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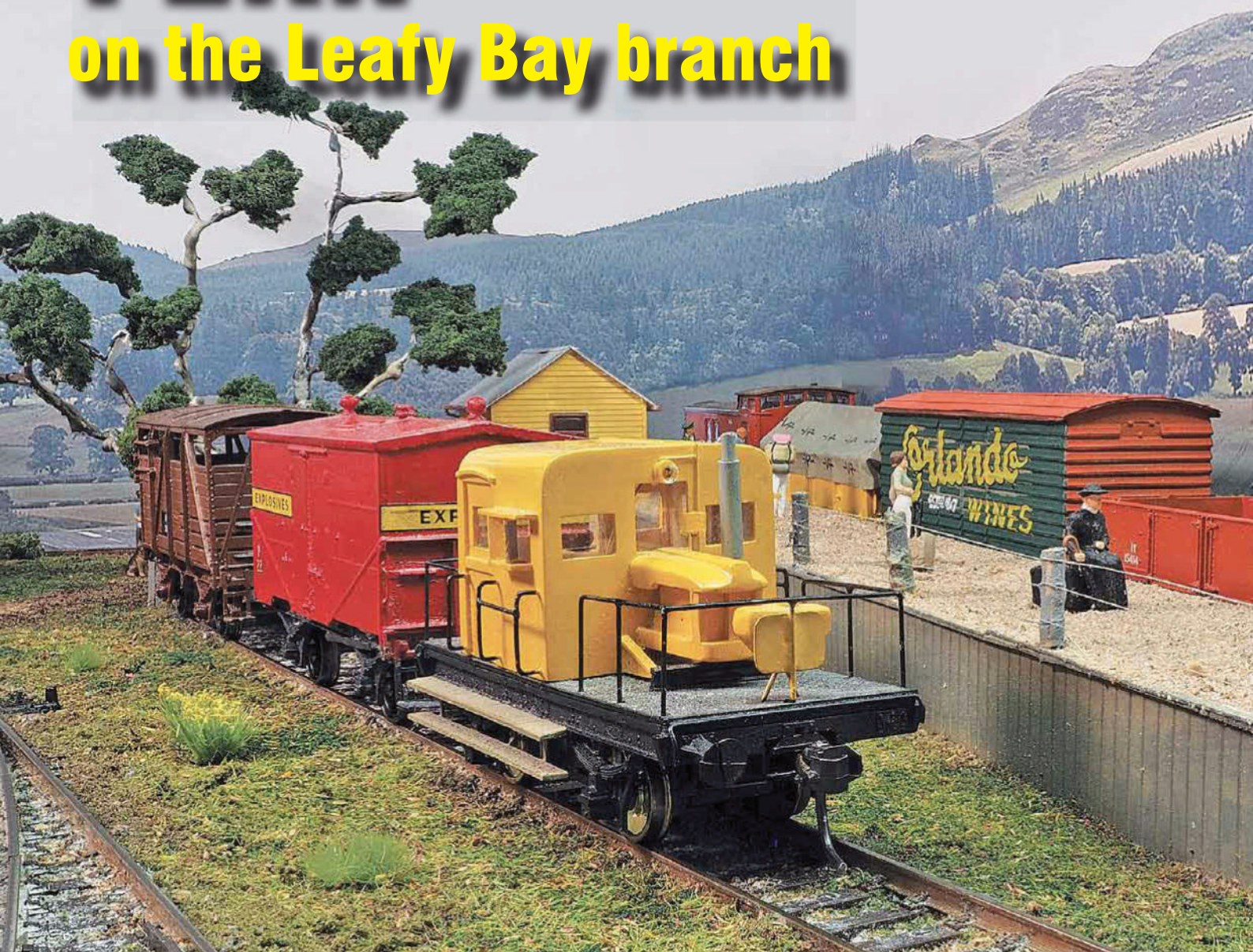
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MODEL RAILWAY

MAGAZINE

FERN

on the Leafy Bay branch



- Nepean River Bridge at Camden pt2
- Jumbo Coils • Alan Shaw's Newstead
- Timetable operations on Cassino
- Reviews • Mailbag • AMRM News

Issue 361 Vol. 31 No.4
ISSN 0045-009X



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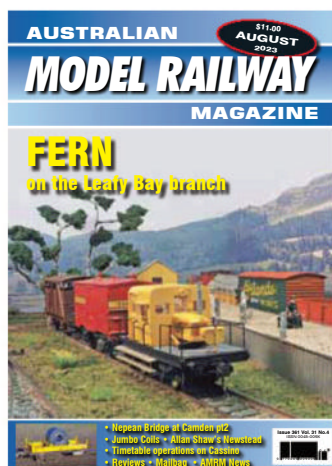
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Craig Mackie outlines timetable operations on his Cassino layout.



ON THE COVER:

Father Brown waits patiently for the next passenger train, while a Victorian Railways rail tractor shunts wagons on Martin Murden and his daughter Mandie Murden's layout 'Fern'. Photo John Dennis

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Market Maturity

The release of a National Rail NR class locomotive in N scale and a South Australian Railways (SAR) 900 class locomotive in HO scale, shows a certain level of maturity in the Australian outline market.

The N scale NR is a big shot in the arm for N scale modellers as the NR class spans a lot of eras. Manufacturing technology too has also come a long way, gone are the huge gaps in the pilot and high riding bogies prevalent in older overseas models (please see the review for the N scale NR in this issue).

However, more still needs to be done in this market, the obvious being r-t-r domestic containers, container flat wagons and a bunch of *Indian Pacific* coaches would really kick this scale into top gear.

The release of the HO scale SAR 900 diesel locomotive shows further confidence in models that are not 'East Coast' centric. The 900 class never operated out of former SAR broad gauge territory. Being majestic in appearance the 900 class has a lot going for it. It does show that the Australian outline market can support such models. Producing iconic SAR stone hoppers around the same time makes a great companion to the 900 class locomotive. Effectively this means modellers can easily model the many locations between Penrice and Osbourne.

The N scale NR and HO scale SAR 900 class models are 'halo' (desirable) or could also be described as gateway models, opening up new locations that can be modelled simply by their availability in the market. I hope that these models will inspire modellers to dive into a new scale, prototype or location, it will be interesting to see in one year's time what impact they have had on the hobby.

Personally, the arrival of the 900 class has inspired a MkII version of 'the Peterborough line'!

However, there are a number of locations on the Central Australian Railway that are perfect for N scale and could possibly be modelled without compression, this is very tempting.

Hobby time

We all struggle with available time for our hobby, work demands and even mundane household chores etc, can seem to 'eat' into your hobby time. Yes, there are some modellers that are retired, and they have the luxury of indulging in their hobby whenever they want.

If you are not retired, then you need to plan your hobby time, to make the very best of your usable time. Have a plan of what you are going to do so when you do get 'hobby' time you have a clear idea of what you are going to do. Personally, I have found work commute time as a handy way of tackling design or construction problems, even developing a materials list or figuring out the amount of track and points, electrical equipment required. Which means when I do have 'hobby' time available you know exactly what you are going to do, and you don't waste time. Additionally, I make kits up for modelling tasks, such a pre-cutting material and setting it out in a logical fashion so it's ready to build when there is time to do so.

Some of the best advice I saw was from an experienced full time layout builder who said "you don't get much done if you are constantly on social media". He is right, you are better off doing and do the talking – posting and commenting after you have done something.

There is a simple satisfaction in getting a project done bit by bit and seeing the progress you are making, which in turn makes you want to plough on closer and closer to completion. When you are done, you can sit back and admire your work and think to yourself "Yeah, I nailed that!"

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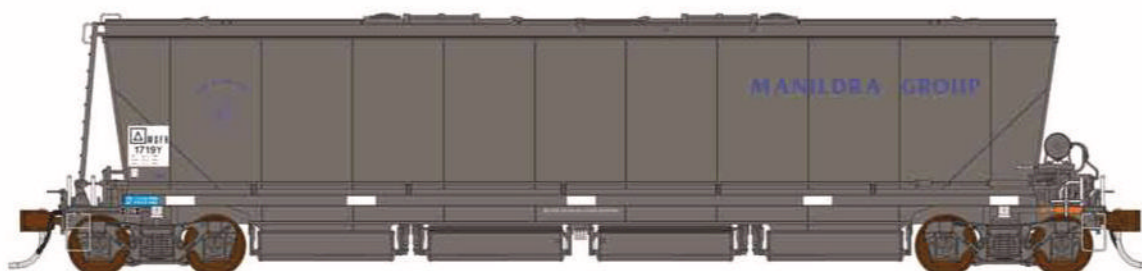
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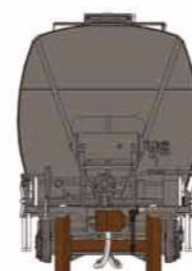
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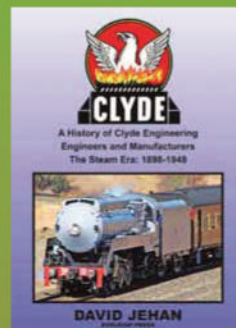
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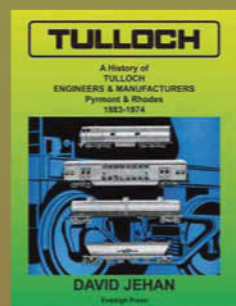
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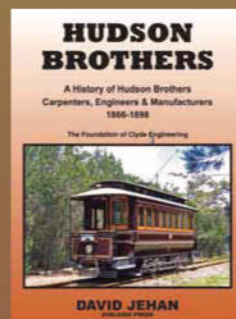
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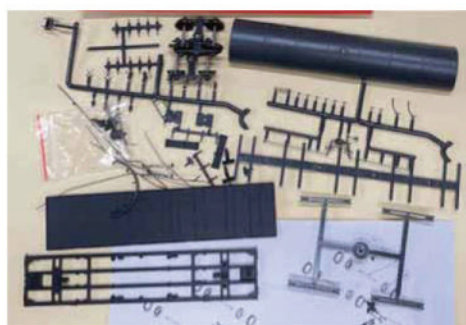
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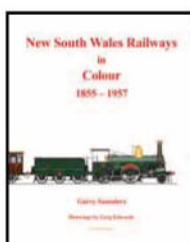
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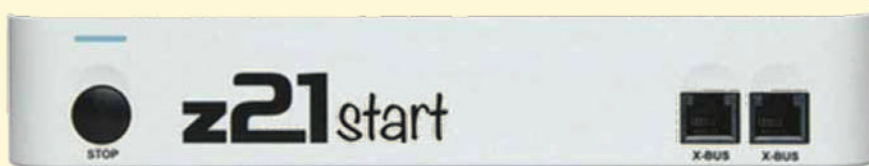
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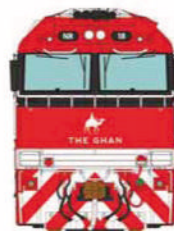
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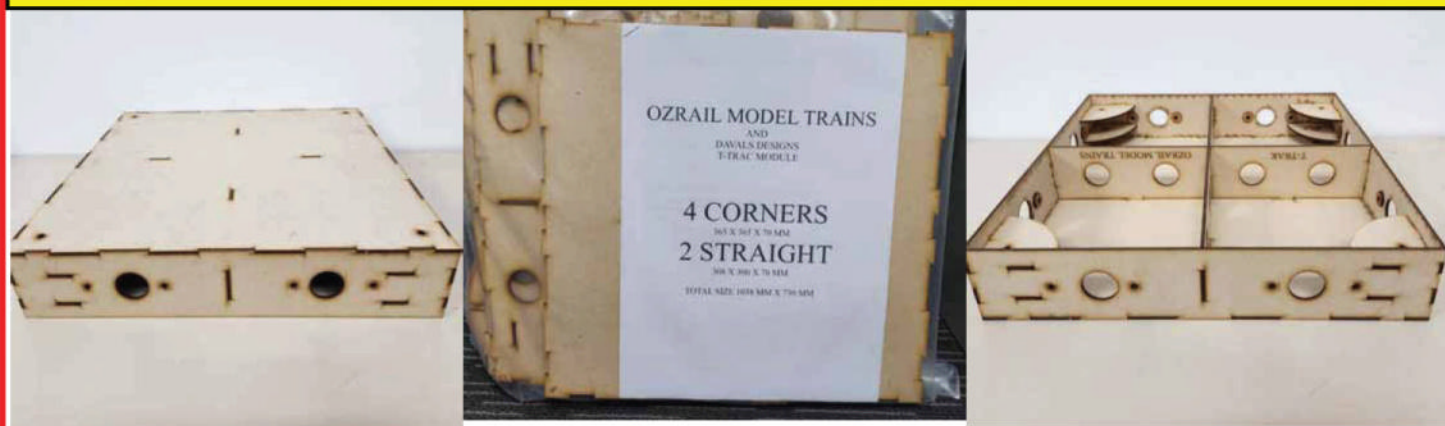
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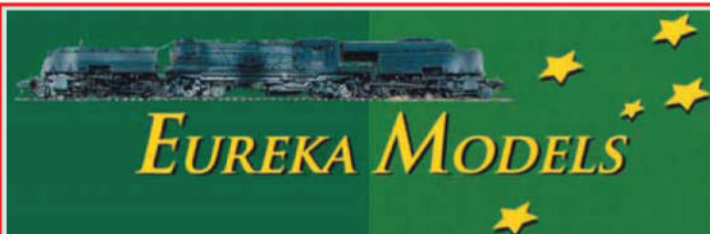
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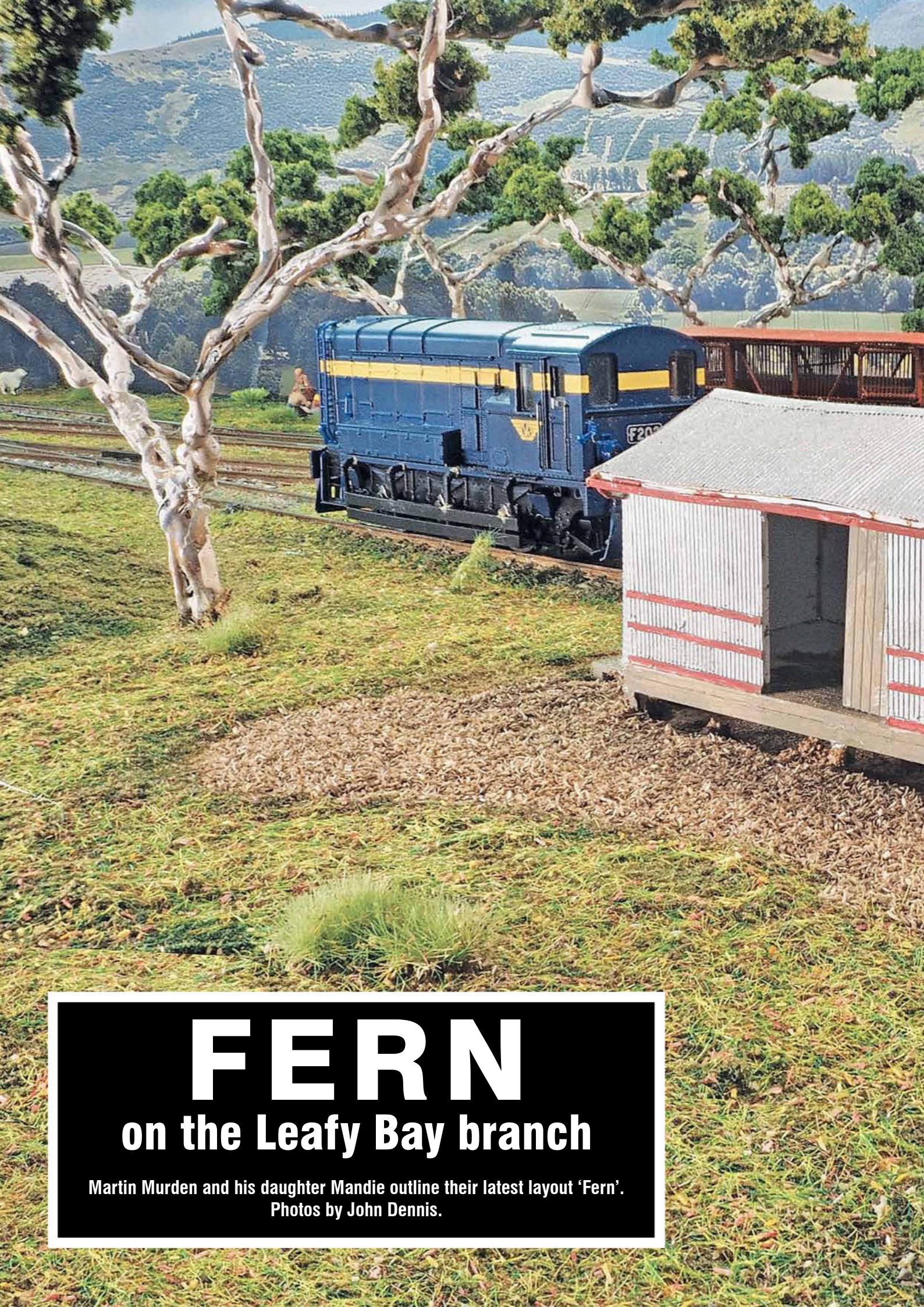
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FERN

on the Leafy Bay branch

Martin Murden and his daughter Mandie outline their latest layout 'Fern'.
Photos by John Dennis.



F Class locomotive No.202, a Roco model, is busy shunting the yard, as a delivery van pulls up to the goods shed at Fern. The goods shed is a model of the shed at Leitchville. The British European Airways (BEA) van was purchased by Martin's wife Carol whilst they were on holiday in England.



W class locomotive No.244 is arriving at Fern from Twigg. The alpacas were purchased some time ago, but I cannot recall the name of the manufacturer. The sheep were originally placed on Twigg in 1992 and have gradually worked their way along the branch.

Fern is the fourth station we have built on our Gippsland based Leafy Bay branch of the Victorian Railways (VR). What began as a single layout concept has now significantly expanded.

The other three stations we have developed to form a part of this fictitious branch line have appeared in this magazine. In order from the start of the branch they are:

- Twigg – AMRM Issue No.182 October 1993, and Rebuilt – Issue No.341 April 2020
- Leafy Bay – AMRM Issue No.214 February 1999.
- Little Chipping – AMRM Issue No.332 October 2018.

Leafy Bay had a similar rebuild to that of Twigg. All four layouts were built with exhibiting in mind, each using the same train table as our off-stage area. This has enabled us to easily rotate locomotives and rolling stock across each layout at exhibitions.

In the article about Little Chipping, we briefly explained the creative history developed to provide a back story and some context of the area as follows:

"In August 1827, Lt Charles Twigg, sailing along the Victorian coast, chanced upon a small bay. He named this Leafy Bay after his good friend George Leaf, recently elected to the House of Commons in Britain as the member for Little Chipping."

The VR branch line was eventually built to Leafy Bay, which ran through several towns whose names were associated with this event. These include Little Chipping, Twigg, Fern and Leafy Bay. Fern was, of course, the family home of the Leafs."

Our intention was to construct Fern many years ago, after we had completed Twigg and Leafy Bay, with construction of some of the buildings commenced in 2003. However, things do not always go to plan. Further model railway projects had to be put on hold

whilst I focused on the new business I had started.

I took early retirement in 2016 and was able to devote more time to model railways. First, we built Little Chipping, then rebuilt Twigg and finally rebuilt Leafy Bay. We also built the train table to replace the cassette system as a fiddle yard. Attention could now be turned to Fern.

We resumed construction of the buildings for Fern in late 2020. We kept one of the buildings constructed back in 2003, the Shire offices. When the other buildings were just about complete in late 2021, we turned our attention to the baseboards.

In the context of the Leafy Bay line, Fern sits in between Twigg and Leafy Bay.

Baseboards

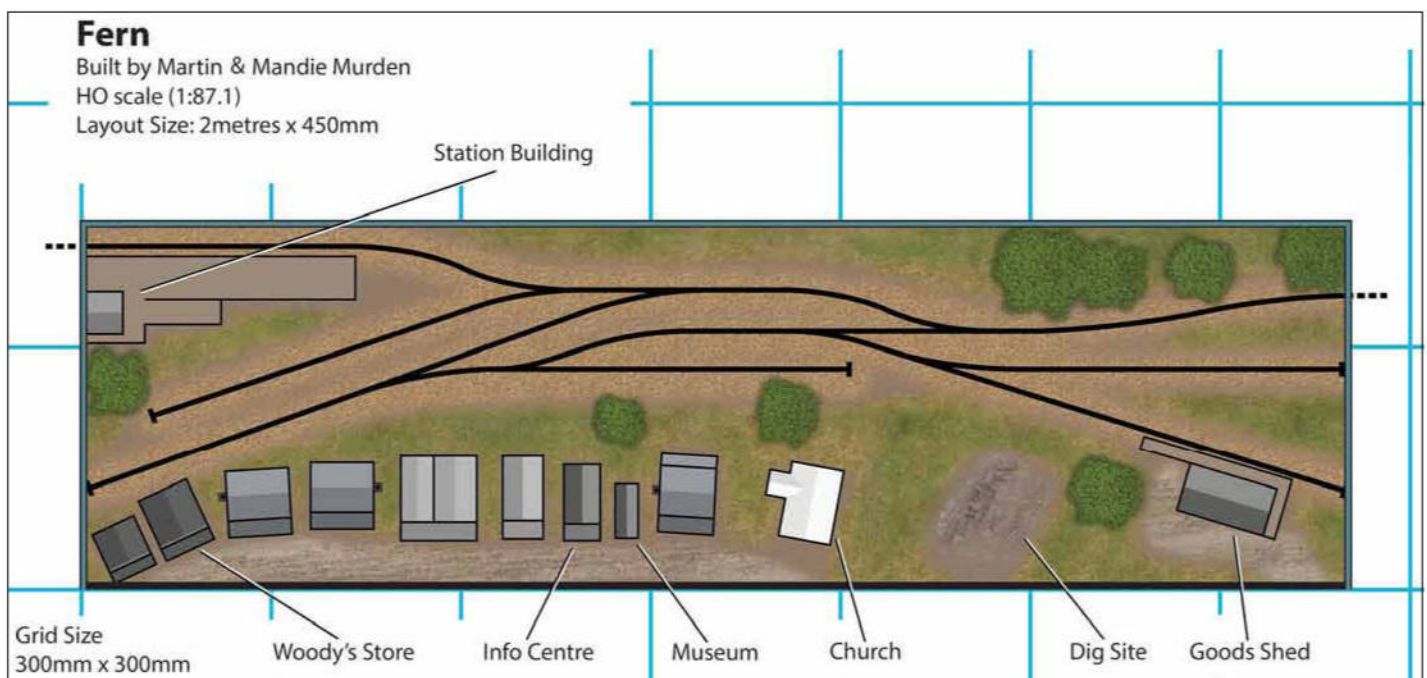
The two baseboards were constructed using 64mm by 19mm pine for the frames, with 42mm by 19mm for the cross bearers. Each board measures 1m by 45cm. 12mm Medium Density Fibreboard (MDF) was then fixed to the top of the frame. After which we glued 6mm cork tiles to the MDF. We have found this process to be effective when constructing the previous layouts, both for ease of use of materials during the building phase and for minimising weight of the layout when transporting.

Three sets of legs were constructed. The centre leg is free standing and the others fold and are attached to the outer ends of the baseboards.

The back boards are made from 6mm plywood onto which a photo backscene from ID Backscenes has been fixed.

Each layout is designed to be stored in a box when not in use. Covering each end and the front section of the boards ensures they are not damaged and also makes them easier to store at home. We have used 6mm ply for these sections.

I made a point of saving much of the



The museum building is based on a photo of the Goolwa Shire Offices that appeared in this magazine a few years ago. Ours was made as a wooden structure, rather than the stone of the original. The dinosaur, purchased from a little shop in Paris, is meant to be a model with people able to take a photo with it. As seen here a man with a small child are having their photo taken by a friend. Plants on the layout are a combination of Noch and All Scale Scenics Models. The Mini is from Herpa.



sawdust generated in the construction of the baseboards, to use this as the base for scenery work.

Track

We have used Code 100 Peco track and Electrofrog points, the same as the other three stations on the branch. A piece of styrene [0.010 by 0.040 inches] has been added to the check rails for each of the points for reliable operations.

The Y point is a Small Y, the same as used on the other layouts. One of the other points is a small radius, whilst the balance are medium radius. In the early stages of planning, we drew out the track plan full size; one of the advantages of building small layouts.

Twigg was first exhibited in 1992 and Leafy Bay in 1997. They continue to be exhibited and both are used on a regular basis at home.

At exhibitions we estimate there are points that are switched at least 100 times,

if not more, over the course of the show. Operating sessions at home are not as intensive as an exhibition, but there is still plenty of point changing.

Points are operated using Peco point motors. Holes were cut into the baseboard in order to fit these underneath as the track was laid.

We use Kadee couplers and under track magnets for uncoupling. We have found these to be effective visually and functionally. When drawing up the layout plan we determined where the magnets should be placed. As we laid the track, some of the cork was removed to place the magnets in their location. Their position was not marked in any way once the scenic work was completed. Even if we have not operated the layout for a while, we soon locate them.

We then proceeded to run trains using the timetable. This was to ensure there were no problems with the track layout. During track laying we were careful to

avoid any kinks. Running a variety of trains confirmed our track laying and wiring was ok.

Whilst running trains, we were starting to get to know the layout and what could or couldn't be done when shunting with different size locomotives.

Track details and ballasting

The sides of the rails were brush painted Humbrol No. 113 to give a rust effect. The moving parts of the points, along with the part of the rail they touched, were left unpainted. When the paint had dried a track rubber was used to remove any paint that had found its way to the top of the rail.

After checking that trains would run freely, we were then able to move onto ballasting.

We started with a mixture of Woodland Scenics medium and fine grey ballast to which we added some Selleys 'No More Gaps' powder filler and sand. This was

W class locomotive No.261 shunts a J class four-wheel cement wagon as a family enjoys the swing set. The play equipment is from Noch, as are the people. They are from two different sets acquired in our travels.





The P Class locomotive No.11 has departed the platform and is heading towards Leafy Bay with a passenger train. The size of the layout restricts passenger trains to one coach and a van. We have tried to bury the sleepers into the ground, allowing this to become more overgrown. This has been done through a combination of sawdust, sand, plaster and Woodland Scenics ballast and scenic materials.

applied with a spoon and then carefully brushed into position. Prior to putting any ballast into the points, we first put a drop of Labelle No. 108 oil next to all moving parts. The points were then operated several times resulting in an oily film between the rails and the sleepers, the idea being to keep the glue away.

The track was lightly sprayed with water to hold the ballast in place. Diluted PVA glue, with a couple of drops of dish-washing liquid added, was then carefully applied using an eye dropper.

After the ballast mixture had dried, we used a small screwdriver to scrape away any bits of ballast that had glued onto the web of the rails. The next step was to run some trains and, once satisfied, the nails used to hold the track in position were removed.

In some areas the diluted glue had washed away the ballast, Woodland Scenics medium grey being used to fill the gaps.

Electrics

We try to keep this part of the layout as simple as possible.

As already described, points are operated using Peco point motors. The trains are controlled using handheld controllers built many years ago by Joe Saliba, a member of the Sunshine Model Railway Club. We have two controllers in use and change from one to the other when changing trains.

The layout is wired with all tracks live. The exception is the train table, that can have one of the five tracks live at a time. We use two wires attached to crocodile clips to determine which track has power.

We use analogue DC to operate the layout, the main reason being we only have one locomotive in operation at any one time. As such, DCC does not give us any benefits over DC, and we have several older locos that could be difficult to retrofit with appropriate chips.

In 2022, whilst building Fern, we

reviewed our lighting arrangements. These were two small high lumen lights mounted at each end of each layout. We had received some comments from members of the public that the lights had shone into their eyes as they looked over the layout.

We replaced these with two Light Emitting Diode (LED) sticks that were flexible in their positioning. This has enabled us to direct the light across the width of the baseboard, and adjust the level of lighting as needed.

The Dinosaur

We wanted something a little different on Fern. On the other layouts we have Michael Portello and a film crew on Leafy Bay. Sherlock Holmes and Dr Watson can be found on Little Chipping searching for the 'Chipping Cat', and the TARDIS has been known to visit Twiggy and Leafy Bay.

In 2020 Noch brought out some new releases, including the remains of Roman



Amongst the figure sets available from Noch are several to do with a market. The coffee cart is one of these. The barista is Frederico as named by Noch. With Australians' fascination with coffee and a spare space near the station, this seemed an ideal location. The menu has euro prices but we have left it as is. We couldn't produce a menu that looks as good as the one provided. Besides, you cannot get close enough to read it. Someone has been playing with the station fencing – invisible cotton that just did not go as we wanted it.

baths and the fossilised remains of a Tyrannosaurus Rex (T-Rex) dinosaur. Mandie vetoed the idea of Roman baths being found at Fern as that was "stretching history a little too far".

Whilst the fossilised remains of a T-Rex have yet to be found in Gippsland, there have been plenty of other dinosaurs discovered around this area. The palaeontologists uncovering the skeleton on the layout are also from Noch.

The approach we took to making the T-Rex part of the scenery was to initially build up the land and then have some of the ground dug away to reveal the dinosaur. The first step was to take some offcuts from the cork tiles and glue them around the T-Rex. In some places we added a second layer. We then cut some of the cork away to help give a slope.

The next step was to follow what we had done on Little Chipping to build the landscape up from the creek on that layout. A quality toilet roll was placed into a bucket of warm water. The centre of the roll removed. The water was squeezed out of the roll and the bucket emptied. The roll was then torn into many pieces of varying thickness and size. When fully torn we liberally mixed plenty of Polyvinyl acetate (PVA) glue with the paper.

Mandie and I then built up the ground area around the dinosaur. We ensured the ground was higher than the T-Rex. We also left a small hollowed area to place the human bones that had come as part of the Noch palaeontologists set.

The film crews are from Noch and we have two programs being filmed. One is for another series of Michael Portillo railway journeys and the other is a documentary on the T-Rex.

