

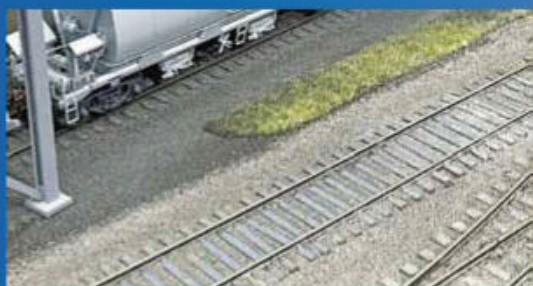
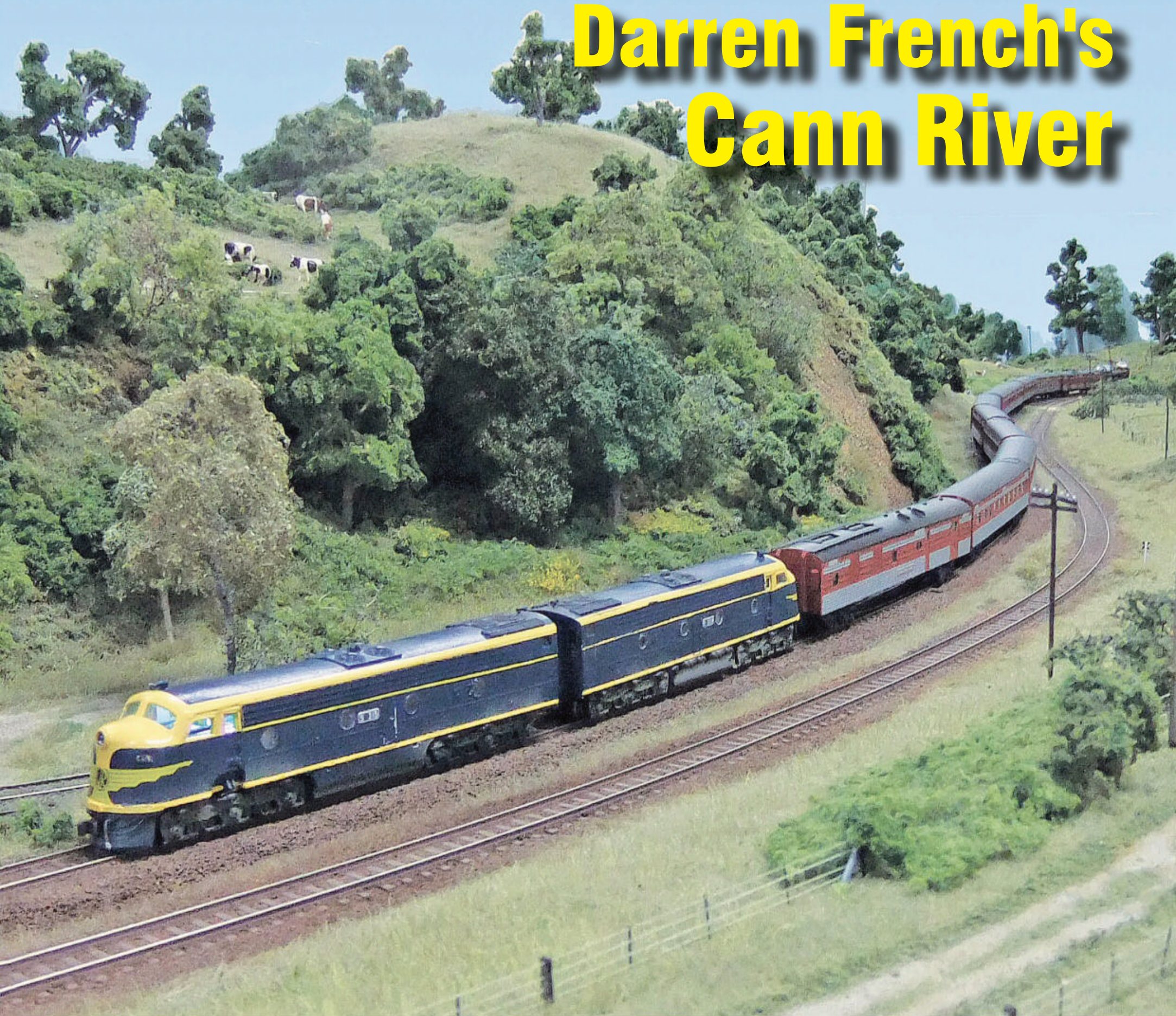
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MODEL RAILWAY

MAGAZINE

Darren French's Cann River



**Build VR signals • Superelevation
Trains worth modelling: Mail trains
Weathering Yard Tracks
Reviews • Mailbag • AMRM News**

Issue 349 Vol. 30 No.4
ISSN 0045-009X





Victorian Railways D3 Class Locomotive



GAUGE
H0
1 : 87

Image by David De Dear
Courtesy of Train Hobby Publications.

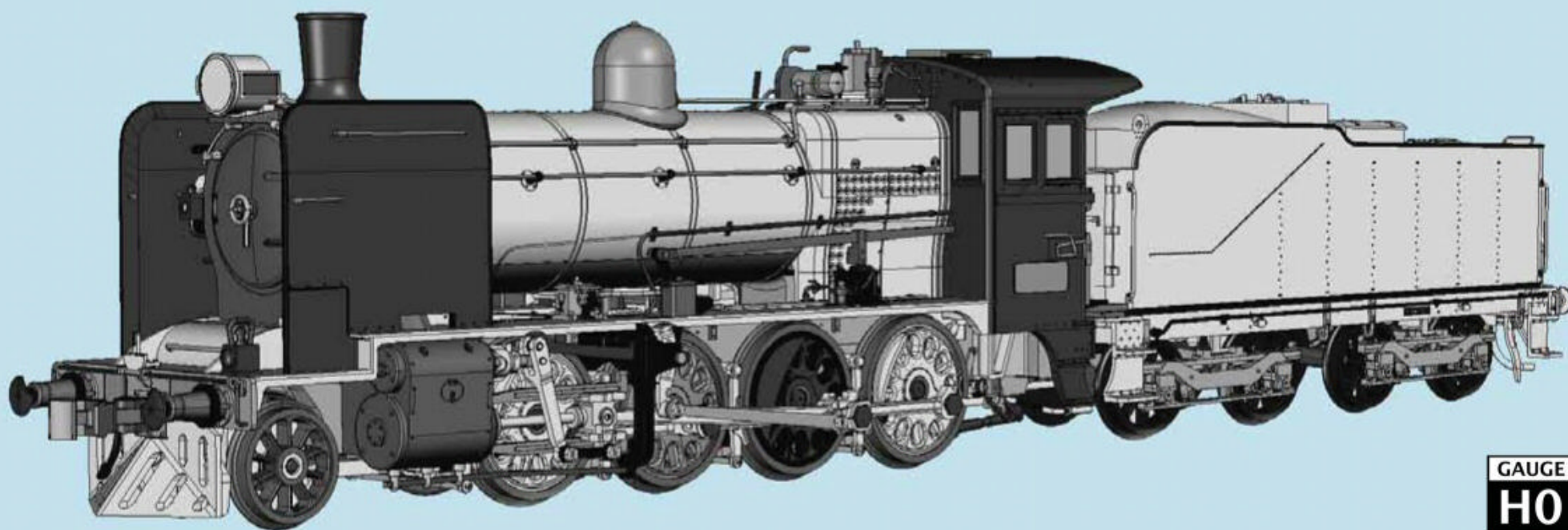
Due to arrive Mid-2021 our Victorian Railways D3 4-6-0 locomotive.

Featuring a diecast metal boiler, metal footplate, metal chassis and metal connecting rods. All wheel electrical pickup and a switchable keep alive capacitor for fault free DCC operation. Working headlight with red/white marker lights for realistic lighting control. Genuine Kadee scale head whisker coupler is fitted to the tender and a scale sized swivelling knuckle and three link coupler is fitted to the front buffer beam.

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See www.phoenixreproductions.com.au for the full range of running numbers.

DCC - SOUND
ESU LOKSOUND
V5.0 Sound Decoder

Victorian Railways K Class Locomotive



GAUGE
H0
1 : 87

After a thorough evaluation by our engineering team, the VR K class model is being upgraded to the same standards as our D3 model. Fortunately, the D3 and K class share the same tender type, so the engineering changes are limited to the engine unit only. We expect running samples mid-year and pending production availability we anticipate delivery Late 2021.

Phoenix Reproductions Pty Ltd - ACN 626606255

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Victorian Railways D3 Class Locomotive with Flare Top Tender

GAUGE
H0
1:87

SDS Models have undertaken the production of two dedicated, and era specific, running numbers from this period. The engine units are based upon the Phoenix Reproductions model mated with our own low sided tender. These models are being produced concurrently with the Phoenix Reproductions units and should be available Qtr1 2021.



21

Victorian Railways APL / BPL / BCPL Passenger Carriage

AUSTRAINS
NEO



The twin packs of PL cars have sold out, but new smooth sided single packs are available now.



SRA 81 Class Locomotive

The SRA 81 class model is in production.
First to arrive are the earlier single door variants.



FULL THROTTLE
DIESEL

21

Arriving
Early 2021

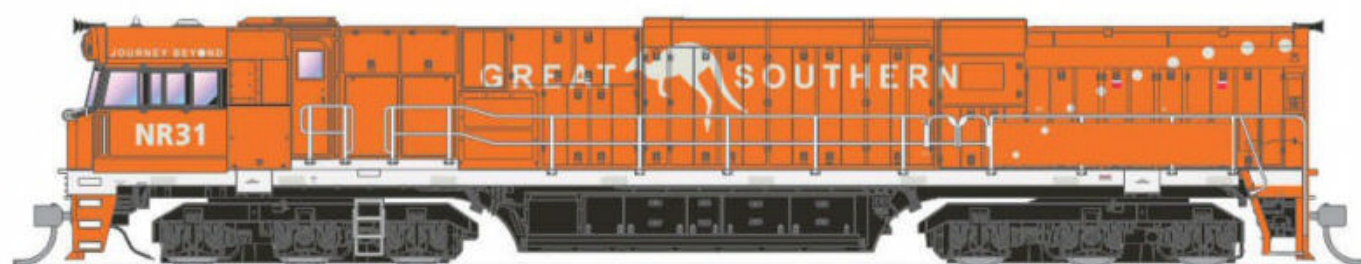


NR class Locomotive

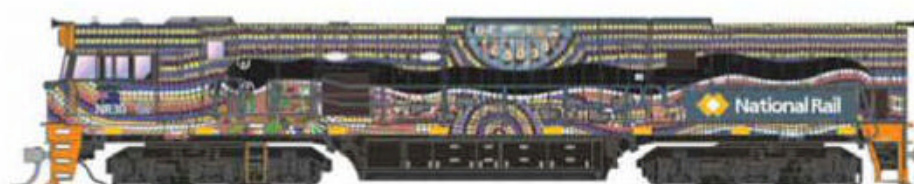


FULL THROTTLE
DIESEL

21



The full range of NR class locomotives including the indigenous units are available now.



FEATURES

18 Cann River

Darren French's Cann River an extensive proto-freelance layout based on south-eastern Victoria.



28 Track Ballasting and Weathering Yard Tracks

Ben Gray outlines a technique for ballasting and weathering yard tracks.

31 Building VR Signals from Ratio Kits

Bob Gartside builds VR signals from Ratio kits.



39 Track Superelevation

Ian Barnes outlines techniques for creating superelevated track.



50 A simple economic DC train shuttle circuit

Robert Kosmider, builds an economic DC Train shuttle circuit.

52 Trains Worth Modelling: NSW Mail Trains

Graham Ahern presents some trains worth modelling: NSW mail trains.



OTHER FEATURES

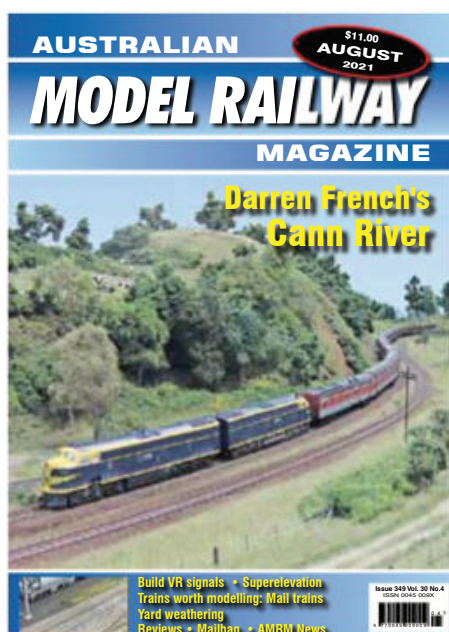
- 30 In The Loop: What Lies Beneath the Paint
- 43 Brisbane Exhibition Report
- 44 Adelaide Model Railway Exhibition Report
- 48 Gallery: Matthew Winzenried's Early Victorian Railways Gallery

REGULARS

- 55 Reviews
- 56 Recent Releases
- 57 AMRM News
- 61 Diary
- 64 Mailbag
- 66 Market Place
- 70 Advertisers' Index



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ON THE COVER:
The late Ian (Fletch) Fletcher's 'Overland' makes a guest appearance and rolls through the curves approaching Noorinbee. Darren French

The thin edge of the narrow-gauge wedge?

Modelling Queensland Railways (QR) in HO or HOn3½ has been building up for a number of years. More and more manufacturers have dipped their toe into the market. This has resulted in a steady stream of ready-to-run rolling stock. With the appearance of rolling stock, other manufacturers have stepped in to fill the infrastructure void, releasing kits for station buildings, signals etc. and even — recently — prototype track. All this availability has a 'times 2' effect. Time-poor modellers can now effectively recreate a QR scene with relative ease.

So, does the proposed release of a plastic injection-moulded ready-to-run Tasmanian Y class and Midland Railway of Western Australia F class diesels in HO scale represent the thin edge of the wedge for Tasmanian and Western Australian modellers?

When you think of modelling in Tasmania, OO (1:76) using HO standard gauge track, seems to be the most popular and, in Western Australia, Sn3½.

Both OO and Sn3½ can be considered craftsman scales. This means that most of the modelling means building kits or scratch-building. These scales enable modellers to use reliable mass-produced mechanisms from either HO scale or OO scale under their kit-built or scratch-built locomotives.

Could a single HOn3½ locomotive swing modellers from OO or Sn3½?

If you look over time, the availability of ready-to-run HOn3½ rolling stock etc. has slowly changed the face of QR modelling. QR Sn3½ modelling is now in the minority, so it is definitely possible.

Large parts of Western Australia (after 1966) have dual gauge track and there are a number of manufacturers offering HO standard gauge ready-to-run models, so a Western Australian dual-gauge layout might be a feasible endeavour.

Yes, model manufacturers will need to follow up with HOn3½ rolling stock etc., but some of this is already available from manufacturers with 3D-printed models.

There may also be knock-on effects for South Australian (SA) modellers, too. Modellers of dual gauge in SA seem to use HO and HOn3 as a good spacing to replicate 5 foot 3-inch broad gauge and 3 foot 6-inch narrow gauge. All of this made perfect sense when HO, HOn3 dual gauge track was readily available (piggy-backing off the North American 'Denver and Rio Grande' HOn3 market). These days it's a lot easier to get HO, HOn3½ dual gauge track in Australia. In fact, that change may have already played out in SA, when the Whyalla Model Railroaders exhibited their layout *Maree* with HO and HOn3½ dual gauge at the June 2021 Adelaide exhibition!

It's all very interesting to contemplate the possibilities for modellers of HO scale narrow gauge prototypes.



A great example of Tasmanian OO scale narrow-gauge scratch-building; English Electric locomotives Z2 and Z1 in Tasmanian Government Railways tiger stripe livery on the 'East Tamar' layout, photo by the AMRM team.

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The Annual Membership Fee for SCMRA is \$66.00 from March to February and the Joining Fee is \$20.00, which includes the membership data pack. Applications must be received by the first of the odd month to meet our mailing list deadlines. For applications received between the 2nd September and the 2nd January the Half Annual Fee is \$33.00 plus the (\$20.00) Joining Fee (does not include October issue of AMRM). All fees are GST Inclusive. Membership entitles you to participate in the activities of the Association, to receive AMRM and our regular news-sheet *Booster*. Standards, Recommended Practices and Information Sheets covering model railway practice are included in the joining kit together with a vinyl ring binder and are also issued at regular intervals. For further details write to the Secretary or contact the divisional representative. Meetings are usually organised on the second Saturday of

each month in New South Wales. For further details and location please contact the divisional representative. Membership services include magazine binders and photocopies of articles from out of print issues of AMRM at discount prices.

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AT ISSN 0045-009X

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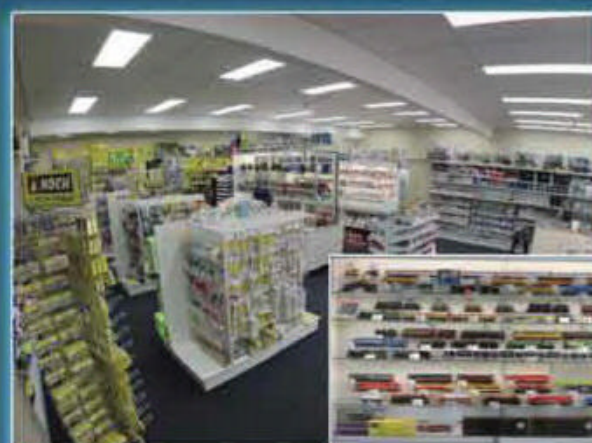
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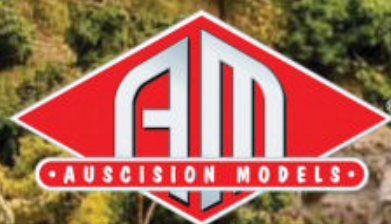
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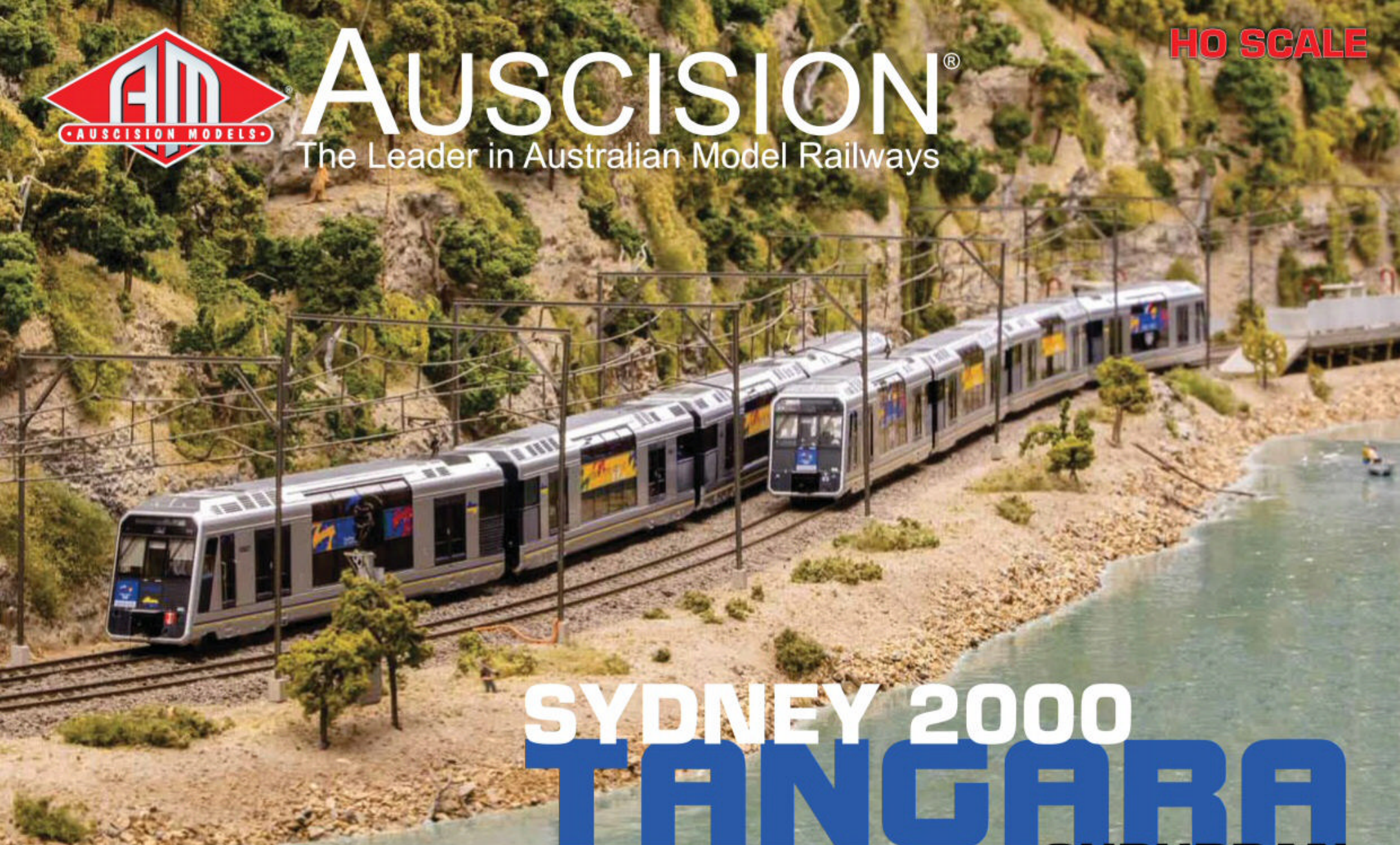




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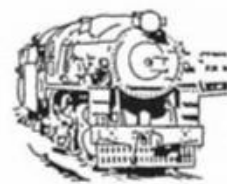
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* Last minute changes may be necessary.

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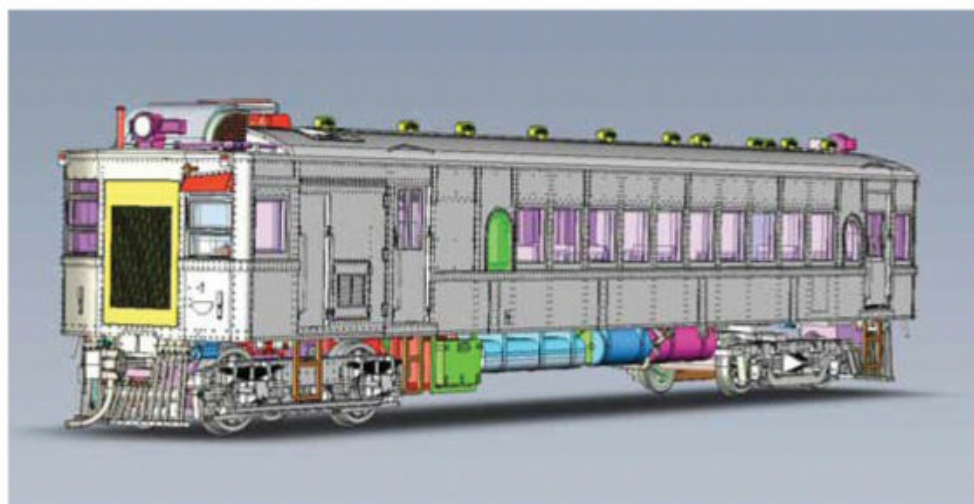


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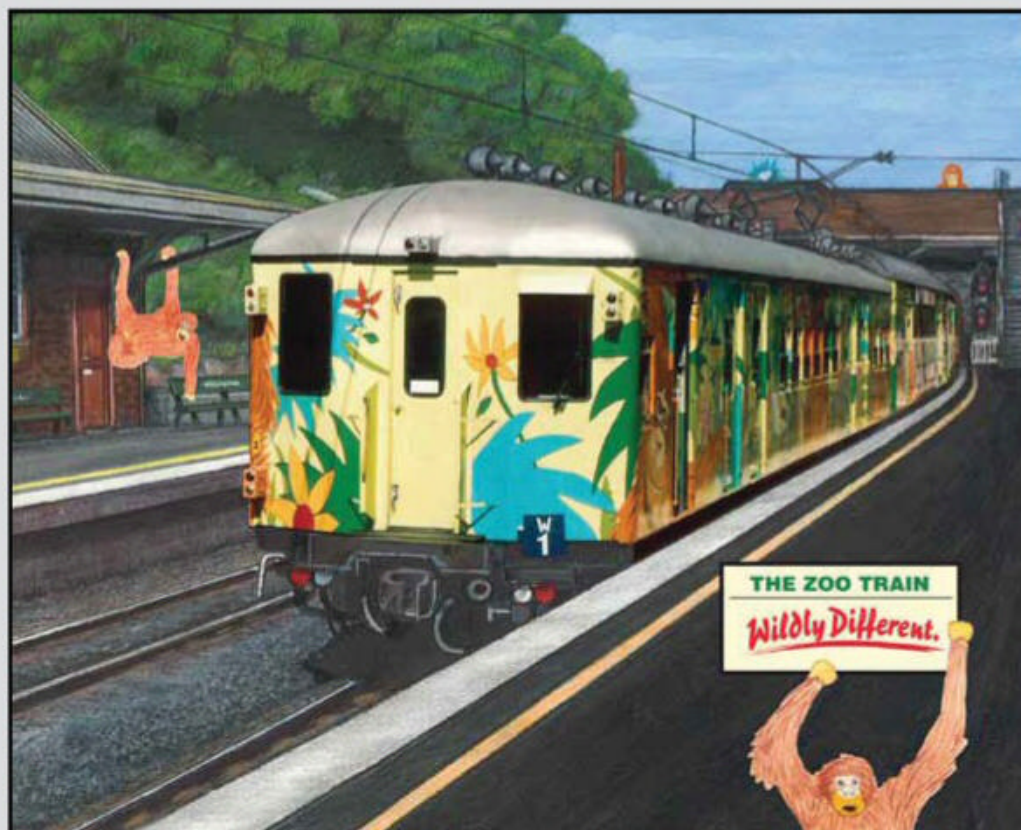
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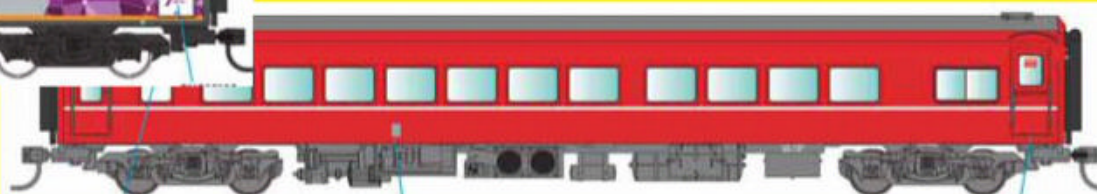
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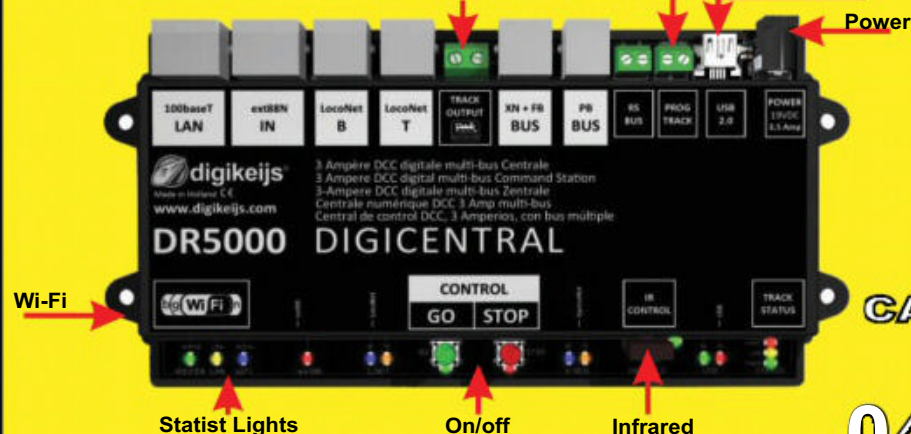
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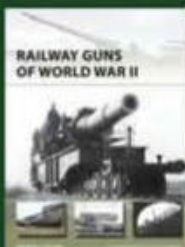






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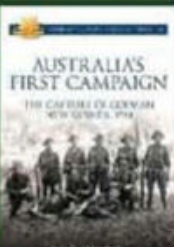
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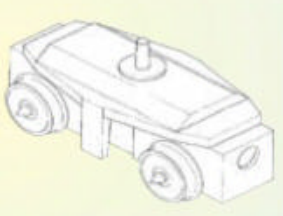
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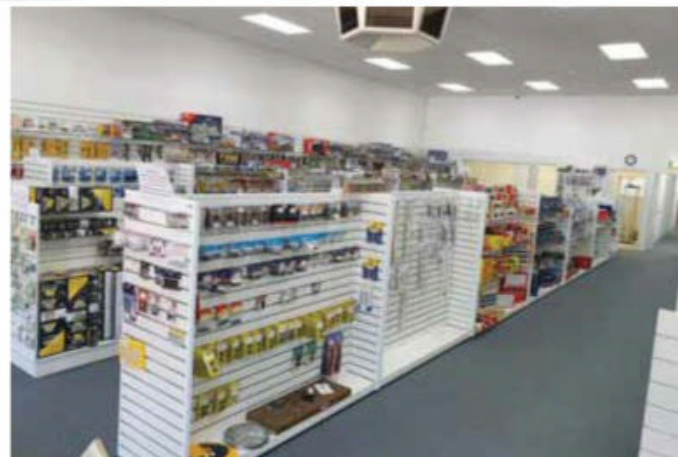
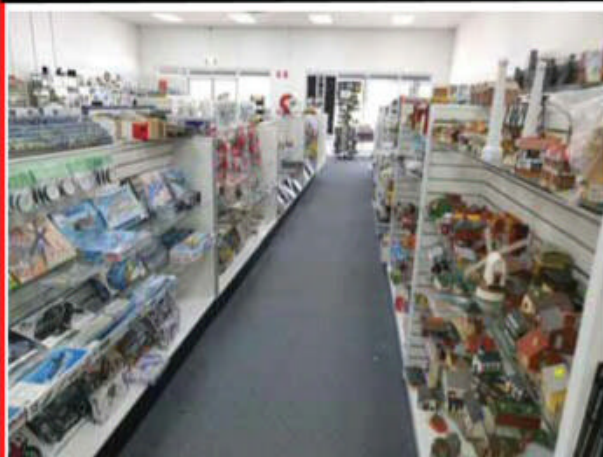
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The up Chandler passenger arrives at Noorinbee behind T377 passing B75 waiting for clear road ahead.

Cann River

Darren French describes his inspiration for building an extensive proto-freelance layout based on south-eastern Victoria. Photos by the author unless otherwise credited.

