out the "Events" Page on our website: www.FGRS.org

















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Sidetrack Tap Lounge: A Passenger Car to Diner Project in 7/8ths Scale by John Foley

I built a Bar Room called the Sidetrack Tap. The scale of the building is 1:13.7 or 7/8ths inch to a foot. My 7/8ths scale (1:13.7) railroad models Maine two-foot narrow gauge on 45mm track and also small industrial railways. The locomotives are run by battery power and live steam. There are very few commercial building models available in this scale, so all of us build from scratch. At 7/8ths scale, you can't get away with just the exterior details. The interior details have to done because you can see it through the windows.



Photo 3

I wanted to keep this project as cheap as I could. I had a leftover piece of two-foot narrow gauge passenger car roof framing. Most of the strip wood is popsicle sticks, tongue depressors and coffee stirrers. The floor stringers were cut from scrap wood on the table saw. I used popsicle sticks for floor boards stained a brown/black.

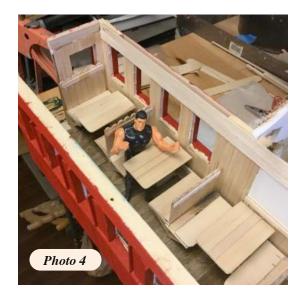
(*Photo 1*) The walls were built flat on the workbench. Construction is 1/4" foam core with the popsicle sticks on the outside and coffee stirrers on the inside. I used a square to keep the wall vertical while the glue dried.

(*Photo 2*) The sidewall and the roof framing in progress. The roof needs to be covered with thin balsa wood. I trimmed out the window openings with wood. The windows are custom cut from .080 plastic using clear styrene for glass.



(*Photo 3*) Interior view while under construction. The roof ribs and the tile floor in the bar area can be seen. The bar and the stools need to be installed.

(Photo 4) The booths were built as a unit to be added after the walls were in place. You can see the ends of the popsicles sticks used as the back of the booths.







(*Photo 5*) The front of the Sidetrack Tap. I still need to add a neon sign. The building in the background is the railway engine house, but that is another story for another time.



Interior views of the finished Sidetrack Tap.

(*Photo 6*) A view of the booth service area with a lady placing her order. You can see the rounded ends of the popsicle sticks.

(*Photo 7*) The Bar area with a back cabinet and cooking area. The bartender is serving his regulars.

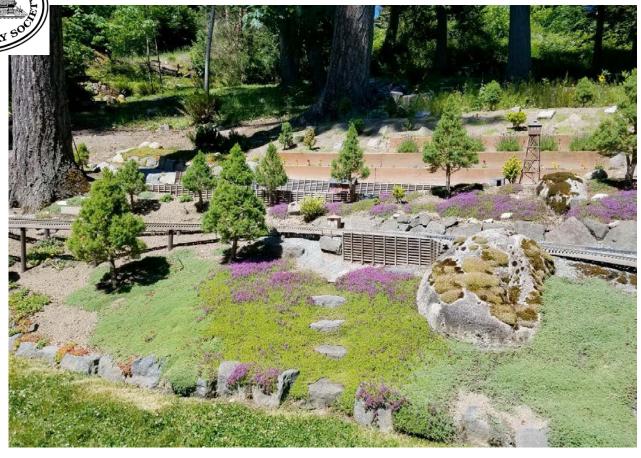




(Photos 8 & 9) At the back of the building is a storage shed where a worker takes a break. The rear shed was added to accommodate a heater and dry storage.

This was a fun project to pass the time while stuck in the house last Spring. It goes to prove you don't need to spend big sums of money to have a great model. The name of the Bar Room came from the radio show *A Prairie Home Companion*.





Three kinds of thyme blanket a hillside of the Squak Mt RR. From L to R: Elfin, Red, and Wooly Thyme. Photo by Sharon Carlson

Page 🖸

Puget Sound Garden Railroading

July 2021



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Beginner/Budget Project: Rehabilitating a PIKO Clean Machine

By Eric Stratton Mueller

Our youngest son, Wade, received a PIKO "Clean Machine" as a gift two years ago when he turned three. Within days, goodnight hugs, fumbling for the on/off/reverse switch, and a taste test of the horn left Diesel Dan stripped of most detail parts. The rest I removed and bagged against future need. Wade asked for his fifth birthday that we restore Diesel Dan to "his" former glory. He wanted all the detailed parts back. I wanted to make sure my fat fingers never again snapped a handrail. I also wanted a project that would build our hobby skills, so I decided we would make, rather than buy, replacement parts and install some mechanism for touchless control.