Backscene

We decided to use backscenes from ID Backscenes, the brand we had used when rebuilding both Twigg and Leafy Bay. We cut a plywood sheet to give us four pieces, two for the ends and two for the back of the layout.

During installation one sheet became tangled as we were trying to install it and was damaged. Replacements had to be ordered. These were carefully cut and installed. On each of the end plywood pieces we have cut an opening to allow the trains to leave the layout. Looking from the front of the layout, the right end opening is to allow trains to run to Leafy Bay. The left opening leads to Twigg. At exhibitions we place the train table at the Twigg end of the layout.

Ground cover and trees

We tackled the overall ground area in sections. First, we painted PVA glue onto the baseboard and added some sifted sawdust. When dry we vacuumed off the excess for use in another area. We then lightly sprinkled a mix of Woodland Scenics earth and two shades of green. A mixture of PVA glue, water and dish-



Noch introduced a fossilised T-Rex dinosaur in 2010. Whilst other dinosaur remains have been found in Gippsland where Fern is set, palaeontologists are yet to find a T-Rex. We thought this would be a different item of scenery. The people in this picture are a mix of palaeontologists and a film crew recording a documentary. To the right of the picture, one of the researchers is working on human bones. This is what we have called 'Fern Man'.

washing liquid was then applied using an eye dropper to keep the scenic materials in place. When dry we repeated this step to ensure full coverage.

Next, we added the bushes and pieces of Woodland Scenics foliage clusters.

The trees have been constructed using picture hanging wire, multi strand twisted wire not the braided version. We cut 4-6 lengths of 15cm or 20cm for each tree, so typically a tree will be made using a metre of wire. The cut wires were twisted together at the base of the tree and then the wires are gradually unwound until we get to single strand branches. Branches are trimmed as required.

Next, using a hot glue gun, the wires are covered. For a large tree this could require up to two sticks of glue. When the glue dries it's not sticky, but retains some flexibility. By using the glue for bark, trees can be knocked without breaking and branches can be moved as needed to prevent interference with the trains.

The trees were then given a coat of grey spray paint purchased from the Reject Shop, and the branches painted using a selection of Humbrol browns, greys and finally white. Different colours were used on parts of the branches but not the whole branch and, if one colour got partly over-painted by the next, that is ok, it just adding to the natural effect.

Finally, we took small pieces of Woodland Scenics foliage clusters, teased them out a little and then, using contact adhesive glue, fixed them to the branches.

The plants and pot plants are from Noch and All Scale Scenics.

People and animals

The people on the layout are a mixture of Preiser and Noch plus one from Mike Petts in England, being the model of Michael Portillo. We had previously purchased two of him in different outfits.

The Preiser people have been painted by Mandie and me, using a variety of Humbrol paints, and a fair amount of patience.

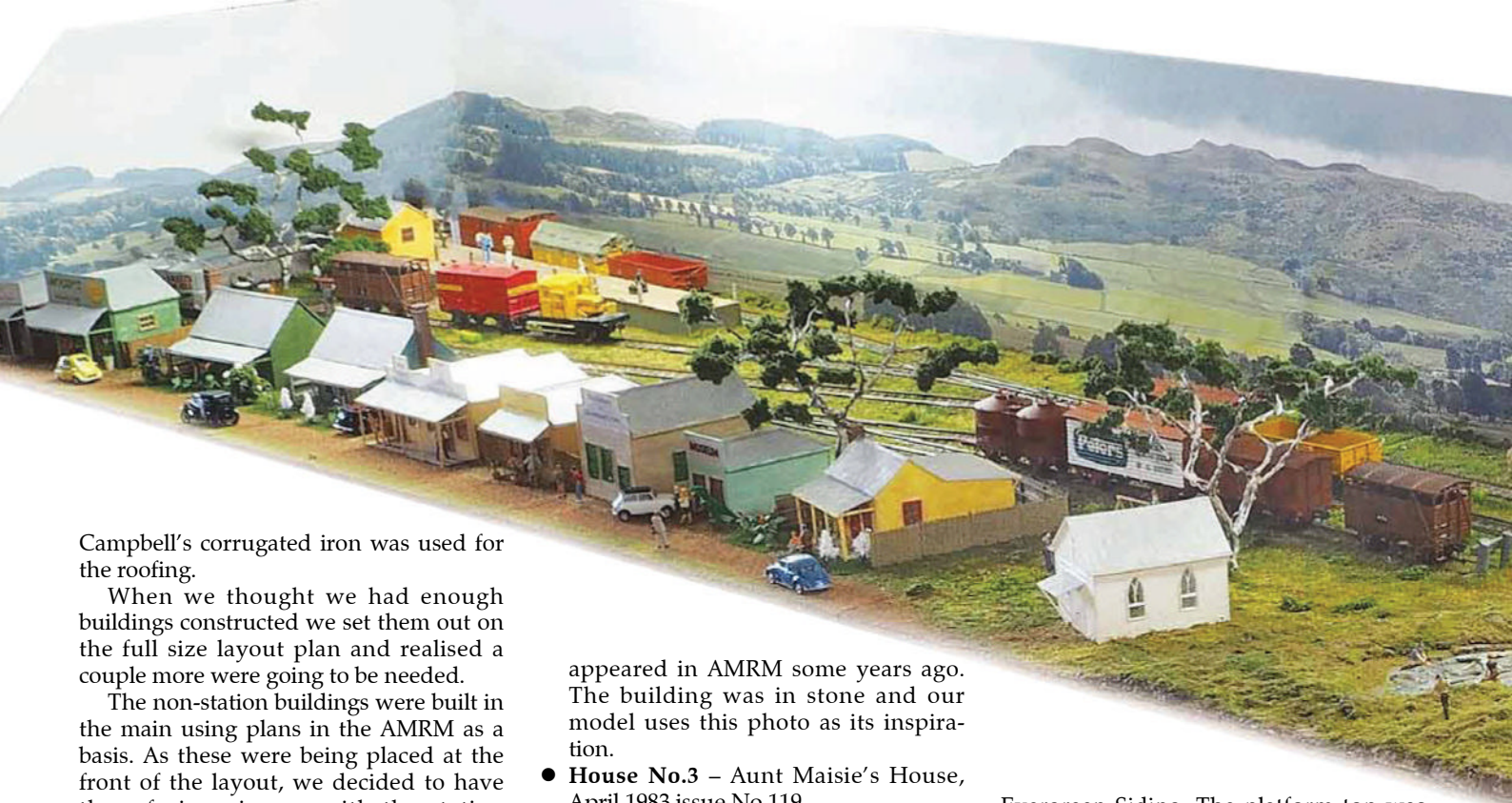
The dinosaur standing outside the town museum is intended to be a model designed for people visiting to take photos with, as can be seen on the layout. When in Paris a few years ago, my wife Carol and I took a city sights tour. We stopped at a row of historic buildings, now shops. I'm not certain which shop exactly, but I found a green dinosaur of just the right size to go on a layout someday.

Vehicles

The cars are a mixture of Oxford Diecast and Herpa models. There is a difference in scale; the Herpa cars are 1:87 scale and the Oxford models are 1:76 scale. To avoid a clash of scales we have kept the Herpa Mini and Beetle at one end of the street away from the Oxford Morris Eight, Austin Seven and BMW Isetta.

Buildings

The buildings were constructed using Evergreen Styrene Clapboard sheets and various sized styrene strips with windows and doors coming from Northeastern Scale Lumber Co. The windows for the church are Grandt Line Gothic windows.



Campbell's corrugated iron was used for the roofing.

When we thought we had enough buildings constructed we set them out on the full size layout plan and realised a couple more were going to be needed.

The non-station buildings were built in the main using plans in the AMRM as a basis. As these were being placed at the front of the layout, we decided to have them facing viewers with the station behind.

From the left to right from the viewing side are:

- **Fern Community Bank** – Silkwood Bank, August 2000 issue No.223.
- **Woody's Grocery Store** – Royal's Store, April 1986 issue No.137
- **Houses No.1 and 2** – Cottage in Macclesfield, May/June 1976 issue No.78 – the original was made with stone. We built these as wooden buildings.
- **Rod Thistle The Butcher and Turf and Seed Agricultural Supplies** – Country Store, December 1987 issue No.147.
- **Leafage Shire Offices** – Silverton Municipal Chambers, Nov/Dec 1975 issue No.75 – the original is in stone. We changed this to a wooden building.
- **Art Gallery and Information Centre** – we saw such a building when we went through Bruthen in eastern Victoria. It was unfortunately too large for our purposes. After looking at the photos Carol took, I downsized the building. Even so, it is one of the larger buildings on the layout.
- **Museum** – a photo of the Goolwa Shire Offices in South Australia

appeared in AMRM some years ago. The building was in stone and our model uses this photo as its inspiration.

- **House No.3** – Aunt Maisie's House, April 1983 issue No.119
- **Bidewell Fernvale Baptist Church** – the original is St Margaret's Uniting Church in Fernbank. Carol and I were travelling from Lakes Entrance to Bairnsdale in Victoria and decided we would take a detour. As a result, we went through Fernbank; saw the church and Carol took several photos. The building is based on these.

The naming of the commercial buildings followed the same process we have used since building Twigg. That is, we locate the word twig in the thesaurus and then find associated words that could be used as names. Mandie took these and printed suitable wording to attach to the buildings.

The two railway buildings are:

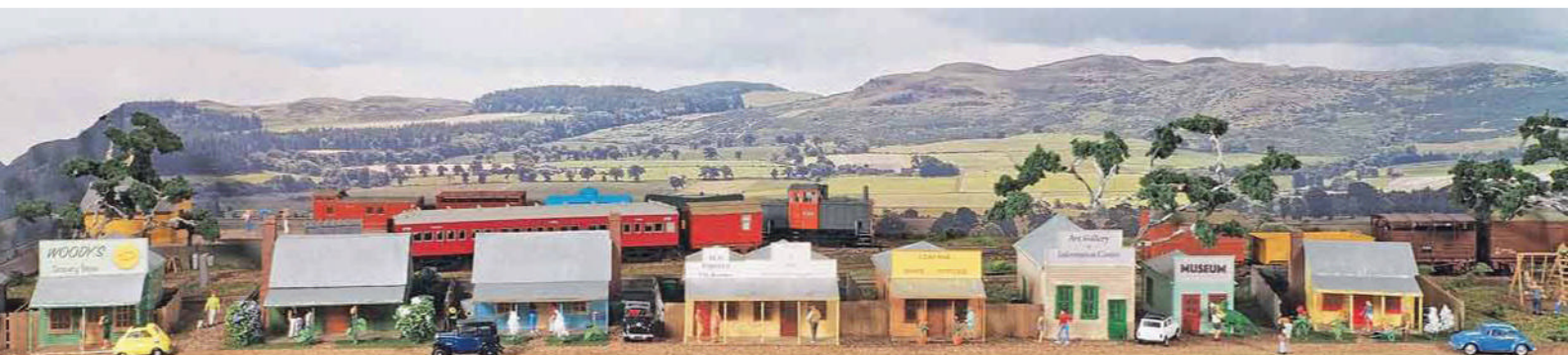
- **Station Building** – I stumbled across a website [victorianrailways.net] which contained a file with drawings for station buildings. We used one of these for Fern.
- **Goods Shed** – built using the plans in the October 1988 Issue No. 152.

The platform was constructed using card. I used the card that comes as part of the packaging for Evergreen styrene strips. The sides were then covered using

Evergreen Siding. The platform top was covered with PVA glue and sifted sawdust was then sprinkled onto it. The wire fence was constructed using 3mm dowel and invisible cotton borrowed from my wife. People were then placed onto the platform and it was ready to go onto the layout. It was then we discovered a problem: It was too long for the position chosen if we were to have a siding near the platform. Using a new modelling knife blade, we cut off enough so that it would fit. Fortunately, there were no people on the discarded section. This, of course, affected the 'wire' fencing which had to be redone again.

We then positioned the platform and checked there was adequate clearance. Unfortunately, it must have moved slightly when it was being glued down. This resulted in a small part of the platform having to be removed.

Many of the buildings have been modelled before and appear on Little Chipping, Twigg and Leafy Bay. As the towns would have come into existence about the same time, we have assumed the same or similar plans for buildings would have been used. Having some differences in buildings does allow each



A look along the street of the houses and shops at Fern. The railway is positioned behind the town. The little horsebox is not mentioned in the timetable. As a result, it stays on the layout and just moves from siding to siding.

This shows the complete scenic portion of the layout, all two metres of it. The part of the town that is modelled is on one baseboard, with the dinosaur dig and some country-side on the other. On the far right is the tree with the low hanging limb. As a result, the item of rolling stock that is nearest the buffer stop has to be a wagon, not a van.



town to be a little individual. We have tried to standardise on doors and windows thereby making the buildings a little different to the original plans.

Locomotives

Since the last article on Twigg was printed, there have been some changes to the locomotive roster. Five locomotives are required to run the timetable, giving us plenty of spares.

Locomotives on the layout are:

- Auscision Models B class
- Roco F class
- Lyndon's Trains M class shunter
- Bendigo Rail Models P class
- IDR Models W class
- Austrains and Australian Locomotive Company (ALCo) Y class
- VR rail tractor and Massey Ferguson shunt locomotive build by the late Harry Grosvenor

Unlike Little Chipping where we have some restrictions, all the locomotives can be used on Fern, although the B class does pose some challenges in a couple of places.

Rolling Stock

The coaches and wagons are the same as used on the other layouts.

The bulk of the rolling stock has come from Steam Era Models (SEM) kits. There are also a few wagons built from kits by other smaller manufacturers. Whilst I have made most of the kits, both Mandie and, her sister, Kylie have also contributed. There are also some ready-to-run items that we have been able to purchase individually.

The wagons and vans total 35 with, 17

being one-offs. We have six guards' vans, including a ZLP and an XYZ.

Some of the rolling stock went to their first exhibition with Twigg in 1992 and they are still in active use today.

Operation

Some years ago, we created a 100-train sequenced timetable that could be used with each of the stations. This covers most combinations of rolling stock that will be on the layout when exhibiting. We do not try to run to a clock.

At exhibitions a train comes in from the five track train table. The incoming wagons are placed in sidings and the rolling stock designated by the timetable then forms the departing train. For some of the wagons and vans there is only one vehicle of that type available on the layout at any one time. For others, particularly the GY wagons, there is often a choice as to which to take.

Whilst this is taking place, we may also decide to move one or more wagons from one siding to another. Sometimes this is forced on us as the combined size of a group of wagons and vans may exceed the space available in a particular siding. This often requires swapping one of the larger four-wheel wagons with a smaller one. We change operators when a train leaves the layout.

The train table can be used with all four stations. With the timetable, our fin-

ishing point at an exhibition is our starting point for the next show, which could be with a different layout.

At home we may either use the timetable and start from a chosen position or just randomly select which wagons are to make the next train. The latter is usually applied when we decide to run some of the spare rolling stock.

With a small layout designed for shunting, it is important that wheels and track are kept clean. We use a product called Track Magic, which is a cleaning product. As we change from one layout to another throughout the year, we find an application of Track Magic lasts several weeks.

Wheels for locomotives and rolling stock are cleaned both prior to and after each exhibition we attend.

While the journey from concept to completion has seemingly been a long one for Fern, it has been an enjoyable process, creating and developing aspects over the years, and enabling input from a number of people. In a hobby such as railway modelling, it's worth taking the time to get things right, knowing that with the other layouts that make up this branch line, there's always room to make additions and updates into the future.

Modelling the Nepean River Bridges at Camden

Part 2

By Michael Gourlay, photos by author unless otherwise stated.

Diagrams by Mitchell Campton.

Note: Reference is made to images and figures in part one. See June 2023 issue.

Bridge superstructure

While the two bridges are supported by the same massive concrete piers, they were originally independent superstructures. The road bridge was wider than the railway bridge, accommodating two lanes of traffic, one in each direction, whereas the railway was single track, but was stronger since it was required to carry heavy locomotives (relative to motor vehicles).

These two bridges have been modelled in different ways. The model road bridge is located between the railway bridge and the backboard. Its girders are completely covered by the roadway and it is impossi-

ble to see them from any normal viewing position. Consequently, the girders for the road bridge were not modelled in detail. However, the railway bridge is in full view of the onlooker, has an open deck without ballast and the internal bracing between its two plate girders can be seen by an observant viewer. So, in this case most of the individual structural members had to be modelled.

The road bridge superstructure was formed from a piece of dressed pine wood about 12.5mm thick and having a width equal to the width of the bridge deck. While the five prototype bridge spans are independent, simply supported

structures, in the model the piece of wood forms a continuous beam which holds the whole bridge structure together. The illusion of independent spans is easily created by making a shallow vertical cut in the side of this beam above the centre of each pier and darkening these cuts with a pencil. Instantly, the long piece of wood is transformed into a five span bridge superstructure! (Photo 10)

This transformation will be completed when the visible face of the plate web girders forming the superstructure is modelled (see Part 3).

While it is not necessary to complete the road bridge before starting the railway bridge, it is probably best to do as much as possible before the latter gets in the way, or possibly gets damaged, as hands and tools stretch across it in order to work on the road bridge. The bridge deck is formed from 5 mm balsa sheet glued directly on to the dressed pine structure. There is no need to model the individual timber bearers supporting the roadway deck (see Figure 2). Expansion joints need to be scribed across the deck over piers 1 and 3 and the eastern abutment (Figure 3 and Photo 10).

The visible timber components of the bridge deck have been cut from North-eastern or Kappler HO scale lumber (timber) sourced from USA, but available from several Australian suppliers. Sizes are specified in prototype inches. They include:

- Footpath deck, 8 inch planking sheet
- Bridge kerbs, 12 inch square lumber
- Footpath kerb, 8 inch by 4 inch lumber

The timber pieces should be cut to length, sanded if necessary, then stained using black Raven oil diluted with methy-lated spirits to give a natural weathered timber appearance, before being glued in place.

If the reader's bridge model includes timber trestle spans, then these can be made using the techniques described in the series of articles by the author previously published in AMRM (October 2017, p.40-43; December 2017, p.28-30; February 2018, p.44-46). The principal differences in the Nepean River bridges are that all piles are vertical, i.e. there are no raked piles; the alternate wide trestles that support both the road and railway have seven piles; and there are no diagonal braces (Photo 11).



Photo 10. Bridge deck and timber trestles in place.



Photo 11. Timber trestles for approach spans.

The footway along the upstream side of the road bridge should be completed as soon as possible. Added in 1927/1928, it is supported by triangular frames made from 3 inch by 2½ inch steel angles, riveted to the projecting legs of the web stiffener angles of the plate web girders (see Part 3). There are four supporting frames on each girder – a total of twenty frames. These could be modelled using the smallest available brass structural shapes, 1/32 inch by 1/32 inch angles, if these are still available (Figure 6a). However, the location of my model bridge is such that it was a waste of time modelling these steel frames since they cannot be seen. Hence a simpler and more robust form of support was used (Figure 6b).

However, the footway can be attached to the timber trestle spans in the same way as in the prototype, except that the individual model structural members are held together by glue rather than bolts (Figure 6c).

Handrails for the road bridge

Two types of handrail were used on the Nepean River road bridge.

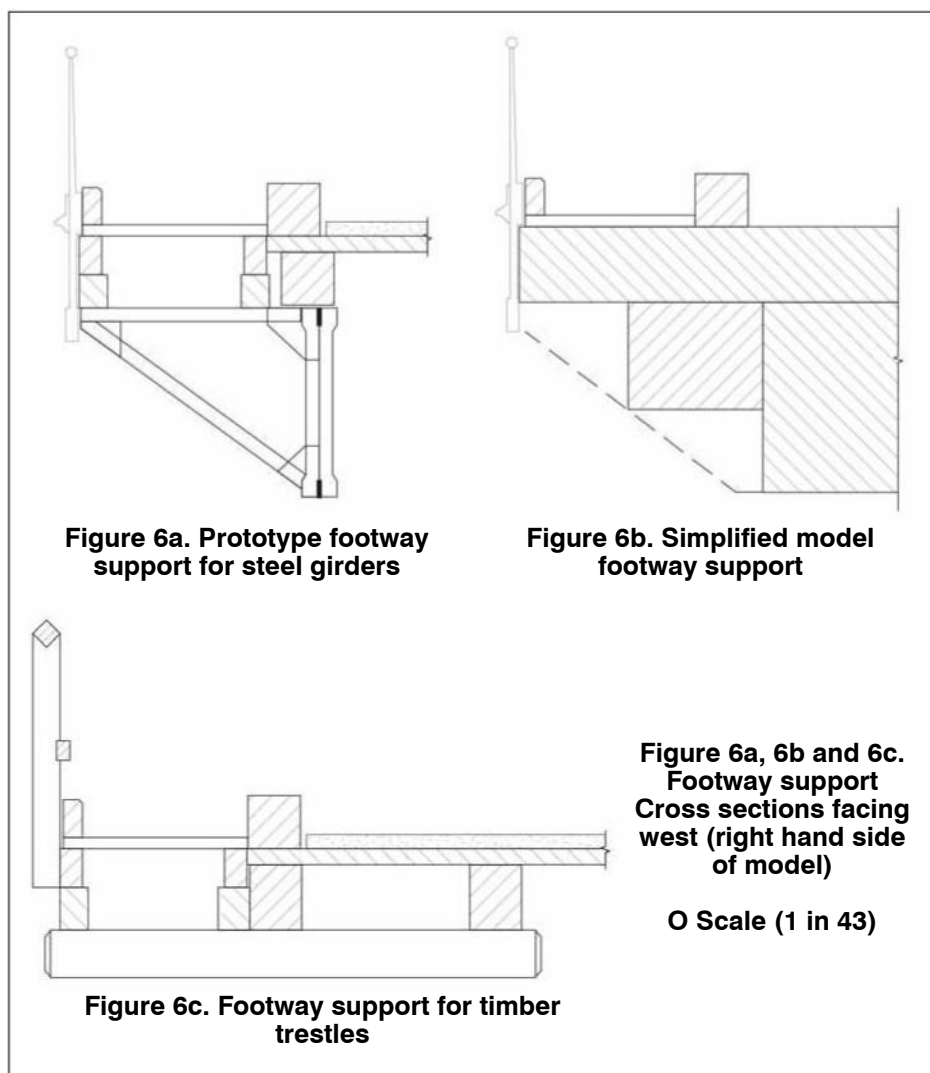
There were fixed wooden post and rail fences along both sides of the timber trestle section of the bridge and on the abutments at each end of the steel spans. The five steel girder spans had collapsible handrails fabricated from a steel handrail supported by pivoted steel posts with cast-iron counterweights at their lower ends. The posts were linked by steel chains, one chain when the bridge was built; two chains in more recent times. Disconnecting the chain linking the last steel post with the adjacent end wooden post at abutment B would result in the collapse of the steel handrails sideways, so that there would be very little obstruction above the bridge deck to the passage of debris-laden floodwaters. When the footway was added along the upstream side of the bridge both wooden and collapsible upstream handrails were relocated.

Constructing wooden handrails

The wooden handrails have been constructed from HO scale Northeastern (NE) or Kappler lumber. Accurate carpentry and joinery is difficult in HO scale but with care good results are possible. Modellers with experience in modelling with styrene will probably prefer to use that material and should be able to readily adapt the following instructions to their needs.

Figures 7 and 6c show details of these handrails.

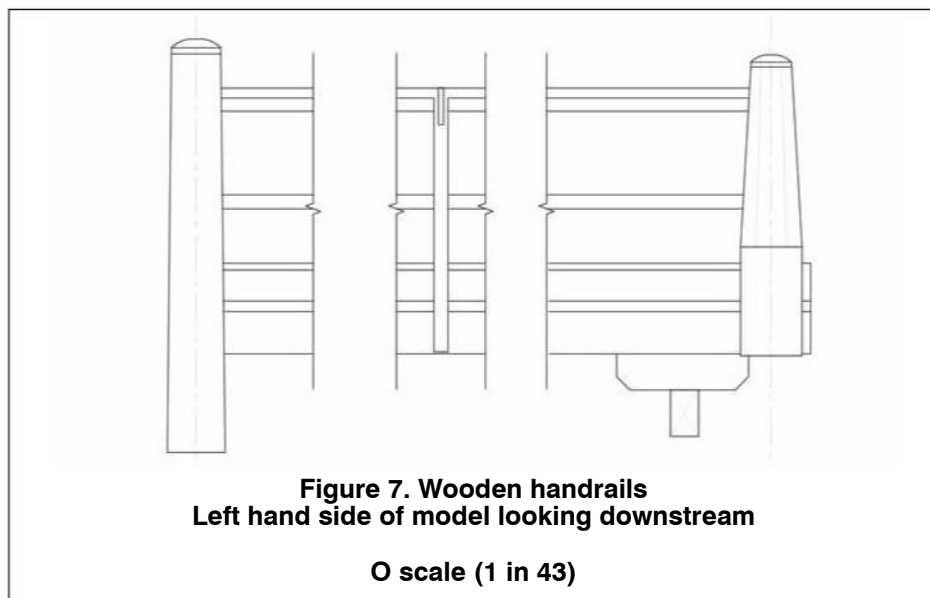
Materials required include the following HO scale sizes of NE lumber – 12 by 12, 6 by 4, 4 by 4, 4 by 3, plus 12 inch diameter poles (all numbers are prototype inches). When I built my model 12 inch diameter poles were unobtainable and I had to sand down 14 inch diameter poles of hard wood intended for modelling ships. Where possible, similar components should be taped together, cut/sand-



ed to length and notched in one operation.

The end posts were of different shapes – one was round, the other was a modified square post. The top of the round post was slightly rounded. The top of the square post has been reshaped to be 8 inch in diameter. It was shaped with a craft knife and fine sand paper, the four sides first, then the corners were removed to give an octagonal shape. The bottoms

of the two end posts were part cut away so that they fitted against the timber edge of the footway. The square top rail is fitted into the end posts with its diagonal axis vertical, whereas the bottom rail has its long side vertical. Both the end posts and the intermediate posts are notched to fit the top and bottom rails. All parts should be checked that they fit together closely and that the railings are the correct length. Rails should be a close fit in



the posts. Intermediate posts should be a slightly loose fit on the rails so that the latter are not bent.

Assembling the wooden handrail sections

Use a flat piece of hardboard/plywood/MDF board somewhat larger than the assembled handrail; stick a piece of double-sided tape along one long side of the board; place a strip of cardboard with a straight edge and a thickness equal to the 2 inch notch at the bottom of the end posts on the tape; stick a second piece of double sided tape on the cardboard; secure one end post on the double sided tape, fit rails and then the other end post; check length of railing and verticality of posts; insert intermediate posts and check their spacing and verticality; glue components together with PVA glue, removing any excess glue before it sets. Note: The inside (roadway) face is underneath during assembly.

Constructing the collapsible steel handrails

These were made in five sections, one for each span on both the upstream

and downstream sides of the road bridge. That means there are ten handrail sections to be made. Each handrail section is supported by seven pivoted metal uprights (posts) with round counterweights on their lower ends (Figure 8).

The handrails on span 5 are a little shorter than those on spans 1, 2, 3 and 4 so that they can collapse sideways without hitting the wooden posts on abutment B. Since I am not expecting any floods to come down the Shoalbury River in my model, the handrails on my bridge model are fixed firmly in place. Of course, some readers might like to make their handrails movable, but I shall leave it to them to work out how to model the pin joints between the handrail and the uprights.