Modelling Background

My first foray into model trains was receiving a HO scale Lima train set one Christmas in the early 1970s. It was the classic circle of track, and a little 0-4-0 and four wagons. A neighbourhood friend of mine had an N scale English layout of which I saw great potential for space vs scenery. After convincing my father that I needed to change scales, I began making N scale bridges out of matchsticks. I started out on my N scale journey with some American passenger cars from Rivarossi painted red and a Baltimore and Ohio E8 painted in Victorian Railways (VR) blue and gold livery. As my modelling skills improved, I managed to 'cut and shut' the E8 to the correct length for a VR S class. I accomplished a similar operation with two E8s to make a B class. Articles in AMRM written by Tony Scott in the 80s inspired me to seriously model VR in N scale [Editor's Note: AMRM issue 120, June 1983 and issue 128, October 1984]. The early Aust-N-Rail GYs and their other early kits kept my roster growing, but there were still many gaps. While attending the AMRA Box Hill exhibition I was fortunate to meet Chris Pearce and saw his Spirit Design VR E and W passenger cars. I was convinced to stay with N scale and keep growing my layout. I joined the Victorian N Scale Collective, where I met Tony Scott who had inspired me many years before and Rob Carpenter from Aust-N-Rail, along with many other talented modellers.

Layout History

I have always had a passion for the Gippsland region of Victoria with Wonthaggi, Yarram and the Orbost lines being inspirational in what I wanted to model. However, I did not want to be locked into modelling a prototypical location. While on a railfan tour to Picola in the 80s, our train stopped at Seymour for servicing. During the stop, I was able to wander around when I stumbled on a giant map of Victoria mounted on the station building wall. It was dated 1962 and, on this map, I noticed a dotted line showing a proposed extension of the Orbost line to Cann River and then onto the NSW border and beyond (see diagram 1). There was also a proposed line from Cann River to Bombala, connecting with the New South Wales Government Railway (NSWGR) system. So Cann River, a real township in eastern Victoria, was chosen as my location to set the model railway, even though in the real world the railway never reached that far. I later discovered reports in Trove [Editor's Note: Trove is a National Library of Australia database that includes archives, images, newspapers, official documents, archived websites, manuscripts and other types of data.] that there were plans for the Victorian Railways to extend the line from Orbost to Cann River. From there up the east coast of Australia, connecting with the NSW line at Bombala and hence a link from the nation's capital to

Melbourne. I uncovered numerous articles to show that this line was seriously considered.

In my version of history, the Orbost line was extended as per the dotted line on the map, including the line to Bombala. This also enabled the NSWGR to run from Eden, on the east coast, to Bombala (via Cann River). Additionally, in my version of history, the VR proceeded with gauge conversion of all its track to standard gauge, thus enabling through running of locos and rolling stock between both states. There are some restrictions on what locos can be used for interworking to add operating interest, necessitating loco changes at Cann River. I believe this type of modelling is referred to as proto-freelance (freelancing, but with a prototypical context). So, with my 'history' firmly established, I chose real towns in the Cann River district to provide for my stations on my growing empire.

Control System

In the late 80s and early 90s while visiting the AMRA exhibition at Camberwell, I came across a small trade stand with an

oval of track and an N scale Union Pacific E8 slowly making its way around. And when I say slowly, I mean it was crawling without any hesitation whatsoever. Enquiries confirmed this was digital command control (DCC) from Digitrax, so my conversion from DC trains to DCC trains began. My layout uses a Digitrax DCS-100 as the command station. The DCC system has been added to and expanded since the early 90s.

There are several UP5 panels around the layout where controllers can be connected, along with UR90s for infrared, UR91 for simplex radio and a UR92 for duplex radio, allowing for tether-less walk-around controllers. I use a JMRI Panel Pro with a

wireless router that allows control via mobile phones with EngineDriver (Android) or WiThrottle (Apple). The computer running Panel Pro is connected via USB to the layout's LocoNet network using a RR-CirKits LocoBuffer. The LocoNet network connects to seven RR-CirKits Tower Controller 64s that I use as object controllers to control the points and signals, and provide indications on the local control panels. Arduino relay modules are used to control a mixture of Tortoise and Cobalt point motors

At a Glance

- Name:** Cann River
- Scale:** N scale
- Period:** VR and SRA of NSW 1978–83
- Layout:** point-to-point with branch line; continuous running available through staging yard
- Layout Size:** 11 m x 9 m
- Rail height above floor:** 1220 mm (48 inches) rising to 1370 mm (54 inches)
- Baseboards:** L-girder
- Track:** Peco Code 55
- Control:** Digitrax with JMRI
- Buildings and Structures:** Spirit Design kits with some scratch-built structures
- Scenery:** plaster over chicken wire, paper towel and newspaper over extruded foam, Woodland Scenics ground foam products and static grass. Trees are a mixture of Woodland Scenics, Sam's Trees and Super Trees.
- Locomotives:** Spirit Design, Peter Boorman's Workshop, Gopher Models, Aust-N-Rail
- Rolling stock:** R-T-R Aust-N-Rail and Gopher Models, kit-built Spirit Design, Aust-N-Rail, Badger Bits, N Trains, Fybren
- Builder:** Darren French

Meet the Author

Darren French

Married to a very supportive wife with three wonderful children, I have worked in the rail industry in signal maintenance and signal design since leaving school. Currently working with V/Line, I enjoy designing and constructing anything (even though my constructing skills are somewhat lacking) that is a bonus when it comes to model railways. My hobbies are all-encompassing within model railways, as there are so many other hobbies within the bigger umbrella of model railways: carpentry, electronics, computers and 3D-artistic expression through modelling scenery, something I really enjoy doing.



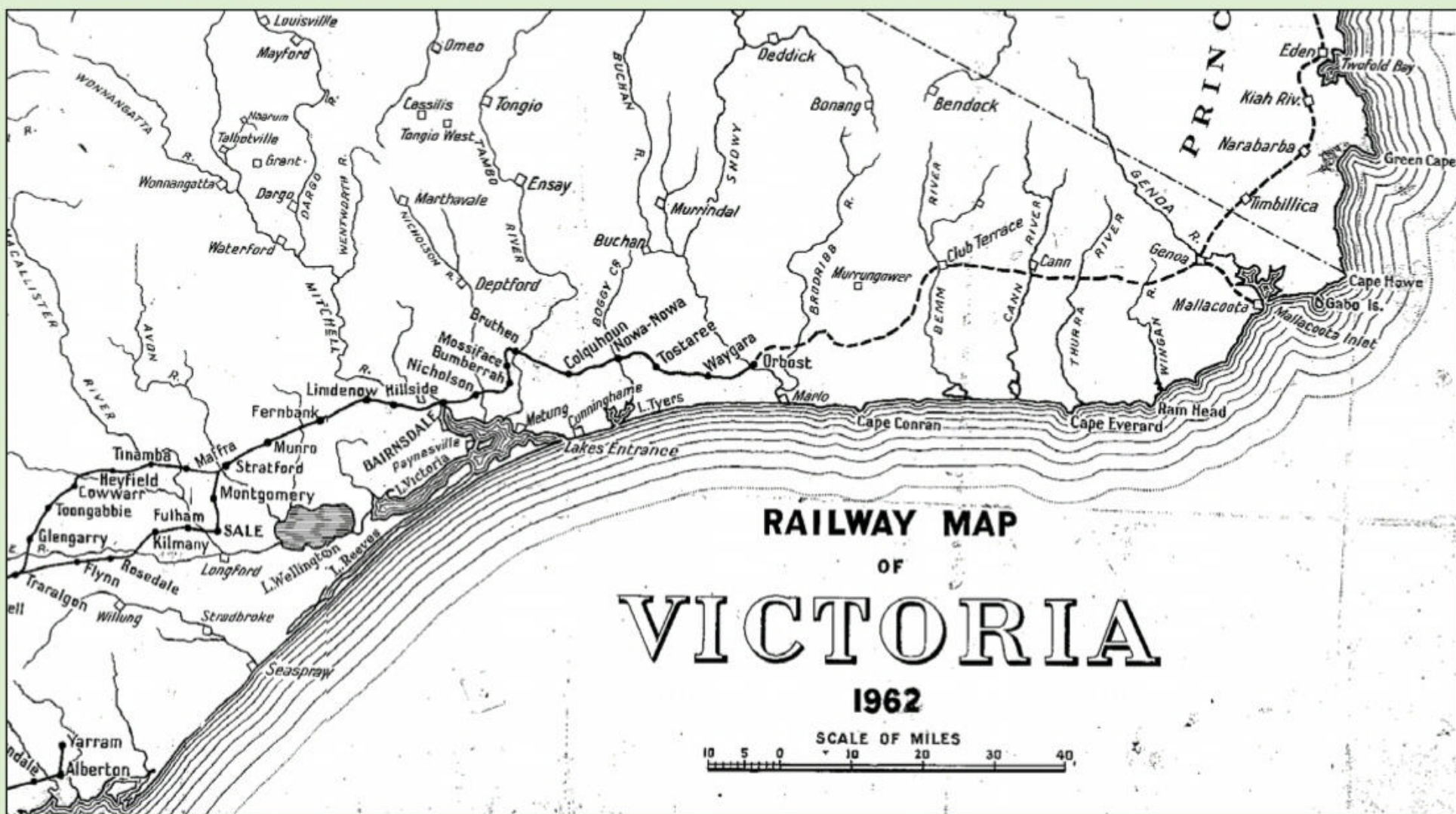
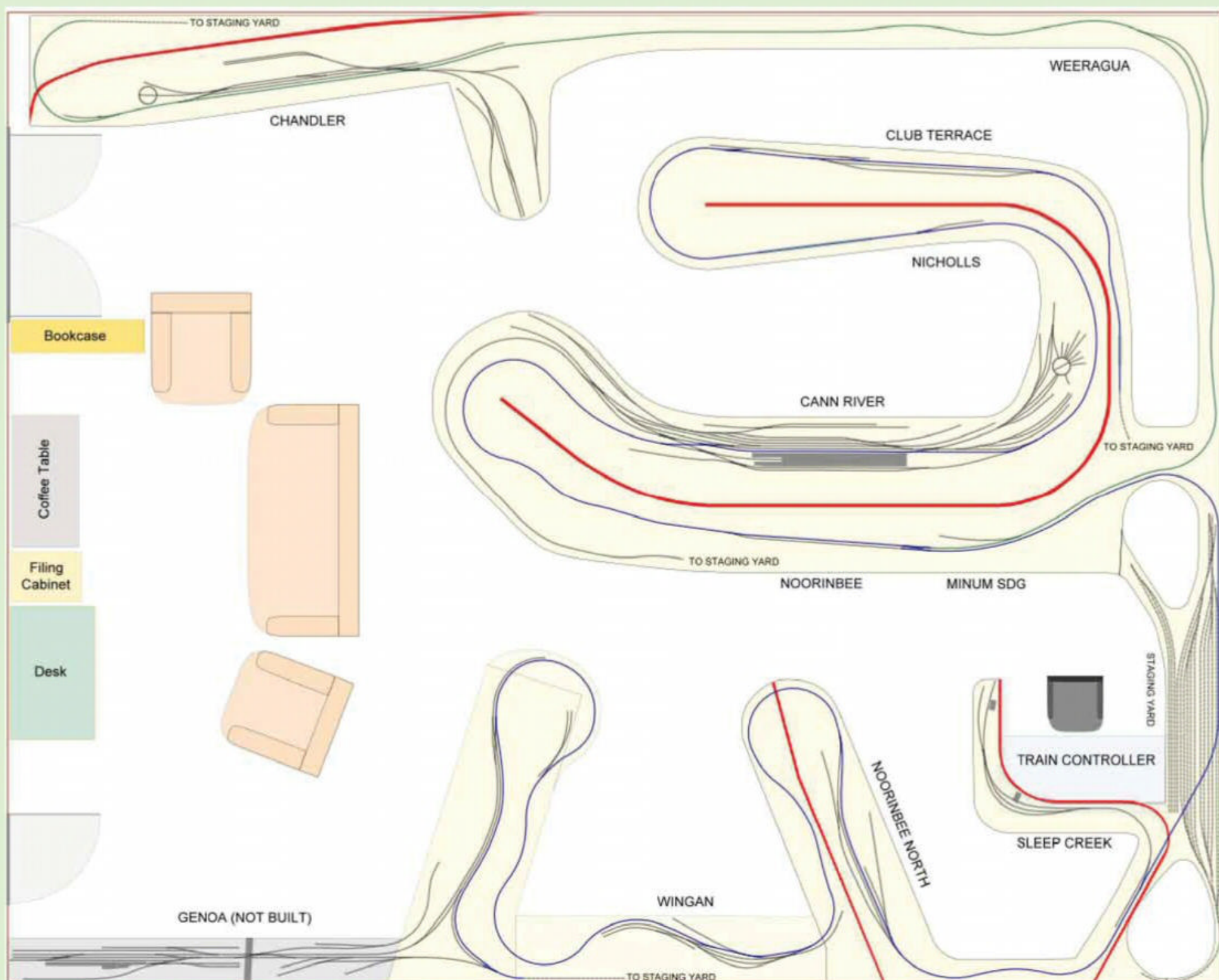


Diagram 1, Circa 1962 railway map of Victoria showing the proposed line between Orbest, Vic and Eden, NSW.



'Cann River' is 11 m x 9 m.



T377 hauling a local goods approaches Noorinbee after climbing up the grade from Cann River.



Y168 pauses at Noorinbee as it prepares to set out two GYs into Minum siding.

for main line points driven by the Tower Controller 64s. The layout is fully track-circuited with train detection via Digitrax BDL-168s and BOD-H detectors by RR-CirKits. Each piece of rolling stock has one or two 10 kohm surface mount device (SMD) resistors, one axle on four-wheel wagons and one axle on each bogie for bogie vehicles, so detection works even on a single wagon.

As the computer is running JMRI Panel Pro, there are several ways of using this freeware program to control a signalling system. I used their 'Logix' system to create my signalling logic that uses sets of conditionals (AND or OR statements) to provide a logical output statement. My logic is based on typical Victorian Railways circuitry providing the correct signal aspects and interlocking principles. The Panel Pro layout editor is used to create a centralised traffic control (CTC) panel that is displayed over three screens. The CTC panel can control the entire layout or can relinquish control of individual stations to allow local operations.

Signals and Points

I have worked in railway signalling in Victoria since 1985 in maintenance and design, so having prototypical signalling and point operation on my layout is a passion of mine. Each station has a control panel using prototypical VR symbols and layout, with electrical interlocking



T333 departs Chandler crossing Deep Creek. The bridge was modelled on the real Deep Creek bridge near Bruthen on the Orbost line. (Photo Chris Pearce).

using miniature toggle switches. I have slowly been building prototypically correct light emitting diode (LED) signals using brass tube as masts and SMD LEDs mounted behind small lenses with backgrounds and hoods. The JMRI Logix provides interlocking that protects against clearing a signal if an opposing move is set or if the points are not correctly set. The signal aspects are as per VR signalling practices with a yellow signal leading up to a red signal, a green leading up to a yellow and a combination of normal and medium speed signalling. Some signals are approach cleared; this requires the presence of a train approaching the signal and a timer to expire before the aspect will show 'proceed'. All this interlocking can (and does) cause frustration to newcomers but does add more realism as you get used to it. In a station area any point that would have been controlled from the signal box is electrically operated, while yard points that would have been hand thrown use the 'wire in tube' method with microswitches to change frog polarity. All electrically-operated points and signals can be controlled from the CTC panel or switched to the local panel at the station.

The Layout

Benchwork uses L-girder with station areas laid out on medium density fibre-board (MDF) sheets. Early scenery was made using the traditional plaster over chicken wire method. Later, I started using paper towel and newspaper over extruded foam, a technique inspired from the late Geoff Knot. A mixture of the usual Woodland Scenics products has been used, mostly using burnt grass, earth and soil colours. MiniNatur grass tuft products have been randomly placed by my children; they seem to be able to do this without any effort and it looks good. Trees are a mixture of Woodland Scenics, Sam's Trees and Super Trees.

Buildings (not that there are many of them), are mostly Spirit Design kits with some scratch-built structures.

Backdrops are an experimental process using photos that I have taken throughout country Victoria and stitched together using Photoshop. I was fortunate enough to have access to a plan printer so I could print out long plots without a seam. I have been extremely fortunate to have my wife and three kids all involved in the construction of scenery on the layout. Unfortunately, I made some benchwork modifications to the layout that resulted in some scenery being removed. I say unfortunately, as that scenery was con-

► Locomotive 4206 leads 48162 hauling a lone FHG crosses the gully between Noorinbee North and Wangan. The bridge is modelled on bridge No. 4 that was located between Nayook and Noojee on the former Noojee branch line.



Locomotives 4477-4890-4846-48162-4206 cross Meredith Creek with a down Bombala goods; next stop Chandler.

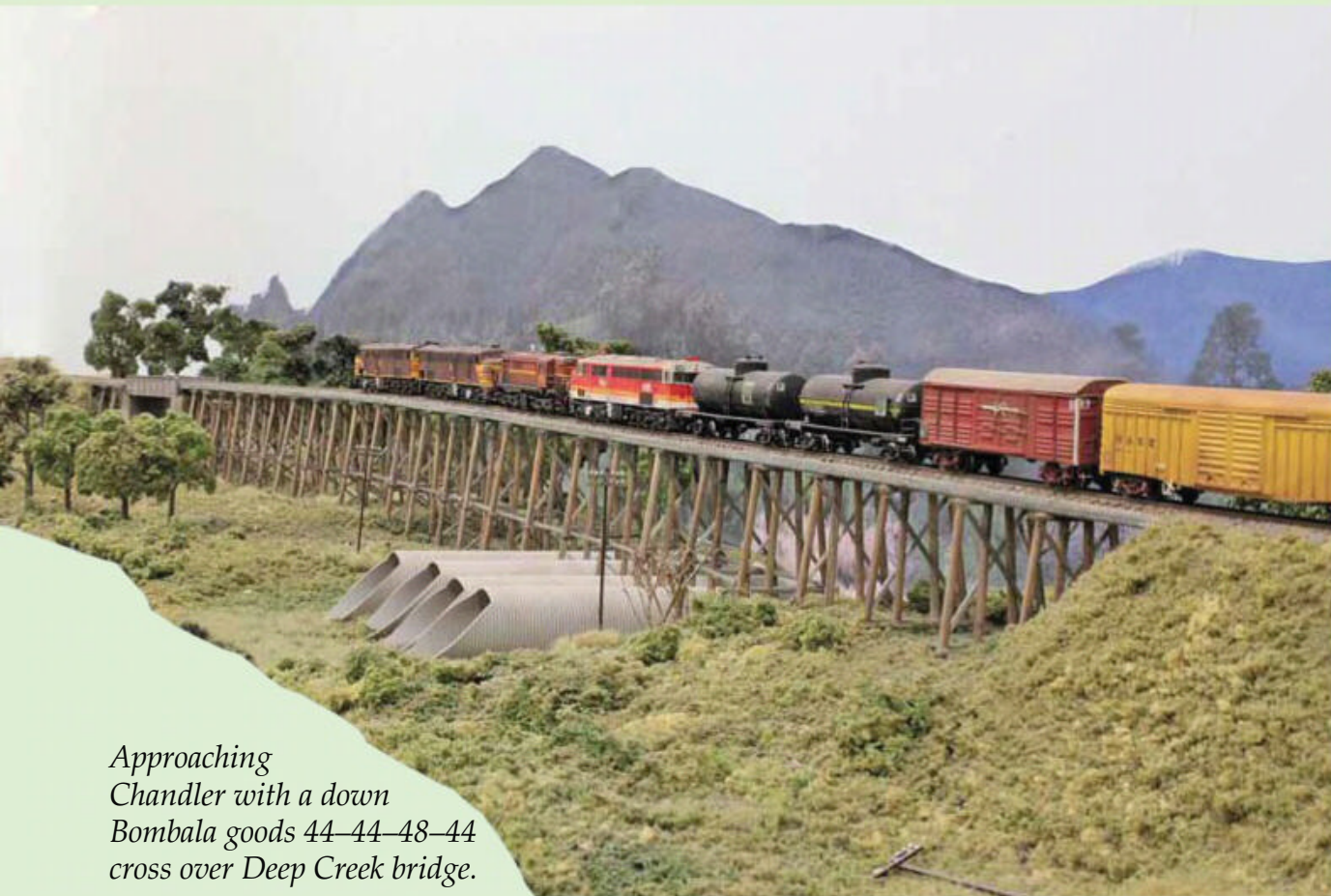


The abandoned loading shed at the end of Minum siding.

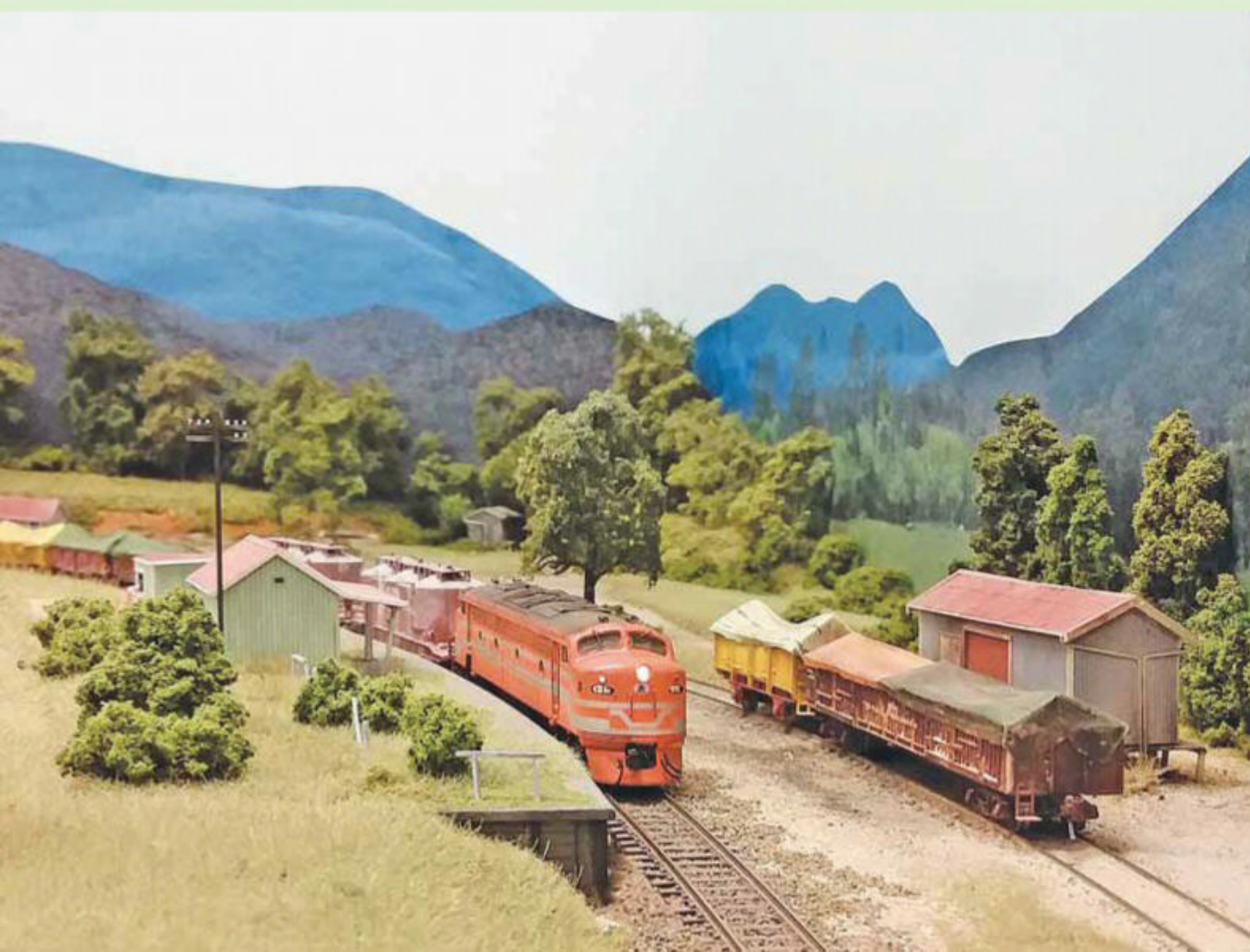




Roger Vistarinis' DRC crosses West Cann Rd with the down railmotor to Chandler. The 'wig wag' signal is actually moving back and forth as the train passes through.



Approaching Chandler with a down Bombala goods 44-44-48-44 cross over Deep Creek bridge.



structed by my wife, who 'was not amused'.

Rolling Stock

As mentioned earlier, my first attempts at making Victorian Railways trains were to buy commercially-available models and paint them VR red, or blue and gold. This appealed me for a little while, but the growing list of VR HO scale models coming on the market made me realise that my models were lacking somewhat.

Thank goodness for the N scale cottage industry. My VR roster grew quickly with early Spirit Design and Aust-N-Rail models, along with some kit-bashed and scratch-built models. As more VR N scale kits became available, my collection expanded (while my wallet reduced) and I started venturing into other states' rolling stock for a bit of diversity. Well, the real VR certainly had through running of other states' rollingstock, so the scene was set for my venture into NSWGR trains running in Victoria. As stated earlier, I had a good enough reason for that to happen with the gauge issue sorted. I have always enjoyed the operation of American railroads, with certain companies having trackage rights over another company's lines leading to some interesting train consists and operations. So, with the VR and NSWGR mix on my layout, I could also reap the benefits of having some interesting operations and some very cool models that were now hitting the market. The latest additions to my roster have come from Spirit Design, Peter Boorman's Workshop and, of course, I have many Gopher Models 48s, 44s, B class and S class — even a 43 class. All rolling stock is weathered using a mixture of pastels and weathering powders.

Operation

The layout was not built with operations in mind, in fact operation was somewhat foreign to me. During the Melbourne N scale convention in 2013, I had the pleasure of meeting several N scalers who were into the operations side of things, albeit with their American railroads. I was invited to a couple of their homes where I partook in operating sessions and behold, I became hooked. Thanks to Rod Warren and Brendan Dennis I evolved my layout into operations-focussed running.

I use a car-card and waybill system. Every piece of rolling stock has a car-card with a photograph of the item and then a double-sided four-position waybill is inserted. There is a rough timetable, but how well this works depends on how long an operator takes to complete what can be quite complex shunting moves at

B68 pauses at the small station of Weeragua in preparation to collect the empty ELX and GY from the siding.

Ian Wood's scratch-built C class climbs the grade between Cann River and Noorinbee.



each station. Additionally, this also depends on how well the yard operator at Cann River is keeping up with his/her workload. At this stage there is no fast clock.

Here are a couple of the many trains that run during an operating session:

- **Train No. 9447** runs from Melbourne (that is, the staging yard) to Chandler and returns as train No. 9448. It carries superphosphate and general goods. The general goods are left at Cann River to form other trains. A typical consist would be a B class and T class double-heading to Cann River with a TWF tank, KMQ, VFTY, ELX, two GYs, TWF tank, P, three KCs, six GYs and a ZLP. At Cann River the engines are split, and all the loading except the GYs removed. The train continues to Chandler with one engine shunting at all stations.
- **Train No. 48** runs from Chandler to Cann River, returning as train No. 47. Typically hauled by a T class, this train is formed by picking up loading from the paper mill sidings at Chandler, any loading at Chandler itself then running to Cann River, picking up and dropping off loading at Weeragua and Minim on the way.

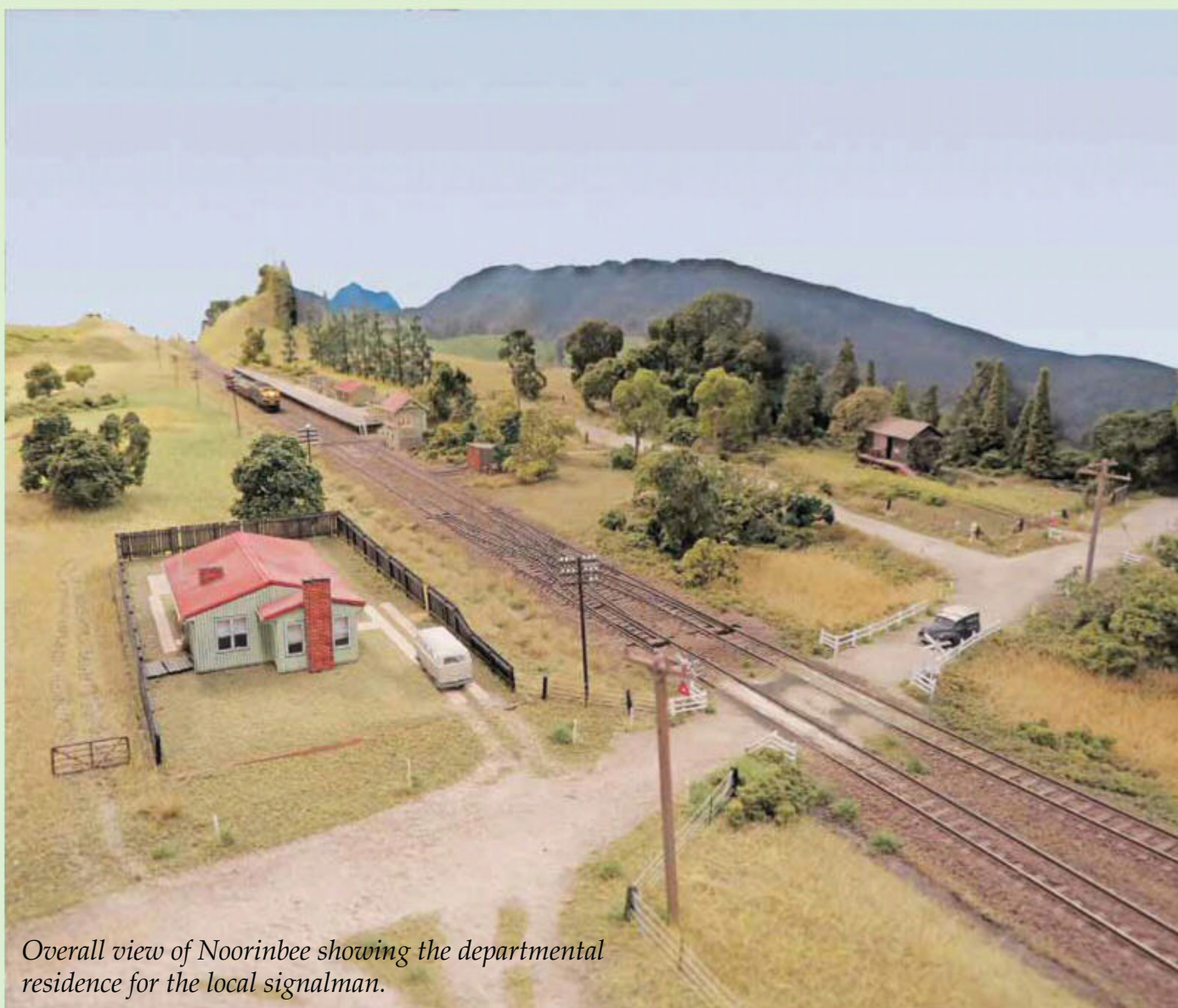
At Cann River, loading for other destinations is left to be formed into other trains according to the car-cards; loading is then picked up by other trains for their final destinations.