1 - Diesel Dan devoid of details



2 - Ready to start!







4 - Vertical placement of the Critter Controller

We began with the control system. For those not familiar, the "Clean Machine" runs on 6x AAA batteries. It is a fun, durable model, but the location of the on/off/reverse switch under the deck plates puts those handrails at risk. After weighing radio or even infrared control, I settled on G-Scale Graphics "Magnetic Critter Control" gscalegraphics.net for reasons of cost and simplicity. We followed the PIKO manual to strip Diesel Dan to bare bones. We did have a little trouble working the cab off, but we

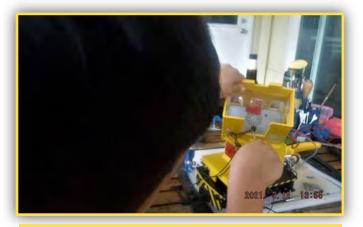
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Rose City Garden Railway Society

prevailed! After studying *Diesel Dan's* innards, we settled on mounting the new circuit board vertically in the front of the cab. The exhaust stack serves as a cable channel already, so we took advantage of that. Wade filed a notch in the base so we could run the battery leads to the control board and wires then back down to the motor and a station stop magnet. Next, we mounted to the top of the windowsill the on/off magnet. Then we mounted externally and low on the chassis the station stop magnet. There is a small, internal gap near the on/off/reverse switch that can accommodate the wires for this magnet.



5 - Looking for a place for the station stop magnet



6 - Filing the notch for new cables

More adventurous modelers could consider mounting the station stop magnet inside the chassis, but moving gears near wires worried me! I will add that both PIKO and G-Scale graphics give you plenty of extra wire and good instructions, and, as a result, we had *Diesel Dan* buttoned up and working under magnetic control in no time!



2021. 3: 13 10:03

7 - Bending handrails (Must use eye protection next time!)



8 - Reaming out the handrail holes

The detail parts came next. After reaffixing surviving parts, we turned to the handrails. I had kept the originals, and we used them as guides to bend metal wire replacements. I chose a metal wire that I found out later was "piano" wire that roughly matched the diameter of the original handrails. Boy, was that hard to work with! In hindsight, we should have worn

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Portland, Oregon





9 - Glasses on as we make new handrails



10 - A pencil tip about to become a horn

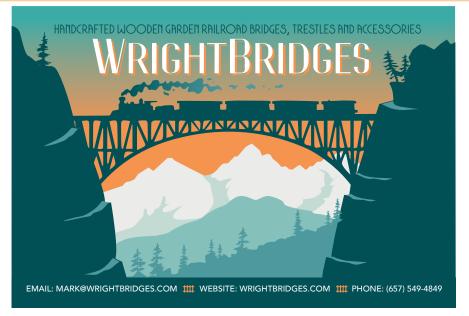
eye protection as we bent it to shape. Wade used my pin vise to bore out the holes for the new handrails, and, in an afternoon, *Diesel Dan* was again OSHA compliant! I had a real mental block on what to do about the horn. We still had the base, but the bell had been the victim of that long-ago taste test. Wade, rummaging about his sister's bead box, found the tip of a mechanical pencil. We cut it, glued to *Diesel Dan*, and now the little loco was truly ready to serve the Triple O!



11 - The Crew poses after a job well done!

This was a fun project. Were I to do this again (and was it my locomotive) I would cut out the cab floor to ease the wiring and make the windows opaque to hide the job. I would also find a more malleable wire for the handrails and would have repainted *Diesel Dan* in US Army or Hawaii Historical Railroad colors. I am very, very pleased with the Magnetic Critter Controller, and I would strongly recommend it to anyone else who wants small hands to operate trains without risking detailed parts or expensive remote-control devices. In the end, it all came together to make *Diesel Dan* look more like a "real" model and much more fun to operate.

Continued on next page





This is a condensed version of my build log "Rehab of the Missile Sponges Part the First: Diesel Dan" on Large Scale Central.

The log includes a couple of videos, including the Hawaiian Railway prototype in action.





Rose City Garden Railway Society

Portland, Oregon

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ON DEMAND GARDEN RAILROADING Part Three

by Mick Spilsbury

Vice President, Bay Area GRS & GR News Marketing Director

POWERING AN ON DEMAND GARDEN RAILROAD

Track power or battery power? Why not both?

