



MainLine



**The Journal of NMRA
Australasian Region**

Vol 34 No 3 May June 2017

NMRA Australasian Region Directory

REGIONAL COMMITTEE

President: David O'Hearn (02) 9097 9903 president@nmra.org.au
Vice President:
Spencer McCormack (02) 4973 1414 vicepresident@nmra.org.au
Secretary: Peter Burrows (02) 4344 7439 secretary@nmra.org.au
Treasurer: John Gillies (02) 6248 8408 treasurer@nmra.org.au
Pacific District Director
Mike Bartlett (02) 6553 6227 director@nmra.org.au

Members:

Sam Mangion MMR (02) 4399 2150 sam@nmra.org.au
Graham Young (07) 5479 0339 graham@nmra.org.au
Charles Clarke (07) 5499 7283 charkes@nmra.org.au

Public Officer

Sowerby Smith MMR FNMRA (02) 9871-4157 publicofficer@nmra.org.au

Trustee

1st President and AR Trustee John Saxon MMR HLM

SUPERINTENDENTS

Div 1 Qld Martyn Jenkins 0407 637 607 div1sup@nmra.org.au
Div 2 ACT Dion Koch 0413 010 444 div2sup@nmra.org.au
Div 3 Vic/Tas Allan Ogden 0419 358 870 div3sup@nmra.org.au
Div 4 WA Rod Tonkin (08) 9309 5338 div4sup@nmra.org.au
Div 5 NZ Kelvin Sherson (04) 234- 8577 div5sup@nmra.org.au
Div 6 SA Max Wright (08) 8370 0055 div6sup@nmra.org.au

Div 7 NSW Les Fowler 0411 266 196 div7sup@nmra.org.au
Div 8 Northern Rivers Alan Harris (02) 6656 1638 div8sup@nmra.org.au
Div 9 Mid Nth Coast Chris Minahan (02) 6559 3516 div9sup@nmra.org.au
Taiwan Sub District Ivan Yih 886 3 4961368 Taiwansup@nmra.org.au

REGIONAL VOLUNTEERS

A.P. Regional Mgr Gerry Hopkins FNMRA (02) 4329-0242 ap@nmra.org.au
A.P. Asst. Mgr, ACT Stephe Jitts MMR (02)6226 5695 apviceact@nmra.org.au
A.P. Asst. Mgr, Vic Laurie Green MMR (03) 9744-5188 apvicevic@nmra.org.au
A.P. Asst. Mgr, S.A. Ray Brownbill 0417 849 630 apvicesa@nmra.org.au
A.P. Asst. Mgr, QLD Laurie McLean MMR (07) 5471 0212 apviceqldsth@nmra.org.au
A.P. Asst. Mgr, W.A. Phil Knife MMR (08) 9948 1067 apvicewa@nmra.org.au
A.P. Asst. Mgr NSW John F Parker MMR (02) 4341 6347 apvicensw@nmra.org.au
Librarian Warick Fox (02) 9686 7639 librarian@nmra.org.au
Regional Contest Chair Gerry Hopkins FNMRA (02) 4329-0242 contest@nmra.org.au
Editor - MainLine Rod Tonkin (08) 9309 5338 editor@nmra.org.au
Web Master Wayne Eagle (02) 9627-9892 webmaster@nmra.org.au
Web Administrator Gerry Hopkins FNMRA (02) 4329-0242 updates@nmra.org.au
Education Chairman Peter Burrows (02) 4329 2541 education@nmra.org.au *
Convention Chairman 2017 John Prattis convention@nmra.org.au
Membership Erik Bennett (02) 9997 7971 membership@nmra.org.au
33 Kananook Avenue Bayview, NSW 2104

Editor

Rod Tonkin

Editorial assistant

Alan Burrough

Contributions

All members of Australasian Region are invited to submit articles of a railway nature for publication in Mainline. Submissions in Word or JPG format can be Emailed to

editor@nmra.org.au. or to my home Email address rjtonkin@iinet.net.au .

Original uncropped photo files would be preferred.

Please ensure any contributions of copyrighted material have written approval from the copyright holder.

Disclaimer

All comments published are the views of the author/authors and not the views of NMRA AR

Articles are provided by members in good faith and the views expressed therein are not necessarily those of NMRA AR

Target dates for future issues

July August

Content submissions

15 August 2017

Publish date on web

30 August 2017

September October

Content submissions

15 October 2017

Publish date on web

30 October 2017

Cover photo

Commonwealth Railways first 4-6-0, G 1 photographed at the Mile End Museum in Adelaide in 1986 . The loco is now on display at the Port Dock Museum. Photo by the Editor

Contents

Articles

• Capt'n Hancock's Dog	Vern Cracknell MMR	6
• B. T. S. Milk Platform	Stephen Reynolds	8
• Exploring Hornby's TTS sound system	Rod Tonkin	10
• Scratch Building a Steam Crane in "N" Scale	Michael Parker	12
• Lehane Crushed Stone Number 7	Rod Tonkin	14
• CV 29 – bits and pieces	Max Wright MMR 578	15
• Photos from the AMRA (NZ) 2017 Convention layout tours		16
• A visit to Malcolm Jenkin's N Scale South Australian Layout		17

Regular features

- President's Thoughts
- Education program
- Editorial musings
- Divisional round up
- Convention news
- Australasian Region directory
- Coming events
- Prototype observations

Presidents Thought's

Welcome to this edition of the electronic MainLine.

The winter months are now upon us so that means more time spent indoors and the ideal time to get on with a modelling project or two.



Next February you will all be asked to vote for a new Pacific District Director as well as other National positions including that of National President (i.e. Charlie Getz). The nominations for PDD are:

Peter Burrows

Dion Koch

Rob Peterson

All three are excellent candidates for the role.