There are six components required to construct these handrails:

- 1. Horizontal handrail
- 2. Uprights (posts)
- 3. Hinge yokes
- 4. Counterweights
- 5. Pivot pins
- 6. Safety chains

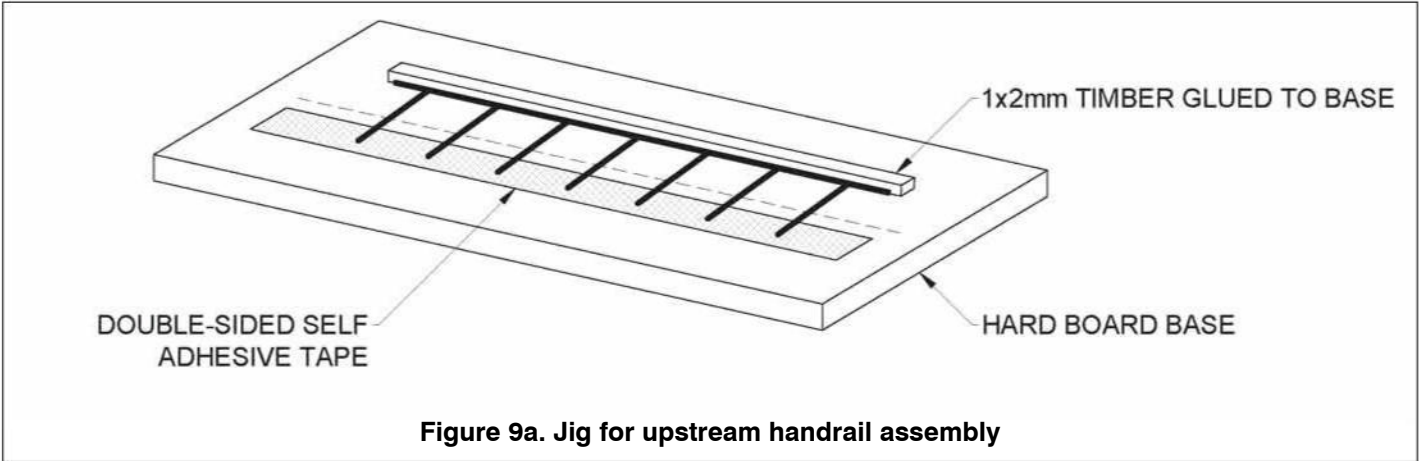
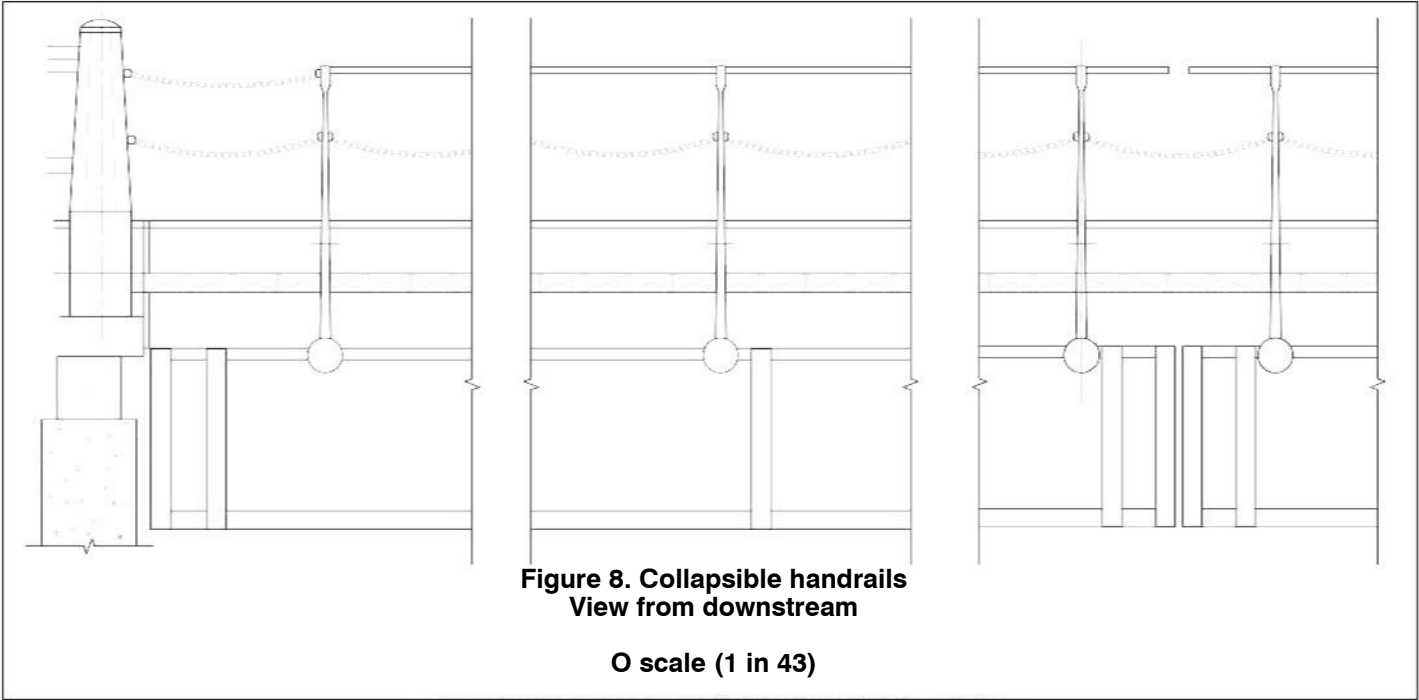
In my model, where the road bridge is

close to the backboard of the layout and the railway bridge is nearer to the viewing side of the baseboard, it is more convenient to fit the upstream handrails first. The footway supports have not been modelled in detail so the handrail unit needs to be modified. The counterweights cannot be seen so can be eliminated. The pivot pins can also be dispensed with, since there is an alternate way of securing the handrail unit to the bridge superstructure.

Initially, a jig needs to be made to facilitate assembly of the handrails. Figure 9a shows how this is done.

Essentially, there is a piece of hardboard 200mm by 40mm with a piece of 2mm by 1mm timber glued along the edge of one long side. The position of each post is marked on the piece of timber. Some double-sided tape is laid on the base parallel to the timber strip to hold the posts in place. The spacing between the two outer posts at abutment ends of the handrails for spans 1 and 5 is smaller than for the other spans.

The handrail is cut from 0.5 mm brass wire, say 170mm long to allow for trimming after the assembly is completed. The



seven posts are cut from $\frac{1}{32}$ inch (0.8mm) square brass bar and trimmed/filed to their required length. The upper ends of the posts should be lightly tinned with solder. The hinge yokes are made from 0.003 inch (0.075mm) brass shim. A 1mm wide strip of the latter is cut from the sheet with a trimming knife and lightly tinned on one side. It is then cut into 4 mm long pieces and, holding each one firmly with fine long nosed pliers, the corners are rounded using a fine file. Using pliers each yoke is then bent symmetrically around its post and the hand-rail.

The handrail, posts and yokes are assembled in the jig, making sure that the posts are at right angles to the hand-rail firmly held in place by the double-sided tape. The three components can now be soldered together using no more solder than necessary to obtain a firm joint. As shown in Figure 9b, the bottom ends of the posts are then soldered onto pieces of brass angle, e.g. $\frac{3}{64}$ in by $\frac{3}{64}$ in, to make the handrail assembly rigid. The addition of a length of flat brass to lengthen the horizontal portion of the angle section provides a stronger connection to the wooden beam supporting the walkway. The handrail assembly is then glued in place using at least two timber pieces and a metal bar as a counterweight to support the rail until the glue sets (see Figure 9b).

To make the downstream handrails, the jig must be modified (Figure 9c). This requires drilling holes for the pivot pins and the addition of a second piece of 1 mm thick timber strip wood. The width of the latter should be about 3mm to allow for semicircular cut-outs to be made for the counterweights. The latter are cut from 2.5mm ($\frac{3}{32}$ inch) diameter brass rod. The pivot pins should be brass with a small flat head, if available. I used old steel rail spikes, filing the heads bright and then tinning them with solder. It is important that the holes in the jig for the pivot pins be drilled vertically and be a loose fit so that the pins can be easily removed from the jig after assembly. As for the upstream handrail assemblies, all parts should be lightly tinned where soldered joints are to be made before assembling them in the jig where they are soldered together.

Both wooden and brass handrail units should be cleaned up after assembly and painted with two thin coats of white paint. I used acrylic paint. The brass units

would probably benefit from a coat of metal primer before the white paint is applied. The painted handrail units are glued in place. However, before the downstream handrails can be installed, it is necessary to drill holes for the pivot pins in the sides of the bridge kerb timbers.

The final task to complete the collapsible handrails is to fit the safety chains. This is not easy. The finest model chains available are 40 links per inch. These are about 50% too big. Originally there was only one chain, but later there were two. Probably, the model would be best with one oversize chain rather than two. Alternately, the chains could be represented by a thick thread. In this case two chains might look okay. At the time of writing, I have not fitted safety chains to my model bridge but here is how the road bridge looked after its completion and before the construction of the railway bridge commenced (Photo 12).

Michael's coverage of his build project continues in the next issue of AMRM. 📌

Photo 12. Completed road bridge.

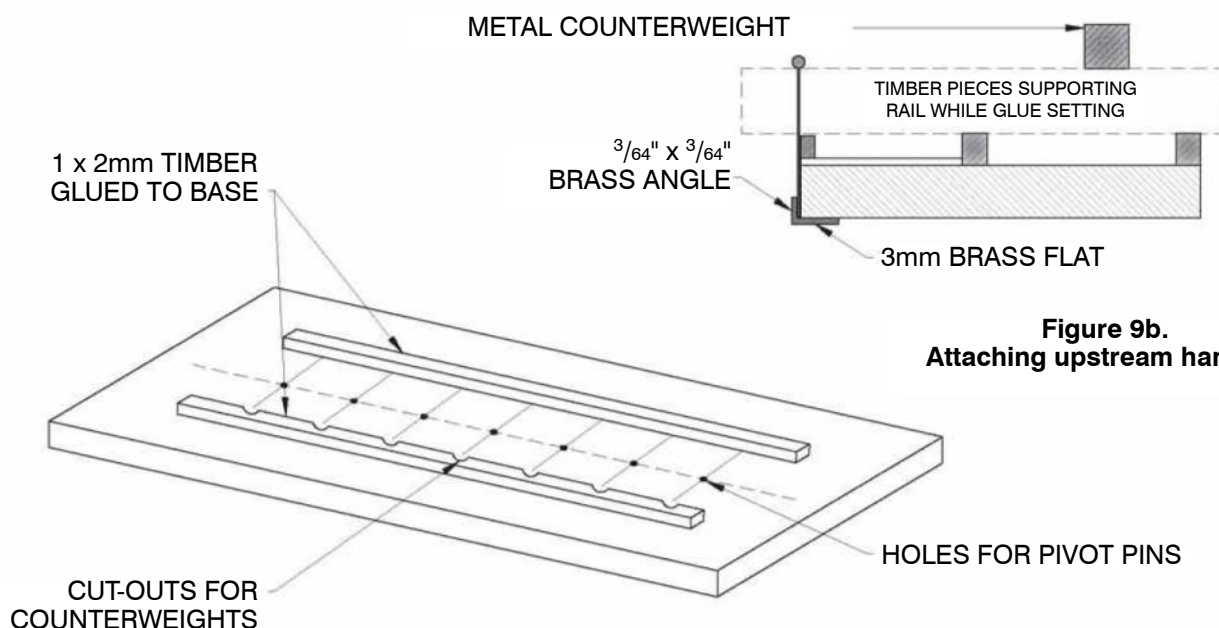
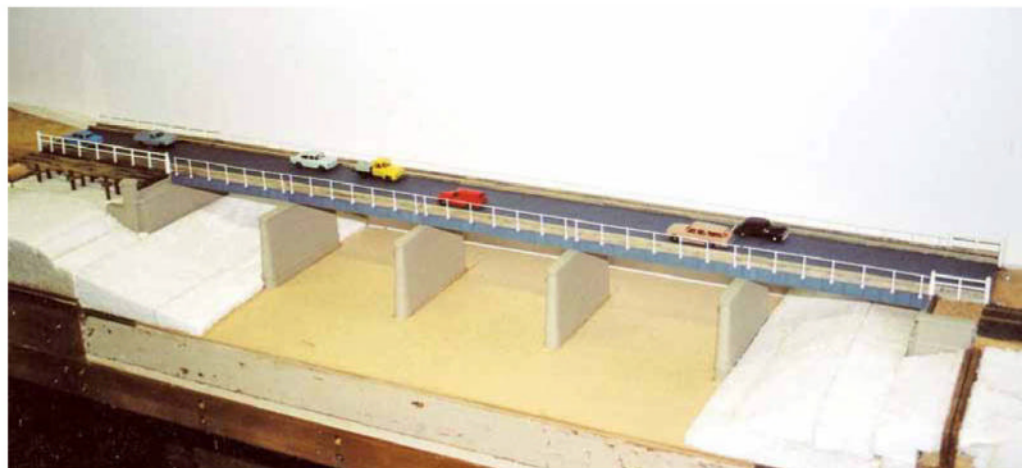


Figure 9b.
Attaching upstream handrail

Figure 9c. Jig for downstream handrail assembly



An example of the stunning work by Jurgen Engel, in this case a workmens' sleeper and two GY open wagons, standing on the Glenelg River bridge. Note the weathering, including the white 'superphosphate' staining around the lower door frames on the GYs. Although I've built up several Veteran Models kits, they remain unpainted, awaiting a dedicated spray booth in the workshop.

Putting the 0 into Casterton

Part 5 – The train shed becomes a layout room.

Scott Whitaker continues his epic layout build. Photos by the author.

Currently (as at the end of May 2023), the builders are busily fitting out the interior of the shed that will accommodate the layout. Once completed, the facility will be fully lined and insulated, air conditioned and complete with amenities and a workshop. Although the completion date is slated for the end of July, once the suspended ceiling is in place the builder has agreed to allow my team of helpers access to the site to start erecting the benchwork. All hardware and timber required for this stage has been sourced and delivered; and my carpenter mate is flexible with his schedule. So, it will be off to a builder's supply outlet to grab a couple of fluoro shirts and some work boots and pretend to be a tradie.

Logistics and the big move

The forecast completion of the shed cannot come quickly enough, as my house has been turned into one big storage facility. Even the car has been evicted from the garage to free up more space. In North Queensland, things move a little more sedately than in the capital cities. We call it 'Bowen Time', which basically

means that 'things will get done when they're done, no point in rushing!'

Once the shed and benchwork is complete, it will be time to start moving the modules from my residence to the layout room. I'll have about 50 modules to move, all in various stages of completion, including scenery. Fortunately, there is a trailer hire outlet in town that has large, enclosed trailers available. When I first enquired, I found that a four-hour rental would cost about \$80, but for another \$100, I could keep the trailer for a week.

The workshop

Along with acquiring the model railway infrastructure I need; I have been steadily replacing my cheaper and less accurate tools with quality equipment. Once set up, the workshop will be configured with several stations, such as a 3D printing area, an ultrasonic bath for cleaning assembled models and a dedicated spray booth/fume extractor. Larger tools such as a band saw, table saw, compound mitre saw and possibly a lathe, all equipped with dust extraction, will be added. My intention is that all the 'messy'

type work will take place in the workshop, whilst the finer work, such as building rolling stock and structures, will be carried out at home. I am fortunate in having a large veranda, under which is located my work area. Excellent natural light filters in and I rarely need any extra lighting. It's great in the cooler months, especially in the morning when the sun is on your shoulder, but I must admit that it's a little bit more difficult during the wet season, when the humidity forces one to retreat inside.

Rolling stock

Without doubt, one of the greatest consumers of time on this layout build, is the construction of rolling stock. It is a big layout, so a reasonably large roster is required. 'Easy' you say, 'Just go down to the hobby shop and buy some'. Well, there are no 1:48 scale ready-to-run Victorian Railways rolling stock currently available. I did manage to secure several items before the various traders who did provide them closed or discontinued production, but they'll all need work to bring them up to standard. The installation of

sound decoders, weathering and, in a couple of instances, repainting will be required. Although I've managed to secure several second-hand items, the rest of the rolling stock will be built up from Veteran Models kits, or scratch built. And the level of detail means that the build is complicated and lengthy. In my HO days, I could easily put together a Steam Era Models GY kit in an hour, but the O scale version takes about 10 times that, with its white metal and brass etch components.

So, I am going to need some help. But where? I don't know of any local model railway enthusiasts and my interstate buddies are dedicated to the smaller scales. The kits themselves, although expensive, are very reasonably priced given the amount of work that goes into its manufacture. And I wasn't sure about sending a kit to an enthusiastic volunteer, so he could effectively 'audition' his work for me.

What I needed was a professional custom builder, and a search on the internet found one.

Jurgen Engel (www.jurgenengel.com) is a talented craftsman who specialises in O scale and larger. After a few conversations by email and phone, he agreed to take on some of my work. His rates are very reasonable, and the quality of his work is outstanding. When I received my first consignment, I was very pleased. The models were packed securely and arrived in perfect condition. Jurgen makes it his business to ascertain what the client wants, especially weathering and the placement of era-specific detail.

Mistakes and research

In the early days of this project, I used to beat myself up over silly or rushed mistakes. Not so anymore. I treat them as a

lesson, and a way of improving my modelling, so long as it doesn't cost too much in terms of time or resources. Over the journey I have refined my techniques and like to think my skills have improved, I'm never afraid to listen to advice or change things up a little bit. I also like to have a couple of projects on the go at the same time, for a bit of variety. Currently, I'm building a replica of the Grange Burn bridge, located between Hamilton and Coleraine Junction, and four Veteran Models U van kits. A tip from a fellow modeller was to keep a brief diary about these projects that you can refer to before restarting work.

Speaking of the bridge, I had spent a lot of time, to no avail, trying to source a photograph or a plan. A site visit earlier this year revealed a non-descript concrete structure that replaced the earlier bridge sometime in its history. I knew from the original contract documents that the bridge had two iron girders of 70 feet (21.3m) in length, and that was about it.

A visit to the Hamilton History Centre saw a eureka moment, when the curator produced a magnificent colour photograph of the bridge from 1965, replete with a J class steam locomotive and lengthy goods train. From that photo I was able to estimate the size of the girders, the bluestone piers and abutments required for the model.

I found some suitable girders from Lionel Trains LLC (www.lionel.com), in the USA. Although specific to O gauge 3-rail systems, the important girder section has good detail and is detachable from the roadbed. They were about the right height, but I did need to shorten them, then rejoin the sections, ending up with girders a scale 66 feet (20.1m) long, just shy of the prototype.

Another interesting feature of the bridge is that it crosses the waterway on an acute angle, the abutments matching the same angle. The abutments and central pier will be fabricated from styrene and wood, and clad with Cooch Enterprises (www.coochenterprises.com) flexible cut stone wall material. The wooden bridge deck is ballasted in the Victorian Railways style, with a walkway and a simple handrail on the downstream side. The actual photo can be viewed at <https://tinyurl.com/ym9j79dr>

Mail Order

As my closest hobby shop is located at Mackay, about 190km away, I'm pretty much stuck with having to mail order everything I need for the layout. My first port of call is Australia, but even those who specialise in the larger scales do not have everything I need.

Over the last 18 months or so, I've placed about 290 individual mail orders with Australian businesses and foreign suppliers in all sorts of places, such as Canada, USA, Mexico, Greece, France, UK, Ireland, Japan, Thailand, Vietnam, China, and The Netherlands. All have been received, although some have taken their time.

A couple of points to note is that some things (such as scenery products) may be banned or have import restrictions. Import duty and GST is also payable, if assessed, on arrival in Australia. The high cost of freight, especially from USA and Canada, can make the proposal uneconomic, especially given the unfavourable exchange rates.

In the next instalment, I will (hopefully) discuss how the installation of the modules is progressing. Until then, enjoy the ride.

Casterton Cup Day 1969. Normally held in May of each year, the cup draws punters and enthusiasts from all over the state. To handle the passenger traffic on offer, a special is run from Portland to Casterton. At Branxholme, the special will collect passengers off the southbound service from Hamilton and Ararat. Here we see a relatively new T408 (built in October 1968) haul a consist of 'W' series passenger cars underneath the Six Chain road overbridge, just out of Sandford. Directly behind the locomotive is 7BW, which was built in 1911. After decades of reliable service, this car was taken off the register in October 1983. Both the locomotive and the passenger car are kits from Veteran Models.



Newstead – Another Chapter in Speculative Modelling

Alan Shaw builds a proto-freelanced N scale layout. Photos by the author.

F2 is about to collect an empty van that has delivered rolls of paper to the warehouse. In the background a seemingly-forgotten collection of Queensland Railways wagons fade in the sun, and gather attention of graffiti artists.



In AMRM Issue No. 341 (April 2020), I described *Reeves (Ypres)*, a small N scale layout based on a minor branch line terminus on what was then my fictional Brindabella Railway. That served its purpose of trying out some different techniques while I still couldn't commit anything more than a minimal space to modelling, yet still ending up with something fun to build and operate.

A couple of years later I found myself in much the same situation – wanting to build a new layout, add to my previous

experiences and enjoy the process along the way, but not having the space to build anything very large or permanent.

The result is a small layout based on a fictitious ferry-served yard in a cramped corner of Newstead, in Brisbane's inner north.

Track planning

I've continued to be interested in small and micro-layouts, especially those in urban settings, and enjoy seeing what track plans and settings people come up

with. I've also had a fascination with rail barge and ferry operations, especially North American yards served by car floats of various descriptions. I'm not entirely sure where this interest came from, but it might be partly due to the occasional sighting of barges of newsprint being pushed by tugs down Tasmania's Derwent River, when growing up in Hobart.

All this got me thinking of whether I could come up with an urban plan that would only be served by a rail barge or



ferry. While a gritty, densely urban setting might not sit well with a Brisbane location, I eventually came up with an idea of a small yard in Brisbane's inner north, located just downstream from Queensland Rail's (QR) actual line to New Farm. This yard would be part of the Stanthorpe and Moreton Bay Railway, being served by barge or ferry from the S&MBR's Montague Road yard just upstream from South Brisbane.

I then populated the location with a couple of likely industries – most definitely a pair of woolstores, since they are such a feature of that area even today, and I thought something like a tube and wire manufacturer would be interesting. I've set the era in the period from 1988 to

1991, by which time the woolstores were no longer used for their original purpose, with many being unused. This is the state of the larger woolstore I modelled. The smaller front woolstore has been modelled as if it had found a new use as a warehouse for newsprint, to supply a local magazine publisher up the road in Bowen Hills.

The track plan emerged after a few hours of thinking about how to serve those industries, plus having the whole thing served only by a barge or ferry, which is the only source of traffic and is in effect a movable fiddle yard. I was after a plan with some operating potential, while not restricting myself to something like a shunting puzzle although, as it hap-

pened, I've really ended up with a pair of facing Inglenook-type shunting layouts.

Building the Baseboard

I used the Qubelok aluminium tubing system, indeed the baseboard design and size were the same as for Reeves, with a module size of 1200mm x 450mm topped by 30mm extruded foam from my local hardware store. I asked my local aluminium supplier to cut the lengths I needed. After I collected the package of neatly and consistently cut square tube, within 25 minutes of unwrapping it all, I had a neat, rigid baseboard frame ready to be topped with foam.

Trackwork

I took the plunge and invested in a couple of Fast Tracks jigs to have a go at building my own code 40 turnouts, figuring I could offset the upfront cost with turnouts for future layouts. The first effort took ages to build, as a few people had said would be the case, but the result was very pleasing. The next four were much quicker to assemble and the result really was worth the effort – they look much better than store bought turnouts and perform as well as they look.

Turnout control is simply push rods actuating a Fast Tracks throw bar with an integral single pole double throw switch. The rest of the track is Micro-Engineering Code 40 flex track. The layout is DC controlled, but may be converted to DCC if it becomes part of a bigger layout.

The floating fiddle yard

The layout is based around the ferry being the sole source of traffic, making it all self-contained. There is no hidden fiddle yard or sidings. I'd have preferred a

Newstead – the Back Story

Tidying up my garage the other day, I came across a large, plain yellow envelope stuffed full of notes, papers, faded photographs and drawings. A small sticky note on the envelope was simply marked: Shawy, you might enjoy this. Candice

And enjoy it I certainly did – a lot of material I'd never seen before about the Brisbane River Division of the Stanthorpe and Moreton Bay Railway (S&MBR), especially its cramped yard at Newstead. It had been a couple of years since I'd last seen Candice, a long time General Manager of the S&MBR during the late '70s to the mid '90s. The material in the envelope did a lot to flesh out notes I'd taken from long caffeine-fuelled chats Candice and I had had over several years in the increasingly chic cafes of Brisbane at the turn of the 21st Century.

A couple of photos in that envelope really grabbed my attention because of the way they captured the changing fortunes of the river operations. The first showed an old tug and a barge, loaded with vans of wool and wagons of steel approaching Newstead Yard against what looked like a busy riverside. The second, evidently taken from the same location and maybe twenty years later, showed the S&MBR's 'Brillo', a more modern converted vehicular ferry, loaded with fewer wagons and a riverside that was in serious decline. That's how I remember it when I worked in an office with a view of the Brisbane River and seeing the Brillo now and then – sometimes twice a day and usually with a small faded red loco in among the wagons.

Newstead

Built by Alan Shaw

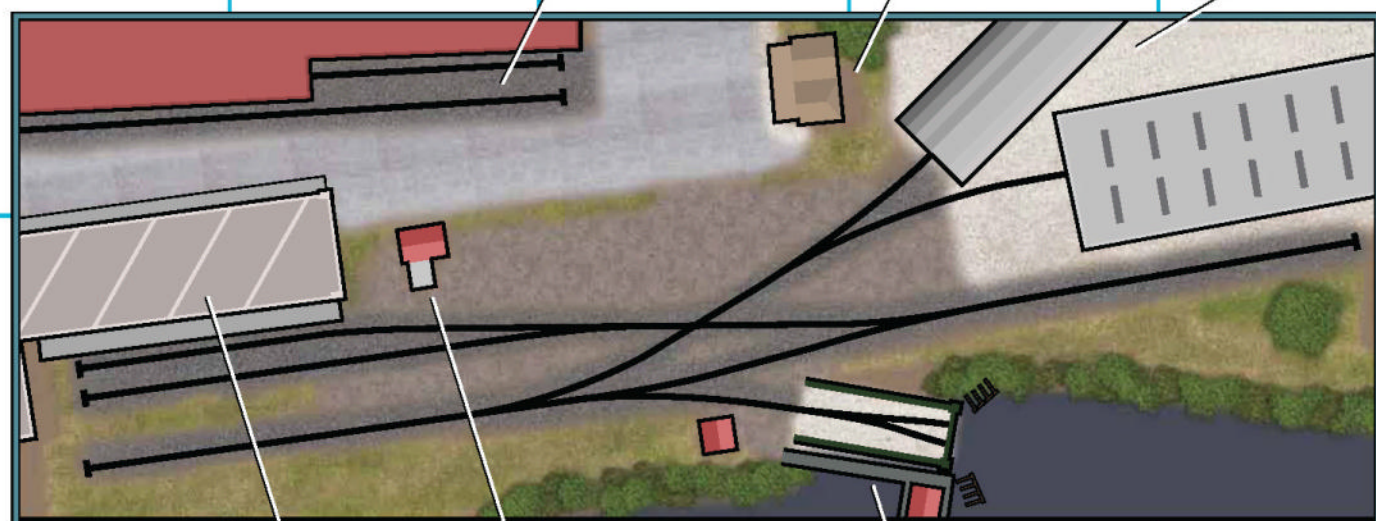
N scale (1:160)

Layout Size: 425mm x 1150mm

QR Nn3½ cosmetic sidings

General Store

Warehouses

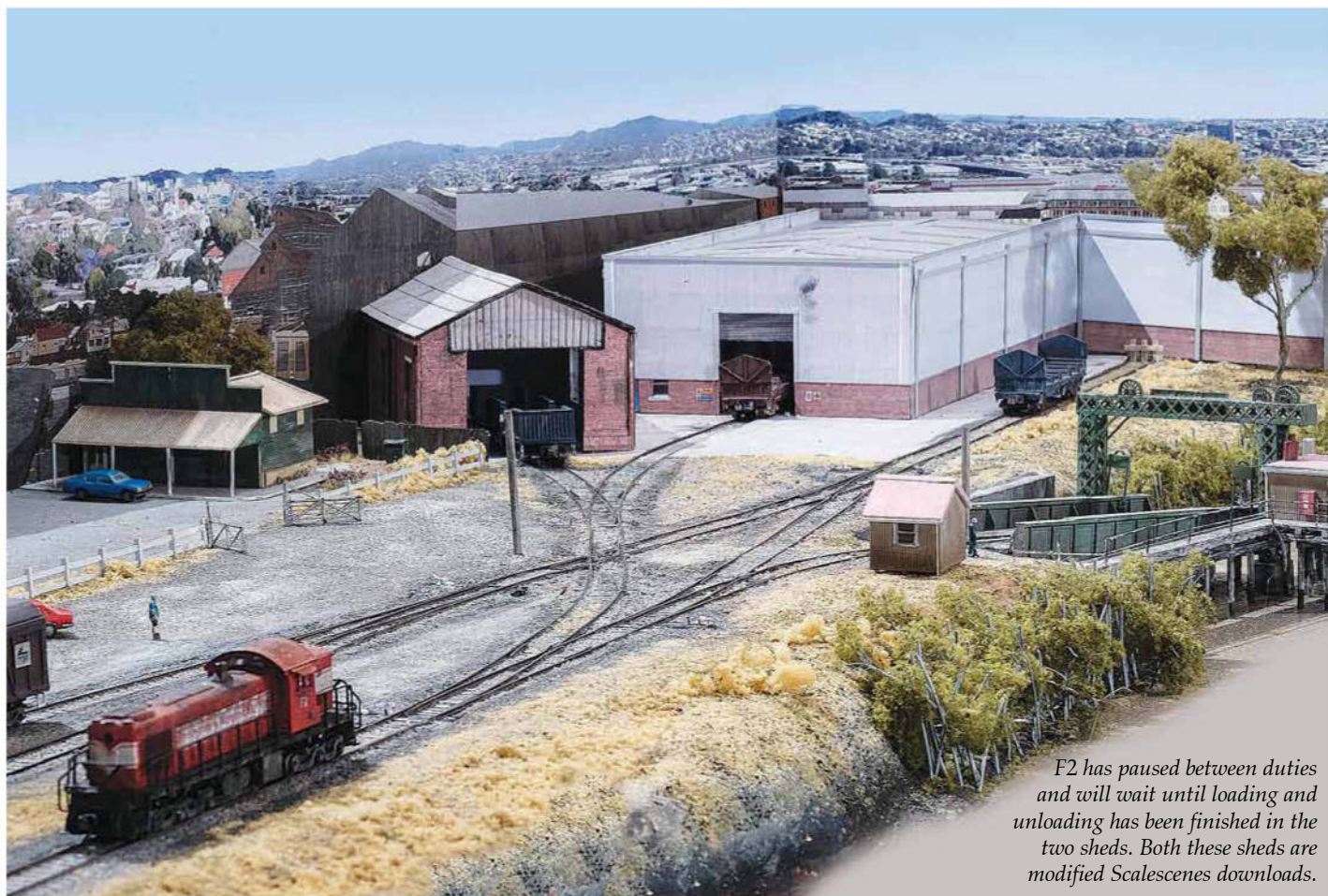


Grid Size
300mm x 300mm

Warehouse

Yard Hut

Ferry Ramp



F2 has paused between duties and will wait until loading and unloading has been finished in the two sheds. Both these sheds are modified Scalescenes downloads.

tug and a car-float, reminiscent of my childhood memories of Hobart, as well as those fascinating North American operations, but I didn't have the space for that. After some internet searching for suitable models, I came across a vehicular ferry in N scale, which I thought could be adapted to what I needed. I contacted the manufacturer, he agreed to provide a narrower version that better suited my available space. A few weeks later a very large envelope of pre-cut styrene turned up, and promptly sat on a shelf for a few months.

Once I put it together and experimented with it, I realised that I should have left the hull's beam as it was, so I ended up further modifying it – more or less back to where it had been, although I also changed the shape of the bow. Most of the superstructure is free-lanced but I'm pleased with the way it looks and it certainly does the job, although I imagine it will make maritime modellers wince!

These barges were all called the *Brillo* on the S&MBR. When they were first put to use in the 1930s, someone noticed they were mostly used for moving wagons of wool or steel, and promptly nicknamed the original barge *Brillo*, and the name stuck. The S&MBR, being the sort of company it is, saw the humour and was happy to use the name officially.