Battery power enables us to run locos on demand, on a whim, after only a brief inspection for obstacles that have naturally or mysteriously appeared on our track. So, at least one battery loco is advisable for reliable on demand garden railroading.

However, converting locos to battery power is an expensive business and track power can be used in conjunction with battery power. After all, battery-powered locos and track-powered locos can operate simultaneously.

USING BOTH TRACK & BATTERY POWER

My Black Canyon RR uses both track and battery power in a perhaps unconventional way. Locos operate on battery power. Track power is used to power sounds up and down the line and to power on-board lights in carriages. So, very clean track is required for full operation, especially at night— or to run guest track-powered locos or new fleet additions awaiting battery conversion. And that is where track cleaning engines running on track power come in real handy.

Although only a double-headed consist of two track cleaning engines is required at any one time, Black Canyon has a fleet of four. Why? One: track cleaning locos are often in the shop for required maintenance. Two: I am collecting the original yellow LGB track cleaning locos while I can still find them in good condition second hand. (In my experience they perform their role far better than the newer red model.) I purchased the most recent yellow addition for about 50% of the price of a new red model.



TUNNELS

Abominable activities can occur in tunnels – lovely dark spaces for less desirable species of wildlife. These activities can be constrained by easily placed and removed wooden 'end caps' slotted to fit on top of rails. The seconds taken to place and remove them is far less than the time taken to remove the entrails of a night of vermin activity.



UNDESIRABLE UNDERGROUND ACTIVITIES

'Caddy Shack' experiences are not at all amusing on a garden railroad. Plants dug up, piles of dirt on carefully laid landscape details and, worst of all, scale avalanches on track are annoying. There are many opinions about controlling the incursions of moles, gophers, and voles. I have settled on reasonably effective, solar powered, battery operated sonic deterrents, placed at a higher density than specified. Much more elegant and as effective as noxious smoke bombs or setting traps that seem as likely to catch a digit as a gopher.



STORAGE

Rolling locos (and other rolling stock) into an enclosed, clean location is a tremendous aid to on demand garden railroading. If you have the space for a train shed or the opportunity to run trains into a garage or basement, seize the opportunity. Black Canyon does not have that opportunity. Tunnels with end caps serve for locos instead. Not as good as a shed or basement but a big step up from leaving locos out in the open or moving them on/off track before/after each operating session, even with very helpful 'railers'.

ON DEMAND GARDEN RAILROADING is not a priority for all, but for those with children, grandchildren and friends who just drop by, it can be rather useful!

If you have tips on the topic, please share. Send them to marketing@grnews.org with images if appropriate — and we will include your tips in a follow up article.







Dwarf Chinese Elm Ulmus parvifolia Ulmus parvifolia 'Seiju' & Ulmus parvifolia 'Hokkaido'

Among the pictures sent in for the "Featured Layout: Steve & Malinda Jungst's J2A RR" article in the March/April issue of Garden Railroading News was a city park near 'brick' buildings modeling downtown Nashville. The tree in the park caught your GR News editor's eye and I asked what plant it was. Steve Jungst of the J2A Railroad wrote, "The tree in the picture with the wishing well is a dwarf Chinese Seiju elm tree. The scientific name is Ulmus parvifolia 'Seiju'. I don't remember for sure, but I think the tree was planted about 5 years ago. It has been a very easy tree to grow and does not grow too fast. The ground cover is a mix of blue star creeper and Elfin thyme."

The answer sent me searching, and I found that multiple examples had caught my photographic eye at other convention layouts over the years. If you're looking for a striking, slow growing tree for your railroad and you don't have winters with constant hard frosts and snow, dwarf Chinese elm, either U.p. 'Seiju' or U.p. 'Hokkaido', may be for you.

Chinese elm is native throughout eastern Asia and the dwarf variety was cultivated in Japan. Hokkaido is a very slow growing miniature; Seiju, a sport of Hokkaido, grows considerably faster and taller. Other Chinese elms, such as U.p. 'Jacqueline Hillier', can be kept small with constant trimming.

Chinese elm has a mottled, "corky" bark and small, oval green leaves with dentate margins and pointed tip. It grows fairly straight developing a spreading canopy of leaves on a network of branches. On our railroads, it looks good as a street tree near buildings or out in the countryside.