The fiddle yard that represents Melbourne, Sydney and Bombala is in one location, but with separate tracks for each destination.

Conclusion

I am very fortunate to have a supportive family. When I was planning what size shed to build to include the layout room for Cann River, my wife Jo asked, "Why don't you get a bigger shed?". My three wonderful children have all been involved in various projects, including structure kit building and scenic work on

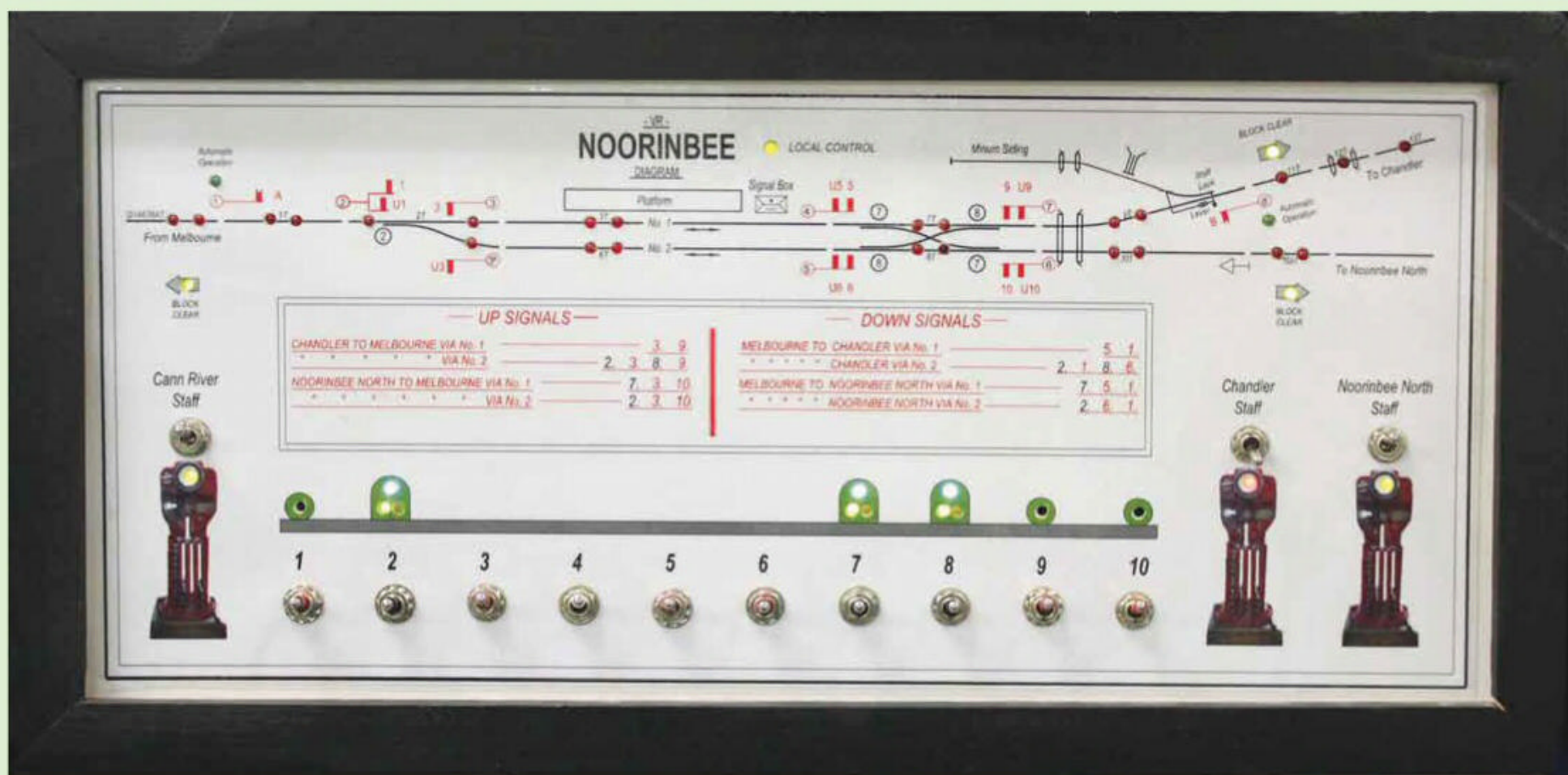
the layout. We have spent many happy hours together in the shed working on the layout. Supportive friends play a big part in building and operating a layout. The Victorian N Scale Collective certainly contains these types of people. Thanks to Roger Vistarini for pushing me along to put pen to paper documenting my Cann River layout.



Overall view of Noorinbee showing the departmental residence for the local signalman.



A trio of 48s roll out of Noorinbee and apply the brakes for the downhill run to Cann River with a loaded coal train.



Noorinbee local control panel. The main CTC panel can give control to this panel to enable local control of the points and signals.

Overall view of Cann River layout.

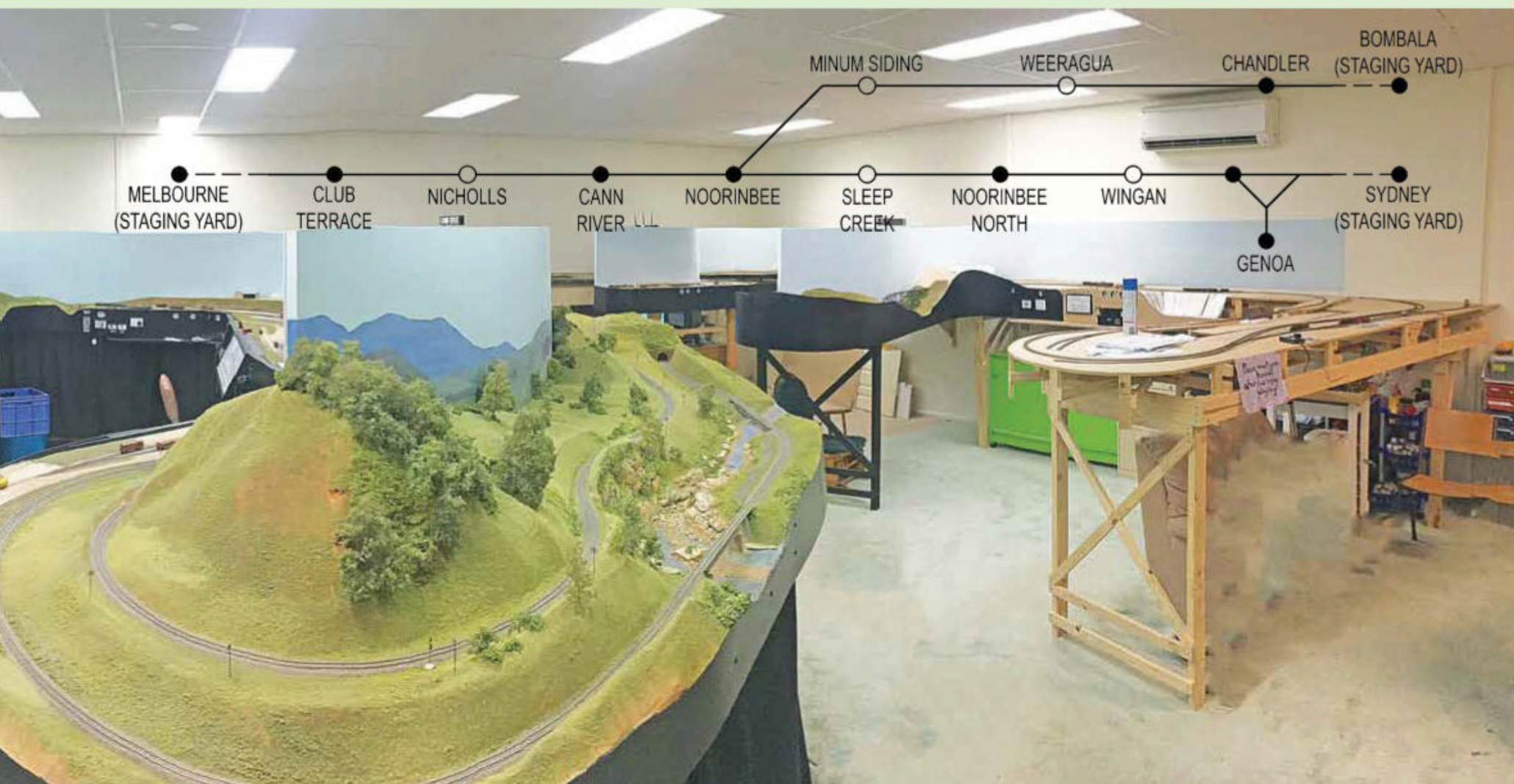




The CTC panel (using JMRI Panel Pro) controlling the Cann River layout.

The Americans have a term for a railroad that no longer exists: a 'fallen flag'; sadly, Cann River has become a 'fallen flag'. The layout was never finished, and between 2013 and 2021 no work on the scenery side of things was undertaken due to the uncertainty of our relocation. A house move has seen Cann River

partially dismantled and partially destroyed. However, a new shed has been built and the layout will rise again from the ashes. Some of the existing layout will be incorporated in my new version. Whatever can be salvaged will be re-used and then, as Conan says, "We shall see."...





Track Ballasting and Weathering Yard Tracks

By Ben Gray

Try as I might, modelling the ground cover in a railway yard has eluded me for some time. Specifically, how should I represent the 'flat sleepers-embedded-in-dirt' look, with their well-worn paths either side of the track, found in so many railway yards regardless of era or prototype modelled? After testing the patience of many, many exhibitors and fellow modellers to learn their methods to achieve this look, I found an alternative to the time-consuming 'modelling clay and paint' method.

Preparation

No matter what type of ground cover you use, rails and sleepers that have been painted and weathered will look better than track that hasn't. On my layout, I laid Micro Engineering code 70 and Peco code 75 track straight onto the baseboard with a matt white glue called Mod Podge. Unlike the usual PVA glue, this doesn't leave a shiny surface when dry.

Materials Required

- medium grey spray paint;
- brown spray paint;
- dark grey and brown artists' acrylic paints;
- grey, black and brown tile grout powder;
- washed, dried and finely sifted brick-layers' or paving sand;
- matt white glue (for example, Mod Podge);
- isopropyl alcohol;
- a spray bottle;
- an eye dropper;
- spare take-away food containers (for mixing and storage); and
- weathering powder (for final details).

Step 1 — Initial Painting

Mask the point blades on the turn-outs with tape then spray the entire track with a medium grey spray paint to represent old sleepers. After the paint has dried, I recommend painting one third to a half of the sleepers in darker browns and greys using artist's acrylics to break up the uniformity, though I haven't done that to this layout due to lack of time.



Step 2 — Painting the Rails

After the sleepers are dry, paint the rails your preferred colour using a small brush. Alternatively, you can mask the sleepers, leaving a small area each side of the rail exposed to represent sole plates, then spray the rails brown or your preferred colour. I used an ultra-flat camouflage brown by Krylon. Clean the tops of the rails by pushing a piece of soft timber along the top.

No matter where rails appear on the prototype, nature was there first. Accordingly, I recommend completing at least your preferred layer of dirt or scenic ground cover bordering the track and the yard before moving onto the next steps.



Step 3 — Ballasting

Next, use tape and newspaper to mask any areas of scenery or board near the track or yard area that you don't want to get covered in the scenery material. Try not to leave rigid, straight edges to your masking, otherwise the final result will look unnatural.

Sift some dried bricklayers' or paving sand to remove any larger particles or gunk that has collected in the sand. Apply the sifted sand using a small spoon or container down the centre-line of the track, being careful to avoid the two to three sleepers immediately underneath the masked noses of your turn-outs. Spread the sand along the track using a foam brush, filling the void between the sleepers to sleeper height. I prefer a foam brush to a soft-bristled brush as it's less likely to 'flick' small granules of sand over the working area as you go.

With the foam brush or your finger, brush away the granules of sand that will inevitably collect on top of the sleepers and on the sides of the rails. Repeat this process on the shoulder of the track to your desired height or equal with the sleeper height of any parallel tracks.

To secure the sand and scenery I use Luke Towan's scenic glue recipe: one part Mod Podge, three parts water and a few drops of dishwashing detergent.

Before applying the scenic glue, spray 100% isopropyl alcohol straight from the bottle over the sand-filled track. Use an eye-dropper to immediately and gently apply droplets of scenic glue into the iso-

propyl alcohol-soaked sand. The isopropyl alcohol prevents the sand from clumping and will help the glue spread consistently. Leave this to dry overnight, leaving the paper and masking tape in place on the layout.



Step 4 — Adding Ground Cover

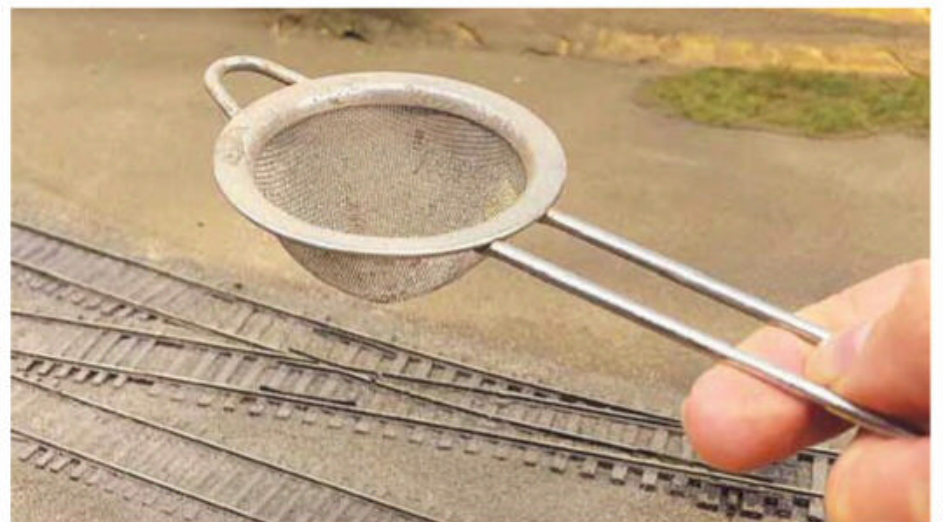
In a clean take-away food container, mix the coloured grout powder using small, equal parts until you have your preferred colour. For my layout I used equal parts dark or gunmetal grey, light grey and light brown from the Davco range. For the coal siding I added one part black grout on top of this mixture.

Using a tea strainer, gently dust the track with the grout mixture until it completely covers the sand. Using your finger, wipe the grout from the tops of the sleepers to leave a neat appearance. This will also help weather the whole job.

Spray the track with isopropyl alcohol again, then spray with scenic glue. While the glue is still wet, use the corner of a tissue or folded paper towel to wipe the sides of the rails clean; be careful not to disturb the grout layer in the sleepers. Leave to dry overnight.

I recommend working in 500 mm x 500 mm areas at a time to avoid rushing this step. Some areas of sand may poke

through, so touch up as required with more grout, or lighter or darker grout colours to your preference.

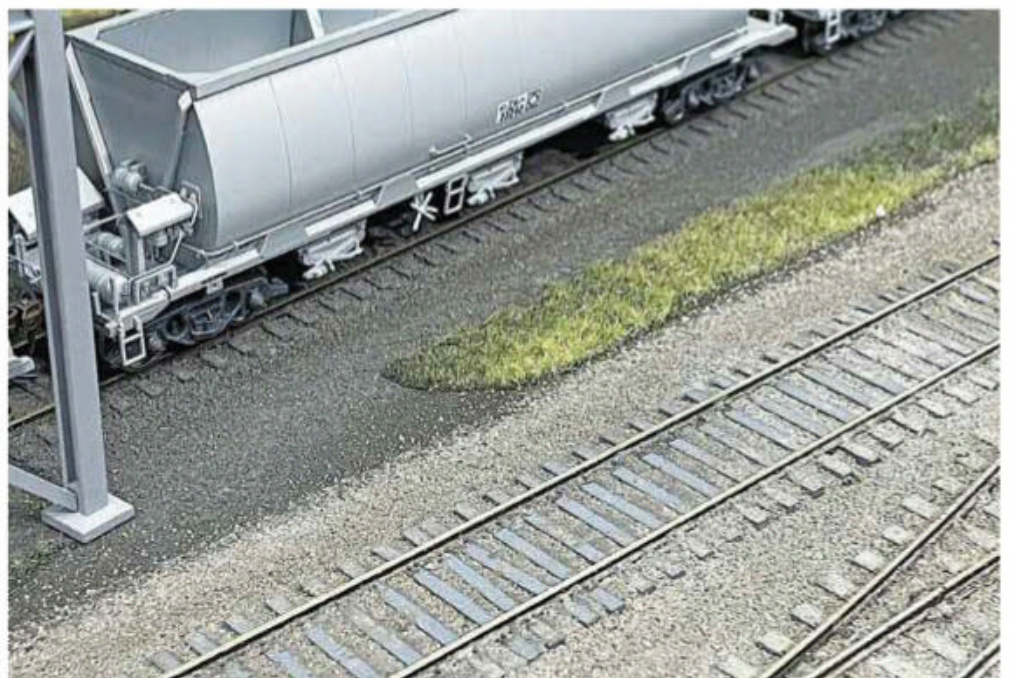


Step 5 — Finishing Touches

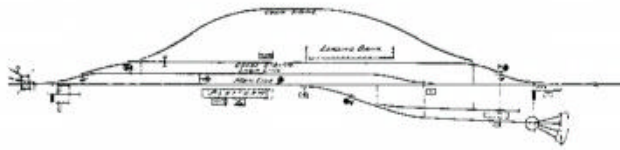
When dry, remove the masking tape from the point blades of the turn-outs and fill with conventional ballast, weathering with a darker grey or black weathering powder to represent grease in these areas.

Finally, clean the top of the rails using your preferred method before running a train over the layout.

Voilà! You'll have a convincing yard scene in a very short amount of time.



With some added vegetation the end result is very convincing and easy to achieve.



IN THE LOOP

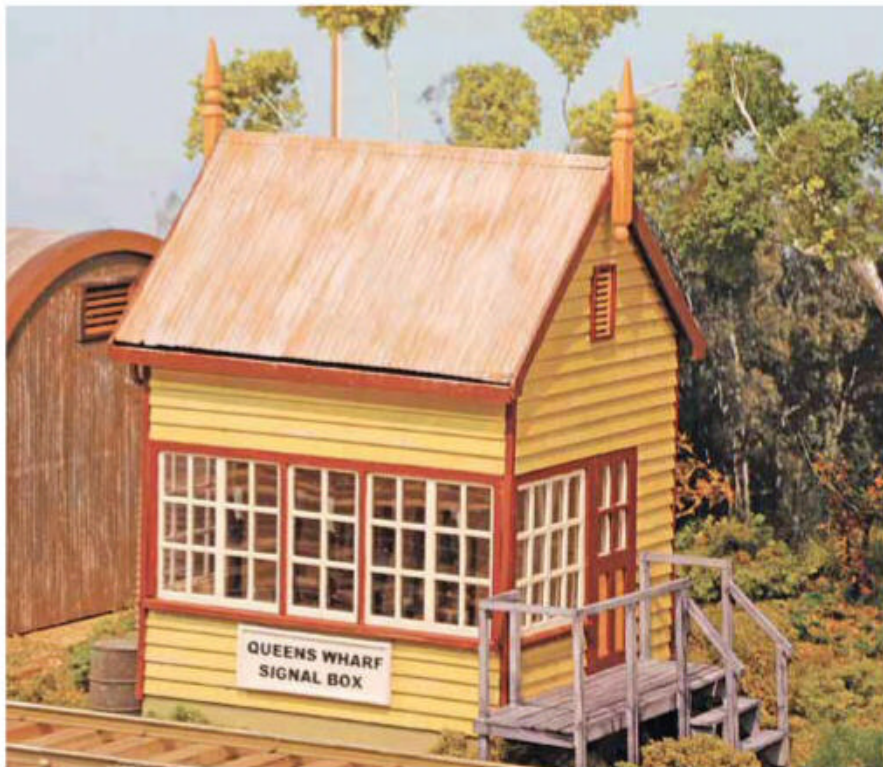
What Lies Beneath the Paint

Trevor Hodges. Photos by the author.

Have you ever wondered why high-end, detailed and often very collectable locomotives and, more rarely, rolling stock are made from brass? As a modelling medium, brass (in sheet, shapes and as wire) has some very useful qualities and remains readily available from hobby retailers. However, this doesn't really answer my original question: "Why are the models from Japanese, Korean and, more recently, Chinese manufacturers produced in brass rather than other metals?". Tin is generally easier to solder than brass and it holds paint far better. Being meticulous in the way I clean a model prior to painting, using appropriate etch primers and low-tack masking materials, if paint comes off a model as I remove the masking it almost always comes away from the brass surfaces.

Brass was the material of choice for the production of hand-made railway models coming out of post-war Japan for a range of reasons. I suspect one of these was the plentiful availability of brass from all the shell casings left over after the war. It's been a long while since Japanese crafts-people in occupied, post-war Japan were forced to use materials that were readily to hand, but brass continued to be used to produce limited-run scale models as cost pressures shifted production first to Korea and, more recently, to China. Could one be forgiven for asking why?

There's possibly a clue why brass continues to be widely used as a modelling medium for highly-detailed, limited-run models in the language we use when we talk about brass models in comparison to say, plastic products: something I'd describe as the 'German engineering' effect. A while ago I purchased a vehicle of Japanese origin; a work colleague purchased a very similar car from a well-known German manufacturer. The difference between them was that his cost about \$25 000 more. I asked him what he felt made his cost so much more than mine and his response was "German engineering Trev, German engineering". I responded, "That's a lot of engineering!". To my colleague the reason why he was willing to pay so much more was the quality of the product and all other considerations were irrelevant. If you've ever stood line-side at someone's layout and asked whether a nicely-running locomotive is brass or plastic and the answer comes back "brass", then enough said. That one word — 'brass' — sums it all up: quality with a capital 'Q'! This halo of 'quality' around brass locomotives doesn't really stand up to close scrutiny. I have a number of HO modelling friends who own brass locomotives that don't run well or don't run at all because of cracked gears or other flaws. A proportion of brass locomotive sales are to collectors, thus different demands and expectations of the



models to those who run their locomotives on a layout. A locomotive that spends its life in a glass cabinet doesn't need to be a great runner. The fact that you might need to ask a locomotive's owner what material it's made from is perhaps a pointer to the fact that if the model is detailed, has a nice paint job and runs well, the material it's made from is irrelevant. I suspect there are many layouts around the country populated by brass locomotives that run beautifully and look good while they do so. My point is that we should probably stop using the word 'brass' in conversations about locomotives

as if it was a guarantee of quality. Under a layer of paint it's the smooth running and the detail applied that determines the 'quality' of a model, not the materials it was made from.

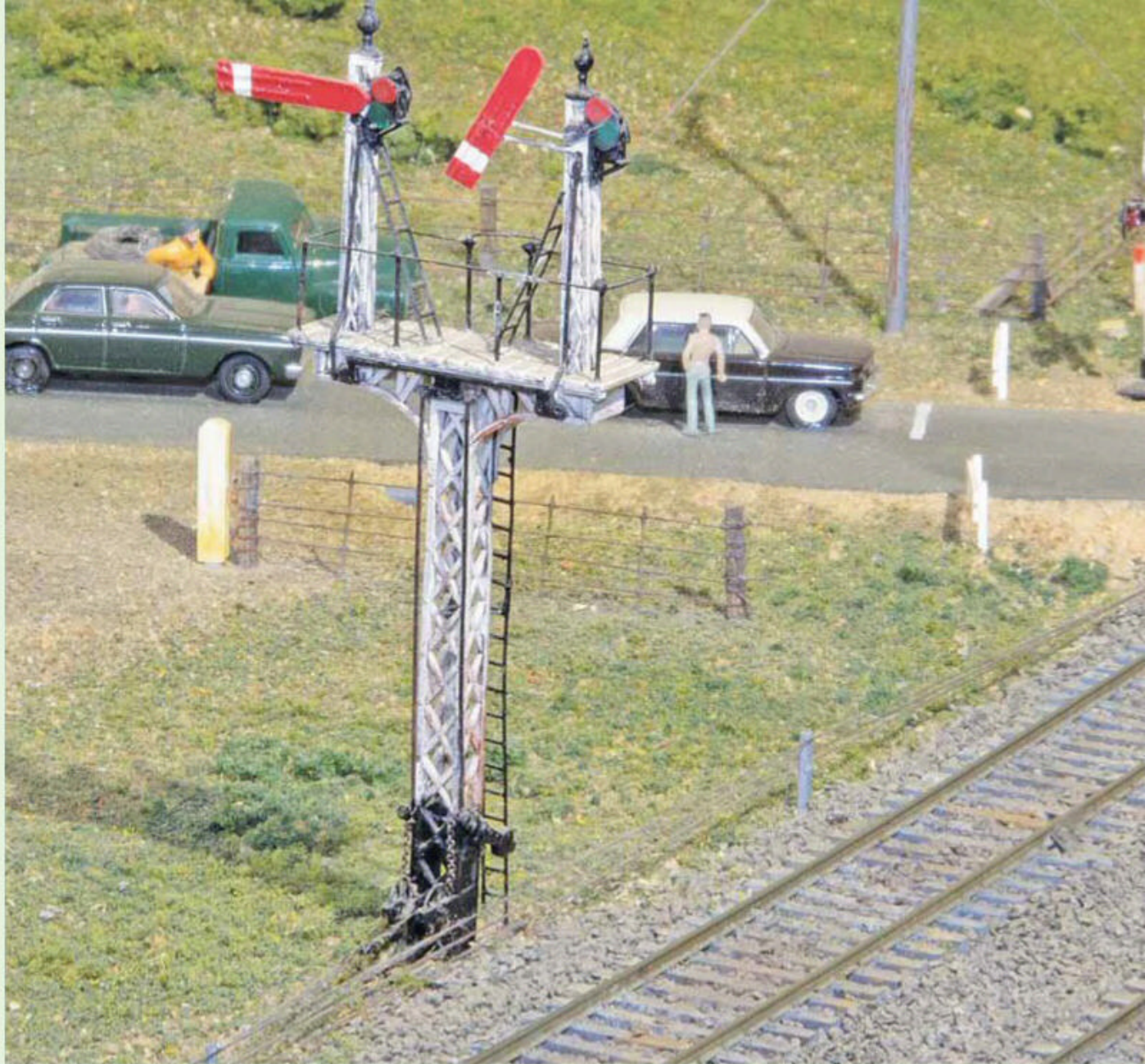
This tendency we all have to judge a model by the materials used in building it was brought home to me recently when I started upgrading the station area around Queens Wharf, a station stop on my layout, *Morpeth*. When it comes to structures, I've produced more from scratch than from kits; this was dictated by the fact that almost none of the buildings I need in 1:43.5 (O scale) are available as kits. Thus, I've been forced to scratch-build structures using styrene, wood and corrugated aluminium, with windows mostly drawn from the Grandt Line (now San Juan Details) range. Over the past ten years or so, quite a number of Australian-produced laser cut, card structure kits in both 1:48 and 1:43.5, have come onto the market. In spite of the good reports I'd heard and the fact I'd purchased a number of kits over the years, I'd never made an attempt to assemble one of the card kits until recently. I suspect I was unconsciously judging the models that would result from assembling one of these kits on the basis of the materials the kit was produced from — a process similar to judging all brass locomotives on the basis of the material they are manufactured from, but perhaps in reverse.

The upgrade of Queens Wharf created a need for a small signal box and I happened to have a card kit for just such a structure. This laser-cut card kit was produced by the Outback Model Company in a scale of 1:43.5 and was offered for sale when the proprietors delivered a talk at an O scale Modellers Forum some years ago. The quality of the kit and the instructions were excellent and it produced an accurate scale model of a NSWGR signal box that I'm very happy with. Necessity may be the mother of invention, but if it also sometimes prompts us to build models slightly outside our comfort zone this is not a bad thing. After the Queens Wharf signal box was painted and placed on the layout it was extremely difficult to tell exactly what material it was made from and, in the end, it shouldn't really matter should it?



Building VR Signals from Ratio Kits

Bob Gartside outlines how to build cost effective 'working man's' VR signals



Background

Over the years I have noted that few exhibition or home layouts display signals as part of their presentation, particularly the distinctive semaphores seen on railways in Victoria. My home layout is no exception, although I am working on it! The task of constructing Victorian Railways' (VR) lattice post signals always seems to end up in the 'too hard' basket.

Until Broad Gauge Models (later Heritage Models and now San Mateo Line) produced an etched brass kit in HO scale, not a lot was on offer for the Victorian modeller. Today the situation is still much the same, although the scene is slowly changing as some manufacturers are now producing these signals.

I have always been drawn to the English OO (4 mm) scale lattice signal kits from Ratio because of their physical similarity to those seen on the VR.

Developing ways to kit-bash VR semaphore signals from these kits has been something I have been working on for years. Refinement of my method and the development of my personal skills have enabled me to produce a model that I believe is a fair and reasonable conversion of the Ratio kit to the VR lattice post signal. Having said that, I make no pretence that the models are other than a 'near enough' — yet credible — representation of the prototype.

If you can accept the compromises made during construction of this model and whatever deficiencies there might be in the finished appearance, this project could be for you. Perhaps you could make even more refinements to the model than I have.

Depending on the type of signal you wish to construct, the packet contains enough parts for more than one signal.

List of Requirements

With the exception of the brass etched signal components from Model Signal Equipment (MSE), all other materials and tools can be purchased at your usual hobby supplier:

- Ratio 4 mm scale signal kit, LNER lattice post signal (catalog No. 486);
- Ratio N scale GWR trackside fencing (catalog No. 243); and
- MSE etched McKenzie & Holland lower quadrant signal parts, 4 mm scale (optional, catalog No. S003).

Other materials:

- scraps of styrene,
- 0.3 mm brass wire, and
- HO scale etched brass ladder.

Tools and consumables:

- paint brushes or air brush;
- pencil;
- sharp side-cutters;
- HO scale ruler;
- fine-nose pliers;
- tweezers;
- assorted twist drills;
- pin vice;
- assorted files;
- sanding board (optional);
- extra hands (optional);
- safety glasses;
- sharp craft knife;
- temperature-controlled soldering iron, solder (including low-melt) and flux;
- superglue;
- PVA glue; and
- liquid styrene cement.