When the original tug and barge operation was retired in the late 1970s, the S&MBR was fortunate to find a ferry used for trucking sand from Stradbroke Island to the mainland was up for sale at a bar-

gain basement price. After some modifications it was put into service on the Newstead run, and that's what I've modelled.

Rolling stock and locomotives

Being a small layout, not much rolling stock is needed. The *Brillo* can bring over a maximum of eight cars, and that's more than enough for a short operating session. Rolling stock is a mix of steel wagons of various types, open wagons for the finished tube and vans for the paper traffic. Some of these wagons I've owned for over three decades!

For the era I'm modelling, the locomotives required to work the S&MBR Brisbane River Division are very modest – a GE 44-tonner, and an F class Alco RSC1. The 44-tonner was one of two bought by the S&MBR in 1949, while the F class was one of six bought soon after, which simultaneously convinced the S&MBR to dieselise as quickly as possible and become a loyal Alco customer for the next two decades.

Normally the *Brillo* brings a locomotive down from Montague Road yard with the day's wagons to undertake the shunting, in effect a floating trip train, but occasionally one of the locomotives might be left at Newstead. If a complex shunting move is needed, the other locomotive will come down with the next trip, since there is no run-around at Newstead.

The buildings

With the setting I gave the yard, I

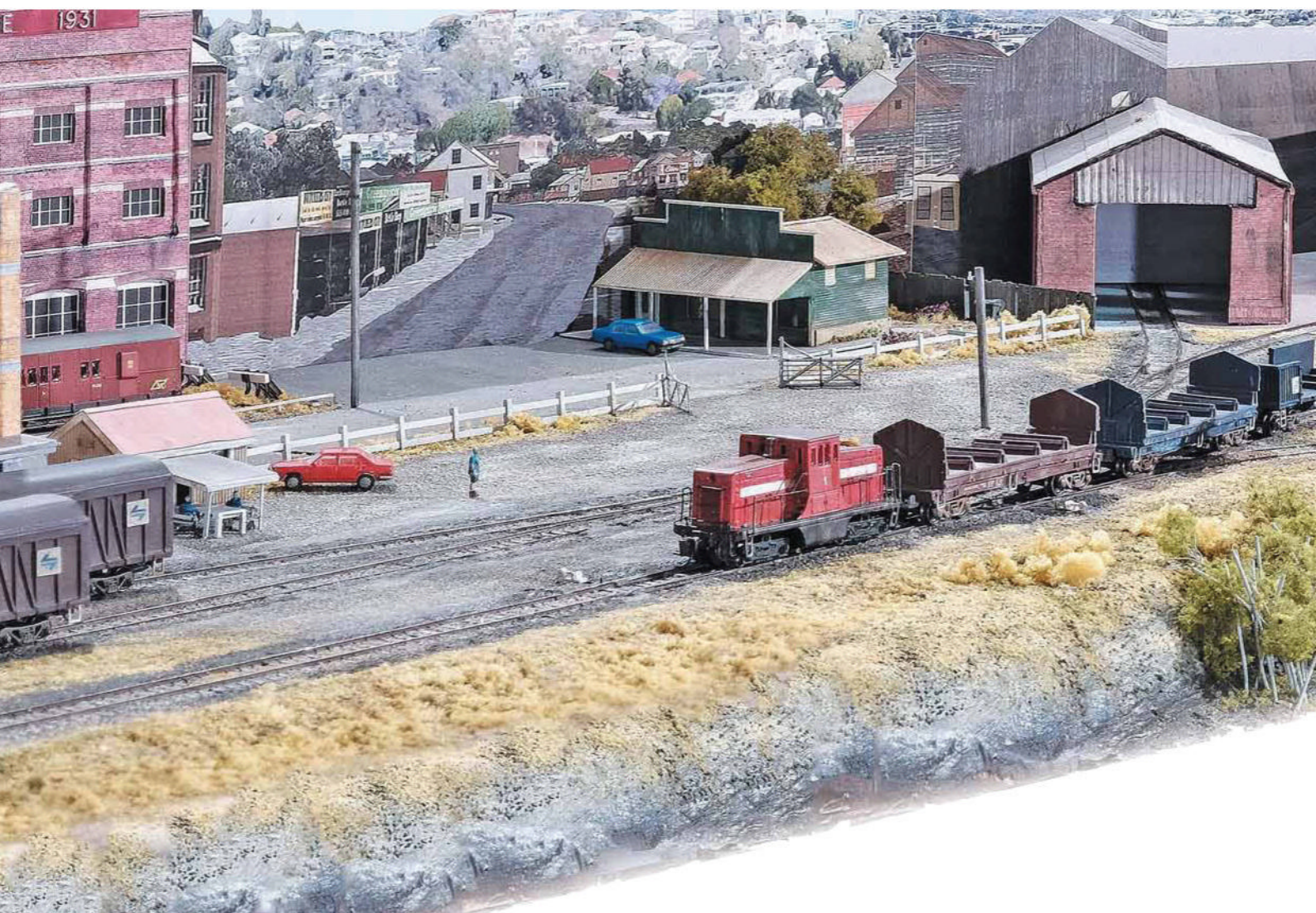
wanted the layout to have an urban feel, and I especially wanted to have a couple of woolstores. I was also on the lookout for buildings I could use for my small manufacturing plant.

I came across the world of ScaleScenes downloadable kits. While aimed at the United Kingdom prototype modeller, some are more generic in design and I used a couple of them on one side of the layout for the manufacturing plant – one represents a recent addition for receiving coiled steel, while the other is an older building used to despatch occasional loads of tube and pipe.

These kits are enjoyable. They are certainly not quick to build – indeed, they are closer to scratch-building – but they are incredibly well designed, thought-through and really reward the time taken. At the end of the process, the result is something with a weathered finish that I know I'd be struggling to come close to by painting a more typical plastic kit assembly. As a download, once purchased they can be printed multiple times so experimenting with them is cheap and easy.

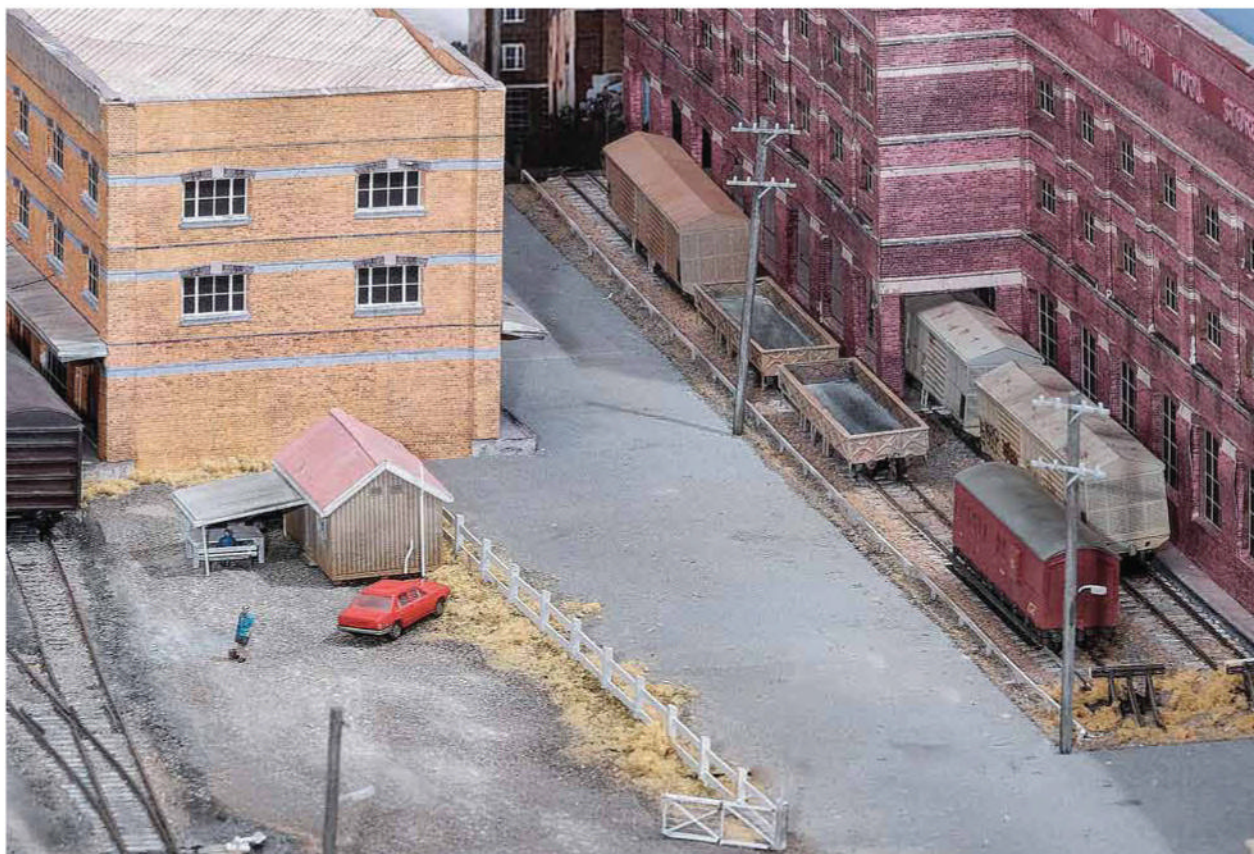
With a couple of ScaleScenes kits assembled, I then adapted the same process to design and build my own representations of a couple of Brisbane woolstores. Neither are models of specific buildings found in the area, but are intended to represent the look and feel of these imposing buildings.

I drew these up on the computer in PowerPoint and printed the various sides

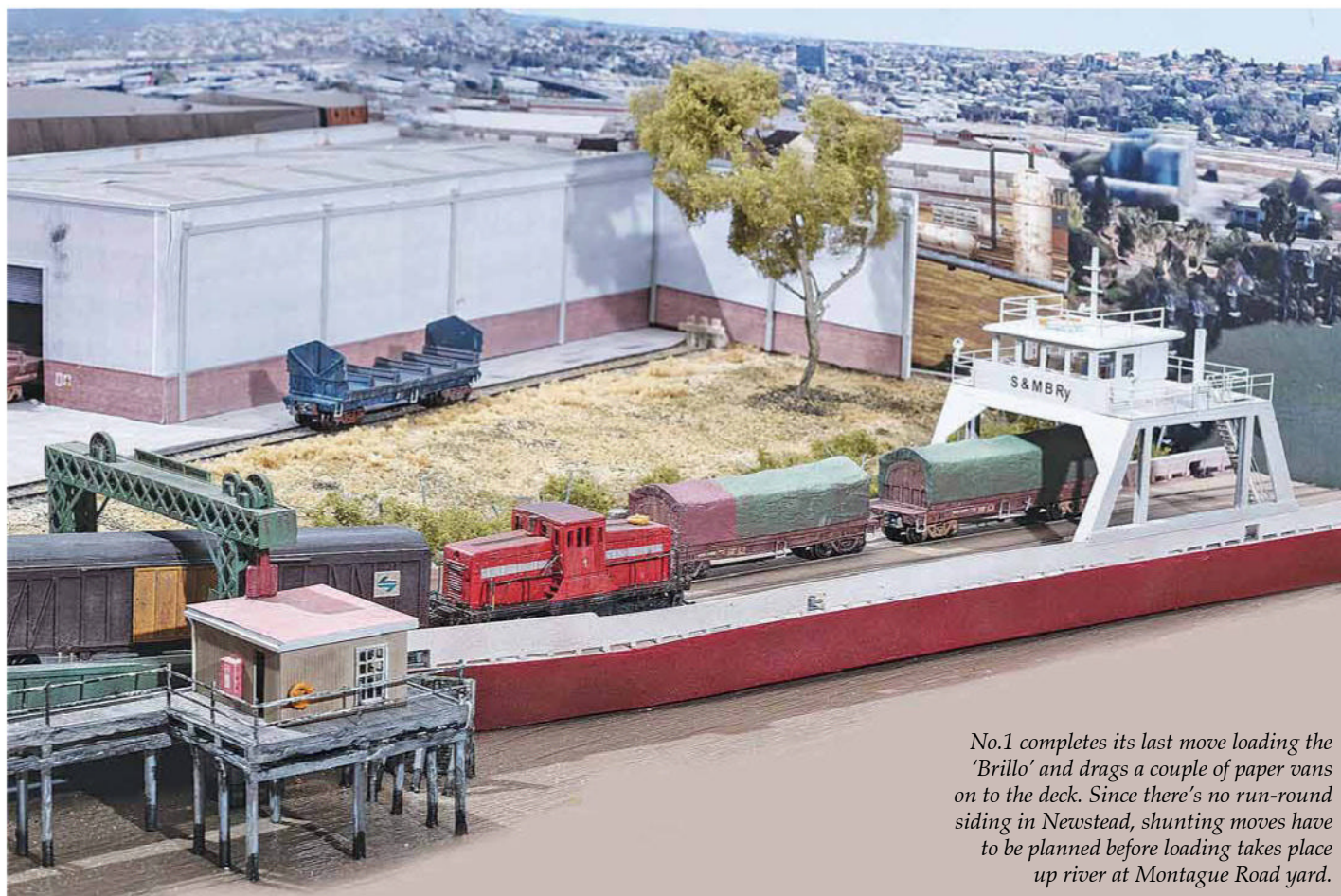


◀ A quiet afternoon between trips by the 'Brillo'. The yard is empty, while in the background the old woolstore plays host to some Queensland Railways wagons. Both wool stores were designed in Power-Point, based on wool stores typical of the area. Construction used the Scalescene approach of multiple layers of printed paper laminated to various thicknesses of card (and lots and lots of windows!).

▶ There's not much road traffic at the moment, if anyone was to walk around here today, they'd be on Newstead Terrace Park, and the view here would be dominated by all the hallmarks of high density inner-city life.



Locomotive No. 1, in a faded and simplified version of the S&MBry's original livery, has already placed loaded paper vans at the warehouse on the left, and is about to load a short rake of empty steel wagons on to the Brillo.



No.1 completes its last move loading the 'Brillo' and drags a couple of paper vans on to the deck. Since there's no run-round siding in Newstead, shunting moves have to be planned before loading takes place up river at Montague Road yard.

on my home printer. I used the Scale-Scenes approach of multiple layers of backing sheets or the final sheet with the detail.

That left me with the prospect of an awful lot of cutting: both buildings have at least 48 windows and doors that had to be cut out. The rear building also has two levels of wall, duplicating the effort. I thought about buying a cutting machine but, as it happened, cutting all those windows out with a knife and straight edge was one of those jobs ideally suited to a Covid-19 lockdown.

A couple of the smaller buildings are Spirit Design Victorian portable station buildings that looked the part, and I've re-used a scratchbuilt shop which now appears on its third layout. I hope this will be its final resting place!

Apart from some Atlas bridge girders, the slip and all the other structures associated with the ferry are scratchbuilt in styrene, and suitably weathered. I doubt Newstead Yard would really have needed the bridge lift the way I've modelled it here and would have just used a pontoon, but it's part of the look I was after and I considered it a must-have. Whether the whole arrangement is particularly prototypical is doubtful, apart from anything else it is way too short, but it conveys the look that I was after and that's good enough for me.

Scenery

Being based on an inner-city location, there's not much in the way of what

could be described as scenery, at least not of the natural kind. I've used a couple of trees based on twisted wire covered in No More Gaps, while the mangroves are just pieces of appropriately sized and painted wire buried in the dark riverbank, covered with Woodland Scenics light green foliage. I also used Woodland Scenics fine and medium-sized scatter to represent the small amount of ground cover I need.

The track's been painted suitable dusty colours, and randomly selected sleepers have been dry-brushed either a light or dark grey to give variation to the whole scene.

The river is artist's paint of a suitable colour topped with many coats of gloss Mod-Podge to represent the muddy water of the Brisbane River.

I had plans of merging the buildings into the backdrop but, as they are mostly at odd angles that got a bit too complicat-

ed, I've just gone for a simple background with a couple of suitable scenes I found from the internet where the roads end, and Google Earth views of the actual neighbourhood. I'm not entirely happy with it, and I may come back to the backdrop in the future, but for now it does the job.

QR Corner

As the track plan developed, I ended up with a corner that was going to have a bit of unused space between the two woolstores. To make use of it, I added a couple of Queensland Rail sidings modelled in what I guess could be called Nn3½, so the larger rear woolstore is served by QR, and the other served by the S&MBR. There is no connection between the two systems and there was never any traffic exchanged in Newstead Yard.

Newstead the Back Story continued

It was interesting to note how many of Candice's predictions from the early '80s had been spot-on.

The steel tube company closed in late 1991, the paper warehouse closed soon after and with that there was virtually no need for the yard.

By 1992, the yard was closed and with demand for inner city land for urban regeneration on the rise, the land was sold for a tidy sum. The S&MBR has had good fortune selling surplus land, most notably the site of its South Brisbane yards in the lead-up to Brisbane's Expo '88, or as Candice once commented "we made an absolute motza on that deal!" The *Brillo* was sold reverted to being a vehicular ferry working on Moreton Bay. But through all that, the Stanthorpe and Moreton Bay Railway continues to serve its customers and the locations it runs through.

The QR sidings are entirely cosmetic, made up of Code 40 rail and styrene strip to represent the sleepers. I added a few Peter Boorman's Workshop kits with added details for the rolling stock to populate the yard. These too are cosmetic, apart from not having anywhere to run, they don't have operating bogies either!

Conclusion

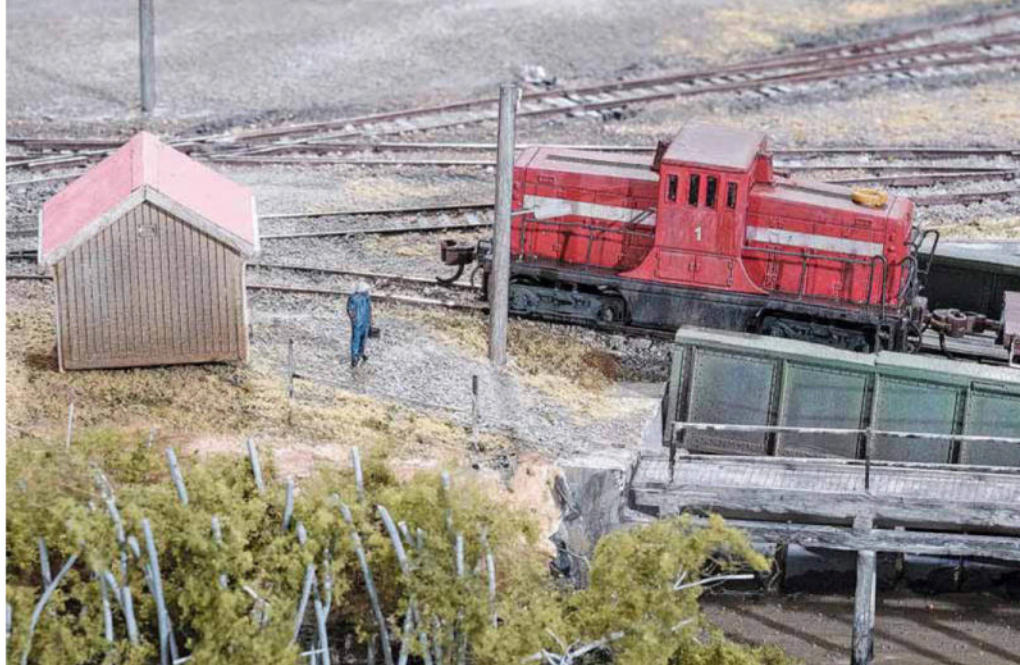
I've enjoyed this chapter in speculative modelling. There were times when I was thinking it had got away from me but I'm pleased now to have stuck with it, and it has certainly got the look I hoped it would. There is still some more detailing to add here and there – it really needs some suitable cars - but I consider this layout as mostly done.

I'm now considering my next layout. While I'm not too certain how that will develop, one thing is for certain: it will involve a continuous circuit so my rolling stock can get a decent run, and certainly more than about one metre! The future layout might incorporate Montague Road too, so I can use the ferry to exchange wagons with Newstead.

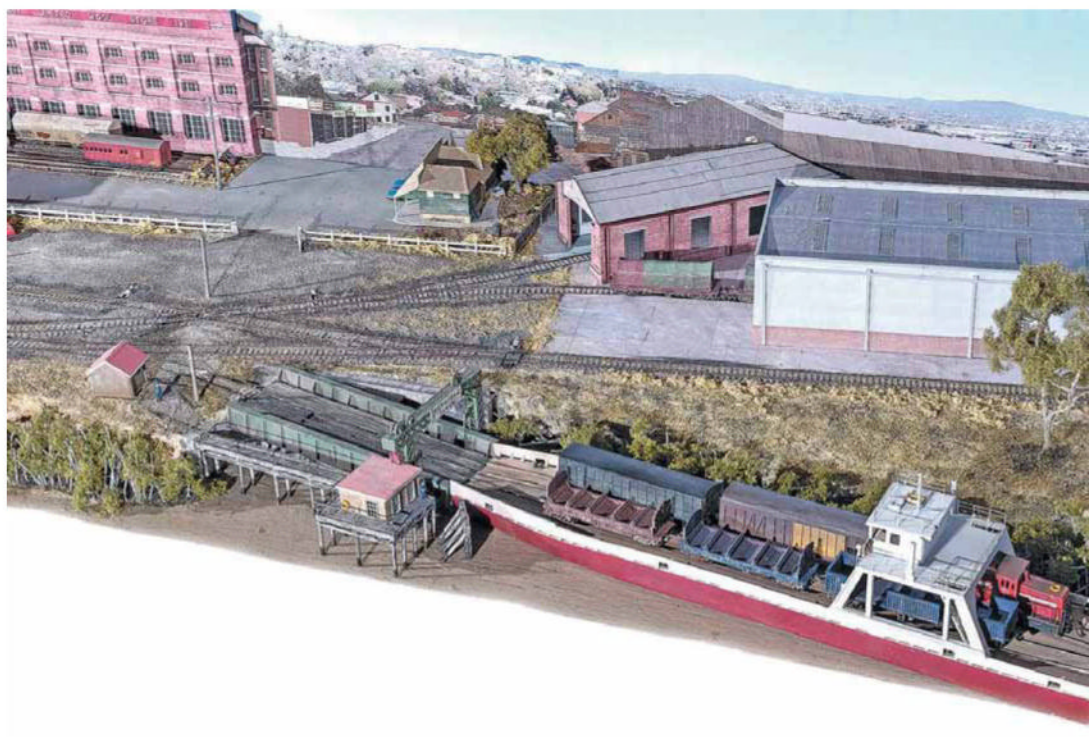
However it develops, I'll be sticking with the Stanthorpe and Moreton Bay Railway, as that's an idea that deserves a few more chapters. 

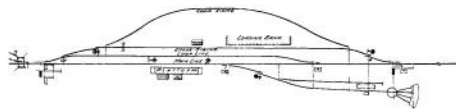
► Locomotive F2 waits for the paper vans to be unloaded. The light coloured woolstore was the only one served by the S&MBRy and it's now used for paper storage. The larger darker woolstore in the background was served only by Queensland Railways. It hasn't seen any use for years.

► With the day's work all done, locomotive No.1 and empty steel and paper wagons are neatly placed on the 'Brillo'. Soon it will reverse away from the slip, for the short journey up the Brisbane River to the S&MBRy's Montague Road yard. Here the wagons will be offloaded for eventual return to destinations in New South Wales.



No.1 pulling a wagon off the 'Brillo', watched by a worker about to head down to the slip control cabin. No.1 is showing all the signs of spending most of its time in a maritime environment. The life preserver on the hood is another example of the slightly quirky corporate attitude taken by the Stanthorpe and Moreton Bay Railway!





IN THE LOOP

Walloon

Trevor Hodges

I imagine most of us could nominate a few favourite layouts we've seen at exhibitions. I've probably seen as many layouts at exhibitions as the next railway modeller. However, until recently I've lived my whole life in New South Wales (NSW) so, if the available contenders are layouts seen in person is going to be dominated by those from NSW and South East Queensland, the *Red Stag Lumber Company* and *Beyond Bulliac* are two layouts that immediately come to mind as standouts. However, there are a couple which I'd include on the list if only I could recall their names. A Queensland Railways (QR) outline layout I saw at the Toowoomba exhibition in about 2003 is one of these. This was a small jewel of a layout in HO scale which included a model of a Queenslander house that was simply stunning; one of the best examples of modelling the 'everyday' I've ever seen. It was one of those layouts where you feel like you want to meet the builder and shake his or her hand, which is exactly what I did that day in Toowoomba.

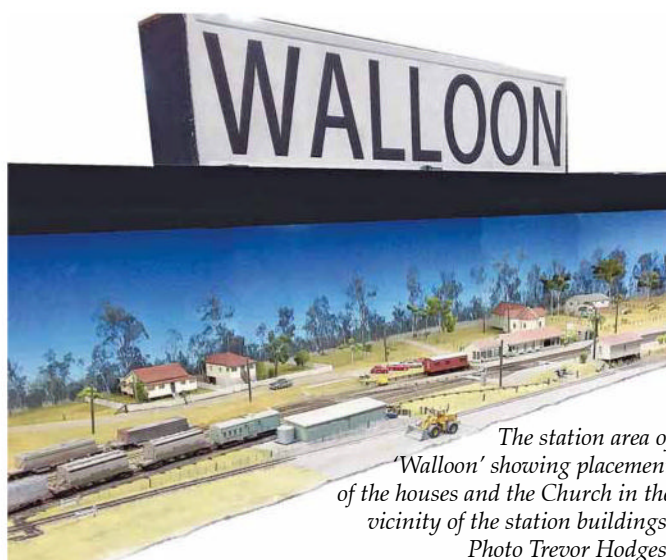
That same model of the Queenslander came to mind as I stood leaning on a railing recently at the Wide Bay District Model Railway Club's Bundaberg model railway exhibition, looking at the QR outline HOn3½ layout *Walloon*. [Editor note: refer AMRM issue No. 351 December 2021 for the feature article on *Walloon*]. It was the structure modelling on *Walloon* and the placement of these models in the scene that really caught my attention. *Walloon*, which is set 'before the wires went up' in the 1980s, has four or five houses and a church dotted along the layout and I stood captivated for a good long while as the trains rolled past, my attention drawn into the scene and my eye held by the exquisite modelling and the realism of the overall effect. *Walloon* is a beautifully modelled layout and the clever positioning of the structures and the way the track gently weaves between these gives it rhythm and draws the viewer into the scene in a way few layouts manage to achieve.

If you spend any length of time in this hobby you'll probably hear or read the opinion that placing your track and structures so they aren't parallel to the front edge of the layout will provide it with visual interest. I understand this advice intellectually and agree there's some truth in it. However, for those of us who aren't particularly artistic, or lack experience making scenery, this advice doesn't provide a great deal of guidance about the practical steps one needs to take to achieve such visual interest. Is it suggesting that all you need to do is ensure your structures aren't parallel with the edge of the layout and you're guaranteed to add visual interest? As is, I doubt this is a recipe for successful scenery. A second difficulty is that scenery and structure placement is a challenge in three dimensions: you can position your struc-

tures so that none of them sit parallel to the edge of the layout but, if they all sit on a flat plane provided by a sheet of plywood, a lot of potential impact will be lost. For me, the real lesson in considering this sort of advice is that a plan for a layout needs to go well beyond track placement: any potential layout builder is encouraged to seek advice, view some good layouts, do some reading and carry out a little onsite research. We mostly model what's out in the real world: going out and looking at the scenery around our chosen prototype location will be a big help as you develop your plans.

As I looked at Walloon I spoke to one of the crew responsible for its construction from the Logan District Model Railway Club. Pretty soon I was introduced to John Love, who seems to have played a significant part in the construction of *Walloon* and was also responsible for the layout Esk which he built with his son. John and I talked about Walloon and I mentioned the layout I'd seen in Toowoomba in the early 2000s and the Queenslander on this layout. He suggested it could have been Esk, which he had displayed at the Toowoomba show around that time, and it has a lovely Queenslander on it. When I asked John Love about the placement of the structures on *Walloon*, and told him how impressed I was with the effect of their 'rhythm,' he replied there was no real secret to their placement. The group responsible for building the layout had studied maps and made site visits and, aside from some necessary compression, the structures had been placed and angled to match the prototype. Pretty simple really, but following such simple advice can sometimes be overlooked because we fail to plan and, too often, our attention is focused exclusively on the trains with the scenery consigned to being a filler to cover the plywood. If scenery is going to be successful in drawing a viewer's attention in its own right, it needs to be considered as more than gap filling. Great scenery is planned in three dimensions. Within this mix it would probably be worth ensuring that the structures aren't parallel to the edge of the layout.

The lesson I take from layouts like *Beyond Bulliac*, the *Red Stag Lumber Company* and *Walloon* is that while successful exhibition layouts are most often produced by those with great modelling skills, there's more to great layouts than just the models. Planning and an eye for presentation can to some degree make up for a lack of modelling experience. One way to gain experience is by building layouts and sharing the results with other modellers and the general public. We can't all be Geoff Nott, John Smith and John Love, but we can push to improve our skills. One way to do this is to ask questions and talk to the builders of layouts you like. In my experience most of them are happy to answer your questions.





NQFF with DMJU 000413-7 jumbo coil container.

Jumbo coil containers

Chris Jones provides background on modern jumbo steel coil containers. Photos by the author.

For more than 50 years, hot rolled coil (HRC) has been transported by rail, primarily from the steelworks at Port Kembla in New South Wales (NSW). While seasoned railfans and modelers alike may recall the bright blue with white-cradled Tubemakers NCTY open wagons (doorless NODY type) from the 1980s, modern operations are more focussed on containerised or intermodal cradle designs for carrying coil to interstate destinations, rather than fixed and permanent cradles on freight wagons.

HRC, which is often referred to as 'jumbo' coil (due to its large size in comparison to the smaller coils after further processing). A jumbo coil starts as slab steel (also made on site at Port Kembla) and is heated to around 1250 degrees Celsius and descaled. The long strip steel is then rolled to a 25mm thickness and coiled while it is still glowing orange due to its heat. It is finish-rolled to the customer's thickness requirement, cooled and coiled again for transport.