This elm thrives in a wide range of light, temperature and humidity conditions. It can be grown in full sun or partial shade. Evergreen in warmer climates, it shows fall colors and drops leaves in cooler areas. Water regularly, adjusting to your local conditions and allowing surface soil to dry between watering. Prune so branches radiate out.



Seiju elm (above) grows larger and faster than Hokkaido elm (right).







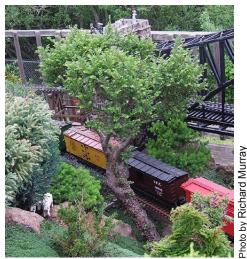






Seiju elm Nashville in early Spring. The same elm in full leaf in June.





Seiju elm on a Bay Area hill. Seiju elm in June in So. California.









On Steve & Malinda Jungst's J2A Railroad, the Seiju elm provides singular shade and also appears in groves.



A line of Hokkaido elms (and a hedge of Streibs Findling cotoneaster) separates the train yard from downtown Nashville on Steve & Malinda Jungst's J2A RR.



Alan Wright trims lower branches on this U.p. 'Seiju' to keep the track clear.

Dwarf Chinese elm

Ulmus parvifolia 'Seiju' Ulmus parvifolia 'Hokkaido' common names: Chinese elm, evergreen elm, lacebark elm

USDA Hardiness Zone: 6–11 Sunset Zone: 8, 9, 12–24

Full or partial shade, well-draining soil
Trim late Fall through early Spring



Hokkaido elms on the J2ARR. Brittle branches may break easily.







This many decades old Seiju elm has the knobby bark and wide trunk of age.







Ray Turner of the Mystic Mountain RR outside San Jose, California, wrote in the October 2020 BAGRS' Trellis & Trestle that when trimming his four Seiju elms annually, he "takes about 2 feet off the top and thins out the lower and inside areas."

Photo by Ka





The Mail Car

By Pete Dahlberg

Q: How do I know when to replace my track or wheels?

A: If you are using metal wheels and lubricating the axles regularly, the need to replace wheels is very infrequent. The examples shown below are after several thousand hours of operation.

If a car is derailing on a regular basis it would be a good idea to check the condition of the wheels. If the flange is very thin, then the wheel/axle should be replaced. [Ed. Note: Also check wheel gauge.]

Worn axle - note thin-ness of right flange



If the tire portion of the wheel appears to be significantly below the top of the flange or if there is a groove worn in the tire, then the wheel/axle should be replaced. If the end of the axle appears to be significantly smaller than the rest of the axle, then the wheel/axle should be replaced.

New axle on top – worn axle on bottom, note ridge on left wheel



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NTGRC News July/August 2021 continued

If the journal (where the end of the axle goes into the sideframe) is not round, the sideframe should be replaced. Note: if the sideframe needs replacement, then the axle probably should be replaced at the same time.

New Freight sideframe - note that holes are round



If a locomotive is **derailing** on a regular basis or if it is making **grinding noises** or if it does not seem to be pulling well, it is a good idea to check the condition of the wheels.

New locomotive axle - note that gear teeth are square



Used locomotive axle – note cupped gear teeth and groove on left wheel



As with car wheels, if the flange is very thin, then the axle should be replaced. If there is a groove in the tire, check to see if the other wheel on the axle has a similar groove (or traction tire). If this is the case, then all that may be needed is a new traction tire in the groove to replace the traction tire which has come off. Also as with car wheels, if the end of the axle is significantly smaller than the body of the axle, the axle should be replaced.

Worn locomotive axles – note almost missing end on bottom axle



An additional item which needs to be checked on locomotive axles is the drive gear for the axle. If this gear has a "cup" on the teeth, then the axle should be replaced. A cupped gear means that the axle cannot get full power from the motor.

For most personal layouts, track will NOT wear out. However, it can become damaged which would necessitate replacement. For example, if you drop a large rock on the track, it probably will be bent and may be out of gauge. You can try to repair the damaged section using a two-rail railbender, but it is usually easier to just replace the damaged section. A less common form of damage can occur if a train is running unattended and gets stuck. In this case the engine can grind "divots" into the rail. There is no option to repair divots, the track must be replaced.