Precautions

Before commencing your signal project, be mindful of precautions needed when using sharp tools, eye safety and the effects of glue inhalation.

Take the time to read all enclosed instructions; they are relevant and will be a constant reference.

Constructing a Single-arm Signal

Mast

The mast is assembled according to the kit instructions, with the help of a simple jig and with an improvement to the base.

1. Remove the selected mast sections from the sprue as per the instructions then file away the excess sprue on the sides of the masts. File only the area being supported by your fingers, avoid filing the mast at right angles as this can lead to breakage. If you use a sanding board or similar, again avoid rubbing at right angles.
2. Take a suitably-sized and shaped piece of wood (for example, a chopstick) then sand it to a square taper that will fit inside the mast when the two parts are pressed together. This will assist with the assembly of the mast (see photo 1).



1

3. A simple jig helps to assist with gluing the two mast sections together. Cut two pieces of balsa slightly longer than the mast (about 10–15 mm wide) and thick enough to contain the mast. Pin one piece to a base. Place the signal mast with the lattice against this edge, with the tapered chopstick inserted inside the mast. Fit and pin the second piece of balsa against the mast so the mast is held lightly in place by both cuts of balsa (see photo 2).



2

4. When you are happy with the fit and, with the scalloped side of the mast facing upwards, glue the finial to the top of the mast using Tetra or similar glue. Join both sections of the mast by applying glue only to the scalloped sections that touch. If you force the others to make contact, you will distort the mast. Start from the pointy end and, as you apply the glue, withdraw the chopstick slightly thus preventing the mast from adhering to it.

5. Allow time for the joints to set then fully re-insert the chopstick. Remove the mast from the jig, but ensure it is still supported by the chopstick. If necessary, remove one side of the jig to prevent possible damage to the mast. Turn the mast over and repeat the gluing process.
6. The base of the signal needs to be lengthened to allow a better angle for the ladder. Take a piece of scrap styrene and cut it to 25 mm long x 12 mm wide. Using the existing base as a guide, temporarily site the base at one end and drill two holes in the styrene for the ladder location (see photo 3).



3

7. Glue the Ratio base to the styrene at the non-drilled end, leaving the two drilled holes exposed at the other.
8. When the glue has cured, attach the mast to the base (see photo 4).



4

Signal Bracket

The next step is to make and mount the bracket on which the signal arm pivots and that carries the spindle for the spectacle plate.

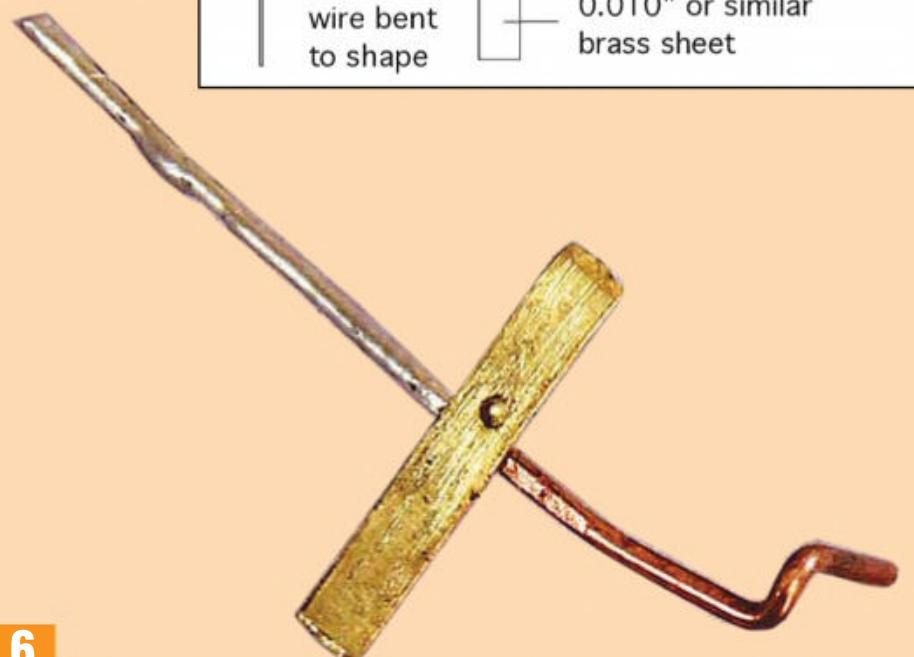
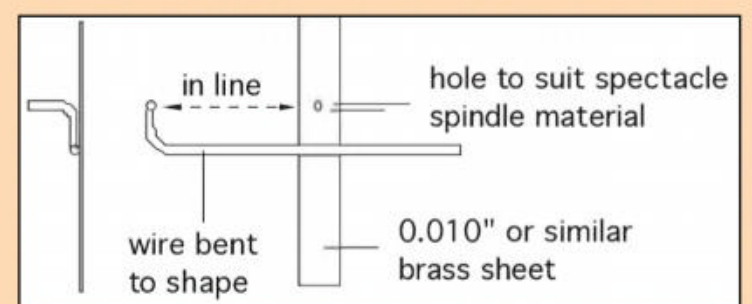
1. I used the leftovers from a brass etching, but any sheet brass 0.010-inch thick or similar would do. Cut a strip the same width as the mast (at its top). The length is not important at this point. You will also need a length of wire bent into a gooseneck at one end. The bend in the gooseneck needs to be kept as small as possible; small pliers will assist with shaping (see photo 5). Having the brass shim and the wire over-length makes it easier to assemble; it can be trimmed later.



5

2. Solder the brass shim at right angles to the wire about 10 mm from the gooseneck. Drill a hole through the brass shim to suit the gauge of the wire you have chosen for the spectacle

spindle. The hole should be in line with the first return of the gooseneck (see photo 6 and sketch below).



6

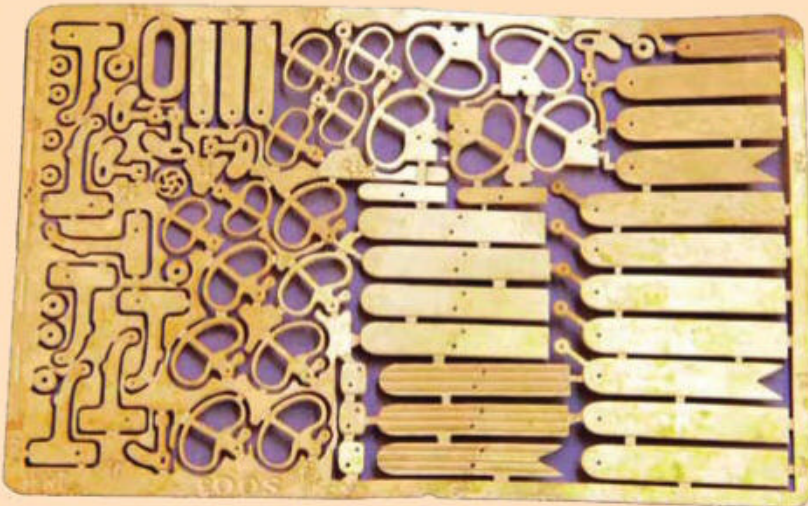
Signal Arm and Spectacle

1. Remove one of the signal arms from the sprue then carefully remove the spectacle glass to maintain the full length of the arm. File the end of the arm to form an evenly-rounded end. File away the remaining spectacle moulding and any other sprues on the arm so that you have a flat arm with two grooves. The arm needs to be a scale five feet long. Measure from the tip of the rounded end then cut the end of the arm square (see photo 9).



9

2. If using the brass etched parts from MSE (see photo 10), remove a spectacle plate from the fret and clean it with a fine file. Thread a length of wire through the hole and solder it in place.



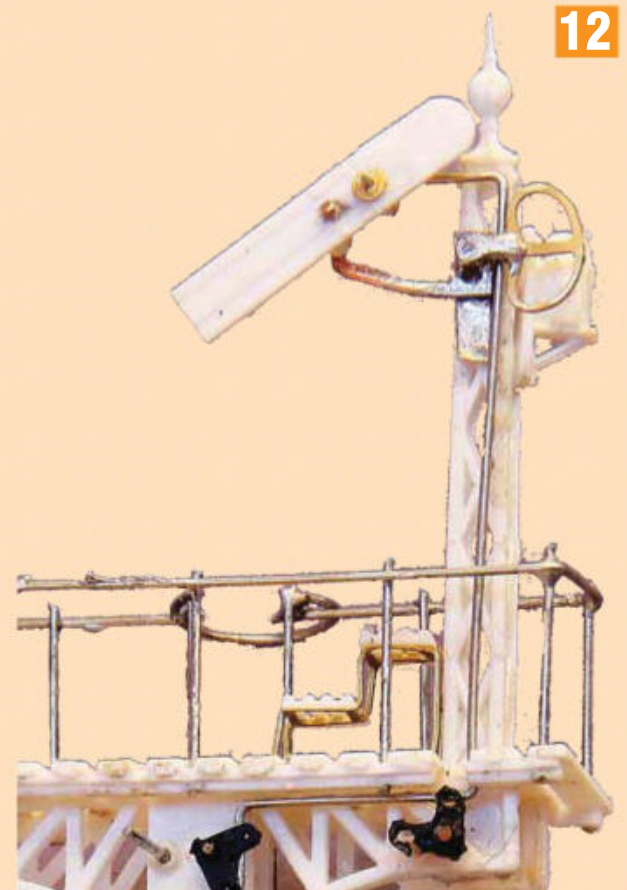
10

3. Otherwise, you can trim the Ratio spectacle plate; either leave the 'glass' that can then be painted (see photo 11) or remove it by drilling and filing. It can be filled with glazing material later.



11

4. Pass this wire through the two bracket plates that are on the mast. Fit and glue the blind. Make sure the spectacle frame is far enough away from the post to allow the push-rod to fit behind it. (With this conversion the spectacle and blind are not operational and by sitting the spectacle a little away from the mast it acts as a keeper for the push-rod.) Trim any excess wire (see photo 12).

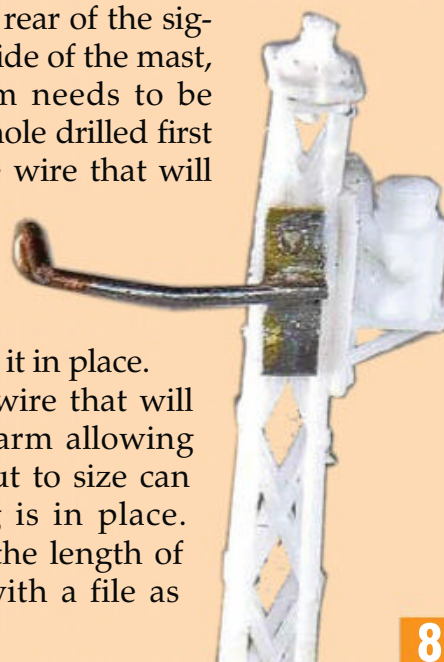


12

3. Remove the spindle bearing at the top of the Ratio lamp then glue the lamp to the mast as per the kit instructions (see photo 7). Slices from the offcut can be used later as spacers or keepers.
4. Superglue the brass signal bracket to the mast using the lamp as a guide for location (see photo 8). At the rear of the signal bracket, on the opposite side of the mast, another piece of brass shim needs to be attached; it should have a hole drilled first to take the spectacle spindle wire that will pass right through the mast. Leave the spindle wire over-length. Align the hole with the signal bracket then trim the backing plate to suit; glue it in place.
5. At the gooseneck, trim the wire that will be the pivot for the signal arm allowing enough for fitting; a final cut to size can be made when everything is in place. Trim the brass shim to suit the length of the lamp plate. Clean up with a file as required.

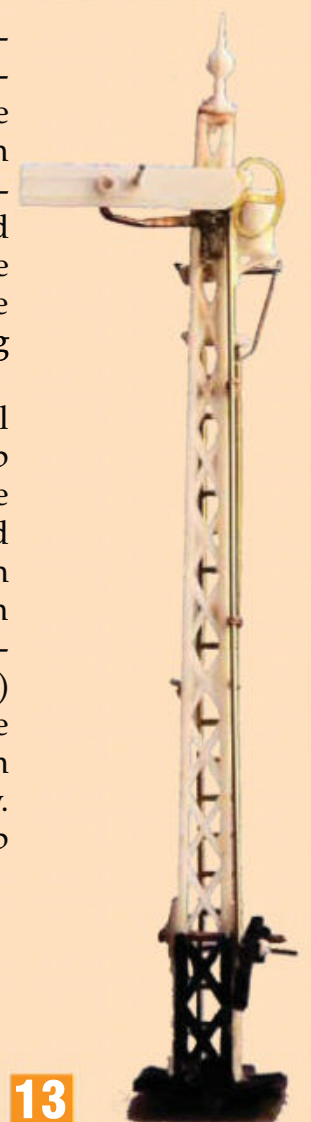


7



8

5. Locate the arm so the round end is concentric with the inner curve of the spectacle; on it, mark the pivot point of the gooseneck where it will pass through the arm. Drill a hole to take the gooseneck spindle. Mark and drill a second hole in the signal arm 2 mm towards the post from the pivot and slightly above centre. This hole will be the locating point for the push-rod.
6. Fit the arm to the gooseneck. You will need to make an arrangement to keep the arm square on the spindle and the right distance from the mast. You could use keepers on the gooseneck on each side of the arm. Alternatively, you can cut and glue the arm to the lamp spindle (previously removed from the lamp) so it acts as a bearing and spacer. Ensure it is attached at right angles to the arm surface and check the arm moves freely. Some tweaking may be required to keep the arm square (see photo 13).

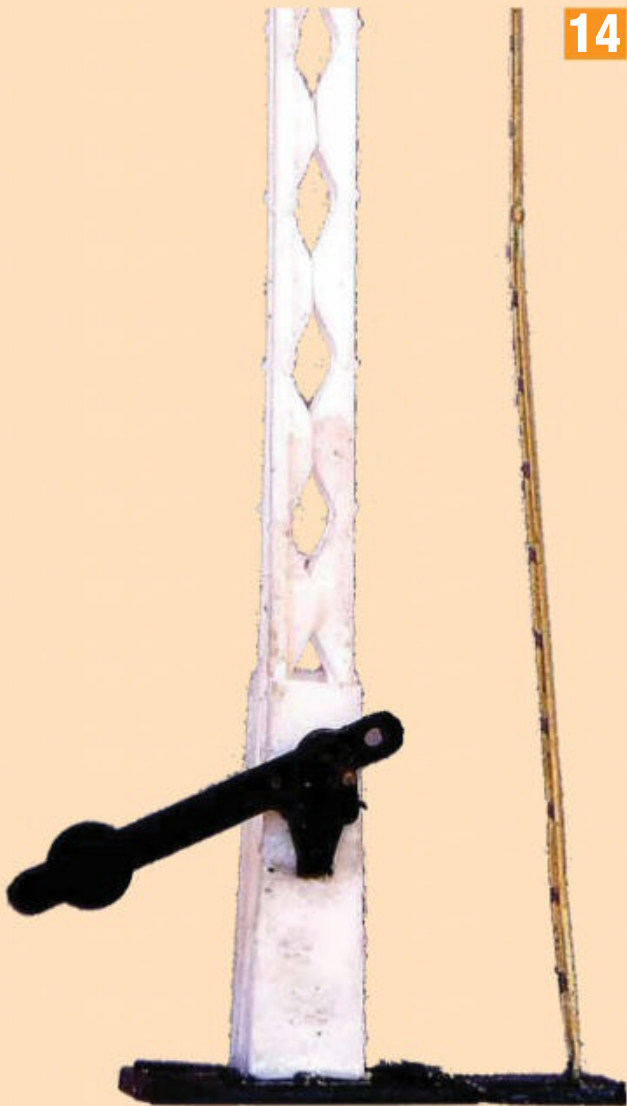


13

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Push-rod

1. Attach the counterweight lever according to the instructions. Note: the long arm of the lever is on the opposite side of the post to the ladder (see photo 14).
2. Select a length of wire provided in the Ratio signal pack and bend one end at right angles. Temporarily fit the wire to the counterweight when in its lowest position.
3. Make a 90° bend at the other end of the wire in a plane at right angles to the first bend. This should carry the wire above the spectacle spindle and behind the arm and spectacle (see photo 15).
4. Bend the push-rod wire again, this time to pass through the signal arm at the previously drilled hole. At this point moving the counterweight should operate the signal arm. Again, some tweaking and spacing may be required to get a smooth operation. Trim the wire to length.
5. Finally, fit keepers to the push-rod.



14



15

Maintenance Platform and Ladder

1. The maintenance platform is based on N scale picket fencing (refer to the list of requirements). Take a length of this fencing and place it on a surface with the rails facing up. Glue another rail (a length of appropriate section styrene strip) to the fence so that the ladder will fit between the two rails (see photo 16). Cut and trim a section of the fencing containing four pickets.



16



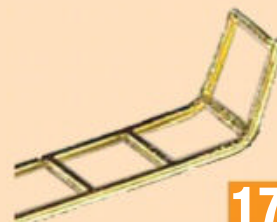
2. Brass ladder should be used in place of that supplied with the kit. The Model Etch line of accessories is now out of production but you may have, or be able to get, some of their ladder etch. Otherwise, Kerroby Models produce a suitable alternative (refer to the list of requirements).

A length of ladder etch should have one or two rungs removed with a jeweller's saw or fine cutters. The cut should be cleaned with a fine file. This has the effect of extending the stiles that now fit into the holes previously drilled in the base. Trim the ladder stiles flush with the bottom of the base.

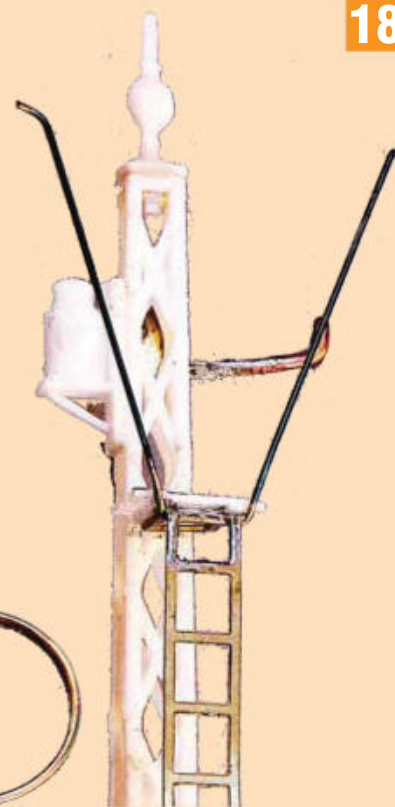
3. The upper end of the ladder should be folded to fit onto the mast a scale 42-inches below the arm of the signal bracket. The fold should be long enough to take the maintenance platform (see photo 17 and photo 18 for the location of the ladder on the mast).

4. On either side of the ladder, solder two pieces of wire to form the safety rail uprights. Fit this wire overlength for trimming later (see photo 18).

5. To make the safety hoop take a suitable gauge wire and twist around a pencil then bind the wire together. The hoop should be about 14 mm in diameter (see photo 19).



17



18



19

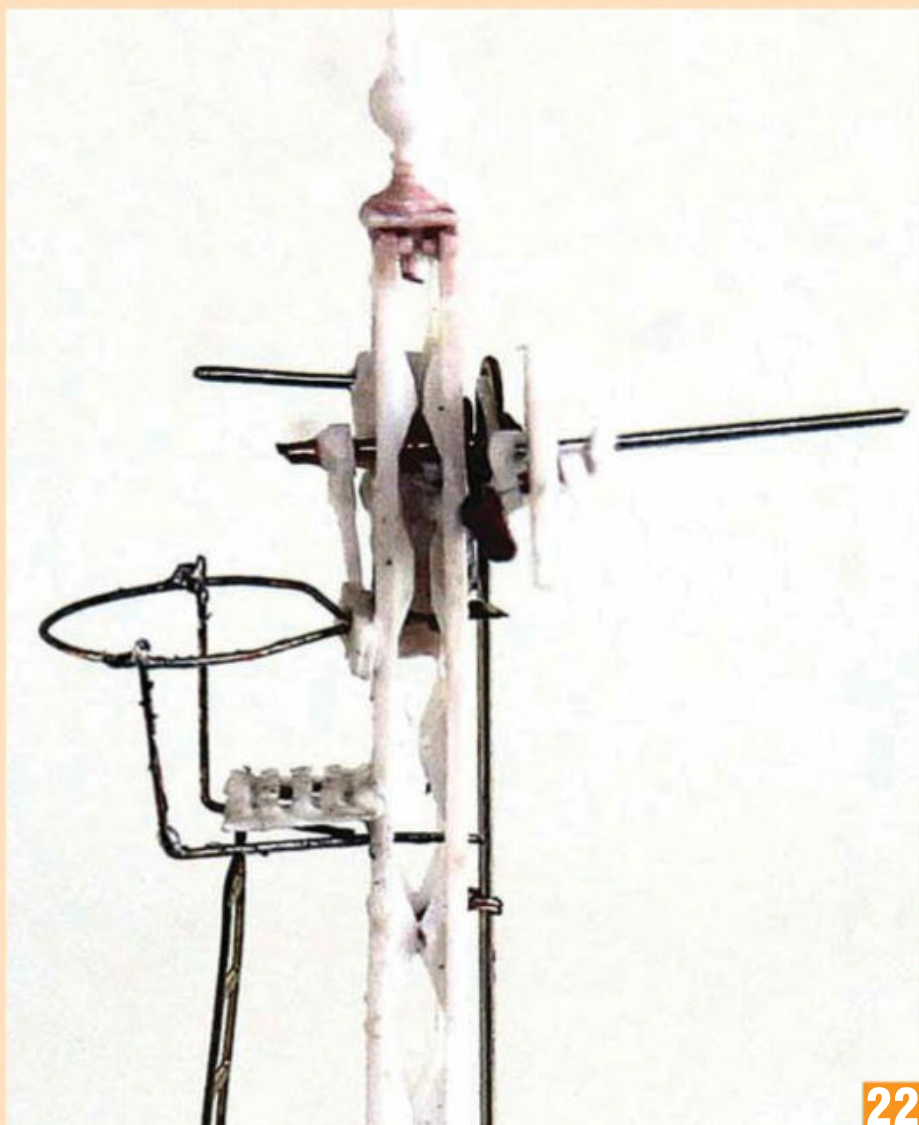
6. The stem of the wire hoop is fitted and attached to a small scrap of styrene with superglue (see photo 20) that is then cemented to the signal mast, a scale 42-inches above the maintenance platform (see photo 21).

20



7. The two wires forming the safety hoop uprights that have been soldered to the ladder are manipulated into place to fit against the outside of the safety hoop. Ensure the safety hoop is horizontal and, when satisfied with this, solder the uprights to the safety hoop. To reduce the chance of this causing the existing structure to fall apart you could employ heat sinks or use low melt solder (see photo 22).

21



22

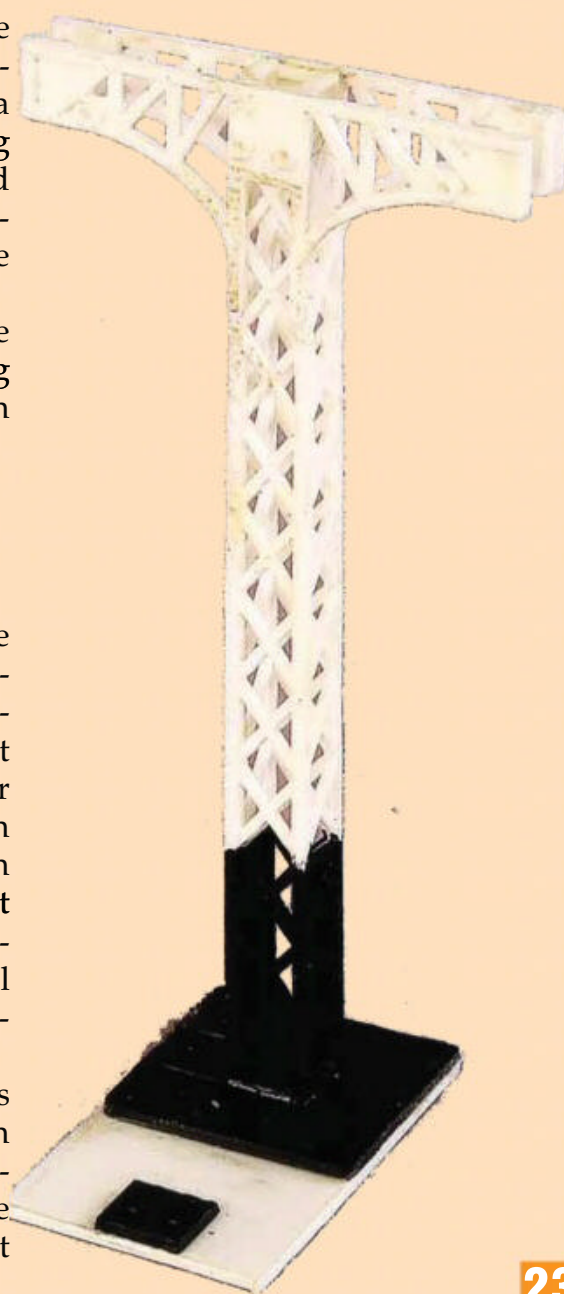
Constructing a Junction Signal

As with the single mast signal, the kit-bash results in a model with working somersault arms and non-working spectacles of prototype appearance.

The mast should be assembled according to the instructions in the kit (see photo 23).

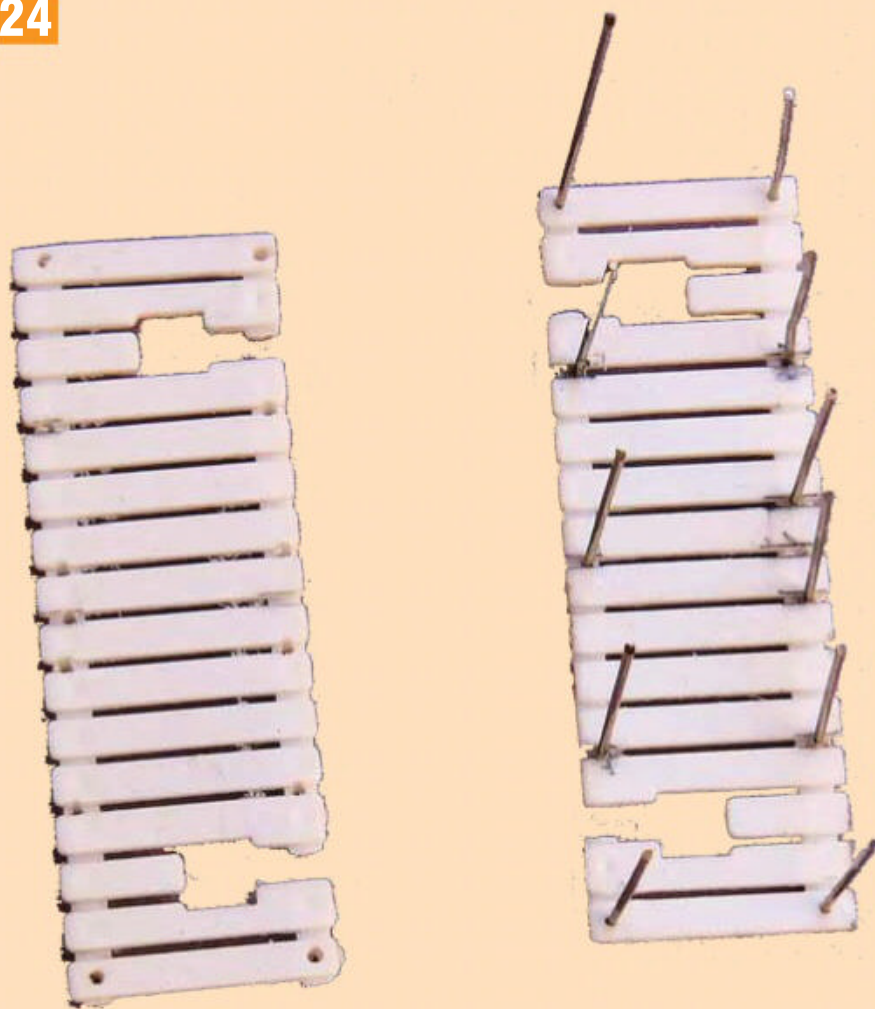
Maintenance Platform and Safety Rail

1. Drill holes in the maintenance platform to fit the safety rail uprights. Cut lengths of wire for the uprights then glue in place with superglue. It is best to fit these over-length as this will assist with assembly (see photo 24).
2. After the uprights are firmly set in place, some tweaking may be required to get them all vertical.



