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RAIL MODELLER AUSTRALIA

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From the editor

The difficulty of producing a magazine like Rail Modeller Australia is developing a range of articles that cater to the needs of modellers. Model Railways is a diverse hobby with so many elements and areas of interest that it is impossible to cover them all. There is one discussion that appears on various forums and social media platforms regarding budget modelling. The changes we have witnessed in the hobby over recent times with the mass production of ready-to-run models come at a price that not everyone can afford. The excellent electronics now available that include DCC and sound also add to the cost outlay. The advances we have seen are significant but seem to push the hobby away from those with limited budgets, including young enthusiasts. The sale of second-hand items on the dominant online selling platform is staggering, with some models attracting upwards of eight times their original buying price. Is there a solution to helping those on limited budgets to participate and enjoy the hobby? I believe there is.

The introduction of affordable 3D printers is a start as most young people are now learning CAD skills at school and can draw and produce models. Attending railway club buy and sell events is a way of picking up models at sensible prices; repainting and servicing the models helps build skills. Learning how to create your scenery materials and buildings adds to the cost savings and is a creative way to learn more about the hobby.

Over the next few issues we will endeavour to provide ideas and tutorials that are budget friendly. If you have any thoughts for articles for the magazine, please contact us.

A 3D Printed pedal car in HO scale which will be part of a diorama being completed for a future issue.

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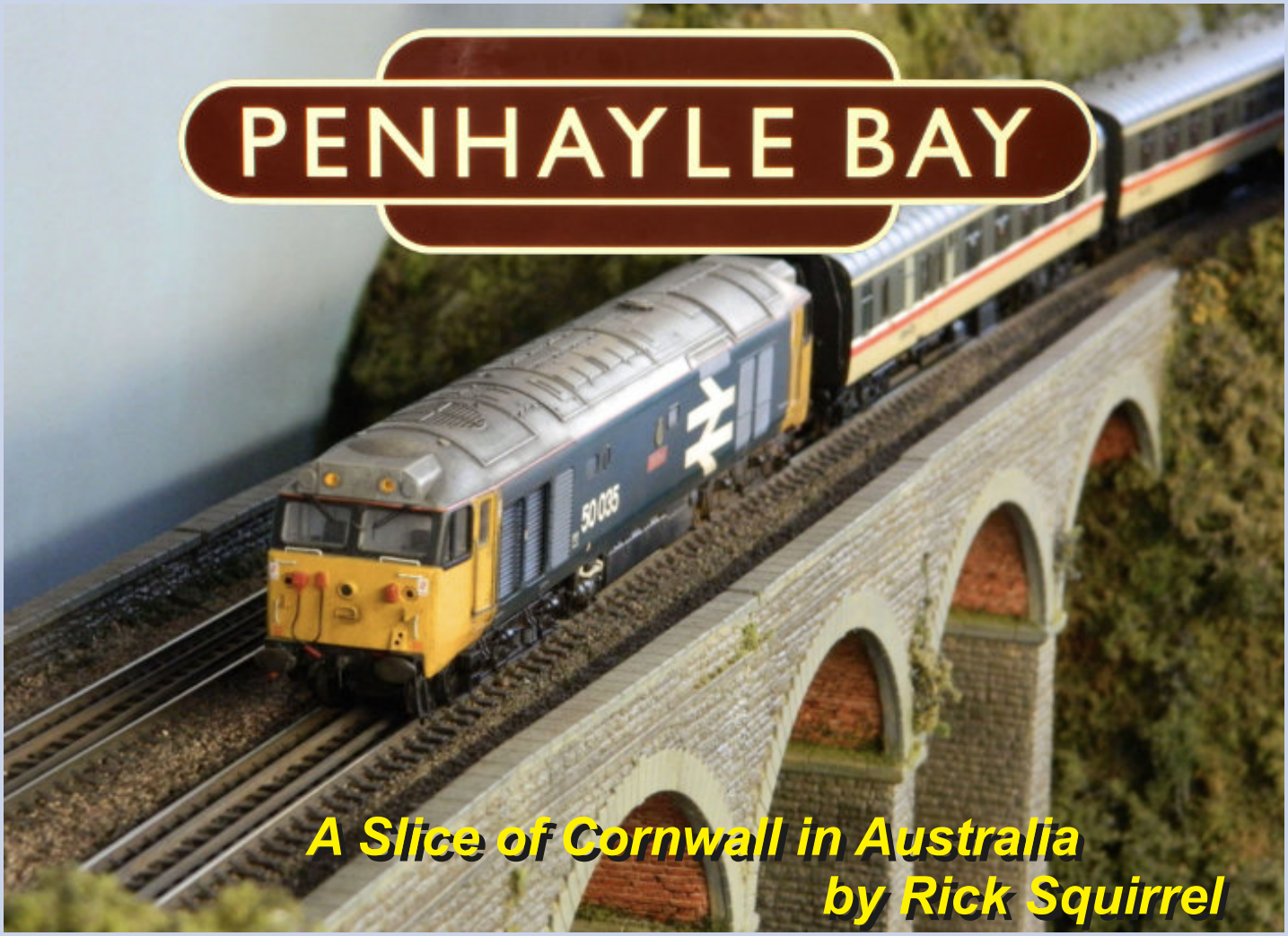

A Slice of Cornwall in Australia

by Rick Squirrel

A BR blue class 50 in "large logo" livery heads west with a charter train of InterCity-livery Mk1 carriages over Darras Viaduct. The check rails across the viaduct are Code 75 rail super-glued to the sleepers. The running rails are Code100 which ensures anything on the train like a coupler does not foul the check rails. Such details are seldom modelled.

My interest in railways, buses and coastal shipping has been lifelong. When I was growing up in the Cornish fishing village of Newlyn, these were all close by but I paid most attention to the railways. My first ever model was a Hornby tin-plate O-gauge clockwork train-set, given to me for my fourth birthday.

As my father worked away, I was allowed to meet him off the train on weekends when he came home. I saw the well-known BR Western Region diesel-hydraulic "Western" and "Warship" classes around the station area at Penzance. At the age of nine we moved to Sussex where I began a new school. I day-dreamed in class of those trains which I could no longer enjoy.

I imagined a location where trains would run above a beach, rumble across a bridge to a station dive into a tunnel beneath the hills and then emerge into a totally different scene of fields and woodland. For many years, I did not have space or money to develop that dream into a real hobby.

Life took me by way of marriage to live in Australia for 17 years, where at last I could build a model railway.

So 35 years after the original day-dream, I began to make it real. Ironically it was a serious illness that really helped it into being. The major part of the build was undertaken during my treatment for, and recovery from cancer. Having an active hobby definitely helped during this time.

Fig . 2 Carreglyp Clay Dries in the diesel era. A double-headed freight behind a pair of Class 22 locos runs past while the duty class 08 shunter grumbles to itself in the sidings.

Penhayle Bay is a freelance interpretation of Cornwall, featuring main and branch lines along with a small goods yard. It draws inspiration from many recognisable locations. Carbis Bay, St. Erth, St. Germans, Redruth, Hayle, the Glynn Valley and Marley Tunnel in Devon can all be identified in the modelled landscape. I have known all of these locations over many years.

I chose Cornwall as it was familiar to me from my younger days. It was my spiritual home and whilst in Australia seemed so very far away. Models of the prototype locomotives were readily available which helped cement the project in my mind. I felt it would prove popular with visitors as the landscape is distinctive and the area well known.

Fig. 3 66135 of the current generation of diesel power leads a train of bogie clay tanks through Treheligan station. This station has three through platforms and one terminal bay for the St. Agnes passenger branch. The building here is a resin item, the shelter beyond is a kit-bash from Ratio components and the footbridge is a Hornby kit. Signals are a mix of Ratio kits and elderly Crescent cast metal items.

The layout unusually takes its name from the smaller of two stations featured. The other station is Treheligan. Penhayle Bay is the station I had in that day-dream whereas Treheligan is a larger country junction somewhat inspired by St. Erth and Lostwithiel.