Please consider attending the next Australasian Region Convention to be held in Adelaide on the weekend of 16-17 September 2017. Please keep checking the web site (at www.nmra.org.au) as it will be frequently updated with information as it becomes available. If you are thinking of a holiday in Adelaide and its environs, attending the AR Convention is a great way to "kill two birds with one stone".

Until next time,

David O'Hearn

AR President

15 June 2017



Photo courtesy of Gavin Thrum

- Operating Sessions
- Clinics
- Bring/Buy Sellers
- Model and Photo Contests
- Layout tours
- Partners Day Tour
- 3 Course Dinner Saturday night
- Guest speaker

Torrens Valley Christian School
1227 Grand Junction Road
HOPE VALLEY 5090

Convener: John Prattis email: convention@nmra.org.au

<http://www.nmra.org.au/Convention17/convention17.html>

Editor's Musings

Model railway myths and legends?

Over the years I've come across quite a few articles of faith in our hobby. Many modellers accept and adhere to these practices without ever questioning their origin or validity. Some of these long held articles of railway modelling faith I've come across are;

- Sectional track is not suitable for use on a permanent layout
- Every piece of rail needs to be soldered to the power supply bus to give reliable DCC operation
- Dead frog point work doesn't give reliable operation
- Plastic wheels make your track dirty
- Bogie mounted couplers are unprototypical and don't give reliable operation
- Only a certain brand of couplers work reliably

My own experience has shown me many of these lofty pronouncements don't stand up to careful scrutiny or the light of practical experience as the following notes demonstrate.

In 1996 I decided to use Hornby's number three radius curves for the main line curved track of Martindale Creek. This layout is situated in a now walled-in car port in suburban Perth, not a temperature controlled room. Over twenty years later this sectional track work is still reliably operating my rolling stock. Derailments on Martindale Creek are almost invariably rolling stock or operator issues.

Martindale Creek was originally fitted with a two throttle common return cab control system. A single wire runs from each cab block section of track to the cab control panel. This system was converted to DCC by connecting the DCC system to one of the cab control throttle inputs in 2006. The cab control block switches were retained as isolators to aid fault finding. Ten years operation of DCC has not revealed any problems with the power supply from the block feed via rail joiners to adjacent rails. I did take the precaution when laying the track to replace all the rail joiners on the Hornby number three curves with new Peco rail joiners and used new Peco rail joiners on all other track joints.

Over the years I've preferred Peco's Insulfrog point work as they made the wiring simpler (I'm inherently lazy). These turnouts reliably operated my mostly NMRA standard wheeled rolling stock running on Martindale Creek for ten years until I installed DCC in 2006. Converting the layout to DCC meant I needed DCC friendly point work. Martindale Creek's point

work is all hand operated. I wasn't interested in adding switches and wiring to switch live frog point work if I could help it. Allan Gartner's web site www.wiringfordcc.com shows how to modify PECO Insulfrog point work to make them DCC friendly. In addition to being DCC friendly the modified Insulfrog points are all routes live. The modifications Allan recommends take around five minutes per turnout. These modified turnouts gave me dead frog DCC friendly point work with all rails live without needing switched frogs. I happily operate a wide variety of DCC decoder equipped models including sound equipped models over this track work without issue.

For many years most of my rolling stock was equipped with plastic wheels. At exhibitions I didn't seem to be cleaning the track any more frequently than the purists with all their rolling stock riding on metal wheels.

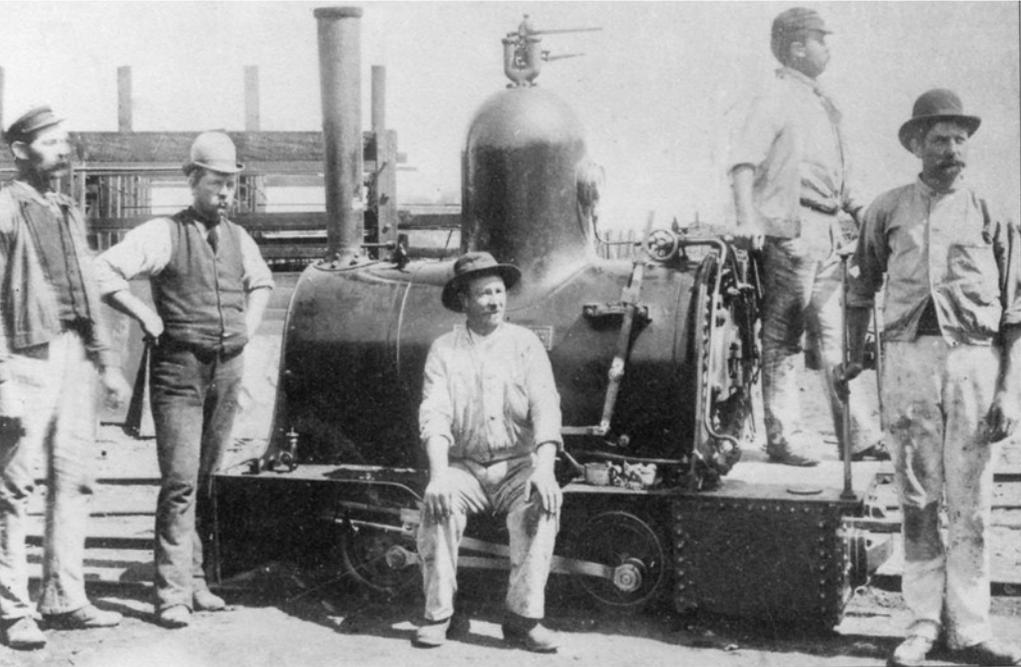
British Railways initial passenger (the 40, 44, 45 and 46 classes) diesel locomotives had bogie mounted couplers. Queensland Railways 1150 and 1180 class diesel locomotives had bogie mounted couplers. So much for bogie mounted couplers not being prototypical. Due to their size and the need to negotiate train set curves, mass produced models of British Railways coaches have bogie mounted couplers. We've run test trains of fourteen to sixteen coach trains of these coaches around Martindale Creek's 504 mm radius curved main line and on other layouts without incident. You can't repeatedly do this with inherently unreliable rolling stock.