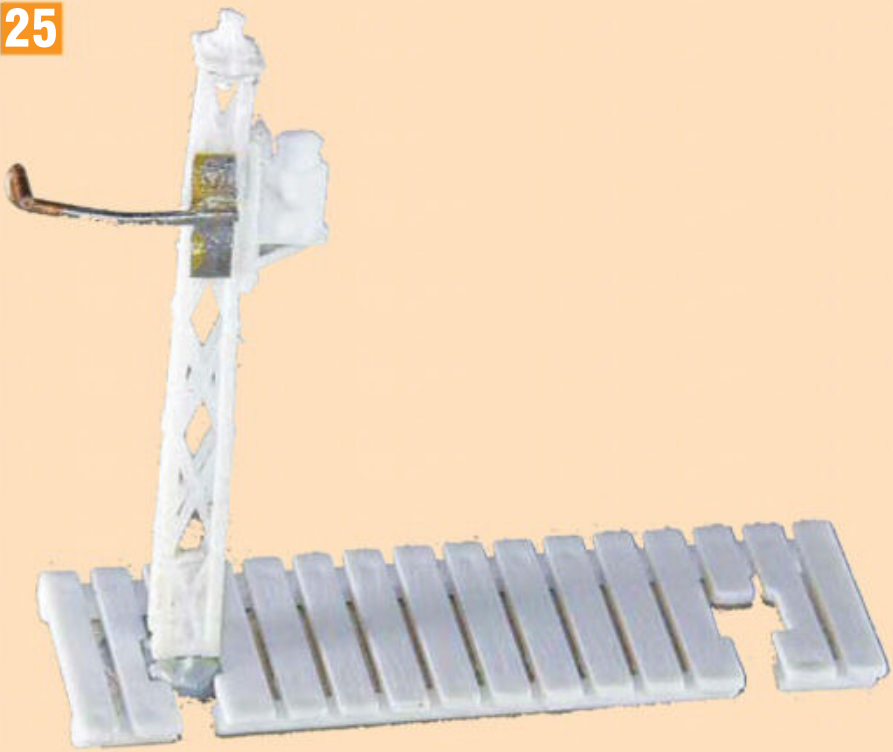
23

24



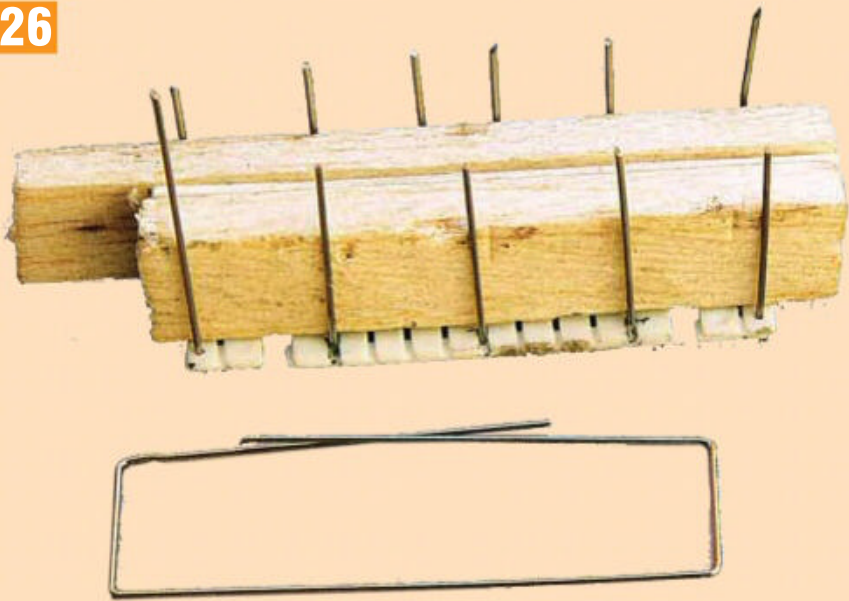
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25



3. To get the safety railing to sit evenly and at the desired height (that is, a scale 39-inches), I built up a rectangular-shaped balsa wood template to fit between the uprights. The railing was then put in place (see photo 26).

26

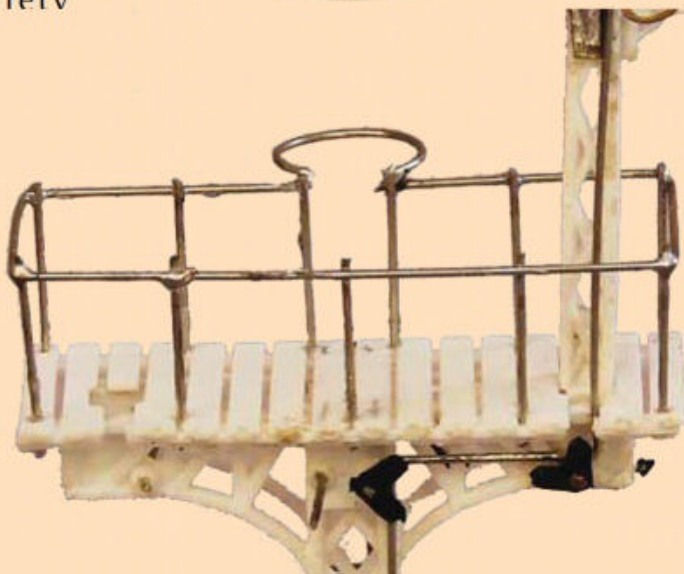


4. When satisfied with the fitting, solder the railing to the uprights. Trim the uprights to the correct height then trim the railing at the ladder access point.
5. Use a pencil or similar-shaped item to form the circular section of the safety



27

28



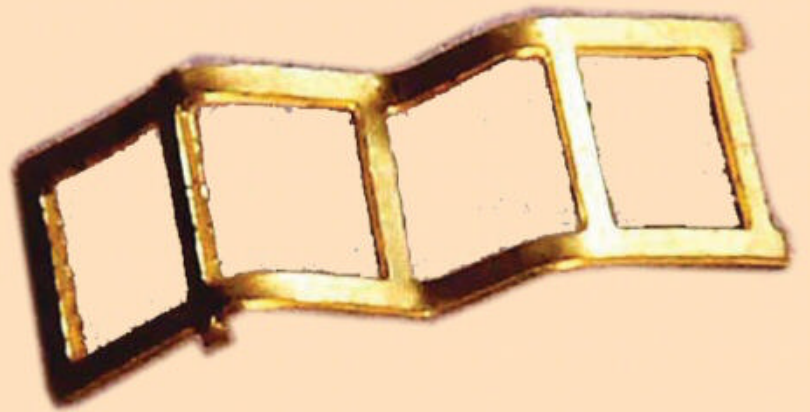
Signal Dolls and Push-rods

As you attach the dolls to the maintenance platform, check they are facing the correct way.

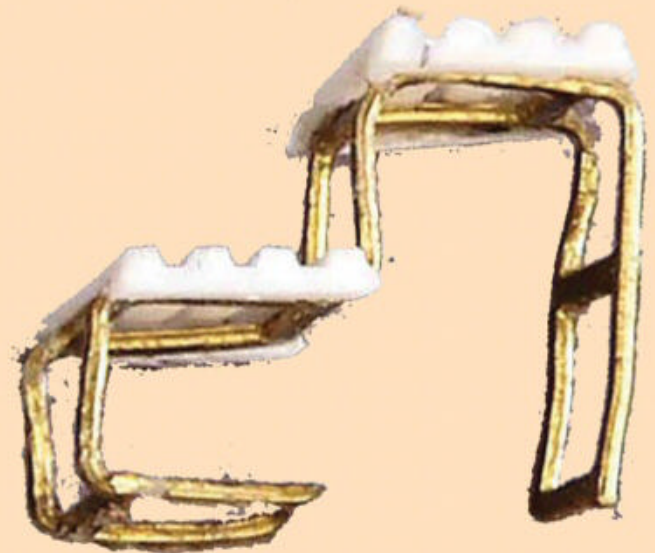
Sometimes a short ladder was used to access the signals from the maintenance platform. In other cases, a small maintenance step was used. If a ladder is used, a safety hoop may have to be attached to the ladder. Reference to prototype photos will allow you to design this part of your model.

I used an etched brass ladder folded to form a two-step platform to reach the dolls. A section of the Ratio N scale platform fencing was then cut and fitted to the horizontal folds of the platform using superglue then placed at the base of the mast at right angles to the signal arm (see photo 29 and photo 30).

29



30



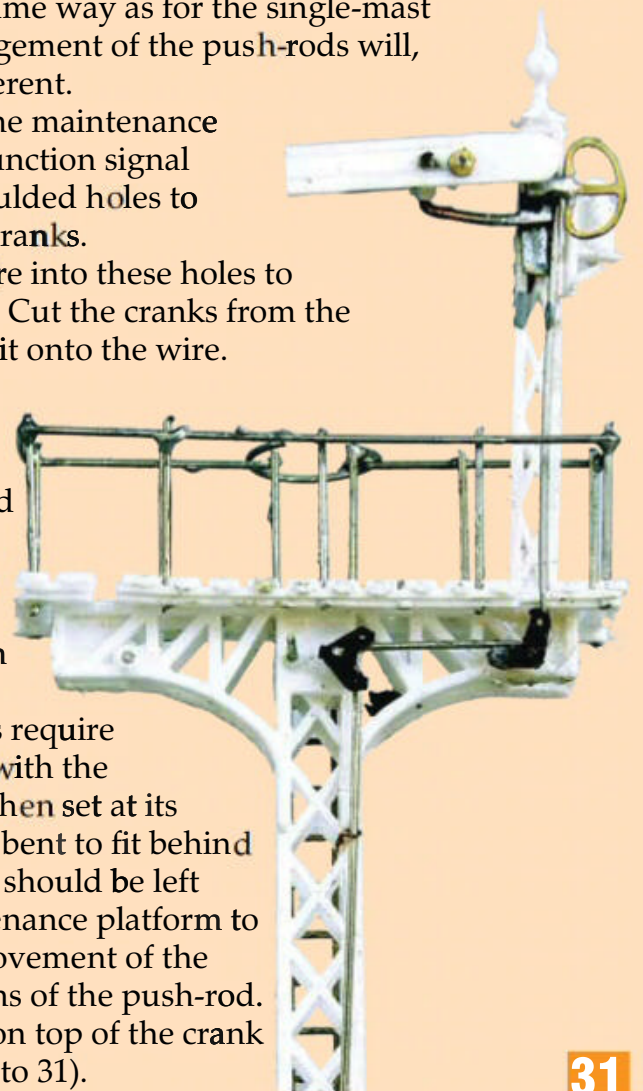
The arm, spectacle and blind should be made and installed in the same way as for the single-mast signal. The arrangement of the push-rods will, of course, be different.

Underneath the maintenance platform of the junction signal there are pre-moulded holes to fit the push-rod cranks.

Fit a length of wire into these holes to locate the cranks. Cut the cranks from the black sprue and fit onto the wire.

Before gluing the rod cranks permanently in place, they should be set forward enough to allow the push-rod to pass behind them (see photo 31).

The push-rods require shaping so that, with the counterweight when set at its lowest point and bent to fit behind the cranks, space should be left under the maintenance platform to allow upward movement of the horizontal sections of the push-rod. This should rest on top of the crank spindles (see photo 31).



31

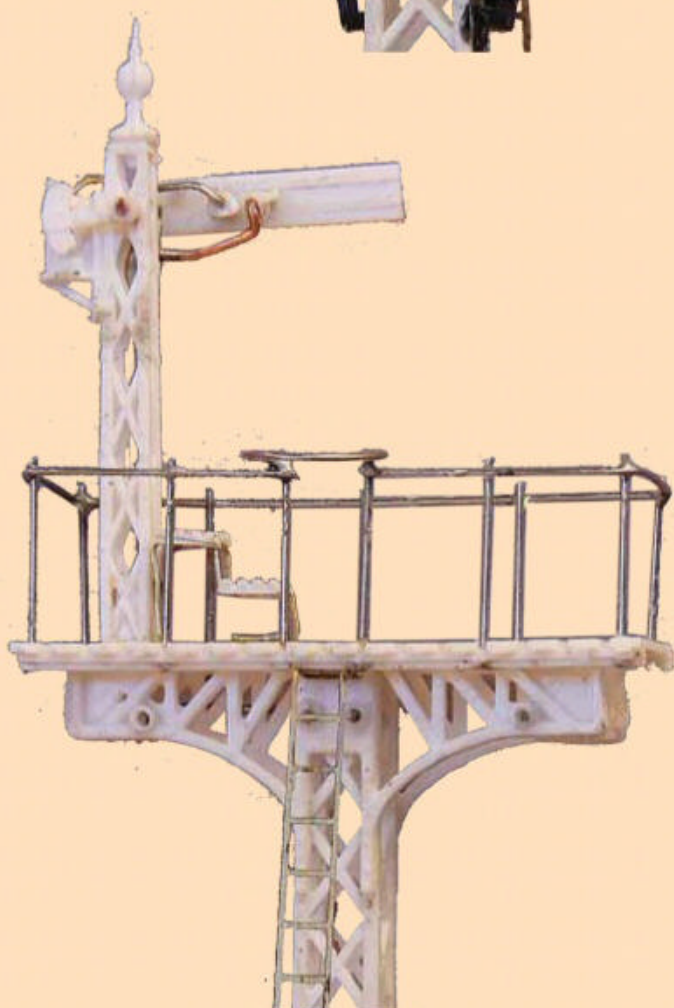
At the appropriate height above the maintenance platform, bend the push-rod at 90°, level with the signal bracket gooseneck; the push-rod should pass behind the spectacle frame, just as in the single-mast signal.

The push-rod is then fitted through the hole previously drilled in the arm (as when making the single-mast signal). Some final adjustment may be required to get the arm to move smoothly (see photo 32).



32

The ladder is fitted in the same way as for the single-mast signal, but there is no need for the short platform at the top of the ladder (see photo 33).



33

Painting

Posts should be white with a black section reaching some distance above the footing; see photographs of the prototype. Counterweights, ladders, railings and finials are black. Arms were generally protected by vitreous enamel; in model form, use matt enamel paint. Humbrol paint numbers are shown below.

Home signal arms are red with a white band (see photo 34 and photo 35).

The rear of the arm is white with a black band. Distant signals are yellow with a black chevron (see photo 36), unless they are on the same post as a home arm, in which case they are red and white. The rear of the arm is white with a black chevron.

According to a painting instruction, the bands and chevrons were 10-inches from the end of the arm and were 10-inches wide. Measurement of a preserved signal shows an 11-inch band starting seven inches from the end.

Humbrol colours suitable for VR semaphore signals are:

- white No. 34,
- black No. 180,
- red No. 19,
- yellow No. 24, and
- green No. 2.

34



35



36



What Next?

The process could be taken to the next stage with moving spectacles. I have done some experiments with this idea.

The spectacle spindle has to rotate in the bracket and requires keepers and spacers to keep everything square and in place. A brass crank needs to be made and soldered to the spectacle spindle; the crank supplied in the Ratio kit can be used as a pattern, but a more robust crank from brass is recommended.

The push-rod will now terminate at this bell crank and the signal arm would be activated by a second push-rod that would connect this crank with another mounted on the signal arm pivot, behind the bracket.

Conclusion

Carrying out the Ratio signal conversion has been a learning process for me, as has writing this article. I hope the instructions provided assist you in achieving a reasonable and acceptable model. You will be required to use some initiative, ingenuity and personal skills to determine the final appearance of your model. The converted models do, in my opinion, provide an important part of VR railway infrastructure that is largely

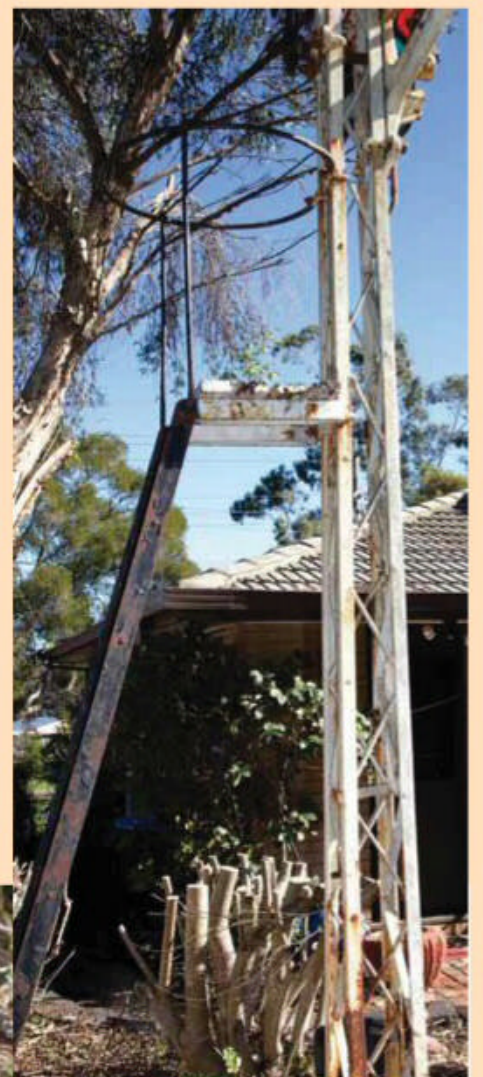
ignored by modellers. These conversions display a satisfactory and very acceptable appearance on my model railway and often draw very favourable comment, as I'm sure yours will as well.

Suppliers' Websites

- Kerroby Models — <http://kerrobymodels.com/>
- San Mateo Line (for etched kit of VR semaphore signals) — <http://sanmateoline.com.au/>
- MSE (Model Signal Engineering) — <https://www.wizard-models.ltd>
- Phoenix Models and Hobbies — <http://phoenixmodel.com/>
- Broad Gauge Models supply an etched brass ladder, signal blades and spectacle frames to suit; this company also produces a disc signal.

Prototype information

- Vicsig — <https://tinyurl.com/h8df8d2c>
- Victorian Railways (Mark Bau)
- <http://www.victorianrailways.net/>
- <http://www.victorianrailways.net/signaling/sigplans01.pdf>
- Train Hobby Publications — <http://catalog.trainhobby.com.au/>





Two 57 class, 5714 and 5723, battle up a superelevated grade.

Track Superelevation

Ian Barnes outlines techniques for creating superelevated track.

What is superelevation and why bother with it?

I have come to the stage in my layout construction where my mainline track has been pinned in place and wiring completed. Before I contemplate ballasting the track, I considered superelevating the track curves.

Superelevation (also known as ‘cant’) on mainline curves is where the outside rail is higher than the inside rail. On the prototype, the amount of height difference depends on the tightness of the curve and the speed of the trains using it. For practical reasons, the latter can be ignored on the common scales of model railways but curve radii is a factor, particularly at the transition area between ‘flat’ track and superelevated track.

I like the visual effect superelevation provides, especially when viewing trains head-on. The sight of a train leaning into a curve, whether up or down a hill, single or double track, to me looks desirably prototypical.

Two questions for modellers are:

- How much slope should I put on the crossfall of track?
- Are there some tricks to achieve that?

How Much Superelevation?

The [United States’] National Model Railroad Association (NMRA) has published a data sheet detailing superelevation. The Australian Model Railway Association (AMRA) standards do not specifically address superelevation, but no doubt it has been considered in their standard of track clearances.

The NMRA data sheet D3b.1 *Curves, Superelevation and Easements* is quite comprehensive and approaches the issue by

discussing what happens on the prototype. However, there are very few prescriptions for modelling. It appears that applying the principles of the prototype is left to the modeller. So, this is how I have approached it.

Standard gauge prototype railway practice rarely uses more than six inches (150 mm) of superelevation (that is, the difference in height between the two rails). In HO scale, over the 16.5 mm track gauge this equates to a height difference of 1.75 mm (0.93 mm in N scale, 3.48 mm in 7 mm scale); this is also measurable as 11%, 1-in-9, or 6 degrees.

After some field testing of the visual effect, I chose a superelevation of 4 inches; in HO scale, this is 1.25 mm. As I have access to a tool that measures in degrees, I used the equivalent of 4 degrees. In practice, to avoid exceeding 4 degrees, I aimed for a range of 3.5–4 degrees.

The most sensitive part of superelevated track — and the most important to get right for smooth running of rolling stock — is at each end of the curve where the crossfall is tapered down to zero, a zone called ‘run-off’ in the prototype. The run-off is, in effect, a twisting of the track so a gradual transition is essential. In HO scale for 4 degrees of elevation the run-off should be at least 300–400 mm long, possibly more, depending on how sensitive your rolling stock is to the twisting. Before you superelevate the curve, start the run-off on the straight 50–100 mm from the tangent (that is, the straight track in between each curve). Again, the length depends on the amount of superelevation you want and the sensitivity of your rolling stock to that angle. You need to try and test various options.



Locomotive 4494 is on superelevated track. 4302 is on flat track, as evidenced by the zero reading of the baseboard showing on the angle gauge.



An angle gauge is essential to pick up the subtlety of superelevation. This gauge is showing superelevation of 3.9 degrees, near the limit of most prototypes.



Suggested tools for installing superelevation — an angle gauge, a supply of packing strips, vernier caliper to measure strip thickness, track pin lifter for lifting track pins and a probe for pushing strips into position.

Be particularly careful on reverse curves (that is, S-bends in the track) where the twisting effect can be doubly dangerous, so the run-offs should begin within the curve(s) themselves. Even without superelevation on reverse curves a short piece of straight track between the curves will minimise derailments and, if you can, lay horizontal transitions into the curves (a topic for another article).

A layout designed within tight spaces, having small-radius curves and compact track configurations, may not offer many sites suitable for superelevation. You will need to be very careful with superelevation at any junctions. For example, on double track, it can not be used where the two tracks are joined by a crossover.

The good news is that you can give superelevation a go before you decide on a final position. Install it, run quite a few trains over it then adjust it if needed — even remove it — before you ballast or permanently fix the track. (But, if you have already glued your track or underlay, you might not want to read any further.)

How It's Done

Superelevation is easily achieved in most circumstances by slipping strips of material under the outside edge of your track, even better if it is under the track underlay, often the cork strip used by many modellers. But there are a few tricks to this, especially in getting a consistent crossfall.

Firstly, don't assume your road base is already level, at zero degrees. For various reasons relating to carpentry of the layout structure, the road bed is rarely level. Measure the crossfall of your existing track to be sure; otherwise, even if your superelevation efforts are good, your moving train may exhibit a wave or a wobble.

There are a couple of miniature digital angle gauges on the market. I used a borrowed Wixey WR300. Toolmaster, Accumaster and Bevelbox brands are also available in Australia. They cost \$50–100 so maybe ask your club or modelling mates to share the cost. Perhaps a modeller out there has built his or her own...

At first, I was sceptical of the precision of these gauges but after some use, I am convinced they work. By keeping the gauge at right angles to the rails (using the sleepers as a visual guide), readings to a tenth of a degree are available. To my sceptical mind I am willing to trust them to at least a half degree. On my layout, I aimed for readings between 3.5 degrees and 4 degrees.

The strips of material you pack under the track or underlay are your choice. If you are going to subsequently ballast the track, the packing effect is temporary and will be hidden. If you aren't intending to ballast, your packing will need to blend in and be neater.

Avoid using cardboard if you are going to ballast your track with the commonly-used diluted white glue mix. Cardboard may soak up a little too much water and distort the strip's track packing function.

I used 50–75 mm x 5 mm strips roughly cut from sheet styrene

Packing strips have been placed to raise the cork underlay sufficiently to gain a superelevation of 3.8 degrees.



in three or four thicknesses. Most was 1.9 mm thickness that gave me a 4 degree angle on a level roadbed or 1.7 mm for a 3.5 degree angle. I also cut thinner strips for adjustments and run-offs. Of course, multiple thin layer strips can easily be glued beforehand to gain the thickness required.

Before you start shoving material under the track, ease off the track pins a little so that when you lift the outside edge of the track the sleepers can rise. If you don't — in extreme cases — you may narrow the track gauge. Track cutters are useful for lifting track pin heads.

You don't have to pack the entire track. The rigidity of the rails allows the track to rise even between packings, particularly if you are packing the underlay rather than the track. To aid gradual change at the run-offs, I kept the packings shorter in length and left a gap of 20–40 mm between packings.

Start your packing well within the curve, aiming to get a consistent crossfall; check your gauge regularly. Then, work toward each tangent, remembering the run-off. On short curves, start at the mid-point and work toward each tangent.

Test the Result

Find your most sensitive piece of rolling stock (long wheel-base carriages with tri-axle bogies and rigid chassis are often the best) and let it roll unassisted and sedately, then at some speed,

through the curve. Most of your adjustments will be at the run-offs, making sure you get them gradual and even.

That's all there is to it. When you have run many trains over the superelevated section(s) and you are satisfied derailments and lack of wheel-to-rail electrical contact is not an issue, you can consider the ballasting. But take your time. After the ballast is glued in place, it is difficult to make last-minute adjustments.

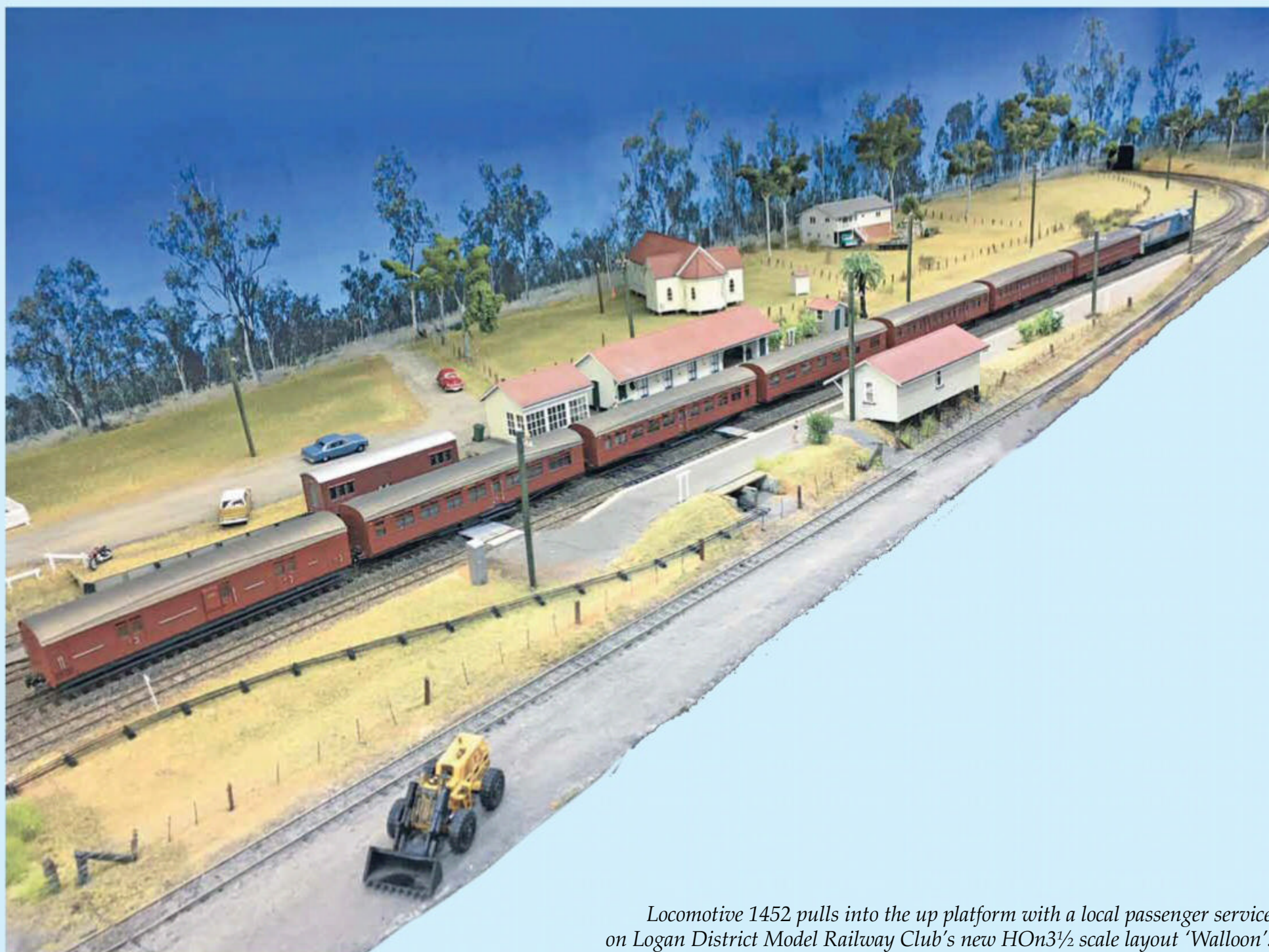
I'm confident you will be pleased with the result. 



Diesels 4494 and 4302 illustrate the advantage of superelevated track.



A short passenger service stops at Moxon Road with 1485 in charge; the detail work of the pineapple boxes in the foreground is exquisite. 'Moxon Road' is modelled in Sn3½ scale.



Locomotive 1452 pulls into the up platform with a local passenger service on Logan District Model Railway Club's new HOn3½ scale layout 'Walloon'.

Brisbane Exhibition Report

by the AMRM team.

The Australian Model Railway Association Queensland Inc. held their first Brisbane exhibition in two years on 1–2 May 2021 at the Exhibition Building in Bowen Hills.

The modelling public came out in force and there was a half-hour wait to enter the exhibition on Saturday morning (including COVID-19 check-in processing).

The exhibition had 23 trade stands that included Black Diamond Models, Casula Hobbies, CGL Models, Eureka Models,

Modellers Warehouse, PGC Scale Models, Queensland Scale Models, SDS Models, Southern Rail Models, Train World and Wuiske Models.

There were 51 display stands including:

- *Around the World in 80 Brick Scenes* (LEGO),
- *Moxon Road* (QR Sn3½ scale),
- Logan District Model Railway Club's *Walloon* (QR HOn3½ scale),
- Queensland Rail, and
- the Australian Railway Historical Society.

Additionally, SDS Models had a surprise announcement of the Queensland Railways 1620 class diesel in HO scale.

The facility had a spacious rest area and good ventilation, but there were some areas that suffered from the lack of

good overhead ambient lighting.

Aisles were spacious, and the conveners got very close to getting the show just 'right'. Maybe a few more higher-quality layouts for serious modellers and wider placement of various retailers would have helped. Nevertheless, the exhibition was very popular with the public and they came out in force over the weekend. 



The freelance layout 'Broxburn Sidings'
in OO scale.

EXHIBITION REPORT

2021 Adelaide Model Railway Show

A report by Gavin Thrum.



An old favourite, 'Terowie North', made an appearance by the Adelaide Modellers' Group. The layout celebrates its 30th birthday this year and still provides drawcard interest. This layout represents the once-busy mid-north region of South Australia during the 1950s and 60s. The large display features both narrow and broad gauge in HO scale through the town of Terowie. Many of the structures and signalling were scratch-built. Most locomotives and rolling stock were either scratch-built or kit-built. The extensive roundhouse facilities are shown here in a photo by John Kirk.



On 'Terowie North', No. 524 'Sir Mellis Napier' about to accelerate from Booboorowie station after getting the all clear on a goods bound for Terowie. Photo by Gavin Thrum.

Like other exhibition organisers around the country, it has been two years 'between drinks'! The show was held over the Queen's Birthday weekend in Adelaide 12–14 June 2021. After the cancellation of the 2020 show due to the COVID-19 pandemic, this year's show was put on with enthusiasm and gusto. A great deal of work behind the scenes was done to ensure the best possible three-day weekend by seven of Adelaide's model railway clubs. COVID-19 requirements attracted fewer exhibitors, but that didn't detract from the show at all, with a number of new local layouts making their first appearance. There were 35 displays, including a huge second-hand stall, trade and kindred stands on two floors. For the first time, tickets to the show were sold on line. Attendees had to book a time slot to arrive at the venue to help spread the number of visitors more evenly throughout the weekend. It appeared to work quite well and there was a steady flow of visitors across all three days. The Greyhound Racing SA pavilion had been upgraded with high bay LED lighting that vastly improved the visual effect of the displays.

The 2021 Rob Burford Trophy, and public vote winner, was *Terowie North* by The Adelaide Modellers' Group.

Second place in both the Rob Burford Trophy and public vote was awarded to *Planes of Fame* by the South Australian N Gauge Society.

Third Place in the Rob Burford Trophy was awarded to *Strathburn* by the South Australian Railway Modellers Association.