The name “Penhayle” in the Cornish language means “The headland estuary”.

Fig. 4 “Warship” class 43 number 842 awaits the road at Penhayle Bay. This is the mail train which should never be delayed but for some reason the signal remains “on”. The placing of houses at different levels adds to the sense of realism and illustrates the steep hillside upon which the station is built. The road descends steeply beneath the railway with the bridge just visible on the left.

Although I understand and use a little Cornish, I am not fluent. “Bay” adds an English element in a manner found across Cornwall. The name is fictitious, but credibly Cornish.

“Penhayle Bay” incorporates “Hayle” where I had most recently lived before moving to Australia. It is also the name of a certain online auction site, where some rolling stock was purchased in the early days. The Penhayle Bay station was christened before the first work was done whereas Treheligan was named much later when the layout was almost complete, so the name stuck.

Fig. 5 North British Class 22 D6327 leads a train of china-clay out of Penhayle Tunnel and over the river bridge. The signal box is tucked into a tight corner in the hillside.

The layout is OO scale. I became familiar with this scale over the years of my casual interest with a small assortment of Tri-ang trains. It also gave me a wide selection of ready-to-use items.

When I started this project, I thought it would be a "plonk and play" layout, without refinement. Over the two years, I developed an interest in creating realistic scenes rather than "plastic" ones and there has been an ongoing process of skills evolving and improving ever since.

I started the build only having read a couple of general modelling books. I also lacked anything more than very basic tools.

Fig.8 An early in-build view showing something of the size of the layout plus its situation outside the house. It totalled 34 metres around the main circuit, had two branch lines and a ten-track fiddle yard. The rolling stock gives an idea of just how big the project was.

Significant waterproofing was required along the fence and across the trellis at the far end. The layout was never ever completely dry. In later years the roof also required renewal. The boards end on the right, at the back door across which the lift-out Darras Viaduct scene would later be built. The name "Darras" is the Cornish word meaning "door".

The first woodwork was completed fully a year ahead of the main build as I had to figure out how it would be supported. Each baseboard is 9mm chipboard on a perimeter and cross-braced frame of 2x1 softwood.

The space available for my outdoor layout was alongside the house wall which presented different challenges compared to building an indoor layout.

Penhayle Bay was my first layout and as such I started with no skills nor experience. It is glued and screwed firmly together but it was an experiment in durability working outdoors in the Australian elements.

Despite having a polycarbonate roof, the woodwork and everything on top of it would be exposed to heat, direct sunlight, wind, rain, damp and cold.

Each panel is a unique size and shape to fit its location. It goes alongside the house then returns along the garden fence line including around a large tree. Each panel began as 2m x 1m (6 x 3 ft) and was cut down accordingly. Three boards were used uncut in the widest part, where the viewing scene sits in front of the fiddle yard.

I cut the boards first then fitted the bracing. Later I learned that some modellers have difficulty with building the framework as it can distort before the board is offered up to it. The way I did this meant this was never a problem. I did consider using open frame work but felt this might have been too complex.

Fig.9 A typical Western Region summer double-headed train, led by a green "Warship" and a maroon "Western". The train is storming the twisting climb from Penhayle Bay to Nansglaw Summit above the beach.

FIRST CONCEPTS

Initially the layout was to have been an elongated U-shape with a terminal station, similar to Penzance. At an early stage I reconsidered this and linked the ends with a large curved lift-out section to form a continuous run.

The lift-out was required due to the layout being built outdoors. Access would be needed for garden items and maintenance.

I hoped to create a good length run but surprised myself when I measured it to be almost 35 metres around. At scale speeds, trains come past every couple of minutes instead of every few seconds.

The fiddle yard is a run-through design effectively serving as an alternative main line. Entry and exit tracks diverge from the viewing line into hillside tunnel portals, before opening out to twelve tracks behind the back scene.

Some compromises had to be made with the fixed signage. The prototype Cornish lines are in something of a time warp so this was of little consequence.

LIMITATIONS OF BEING OUTSIDE

A visit to the home of Peco in Beer, Devon, gave me a chance to discuss with their staff the suitability of their track in Australian conditions. I was assured it would cope.

The wooden baseboards were fitted into slotted steel cradles, which in turn were bolted to the house wall or fence rails and supported on steel uprights which would not rot. Trial lengths of Peco Streamline Code 100 were laid and withstood the first experimental year's summer.

Fig.10 A broadside view of Darras Viaduct with a class 22 diesel leading a short freight. An old boat has partially sunk in the river-bed mud. The painting of the Wills kit viaduct required six dry-brushed colours and is shown to good effect. All weathering here is my own work.

As I was happy with the performance of the experimental track, the rest was progressively laid over a two-year period to a sketched outline rather than a detailed plan. I created sweeping curves from flexi-track rather than using fixed-geometry, and adapted the curves to overcome problems as I went.

The entire project was like a production line. While one area was in running order, the next was having track laid, while the baseboards were being fitted further on. Finally the first powered train made its way around the complete circuit.

The hill sides were made from newspaper "mushrooms" with cardboard strip bracing overlaid with plaster cloth. The substantial cliffs were cast plaster and the sandy beaches were made from a very fine beach sand. Woodland Scenics products were widely used, many of the forest trees and some ground scatter were from Heki and some of the ballast is the "Chucks" brand.

Fig. 11 Iconic Cornwall. Two "bubble car" single units purr away up the hill from Penhayle Bay through the dunes and into Nansglaw Tunnel. For many years, this scene would have been witnessed daily on the real railway .

I used mainly ready-made buildings or simple kits as they had to be robust. Resin withstands the outdoor conditions best and plastic sheet if well braced will also survive. Card and paper are destroyed by damp and eaten by garden critters. Regular browsing of shops, mostly online has turned up many useful items I was unaware of such as the boats.

The five arch viaduct which crosses a river is a kit build with self-taught dry-brushed painting of the stone work. Water, of which there is plenty, was created from "Magic Water" and Woodland Scenics "Water Effects" resins. The water was then detailed with acrylic paint as required.

A huge collection of rolling stock had already been amassed. Some early items found through an auction site quickly proved to be a false economy and almost all the stock was bought new.

Appropriate British rolling stock can be hard to locate in Australia and when it is found, the cost is prohibitive. Therefore almost all therefore came to me in Australia from British retailers .

As Penhayle Bay is a large layout, I can run full length trains rather than scaled-down ones. The "timeless" theme means anything from 1960 to present-day can appear but also means I require a wide variety of traction and rolling stock.

Fig. 12 A busy scene just beyond Treheligan station, at the location of Wheal Garden Mine. A Down train formed with a class 108 DMU, passes an Up HST train bound for London. On the steep St. Agnes branch, a class 153 single-car drops from the branch tunnel to make a connection with the HST. The sea scene is self-painted. In the background, Church Lane also seems to be busy with cars.

The trains I operate feature one or two locos and up to fourteen passenger carriages according to era. Two full-length HST sets can be presented as can many of the diesel-hydraulic types I once saw full-sized as a child.

Fig. 13 A portrait of Beattie "well tank" 30585 at Carrgelyp clay dries. The clay is white which accounts for the colour across the track. I used a mix of casting plaster and white weathering powder. The loco itself has been detailed with the addition of a bucket (which they always seemed to carry) fire-irons, weathering and lump coal in the bunker.

Freight trains are mixed and feature an array of old and new china-clay wagons. These convey that product which is almost unique to Cornwall.

Many of the freight vehicles are from Bachmann. Some are from Hornby, Heljan, Dapol and a few other brands. Over the years I have taught myself powder and ink weathering and all stock is now weathered. As a result, in recent years I have been asked to show and demonstrate weathering.

THE ELECTRICS

At the start I opted for DC operation. It remains fundamentally simple and whilst it has some limitations, it seldom affects my operational requirements. DCC was in its earlier years at the time I started and I did not understand electrics to the required extent.

As the layout developed, I added more features which included functional lighting at the stations, yard lights in the goods area and multi-coloured festoon lighting along the beach. Other than those passenger cars fitted at the factory with lights, the trains themselves are unlit.