A certain brand of coupler burst onto the scene in the early 1960s. The design won considerable acceptance despite an as yet unrectified design flaw. In the early 1990s the design's patent protection lapsed. New designs emerged mostly in modern plastic materials. These days most North American and Australian outline models are delivered fitted with these couplers. The "purists" claim the new designs don't work and/or couple successfully with the original design. My experience since the clone designs became available is otherwise. My mixed breed of couplers work happily together. The range of knuckle height and shank length introduced by the clones allowed me to keep my couplers at the correct height without needing to resort to radical surgery.

The above examples show it may be worth your while questioning unsubstantiated pronouncements you hear, read or get off the world wide web to see if they stand up to scrutiny before following their often costly, complicated and expensive recommendations.

Your comments appreciated.

Regards Rod Tonkin



Capt'n Hancock's Dog

Vern Cracknell MMR Division Six

This was the smallest locomotive ever exported by Beyer Peacock and Company. It came to South Australia for the Wallaroo and Moonta Mining and Smelting Company in 1898.

Two influences made me want to attempt building a model of this intriguing locomotive. One was having lived at Wallaroo for three years in the early 1970s and meeting residents who had worked either in the mines or the smelters (the smelters closed in 1923) or who had childhood memories of family stories of the industry, and the town being both mindful of its history but in a sense still grieving at the closing.

The other influence came through a gift of early issues of *Narrow Gauge Down Under* magazine, and discovering text and detailed drawings by Peter Manning of this locomotive (*Narrow Gauge Down Under* issue 13, 2002). This article included a photograph of Cornish miners standing alongside the locomotive (from the A.D. Lockyer collection). This photograph is also included in Bruce Macdonald, *Iron Work Horses*, Eveleigh Press, 2013. P 39.

Why this strange name? Capt'n Hancock's Dog was a nick-name, given by the miners because of the diminutive size of the loco, and out of respect for the manager of the mining and smelting company. It was customary for miners to accord the title of Captain to the

boss. Captain Hancock was a benevolent overlord, who expected miners and their families to be chapel attendees each Sunday.

In the Wallaroo and Moonta setting the loco was converted to 3'6". It had a small flat wagon permanently attached to accommodate coupling to ore skips. It was used by the Wallaroo and Moonta Mining and Smelting Company up until 1911 when it was sold to W R Henry and Sons for their forestry work at Forrest in Victoria.

The making of the model in G Scale (1:22.5). I could not locate appropriately sized wheels from the hobby trade, so my engineer friend, Bernie Dickenson, turned the wheels from stock in his workshop. The original had an 0-4-0 configuration, but I decided it was much simpler to build the model as a 2-2-0. The chassis frames are brass. The rear axle is part of the motor/gearbox assembly, and a similar axle was found in the bits box for the front. The cylinders are brass tube with infill and outer shaping using Plastibond. The chimney is a cut down liquid nails nozzle. The boiler is made from curtain rod timber, with the gouging out at the firebox end to receive the electric motor, thrusting upwards. The steam chest, of exaggerated shape, was constructed using Plastibond moulding using an egg cup as the mould. The canopy is from brass sheet, with brass uprights. The buffers are home cast from a mould previously developed for other models. The model's dimensions are: length over buffers: 150 mm. width 75 mm, height above rails 120 mm. The two figures are hand made using DAS modelling clay over copper wire armatures and painted with tube acrylics.



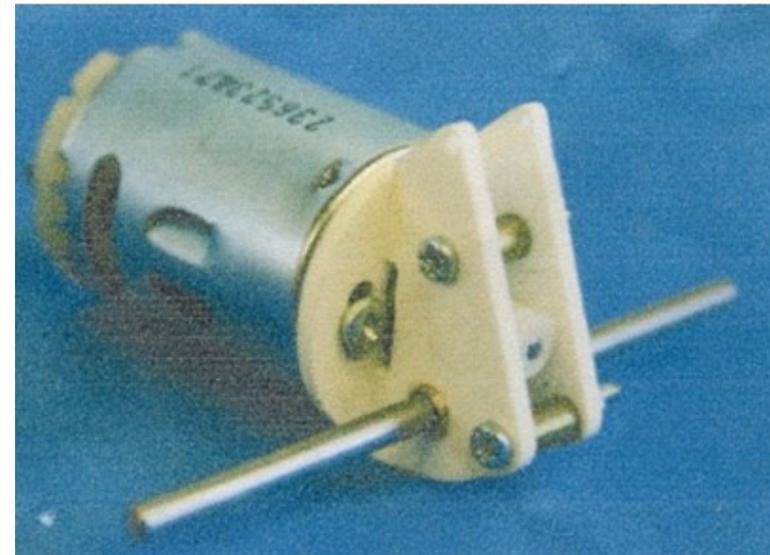
Painting used a combination of brushing and air-brushing – the undercoat of matte black acrylic (small tin from my local hardware store) was applied with a soft brush, and then air-brushing used Tamiya acrylics in Nato black, dark brown and a wafting of buff, with touch-ups of rust applied with a soft brush.

The flat wagon behind uses LGB wheels and provides 8 wheel power pick-up. It is 100mm in length and 75 mm wide. Its coal bunker is made from a motel milk container, the shovel is hand made. A barrier has been fixed to its rear (because it looked too dangerous without it!) The figure is dressed in the fashion of those miners in the original photo. He keeps his hand on his crib pack, made from a flour bag, with cord attached to one lower corner and the other tying the top (no flash haversacks then).