One large coil closely inspected weighed more than 27t and consisted of 50 'rings' forming the coil. Depending on how long they have been stored in the weather, coils can be a dark grey colour or a bright orange fresh rusty colour when being transported on rail.

Finished HRC specs:	Minimum	Maximum
Sheet thickness	1.5mm	16mm
Width	710mm	1550mm
Weight	10t	29t

A small quantity of HRC is sold direct for export, and some is distributed by rail from Port Kembla to capital cities for use in manufacturing, especially in tube and pipe factories, but HRC is also used in other industries such as automotive and truck body fabrication, farming and mining components, racking and shelving, tanks, and forming structural shapes.

HRC distribution by rail to locations such as Brisbane, Melbourne, and historically Perth are notable. However, the largest volumes of HRC is transported by rail to Bluescope at Western Port bay, near Hastings on the Mornington Peninsula

for further processing (see sidebar). The jumbo coils are transloaded between the standard gauge and broad gauge at North Dynon to complete their journey. The coil containers stay on their respective wagons.

The primary rail service from Port Kembla to North Dynon is QUBEs WM7 service which often runs with more than 100 jumbo coils trailing behind modern AC traction locomotives like the QL and CF class.

There are five distinct batches of jumbo coil containers with three clear generational changes. (See table below.)

The first jumbo coil containers were formed from former NOH half-height Trackfast containers. It appears that the ends and sides were removed and a cradle was fixed in an offset position onto the container base. This modification likely occurred during the 1990s. When

Coil container code	Year Introduced	Quantity	Notes
No Code (ex-NOH)	1990s	~20	Refurbished in 2005
DMC	2003	~32 (001-032)	
DMJU	2012	400 (001-400)	Second Generation DMC
DMJU	2017	50 (401-450)	Second Generation DMC
QJAU	2022	100 (001-100)	Paired into 40ft frames



Coil containers on a RQKY at Junee NSW.



Jumbo coil cradle.



Loaded DMJU 000412-1 jumbo coil container on an NQJF.



Pacific National formed, these containers were refurbished and painted bright yellow by Align Engineering. While the exact quantity is unknown, it appears that there are potentially 20 in service.

The following three builds were all very similar in design, being built by Doric Engineering in Tasmania, having the distinct 'fat' yellow side sill and centered cradle design. In 2003 more than 30 'DMC' containers were supplied. It wasn't until 2012 that coil containers became commonplace on steel trains, when a massive order of 400 'DMJU' containers (001-400) were ordered, signifying a change in steel production, with HRC being railed to Western Port rather than steel slab. Another order of 50 (401-450) 'DMJU' was delivered in 2017, bringing the total to around 500 jumbo coil containers in operation. All these containers are owned by Bluescope. The container end posts are exactly one metre high.

By this point in time, Pacific National had been railing jumbo coil for BHP/Bluescope steel for more than a decade. Jumbo coil containers had been placed on quite a few different types of wagons, but were commonly on the shorter 40ft container flats, and some 60ft container flats. Notable wagon types that have carried these containers include PQGY, RQIW, NQJF, NQFF, VQOF, NQTY/NQYY, CQKY and RQMF.

Qube was successful in winning the Bluescope contract and commenced railing jumbo coil in 2022. Soon after commencing services, a new coil cradle appeared, designed by Innovact Consulting. These 100 grey 'QJAU' 20ft cradles are locked together as a pair to form a 40ft unit which can accommodate a third coil where the two containers meet in the middle. The cradle can accommodate a coil with a diameter of 1410-2200mm, a maximum width of 1950mm, and a maximum weight of 30.4 tonnes.

With Qube now handling all jumbo coil traffic from Port Kembla, all the coil containers were transferred from Pacific National wagons onto 40ft Qube SQSY and Rail First CQPY skeletal wagons.

Steel products make for interesting loads both prototypically and modelled and thankfully there are some modelling options for jumbo coil for HO scale modelers.

Models

Auscision Models have produced jumbo coils in various sizes and they sell in packs of five. Some US manufacturers such as Walthers and Athearn have also produced large coils,

Editor note: Acurascale a manufacture in the UK also produces jumbo coil and these scale out nicely for larger size HO scale coils.

DMJU Jumbo coil container cradle interior.

Infront Models have produced a casting/printing of the original coil containers with the offset cradle. These are nice castings with good crisp detail.

There are Ebay options for the DMC/DMJU variant of coil containers, and also an option via Shapeways (supplier Modtek). Auscision Models have this coil container planned as a future model. 🚂



NQFF with two DMJU jumbo coil containers.

RQIW with two DMJU jumbo coil container.



NQJF with a DMJU jumbo coil container in the centre 20ft slot.



Illustrating the use of fixed and container cradles is RCBF 20426 with a DMJU jumbo coil container.



NCFF with a DMJU jumbo coil container.





SQSY with two QIAU jumbo coil containers, note the cradle padding.



CQPY with two loaded QIAU jumbo coil containers.



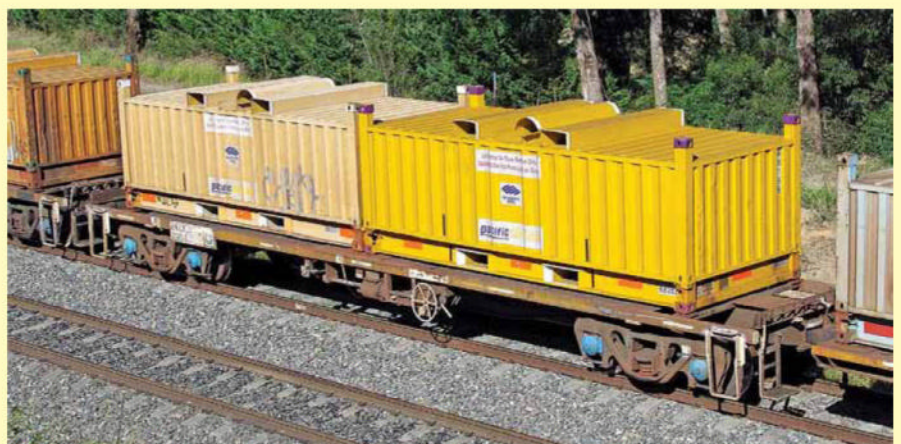
Prototype cradle, believed to be used by Toll on trucks.

Processing HRC at Western Port

At Western Port Victoria, HRC is processed into recognisable products such as Colorbond and Zincalume before being transported off site in the ubiquitous yellow rail horizontal (RH) coil containers which are commonly referred to as 'butterboxes'. These containers are well travelled across the standard gauge rail network in Australia.

To produce these finished products, the HRC is cleaned with hydrochloric acid and then side trimmed to the required width. The strip is then cold-rolled with a force of 2500 tonnes and tensioned to reduce the thickness by up to 80%. These cold-rolled coils can be sold as is to various industries (especially automotive and manufacturing), or further processed.

Zincalume coils are produced by hot-dipping the cold-



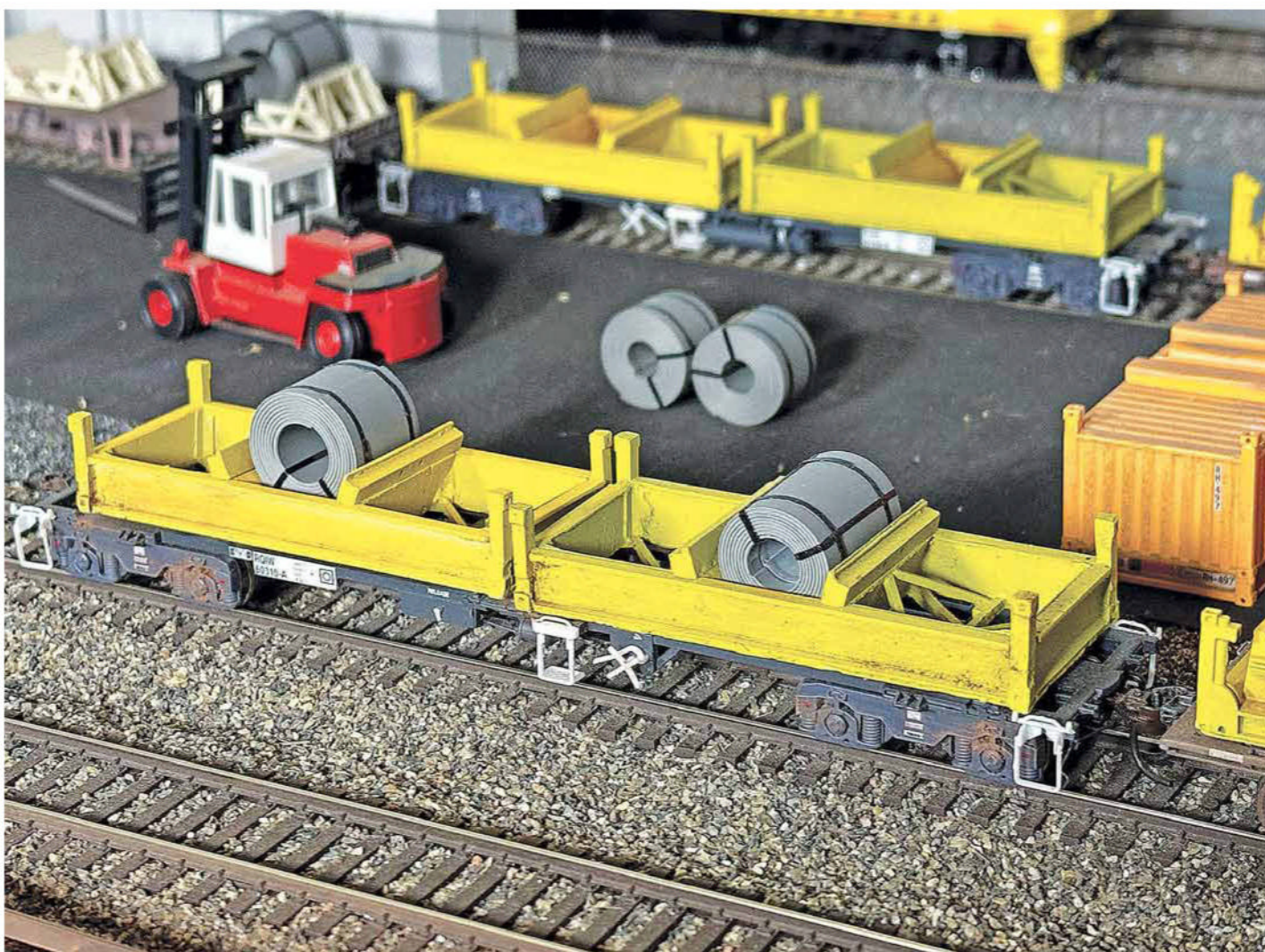
16.RKLY with two 'butter boxes'.

rolled strip through a zinc aluminium alloy and Colorbond is produced by applying a primer and a coat of paint via a series of rollers before being oven-cured at around 200 degrees celsius. These finished coils are usually around 2-5 tonnes.



Model RQKY with two jumbo coil containers on the author's layout.

Model RQIW with jumbo coil containers on the author's layout.



Timetable operations on the Cassino layout

By Craig Mackie

I find model railway operations on a layout is something that can really get my juices flowing. Model railway operations gives a reason for a train to go from location A to location B and then onto location C. That train can also do a range of tasks like shunting at various locations along the way. It can drop off or pick up wagons or locomotives at different locations. Some layouts accomplish these tasks in varying ways.

My home layout was designed for operations when it was a mere idea in my mind. The aim was to model several locations on the New South Wales (NSW) North Coast and have trains run on a single track mainline being driven by operators with trains passing each other in crossing loops.

Just to give out some facts, the layout is in a 12m x 6m Titan shed. It has around 135m of mainline track between Grafton yard and South Brisbane Interstate Station besides also having two branch lines – Cassino to Murwillumbah and Dutton Park to Fisherman Islands yard. These branch lines provide additional trackage and more operational tasks to perform.

Basically, the layout is a single track mainline, with around 15 crossing loops, six marshalling yards and several other mainline sidings where railway activity occurs. The layout has HO standard gauge, HOn3½ Queensland Railways (QR) narrow gauge as well as some sections of dual gauge track. The layout is set in the 1985-1991 time period. I try to be as accurate as possible replicating train consists, locomotives and rolling stock that reflect this era. The QR narrow gauge trackage runs from Acacia Ridge yard to Fisherman Islands yard.

North of Acacia Ridge yard, the standard gauge trackage on the layout runs from Acacia Ridge to Dutton Park, before splitting with one line going to Fisherman Islands yard and the other going to South Brisbane Interstate (see Photo 1 for a track schematic of the layout). Neither of these two terminal locations had standard gauge trackage in 1991. South Brisbane Interstate Station's facilities were relocated to Roma Street Station before 1988 and standard gauge rails did not reach the Port of Brisbane until around 1995. But don't let the facts get into the way of a good story. I'm not sure any of my crew

of layout operators have worked out any of these timeline inconsistencies yet, so please don't tell them.

The layout can cater for up to 13 people operating trains with someone in control of it – the North Coast Control (NCC) position. It is quite comfortable in the shed with that many people. NCC also controls the Queensland Rail trains. The allocated NCC person (controller) sits at a desk and follows all train movements against the scheduled movement times and dictates who has priority in each of the single-track sections by using either the provided train graphs or the large magnetic track panel or a combination of both to help prioritise and track movements (see Photo 1).

Operators communicate with NCC via cheap skype headsets with a push to talk button located on plug-in panel located at each crossing loop – more on that later. I run operating sessions a few times each year, but not nearly as often as I would like. There are some regular operating sessions basically on the same weekends at certain times of the year, year after year. I also schedule these operations sessions around my mates holding their own

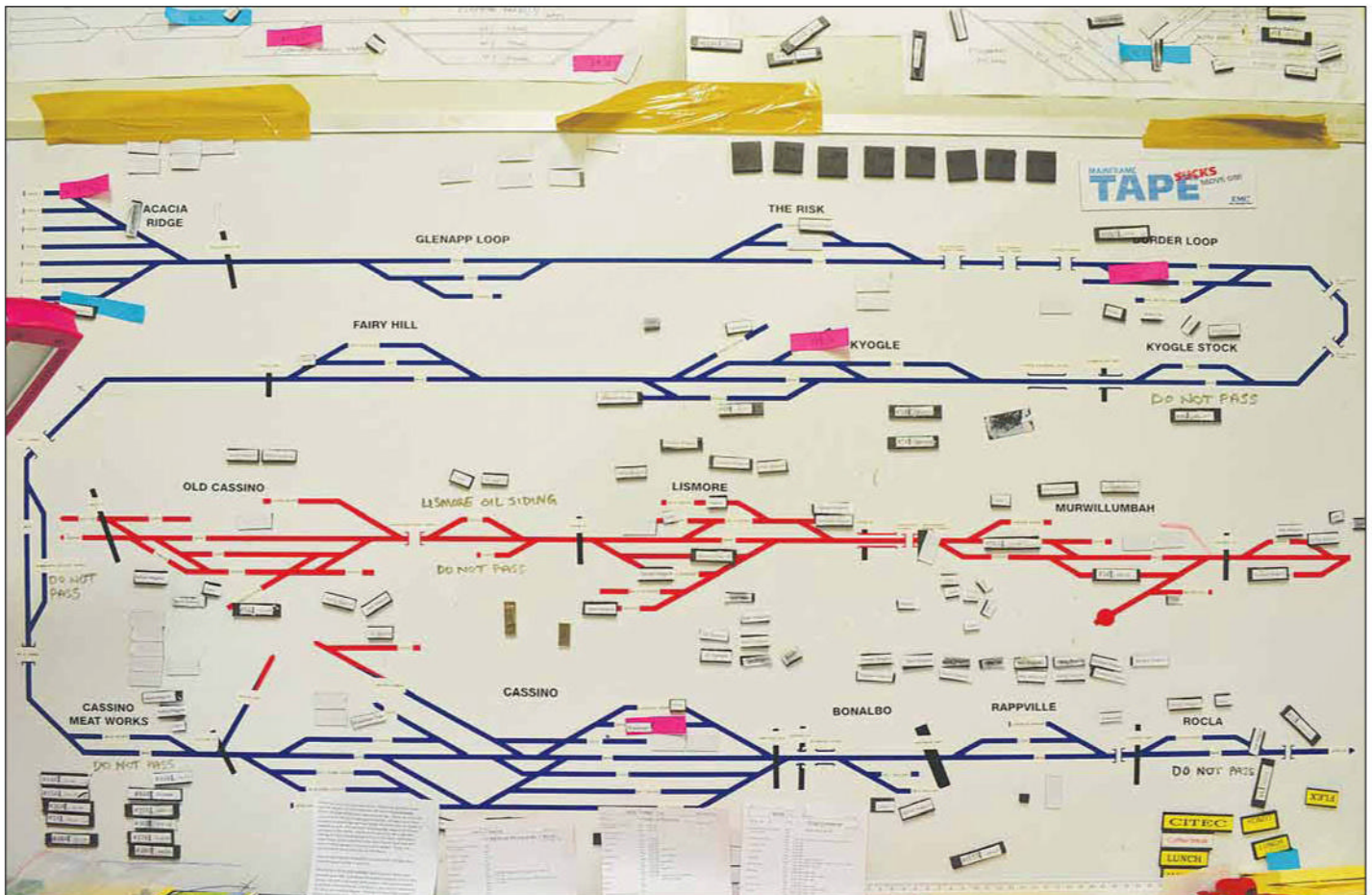


Photo 1: This is a magnetic train tracking board used on the layout. Grafton Yard is located bottom right and Acacia Ridge yard at top left. Magnets for each train can be moved manually by North Coast Control (NCC). The Murwillumbah branch is in red. As wagons are shunted off a train, a magnet with the wagon types can be left in the track that the wagons are located.

operations sessions on their own layouts as some of these events are much more regular than mine.

The timetable

My operating sessions run using train sequence cards against a timetable. There are currently over 100 trains scheduled in the 24 hour timetable sequence. I have a 24 hour timetable graph printed out on A3 paper, as well as three larger more focused versions of the timetable graph only showing an eight hour crew shift view of the trains on A3 paper so it is displayed larger (see Photo 2), and is much easier to see and track for the NCC.

Layout train numbering is as follows:

- **Freight trains**
 - 1-20 Mainline or branch line freights
 - 31-52 Conditional trains – these ones don't have to run in the session
 - 53-70 Shunt trains
- **Passenger trains**
 - NLn Northern NSW region locomotive hauled
 - NRn Northern NSW region railmotor
 - RBn Railbus
- **Other**
 - LEn Light Engine (positioning move) for locomotive
 - LRn Empty Cars (positioning move) railmotor
 - NGnn Narrow Gauge train (i.e. Queensland Railways) on 12mm trackage
 - NGLE Narrow Gauge light engine

Each timetabled movement is directed by a timetable card. Operators just select the next card in the box and when their train has reached its destination, the completed cards are replaced in the rear of the box.

The last run of the timetable occurred in late December 2022, but that was only for the second half of the session. After each iteration of the timetable, comments are collected from the timetable sequence card (Operators make comments on the cards about a locomotive, a wagon, a location, etc. for subsequent investigation and possible remediation) and various emails from operators following the session. This feedback causes slight tweaks to be performed to the timetable, the layout or to a wagon or train.

Staff machines

One other item of control that I use on the layout are my staff machines. Just like real life on the NSW North Coast back in 1980s, staff machines were in operations between adjacent signal cabins. Between each pair of crossing loops on the layout, controlling access to the single track section is a staff section. This section is controlled by a staff machine at each crossing loop.

On the layout, a bicolour red/green light emitting diode (LED) located at each crossing loop (signal box or staff hut) indicates the track occupancy for each staff section. A green LED means there are no trains in the section, or no staffs out. Whereas a red LED indicates that there is

a train operating between the two safe working locations, or at least a staff has been taken by an operator.

When advised by NCC, an operator, will 'take a staff' from the crossing loop's staff machine, setting the LEDs at each end of the staff section to red. This activity is achieved by flicking a double pole double throw switch to the opposite direction at that crossing loop staff machine.

When the train reaches the end of that staff section, the operator 'sinks the staff' by throwing the double pole double throw switch to the opposite position at the arriving staff location. This sets both LEDs on the staff section back to green (see Photo 3). This system does not interlock with the track but prevents conflicting train movement just like the real thing.

A green staff instrument enables an operator of a train to 'take a staff' (setting it to the red colour) to allow access to the section of track between two crossing loops. Additionally, there can be a number of smaller intermediate locations between the two staff locations, and these locations can house an intermediate staff instrument.

These instruments allow a train to be 'put away' in a siding and thus freeing up the staff section for another train. It is also possible for a train to start from an intermediate staff location and travel to one of the crossing loops for that section just like the real thing we are trying to emulate. Isn't that what we want to achieve in an



Photo 2: This train graph diagram represents the second eight hour shift from just before 08:00 until just after 16:00. The locations where trains cross or passing movements occur can be identified from the graph.

operations session – mimicking the real trains from the period 1985 to 1991 on the NSW North Coast?

DCC control

My layout is controlled by an NCE DCC Power-Pro five-amp command station. This control system has been configured to run its built in fast clock at four times normal speed, so a 24 hour timetable should take six hours to complete, that's a big stressful day. Thus my 24 hour timetable actually takes about two or three operating sessions to complete.

Each train in the timetable has a timetable card which is collected in sequence and advises the operator what to do for each train and when to do it. However, we all know, not all trains run on time, especially those in my operating session timetable – just like the real ones. If it can go wrong, it will.

Headsets

Each operator carries a skype headset with them around the layout and plugs it in to connection points at each crossing loop. Once plugged in, they can hear any conversation on the party line with NCC. To talk, they operate the push to talk button and then access the party line to request permission to 'take a staff', report position, or query the NCC.

However, they must remember to unplug their headsets before they walk off to follow their train or they are in for a rather large jolt when the cord reaches maximum extension. This cord also causes some complexities during operations, as other operators try to move past in the aisles to follow their trains.

Layout topography

Grafton yard is the southernmost location represented on the layout. It is made up of eight concentric return loops. There are about six other dead-end sidings that hold various shorter trains. Almost all trains travel to this location. Trains entering this location travel around the return loops in a clockwise direction and terminate on one of the return loops, which can handle at least two trains each – one behind the other.

For some trains that start their journey from one of the dead-end tracks, when they arrive back at Grafton Yard, their train must run around one of the free return loop tracks and then the train must reverse back into their allocated dead-end track.

When it comes to passenger trains, they always had their sleeper coaches at the non-Sydney end of the train. When passenger trains return back to Grafton yard, they enter a return loop in the wrong direction and when in clear, the front portion of the train (i.e. the locomotives, the motorail wagons, and any express fruit wagons) uncouple and continue around the return loop. They then push back onto what was the rear of the passenger train in the reversing loop which will now be the front of the train for its next trip north.

All these processes are explained in the timetable cards and help with re-staging the layout for the next operating session.

Acacia Ridge yard was initially the most northerly modelled location on the layout and was made up of four concentric return loops, and also had access to a number of dead end storage sidings –

about 13. There is a number of cross overs in the location, so trains can pass other trains and work around others in these reversing loops.

Layout extension

By installing a set of points off track number one in Acacia Ridge yard the layout expanded including the following locations: Rocklea sidings, Clapham yard, Loco Pilly, Park Road sidings, South Brisbane interstate yard, Fisherman Islands yard and other well known locations around Brisbane. The layout also incorporated narrow gauge track and it too started from Acacia Ridge yard to Clapham yard and then through to Fisherman Islands yard, via sections of dual gauge track and some medium sized narrow gauge yard sections. The only train that still uses the Acacia Ridge return loops is the steel train that terminates at Acacia Ridge. All other trains travel further north to other locations.

Editor note: In the next instalment of timetable operations on the Cassino layout, Craig will outline some detailed train operations.

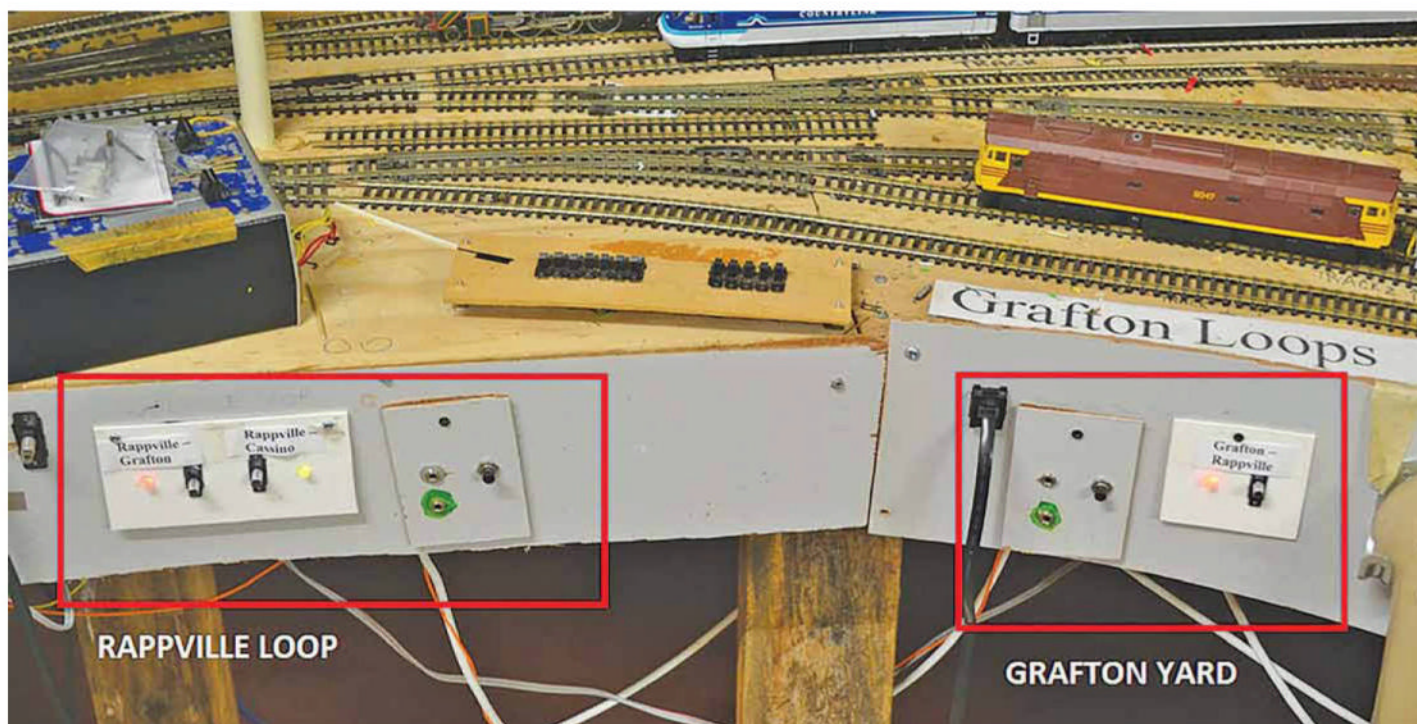


Photo 3: The red LEDs lit at Grafton yard and Rappville loop indicate that a train is in that section. Next to the staff machine at these locations is the headset skype plug in point. One is green, thus the green plug is connected to the bottom socket. When the operator wants to talk, they push the black push to talk button.



Photo 1. *Friedmont double deck set in dummy siding behind the electric depot.*

3D Backscenes – a new use for decommissioned rolling stock

Jonathan Majer uses decommissioned rolling stock as a 3D backdrop.

When I started modelling New South Wales (NSW) Railways in the early 1980s, the availability of prototypical rolling stock was somewhat limited – that is unless your finances stretched to the excellent brass models that were available at the time. Sadly, I did not fall into this category, so this was not an option.

The alternative was kits from one of the local ‘cottage industry’ producers. Since I had a special interest in urban and suburban electrics, I purchased and built several Friedmont kits. These kits are single piece body castings made from a translucent resin, much like the material that is sold in car fibreglass repair kits. These castings often had various imperfections, while fine details such as hand-rails tended to be cast-on in low relief. The transparent appearance of the windows was achieved by painting the surrounding body and leaving the window resin unpainted.

One of my first efforts was a four-car Tulloch suburban double decker, which I powered with a Tenshodo ‘Spud’. At the time, the model was reasonably satisfactory, but close viewing revealed how primitive it was.

Happily, we are now graced with excellent ready-to-run models of almost any prototype that one desires, including the Berg’s double deck Tulloch sets. My Friedmont models were dispatched to the redundant rolling stock shelf as my fleet

of ready-to-run electrics slowly built up. Nevertheless, I could not bring myself to dispose of the Friedmont models as they held a special place in my modelling past. I must confess to having a sentimental attachment to them.

I have found a new use for some of these models – as a three-dimensional backdrop to the layout (See photo 1). After salvaging the ‘Spud’ for use elsewhere, the four-car set was placed on a track that seemingly runs from behind, or to the rear, of the electrics’ depot (*Refer photo in AMRM issue 354, June 2022*). This track is a static feature, mounted on a raised plinth, adding to the perspective of the display. It is not powered, nor connected to the main layout. I am pleased with the overall effect of a multiple unit being stored behind the depot. Any imperfections in the model are not readily apparent as the viewer is situated around two to three metres away.

The proximity of the raised track to the electric depot was a matter of luck rather than design. If this had not been the case, there might have been a problem of the track entering from and leaving to nowhere. I placed some

trees close to the end of the track to disguise its ending. This can be seen at the left-hand end of the track in Photo 1.

Another technique is to hide the end of the track behind a building or structure. Photo 2 shows another ‘dummy’ goods siding store some unused sidings and the entrance is disguised behind the low-relief office building. Doing this, I have been able to incorporate some unused (decommissioned) rolling stock, while at the same time adding some depth and interest to this part of the layout.