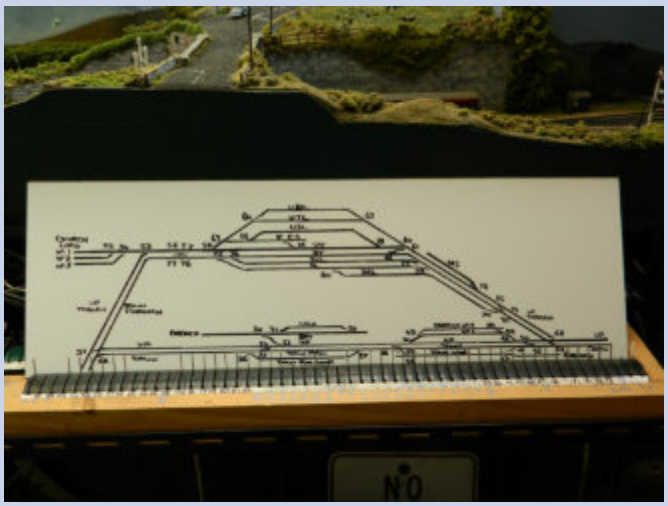

Fig. 14 The operating panel has never really been finished despite having been in use for over ten years. A Morley Vortrak controller powers trains and auxiliaries. A substantial array of Hornby lever switches, as seen here, control the points. Some points are 15 metres from the panel. There was a lot of wiring running for long distances beneath the boards.

A hand-drawn "signal box diagram" is used. There are no powered points elsewhere on the layout. Points in Ponsangwyn Yard and at Darras Crossing are always hand-worked. "Church Loco" refers to the three short sidings hidden beneath a church. This held locos and allowed for a train to leave the main line with one loco and return with another.

Points are controlled by lever switches because I enjoy the feel of working a signal box when operating the layout.

The controller is a Morley Vortrak which has an inbuilt CDU assisting point operation.

The size of the layout means some points are as far as 15 metres from the panel, so I rely on the audible "click" for correct operation. Because I run DC, there can be a double-check if the track remains dead following a bad throw.

Fig. 15 There are often train-spotters at Treheligan station. Here they occupy a baggage trolley as the Up Postal rolls in behind a green livery "Western" class 52 loco. A "Warship" class 42 waits in the Down loop for something to come through on the main line. The signals facing the camera are elderly Crescent die-cast items, bought second-hand and repainted.

Working semaphore signals have been a recent addition to the layout. They have replaced hand operated or kit-built fixed semaphores in a few locations. These signals are controlled by miniature levers with a technique, learned through trial and error, to ease the lever across and allow for the power burst to travel up to 15 metres to the farthest signal.

Fig 16 The HST takes the curve beneath Church Lane bridge on its way down to Penzance. The signal is placed on the wrong side to aid visibility around the curve in a prototypical manner. The derelict stone walls poking above dense vegetation are a Skaledale product. In the wide gap between the tracks, grass is growing as can be found in numerous locations.

The circuit requires everyone to duck-under the boards to enter. I allowed for a second operator to control the fiddle yard by creating a small access area which did not require a duck-under.

This has proven handy for yard access and track cleaning. All control is from the panel which is adjacent to the large Treheligan station and from where most of the fiddle yard sidings can be seen by the operator.

On running days, the fiddle yard is used to its maximum capacity with a mixture of freight and passenger trains, traction and rolling stock.

The track plan allows for continuous running via the fiddle yard whilst shunting operations take place in the Treheligan station area.

Fig. 17 Class 47 in BR "large logo" blue 47436 approaches the twin-arched bridge and station. The signal for the Up line suggests something might soon be coming the other way.

OPERATING PENHAYLE BAY

The viewing area is either inside the house or at one end of the layout. Trains will pass any given point of the layout about every two minutes where some are stopped manually by the operator.

Achieving the correct spot for those stops in a station around 7 metres from the panel is a learned skill.

Despite being a DC layout, the Morley Vortrak controller means I can keep four trains running simultaneously, with one on each of the four independent electrical circuits. With care and skill, six trains can be run at once, having two on each main line circuit at the same time.

Two hands operating four controllers requires significant vigilance to avoid accidents. This means the signalling has to be left “clear” rather than being operated in a prototypical manner for each train.

A friend visiting for the first time, who had more than a passing interest in DCC, spent over an hour watching train after train.

Because of the size of the layout, flexibility with shunting going on and different routes being taken by the trains, it was not immediately obvious to him that I had not taken the next step to DCC operation.

Fig. 18 A night-time view of Ponsangwyn shed featuring a class 43 “Warship” and a class 22 “Baby Warship” under the lights.

Fig. 19 below. An atmospheric night shot of the large GWR-style name sign at Treheligan station. Staff and passengers await late evening trains under the lights. A little weed growth needs attending to around the sign supports.

POSTSCRIPT

The basis of this article was written when I was operating Penhayle Bay. The layout was begun in 2005 and the major construction took place over the next two years. In 2017, our time in Australia came to an end and we moved back to the UK. Sadly it was not possible to bring a model railway of that size to a small flat near London. Penhayle Bay closed at Easter 2017.

Closure notices were published and a “final running day” was held. On the very last day, only a few moves were possible. Treheligan was partially dismantled, tracks rusted and an air of dereliction applied. The last few passengers were picked up and without fanfare, the very last train departed Penhayle Bay .

The day-dream I had almost 40 years earlier had come, given a lot of people inspiration and pleasure, and was gone. Some parts still survive. Several boards have found new homes across South Eastern Australia.

I have kept the large stone viaduct. The layout continues to have over 12,000 followers on its Facebook page, despite there being no new material for many months.

It has been extremely satisfying being able to give people so much enjoyment over those years and some have become lifelong friends.

Such is the global reach of our hobby!!

PENHAYLE BAY

Fig. 20 A rather clean class 43 "Warship" enters Treheligan with an Up express.

Fig. 21 A class 22 leads a train of four wheel china-clay wagons through the curves at Penhayle Bay station. The huge hillside beneath which the railway tunnels is just beyond the station. The Down starting signal is placed on the "wrong" side of the line to aid visibility in a prototypical manner.

Fig. 22 A grimy class 08 shunter trundles up the Ponsangwyn branch from the yard, towards the main line which runs above the stone wall to the left. Weeds grow alongside and between the tracks.

Fig. 23 I model what can be seen on a full-size railway. After we suffered a small earthquake I checked the model for damage but all that was found was a single wheel-set derailed from one wagon! The "orange army" were suitably placed for a photograph while re-railing took place.

QUICK AND EASY COAL LOADS

An easy evening project to add coal loads to your wagons

By Trevor Gibbs

A QUICK AND EASY PROJECT

You can use this method to make inexpensive coal loads for your wagons. The process is simple using scrap foam and a few basic tools.

WHAT YOU WILL NEED

1.Scrap black packing foam sheet - mine came from a mobile phone pack.
2. A Foam core strip to act as a solid base.
3. Hobby knife/box cutter.
4. Scissors
5. Ruler and pen.
6. PVA Glue.

Step 1.
Gather the materials you need - measure the inside of the hopper car and carefully cut a piece of foam core to fit. The foam core base needs bevelled ends to fit into the well of the Hopper. Cut a piece of black foam to sit on the foam core.

Step 2 .
The foam core placed in the well of the hopper. The soft black packaging foam has been cut ready to glue onto the foam core.