Track divots – caused by engine running but not moving



If the track is heavily used, i.e., over 2000 hours of run time, it will eventually wear out. In this case, the rail head will become flattened (it normally will have a rounded top), and will wear so that the inside of the head is flush with the supporting web. When this happens you may see very thin brass "wires" along the inside of the track. When you start seeing these conditions, the track is worn out and needs to be replaced. When track is this worn, you will experience a greater frequency of derailments.



DETAILS, DETAILS!

An Orange County, CA field report

The highlight of any Garden RR is operating locomotives, BUT trackside details make each RR unique. The trackside details on Todd Brody's 'Tortoise & Lizard Bash RR' certainly make it unique and fun!



Finding them all in one visit is pretty much impossible but we found a bunch. Here are some of our favorites.



Working cable cars carry passengers across a waterway on one section of the RR.



A school mistress calls her charges back to class while a workman services a raised oil tank.



The above might seem a little incongruous



Until you see that they found the meteorite!



Close by archeologists are unearthing a dinosaur, ironically in the not-so-old LA tarpits!



While other residents are getting steamed up.





Crushed ore cascades into a hopper



A jilted man is seen messing with a lavatory ...



.. to inconvenience a woman who jilted him?



Picknickers enjoy a view over the RR Empire





A Hot Rod shows off its hydraulics



Custom rolling stock complements the scenes



While multiple consists wend their way through the plethora of unique details

The 'Tortoise & Lizard Bash RR' is not a new affair. Todd started building it in 1997, adding details year after year. And he hasn't stopped. Several of the above details have won honors in recent national model building contests. Clearly Orange County has more to offer than Disneyland!

NOW WE NEED YOUR HELP

We know there are LOTS OF GREAT TRACKSIDE DETAILS on other Garden Railroads, as these images from a few Northern California Railroads show.

And we need your help to showcase more.

EMAIL TO: marketing@grnews.org

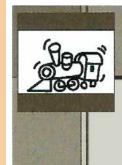
- A 5x3 image of your favorite trackside detail
- The name of the railroad
- The state the RR is in

AND WE WILL FEATURE THE MOST ENGAGING IN A FOLLOW UP, 'DETAILS, DETAILS,' PICTORIAL.









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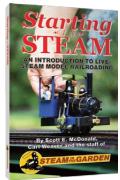
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The Anatomy of a Door

I have designed and built many doors on my laser cutter over the years; I've had to learn a LOT about how real-life doors and windows are constructed, both historically and contemporarily. I design all of my doors and windows using prototypical structure, dimensions and proportions as much as I can. There is a lot about how a door or window is constructed that I now take for granted that most modelers never think about; and if you don't know the names of the parts it's very difficult to have a discussion about it.

SO... in this newsletter I bring to you *The Anatomy of a Door*. Let's start by defining the major terms used to describe a door and its parts, then see how a model door is created from a prototype.

Casing RII Width Casina -Casina Frame -Top Rail Door Width Stop Mid Roll Panel Height Lock/Doorknob RO Height Lock Stile Lock or Mid Rail -Hinge Stile -Casing fom Rail Bottom

The Parts

There are a lot of terms in this picture! Let's look at each of those pieces and figure out what they are.

The door itself is made up of vertical pieces call "stiles" – one on the hinge side, the other on the doorknob side. Until the doorknob side is committed, the door is symmetrical, so you can just call both of them "stiles".

The horizontal pieces are call "rails" – one "bottom rail", one "top rail", and possibly several "mid rails". The rail near the level of the doorknob or lock is called the "lock rail". Again, there's not usually a reason to differentiate between them, so they all are just "rails".

The recessed sections on the door are called "panels". The above example is a "4-panel" door; there are a lot of possible configurations here, including multiple columns – you could have a "2x3 panel door" which would have two panels across and three panels high. As a variant, sometimes panels can be replaced with glass, giving a "glass panel" door.

A prototype door would have three layers (or levels) of material: the front bracing just described, a solid center core layer which appears as the recessed panels, and a back (inside) bracing which is identical to the front bracing. (When we model these, we usually only model the front bracing and the core door, leaving the back flat.)

continued on next page





Rose City Garden Railway Society Portland, Oregon



IMPORTANT NOTE: A door size is the measurement of the part of the door that opens, and does not include the frame or casing! A typical door might be 36" x 80", but they can be any dimension that's needed for the building. The door size, usually in scale inches, is how you would specify a door for new construction.

Moving out and forward, just in front of the door is the "stop". This is what keeps the door from swinging both directions – what the door closes against.