Remaining details are constructed from coat hanger wire and bits and pieces of off-cuts. The handbrake wheel is a snap fastener. The motor is a Motor/Gearbox kit from IP Engineering, in the UK. The motor is designed for running using about 6 -7 volts. A decoder has been fitted.

How does it run? It is a flighty in operation, but runs well on straights and curves. However, because of its short wheel base and small wheels it does not always manage LGB points well, falling into the gaps. The model could have benefited by more weight; perhaps the boiler could have been a tube rather than solid, with the inner space filled with lead.

However, this model was never intended to be a working unit on the Kangaroo and Cockatoo Railway; it is satisfying to know that it runs well, and can be classed as a working model.





Finished milk platform

B. T. S. O Scale Milk Platform

By Stephen Reynolds

Photos by Stephen Reynolds and David Howard

Two Years ago I was asked to assemble three BTS (Better Then Scratch) kits of Dobson

Farm's Milk Platform. At the time I had not had a lot of experience with Laser cut timber kits but I was looking forward to the experience and the ease of assembly. The kit is fairly simple (a box on a deck), although the instructions say *`that this kit is not intended for use by 'novice' modellers'*, it would be ideal for a first time Laser kit assembly. You have to start somewhere!

Opening the box that the kit came in, the instructions were straight forward along with diagrams and all parts seemed to be there. As well as the wooden parts were three white metal milk cans.

I used the same methods and products that I always use on timber or cardboard models. All parts were left attached to the carrier sheet because this makes painting the parts much easier.

I hand painted all timber parts a good coat of Shellac on both sides. Once this was dry I then sprayed these parts with a can of Export Spray Paint grey undercoat purchased from Auto Cheap and let dry. Some warping did occur but I placed these parts under weights to keep them flat and they soon corrected themselves.

The only parts I never sprayed with the primer was the platform deck and its side joists. As I wanted these to have a more natural finish.

Now is a good time to give the parts a light sand with fine sand paper if any wood *`fuzz'* is sticking up.

I painted the walls and trim, Acrylic Inside Wall Paint, any brand, purchased in 500 mill test

pots from Bunnings, the same stuff you use to paint the inside walls of your home. Ceiling White also works well and can be tinted to the colour I want with Students Artist Acrylic Tube paint.

In photo two you can see the grey undercoat as well as the finished first top coat. If you want a weathered appearance then this first coat will be enough. If you want more of well maintained appearances then apply more coats to your liking.

All the trim was now painted using the same type of paint in a different colour so as to give a sharp and neat finish. Much easier now then trying to cut in once assembled.

PVA glue was used to assemble the kit. It may take a little longer to dry compared with other glues, but it is cheap, readily available and does not seem to break down over time. I have wooden structures were I used PVA, 30 odd years old and as good as the day I constructed them.

The deck was given washes of Alcohol and India ink and highlighted with weathering powders and water soluble colouring pencils.

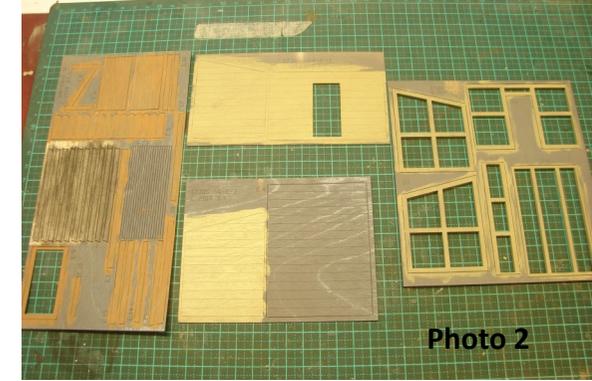
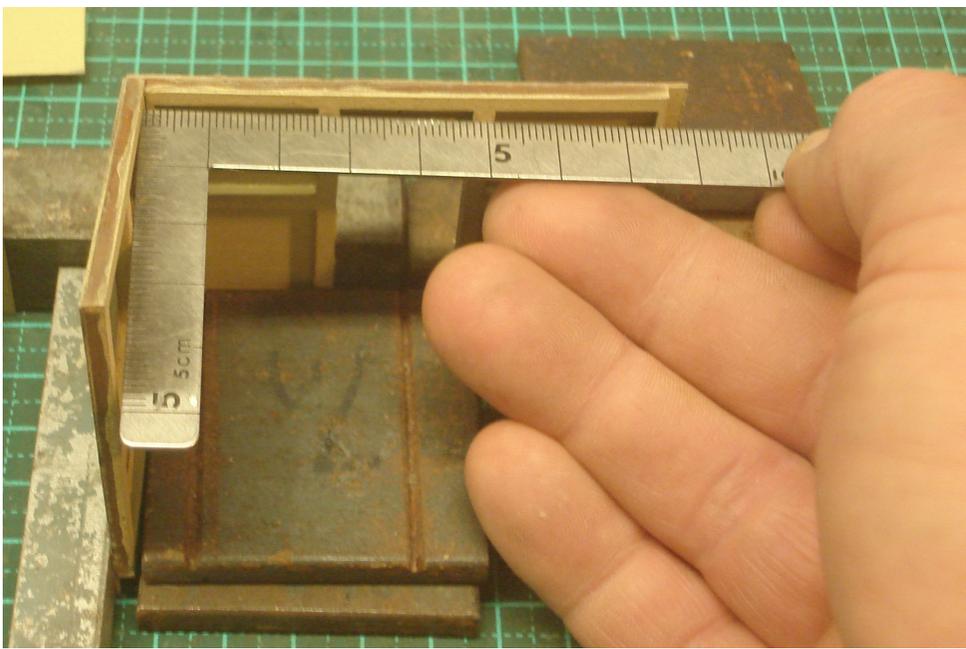


Photo 2



Ink stained decking



I followed the instructions with the walls and framing as care must be taken to get this right. The left hand side wall sheathing and trim is longer than the right side. With the walls and framing attached I glued back and side walls together. Using a square to I was able make sure they were square at 90 degrees to each other.