There were some regular exhibitors, some improved and some with added or modified displays. At least four new layouts (and *Terowie North*, an old favourite) were also on display. A wide spread of scales and gauges provided a variety of displays. Trade stands included Somerset Models, Junction Hobbies, Ozrail Model Trains, Orient Express, Aztronics Pty Ltd and SDS Models. SDS Models displayed its pilot model of the SAR 900 class to gather interest in its forthcoming release; from all reports, the model was very well received.



'Tarlee', built by Elite Model Services, was constructed in an astonishing 53 days! This layout was modelled on a small town north of Adelaide on the old broad gauge main line to Peterborough in South Australia's mid-north. It boasts a stock yard, loading ramp, goods shed, grain silos and a station building. The layout was modelled very close to scale, featuring hand-laid track. A striking feature is the overcast sky backdrop that portrayed a stunning panoramic view of the area. The scenery featured hand-made trees, scale signalling and telegraph poles. Unmistakeably South Australian. Photo by David Beres.



An impressive Lego triple-gauge roundhouse was also on display. Photo by Rodney Barrington.

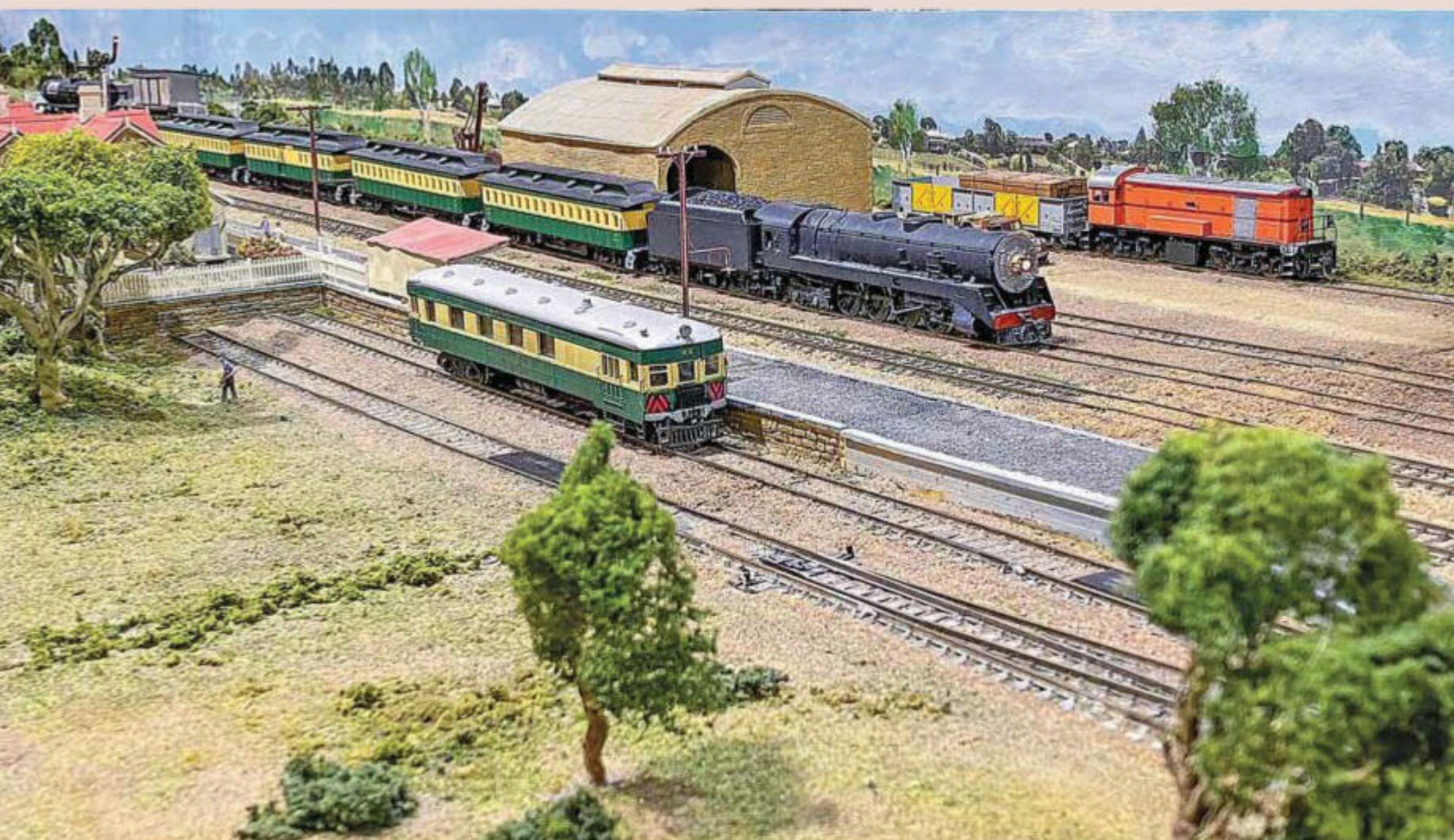


The Whyalla Model Railroaders presented their new layout based on the Commonwealth Railway era, change-of-gauge station of Maree on the Central Australian Railway. Photo by Rodney Barrington.





'Spirsby', another new layout, is a medium-sized layout based on the ex-Great Northern Railway branch terminus of Spilsby in Lincolnshire, England. It consists of a small terminal with a range of goods facilities and a loco shed, and a five-track fiddle yard and engine depot. Buildings were either scratch-built or heavily modified Metcalfe card kits. The layout featured working etched-brass Great Northern Railway somersault signals, and mostly kit-built engines and rolling stock. Seen here is a local 'Triplet' articulated coach set departing the platform on the recently-introduced Peco bull-head rail track. The period is the LNER of the early-mid 1930s and was operated by South Australian members of the British Railway Modellers of Australia. Photo by Gavin Thrum.

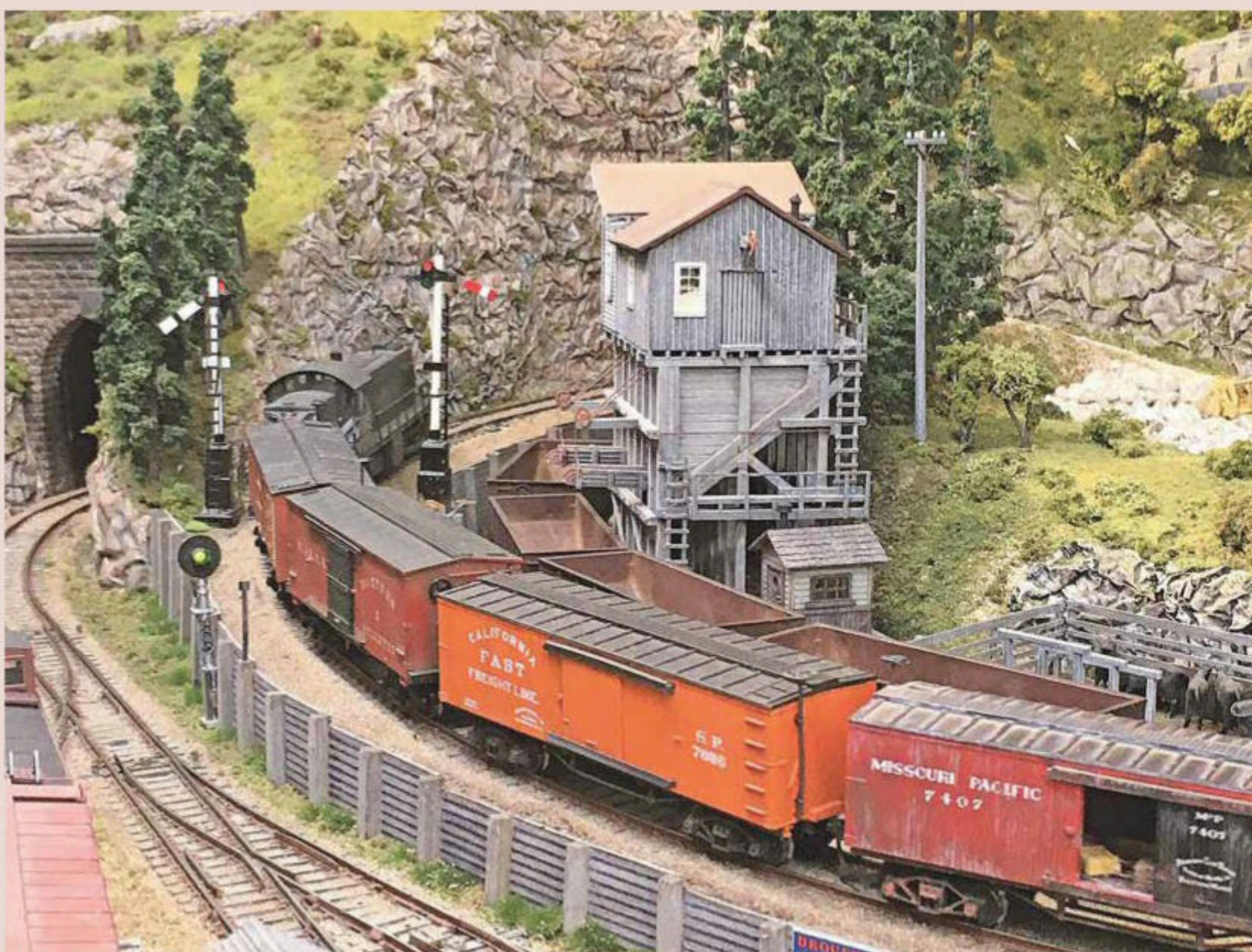


With a Brill railcar in the back platform dock, a 500 class steamer thunders through 'Strathburn' with an empty passenger stock movement, while an 800 class diesel shunts the goods sidings. 'Strathburn' was built by the South Australian Railway Modellers Association. Photo by John Kirk.

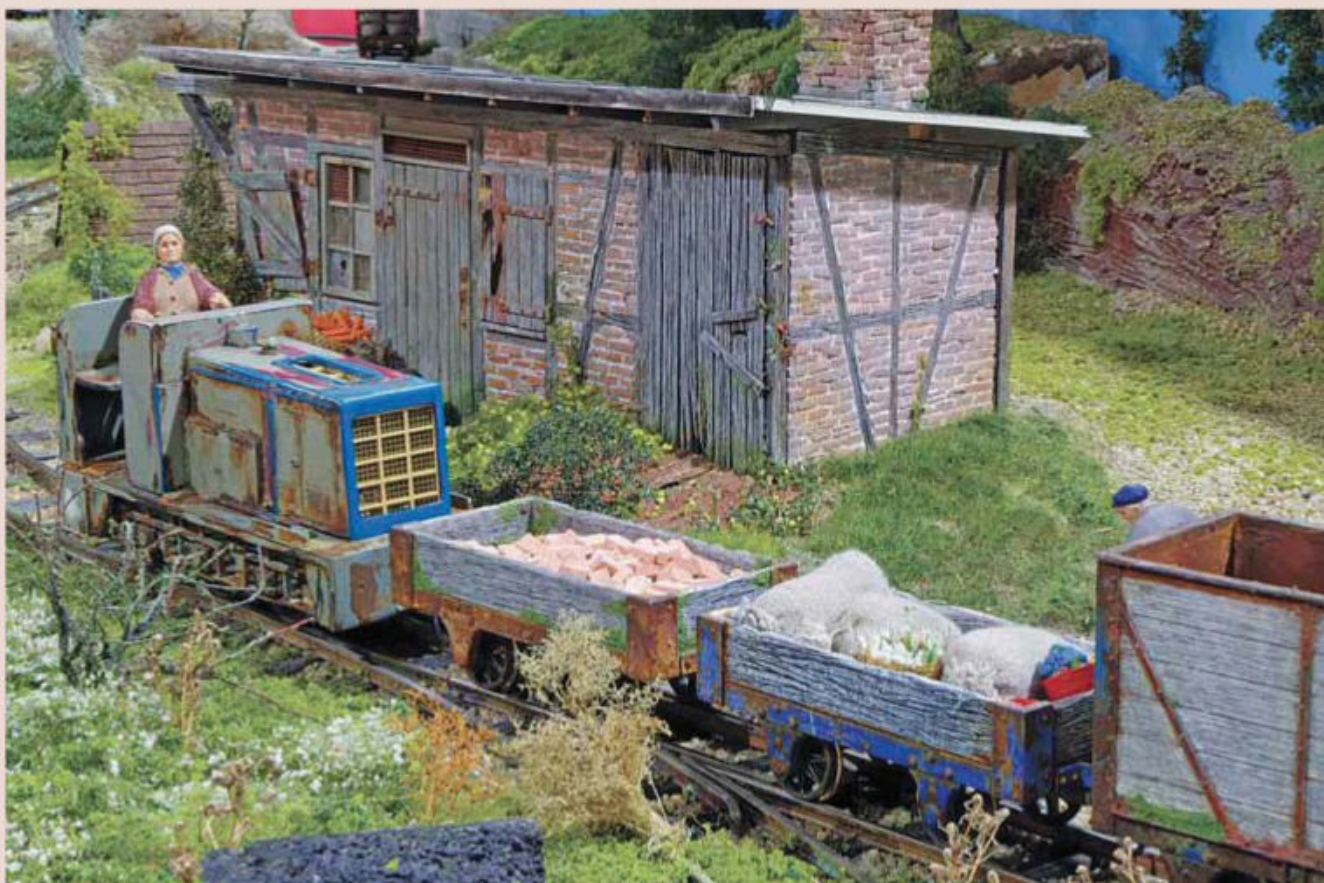


Another new layout was modelled on the Warnertown end of the Crystal Brook section of double track in the mid-north of South Australia, next to the Grain Flow balloon loop. 'Crystal Brook' featured track-side maintenance vehicles, excavators, hi-rail vehicles, tampers and other rail-oriented equipment between the lines. Trains operated represented mostly ultra-modern traffic including National Rail, Pacific National, SCT and One Rail Australia (formerly Genesee and Wyoming Australia (GWA)). Seen here is a GWA-powered grain train easing past the work area. The long panoramic display provided a 'real life' feel of being a train spotter beside the line. Photo by Rodney Bates.

A scene from the 'Luketon and Amyville Railroad', an HO scale layout displayed for the first time by John Wilson. This very compact layout portrayed the Grand Valley region in the Santa Fe territory of western USA during the 1950s. A private logging company operates over the same network as a heritage operator running tour trains between the two towns. The tight curves and compact nature of the stations and freight facilities commanded some careful operational moves and had quite a charm about it. Featuring both steam and diesel power, this photo shows a freight train heading upgrade into the mountain past a mine siding. Featuring subtle weathering of all you saw before you, the layout was a unique display with the operators working from the front of the layout. Photo by Gavin Thrum.

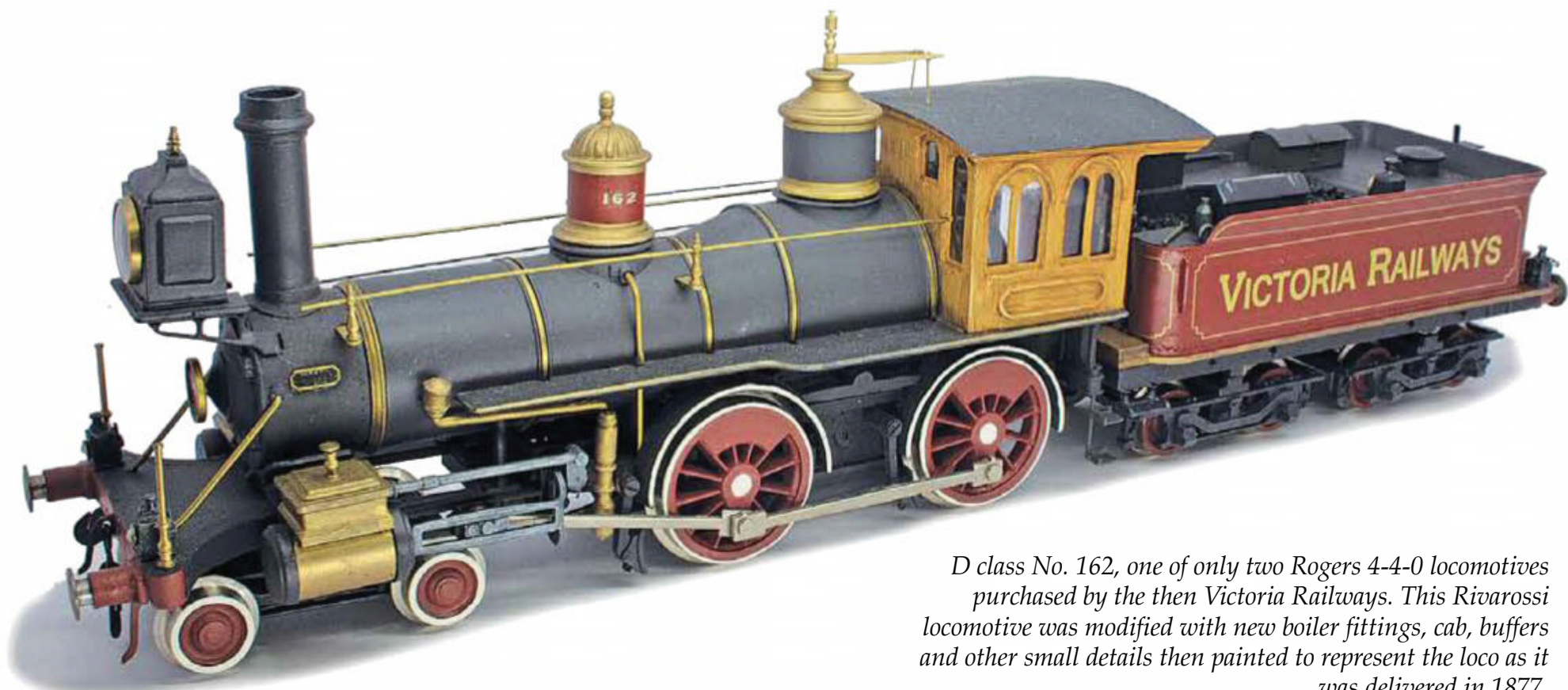


A scene from a Gauge 1 layout 'Saint Bernard Sur Mer'. This layout portrayed a small fishing village on the west coast of France. The narrow-gauge railway featured hand-laid Peco code 200 rail spiked to suitably distressed and weathered wooden sleepers. Locomotives, wagons and structures were scratch-built and the rust effects on everything was beautifully done. Seen here is a local working, heading to the wharf to drop off produce from surrounding farms. Loading from the wharf such as supplies and fish were then taken back to the village. Photo by Gavin Thrum.



'Ponders End' was a display presenting the owner's fascination with the London Transport tube system. The layout depicts a typical post-war British branch-line with a tube train service to a rural terminus and a main line featuring Great Western Railway trains. The tube trains ended their journey here in the bay road platform. Complete with working third and fourth electric pick-up rails, it was something different to see operating. Photo by Gavin Thrum.





D class No. 162, one of only two Rogers 4-4-0 locomotives purchased by the then Victoria Railways. This Rivarossi locomotive was modified with new boiler fittings, cab, buffers and other small details then painted to represent the loco as it was delivered in 1877.

Matthew Winzenried's Early Victorian Railways Gallery

Matthew models a distinctive period of the Victorian Railways (c. 1870–1900); all models shown are O scale (1:48).



'Tommy Bent' style high-sided steel I wagon (c. 1890), scratch-built from styrene, with VR Casts buffers and a Veteran Models white-metal underframe. Split wood load are sticks from the back yard.



Brown and Marshall 2nd class carriage (c. 1890). This is a Veteran Models kit with minor changes.



▲ M class suburban steam passenger locomotive No. 238 (c. 1885 — as delivered). Scratch-built in brass and nickel-silver then fitted with batteries and radio control.

► Wooden-bodied I wagon (c. 1890). Scratch-built timber body on a Veteran Models underframe. The load is a single layer of Juweela 1:48 bricks glued onto card.

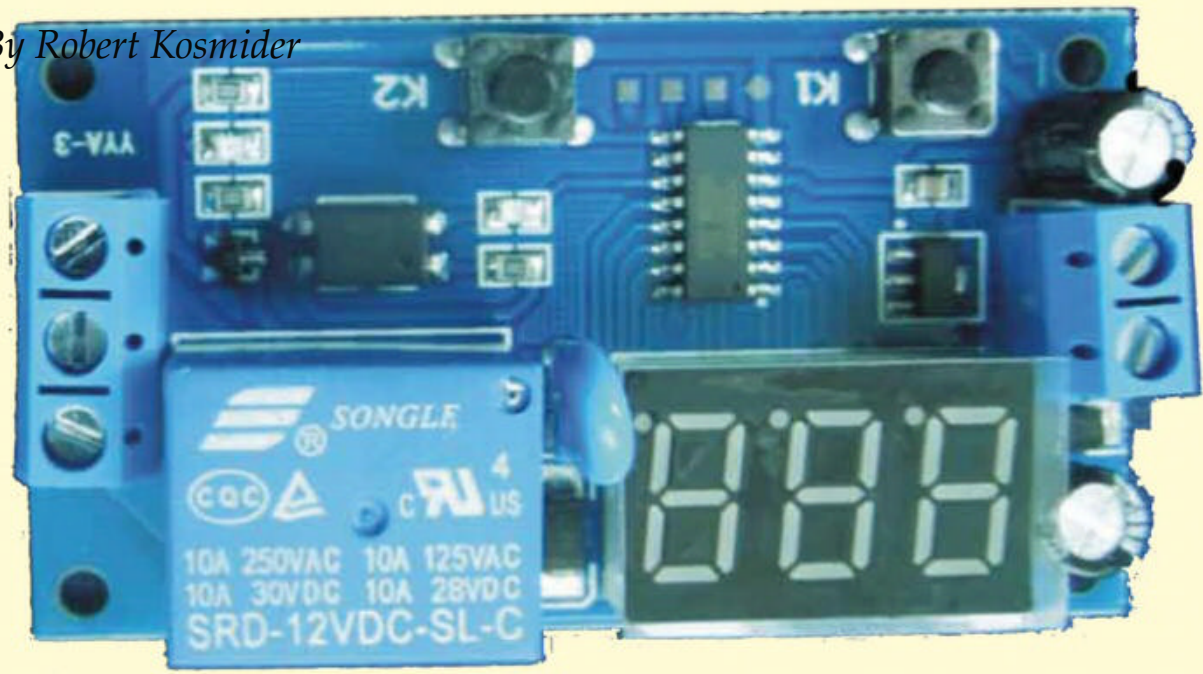


▼ Goods brake van, modified from a Veteran Models kit to represent D4 as pictured in the 1894 Victorian Railways annual report.

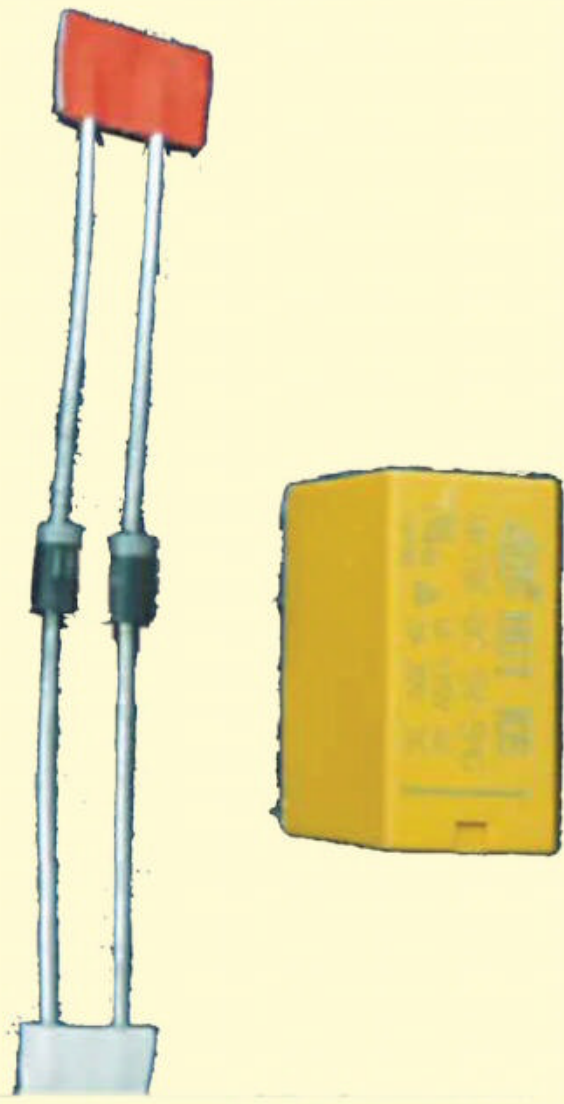


A simple economic DC train shuttle circuit

By Robert Kosmider



Photograph 1.



Shuttle Principles/Theory

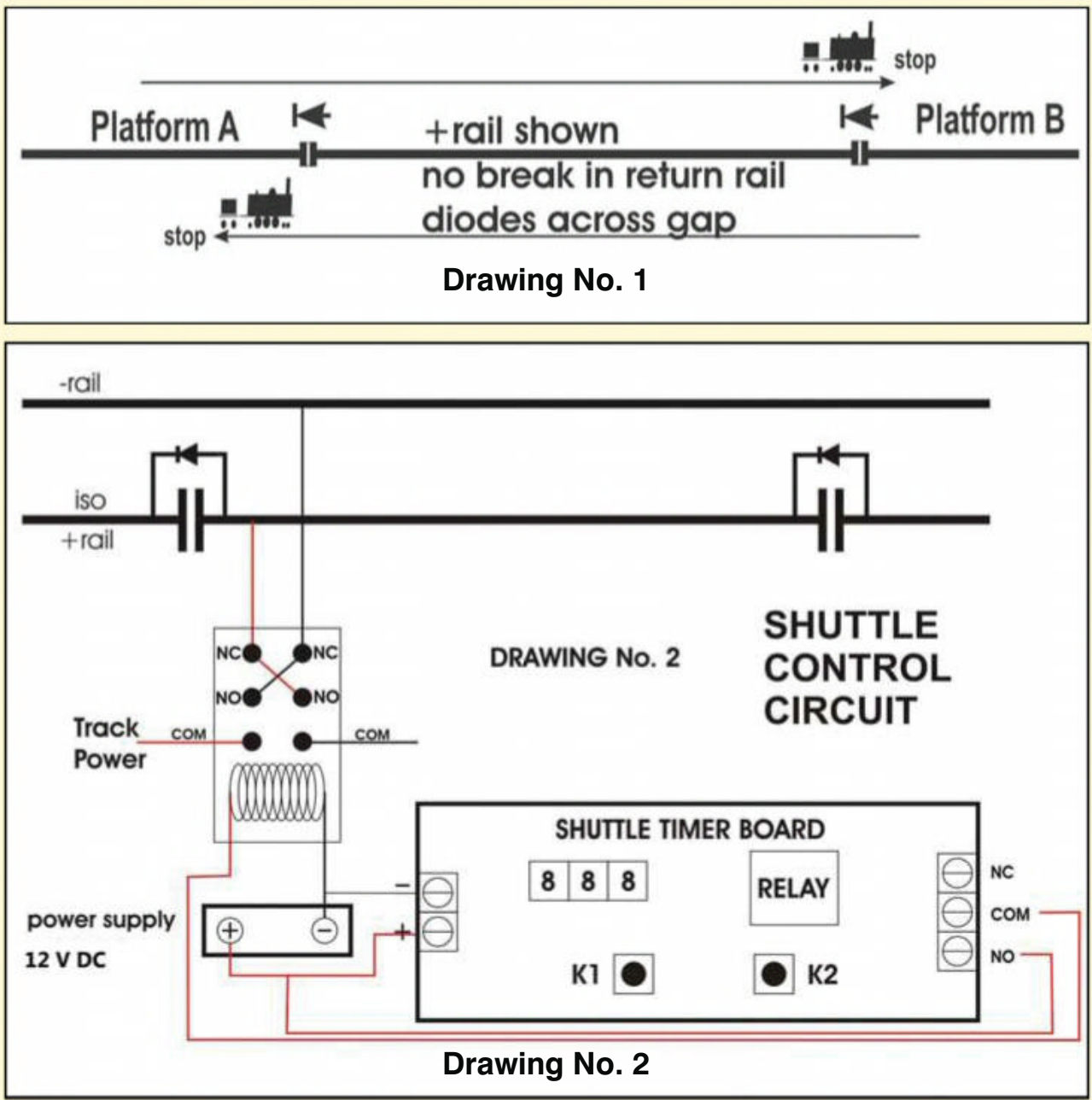
There are several electronic train shuttle circuits on the market. The last time I looked, I was put off by the price of a few hundred dollars and, in my view, the electronics were over-engineered and over-specified.

I was put off by the need for external detectors such as magnetic reed switches or infrared detectors. These are unnecessary complications in my view. A number of the products also had the option of trains slowing down as they entered the station (more detectors!). I

recall branch-line trains and little engines would come thundering into the platform and almost screech to a halt just short of the buffer stops. In my opinion, on a model branch line shuttle speeds do not have to be great and the train can stop quickly without spoiling the illusion. In addition I believe that some of the circuits include their own 'internal' train power supply, for me an extra bell and whistle when one can use the train controller you already have installed in your control panel.

The Components

Photograph 1 shows the only components needed. You will need a 'Cycling Timer Board', (a 12 V DC LED display digital delay timer control switch module PLC) a two-pole relay and two diodes. The cost price of the components can be as low as \$7. The board and relay are available on eBay at \$5 and \$1 each, and the two diodes also cost about \$1 from Jaycar. Of course, it doesn't make sense to just buy one board and relay, but I assure readers that at \$5 a board you will find plenty of uses! The relays are a separate issue and Jaycar sells 12 V relays at just under \$20. Or, you could buy a cradle-mounted relay (this is a base with plug-in relay — it also has screw terminals that will be an advantage if you don't like soldering) at about \$30. The ones here cost \$10, but with more expensive relays the total cost is still well under \$50. Drawing 1 shows the principle behind the circuit and its operation. We are all no doubt acquainted with the simple principle of installing a diode at the end of the platform so when the engine reaches the end it stops and leaves the station auto-



matically when the supply voltage is reversed. We can simply operate a shuttle up and down between two stations by reversing the voltage.

The Circuit

The circuit is shown in drawing 2. The reversing of the track power is done by the two-pole relay, in the same way that a two-pole switch is cross-wired to reverse polarity. The timer circuit switches the relay coil on and off, the same as flicking a switch up and down.

The cycling timer boards that I have been purchasing are 12 V DC and the wiring shows the board and relay powered off the same source. You can use any relay you may have. I used 5 V relays (at \$1 each) and they have a separate 5 V supply via the timer board contacts. The diodes are shown soldered across the gap in the rail at the isolating section (refer to 'iso' rail in drawing 2).