Moving forward and out again, next is the "casing". This is a cosmetic surrounding piece that hides any gap between the door from and the wall it's being mounted in.

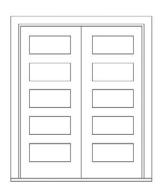
And last is an optional piece at the bottom of the door, the "threshold". This gives a smooth transition of the door opening to the floor level. Doors opening onto platforms will look best without a threshold; doors to houses and stores probably would look better with one. It's primarily an esthetical choice.

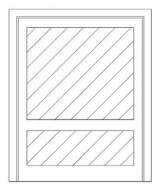
The next important part of a door is actually a measurement around the back side of the door – the "rough opening" or RO. This refers to the size of the hole needed in your wall that the door frame will smoothly slip into. It will always be larger than the door size and smaller than the overall size. THIS pair of measurements is what you would give to get a door to fit an existing opening.

Additional Options

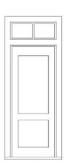
There are several notable options that should be mentioned that also have some unique terminology.

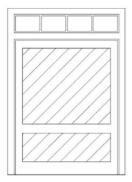
• Types of doors – Besides the standard "single" door discussed so far, double doors, double-wide doors, and "freight" doors should be mentioned. These are mostly self-explanatory except for the "freight" door – that one generally has an extra-deep frame (6"-8"), usually is of plank constructions, and usually slides rather than swings open.





Transoms – a transom is a narrow horizontal window above the door.





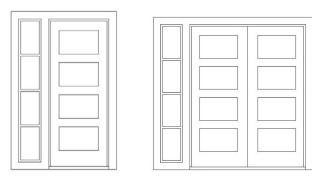
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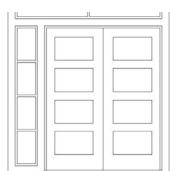




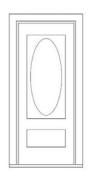


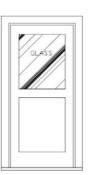
• Sidelights – A sidelight is a vertical window section beside the door, extending the entire height of the door opening. A sidelight could be on either or both sides of the door, and could be either all window panes as shown or a mix of panes and solid panels.





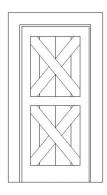
Doors may have windows within them.
 Or one or more of the panels could be glass instead of wood.





 The door construction can be a paneled door, or it can be a timbered (rustic) door.





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Portland, Oregon

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Modeling a Door

I initially model all of my doors in prototype full-size inches, then reduce the model to the desired modeling scale. This has several advantages:

- Gives us a consistent way to spec a door size across scales, including 1:1 scale
- We can use the structure of a prototype door to ensure our model proportions are reasonable and attractive
- We don't have to design a door from scratch for each and every scale
- We can establish a set of "standard specs" that can be applied consistently to all doors. For example, we can make all casings a scale 5" wide, stile 6" wide, bottom rails 12" tall, etc.

The Important Stuff: Given the above, usually all that needs to be specified to get a door designed are:

- 1) The door dimensions either in scale inches (as discussed above), or the RO size in actual decimal inches;
- 2) The scale of the model (which establishes the dimensions of all of the door pieces there are 15+ such dimensions and choices in a typical door)

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While you can theoretically specify a door size using the "overall dimensions", this would require using the scale to determine all of the other dimensions. And since the casing width itself is a dependent variable, the resulting door would end up being a non-standard door size with an R.O. size difficult to estimate without doing a complete door design.

The following example shop drawing shows how the door size (scale $36" \times 80"$), RO size ($1.6667" \times 3.4166"$), and overall size ($1.8750" \times 3.5208"$) apply to a door:

Knowing the *scale* of the door is important because many of the attributes of a door such as the casing width, rail and stile widths, etc, are all standard sizes based upon 1:1 prototype dimensions, and are scaled to the actual size needed for a given scale. If you aren't a "rivet counter" modeler, then using any close scale will probably look fine to you, but if you're too far off the door might look "silly" and unrealistic. (For instance, a 1:20 door is 18% larger than the same door in 1:24; putting a 1:20 door in a 1:24 building is probably going to make the building look like a toy.) If you don't have a specific scale for your railroad, then 1:22.5 might be a good middle-ground to use.