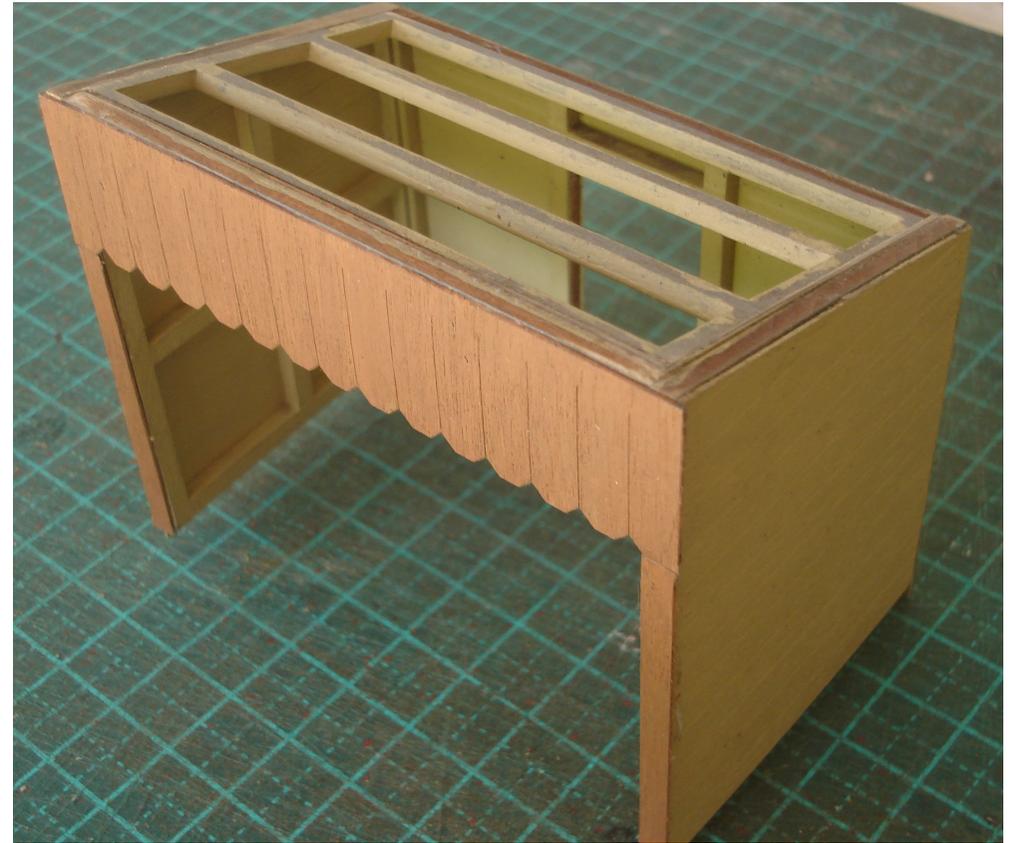


I also used steel weights to keep all in alignment while glued dried.

The other side wall, front wall and the framing for the roof was next, again making sure all was square.

Roof and front top trim as well as the back door followed. Again using the weights to keep all in place till the glue dried. There was not allot of information in the in-

structions on what the roof surface is supposed to represent, perhaps Tar Paper or timber with the battens covering the joints. If you wanted a tar paper look I would use old Tea bags to achieve this



The platform was constructed flowing the instructions. As suggested the deck was glued to the sub floor using heavy weights to keep it all flat until dry. The legs and leg braces were applied next as well as extra braces to the front and back of the deck as these areas look a bit light on. These cross leg braces scream out for nut and bolt detail. This would be easily done while bracing is flat on the workbench, unfortunately I never took this extra step.

That's about it, a very enjoyable kit but one or two little traps, so as always follow the instructions.

Exploring Hornby's TTS sound system

Rod Tonkin Division Four

Until the advent of Hornby's TTS sound system DCC sound equipped locomotives were reasonably pricey. The sound system Hornby has unveiled and now sold separately is about twice the price of a basic decoder. Was this sound system worth investigating? Unlike most other sound systems the TTS system only gives sound effects when the model is operating on a DCC system. To me this is not an issue as I only use DCC at home.

Hornby's TTS system is appealing as they have recently announced they will offer the TTS decoders as a separate item to retrofit existing DCC ready models they have produced. An idea that appeals to me given the number of Hornby built beasts lurking around Martindale Creek. I've heard a variety of horror stories regarding Hornby and DCC, such as recommending resetting a Hornby decoder with a hammer. I've a few locos fitted with Hornby decoders and they work reasonably well. Based on this experience I was willing to give Hornby's TTS system a trial.

The trial horse is an OO scale model of English Electric built BR 40 164. The model comes with two instruction leaflets. One a double sided A4 sheet describes how to remove the body shell and carry out basic maintenance. The other instruction sheet, a double sided (as found out on the scanner) slightly larger than A3 sized sheet, describes the sound system. The sound system instruction sheet is neatly folded like a map. I decided for long term use, especially while learning to use the system. I'd scan the instruction sheet and print out working copies.

The TTS decoder has a 500 mille amp capacity out put to drive the motor and two 100 mille amp outputs to drive the sound system. The sound system drives a 28 mm diameter speaker. The whole system (decoder and attached speaker) connect to the model by an eight pin NMRA plug into an eight pin socket wired to the locomotive current collectors and motor. Unlike other sound equipped models I've used, the TTS sound system does not start until you switch it on. Interestingly you can move the model off without the sound system operating.