Step 3 .
Ready to go to work

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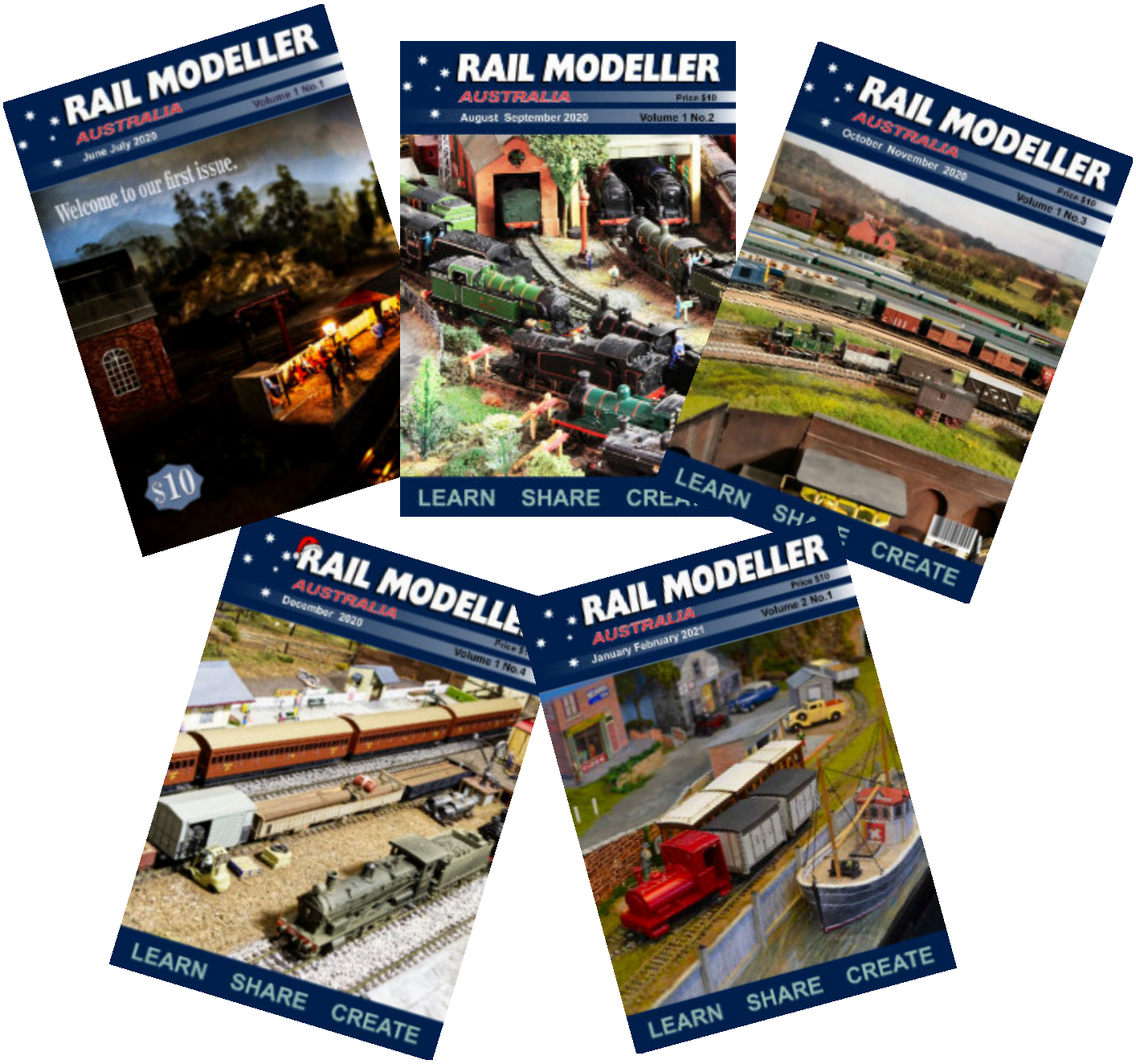

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Trevor and Daniel describe their Father and Son built layout set in England's North

Danieltown is a fictional country location in the North of England where you will see the great LMS and LNER run. It is based in the golden British 1940's to 60's period,

Our OO scale layout is 2.4 metres square (8ft x 8ft) built in four corner modules. There is also an extra adjoining module complete with rail yard, workshop and turntable. We can alternate the electric controls between DC and DCC.

Essentially Danieltown is three loops with the outer line running up a somewhat steep incline. The incline was a challenge to build as it had to run over the top of the middle line, which enters a tunnel.

When we were planning the layout, we were also active with a Free-mo modeling group. So to allow for expansion, the front two modules were built open ended allowing us the option of later connecting the Free-mo modules by using code 100 to code 83 fitter rails or fishplates.

Fig. 1 A birds eye view of Danieltown showing the access very necessary for a layout of this size. From eye level, this access point is almost unnoticeable.

A particular advantage of using fitter rails is that tracks do not need to run to the edge of the layout. This reduces the chance of track damage when moving. Fitter rails also accommodate any slight misalignment of the track on adjoining modules.

CONSTRUCTION

It was decided to use layers of XPS (an extruded polystyrene) board over a plywood base for much of the layout and for the shaping of hills.

This product is very dense and has a grain which can be shaped and sanded into all sorts of rock forms and textures. A wire brush was handy to score crevices as a basis for the rockwork.

Fig. 2 The basic hills scenery under construction with the layers of foam. The texturing and painting is the next step. When shaping with files, surforms or grinders, make sure you wear a face mask as the fumes are toxic, even in a well ventilated area such as in the shed shown here .

PAINTING THE SCENERY

When we were painting these hills, we used the leopard spot painting technique which we found on Youtube.

Fig. 3 The different finishing of the module shown in Figure 2 from the opposite end. The different tones add to the textures and strata effects.

We used three watered down brown colours, applying the blotches of one colour at a time and allowing them to merge, creating many various combinations.

We then finished the scene with a very diluted black. This ran into and highlighted the cracks and crevices we carved into the foam. Wiping off any excess paint finished the task.

The addition of extra details finished the scene shown below.

Fig. 4 What a difference a few trees, ballast, hedges and a crossing make up from Figure 3.

OTHER SCENIC DETAILS

Being an English layout, lots of stone walls and hedges were needed. Stone walls were made using clay cat litter which was also ground up for country dirt roads.

Pruned hedges were made from kitchen scourer pads covered in grass scatter. Conifer trees were hand made from the remainder of pine cones that had been chewed by cockatoos and found on the ground. They were then coated in PVA and green scatter.

The river bed was created by painting the ply base and later coating it with fibreglass resin. Clay cat litter was used for rocks and ground down for the gravel river banks.

Fig. 5 The stream with the islets, talus and individual rocks alongside the sawmill. Note the camper in the centre of the scene.

Fig. 6 A slightly different perspective of the stream and the camper on the right bank seems oblivious to the crime scene of a man who fell to earth. A Policewoman is assisting with the investigation.

Shaped small pieces of extruded polystyrene were used for islets and so forth in the stream. These were easily retrieved from the offcuts of foam from which we made our hills. It also saved on landfill!

To pave the main street and replicate bitumen, we used the black inserts from reusable shopping bags and cut them to scale. For small bitumen areas like railway pedestrian crossings, we used black foam meat trays and sliced them to expose the inside texture. Foam meat trays may no longer be available in your state, country or area.

Fig. 7 A very busy view of Danieltown. The irregularity of some of the edges is very realistic as is the differing colour on the roadway and the non pristine vehicles.

Fig. 8 The main street of Danieltown with a simulated evening setting. Note the small details like the street sign, the stone fence and partially loaded truck among other mini-scenes.

Our buildings are a mix of plastic and card kits, kit bashes from old plastic buildings, and printed paper textures over foam core. Most buildings and the main street have LED lighting installed.

Fig. 9 A different view of Figure 8 in "daylight". The funeral procession in the foreground and the cattle loading dock show a lot of activity.

The hay bales (shown in Figure 9 under a tarpaulin by the cattle loading dock), were made by carving small pieces of extruded polystyrene then covering the blocks with PVA and long grass.

Once landscaping was completed, attention then came to fine detail of the town. This is still a work in progress as we are constantly adding period signs, street lighting, better structures and buildings, as well as animals, people and cars. Flower beds were made using both ground up coloured pencil leads as well as scenery flowers.

Fig. 10 The Turntable and a small yard abuts the layout.

As you can see, with the design and building of Danieltown, we have tried a few innovative standards and techniques. As with all modellers, there are still projects to do on the layout.

We have not yet added electric point motors and signal control for example but as our skills grow, we will do it … one day!