A door could be constructed using a traditional "stick" technique, for my laser-cut models I instead use a layered approach. Each layer is an integral single piece; the multiple layers are stacked together to make the complete three-dimensional door model. For this to work successfully, each layer must be designed so it is a solid unit, and each layer must

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have an adequate glue-bed on the layers above and below it; this results in a structurally sound final assembly.

Models from one scale cannot just be scaled to create a different scale of the door – this is due to several critical objects that remain constant regardless of scale, such as the kerf (width) of the laser "blade", the material thickness, and the placement of the parts in the final "kit". While I start with a 1:1 design initially, that design gets rescaled to each desired version, and then that design gets extensively modified to make it producible and able to be assembled. Truly each scale version of a door is unique.

For repetitious models such as doors and windows that have a large number of "flavors", I write a program that takes the many parameters and features of all doors and creates a scale-specific version automatically. This has allowed me to add features which used to take days per door and now apply them to all windows from that point on.

Summary

As you can see, there can be almost endless variations of doors. Varying just the composition of the door itself, changing the number and size of panels, adding glass panels or windows, making the door a "rustic plank door with bracing", or modifying the proportions of the stiles and rails, can provide dozens of unique and interesting doors.

I hope this helps to understand how a door is built, both in a real-life prototype and as a model, and provides a common nomenclature to discuss doors. In a future article I will similarly cover the parts and nomenclature of windows.

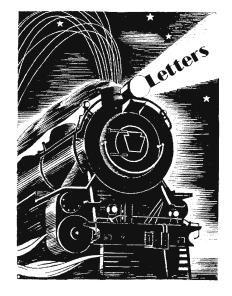
Happy Modeling,

Joe Eckardt









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.

One Way to Build a Viaduct

Please pass on to Bob Dransman my thanks for his article on building a Viaduct. I gave it a try and am happy with the results.

Chuck Carlson Puget Sound Garden Railway Society



Chuck Carlson's Viaduct before Walls & Roadbed

Great job, Chuck! If you have questions, email away and this rookie will try to answer!

Bob Dransman Greater Cincinnati Garden Railway Society



Bob Dransman's Viaduct and Pavilion with Engine House under construction



Screen Grabs from video show trains running on Bob Dransman's viaduct and long trestle during a July open house.



Chuck Carlson sent a second note and photo describing his modifications when adding the walls/drain pockets.



Bob, One thing I changed was that I used 1/4" concrete board for the wall material; it bends perfectly. Using a concrete saw from Harbor Freight, I cut 1-1/2" strips to the lengths needed for the drain gaps (instead of cutting afterwards), then cut the piece for the gap. Glued them on with Heavy Duty Liquid Nails. Some things are not available like Home Depot out here doesn't stock the Flexcoat, so I bought Stucco Patch and buff coloring from Lowe's. The black roadbed is from the original PVC roadbed that I embedded in the cement. I did an article on making PVC roadbeds in one of our newsletters. Again, thanks for the articles.

Chuck

Photos Welcome for Seen On Cine Tracks A G Scale Realistic Scene Photo Gallery

Please send uncompressed photo (with caption information describing the scene and 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.