The TTS decoder in 40 164 has twenty six functions. In the case of 40 164 the headlights F0



and auxiliary F25 functions are not connected, though the instruction sheet details how to wire them if required. The system lets you have the engine operating sounds plus any one of the horn, brake squeal, door slam ,etc. sounds at one time.

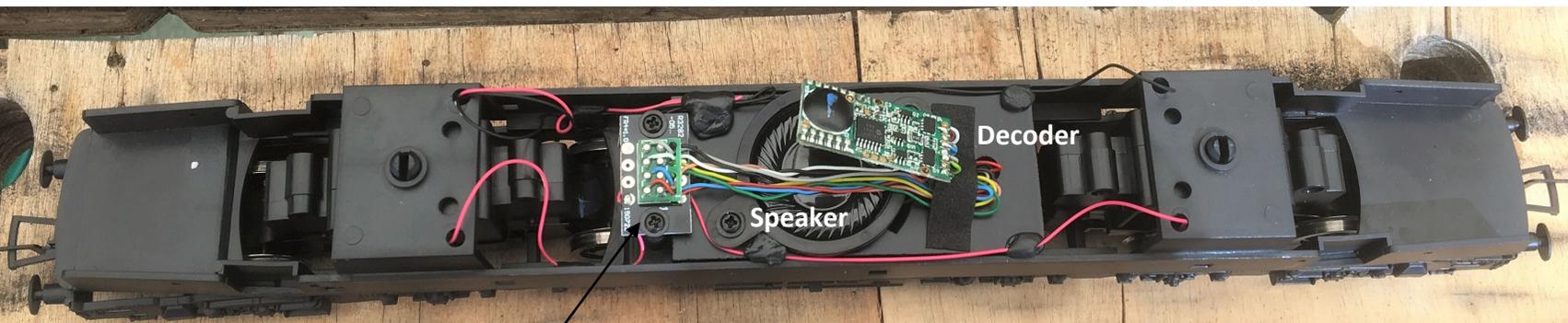
On the programming track the model readily acquired the long DCC address 0164 (my NCE DCC system does not support British Railway's five digit locomotive numbers so I use the last four digits of the number.) This system displays the functions selected on the screen on the hand piece. The NCE system (Version 1.6) directly accesses functions 0 to 9. After much reading of the NCE Power Cab manual I found I had to press the option key once to obtain functions 10 to 19 and twice to obtain functions 20 to 29.

What's it like to use? Initially I wasn't impressed. More than halfway through the sound system instruction sheet is the note, the system is intended for use with 128 step speed control. After selecting 128 step operation I started to get the hang of the system. The basic sound control functions are F1 to F9. These functions start/stop the engine, sound the horn, and notch up or down the diesel engine. I've an operating manual for a Queensland Railways English Electric locomotive.

This document details cold starting an EE locomotive. As the cold start procedure in the manual is a lot of hard work, I always presume 40 164 is warmed up. I start the engine using F1, the warm engine start/engine stop command.

The NCE display shows 40 164 (address 0164) is stationary with the engine running





NMRA eight pin decoder socket

Under the bonnet of sound equipped BR 40 164

similar. The 1250 class operating manual does not mention throttle notches. It merely instructs drivers to increase power gradually so as not to jerk the train and not to exceed the traction motor current limitations.

I decided to compare the TTS sound

Functions F5 to F8 allow you to run up the engine while the model is stationary. This feature allows you to perform running shed engine tests and to run the air compressor to charge the locomotive air brake receivers (British Railways 40 class locomotives when delivered had compressed air locomotive brakes and vacuum train brakes.)

Once the engine has settled down to idle speed and after sounding the horn you can move off. The automatic mode revs up the engine as the speed increases. If you are just driving a train, the automatic mode gives a pleasant sound effect. In addition to the speed of the model, the TTS decoder measures the motor back emf and automatically adjusts the engine sound up or down depending how much load the train is exerting on the locomotive.

If you like a little drama you can manually (F5) notch up the engine before moving off and then reduce the power (F6) setting once you are up to speed. You can even reduce the engine speed to idle (F7) if your train is coasting on level track.

The air horn is a momentary action on the TTS system. Pressing the horn keys (F2 and F3) on the NCE system leaves the function on. You need to press the horn function keys again to deactivate them so you can sound the horn again.

The TTS system instruction sheet provides guidance to adjusting the sound level of the engine. Once I'm competent with the system I'll adjust the engine sound volume to suit the acoustics of my home layout.

The system has four diesel engine sound levels; idle, notch one (Low speed), notch two (Medium speed) and notch three (High speed). EE used a different control system to the eight notch throttle system employed by EMD, ALCO and GE locomotives I'm used to. I've a copy of the Queensland Railways EE 1250 class locomotive operating manual. The QR 1250 class locomotives were fitted with the 12SVT engine, the twelve cylinder version of the sixteen cylinder 16SVT engine fitted to the BR 40 class, so the operating system ought to be

effects to sound clips of 40 class in operation on U Tube. To my male pattern deaf ears they sound similar.

To make life more pleasant while learning to drive 40 164, I've scanned in and printed out the sound effects functions (shown at the right) from the TTS instruction sheet. Surreptitiously using this cheat sheet I appear more knowledgeable than I really am when operating the locomotive.

The speaker occupies a lot of the space where the ballast weight is usually positioned in the DCC Ready 40 class models. On the scales 40 164 weighed in at 275 grams. This is around a 100 grams lighter than the Hornby DCC ready version of the same locomotive. On the test track 40 164 had a slightly lower tractive effort than a Hornby DCC ready BR 40 class.

Now I've sort of mastered driving 40 164, I can start to make it look like a hard working 1970s era British Railways 40 class.