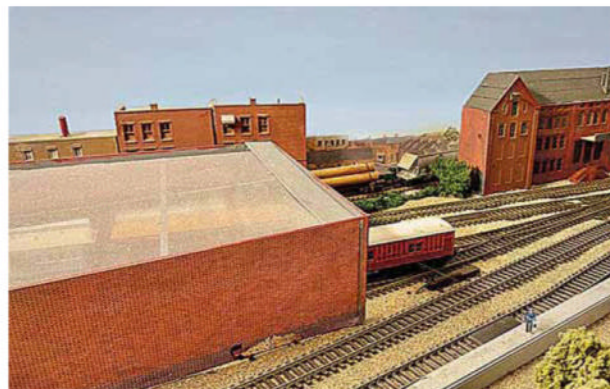


Photo 2: *Dummy goods siding (with decommissioned rolling stock) emerging from behind an office building.*

Latching relay frog picker

Power your Peco Electrofrog frog points with this inexpensive and reliable power switcher. By Erik Bennett, photos by author.

On my layout, I have 22 PECO Electrofrog points powered by PECO twin-coil point motors. I have several Capacitor Discharge Units (CDUs) that pulse the twin coil point motors.

I wanted to power the frogs of these points, so I tried PECO auxiliary switches, which piggy-back onto the point motor. But they load some motors too much, resulting in unreliable point switching.

So, I devised the following system: the latching relay frog picker. This frog picker works with either DC or DCC powered layouts.

The Relay

The heart of the system is a 12Vdc 2Amp Double Pole Double Throw (DPDT) latching relay, Jaycar part No. SY4060 \$12.95 ea.



Figure 1.

The latching relay works as shown in Figure 2. There are two primary circuits, using the four pins on the left and two secondary circuits, using the six pins on the right.

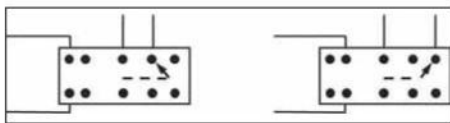


Figure 2.

When you pulse one primary circuit, the secondaries of the relay switch one way and stay switched that way.

When you pulse the other primary circuit, the secondaries switch the other way and stay switched that way.

The relay is a double pole double throw (DPDT) switch. There are two secondaries and they both switch together. Only one secondary set is needed for the frog picker. The other could be used for light emitting diode (LED) indicators, signals, etc.

The frog picker

The relay and its connections are soldered to a piece of Veroboard, that can be tucked away under the layout.

The system works by sampling the CDU pulses that switch the point motor. The two primary circuits of the relay are each wired in parallel [Editors note: The definition of a parallel circuit is a circuit where all components are connected across each other's leads] across the point motor coils.

The secondary common is connected to the frog. Each of the switched secondaries is connected to one or the other rail, or the DCC bus serving the rails.

Thus, as the CDU pulses the point motor, it also pulses the relay primaries, causing the secondaries to switch the frog to the correct rail polarity.

By 'CDU pulses' I mean any device that pulses the point motor coils to change the points; it need not be a CDU as such. It could also be any DCC stationary decoder, such as NCE Snap-it, Lenz LS150, DCC Concepts Master Switch, or others.

Figure 3 shows a CDU and point motor with switches for 'thru' and 'divert' [Editor note: for standard railway point position terms, thru = Normal 'divert' = Reverse]. On the left, pressing the thru switch changes the point to the position shown. The pulse through the left-hand motor coil also pulses the relay which switches the frog to the red rail polarity.

On the right, the divert switch causes the point to

change to divert position. It also causes the relay to switch the frog to the black rail polarity.

Construction

Use a piece of Veroboard as the base for soldering the frog picker. Also, it's best to use a 16-pin Integrated circuit (IC) socket (available from Jaycar: as 16 pin production (low cost) IC socket No. PI6502). Solder the socket rather than the relay to the Veroboard.

Plug the relay into the socket, this allows you to test the connections independently of the relay and makes it easier to replace the relay, if you ever need too.

Primary Voltage

The relay primaries are rated at 12Vdc (although the datasheet states it can handle up to 24Vdc).

The voltage of the pulse your CDU applies to the motor coils, and the relay primaries, is dependent on the voltage of the power pack output supplying the CDU. (It's independent of the size or number of capacitors in the CDU).

Anything up to 15Vdc or 12Vac is okay. If your power pack or transformer is above these values, you should insert a resistor in series [Editor: The definition of a series circuit is a circuit where the components are connected end-to-end in a line] with the circuit from the motor coils to the relay primaries, cutting down the voltage applied to the relay.

The best way to do this is to solder the resistor to the Veroboard in the motor

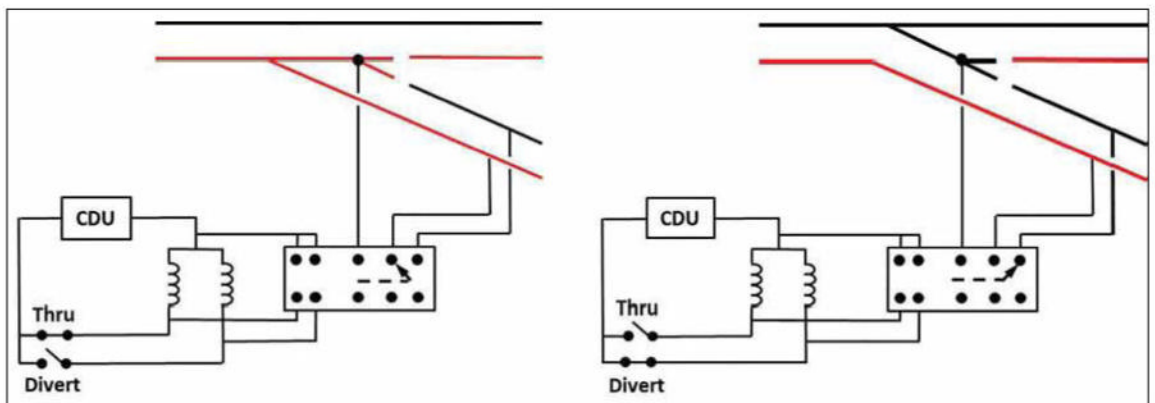


Figure 3.

coil/relay common circuit, as shown in figures four and five. For laptop power supplies up to 20 Vdc, use a ¼ W resistor of around 270 Ω.

Connections

An essential connection is a dropper from the frog. PECO Electrofrog points now have a dropper wire already attached under the frog. With older PECO points, choose a convenient position on a frog or closure rail, drill a hole in the baseboard and solder on the dropper.

The connections to the Veroboard depend on how you have organised your under-the-baseboard wiring.

In my case, I had already used three-position terminal strips for connections between the CDU and the motor coils. (Terminal connections make it easy to remove the CDU or points if necessary. 6 Amp 12-way screw terminal strip

Number HM3194 are available from Jaycar, you just cut off the number of positions you need.)

I decided to solder leads onto the primary tracks on the Veroboard, to connect to the existing point motor terminals.

The frog dropper and the two leads from the track bus for each point are attached to triple printed circuit board (PCB) screw connectors attached to the Veroboard. Suitable three-way 5.08mm Weidmuller PCB mount screw terminal No. HM3132 are available from Jaycar.

You should decide the best connections to the Veroboard for your own situation, bearing in mind that when you come to mount it under the layout, make it as accessible as possible!

Figure 4 is a composite of both sides of the Veroboard. It represents the relay's and resistor's position on the insulation side of the Veroboard; the horizontal lines representing the copper tracks on the underside, and the soldered connections.

Note the cut on the tracks between the two sets of primary input.

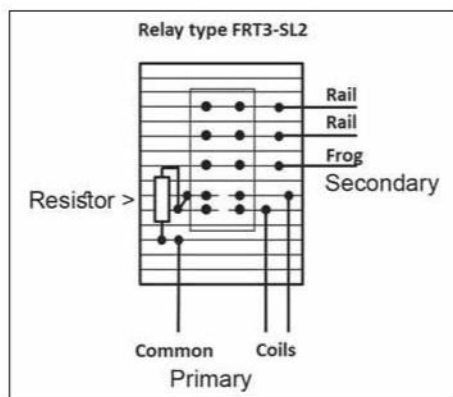


Figure 4.

If your CDU power supply is such that you do not need a resistor, connect the common directly to both relay primary inputs (lower left in figure four).

Also, in this example, I am not using the second set of secondaries for LED indicators. Therefore, there is no cut between the secondaries. Both secondaries are providing current to the frog. If

you wish to use the second secondary for an indicator, you need to cut the tracks between the secondary pins.

Figure 5 shows pictures of the actual frog picker. The PCB screw connector is right-most in the components photo. I blackened the terminal for the frog lead (to remind me when installing under the layout). As the CDU voltage is 18Vdc, I've used a 270 Ω resistor.

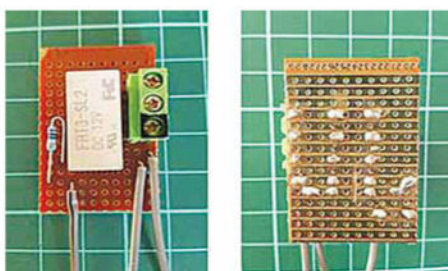


Figure 5.

Installation

Frog pickers are usually installed under the layout, so select a suitable location. Keep leads to the frog and DCC bus power as short as convenient.

Connect the relay common primary lead to the point motor common or the CDU output. And connect both primary active leads to the other point motor coil leads. It doesn't matter which ones.

Connect the frog lead to the relay frog secondary.

Sync the relay

This next step is very important when you connect the secondaries to the correct DCC polarities. Actuate your points a couple of times. This syncs the relay to the CDU output. If you don't sync the relay, its secondary may happen to be in the opposite orientation, so testing for the correct secondary polarity will produce the opposite result when operated.

Connect the secondaries

Having synced the relay, you need to connect DCC power from your power bus to the secondaries. As soon as you connect the secondaries, your frog will be energised with one or the other DCC polarity. It's essential to be the same polarity as the stock rail that the closure rail is resting against. The challenge is to connect the two track bus wires to the correct secondary connections on the Veroboard.

There are more elegant, complex ways to do this, but the trial-and-error method and a multimeter should suffice. Using the ohm meter function with DCC power off, you should have continuity between frog and the closure rails of the point in the direction of travel, if not you have the wires hooked up backwards and just swap the 'rail' leads over. Double check with the ohm meter just to be sure.

Once you have found the correct polarity, tuck the frog picker away neatly under the layout or use a track pin through one of the Veroboard holes to tack it to a cross member.

Testing the frog picker

With a DCC system, having installed the frog picker you can test it with a multimeter (on AC volts), a RRampMeter <https://dcccentral.com.au/shop/rramp-meter-v1/> or a test globe as follows:

Put one lead of the multimeter on the point rail in contact with the stock rail, and the other lead on the other stock rail, you should see a healthy DCC voltage.

With your finger, move the point rail slightly away from its stock rail. You should see the same DCC voltage. Check it in both alignments of the point.

Unreliable point switching

If, at your switch panel, you press the button to switch a point, you want both the relay and the point motor to switch together. Provided the CDU has built up its charge, the relay will switch. If the point motor does not, you will get a short circuit because the closure rail has been switched to the new polarity by the relay but may still be in contact with the old stock rail.

The bad thing about this situation is you have a short circuit, but the good thing is you immediately know what caused it. The corrective action is to switch the point blades with your finger. Later, temporarily pull the relay out of its socket and take action to ensure reliable point motor operation.

Conclusion

Having made and installed your first frog picker, pat yourself on the back. You'll find it takes an exponentially decreasing time to make and install your second and subsequent frog pickers. And, if you have a cross-over that needs frog power, use the diagram in figure six. You need to cut the tracks on the Veroboard between the secondaries (as well as the primaries) and wire the secondary cross-over as shown.

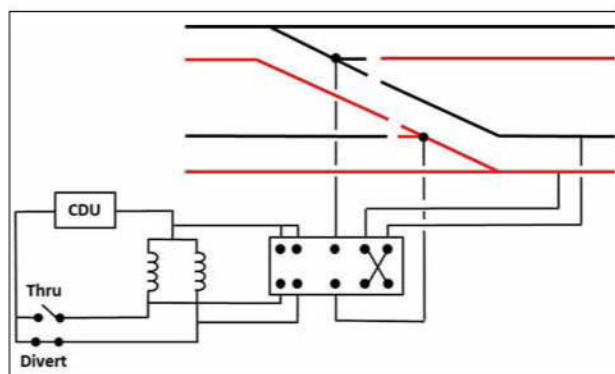
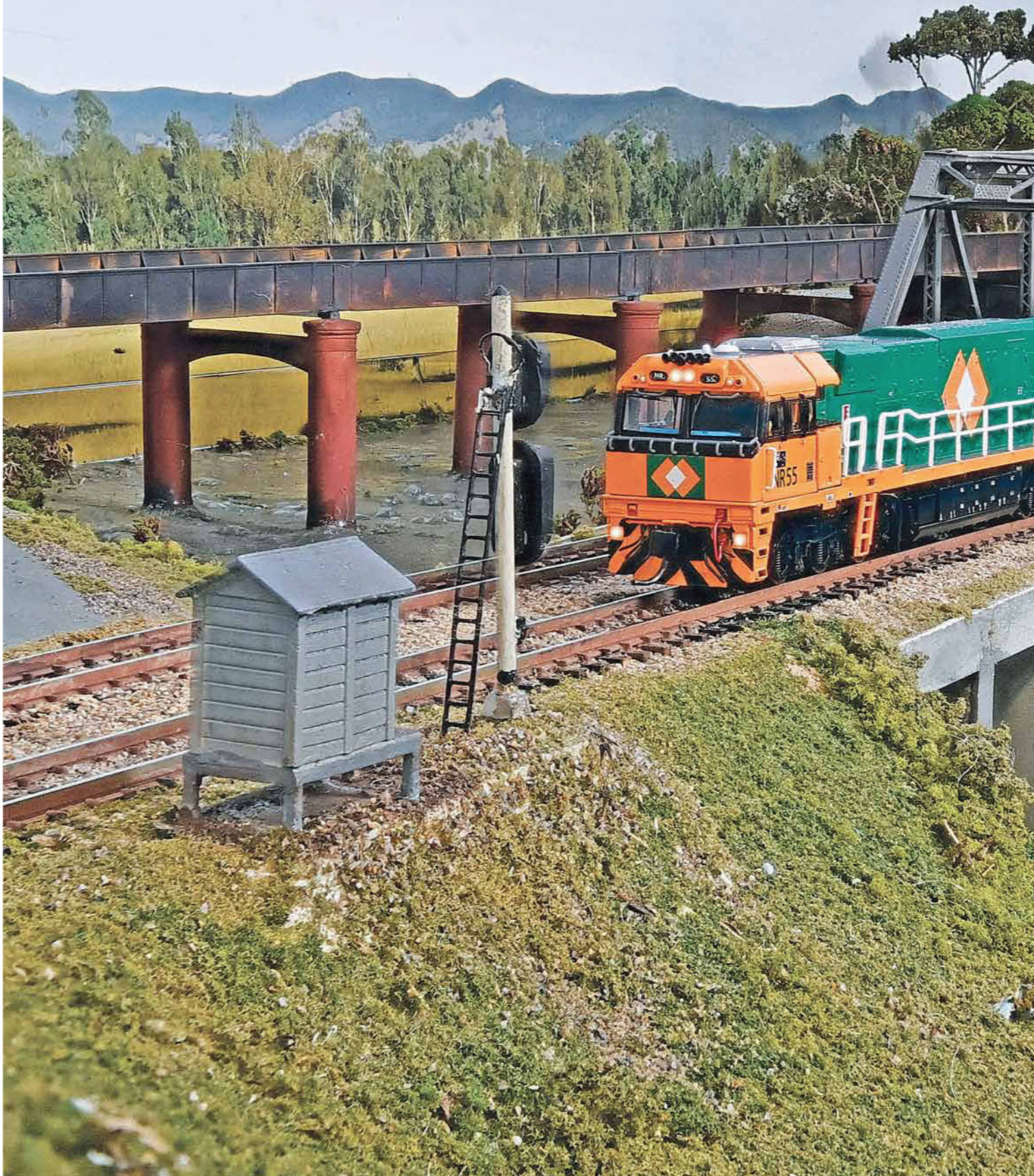


Figure 6.

The Great Train Show

John Casey and Glen Thomson report on the 'Rosehill' exhibition.





NR class locomotives 55 and 53 negotiate the through truss bridges on 'Cockle Creek' by the New South Wales N Scale Group. Photo Mark Jesser.

The Epping Model Railway Club held their 40th annual model railway exhibition at Rosehill Gardens on 6 and 7 May.

About 80 stands, including 30 layouts, workshops and retailers, filled the Grand Pavilion at the venue.

Layouts displayed included:

- Paul Chisolm's New South Wales Government Railways *Arakoola* in O scale (7mm); refer AMRM No. 312 June 2015.
- Epping Model Railway Club's *Binalong/ Illalong Creek*.
- *Goulburn* by the Guildford Model Railway Club; refer AMRM No. 355 August 2022.
- *Maryborough Victoria* by the Australian Model Railway Association (Vic); refer AMRM No. 358 February 2023.

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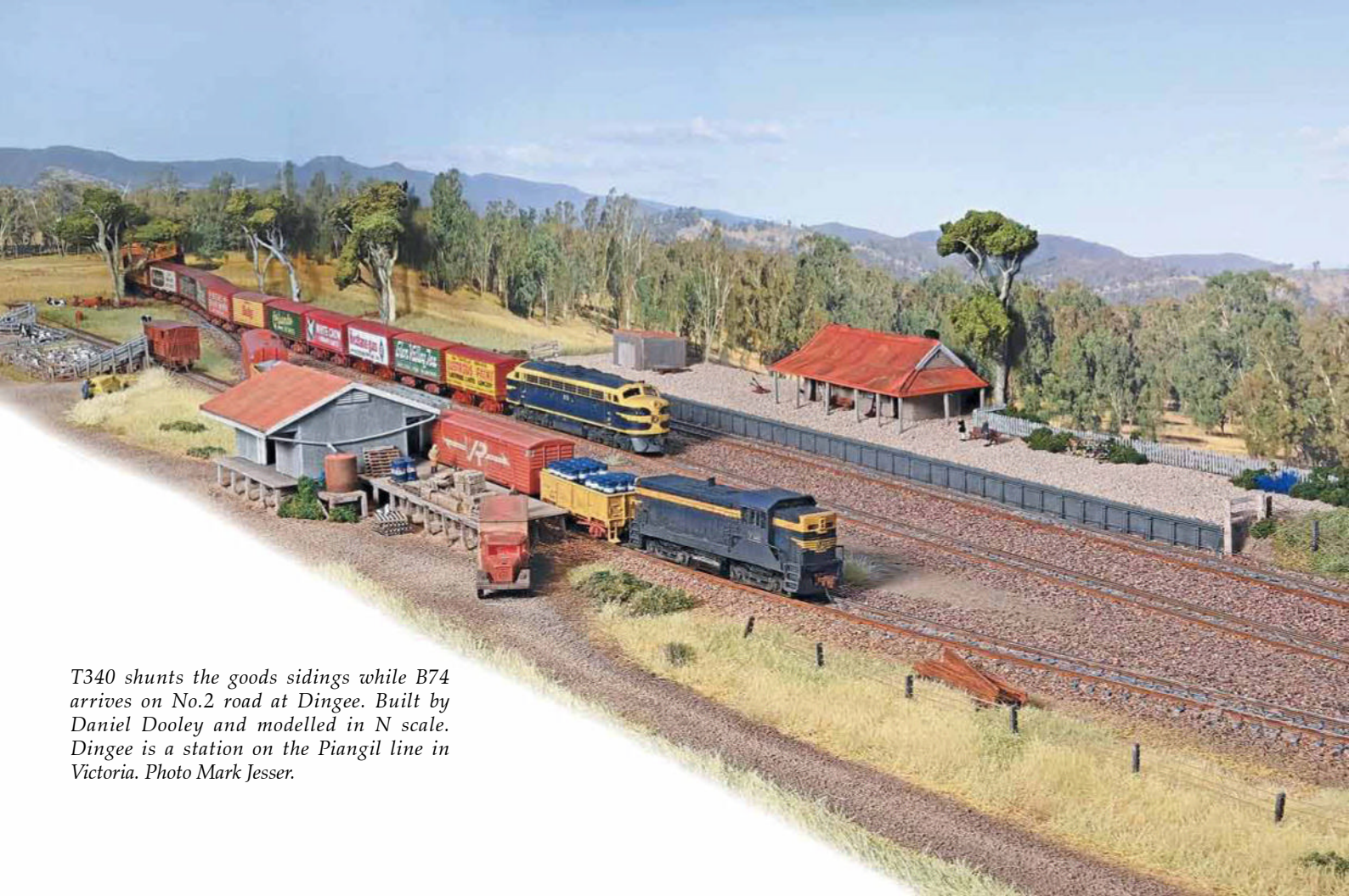
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T340 shunts the goods sidings while B74 arrives on No.2 road at Dingee. Built by Daniel Dooley and modelled in N scale. Dingee is a station on the Piangil line in Victoria. Photo Mark Jesser.

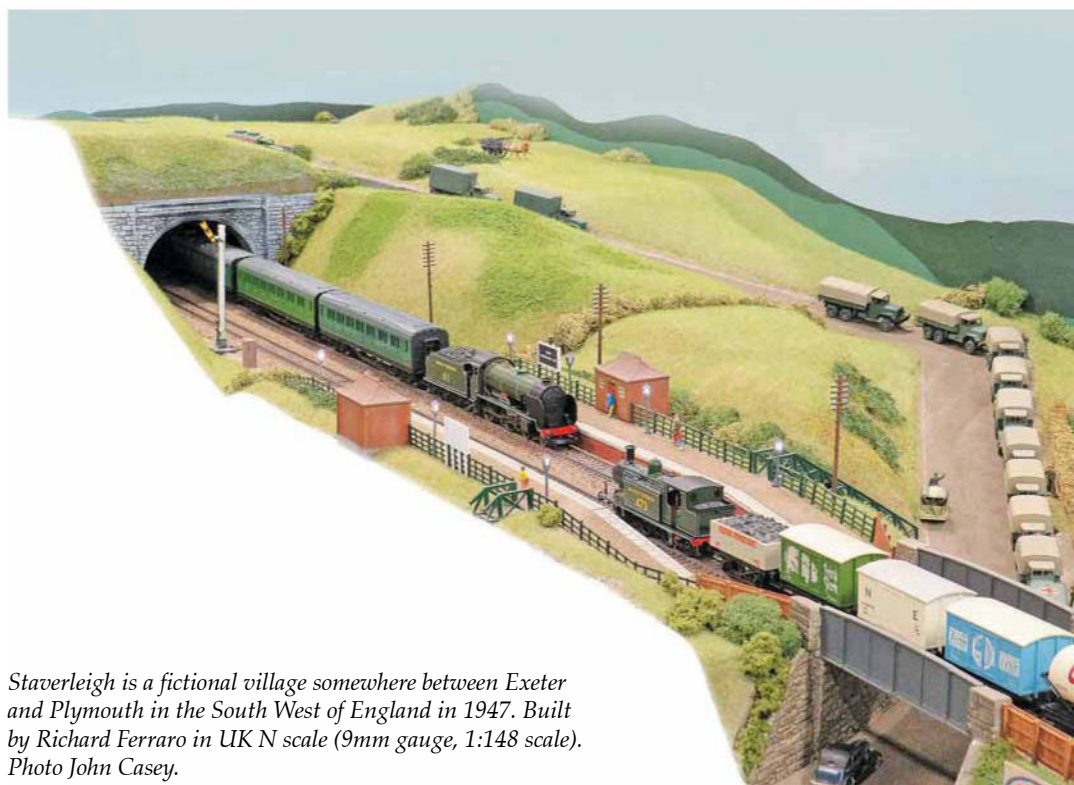
- *Carlingford* by Alex Maljavac; refer AMRM No. 357 December 2022.

A highlight of the show was two highly detailed scenes from Rohan Fergusson's home layout *Ashford-Mungindi* (it would be great to see the entire layout in operation).

Several previously unseen layouts were on display, including *Corrimal Colliery Incline*, *Darling Harbour* and an extended *Blue Mountains* and *Gresham*.

The *Corrimal Colliery Incline* layout displayed the operation of the 2ft gauge self-acting continuous rope incline and mine tramway used at Corrimal near Wollongong from 1906 to 1955. The modelling period is between 1924 and 1928 and the scale is 1:43 (7mm), with the steepest grade 1 in 4. The layout was built by John Garaty and Guy Gadsden.

Garth Wiseman has undertaken the construction of *Darling Harbour*, an HO scale New South Wales layout based on the Darling Harbour goods line, which opened in 1855. By 1963, the huge site had 30 miles of track and serviced more than 18,000 trains a year. The layout represents the western side of the complex from Ultimo Road to the wharves at Pyrmont Bay. The layout includes the Ultimo Power Station (now the Powerhouse Museum), the Australian Mercantile building (destroyed by fire in 1991), the Goldsbrough Mort building, the double deck goods shed



Staverleigh is a fictional village somewhere between Exeter and Plymouth in the South West of England in 1947. Built by Richard Ferraro in UK N scale (9mm gauge, 1:148 scale). Photo John Casey.

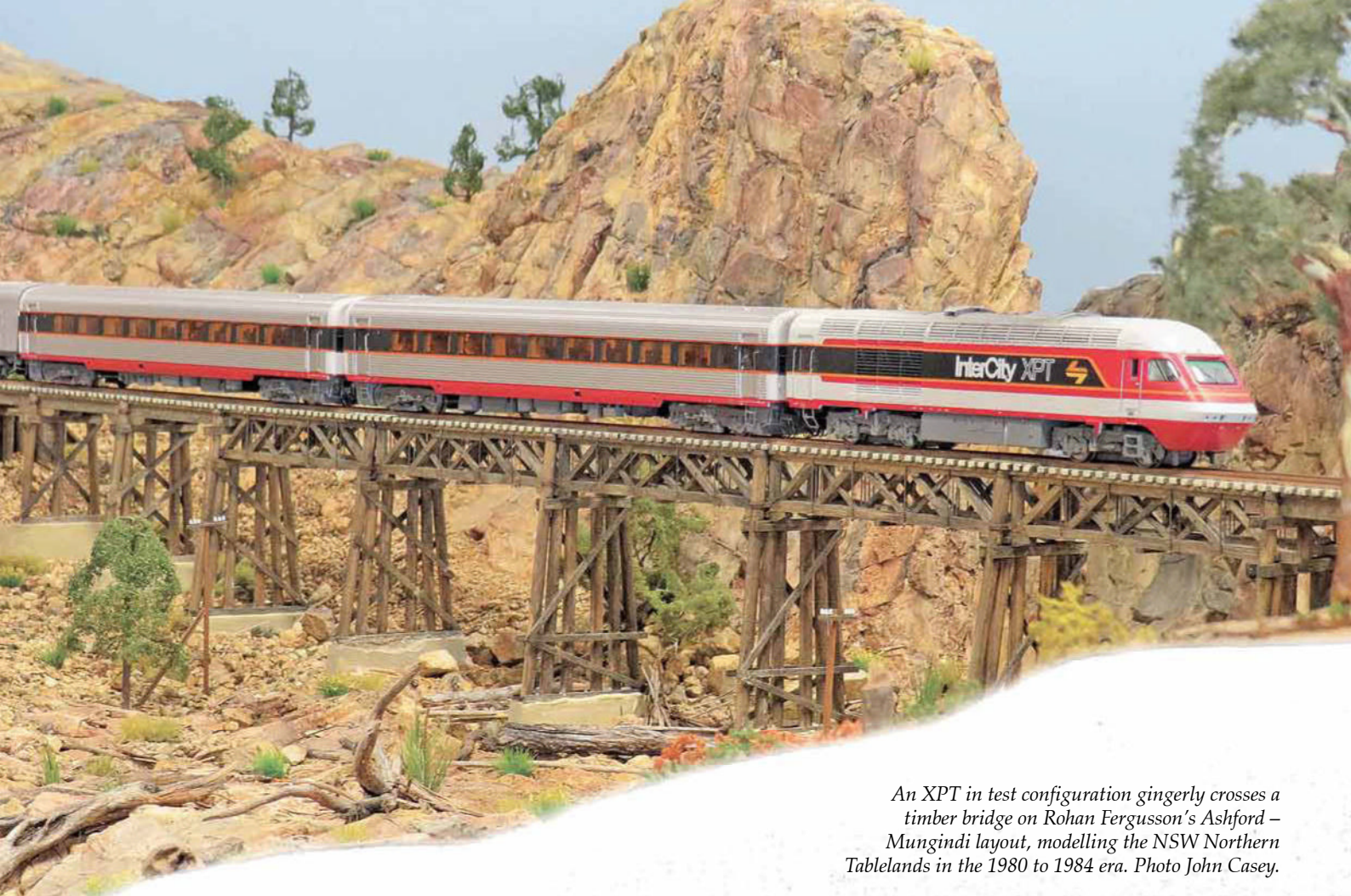
(now a hotel site), the Pyrmont Power Station (now Star Casino) and the shipping wharves.

The North Shore Railway Modellers Association displayed an expanded *Blue Mountains* layout. This layout now includes Katoomba, Warrimoo and Valley Heights stations, as well as Valley Heights loco depot under construction. This HO scale

layout is based on the final years of steam and early diesel eras.

Overall, the Epping Model Railway Club should be congratulated for putting on a well-run and managed, very well patronised, exhibition. Glen's rating 9/10 (because nothing is perfect).

We are already looking forward to the 2024 Great Train Show.



An XPT in test configuration gingerly crosses a timber bridge on Rohan Fergusson's Ashford – Mungindi layout, modelling the NSW Northern Tablelands in the 1980 to 1984 era. Photo John Casey.



Streamliner 4206 is about to depart with a passenger service on North Shore Railway Modellers Association, 'Blue Mountains' layout. Photo John Casey.



▲ Garth Wiseman's 'Darling Harbour' models the western side of the complex from Ultimo Road to the Darling Island wharves at Pyrmont Bay. Modelled in the era from 1970 through to the closure of the yard in 1984. Photo John Casey.