We still enjoy what we have made and sharing some of it with you!

Fig. 11 A well maintained, slightly rustic farm oozes atmosphere from every angle. The gate rails for example are not perfectly parallel, nor has the whole fence weathered equally.

Note the sheep at various locations. The hill sides show different tones for the various strata layers.

There are cow troughs in the bottom right hand corner but are some of those lumps nearby, cow pats?

Fig. 12 A British Railways ex LMS 4F tender engine replenishes its coal load in the background on the Turntable/Yard module. With the clutter, the weeds in the turntable pit, the weathered engine shed and workmen, any "old school" railwayman would feel at home here!

HIGHLANDS

MATT POGUE TALKS ABOUT HIS N SCALE LAYOUT AND ITS CONSTRUCTION

A little about me and my interest in trains:
My interest in trains was formed at an early age, my dad had a trainset from his childhood, and I just loved it when he set it up and ran it around the house. I remember him setting up a loop on the kitchen floor and running a goods train around and thinking it was so cool. I got my first HO scale set as a young boy for Christmas, as many do, and it kicked off a hobby that still lives with me today.

I was a member of my high school model railway club, which restored an old HO railway layout constructed some years before. It was a double loop with a fiddle yard at the back, a station at the front built in eight sections. With the assistance of one of the fathers and his extensive NSW collection, we displayed the layout at an exhibition that was a fantastic weekend full of constant repairs and challenges but set my interest into flame. I look back on those days with a real fondness.

I have a few interests in life, including playing music with my band, which at times consumes my time, but I always get the opportunity to come back to my layout and begin to tinker again.
I was about to kick off on tour a few years ago, and with all the preparation for that tour done, it was time to start the construction of the bridge on the top of the hill, and it became a good distraction for the pending workload of the tour. I can centre myself, perhaps distract myself, and find a new rhythm just running a few trains around. The layout isn't based on any prototype, allowing me to run trains that I like.

Giving the layout a name:
Highlands is the name of the model railway and was derived from the concept that it was merely a mountain top railway that could be anywhere in the world, well, anywhere that has a lot of pine trees at least. The layout is built in N Scale as this allows more room for running trains. The original idea was to use HO scale, but fortunately, N scale was the winner.

The baseboards:
The baseboard of my layout is one piece 3m x 1m. I built the frame out of 4x2 and laid a 12mm plyboard on it. I drew out the track plan and cut the board with a jigsaw, and propped up each raised or lowered section accordingly to set the levels. I believe this is often referred to as the cookie-cutter method.

Above: This overall view of Highlands shows how the various levels create an interesting scene. The layout has not been ballasted at this stage.

The track design and what I wanted to achieve:
Behind the design was an issue I have with my hands, making it difficult to get them into tight spaces. Tunnels etc. would have been a real issue at the time of the build. The railway was to be a simple layout with no tunnels, to have as much elevation change to keep it interesting without grades being an issue, and have two siding yards to make it possible to move rolling stock from one yard to another. The two yards on this layout are supposed to be on two different aspects of the mountain. Within each siding yard, I wanted to reshuffle carriages and rearrange entire trains so once a carriage entered the layout, I could move it anywhere. The primary design feature was to have the layout hinge off the wall, storing it vertically along the long edge, taking up very little space within the garage.

Above: Another view of the layout prior to ballasting. The use of the grass applicator has improved the scene along with the addition of pine trees.

Building the layout, track work, scenery, buildings, and accessories:
Once I completed the baseboard, I quite unconventionally set about doing the base scenery with foam, polystyrene plaster, and the like to shape the layout. When the base work was done, I painted the entire layout before laying any of the track. The plan was to get the layout to a functional stage as quickly as possible and off the garage floor so the car could go back. I found this method was a great way to get shape and colour without having to work around the track and other finer points on a layout. I used track pins to fix the track directly to the board without a cork or foam underlay, which worked well and have had no issues with the method, and it is not noisy at all. It only took me a week to get the baseboard done and track the laying process complete. Once I was satisfied that the base elements were done, the layout was hung on the wall, and the more delicate scenery could be started, which is still taking place today.

Will it ever be finished? Probably not, but I feel that is a good thing; otherwise, I would need to start a new one, which, mind you, is always at the front of my mind.

I enjoy the creative aspects of model building, and when I see something cool that someone else has done, it inspires me to morph the idea into something achievable and suitable for my layout. It was necessary when I was young to make everything from bits and bobs that I had lying around, and this is indeed the basis of most of my scenery. I copied a simple signal on a friend's dad's layout and made them out of brass shim and tubing at the cost of a few dollars, and it was successful, so I use this template for all of them. The buildings on the layout consist of both fictional and non-fictional structures. Some buildings and other scenery items are made from items found in second-hand stores, including leftover bits from other models that don't represent any particular structure that I have seen but provide background noise to the layout in general. I like this approach, and as long as it looks plausible, it seems right and just the way I want it to look. I am pretty happy with the way it is coming along, so I guess the approach works. I also decided to give static grass a go. I was delighted with the simplicity and WOW factor of it all. I had a bit of fortune as I had already painted the baseboard, all the scenery items formed the second layer and not the first, so it seemed to cover better or add to the scenery quite well.

After a few years, we began an extension of our home, and the layout was folded away and not touched for a while. When I unfolded it, I was pleasantly surprised to find next to no damage, and the process could resume. At this point, I made a start on the bridge that I wanted to build out of steel I beams. I bought a few HO flexitrack, stripped the sleepers off, and used the rail as the steel framing for the bridge. Each piece was soldered together in a jig. The bridge was and still is one of my favourite parts of the railway, it certainly could be better, and I have had many ideas to amend the shortcomings, but I have decided that I like it just the way it is. This railway is built by a simple guy with simple expectations, and if something works, it is just simply good enough. I have never had to please anyone else with the outcome of the build, so if I'm happy. The railway was not ballasted until mid-2020 due to a lack of drive, a few small ongoing track alterations, and hiding behind a cloak of "I don't know how," but after a visitor to the layout remarked challengingly, "it's not even ballasted." The comment was like a leather glove to the face, and I decided that it was time to get this issue sorted out. As this was a mountain top scene with high rainfall, the ballast needed to look wet, and with a lot of mucking around to find the right blend of colours, the ballasting began. Photos of my local railway line were taken in the rain as a reference for the process.

The original static grass layer was given more scope when I had ballasted the railway as the grass seemed to be growing through the ballast, giving it a realistic appeal.

With the ballast taken care of, I began more layering of sponge foam, chalks, scatter, crushed up sandstone, and more static grass. The addition of bits of stuff that I had in boxes helped build the scene, and I was overwhelmed by the results. After 12 years, this started to look like what I had wanted it to look like. At this stage, every scatter item, big or small, had a significant impact on the scene. I guess layer upon layer, upon layer, eventually, it all starts to take shape. I found that Woodlands Scenic green Bushes, in two shades of green, were great to add dimension and interest to all aspects of the landscape. Lastly, I painted a scenery board around the outside of the layout, which I did after watching how to paint scenery backdrops on YouTube for a few hours, and I was pleasantly surprised with the outcome.

The outcome of all the scenery techniques that I have had the guts to try created one complete layout and is definitely worth the challenge. Big thanks for the slap in the face from the said visitor, as ballasting is definitely worth the effort, even if I did have to repair a few points in the process. The one mistake I did make was not to solder each track join, it seemed like a waste of time throughout the build, but now that I'm doing it to repair voltage drop issues after the water & glue mixture ran into every fishplate, I'm kicking myself for not doing it earlier, definitely a must for the next layout. This layout has taken me about 12 years to get to this stage. At times, it is a bustling hive of creativity, and other times it is a haven of decompression.