2. Function List

Engine Sound Control and Lighting		
F#	Sound Description	Play Structure
F0	Headlight/Rear-Light (if fitted to locomotive)	Toggle On/Off (Loco Direction dependent)
F1	Engine Start/Stop	Various (Toggle On/Off)
F2	Horn High-Low	Plays Once (Momentary Action)
F3	Horn Low-High	Plays Once (Momentary Action)
F4	Brake Squeal	Plays Once (Momentary Action)
F5	NOTCH Up	Activates on Momentary Switch Control
F6	NOTCH Down	Activates on Momentary Switch Control
F7	Return to IDLE	Activates on Momentary Switch Control
F8	Thrash	Toggle On/Off
F9	Cold Start Override	Toggle On/Off
F10	Compressor	Plays until disabled (Toggle On/Off)
F11	Door Slam	Plays Once (Momentary Action)
F12	Fan	Plays until disabled (Toggle On/Off)
F13	Horn Long High	Plays Once (Momentary Action)
F14	Horn Long Low	Plays Once (Momentary Action)
F15	Primer	Plays until disabled (Toggle On/Off)
F16	Slow Flange Squeal	Plays until disabled (Toggle On/Off)
F17	Spirax Valve	Plays until disabled (Toggle On/Off)
F18	Horn Short Low	Plays Once (Momentary Action)
F19	Horn Short High	Plays Once (Momentary Action)
F20	Wagons Buffering	Plays Once (Momentary Action)
F21	Wagons Clanging	Plays Once (Momentary Action)
F22	Coupling	Plays Once (Momentary Action)
F23	Guards Whistle	Plays Once (Momentary Action)
F24	Locomotive Buffering	Plays Once (Momentary Action)
F25	Aux (if used in locomotive)	Toggle On/Off

Scratch Building a Steam Crane in “N” Scale.

Michael Parker. Division One

I have just been completing the final touches to my second suitcase layout, and was faced with a missing vital element. The layout is based on the Simpson Lumber Co in Washington state, in the Pacific North West, in “N” scale.

The saw mill extracts logs from a log pond, and although I had managed to kit bash and scratch build all the necessary components, the one thing that was missing was a means to drag the logs from the pond onto the feed ramp.

One thing a suitcase layout lacks is space, and so this presented quite a problem. In the end I decided to scratch build a typical steam crane, small enough to fit on the rail side of the ramp, and at the same time appear convincing.

After consulting many reference sources I can up with a reasonable prototype, in fact most of the ideas came from a copy of the Willamette Logging Machinery, catalog of 1925. (Willamette, pronounced Wil- lam- it.).

The catalog is a wonderful reference covering all aspects of logging equipment and although my layout is based in the 1960s it isn't a stretch to see a perfectly sound steam crane still in active service forty years after it was first built.

There isn't a set of plans covering the crane I built, however there is enough information to piece together the necessary dimensions to complete the model.

When I decide to scratch build a model, I like to add as much detail as I can in order to add to its realism. I will admit here that doing this in “N” scale would create problems, but I love a challenge.

My favorite modeling material is Evergreen strips, shapes, and sheet, so it is no surprise that the entire model is made of this material. The only exception is nickel silver wire used for boom supports, cables, and hand rails.

The Crane

I started by scaling all the major components to 1:160, or 1.9mm to the foot.

I then made sketches of the side frames (to scale) onto thin card. Once satisfied I transposed these to 0.5mm plastic sheet and carefully cut them out.

Next came support platforms and braces; once cut and filed to fit, the assembly was glued together.

The crane boom is made from 3.2mm “I” beam, notched at the top to take a ship’s pulley from my spare parts box. The boom was then glued in place.

The boom needed wire braces, so I cut and bent lengths of 0.3mm nickel silver wire, and after carefully drilling the appropriate holes, super glued them in place.

I used the hose reel from a HO scale Jordan Miniatures fire truck for the hoist drum. I cut the hose reel to the correct length and fitted it between the side frames to act as a cable drum. Next I found a few brass etch brake wheels in various scales to use as the large wheels typical on the crane.

The sides and back walls were made from sheet styrene, doors and windows cut out, and a curved top to the back wall added. All of these pieces were then glued together. There are no walls at the front, however a curved roof support was added far enough back from the crane boom to support the roof.

Window and door trim was then added using 0.5 x 0.25mm strip, along with trim running around the little building, to clean things up.



There was never any intention to add a door or any glass in the windows, for two reasons. First the heat from the steam boiler would heat things up enough in winter, and who would want anything getting in the way of air flow in summer. Secondly as I will add the boiler detail, no one would be able to see it if there was a door.

The roof was made from small corrugated sheet plastic, glued to two curved supports to maintain the needed curved shape. A hole was drilled to allow for the boiler stack.

The concrete plinth was made from pieces of 1.5mm plastic sheet laminated together and cut into a circle, a further sheet of fine brick was glued on top.

A trim piece was glued around the top edge of the assembly to resemble steel reinforcing. A further smaller circle of .25mm sheet was added, (with rivet detail) to the top as a steel pivot plate. A 3mm hole was drilled through the centre of the plinth for the crane pivot.

The Steam Boiler.

The boiler is made up of two sizes of tube, one fits inside the other, and a length of rod, which fits inside both.

The two outer tubes are cut and filed to form the boiler, with a cone shaped top. The rod was drilled to make the stack.

I made cylinders out of small diameter rod, and added 0.5 x 0.25mm strip to make the piston slides. I drilled the cylinders with a .5mm drill and added .5mm brass wire, adding an end cap to the assembly.

I glued these to the side of the boiler using 2mm lengths of 1.0 x 1.0 mm strip. Steam chests were added by cutting 1x1.5mm strip to the top of the cylinders.

Next came the steam pipes, which I made from 0.5mm rod, bent cut and glued between the top of the steam chests and the sides of the boiler.