Track power is fed to the common contacts on the reversing relay. You can use your main panel controller track power via a switch (that may limit operations), a separate dedicated controller or even a separate low voltage DC supply. I've used both of these options, but in the low voltage supply you'll have to tailor it to a specific engine (this latter limitation does not bother me as I have a dedicated shuttle train). This is the simple circuit and nothing else is required, though you can add some 'extras' such as on-off switches, LEDs as shuttle annunciators etc.

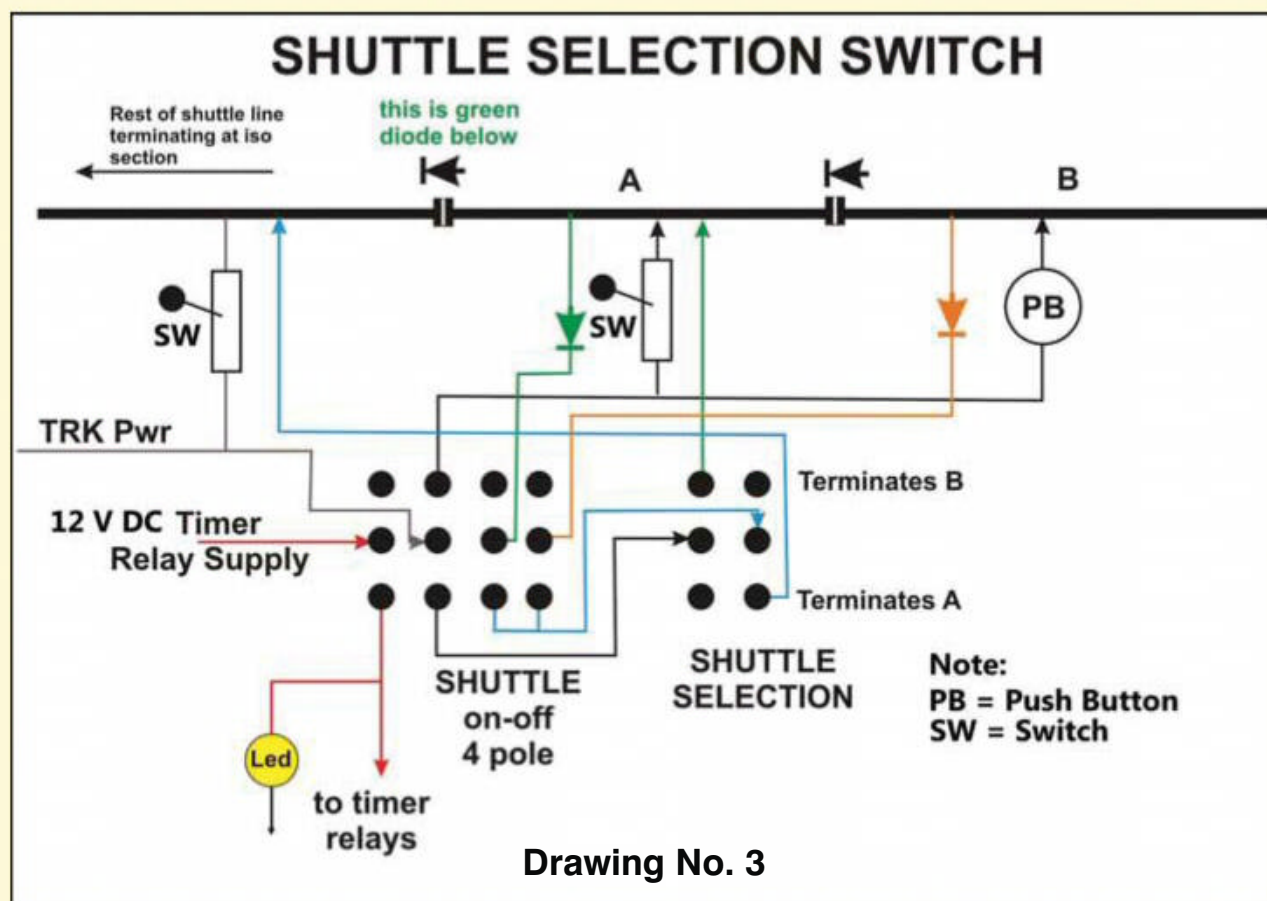
The diagrams show the diodes wired directly to the tracks. This means if the shuttle is switched off trains will always reverse out on reversal of supply when the tracks are used 'normally'. This can be overcome by having the diodes in the control box and having them switched in and out of circuit with the shuttle. A push-button will then have to be installed across the gap to activate the end section when the shuttle is not running.

Once switched on, the shuttle runs continuously until switched off, but the beauty of the little timer board is that upon switching on again the timer retains its memory. It then starts at the beginning so there is no need to change times and the shuttle starts where it left off.

Setting the Times

This needs to be accomplished manually first and the total on/off time is a function of the shuttle run (distance) and speed of the train. Firstly, you'll need to set your desired speed then time the run. Decide on a dwell or stop time. This gives the first cycle of the shuttle. The return cycle is simply the same unless you want to increase the dwell time at the other end. (Refer to the time board instructions. Suffice it to say the board give times from 0 to 999 seconds, more than ample for large runs.)

With this simple system it means you are restricted to the same engine and speed or if you want to change trains you may need to adjust the track power and/



or times by experimentation. However, this restriction does not bother me as I always use the same train on a specific shuttle service.

Further Enhancements

On one shuttle service I have a train running between three points; this can shuttle from end to end or shuttle from middle to one end. Drawing 3 illustrates how this is done.

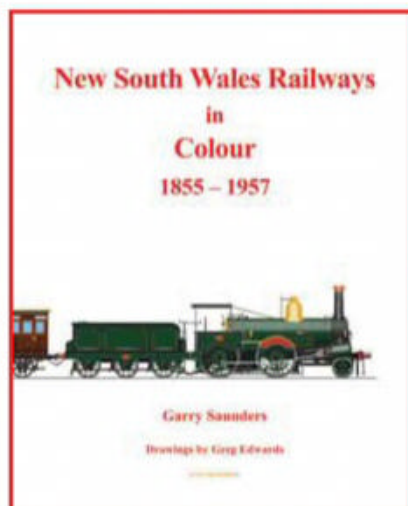
A four-pole switch gives 12 V power to the timer and relays, while at the same time supplying track power to the various sections via isolation switches and an isolation button. The switches allow the

track to be used in a 'normal' non-shuttle mode. When switching on the four-pole the isolation switches etc. are knocked out, diodes go into circuit and track power is fed to a two-pole selection switch for either station A or station B.

Conclusion

In its basic form this circuit is very simple, and I feel its limitations are well worth the low price. As long as you are happy with the same train running at the same speed every time you run the shuttle, there is no need to spend many hard-earned dollars on superfluous circuits. 

New South Wales Railways in Colour 1855–1957



by Garry Saunders
with drawings by Greg Edwards

\$145.00 plus postage

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Trains Worth Modelling: NSW Mail Trains

Graham Ahern presents photos of consists from the 1980s for modellers to capture the unique operations of NSW mail trains in the diesel era. Photos by the author, unless otherwise credited.

The State Rail Authority of New South Wales (SRA of NSW) mail trains were an eclectic mix of consists. From a modelling perspective, these trains were short and served far-flung parts of the system. The consists were a 'grab-bag' of both passenger and freight rolling stock, some of which included containerised parcels. Mail trains were effectively mixed trains, with lots of shunting en route and at terminal stations.

Things to consider when adding a mail train service to your layout are:

- A mail train would bring additional operational complexity to a small or medium-sized branch line. For example, shunting the freight wagons to the loading platform or goods roads for unloading and back loading, then shuffling the freight wagons and passenger coaches for the return journey.
- Given a mail train's fairly small size and operationally intensive nature, this opens up the possibility to consider modelling a branch line in one of the larger scales (for example, 7 mm scale).
- If you model a main line, secondary main line or a junction station, you could model a mail train dropping off or picking up parcels vans etc. Or, if

your station receives most of the 'mail', you could remarshal the consist dropping off wagons and coaches including a change of locomotives before the train heads to its next destination.

- You can effectively model a mixed train well into the diesel era (that is, using SRA of NSW candy colours) without a big investment in rolling stock.
- Rolling stock variety, repainted and modified steam-era coaches operating with modern freight wagons including NLKYs and at least one instance of an AQMX. For example, on 27 September 1985 the *Western Mail* (Sydney to Parkes) consisted of:
 - NLKY 18628, MHO 2629, MCS 796, MAL 565, TAM 936, MCS 82, LHY 1622, NLKY 18667, NLKY 18636 from Sydney to Orange hauled by locomotive 8630 to Lithgow, then a 44 class to Orange; and
 - LHY 1622, MCS 82, TAM 936, AQMX 3969S (with parcel containers) from Orange to Parkes hauled by 4810 and 4902.

▲ Locomotive 4423 leads the 'North Mail' into Armidale with ACS 922, MCS 1900, MCS 796, TAM 1883 and MHO 2632 on 25 April 1986.

▼ Locomotive 8031 leads the 'Parkes Mail' service on 3 January 1986, with two parcel containers.

► Mail trains and tour trains were occasionally combined. One such example is 4836 at Hillston with KAM 508, TAM 902 and IHO 1285 preparing to depart for Parkes on 19 June 1982 with a very 'modellable' sized tour train. This train departed Sydney attached to the 'South Mail'.

► Alco 4482 leads 4845 on the 'South Mail' at Narrandera on 19 June 1982. This train left Sydney with 42214 hauling the train to Junee, and 4482 and 4845 from Junee to Griffith. Consist movements included NLLF 10056 (Goulburn), NLLF 11106 (Cootamundra), ATP 1003, KAM 508, TAM 902, IHO 1285 (Junee), ATP 1000 (Albury), MAL 565, FS 2027 (Junee) and MCS 778 (Albury). Additionally, the two vans (an NLHX and NLLF type) behind the locomotives were added at Junee when the train was reversed.



At larger regional locations mail trains could be split or the consist changed. This example on 20 June 1982 shows 4867 and 4813 leaving Parkes for Forbes with the remainder of the mail train.

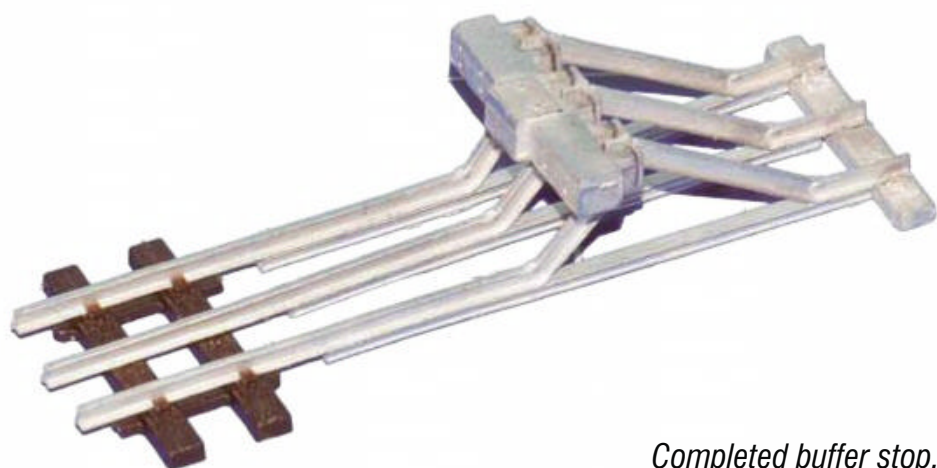


Locomotive 8009 leads 4902 on the 'Parkes Mail' service on 15 March 1985, complete with a 20-foot RACE container carrying parcels.



A collection of RS KP mail vans in the [then] new candy colours at Goulburn on 17 August 1985. Photo Bob Richardson.





Completed buffer stop.

QSM-RBS2, Queensland Railways (QR) standard rail type buffer stop — kinked type. HO_n3½ scale — code 75 rail by Queensland Scale Models Pty Ltd, PO Box 7154, Bundaberg North, Qld, 4670. Phone 0407 559 086. www.queenslandscalemodels.com.au. Price \$20.00 each (pack of three \$54.00).

Prototype Background

When purchasing rail from manufacturers, contracts required the railways to accept 'shorts' as part of the deal. During the 1960s, Queensland Railways commenced using these shorts to make turn-out components and buffer blocks. These could be manufactured at a workshop, transported to site then installed. Minimal earth works were required and standard fish plates fixed the stop block to the running

rails. At first, buffer stops were made at the Northgate workshops; over time, private manufacturers took over the role. The method of construction varied resulting in some differences within the same design. During the buffer era it was common to have buffers attached to the buffer beam. When rolling stock fitted with automatic coupling entered service, striking plates were added. As time passed buffers were removed from rolling stock and from buffer stops; they then became known as stop blocks. As operations expanded across the QR network, both standard gauge and narrow gauge versions were built.

During the steam era, placing carriages and wagons hard up on the buffer beam was common practice. With longer and heavier trains associated with the opera-

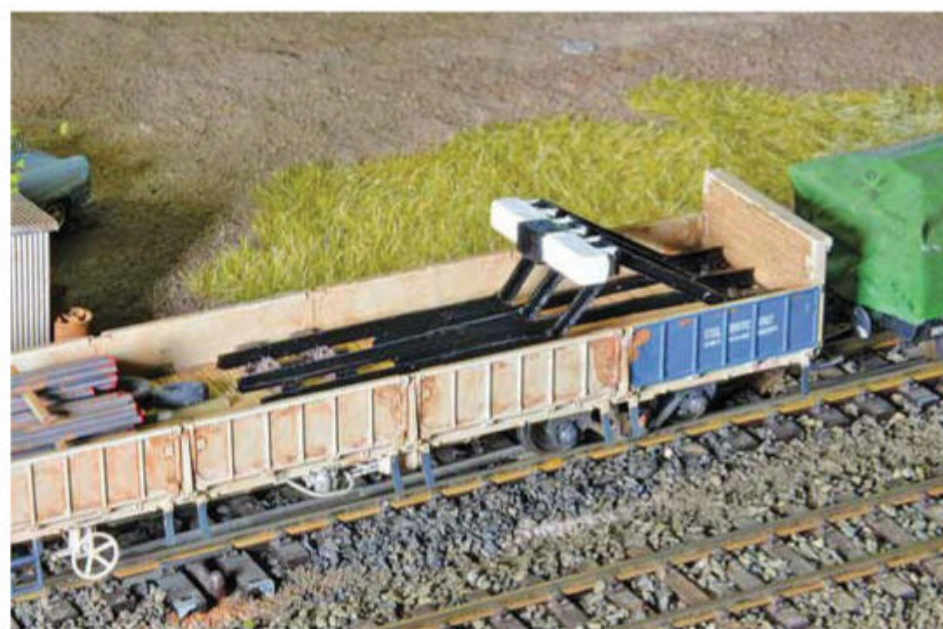


Completed buffer stop installed on the layout.

tions of diesel locomotives, stop blocks were subject to harsh treatment; often they were pushed back and damaged. A locomotive and a length a chain (called a pond) was used to pull the stop blocks back into place. When new, the buffer beam was painted white, and the rail and steel parts were black. They went many years without maintenance allowing the rail parts

to rust and the buffer beam to decay (see prototype photos).

The 1989 *Shunters' Handbook* provided the following guidance for shunters: "Stop blocks look impressive, but will only withstand limited impact. When propelling strings of wagons towards stop blocks or on a blind curve, the vehicles should be coupled together and the air brake coupled up if



Buffer stop as a wagon load.



Buffer stop packaging; the reverse side has assembly instructions.



Buffer stop at Charters Towers station on 13 October 2011. Photo by Bob Richardson.



Buffer stop at Charters Towers station on 13 October 2011. Photo by Bob Richardson.

possible. If the shunter is unable to see beyond the last wagon another shunter must be placed in a position where he can relay a signal to avoid the propelled vehicles coming into violent contact with the stop blocks.”

In later years, rolling stock was not allowed to come in contact with the stop blocks. Today, Workplace Health and Safety practices require a sizeable gap to be left between the last wagon and the stop blocks.

The Model

This Australian-made kit is packaged in the usual QSM colourful packaging. A sealed plastic bag showing the contents is supported by a card backing. The rear side of the card details assembly information with a scale drawing. The rail components are fine white metal material and care is required to prevent unnecessary bending. Assembly of the kit is straightforward following the instructions and,

using the recommended adhesive (five-minute Araldite®), took only a few minutes to complete. Painting suggestions in the instructions are for a weathered, rusted set of buffer blocks. Painting the model takes a little longer than assembling taking into account the various angles so take care with the three colours. To suit my era, the model was painted as newly constructed.

Adding the completed model to the layout was straightforward. The instructions suggest using insulated rail joiners to prevent a short circuit.

Summary

Once again, Queensland Scale Models has provided QR modellers with choice by adding a different version to their current range. The buffer stop has been designed for easy installation. Little projects like this are a welcome break with a completed project finished in next to no time. The model adds QR realism to your sidings and enhances your layout. As indicated in the prototype text, buffer stops were transported around the network to their location; one or two

make a great load for a wagon, too. The buffer beam could be easily modified to reflect other eras or a particular location by adding buffers or timber bumping pads.

Congratulations, Queensland Scale Models, on another fine scale model to the trackside accessory range that enable QR modellers to achieve that realistic scene for their layout.

Arthur Hayes

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

RECENT RELEASES



Auscision has released the SAR/ANR/AN 600 class diesel locomotive in HO scale.



Auscision has released a CityRail Tangara set in a special 'Sydney 2000' livery in HO scale.



Auscision Models HO scale NSWGR DEB set pilot model.

Auscision Models

Auscision has received painted pilot models of their NDCH and NDMX spoil wagons, NDMX infrastructure wagon (with concrete sleepers load) and NQJX container flat wagon (with and without spoil containers).

Auscision has also received unpainted pilot models of the Australian National CLP class diesel locomotive and the New South Wales Government Railways (NSWGR) DEB sets.

The Victorian Railways (VR) *Tait* cars are due to arrive in July 2021.



Auscision Models HO scale AN CLP class pilot model.



Auscision Models HO scale NDCH spoil wagon pilot model.



Auscision Models HO scale NDMX spoil wagon pilot model.



Auscision Models HO scale NDMX spoil wagon pilot model.



Auscision Models HO scale NDMX infrastructure wagon (with concrete sleeper load) pilot model.



Auscision Models HO scale NQJX container flat wagon (with spoil container load) pilot model.



Auscision Models HO scale NQJX container flat wagon pilot model.



Auscision Models HO scale NQJX container flat wagon pilot model.

Bergs Hobbies

Bergs Hobbies is expecting to receive its Commonwealth Engineering 1955 *Sputnik* sets in time for the Rosehill Exhibition in October 2021.

Bergs is also expecting a shipment of the hard-to-find Shinohara track in code 83 and code 70.

Casula Hobbies

The NSWGR Z19 steam locomotive final pilot models have been approved for production. Casula Hobbies is hoping for a limited number of production models to be available at the Epping Exhibition. Priority will be given to modellers who were first to put their orders in. The full production run is expected to arrive November or December 2021.

NSWGR ABV four-wheel (Masonite) biscuit vans are expected to arrive in July 2021; the board version is due in September 2021.

Eureka Models

Over the past year the tooling cost out of China have increased by 20%; this is a significant increase and is expected to affect all new projects.

Ixion Models

Ixion Models has been advised by their factory that the VR J class production run will be complete by the end of June 2021 and will be shipped soon after. They are hopeful that the shipment will be in hand around four weeks later. You can also check updates on their website at www.ixionmodels.com.

Railmotor Models and Train World

The SCT Logistics PBSY multi-freighter van with the central doors is expected to be in stores around August 2021.

Corrections

Issue 348 (June 2021)

The contents page had some incorrect page references: In the Loop should be page 51; Small Layouts should be page 53.

In Allan Brown's *Bullinga* article, Ben Gray's name was misspelt; sorry about that Ben!

The News item for Powerline Models incorrectly stated that Powerline Models was producing the Railmotor Models brand. To clarify, the SCT Logistics locomotive and wagons are a collaboration between Train World and Railmotor Models, but marketed, distributed and retailed by Train World Pty Ltd.

Sudden Passing

It is with deep regret we advise the passing, in late June, of Col Shepherd, a stalwart of the Australian modelling fraternity. Col (with Norm Read) was a fixture on the exhibition scene with their large NSW O gauge layout and a foundation member of the Rockdale Boys at the clubrooms of the NSW branch of AMRA.

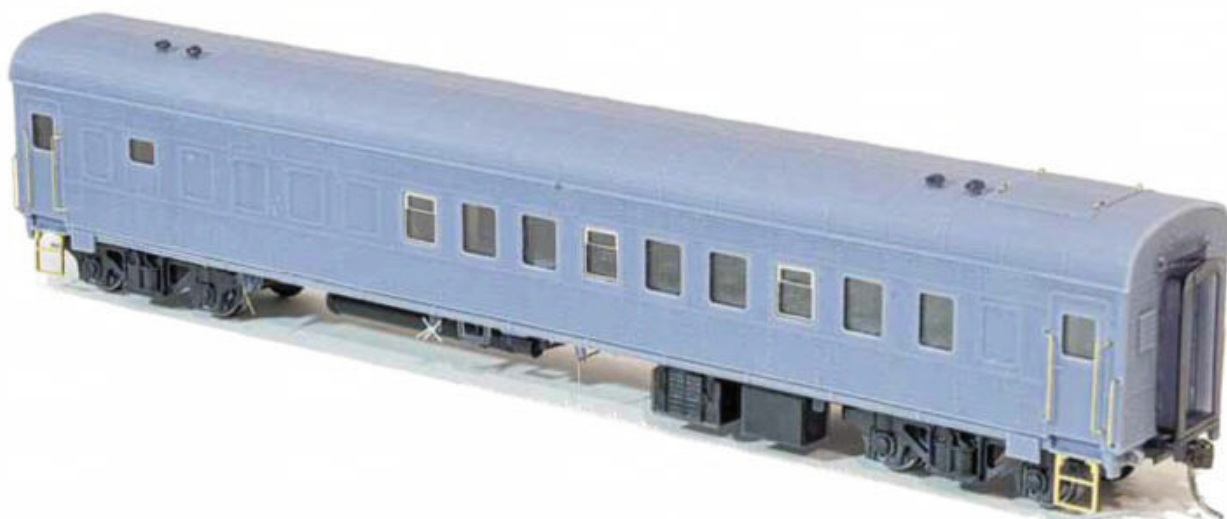
Ctrl P Models

Ctrl P Models is developing a kit of the CountryLink RDH 2220 coach. This kit includes:

- highly-detailed 3D-printed resin body, exterior and interior detail parts, and bogies;
- laser-cut acrylic windows;
- nickel silver etched Beclawat window frames and handbrake wheels;
- cast brass steps;

- genuine Kadee scale-head whisker couplers;
- blackened metal RP25-110 wheelsets;
- decals representing the CountryLink *Griffith Express* period;
- brass wire for all brake rigging and handrails;
- 3D-printed handrail jig; and
- all required screws.

This kit will be followed by kits of RDH 2233 and NDS coaches.



Ctrl P Models CountryLink RDH 2220 kit in HO scale.



Ctrl P Models CountryLink RDH 2220 kit in HO scale.

Ctrl P Models Public Transport Corporation (Victoria) 4D conversion kit in HO scale.



Ctrl P Models is also developing 3D-printed replacement pilots for kit-bashing Auscision's *Tangara* sets into a CityRail G set and Public Transport Corporation (Victoria) 4D variants. Both include separately-fitted clear light lenses. There will also be a set of magnetic Scharfenberg couplers added to the range that represent those on the 4D prototype.

Ctrl P Models CityRail G set conversion kit in HO scale.



On Track Models NSWGR TLV tinsplate louvre van pilot model in HO scale.



On Track Models NSWGR GLX louvre van pilot model in HO scale.



On Track Models NSWGR NLBF 'Unzip a Banana' louvre van pilot model in HO scale.



Pilot model of the On Track Models State Rail Authority of New South Wales LLV louvre van in Candy livery (with nameboard) in HO scale.



Pilot model of the On Track Models State Rail Authority of New South Wales LLV louvre van in Candy livery in HO scale.

On Track Models

On Track Models has launched a new on-line shop (<https://ontrackmodels.shop/>).

Craig is retiring soon from On Track Models and is passing the reins to Graham; the new postal address is:

PO Box 5515

South Windsor NSW 2756

phone: 0438 380 130

Following on from On Track Models' successful supplementary and BOB cars, On Track Models is developing the NSWGR MCE and MFE 72 foot 6-inch passenger coaches. Depending on the final tooling costs involved they may be able to offer both crown light and double letterboard versions. Delivery date is expected to be late 2022.

Delivery date of the LLV rerun is yet to be confirmed, but painted pilot models have arrived.



Powerline Models pilot model of the NSWGR 48 class Mk I diesel locomotive in SRA of NSW Candy livery in HO scale.

Powerline Models

Powerline Models has received the first painted samples of its soon-to-be-released NSWGR 48 class Mk I diesel locomotive in SRA of NSW Candy livery. As these are the first painted samples there are some items that need to be corrected. The long hood radiator rood fan grille is white, but should be red; the edge of the buffer beams is red, but should be yellow; the win-

dows are not fitted. There is a debate on the paint lining across square vents at the bottom of the long hood. Some photographs show this lining to go straight across as can be seen in *48 — Backbone of the Railways*, the definitive Eveleigh Press book on the locomotive class; over time, though, these vents turned weathered black. The 48 class Mk I in SRA of NSW Candy livery is being produced in four num-

bers (4808, 4811, 4827 and 4841) and will be available as a DC locomotive that is DCC-ready and sound-ready, or as a locomotive with DCC and sound fitted with sound files by DCCSound. These locomotives are expected later in 2021, but may be ordered now.

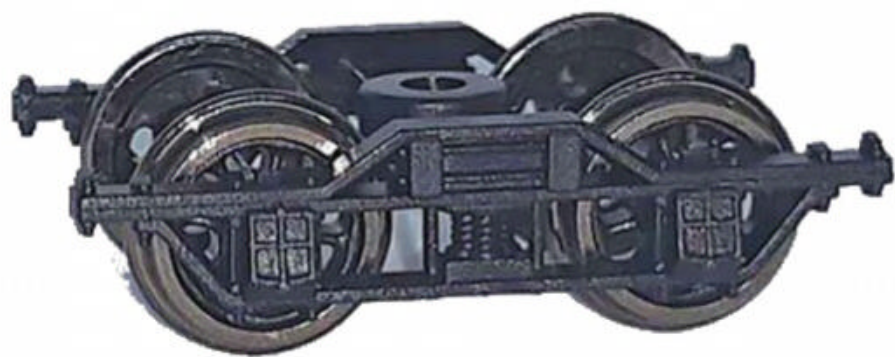
Powerline Models has also announced the impending arrival of their up-rated (2 amp) train set controller. Input voltage is 16 V DC

and its new part number is PR-TC2. These are expected to arrive in late July or early August 2021.

Powerline Models is awaiting painted samples of the remaining Victorian Railways Z car liveries. Delivery date is not known as AMRM goes to print.

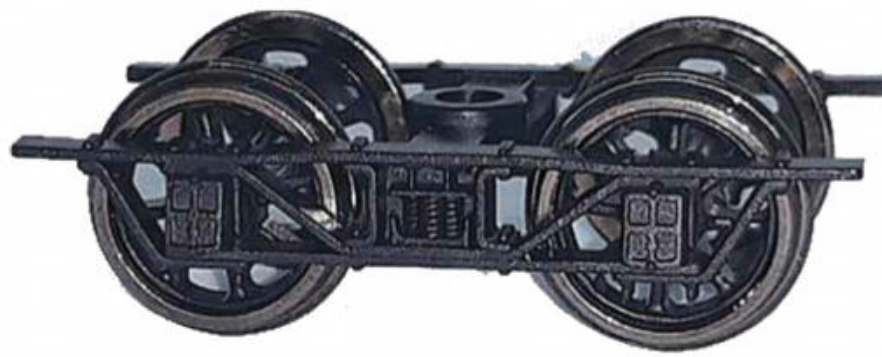
Wuiske Models

Wuiske Models has developed new Queensland Railways (QR) four



Wuiske Models QR four foot archbar bogies (with 7.6 mm spoked wheels) in HO scale and HOn3½ scale.

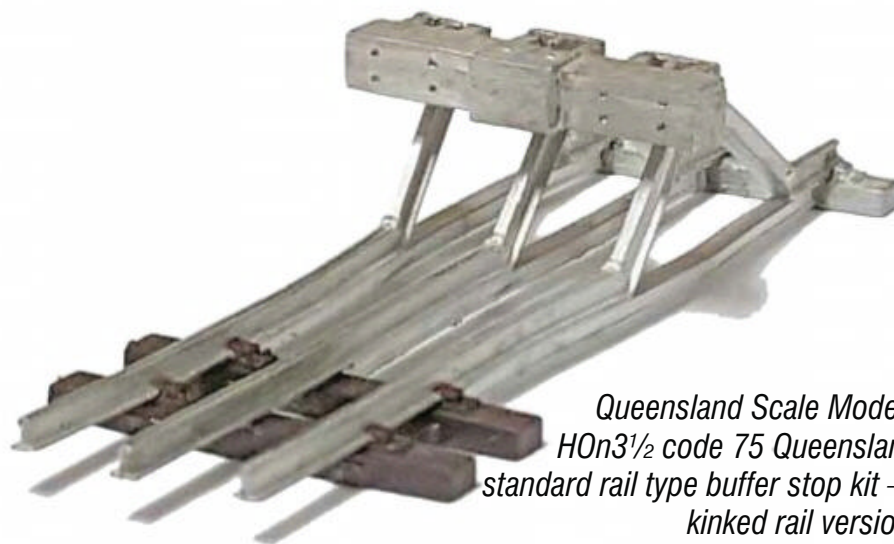
foot and five foot archbar bogies in HO scale and HOn3½ scale. These will be available as a pair or a bulk pack of five pairs.



Wuiske Models QR five foot archbar bogies (with 9.6 mm spoked wheels) in HO scale and HOn3½ scale.

Queensland Scale Models

Queensland Scale Models released HOn3½ code 75 Queensland standard rail type buffer stop kit (the kinked rail version) at the Brisbane Model Train Show. This kit is an addition to its Queensland trackside accessory range. The kit is made from white metal components and is designed to be 100% compatible with Peco code 75 12 mm track. The new kinked rail version is available singly or in a three-pack *[Editor's note: this product is reviewed in this issue]*. The existing buffer kit in QSM-RBS1 will continue to be available and is a companion product to the new release.



Queensland Scale Models HOn3½ code 75 Queensland standard rail type buffer stop kit — kinked rail version.