The rolling stock:
My first N gauge set was an Ibertren starter kit with a 0-4-0 steam engine and three goods wagons. I started collecting whatever I could to go along with this, but due to cost, I got sidetracked with the American style of trains, which didn't interest me. I started collecting European trains and collected them for most of my life. My family considered Fleischmann to be a quality manufacturer and an excellent brand to collect, and these became the desire and focus of my collection. The only trouble was the cost of these items and the lack of funds available to purchase them. Outlets like the train trader, the second-hand section of the All Aboard store at Braemore, and a few garage sales meant I was able to pick up gems that I will cherish forever.

I recently pursued my interest in NSW model trains. The memory of my high school model train club and with the assistance of Phil Badger and Peter Cartwright, I had an opportunity to get my hands on some of my childhood favourites, including a 53 class steam engine and a 700 class railcar set which are just the coolest models around. At the moment, the NSW rolling stock is all that runs on my layout and somehow feels like home.

Electrics:
This layout is purely DC. I continued with what I knew and never strayed outside that. As I have a reasonably large collection, the cost to go to DCC is not fathomable at this point. I am tinkering and see the exponential benefits of doing so. There are several isolation areas that allow me to have multiple trains on the one line while only running one at a time, which is typical of DC. Each siding area has a switch between the main line and siding transformers for both seamless operation and independent control. Once the train has left the siding, the switch can be thrown back to the siding transformer, and preparation of the new train can commence within the siding. There is a siding on the outer loop that runs up behind the station and can be switched to be part of the main line, the siding line, or isolated to sit

idle to allow other trains to operate on both the main line or the siding without any issue.

I have used manual points throughout the layout but have started to think about retrofitting them, which at this stage will be challenging but doable. I just need to figure out how I will integrate them into the rest of my ideas, as any change will need to incorporate automation.

The layout has many scratch-built lamp posts, scratch-built signals, building lights, etc., along with a dimmable LED strip along the top of the scenery board behind the scene. The LED strip added another level of "OH YEAH THAT LOOKS AWESOME" to the layout, and the dimmer lets me change from night to day, which from outside my garage looking in might look odd but is fun to use. Next on the agenda is to build a new control panel that is in its infant stages and will add a much better platform for operating the layout.

Operating the layout:
Running days at Highlands are on any given day and strictly adhere to the timetable for that given day/ moment but constantly run late due to the ever-changing demands of the man at the control panel. I can be at the helm for 5 mins to endless hours, so long as there are trains to be run, I'll be there, I know, right, let's face it, we are all lifers in this model railway world, and I am no exception.
Matt Pogue 8.1.21

Build a Low Level Platform

South Australian, Queensland and Western Australia Railways had many stations with ground level platforms. Snowtown, Glass House Mountains and Rawlinna are examples many of us are familiar with. We can make our station to fit our layout rather than lay track to fit a commercial platform.

Fig. 1 The "Canadian" is arriving at the division point station on the St Agnes Ry, crossing a westbound freight.

MAKING A LOW LEVEL PLATFORM

The platform itself is the easiest part. With the material of choice being foam core, we are certain to get straight cut pieces as off cuts from picture framers . If the platform is on a section of straight track, all you need to do is to cut the foam core to fit your space. However if you have laid flexible track, chances are it will not be a perfect tangent at the station or your station may be on a curve. The fitting is still easy.

Fig. 2 This piece will make a short platform for crossing the track at this station platform. The edge of the platform has been scribed to form impressed edging on the platform to the left of the track.

.

THE STEPS

Make sure your foam core is oversize fitting the area you require. For a curve or a Overlay the foam core on your curved rail as shown in Figure Two. Press to foam core into the rail so that you get the rail curvature imprinted. See Figure 2.

Use a hobby knife and cut on the impressed line. It should only then require small adjustment to fit. Once it is fitted, use a "dead" biro to create concrete grooves or edging on the platform and paint with a concrete grey to finish. Or, as shown below with this US Narrow Gauge themed station, you can print timber decking and stick it to the surface of the foam core.

Fig. 4 Note the platform which is simply a print of timber shown in the inset pasted on to otherwise raw foam core board on Melton MRC's "Toolern Junction" layout.

You could elect to use Sandpaper or Wet and Dry to simulate gravel or asphalt glued to the foam Core for other surface alternatives.
Happy Building!

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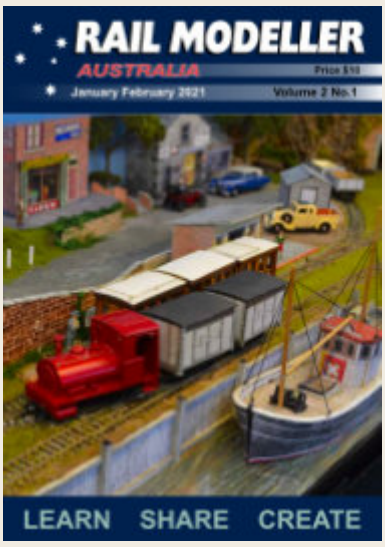

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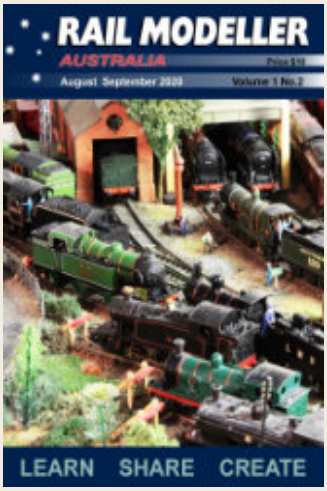

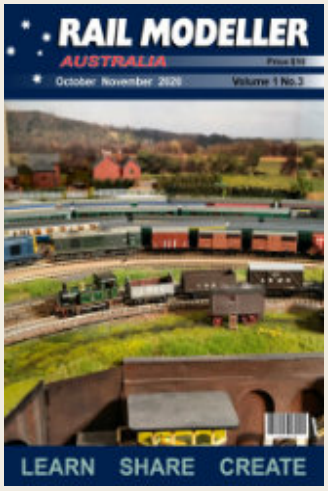

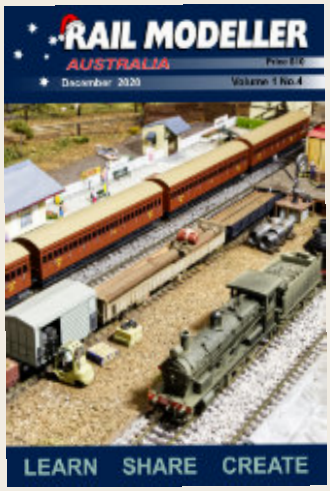

ART of the RAILWAYS

As a trade qualified Signwriter I have taken a lot of photos of signs and artwork created by fellow artisans. The trade has changed dramatically in my time and I am finding it more important to capture images of the remnants of hand crafted signage. Since being involved in the railway hobby, I have discovered there is a plethora of artwork associated with railways. These artworks adorn carriages, locomotives, wagons and platforms sometimes giving us an insight into the past and the pride the artists had in their work. I doubt that current generations will be able to admire todays digital prints 50 years into the future.

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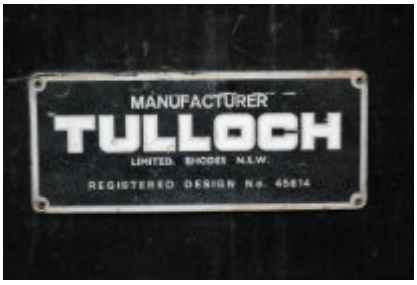

MANUFACTURER
TULLOCH

VALE Allan Brown

It saddens me to report that Allan Brown passed away at the end of February 2021. Allan was one of the most knowledgeable people when it came to modelling NSWGR and his layout and models were quite amazing to say the least. Allan spent many years as the Editor for the Australian Model Railway Magazine and had many friends from that time. When I first entered this hobby, Allan was one of the modellers I went to for information about my projects and he was always willing to offer help. As a beginner the advice and help I received from Allan helped me immensley as I tried to learn about the hobby. I was fortunate to have been invited into his man shed to see his layout and was spellbound by his attention to detail. Allan is one of the modellers that have inspired me and no doubt others within our hobby, he will be missed by his friends and family. RIP Allan Brown.