► 'Corrimal Colliery incline' models the operation of a 2ft gauge self-acting continuous-rope incline operated by Corrimal Colliery near Wollongong from 1906 until 1955. Built in O scale (7mm) and modelled in the era 1924 to 1928 by John Garaty and Guy Gadsden. Photo John Casey.

► Diesel-electric 42219 shunts the Pioneer cement plant on Alistair and Colin McMaster's layout 'The Yard'. Photo John Casey.



Diesel-electric 48158 hauls a short goods into Oberon on the Georges River Model Railway Club's 'Tarana/Oberon' layout in N scale. Modelled post 1968, but prior to mainline single tracking in the late 1990s. Photo John Casey.





The completed turntable.

Andlan Models NSWGR 75ft Turntable kit in HO scale

Andlan Models have produced a New South Wales Government Railways (NSWGR) 75ft turntable kit priced at \$650.00. (Note that there is a three-week lead time for new orders).

During construction of this NSWGR 75ft turntable kit I utilised the following references:

- NSWGR standard 75ft turntable welded steel type, general arrangement No.20-90
- NSWGR standard 75ft turntable, sectional elevation with details of pits No.271-20/385 drawing No.2
- NSWGR general arrangement of Muswellbrook loco depot and facilities No.51232
- Muswellbrook loco roundhouse foundations, No.49-67 dated 9 October 1940
- AMRM February 1980, Issue No.100, pages 20-25: *NSWGR Turntables* by Alan Templeman
- AMRM June 1986, Issue No.138, pages 35-39: *NSWGR Standard 75ft Turntable* by Alan Templeman, and
- AMRM February 2013, Issue No.298, pages

35-36: *Turntable Road Indexing* by Ian Barnes.

The kit contains:

- Turntable pit, very hard, high quality dental plaster cast directly onto a marine grade 300mm x 300mm 12mm plywood base. The finish is crisp and sharp.
- Pre-rolled brass ring rail, 3 x 3mm thick acrylic motor mount disc.
- Construction jigs, brass parts, including brass drive shaft, ball bearings and numerous machine screws.
- Cast urethane parts and a manila folder protecting a nickel silver etch for the turntable bridge.
- A pair of rail strips, numerous lengths of scale timber and brass wire.
- Seventeen pages of full colour instructions.
- The kit is not supplied with a drive system but is designed to use a stepper motor drive indexing system for DCC and DC operation.

The instructions give an overview of the kit, prototypical information, advice on tools, techniques and safe handling of all parts. Page two is an A4 drawing of the NSWGR standard 75ft turntable. Page three is a list of kit components. I found all parts present. Page four contains an image of the etched sheet, showing numbers for each of the parts. I always kept the etched parts in the provided manilla folder for safe keeping during construction. The remaining pages include detailed assembly procedures.

At A Glance

Andlan Models NSWGR 75ft Turntable kit in HO scale

Website: andlanmodels.com/turntable-kits

Email: andlan.models@gmail.com

Kit price: \$650.00

Construction of the 75ft turntable

Main bridge assembly

The etched main beams are fitted to the sides of a fold-up 'box' with twist tabs that help hold the assembly together while soldering. This box locates over a 3D-printed block fitted to the top of the main shaft of the turntable, helping locate the bridge to the shaft.

There are some lines of etched rivet detail to be soldered to the sides of the bridge beams. I used mini timber clothes pegs to hold them in place. Alan Templeman's diagrams and photos help locate the bridge beams and rivet detail etches (refer Photo 3).

After fitting the four outrigger roller bearings to the partially assembled turntable bridge, I tested it on the pit ring rail and adjusted the bearings to run over the top of the ring rail. After making required adjustments, I checked the bearings were fully secured against the bridge assembly.

I bent the two outer edges of the chequer-plate deck panels at ninety degrees along the fold line as required. This stressed the metal grain of the panels and, when released from the vice, caused each panel to arch in the middle. The instructions warn this is a natural occurrence with bending finely-milled metal parts, such as nickel silver.

An assembly jig is provided. The jig was held in a vice with the bridge fitted onto it. Small balsa wedges helped hold the bridge firmly in place. This is critical in ensuring the bridge is straight along its length.

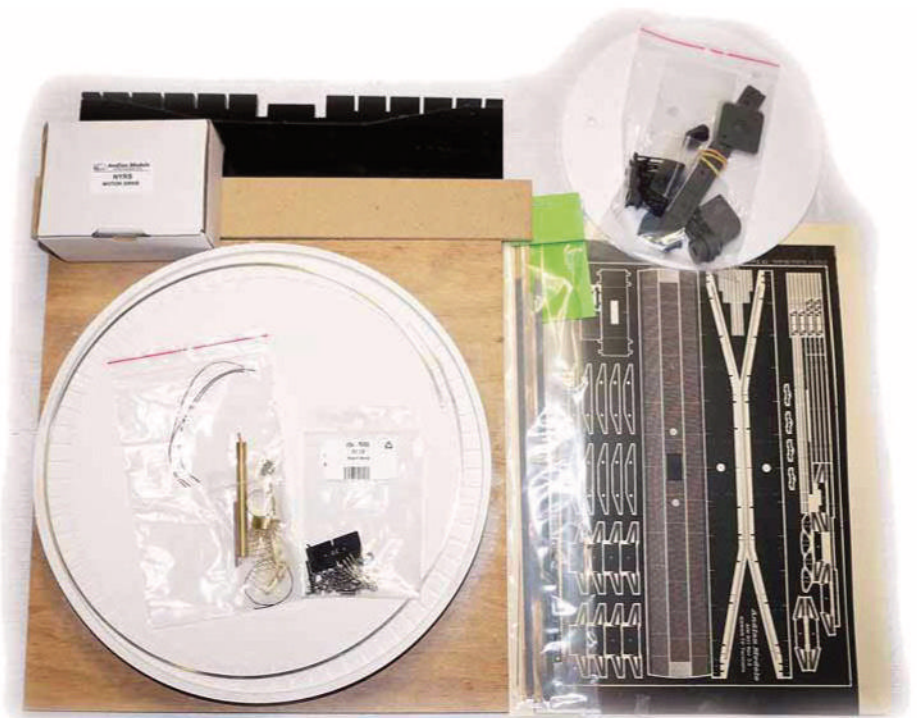
Having placed a deck panel onto the cross braces, I used two small steel modeller's squares to hold the arching deck panel partially flat in place. I took care that the ends of the chequer-plate deck were level and flush with all cross and bridge end braces, ensuring that the centre-line of the deck panel was aligned and square with the centre brace. When satisfied, I used a scribe to press the panel against the centre cross panel with the ends of the panel flush to the end braces. The panel was tack soldered into place. After checking for any movement, repeat the solder tacking outwards from the centre cross brace towards the end braces, using the scribe to hold the panel in place. This resolved the arching nickel silver problem.

Inside the main bridge box is a printed circuit board with a two-pin male socket, connecting with a female socket fitted inside the 3D-printed block on the main shaft.

Cast polyurethane rail detail strips hold the two running rails to the bridge and provide insulation for the rails. The cast polyurethane rail strips have been constructed to accept Code 70 rails on the turntable bridge. Trialling both code 83 and code 100 rails, I fitted Micro Engineering Code 83 rail, as Code 100 rail is simply too big to fit.

The 3D-printed lock catches (pawls) are very small, so I took care as they are easily lost.

I washed the bridge in 'Pine-O-Clean' multipurpose cleaner and water to remove flux,



The kit components.

but water found its way into one of the bearings and it nearly seized up with rust. I applied Labelle 102 oil to the four bearings, both before and after washing the bridge.

The raised chequer plate design of the platform walkways on the prototype is a safety measure. Andlan Models, in this kit, have clearly delineated these chequer plate etches. In addition, both ends are correctly bevelled to accommodate the pit turning circle, with all four rollers seated turning on the pit rail.

The Pit

The pit is an exceptional replication, complying with sectional elevation and details. I painted the wooden base to protect it against water damage and set it aside to dry. I found that fitting the ring rail is a 'trial and error process', needing extra care. I then soldered the ring rail joint while placed on a sheet of floated glass (to obtain a flat, even surface) and then filed it evenly.

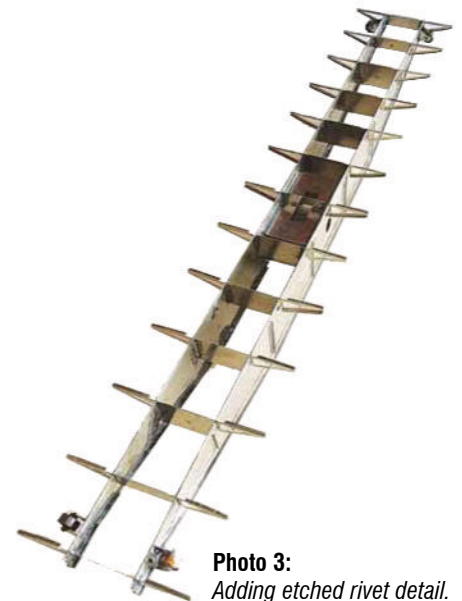
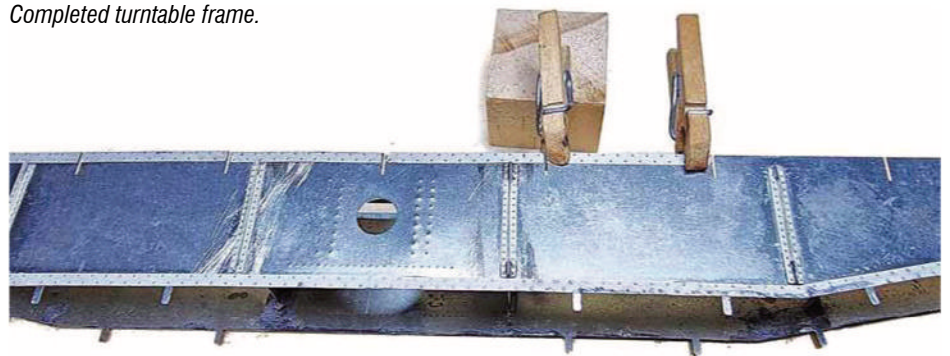


Photo 3:
Adding etched rivet detail.

Completed turntable frame.





I secured the ring rail in place, using Peco SL-14 track pins (not supplied) which were cut off 3mm from the head. I positioned the first four track pins at ninety degrees around the pit then, using a 0.6mm drill bit, drilled into the wooden sleeper and Hydrocal pit. Using superglue, I pushed the track pins into the hole, up against the inside ring rail. Once fully aligned, I repeated this process every fourth sleeper until completed.

Paints

I used the following paints on the bridge and the pit:

- Bridge: Tamiya sky grey No. XF19
- Hand rails: Humbrol, matt white No. 34
- Deck panels: 50% Tamiya sky grey XF19 and 50% Humbrol, matt white No.34
- Rails: Model Master rust 1785
- Pit: combination of Mirokey grey etch primer No. 6615/2158 and Model Master rust No. 1785 using coarse brush strokes from the ring rail towards the centre of the pit.
- Ring rail: dog spikes and drain covers- Model Master rust No. 1785
- Ring rail sleepers: stained with Mirokey grey etch primer No. 6615/2158
- Pit walls and pawl lock plates: Humbrol Matt white No. 50.
- Checker plate deck panels: Mont Marte oil paint, lamp black, mixed with mineral turpentine at a ratio of 100:1 as a wash. Use a soft paint brush, very lightly and quickly so as not to remove any of the paint already painted on the deck panels.

Electrical supply

The turntable is driven through a brass tube main shaft. This shaft is attached to a 3D printed block that has predrilled M2 threads. Tiny M2 grub screws secure the 3D block to the shaft. This assembly is passed down through two special bearings, one in the base of the pit and the other on the underside of the base. This whole assembly can be disassembled for maintenance.

Track power feed is achieved by a simple wiper system. A cast polyurethane bush fitted with brass rings is fitted to the main shaft on the underside of the base. Two wires from the brass rings pass up through the tube, the 'two pin' connector and up to the running rails. The turntable bridge has an uninterrupted power feed to the rails.

To overcome DCC shorts, I purchased a Tam Valley Dual Frog Juicer, sourced from Gwydir Valley Models. I fitted the DCC bus wires to the Frog Juicer and from there to the wipers supplying power to the code 83 rails on the turntable.

When I installed the partially assembled turntable bridge on the 3-D block for testing it was a little tight, but not overly so. For accurate indexing, the block needs to be a snug fit into the box of the bridge, but not hard to remove. The bridge rotated freely around the ring rail with all four roller bearings still sitting flush on the ring rail.

My chosen prototype

My turntable is based on the prototype at Muswellbrook steam engine depot. Muswellbrook had a small roundhouse with six engine roads, (including 'opposing over-runs' to prevent derailments off the turntable), examination pits, arrival and departure roads, coaling, watering and de-ashing facilities.

To enable the drawing of the layout and placement of the pit within my new baseboard extension, I used two joined halves of the 'Standard 75ft turntable' drawing, giving me a completed pit with ring rail at Muswellbrook.

Attending my local photocopying business, the proprietor joined the halves accurately onto a single of A3 paper, but with the pit oversized. Using that copy sheet, I reduced it by computer within the photocopying machine to give a HO gauge pit wall width of 276mm on paper, the width of the Hydrocal pit.

The paper copy was then copied onto clear plastic sheet, giving a clear template to follow. I taped the template into position, making sure the plywood base of the Hydrocal pit cleared support braces under the extension centre. Marking the dead centre of the pit, I drew six engine stabling roads onto the extension with opposing overruns, arrival and departure roads.

I cut a 276mm hole and fitted the completed turn table on the polyurethane block within the pit. The turntable needed to be tested on both ends to ensure free rolling of locomotives on and off the turntable with complete freedom and accuracy.

Indexing

Ian Barnes, in his article *Turntable Road Indexing*, discusses indexing for DC users, but he did suggest that the system he described could be adapted for DCC users.

This kit has been designed to be used with stepper motor indexing systems, (not included in this kit). For such a system, an acrylic disk is provided, to be mounted to the underside of the base to suit a selection of suitable motor drives.

Recommended systems

Andlan Models recommends two electronic indexing systems, one each from the USA and the UK, together with a basic manual system. The electronic systems are the New York Railway System (NYRS) and the Model Electronics Railway Group. I found Andlan Models very helpful in obtaining information describing these systems, how they work and how to install them. While they are quite expensive and need careful setting up, I found them to work reliably and effectively. The manual system is basic in comparison, but is available through Andlan, who will provide the instructions and components needed.

NYRS PTC-4 indexing system

This system is Andlan's primary recommendation for their turntable. The system provides indexing for up to 99 tracks with 0.025 degree indexing resolution, 14,400 possible

stopping locations to accurately align the turntable rails with engine roads and overruns. It has programmable speed and momentum with smooth, quiet operation. It is supplied with a high torque stepper motor with internal gearing, allowing the whole system to be plug and play.

I found this system easy to install, the motor mounting to the predrilled holes in the acrylic disc. The motor connects directly to the turntable's main drive shaft via a solid metal coupling (supplied with the kit). An Allen key is required to tighten the worm screws on both motor shaft and drive shaft. This direct coupling eliminates any backlash found on other systems. A keypad control panel is provided for track selection that can be mounted into the fascia of the layout. This keypad panel interfaces with the control box, which can be mounted to the underside of the layout. A power supply is needed to be purchased separately and can be sourced from RS Components <https://au.rs-online.com/web/>

The power pack is set at 18 volts, 120 watts.

Setting up and indexing of the system is simple following the instructions provided. I found the instructions a little convoluted and confusing at the final stage of programming sequence of 're-indexing' the system; I lost all my programmed track locations a couple of times. After consultation with Andlan Models, I realised I was missing the final programming step, to lock in all programmed tracks. Andlan Models provided me with two Youtube videos which I found most helpful when programming:

- <https://tinyurl.com/ys2rb9he>
- <https://tinyurl.com/bdhmytkc>

I found the system ran very quietly, smoothly and stopping at requested programmed roads using the touchpad. This system is available only direct from the USA through the NYRS online store at www.nyrs.com/overview.htm

MERG turntable controller

This indexing system is supplied in kit form from MERG in the United Kingdom: merg.org.uk

Andlan Models can provide an assembly service. The kit provides ability to index up to 16 tracks (upgradeable to 32) selected through a special hexadecimal rotary switch and various toggle switches. It provides slow speed operation via a stepper motor and gearbox. The MERG system has both speed and momentum adjustments and again is quiet to operate.

MERG sells two separate kits needed for the controller. The main turntable controller, Kit 79, and the turntable control pack, kit 79C. The stepper motor and gearbox must be sourced separately through an electronics supplier.

Andlan Models advised that they encountered issues with loose wiring to the hexadecimal rotary switch. Andlan produce a fascia control panel PCB that integrates with the main turntable controller board to eliminate the loose wiring to the switch and is able to hard mount the necessary switches and light emitting diode (LED) lights, giving a reliable and professional looking panel.

Andlan Models control panel.



I was supplied for this review a complete and assembled control system with the Andlan Models upgraded fascia panel, along with a motor and gearbox. The motor/gearbox assembly mounts to the acrylic disk on the underside of the turntable. The main controller PCB is loose and can be mounted to the underside of the layout. I found the system easy to use and programme. Operationally, the MERG system is similar to the NYRS system and eventually I got used to turning the turntable and aligning with the roads using the stopper switch and hexadecimal rotary switch.

MERG sells a kit for the main controller (Kit 79) but MERG membership is required. The stepper motor and gearbox need to be purchased separately.

Andlan Models advise that their MERG control panel will come as part of the assembly service of the main kit, a complete plug and operating system, including MERG membership.

Simple 180° drive system

This simple drive system is offered for a 180° turntable operation. This was designed by Stephen Buck and has been offered to Andlan Models for use with their turntable Kit. It is a basic 3D-printed body with worm gear drive from a reduction motor. These will be supplied complete and ready to fit to the Andlan turntable, bolting direct to the acrylic disc. The actuator arm on top has two adjusting screws and, as it moves through to its 180° position, the screws open and close micro switches, cutting the power to the motor drive. The assembly can also be supplied with an option to use a stepper motor for an 'Aduino' system, converting it to a fully indexed system.

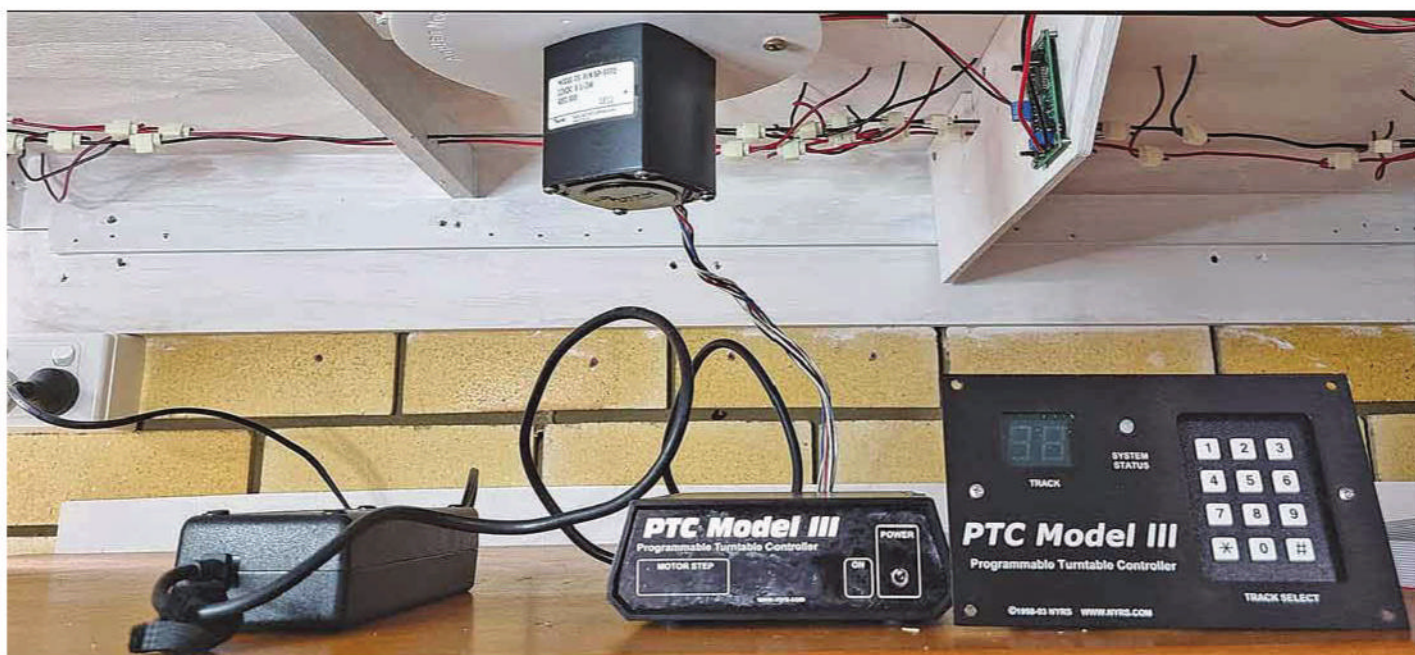
This system is quite basic, but functions very well on the turntable. It is easy to install and adjust. Operation is by a simple direction switch. The unit is powered by a three-volt transformer.

The gearbox drive can be ordered direct from Andlan Models for \$150.

Conclusion

The instructions read well and are ably assisted by coloured photographs at critical points. The instructions need to be carefully followed, as this is a complex and detailed kit. On completion of building the Andlan Models 75ft turntable, I found it to be a very nice kit indeed. Thoroughly researched, it has been properly designed and engineered, realistically resembling the prototype with fine running qualities. I was a little overwhelmed at first in relation to the indexing systems. However, the plug and play application of these systems and the clear, easy to follow assembly instructions for both, assisted me greatly with installation. It is certainly worth it for flawless turning of an engine for my Muswellbrook locomotive depot.

Cliff Barrett



NYRS indexing system.

Photo 1



N scale NR class locomotive by Auscision Models, PO Box 1791, Castle Hill NSW 1765. Phone: 0425 866 442. Email: information@auscisionmodels.com.au Web Site: www.auscisionmodels.com.au Price in text.

Auscision Models' N scale National Rail NR class locomotive is the company's first venture into the Australian N Scale market, a real treat for the semi-modern to present day modeller in N scale. This model is offered in 19 different liveries and 30 different road numbers. Available as DC (\$295) or DCC with sound (\$425) – a great range to choose from.

The models include several variants of the well-known Indian Pacific and The Ghan passenger train liveries, as well as Southern Spirit and Great Southern. Several variants of National Rail and Pacific National liveries have also been represented.

Models reviewed are NR110 in Pacific National livery (DC), NR84 in 'Real trains Not Road Trains' livery (DCC and sound) and NR31 in 'Great Southern' livery (DC).

Note: Editor's model of NR109 is shown only to illustrate the model's detail.

Detail

Auscision have done a fantastic job reproducing the NR class in N scale, with many features comparable to their HO scale version. The model features a good representation of the cab and includes painted driver figures, which can be seen clearly through the cab windows (a

first for the Australian N Scale market). The paintwork is crisp and well applied, as is the pad printing of numbers and lettering. Livery-specific artwork is well applied. Auscision have left nothing to the imagination on this model, pad printing every little warning sign and numerous other lettering and details specific to each different livery. The only fault I have been able to pick up on was NR110, which had a very minor

bit of overspray on the box behind the cab on the fireman's side. The model also features several well executed photo-etched metal details and cut-outs. The fold down grille for the rear steps is photo etched (see photo 2), along with four separate grilles on top of the model (air-conditioner, both dynamic brake air-intakes and the radiator).

A simple but nice touch on the model is the exhaust stack, which is see-through, giving a great sense of depth as per the prototype. Similarly, the steps on the front pilots are hollowed out with very fine cut-outs (see Photo 1), and the dynamic brake intake grilles behind the cab on the driver's side are separately applied hollow parts.

The model features numerous separately applied parts including horns, rear view cab mirrors, windscreen wipers, nose handrails, step ladders on both sides, Multiple Unit (MU) cables and air hoses on both ends, sanding pipes and some fantastic and complex detail applied to the fuel tank (see photo 3). All of these have been firmly applied and through light use have remained firm and intact.

Construction

The entire chassis is die-cast, providing the model with excellent weight. Power from the bogies runs straight to a printed circuit board (PCB) mounted on top of the chassis running the length of the model. The frame walkway around the exterior of the locomotive appears to be predominantly produced of plastic, with the



Photo 2



handrails moulded in highly flexible and durable Polyoxymethylene (POM) plastic (some may know this better as Delrin).

Disassembly of the model is a little bit of a challenge. The clips holding the body shell are quite firm, great for holding the model together, but could induce a small heart attack for the average modeller wishing to add a decoder or take a peep under the body shell. The manual provides a description on how to remove the body shell but, lacks specific guidance on how to remove the bogies. The bogies are simple enough to remove, pulling gently directly downwards from the inner-most axle does the trick. But re-installation of the bogies is much more of a challenge, with several parts needing to be re-aligned and clipped back together. I had to remove the body shell and spend a good bit of time lining everything up very carefully before I was able to clip it all back together again. Removal of the bogie keeper plate is also a bit fiddly. There is a total of six moulded clips which hold the plate on, making it difficult to remove.

The Great Southern NR arrived with ever so slightly bent side skirts, causing the body shell to be unclipped at the rear and several railing posts to be loose. With this aside, the design of the model whilst being a little complicated, is good, and there doesn't appear to be a fault across all models.

Operation

Out of the box the model performs very well and without an issue. The model picks up and



Photo 3

drives on all wheels, providing smooth and fault-free running. This is helped by a large five pole skew-wound motor with dual flywheels. The weight of the model allows for good length trains to be hauled with ease. The bogies turn freely allowing the locomotive to handle the tight 280mm radius curves of Kato Uni-track and short radius PECO points.

All axles within the bogies were found to have the correct wheel back-to-back gauge according to National Model Railroad Association (NMRA) standards. The knuckle coupler is a very good clone of the Micro-Trains coupler, both in appearance and performance, sitting at the correct height according to a Micro-Trains coupler gauge (refer photo 1).

Electronics

Auscision has packed the model with a plethora of light emitting diode (LED) lighting and is fitted with a speaker (both DCC sound and DC models). Running cab first on DC, lighting includes twin headlights, white marker lights, number board lights and dual ditch lights. On the long end red marker lights are lit. Running long end first, the opposite occurs. Additionally, it

appears that the operators' cab is very faintly but well-lit when the forward headlights are on. There appears to be an intentional gap in the ceiling of the cab and the front of the locomotive PCB containing LEDs to allow this. I discovered this by accident when running the model in a dark room at night, I am not sure if this was intentional or not, but the effect is really good!

When running the DCC sound model (or using a proprietary non-sound decoder), the operator can control the front headlights, marker lights and number board lights as well as rear red marker lights on function 0, ditch lights on function 1, and flash (alternating) the ditch lights by activating the horn on function 2, dependent on the direction of travel (Note some CV programming may be required to achieve these features). The same applies whether running forward or reverse.

Sound

Factory-fitted DCC sound models are supplied with an ESU LokSound 5 micro Next18 decoder, which is loaded with Auscision's NR class locomotive sound file. The quality of the various sounds is high, and the horn sounds



Photo 4

match the prototype. The manual describes in good detail how to operate each of the playable sound functions and provides good information on the high idle cold start feature. A 15x11mm speaker fitted to all models is located within the fuel tank. This is a high quality speaker, and performs well for the resonating space provided within the model. This resonating space is fully



Photo 5

sealed and doesn't have small holes on the underside of the fuel tank. Experience has shown this 'open' arrangement can attract all kinds of magnetic debris from the roadbed.

Conclusion

This model is a great addition to the growing Australian N scale r-t-r market, pushing the

envelope on detail and features such as large amounts of LED lighting and factory fitted sound. Auscision has produced an excellent model that is sure to grace many N scale layouts in Australia, and perhaps abroad, well into the future.

Jarryd Langford

Scale Model Reproductions Holden HJ Utility and Panel van kit in HO scale. Price \$10.

Pickle me grandmother, it's a Kingswood! Produced between 1974 and 1976, the Holden HJ series are one of the iconic vehicles of Australia and are useful for setting an era.

Scale Model Reproductions (SMR) have produced 3D printed versions of both the utility and panel van HJ Holdens. The utility consists of a body shell, an under floor including interior seats and four wheels. The panel van is similar with the addition of a fine frame representing the rear window frame. While the underfloor and wheels are robust, the body shells have some very fine, and in some parts thin, detail such as the roof area over the windscreen, 'A' pillars and exterior mirrors. The frame for the rear window of the panel van is particularly fragile and SMR supply two with each panel van kit.

The models come still attached to the support structure from the 3D printing process. Cutting this structure away must be done with great care, particularly those parts supporting the exterior mirrors or the edge of window frames, A pillars etc. If using sprue cutters, use the smallest ones you have. It is advisable to cut the bed on which the supporting structure sits, particularly those supporting the parts mentioned above, into separate sections from underneath so that no force is applied up into these delicate parts. I didn't do this, which resulted in breaking off one exterior mirror and a section of 'A' pillar on the panel van.

Cutting away the structure from the body



shell and removing the last vestiges of the supports takes some time. I found it useful to make a small sanding device by cutting a bamboo skewer diagonally and supergluing a small piece of fine, wet and dry sandpaper to it. This was used to sand off the remaining support frames away from areas like the underside of the top of the windscreen.

The next step is to clean the model with Isopropyl Alcohol removing any contamination that might cause problems with surface preparation.

To help smooth out the layers from the 3D printing process, SMR recommend using a primer/putty aerosol spray-can to prime and fill the fine layers. These primers are available from local auto shops. Several coats, with sanding between coats, will be necessary to get a smooth surface. The bamboo skewer sander is useful for this as you can keep the wet and dry flat without over rounding the intersection where different surfaces meet. Use the wet and dry with water and rinse the model after sanding,

before applying the next coat.

SMR have designed the model in such a way that it can be fitted with surface mounted Light Emitting Diodes (LEDs) for head lights. Glazing has been left to the modeller to devise.