Diary

EXHIBITIONS & EXPOS

POSTPONED – STAWELL – VIC. 2021. Victoria's Smallest Model Railway Show, Stawell Railway Goods Shed, 15 Wakeham St, Stawell. Grampian Model Railroaders Inc. www.gmrinc.org.au

CAULFIELD – VIC. August, 2021. AMRA Victorian Branch Inc. Due to the uncertainty of COVID 19 we will not be holding our exhibition at the Caulfield racecourse in August.

BRISBANE – QLD. August 14-15, 2021. The Railway Modellers Club of Queensland presents the Pine Rivers Model Railway and Hobby Expo, Strathpine Community Centre, 199 Gympie Road, Strathpine 4500. 9.00am-4.00pm (Sat & Sun). Adults \$10, Concession \$8, Children U/16 free.

rmcqevents@gmail.com or 0408 706 411.

<http://rmcq.org.au/home/calendar/rmcq-exhibitions>

<https://www.facebook.com/rmcqbrendale>

ROSEHILL – NSW. October 16-17, 2021. Great Train Show at Rosehill Gardens Grand Pavilion, off Grand Avenue, Rosehill. Mike 0408 817 554.

secondhand@eppingmodelrailway.org.au

www.eppingmodelrailway.org.au

SEMINARS & CONVENTIONS

EPPING – NSW. July 31 2021. Modelling the Early Days of the NSW Railways Workshop 2021, Epping Creative Centre, Dence Park, 26 Stanley Road, Epping. Prior registration essential. PO Box 345, Matraville. Phone: 02 9311 2036 or amrmagzn@tpg.com.au

ADELAIDE – SA. September 4, 2021. Modelling the Railways of South Australia Convention, Flinders Medical Centre lecture theatres, Bedford Park. 8.30am registration. 9.00am-5.00pm (Sat). Registration forms: MRSAC, PO Box 356, Parkholme SA 5043. Please check convention website for up to date information.

convention@mrsac.com

www.mrsac.com

SUNBURY – VIC. October 16-17, 2021. Sunbury Model Railway Club, St Anne's Church Hall, Riddell road, Sunbury, 10.00am-5.00pm (Sat), 10.00am-4.00pm (Sun). Adult \$10, Child \$4, Pension \$7, Family \$20, Contact: Mark Warner 0407 880 604.

mrwarner@iprimus.com.au

OPEN DAYS

BRISBANE – QLD. September 12 subject to COVID-19 restrictions. Open 9am-2pm (Sun). Union Pacific Model Railroad Club rear of Holland Park Sports and Community Club, 49 Abbotsleigh St, Holland Park. Table Sales available to non-members limited to 6 tables so early bookings essential. For table space and other enquiries: sec_upmrc@bigpond.com or 0439 435 366.

GLEN IRIS – VIC. October 3, 2021. Australian Model Railway Association, Victorian Branch Inc. At the Clubrooms, 92 Wills Street Glen Iris. 3146. Melway Map 59 Ref J8. Open: 10.00am-4.00pm (Sun) depending on Covid 19 Restrictions. Free Entry. Clubrooms telephone (03) 9885 7034. amravic.com.au.

CALOUNDRA – QLD. October 9, 2021. Sunshine Coast model Railway Club, Uniting Church Hall, cnr Queen and Elm Streets, Caloundra. Commencing 9.00am (Sat). Terry Hicks Ph: (07) 5491 4617. ghicks4@bigpond.com

SALE DAYS

BRISBANE – QLD. June 15 subject to COVID-19 restrictions. Buy and sell Tuesday night. Union Pacific Model Railroad Club, Clubrooms, rear of Holland Park Sports and Community Club, 49 Abbotsleigh St, Holland Park. Registrations from 6.00pm. Sale commences 8.00pm. Free entry, 0439 435 366 or sec_upmrc@bigpond.com

BRISBANE – QLD. November 7, 2021. The Railway Modellers Club of Queensland Buy and Sell and Open Day, Buckley Park, 20 Terrence Road, Brendale 4500. 10.00am-1.00pm. 0408 706 411

rmcqevents@gmail.com or

<http://rmcq.org.au/home/calendar/buy-sell-days> or

<https://www.facebook.com/rmcqbrendale>.

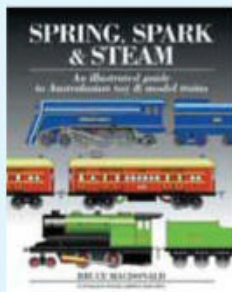
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BRUCE MACDONALD COLLECTION

THREE UNIQUE BOOKS ON AUSTRALIAN MODEL RAILWAYS,
TRAMWAYS AND INDUSTRIAL RAILWAYS

SPRING, SPARK & STEAM



The author takes us on an interesting and informative journey from the beginnings of toy and model trains in Australia and New Zealand, to the days of mass production of what is now known as HO gauge. The book covers the pre and post World War 2 period when experienced model makers were leaving their regular employment to start cottage industries, producing models for a toy-starved public up until the 1960s.

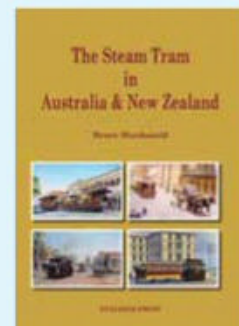
These cottage industries grew to the point where they contributed to the economy of the country, employing considerable numbers of workers in their production, before crumbling under the onslaught of imported toys, changing tastes, and the arrival of TV. As well as the details of fifty-five manufacturers such as Ferris, Maurlyn, Robilt, and Scorpion, the book has over six hundred full-colour photographs of many of the models produced and includes coverage of the retail outlets that were the public face of the industry.

SPRING, SPARK & STEAM has 144 full-colour pages. Page size is 215 x 277mm, with a full-colour hard cover

\$60.00 plus postage

THE STEAM TRAM IN AUSTRALIA & NEW ZEALAND

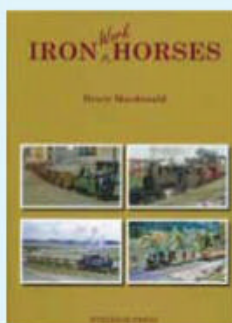
As the cities in the British Colonies of Australia and New Zealand grew in the 19th century, there was a need for public transportation: people in outlying suburbs needed to get to work more quickly than walking. Horse-drawn omnibuses were introduced by private operators but the need was for something more expansive. Overseas, in Britain and America tramways were quite widespread by the 1860s and it was only a matter of time before this transport mode was extended to the colonies. In Sydney, the first tram, horse drawn, connected Circular Quay on the harbour with the railway station at Redfern in 1861. Although this was dismantled five years later, the die had been cast, tramways being the answer the city fathers were seeking. Although quite a few systems commenced with horse-drawn vehicles, steam-hauled 'motors' as the steam tram locomotives were to be known, became common at the front of a tram. This book is not a history of the various systems in the two countries but a coverage of the various motors that were found in service until the systems were electrified or shut down in favour of buses. Where known, every type of steam motor is shown in photographic or illustrative form, in some cases also showing the modifications applied. Photos have been drawn from many sources and restored trams are shown in colour. Most systems are accompanied by a map.



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IRON WORK HORSES



This book covers the industrial steam locomotives that worked in Australia. The chapters cover locomotives manufactured in England and Scotland, Europe, the United States of America and Australia. The volume contains 176 pages, is hard cover bound with over 450 images and detailed captions for each locomotive type.

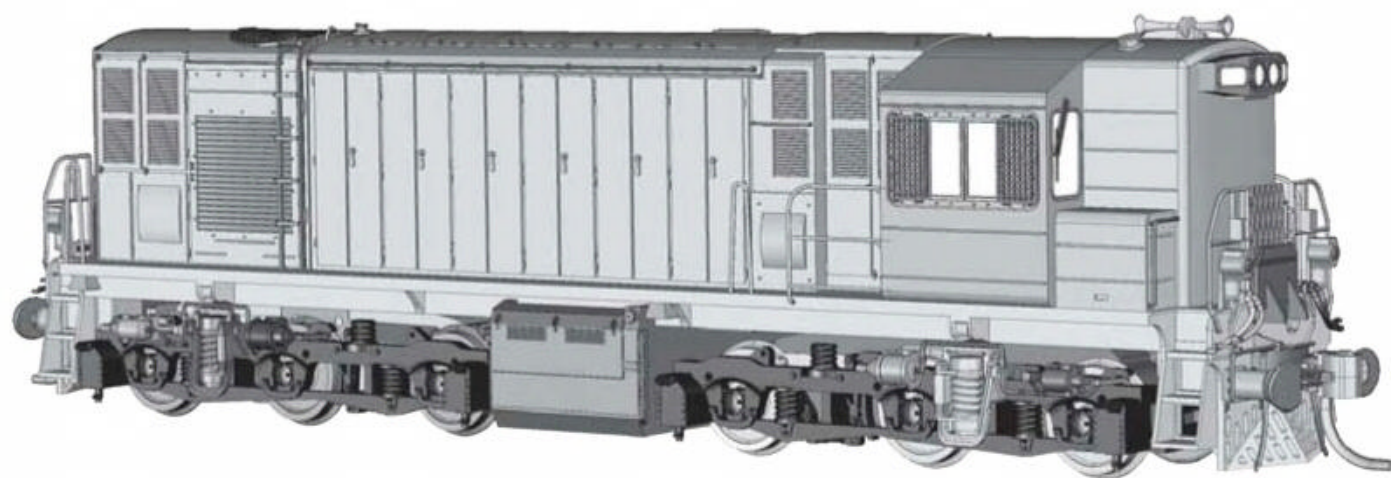
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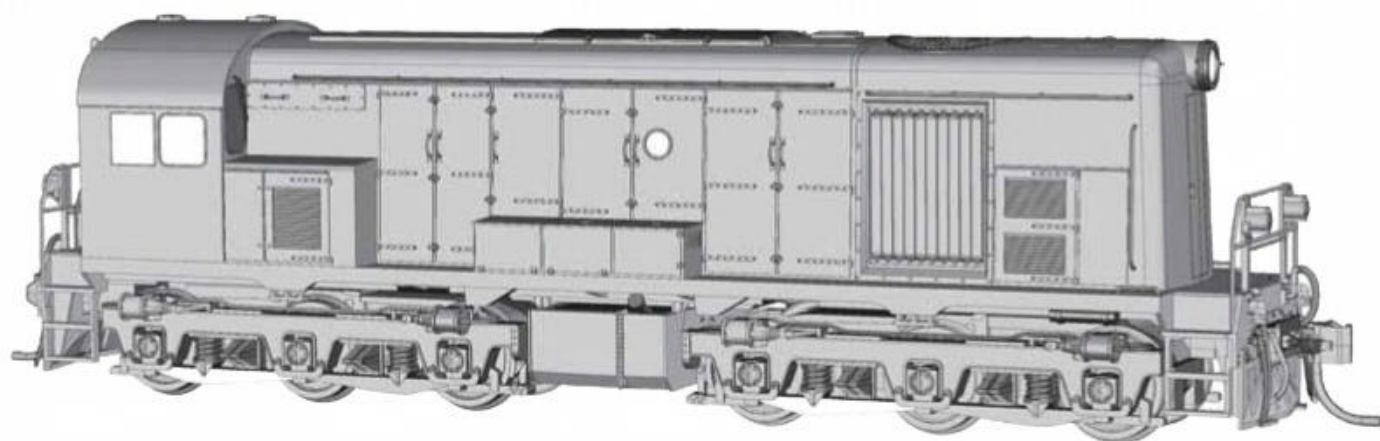
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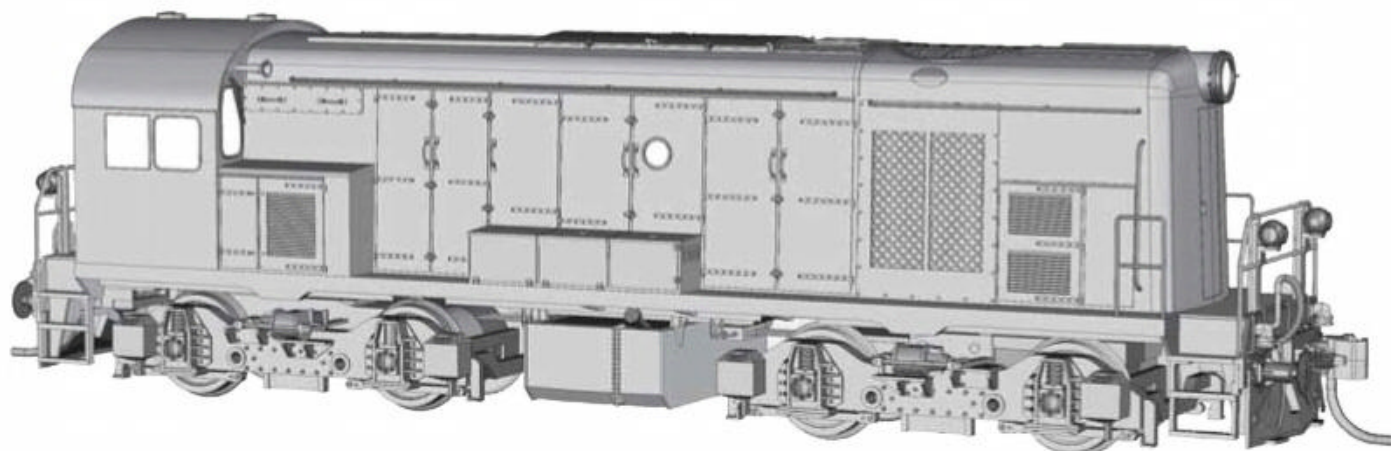
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A digital rendering of SDS Models' Queensland Railways 1620 class diesel locomotive in HO scale and HOn3 1/2 scale.



A digital rendering of SDS Models' Midland Railway of Western Australia F class diesel locomotive in HO scale and HOn3 1/2 scale.



A digital rendering of SDS Models' Tasmanian Government Railways Y class diesel locomotive in HO scale and HOn3 1/2 scale.

SDS Models

SDS Models' first foray into the Australian narrow gauge scene is an extension of the English Electric family of medium horsepower locomotives. Based around the venerable SAR 800 class diesel, the Midland Railway of Western Australia F class diesel and the Tasmanian Government Railways Y class shared a common style. The Queensland Railways 1620 class adopted a more 'Australian' outline. All the models have similar overall lengths and wheelbases.

The SDS Models design team worked hard on achieving a consolidated tooling package, ensuring the economic viability of the three models, while also managing to incorporate gauge-specific gearboxes (HO and HOn3 1/2 bogies), for each model.

The first engineering prototypes are due late in 2021, with delivery slated for the third quarter of 2022.

The SRA of NSW 81 class diesel and VR D³ class steam locomotive models are due to arrive later this year, but ongoing worker shortages and power rationing across the Dongguan region of China has disrupted all delivery schedules.

The VR swing-door smooth-panelled PL cars have arrived along with a re-run of the sliding door APL/BPL cars. Currently being assembled are the NSWGR LHG brakevans and more sliding-door VR BPL/BCPL cars for delivery in the fourth quarter of 2021.

Delivery of the SAR/ANR 900 class streamliner is scheduled for late 2021.

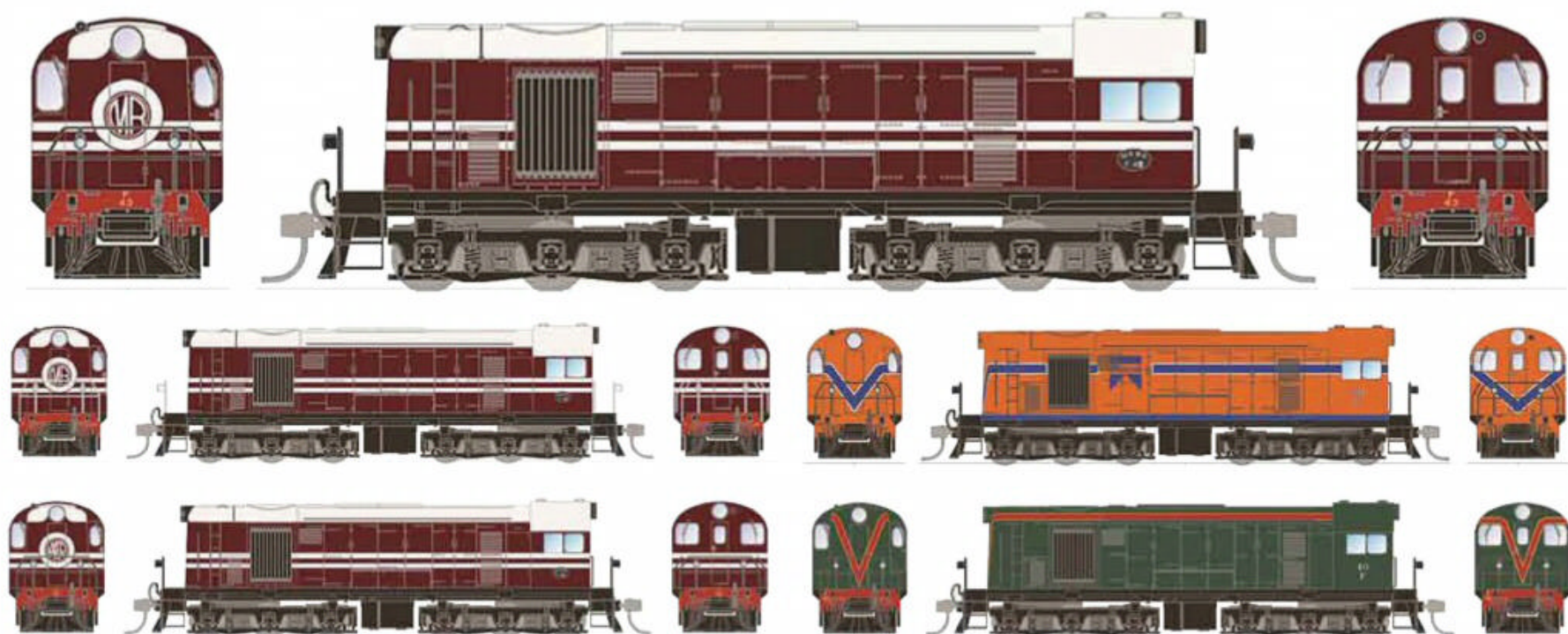
The pilot models of the re-gear VR T class and VR Y class diesels have arrived and are in the testing phase.



Brunel Models NBB VR narrow gauge coach kit in O scale.

Brunel Models

Brunel Models has released the VR narrow gauge *Victorian* NBB coach kit in O scale. The body is made from laser-cut marine ply and includes some 3D-printed components including the underframe, door handles, railings and lamps; these parts are also available separately. The handrails and door handles are printed in a tough resin that is flexible and virtually unbreakable. The NBB kits and NAB and NAC kits are available from Brunel Hobbies.



SDS Models' Midland Railway of Western Australia F class diesel locomotive liveries.



SDS Models' Tasmanian Government Railways Y class diesel locomotive liveries.

Brunel Models is also developing a VR narrow gauge NC parcel/guards van kit. The body is made from laser-cut marine ply. All the handrails, door handles and lamps are separately available from Brunel Hobbies. An underframe is also available. The NC kit is expected to be available in July or August 2021.

The prototype Brunel Models NC VR narrow gauge parcels/guards van kit in O scale.



Lego as a Gateway to the Hobby

I wish to respond with some comments about the June 2021 issue *Is Lego a Gateway to the Hobby?* comment.

Firstly, one word: finally! The Lego Model Railway modellers or Adult Fans of Lego (AFOL) wish to thank the AMRM manager especially for recognising that indeed Lego is also part of model railways.

Recently, some readers of your magazine would have noticed some well-known contributors to AMRM have disparaged Lego model railway modellers as only a toy, but you have shown that, indeed, it is a part of model railways in more ways than one.

LEGO trains have been around since at least the late 1960s. And, to this day, trains do actually appear on shelves as LEGO train sets with some add-ons like a railway station and tracks that can be added etc. This is much like any 'normal' train set.

The L scale modellers are unique, in that it takes them a lot of effort and planning to build Australian prototype, but also the

time it takes to create a wonderful layout. And, yes, there are many Australian model railway exhibitions showcasing talented LEGO modellers' work.

Talents aside, given they need to have mechanisms custom built does say something about LEGO modellers. Moreover, those of you out there who are critical of LEGO modellers might want to ask your own children or grandchildren or great, great grandchildren which they would prefer to model, LEGO or model railways.

There are some LEGO modellers who actually mix LEGO with their HO scale layout.

LEGO modelling is here to stay and captivates a large spectrum of the audience from young children to adults, who appreciate how intricate the details are on these layouts. There are numerous websites that LEGO modellers can tap into. If these LEGO modellers get one person interested in their hobby how bad is that? Or is it a case that many 'normal' modellers can not stop stereotyping LEGO modellers because they are so set in their

ways that they have severe tunnel vision?

*David Beres
Holden Hill SA*

I just received my latest magazine in the mail this morning.

I had been seriously thinking about not renewing my subscription. Then I saw the opening editorial about LEGO trains. Over the last few years my interest in HO scale trains has taken a serious hammering. My son lost his job and came to live with us. My train room is now his bedroom.

Therefore, I have no train room. Then, he took up woodwork as a hobby; his tools and wood filled my workshop. I had no room to work on trains or layouts.

I had an operation on my leg several weeks ago. That meant I need to sit with my leg elevated for a number of weeks. So, I have been working on a LEGO train while recovering. It has been very satisfying as one of my interests in HO scale modelling was building kits of buildings, rolling stock and locomotives. LEGO helps to satisfy this need. I would be very happy if you would publish an article or two each year devoted to LEGO trains. I would like to know where one goes to for help to design a train and where does one buy bulk bricks. The only LEGO trains one can buy are the kits they make up. So, LEGO may well be a good path for young ones into the model train hobby, but also serves for those of us who — for one reason or another — can no longer work on model trains.

*Gary Beaughlehall
Murray Bridge SA*

Beginner's Content

Until relatively recently I modelled US railroads, but in the last several months I bit the bullet and decided I should be modelling Australian railways. With that in mind, I've begun purchasing your magazine but I have been quite disappointed with the magazine's content or, should I say, lack of content. AMRM seems to focus on:

- prototypical running of layouts,
- descriptions on the use of various locomotives, and
- detailed analyses of the role of states in the national system.

Those articles have their place, but it comes up a little short on what Australian railway modelling is all about. I model for the enjoyment of the hobby; I don't care if my runnings are not prototypical and, frankly, who cares if my locos don't reflect what happens in the real world?

Why is it seemingly beyond your magazine to publish 'how to' projects? US and Australian models are poles apart yet there are many first-class modellers building Australian models — Les Fordham, Luke Towan etc. — who I am sure would assist new modellers into the Australian scene. So, why not give it a whirl? International magazines seem able to assist new modellers with a plethora of articles aimed at assisting the hobby.

*John Fuhrman
Kambah ACT*

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Prototype Modellers Forum

In the present circumstances, we are unable to hold a Prototype Modellers Forum (PMF) in 2021.

The notes from the cancelled 2020 PMF will be available in paperback format shortly. A similar volume compiling the 2021 papers will be released later this year.

We will inform previous attendees of these developments by email. If you wish to join our email list, send a message to:

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Editor

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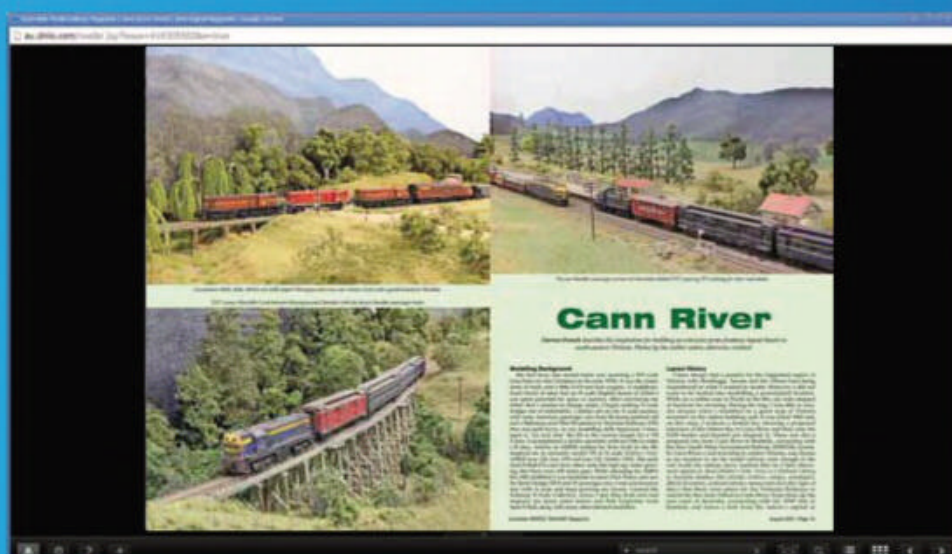
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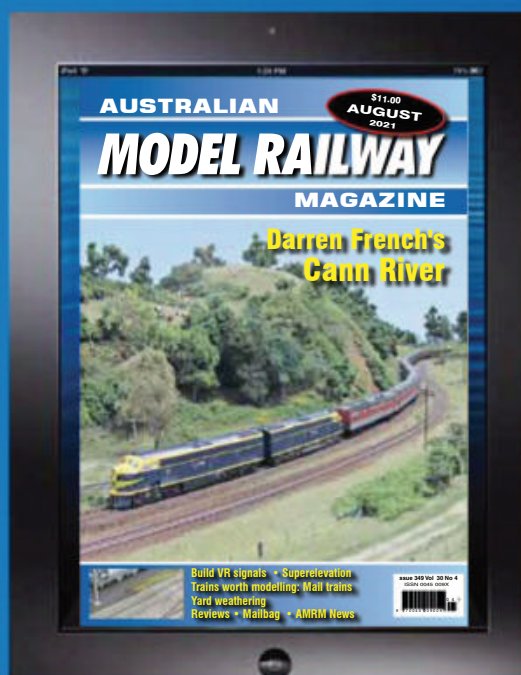
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The 2022 AMRM Calendar



The diesel cover features SSR102/SSR101 near Tumulla on an empty grain train. Other photos include El Zorro grain train with former government locomotives 44209, T342 and S312; 4912, 4842, 4903 and 4902 on a Dubbo freight at Newbridge; a FreightLink intermodal service near Adelaide River; English-Electric locomotive D45 departs Bulli with a local empty coal service to Coalcliff; C504, X47 and X50 between Ballarat and Warrenheip; English-Electric locomotives 2111 and 2113 climb out of the Meander River valley near Lemana Junction; two-car diesel railcar set 604/704 at Barmedman with a Lake Cargellico to Cootamundra service; Aurizon-liveried DBZ2309 and DBZ2311 haul a train of caustic tankers through the Darling Ranges; QR 1411 heads north from Nambour with a goods; No. 7524 express freight descending the grade at Lynton behind 967, X54, S313, 832, 841 and 939.

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The steam calendar cover features NSW 3628 on No. 25 Bathurst Day train at Locksley. Other photos include the down *Coonamble Mail* at Gilgandra hauled by 3040; VR N475 with a load of 4-wheel grain wagons; NSW 3641 and 6018 near Fasisfern; SAR oil burning T44 on a weekly goods from Quorn to Hawker; NSW 6040 between Wongarbon and Dubbo; WAGR F407 at Collie Depot; Standard Goods 5278 departing Newcastle with a Singleton passenger train; VR K151 departs the briquette siding with a string of 4-wheel open wagons; NSW 2510 climbs the grade from Harden to Demondrille; QR B18 906 departs South Brisbane with a commuter train; NSW 3130 and 3135 in No. 3 roundhouse at Enfield; TGR *Tasman Limited* hauled by M# at Western Junction ready for departure to Launceston.

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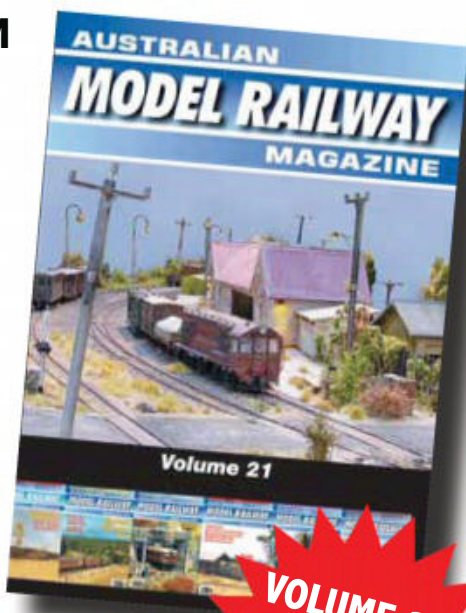
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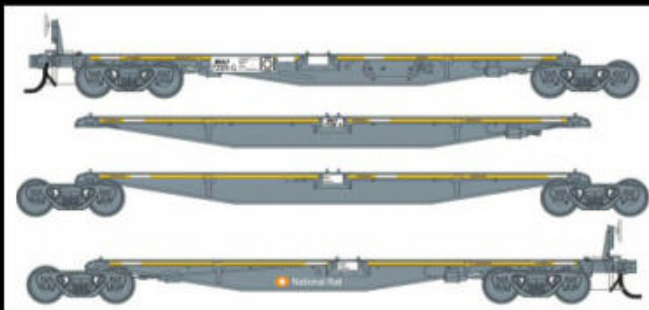
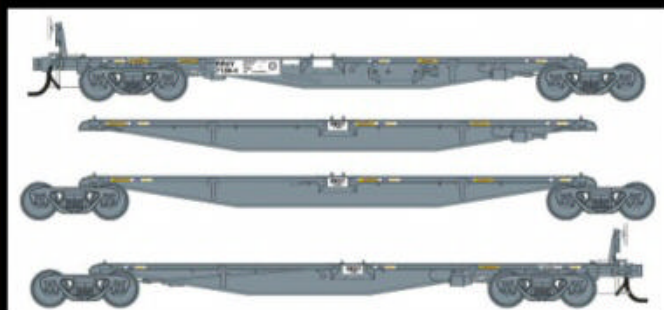
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Auscision	7, 13	Eveleigh Press	61, 70	Morley Controllers	68	SCR Publications	67, 68
Australian Model Craft Co	72	IDR Models	10	On Track Models	12	SDS Models	3
Berg's Hobbies	10	Ixion Model Railways	14	Orient Express	11	Steam Era Models	16
Casula Hobbies	9	Kadee Quality Products	14	Ozrail Model Trains	17	Southern Rail	69
Decoder Wiz	12	Magnorail Oz	16	Pamak	8	Track Planning Services	14
Early Days of the NSW Railways	8	Models 'N More	14	Phoenix Reproductions	2	Train World	71
Epping Model Railway Club Exhibition	16	Model O Kits	8	Powerline	12	Victorian Model Railway Society Forum	64

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