Robyn Taylor

I was sorrowed to hear of Allan's passing. Having known him for over forty years, I always found him to be good natured, full of cheer, and brimming with enthusiasm for our hobby. This showed in his highly skilled modelling and his unending willingness to contribute either through his involvement with AMRA, AMRM, the fledgling manufacturing industries and more recently on line through progressive groups such as DEM (NSW Diesel Era Modelling) who have stepped out of the virtual world into reality with their open running days.

RIP Allan Brown

John Shields

Trevor's Workshop

Simple projects to add details and start scratch building for your layout

BEGINNING SCRATCH BUILDING

Every one from master to hack who has ever tried scratch building has had to start somewhere. For me it was when I was a 15 year old. I belonged to an O gauge outdoor railway club that used a cross between Tinplate and scale models.

I read an article in a Model Railroader magazine in the club library about using styrene either with or in place of basswood and metal. Coincidentally a hobby shop in Adelaide started selling sheet styrene in 8"x 6" small sheets for about 10 cents each at the time. With our hard earned pennies, a friend and I decided that we would work with a Model Railroader article and build a model of a Baldwin diesel loco. Later we would have started building something in metal.

Armed with our one bottle of Methyl Ethyl Ketone (MEK) and a Stanley knife between us, we diligently followed MR's plan and cut most but not all of the pieces out. It was an ambitious project for us. We were at school at the time so time for hobby building was quite limited and the patience to do it, being in our teens, was even more limited!

Neither of us finished what we set out to make at the time. I did not know how I would set about powering it and I did not have the hand skills to modify a mechanism. To compound matters, neither of us had much money to splash around to buy a sacrificial loco . Strangely enough, even after five major moves I found some of those pieces only a few years ago when I thought they would have been long lost!

Fig. 1 A range of the basic tools for our simple models

What I think we should have done was to make a few simple buildings for our layouts and build up basic skills to tackle larger projects. My advice to anyone starting scratch building is to follow some of the strategies outlined here to achieve building skills and techniques before tackling the bigger tasks.

Those developed skills may then lead to you being able to build a loco or a unique creation of your own.

YOUR LIST OF MATERIALS

Read through this article first as you will not need everything listed here.

For mini projects, gather some scraps of material you might ordinarily throw out. and most of the other materials should be free.

You will need…

1. Cardboard - You can use cereal boxes, backs of old writing pads and recycled "border" card from picture framers.
2. Styrene - Clear and Coloured. There is a wealth of material available from margarine or yoghurt containers and any plastic container with flat sides. The clear lids can be used as window panes for example.
3. Foam Core - you might be surprised what you can use this material for and it is usually free at picture framers!
4. Recycled plastic plates with tread patterns.
5. A couple of spent credit or gift cards. Just make sure they are no longer in use and the dates are expired!

TOOLS YOU WILL NEED

The list of tools like the consumables you will need is fairly simple and should be in most modelling tool kits. There is no need to rush out and buy everything at once as you can probably work around any particular shortfalls.

As Safety is a primary concern, please use Safety Glasses especially with small flying off cuts. If you are an adult teaching younger ones using this, please supervise and stress the safe use of all tools!

So you will (eventually) need

1. A Razor Saw – I use Snap Saws bought at exhibitions and they are a very useful tool.
2. A Snap off blade box cutter knife.
3. Super Glue and White PVA Glue. Make sure it is PVA that dries clear.
4. A Power Drill – preferably variable speed.
5. 1mm fencing wire.
6. A smooth file and Abrasive paper, preferably Aluminium Oxide.
7. A long Nail which will be used as a scriber.
8. Hobby Scissors.
9. Some old hacksaw blade if you do not have a razor saw. Broken pieces are fine.
10. Poster paint in several colours including off white - a grey and white mix will be fine for off white and a rustic brown..
11. A pencil, ruler and a compass.

SPEED BOARDS, WHISTLE SIGNS AND MILE POSTS

Every section of railway track you are ever likely to see has a speed limit. Speed signs are much smaller than their counterparts on roads.

Speed signs are usually a single steel rod with what looks like a small target plate at the top. The speed limit for the next section of track painted on or cast on, depending on when it was made.

Some boards incorporate a pointer in the shape, which indicates the direction of a curve. Various railway systems over the years have had a number of different shapes for their signs. We will just make a few basic boards which can be attached to one or two poles.

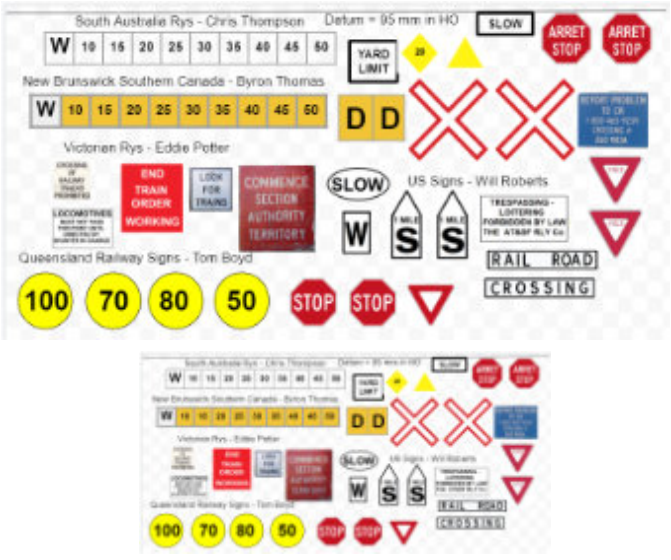


Fig. 2 A range of signs from different systems in HO and N scales. Signs such as these vary from region to region.

We cannot cover all possibilities but these signs are generic enough for most of us. Any others we need can be easily created with a digital camera and/or a drawing program. The signs in two places as diverse as South Australia and New Brunswick in Canada are amazingly very similar.

MAKING A POLE

For my own speed boards, I use hardened wire so it is representing a round pole. Victorian Railways for example used a 4 x 3 inches (100 x 75mm) pole which in HO can be adequately represented by a plastic "stick" 1mm square.

The South Australian Railways (SAR) was known to mount some signs on wooden posts and steel poles while others were mounted on fairly light recycled rails stuck into the ground. Other systems use metal poles so that is what we will go with.

WIRE HARDENING STEPS

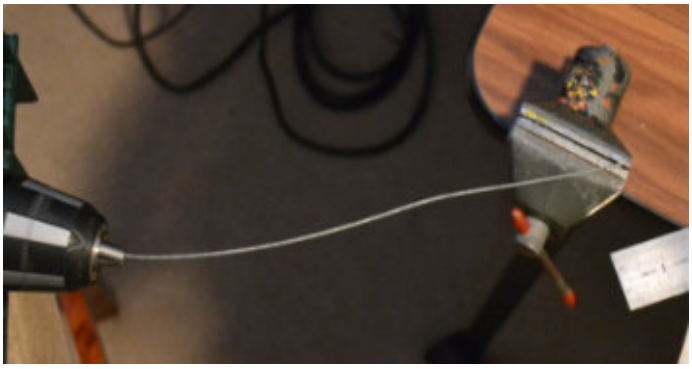


Fig. 3 Step 1. Harden your wire by placing a length of 1mm fence wire in a drill chuck and the other end in a vice.

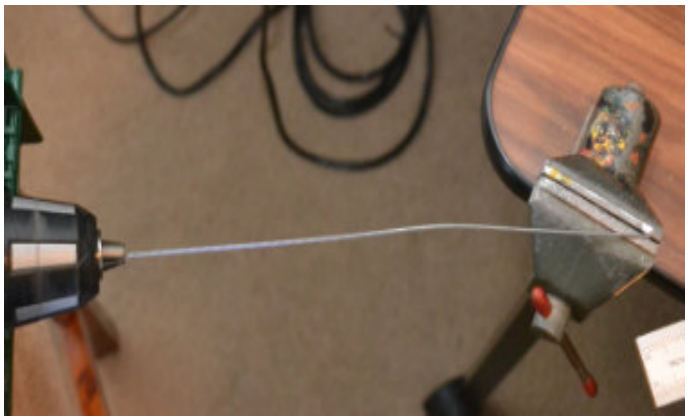


Fig. 4 Step 2. By holding the wire taut and spinning the power drill, you will work harden the wire and straighten it. It will not twist totally out of shape as you might think at first. Although this is a safe operation, please think safety and wear safety glasses.