These kits are not quick to build due to the time taken to cut the supporting structure away, then applying, sanding and reapplying the primer etc until you are satisfied with the finish. There is nothing particularly difficult about these kits except applying the headlights, windows and painting or otherwise or colouring the indicators which are very small. You just need to allow yourself plenty of time. Most of your time will be spent waiting for the various coats of paint to dry properly. These kits will reward the patient modeller with fine vehicles that are not otherwise available in HO scale.

The photo depicts the model part way through the build.

REVIEWS

The products covered in the Review pages have been supplied or made available by the manufacturer, producer, importer or retailer listed in each product heading. AMRM welcomes access to new product lines for inclusion in the Review pages and requests items be addressed to the Editor at Australian Model Railway Magazine, PO Box 345, Matraville 2036. Readers are reminded that the prices quoted in the reviews are those applicable at the time of going to press. Those using the prices as a guide to purchasing products by mail order should always add extra for postage, or contact the supplier for the additional cost for mail order.

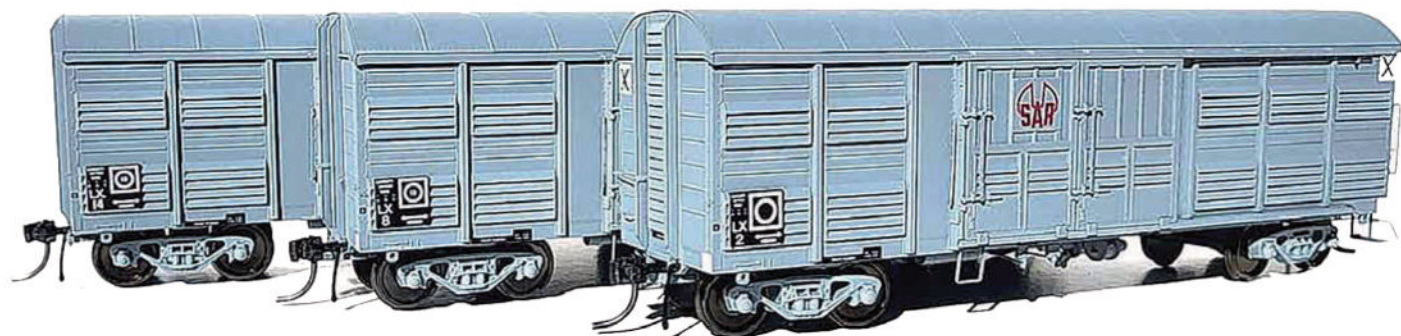
Editor



Auscision Models has recently released the VicRail C class locomotive r-t-r with 21 pin DCC ready and sound equipped. Available in the following liveries, VicRail (shown) V/line, National Rail, Silverton, South Spur Rail Services, Green Trains, Southern Shorthaul Railroad (SSR) blue, green and black and yellow and 40th Anniversary.



Ixion Model Railways has recently released a 2nd run of their Victorian Railways J class 2-8-0 r-t-r steam locomotive 21 pin DCC ready or sound equipped. Available in two new numbers coal burning J507 (shown) and oil burner J550. Along with preserved numbers J500, J515 and J549.



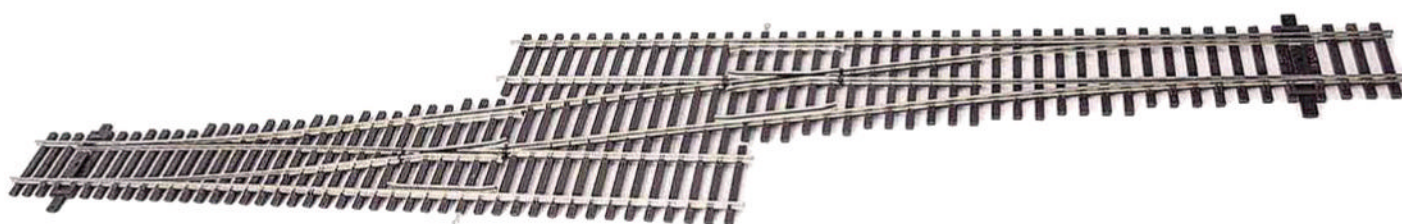
On Track Models has released the South Australian Railways (SAR) LX, ALGX ALGY louvre van r-t-r available in three wagon packs in the following liveries. SAR wagon grey, four packs of LX code from 1969 – 1980, two packs of ALGX from 1980 onwards. Australian National Railways (ANR) wagon red, one pack in two letter code LX from 1978 – 1980, two packs of ALGX from 1980 onwards and one mixed pack with both SAR wagon grey and ANR wagon red. Australian National (AN) green and gold, five packs of ALGX and one mixed pack of both AN green and gold and Australian Southern Railroad (ASR) orange (ALGY).



SDS Models has release the South Australian Railways (SAR) HS AHSA and AHSF stone hopper r-t-r. Available in five wagon packs in the following liveries. Four packs of SAR grey (shown), two packs of Australian National Railways (ANR) grey, four packs of ANR red (shown), four packs of Australian National (AN) green and gold (shown), two packs of Genesee and Wyoming Australia (GWA) green and two packs of GWA orange.



SDS Models ANR maroon AHSA and AN green and gold AHSF stone hopper r-t-r.



Walther's has released Code 83 No.6 crossovers LH and RH. Features include snap-action points, solid rail point blades and isolated frogs with built-in jumper (DCC friendly).



Andlan Models has recently released O scale 1:48 'Puffing Billy' crew figures, available unpainted.

Auscision Models has recently released NR class locomotive 3D wooden wall art available in 17 different liveries (Indian Pacific livery shown) with working headlights, number boards and ditch lights.





Auscision Models

The N scale State Rail Authority of New South Wales (SRA of NSW) 80 class locomotives r-t-r painted pilot models have arrived.

Auscision Models N scale SRA of NSW 80 class 8001 locomotive pilot model in 'yellow beak' livery (top) and 8010 pilot model in 'Bi-Centennial' livery (bottom).



WestEdge's range of N scale 'layout models' of Australian outline vehicles.



N scale digital rendering of WestEdge's EH Holden panel vans.

WestEdge

Have developed a range of N scale cars that are being marketed as 'layout models'. Meaning that they are intended for placing on a layout's roads, carparks and car transporters and to be viewed from normal viewing distances.

Current colour 3D printing technology cannot yet rival injection moulded and painted surfaces. The N scale car range has been developed by a local CAD designer from blueprints, photographs and coloured using published colour charts from the time of release of the model represented.

At present there are no plans to produce the cars in HO scale; the current surface finish and high cost (these models are solid 3D prints) make them unsaleable in larger sizes.

The N scale cars will be available in sets of two and four vehicles. Sets will include either one single model of car, and mixes of different cars, though colours will be randomly chosen from those available. Frontline Hobbies in Newcastle NSW has agreed to trial selling sets with varying contents, to gain customer feedback on how best to package the range.

The car range currently includes 19 cars, all suitable for steam-diesel transition era Australian modellers from 1948 to the 1980's, and even beyond, these are:

- FX Holden ute (1948)
- EH Holden sedan, station wagon and panel van (1963)
- HR Holden sedan (1966)
- HK Holden Monaro two-door (1968)
- HQ Holden sedan, station wagon, ute, panel van and four-door GTS Monaro (1971)
- Ford Falcon XK sedan (1960)
- Ford Falcon XR sedan (1966)
- Ford Falcon XB sedan (1973)
- Ford Capri (1969)
- Ford Lotus Cortina (1963)
- VH Valiant Charger (1971)
- VH Valiant Charger R/T (1971)
- Morris 1100 (1962, released in Australia in 1964).

Auscision Models CLF1 'City of Whyalla' r-t-r locomotive pilot model in AN livery.



Auscision Models CLF1 'Milton Bromwich' r-t-r locomotive pilot model in Southern Shorthaul Railroad (SSR) livery.



Auscision Models

Australian National (AN) CLF and CLP class locomotive r-t-r painted pilot models arrived in May. At this stage this model will be due for delivery in Q4 2023.

The re-run of their New South Wales Government Railways (NSWGR) RUB passenger coach sets are expected to ship out of China at the end of June.



Auscision Models CLF5 r-t-r locomotive pilot model in Genesee and Wyoming Australia livery.



Auscision Models CLF3 r-t-r locomotive pilot model in SSR livery.



Auscision Models CLF6 r-t-r locomotive pilot model in Verdant green AN livery (above).



Auscision Models CLP8 'City of Port Augusta' r-t-r locomotive pilot model in AN livery (right).



Auscision Models CLP12 'Casper' r-t-r locomotive pilot model in SSR white livery (right).



Auscision Models CLP11 'Kaurana' r-t-r locomotive pilot model in QR National 'eagle' livery.

Kando Workshops are producing the South Australian Railways (SAR) H hopper wagon, first constructed at Islington (SA) in 1937, initially used for coal transport, some were later converted to HB wagons, where a roof was added so they could be used to transport grain or phosphate (an HB upgrade will be available later).

This model will be sold as a kit and does not include bogies or couplers. The kit consists of a body, handbrake and lower door wheels.

Decals will be available as soon as research, etc is complete.

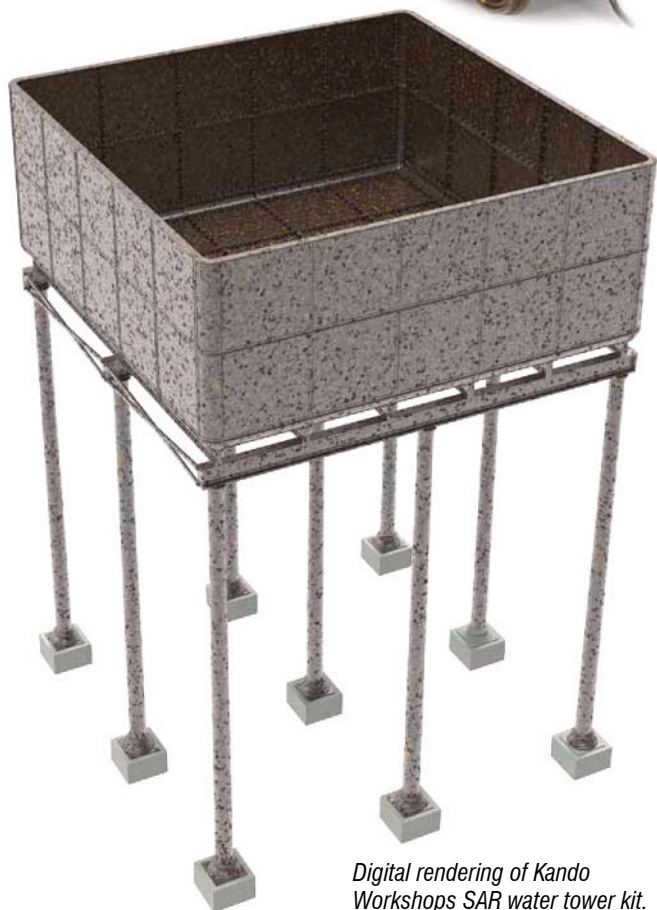
They are also developing a SAR Water tower kit. The model is mostly based on the water tower at Mount Barker, most of the water towers are pretty similar, with some minor detail differences.

The kit will include a top tank and framework all one piece, and the legs will need to be glued on. The modeller will need to decide on a way to add the cross bracing, there are a few ways to go about this.

Still in development is the ladder and overflow – filler detail.

At some stage they will develop the SAR automatic water column.

Kando Workshops SAR H hopper wagon kit.



Digital rendering of Kando Workshops SAR water tower kit.

Ixion Model Railways

The Victorian Railways MF and LF bogie stock wagons production run encountered an issue which required a repair to the tooling which is due to be completed by the end of July. Factoring in sea freight to Sydney the models might arrive late August.

SDS Models plan to produce the earlier version of the South Australian Railways (SAR) HS stone hopper and some of the other grain and cement versions for 2024.

The balance of the SRA of NSW 81 class locomotive production run will commence with the DCC ready versions in late July 2023.

Victorian Railways K class 2-8-0 steam locomotive painted pilot models are due very soon, delivery of this project is targeted for the end of the year.

NSWGR D50 and D53 2-8-0 steam locomotive projects are now in tooling and samples are due fourth quarter 2023. These models will be delivered throughout 2024.

The SAR 8300 brake van (recently announced production), NSWGR X200 rail tractor, NSWGR LLW low load wagon are all in the first engineering stage. Deliveries will be late 2023 and early 2024 respectively.

Victorian Railways T class locomotive development is complete. Expect delivery of painted pilot models around August–September this year.

NSWGR LHO and KP vans will be completed in July and the same supplier will commence the SAR 700 class coaches immediately, with a view to complete delivery fourth quarter 2023.

TrainBuilder has announced the production of the Victorian Railways C class 2-8-0 and X class 2-8-2 steam locomotive in HO scale brass, both locomotives are expected to be delivered around the third quarter 2024.

Milestones

The backbone of the AMRM for decades, Bob Gallagher will celebrate his 80th birthday this July, the entire AMRM production team wishes him the very best on achieving this milestone.

Bruce Macdonald death

Just as we were going to press we were informed of the death of author, modeller and historian, Bruce Macdonald. A full Vale will be published in the October issue of AMRM.

Diary

EXHIBITIONS & EXPOS

BRAYBROOK – VIC. August 5-6, 2023. 25th Annual Sunshine Model Railway Club Model Train Exhibition, Braybrook Secondary College Sports Stadium, Burke Street Braybrook. 9.30am-5pm (Sat), 9.30-4pm (Sun). Adults \$10 Kids free.

Ted 03 9311 8389 or Joe 03 9360 4125 www.sunshinemrc.org.au

CANBERRA – ACT. August 5-6, 2023. Cancellation of the 51st Model Railway & Scale Model Exhibition. Unfortunately, the Malkara Special School Model Railway & Scale Model Exhibition has been cancelled by the Malkara Special School. enquiries@actmrs.org.au

FLEMINGTON – VIC. August 5-6, 2023. AMRA Victorian Branch Exhibition. Melbourne Showgrounds, Langs Rd, Flemington. 9am-5pm (Sat), 9am-4pm (Sun). Clubrooms (03) 9885 7034. Email: exhibitionamravvic@gmail.com

THORNLEIGH – NSW. 12-13, August 2023. Marklin Modellers of Sydney Exhibition, Thornleigh Community Hall (Next to Bunnings), cnr Phyllis and Central Avenues, Thornleigh. 9am-5pm (Sat), 9am-4pm (Sun). Large Bring & Buy stall. Many gauges and prototypes represented.

Ken 0498 202 674.

Email: kenneth@greengrove.net



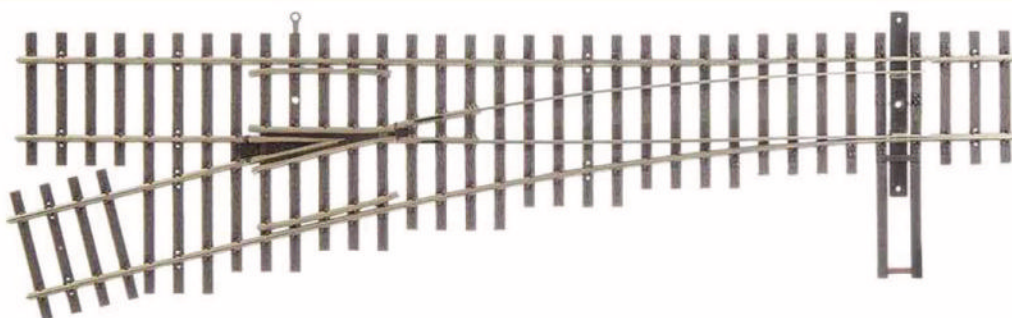
Trainbuilder VR C class steam locomotive in brass, image shown is from an earlier run.

Walthers has announced the production of a range of HO scale Code 70 track, this includes:

- flexi track available in five lengths of 36" per pack
- No. 4 and 6 LH and RH points.

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- Narrow width sleepers moulded in dark brown with wood grain detail
- Fine profile moulded dogspike and sleeper plate details
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- Moulded starter points on underside of the sleepers for track pins



Walthers No. 4 code 70 LH point, note the isolated frog (DCC friendly) with feeder lug and the point blades are hingeless.



Walthers No. 6 code 70 LH point.

STANHOPE GARDENS – NSW. November 4-5, 2023. Hills Model Railway Society 'Back on Track' Exhibition., Blacktown Leisure Centre, Sentry Drive, Stanhope Gardens. Adults \$15, Children (5-13 years) \$5, Concession \$5, Family (2 Adults, 2 Children) \$35.

Email: exhibition@hmrs.org.au

Website: hmrs.org.au

MILANG – SA. November 25-26, 2023. Milang Model Railway Show, Institute and Station, Milang. 10am-4pm (Sat & Sun). Adults \$10, Children 12 and under free.

Enquiries: 0414 232 060.

WARRNAMBOOL – VIC. January 13-14, 2024. Warrnambool Model Railway Exhibition. St. Joseph's Primary School Hall, Botanic Road Warrnambool. 10am-5 pm (Sat), 10am-4pm (Sun).

Enquiries: 0421 159 206.

SEMINARS & CONVENTIONS

ADELAIDE – SA. September 2, 2023. Modelling the Railways of South Australia 27, Flinders Medical Centre lecture theatres, Bedford Park. Registration forms: MRSAC, PO Box 356, Parkholm SA 5043 or selected hobby shops. Registration at 8.30 for a 9am start (Sat).

Email: convention@mrsac.com

Website: www.mrsac.com

ROSEHILL – NSW. September 29-October 2, 2023. NMRA Australasian Region National Convention *Rails@Rosehill*, Rydges Hotel, 116-118 James Ruse Dr, Rosehill. Guest speakers, Clinics, Workshops, hands on layouts, traders, layout tours, partner program and much more!

Enquiries: John 0411 400 049.

Email: host@rosehill.org.au www.nmra.org.au

OPEN DAYS

ZILLMERE – QLD. October 21, 2023. AMRA Qld. Inc. premises, 20A Murphy Road Zillmere. Turn right at the Dunsford Street lights just before the rail overpass.

SALE DAYS

EPPING – NSW. November 25, 2023. Model Railway Market Day by Epping Model Railway Club. Epping Creative Centre, Dence Park, 26 Stanley Rd., Epping. Free Entry. 10am-1pm. Tables with lots of pre-loved models. Table rental contact Mike on 0408 817 554.

Phantom layouts

Railways are for people. When first evolved, trains carried people, later called passengers, long before freight.

The AMRM has detailed some wonderful layouts, all without a single passenger or labourer in sight.

A recent example is the very fine layout 'Tarlee' in the April 2023 issue. This model is well executed, with fine detail

and makes excellent reading, but there is not a single person in sight. I call these 'phantom' models.

Surely, after spending so much money, you would think spending a few dollars on a dozen figures would give the model some realism.

Occasionally you even see an odd animal as well!

*David Williams
Wangaratta Vic*

Layout Design Workshop

The article 'Layout Design Workshop' in the June 2023 issue of AMRM, regarding the design concept for circular fiddle yards, I found very interesting. A colleague, with whom I worked with during the late 1970s and early to mid 1980s, was also a very keen model railway builder. He built a similar style fiddle yard which was positioned inside a separate room. He mounted two cheap Closed Circuit Television (CCTV) cameras on the cornices of the farthest corners of the walls. These cameras were connected to two computer monitors mounted above the layout, on the dividing wall between the fiddle yard room and the layout room. The monitors were visible from the operating position in the centre of the layout room. Thus, he didn't need to access the fiddle yard room, unless there was a problem.

Now to the author's design, in figure five of the article in AMRM. Looking over the design of the fiddle yard, I found that there is an anomaly that would require an operator to overcome. It appears that any train departing the fiddle yard in either direction, upon returning is locked in, unable to return to the scenic section of the layout!

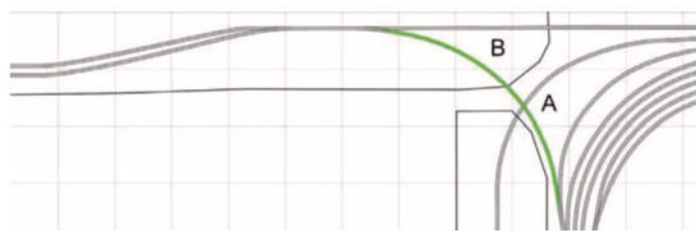
The only way out of this dilemma is for the operator to uncouple the loco(s), from the lead end of the train, and couple them to the rear end.

Editor note: this plan is described as the track arrangement is an out and back loop without grades and yes reversing trains in the fiddle yard is required.

However, I feel that there is a simpler way around this, even though this does involve a handmade bespoke diamond crossing and a reverse loop module for DCC or for DC, a Double Pole Double Throw Switch (DPDT). See the additional track shown in green on the amended track diagram, allowing trains to travel from the scenic area yard limit board 'B' to the fiddle yard in either direction. This returns the train facing the relevant direction in the yard.

Consequently, the layout can then be operated by one person, if so desired, positioned in the scenic area. As well, there is no need to reposition the locomotives to the other end of the consist after arrival in the fiddle yard. Also, this arrangement allows for continuous running through the fiddle yard if so desired.

*Garry Kahler
Moss Vale NSW*



Modified plan figure five of the layout design workshop article. Note slight amendments were required, including repositioning part of the Wirrappa crossing loop and moving the outer staging track in the fiddle yard slightly to maintain a minimum radius. PECO No. 6 Code 83 points have been used in this amended plan.

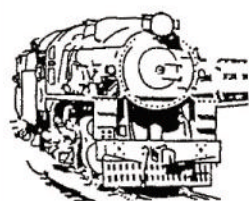
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- Station Buildings
- Lineside Perway Buildings
- The SARMA Layout
- Early Pre-Webb Freight Wagons
- North Adelaide Station Building and Kit
- Downsizing
- with additional articles in the notes on locos, wagons and more...

* Last minute changes may be necessary.

Displays of these and other topics will also be on hand, lunch and comprehensive notes on all presentations will be provided as usual.

Registration forms will be available in late June from:

- www.mrsac.com
 - Hobby shops
 - SAR Convention, PO Box 356, Parkholme SA 5043
- or email at convention@mrsac.com

Forms will be posted to previous attendees in late June.

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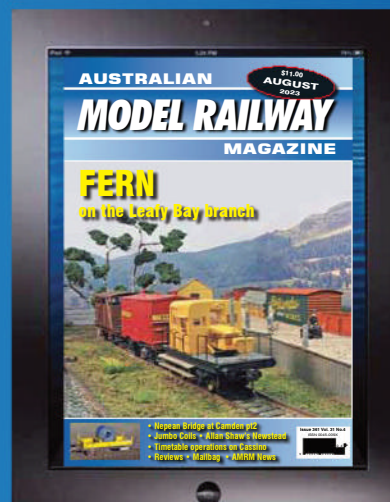
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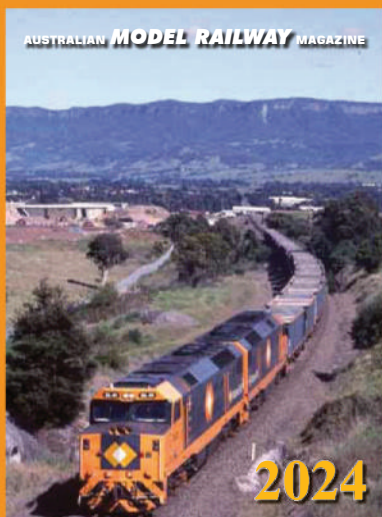
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The diesel cover features DL41/DL50 climbing the grade from Albion Park to Croom tunnel. Other photos include: Adelaide to Darwin freight service No.6AD1 approaching Stuart Highway south of Adelaide River behind One-Rail liveried locomotives GWU014/ALF18, T375/T381/T341, No.9198 loaded grain train near Creswick, a loaded ballast train between Harden and Murrumburrah with CLF1/869/48s36 leading the train, while 48s28/48s35 trail, No.6279 freight crosses the bridge spanning Ross River between Oonoonba and Townsville South Yard behind locomotives 2115/1485, 4886/4869 tread slowly across the viaduct spanning the Peel River between Tamworth and West Tamworth, SAR 959/965 pause at Georgetown, Silver City Comet climbing the grade towards Nashdale, ATN ore train hauled by DQ2007/DQ2012/QR2062/DQ2008, Brisbane Limited Express, NLI, climbs through the Border Ranges National Park, between The Risk and Border Loop, Westrail X1005 stands at Perth station on Australind service, SAR NT76/NT78 pass through the yard at Melrose, VR B64/T360/T404 on an empty gypsum train near Ouyen.

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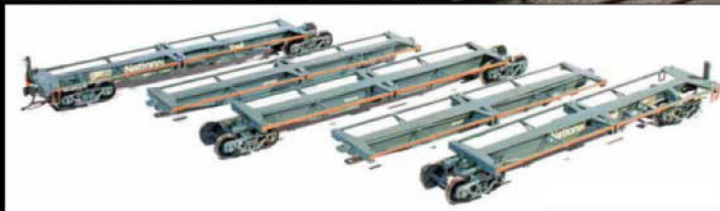


The steam cover features NSW 5920 departing Blandford with bound for Werris Creek. Other photos include: VR N410 works No.23 goods near Inglewood, No.22 goods near Baradine behind 4-6-0 engine 3282, SAR 4-8-2+2-8-4 Garratt 401 standing at Jamestown, No.604 goods passes through the crossing loop at Nashdale behind 3638+6015, QR English-Electric diesel T281, C17 720 and BB18 1/4 1080, a loaded coal train from East Greta Junction hauled by 5112 heads to Port Waratah, NSW 3803 races south between Niagara Park and Narara, VR J class 1549 departs Ballarat with No.43 roadside goods, former NSW locomotive 2535 found use in the Illawarra region at privately operated coal mines, TGR red-liveried 4-8-2 Mountain H2 sat Hobart locomotive depot, NSW 1903 shunting wagons at Darling Island goods yard Pyrmont, WA Larch-green liveried V1206 at Brunswick Junction.

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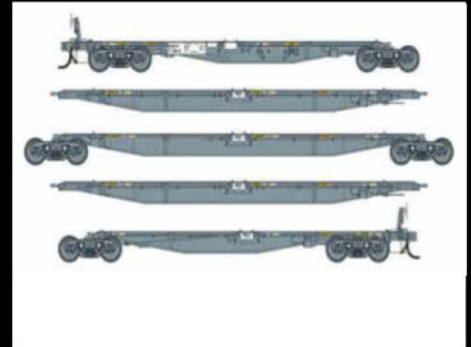
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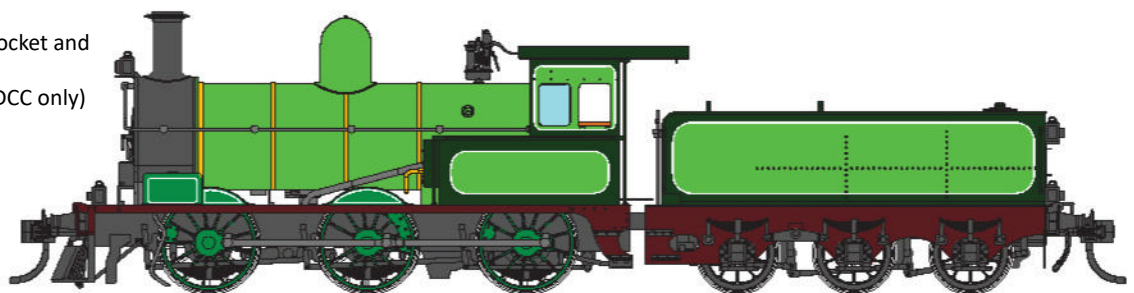
VR 'Y' Class Steam Locomotive in HO



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	TWY-01XS*									850	
	TWY-02	Y106	03/1951 to approx. 1955	Unlined Black	Flared tender with visible rivet heads, compensated springing	Autocouplers fitted, no cowcatcher	Shunters steps/handrails installed, loco and tender	Widened tank	Standard corrugated roof with visible studs	750	
	TWY-02XS*									850	
	TWY-03	Y108	Approx 1955 to 08/1962, & 09/1962 to 08/1963	Unlined Black	Straight-sided welded tender, standard springing	Autocouplers fitted, no cowcatcher	Shunters steps/handrails installed, loco and tender	Widened tank	Standard corrugated roof with visible studs	750	
	TWY-03XS*									850	
	TWY-04	Y108	09/1963 to today	Green, white lining, polished brass dome	Straight-sided welded tender, standard springing	Autocouplers fitted, no cowcatcher	Shunters handrails installed, loco and tender	Widened tank	Altered	750	
	TWY-04XS*									850	
	TWY-05	Y112	Mid 2010's to late 2022	'Bright' green & dark green trim, white lining	Straight-sided welded tender with alterations, compensated springing	Autocouplers fitted, modified cowcatcher	Additional tender-end vertical handrail/bufferbeam step	As-built flat tank	Smooth roof, representing as first built	750	
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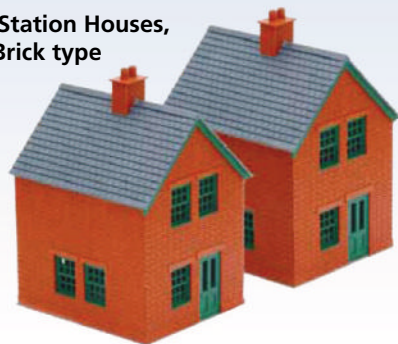


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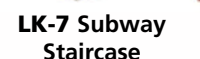
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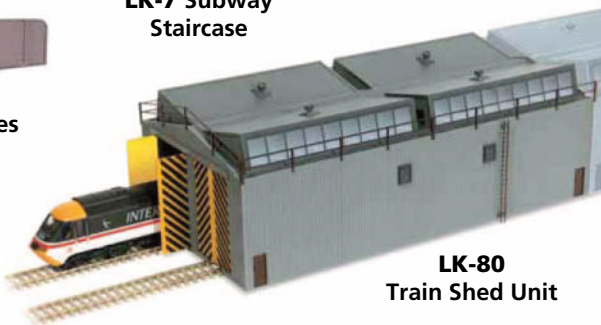
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