Affiliated Clubs by State & Country as of 8/10/2021

AR	Greater Hot Springs Garden Railway Society Northwest Arkansas Garden Railway Society		Minnesota Garden Railway Society MO-KAN Garden Railroaders
	Ozark Garden Railroad Society		Ozark Garden Railroad Society
	Arizona Big Trains Operators		Coastal Carolina Garden Railroad Society
	Gadsden Pacific Div. Toy Train Operating Museum		Gibsonville Garden RailRoad Inc.
	Oracle Community Learning Garden Kid's Railroad		
			North Carolina Garden Railway Society
	Tucson Garden Railway Society		Piedmont Garden Railway Society
	VDO Garden Railroad Club 1:32 Scale Group		Rivercity Railroaders
			New Hampshire Garden Railway Society
	Bay Area Garden Railway Society Central California Coast Garden Railroad Society		South Jersey Garden Railway Society
	Del Oro Pacific Large Scale Modular Railroaders		New Mexico Garden Railroaders
	Diablo Pacific Short Line	144	Las Vegas Garden Railroad Society Northern Nevada Garden Railroad Society
	Fairplex Garden Railroad Volunteers		
			Central New York Large Scale Railway Society
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	Gold Coast Garden Railway Society		Genesee G Gauge Railway Society
	Mendocino Coast Model RR & Navigation Co.		Long Island Garden Railway Society, Inc.
	Orange County Garden Railway Society		Western New York Garden Railway Society
	Redwood Empire Garden Railway Society		Buckeye State Garden Railroaders
	Sacramento Valley Garden Railway Society		Columbus Garden Railway Society
	San Diego Garden Railway Society	•••••	Greater Cincinnati Garden Railway Society
	San Joaquin Garden Railway Society		Miami Valley Garden Railway Society
	San Leandro Historical Railway Society G&O Rwy		Northern Ohio Garden Railway Society
	Santa Clarita Valley Garden Railroad Club		Riverside Railroad Crew
	Santa Fe & Buthead Cove RR Train Group		Central Oklahoma Garden Railroad Society
	Shasta Garden Railway Society		Ozark Garden Railroad Society
	Southern California Garden Railway Society		Tulsa Garden Railway Club
	Upland Garden Railroad Society	OR	Cascade Crossing Module G-Scale Group
	Denver Garden Railway Society		Medford Garden Railroaders
	Grand Valley Model Railroad Club		Northwest "G" Railroad Club
	Mile High Garden Railway Society		Rose City Garden Railway Society
	Northern Colorado Garden Railroaders		Train Mountain Railroad Museum
CI	Central Connecticut "G" Gaugers Modular Club		Lehigh Valley Garden Railroaders
	Central Connecticut "G" Scalers		North Central Pennsylvania Mountains GRS
	Washington, Virginia & Maryland GRS		Pennsylvania Garden Rail Society
	First State Model Railroad Club		Pittsburgh Garden Railway Society
	Shore Line Garden Railroad		Southeastern Pennsylvania Garden Railway Society
	Emerald Coast Garden Railway Club		Susquehanna Valley Garden Railway Society
	Florida Garden Railway Society		Crossville Model Railroad Club
	Model RR Division of Florida RR Museum		Mid-South Garden Railway Society
GA	Georgia Garden Railway Society		Nashville Garden Railway Society
	Central Iowa Garden Railway Society		Houston Area G Gaugers
	Southern Idaho G-Scale Railroad Society		North Texas Garden Railroad Club
	Inland Northwest Garden Railroad Society		San Antonio Garden Railway Engineer Society
	Chicago Area Garden Railway Society	UI	Color Country Model Railroad Club
	LGB Model Railroad Club of Chicago		Utah Garden Railway Society
	Midwest RAILS (Railroaders Active In Large Scale)		Piedmont Railroaders
	Illiana Garden Railway Society		Tidewater Big Train Operators
	Indiana Large Scale Railroaders	VA/DC/MD*	Washington, Virginia & Maryland GRS
	Rusty Rails & Rotten Ties		Inland Northwest Garden Railroad Society
MD	Mason Dixon Large Scale Railrod Society		Puget Sound Garden Railway Society
	Washington, Virginia & Maryland GRS		Kenosha Garden Railroad Society
	Maine Garden Railway Society		Wisconsin Garden Railway Society
WI	Lakeshore Garden Railway Club		
		NIATIONIAL LIC	

NATIONAL US Big Train Operator Club

* Club/Society includes members from multiple states and is listed under each state.

LGB of America

Canada	Countries beyond North America
Canada Black Mountain Railway Club	AUS Garden Railway Club of Australia Inc.
BC Society of Model Engineers	NZ Auckland Garden Railway Group
Burlington Model Railway	Christchurch Garden Railway Group
Central Ontario GR Association	Locos, Lads & Lasses
Golden Horseshoe Live Steamers	Waikato Garden Railway Group
Greater Vancouver GRC	Wairarapa Garden Railway Group
London GRS	Wellington Garden Railway Group
Northern Alberta Garden Railroaders	CH US G-Scale Friends Switzerland
Ontario's West GRS	UK G Scale Society United Kingdom
Ottawa Valley GRS	Kent Group: G Scale Society
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..... Vancouver Island GR Club

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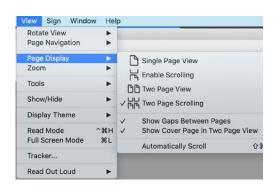


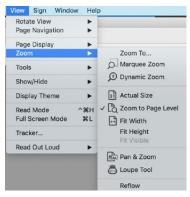


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Hope these explainers helps make reading *GR News* more fun. Enjoy.









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THE 'HAMBURGER'