Preferably stop the turning just before the wire breaks but do not despair if it snaps… you can always use short pieces of wire for lots of things on your layout.

Now you will have one very rigidly straight length of steel wire, but you may find the wire a little bit brittle. You are only going to be working with short lengths, so the length will not be an issue.

As a bonus for those of you who like modelling electric locos with catenary or electric trams, this wire hardening method works very well with copper electrical wire of the same appropriate diameter.

Shorter broken pieces can be shaped into droppers and soldered using a jig which is simply made. This will be covered in a future article.

THE SPEED SIGNS

You can copy and print the signs provided. Or you could take pictures of your own local prototype signs and create your own. If you do, please share them with us. You can forward your pictures to us here at Rail Modeller Australia and we can add them to an extra sheet for others to download.

W	W	W	W	W	W	W
20	25	30	35	40	45	50
55	60	70	70	10	10	10
15	15	15	20	20	20	25

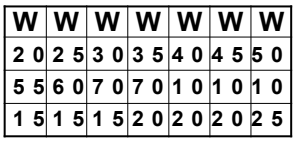


Fig. 5 These generic speed boards in HO and N can be used for imperial or metric speed limits. Most Australian Railway speed limits were up to 70 mph when I was in my teens and 20's. Train speeds were imperial in Canada when I was there in 1976/1977.

Taking the sheet of speed limit boards…

1. Print them up as a block.
2. Glue the boards to a thin styrene sheet recycled from margarine tub lids or similar.
3. When they are dry, cut the boards to the individual shapes
4. Using short wire length - 24mm in HO and 14mm in N scale plus enough length to insert into your "ground" for the base. My caneite is 16mm thick before getting to the particle board so my length is 40mm.

Full Scale speed signs need to be about 24 mm tall from the base of the track in HO and around 13mm tall in N Scale.

I use the term "***about***" because prototype track under the ballast can be quite high off the "level" ground whereas our track and ballast height is most often on a "flat earth" baseboard. My caneite base is 16mm thick so the posts to my chosen height, will finish about 40mm or $1^{5}/_{8}$ inches maximum.

On the SAR, whistle signs were mainly installed on similar poles. I am not concerned about having generic signs on my railway because they act as a reminder of the past to those viewing the layout.

As an example. I have lived in Victoria for over 40 years and a generic sign that used to be on the ends of station platforms or railway pathways was the "NO ROAD" sign. I have also had a couple of those signs in obvious areas on my layout that locals can almost immediately identify with although these were not evident in South Australia or Canada as I model it.

Fig. 6 The tools are simple enough for this exercise. Shown are the 40mm long pins, the speed board labels, plastic container lids from a yoghurt tub. The white glue is for the paper on the* smooth *side of the plastic while the mottled labelled side represents the casting effect. The labels once they are glued can be cut with ordinary scissors and trimmed if necessary with the snap blade knife.

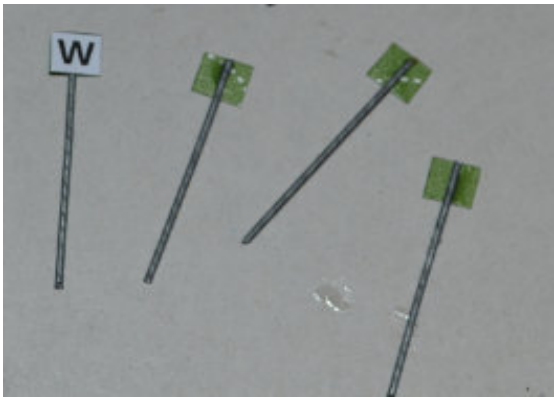


Fig. 7 The Whistle signs made by this method. The backs and poles of these will be painted with a simple white or off white colour. I have not decided whether these signs will remain white or be made into a yellow front to more accurately reflect the layout's Canadian base. To do so would simply mean colouring the front with an orange or a yellow pencil which should give it a slightly weathered appearance.

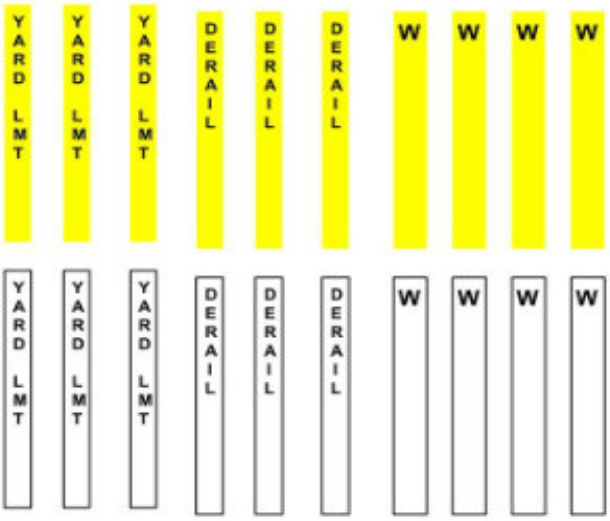
Fig. 8 Canadian National 4346 on my St Agnes Railway is emerging from the short tunnel past the newly installed whistle post. The height of the board appears to be about where I would expect it to be but is on the left in deference to space on my layout… Canadian trains are mostly Right hand running but often signs and signals can be seen on the left because of visibility or access concerns.

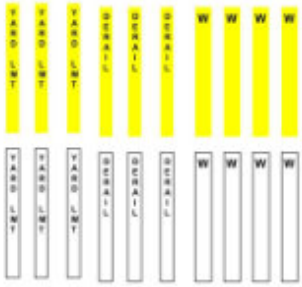
The heights and positions of signs like these will depend on local circumstances and clearances. I have kept my own signs slightly higher than I remember in South Australia. However similar signs can be nearly to the engineers eye level in snow bound prone areas on my chosen Canadian theme.

Other signs that are on such posts include Derail, Catch Point, Slow, Yard Limit, Locos Must Not Pass This Point, Flanger lift signs and End Of Track signs so a little research will reveal signs you are familiar with.

WOODEN SIGN POSTS

Depending on the railway, many signs can be placed on wooden posts. Some US and Canadian examples are shown below in both HO and N scales.





Figs. 9 & 10 The signs in both HO and N for Northern USA and Canada, Southern US and parts of Australia. Original photos courtesy Glen Brosinsky, Byron Thomas and Richard Weston.

You can cut wooden posts from plastic - I cut mine from left over styrene off cuts from the whistle and speed board signs. Being in HO scale, I laminated two thicknesses together so one thickness should be sufficient in N scale.

For HO carefully cut two strips about 27mm high and 3mm wide, then glue the two sticks together. A piece cut one thickness around 14mm by 2mm wide should be about right for N scale

Expired gift and loyalty cards are also useful for these – they are incredibly robust for the thickness and not easily broken. There are a couple of model items that they will be good for. A friend recycles his old cards into guitar picks which need to e very tough... especially the way he and I both play!

Card plastic is also useful for model fence rails particularly in N scale which was a technique demonstrated by Ken Church. Ken is an English modeller who scratchbuilt a striking cattle pen/loader on his N scale “Coombe Hinton” layout using old plastic cards. Cattle and sheep loading docks were quite a fixture in many Australian railway stations and the recycled cards should last a long time as long as they are glued well.

In the next workshop session, we will continue with other details made from recycled items decorating roads, yards and stations. At minimal cost, the details will continue to bring your layout to life,

See you next issue

Trevor

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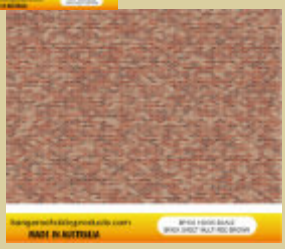

N Scale Container Kits

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