I added a short length of 0.5mm rod at the rear of the boiler as a water inlet and cut a thin sliver of 1.6mm rod to add to the side as a pressure gauge.

Due to the position of the boiler assemble inside the cabin, there was no need to add the details of the cylinder connections to the crane mechanisms. Even I can't see it.

I then made a fuel tank to the rear of the cabin. I had decided to make this an oil fired boiler, because it wasn't practical to have coal storage involved,. Besides oil added to a more modern approach to the crane.

The fuel tank was made from Evergreen rod, filed to shape, with .5x.25mm bands added for support. A length of .5mm brass wire was added to suggest the oil was entering the rear of the cabin.

I found a small metal hook in my parts box, so I bent a length of 0.3mm nickel silver wire to form the cable, with a curve on one end to attach to the cable drum, and attached the hook

to the other end. Fine straight wire is the only way to get a clean cable in such a small model with any hope of it looking correct.

I used 0.3mm nickel wire to form hand rails to the cabin.

At this stage the crane was made up of the individual assembles. This enabled me to spray paint the pieces individually. Due to their size I did have to stick them to pieces of reversed masking tape, otherwise they would have flown away with the air pressure.

Once painted, I then hand painted some of the smaller details and glued everything together. The exception is the roof, as I still wanted to be able to remove it to be able to see inside.

A quick coat of clear, before adding decals followed by weathering, and then flat clear.

When I was looking for suitable decals, I came up with a story for the crane. I decided to add SP&S decals because I thought it would be feasible to have had the logging company purchase the crane from a larger railroad when they no longer needed it. The SP&S is-or at least -was a local railroad in the 1960s.



Lehane Crushed Stone Number 7

Rod Tonkin Division Four

I felt Martindale Creek needed a touch of nostalgia. The opportunity to purchase a Mantua 2-6-6-2 tank locomotive at a reasonable price provided the nostalgia I was looking for. My new articulated became Lehane Crushed Stone's number Seven, a Baldwin built side tank quarry service locomotive. The coal fired side tank locomotive fits in with a quarry branch line operation. The model happily negotiates Hornby's Number one radius curves. This ability to operate around tight curves makes it an ideal candidate for operation on the locations on my layout using these indecently tight radius curves.

I was luckily able to purchase an unlettered black painted model. This made lettering the model much easier. Some yellow serif Great Western decals gave LCS number Seven its identity. The lettering is deliberately sparse as befits a hard working industrial service locomotive. Once the decals had set I applied a coat of acrylic matte medium to seal the decals to the surface of the model.



One noticeable feature of Mantua's model is the overall height. It towers eighteen feet six inches tall over the backup light mounted on the cab roof. Even the top of the smoke stack is seventeen feet two inches above the rail head. I'm as yet undecided about the backup light. For the moment it can stay as is.

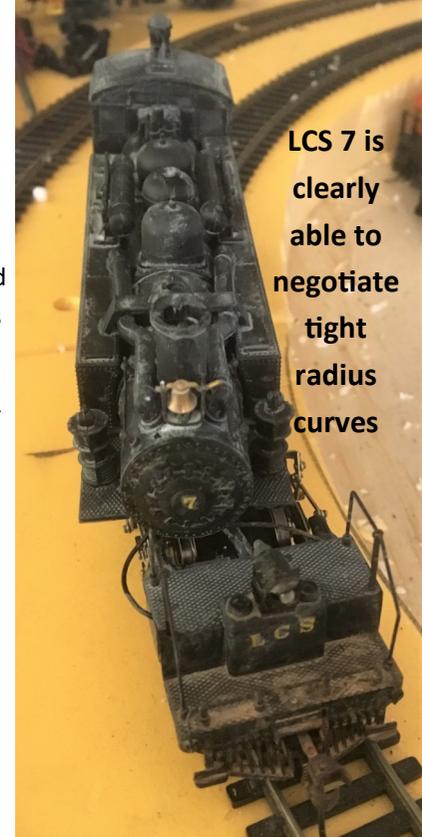
The packaging with my model indicated it was DCC Ready. Even after studying the exploded diagram supplied with the model I was none the wiser as to how to access the DCC plug. After a little light persuasion the entire cab and coal bunker unclipped from the boiler. Inside the cab space was what appeared to be a mile of wire and the DCC plug with the DC opera-

tion board attached. For a while I thought the DC operation board had been installed with a hammer. After considerable wiggling I unplugged the DC operation board and installed a nine pin decoder. On the programming track the decoder identified itself and we were away. With the decoder programmed and the model obediently obeying the command centres instructions I could try to reinstall the cab and coal bunker.

It was an interesting conjuring trick getting the cab and coal bunker reinstalled with the wiring and decoder inside it. After trimming the shrink wrap on the decoder I was able to fit the decoder and nine pin plug transversely in the coal bunker. This got the decoder out of sight. The wiring unfortunately was still visible inside the cabin. Not at this stage willing to rewire the model I decided to leave the wiring as is. I've glazed the cabin windows and installed black out blinds to hide the jumble of wiring in the cabin.

With number seven operational and decal lettered it could be weathered to reflect hard work. An overall coating of light grey would give the impression of coal ash. Some white staining from the safety valves and whistle added some contrast. The under cart received a coating of brown.

Suitably scruffy Lehane Crushed Stone's number seven can be now be seen puttering around the branch lines with strings of aggregate hoppers while the main line is occupied with the ever present coal drags.



CV 29 – bits and pieces

By Max Wright MMR 578 Division Six

For those of us “old school” DCC zealots (I never thought DCC and old school zealots would be together in a phrase), who remember life before the automated CV 29 converters; perhaps a word about the bits of CV 29.

There are still some decoders which resist the auto CV 29 converters, (Lenz decoders being one of them, as we will see shortly) and of course, there are still those of us who steadfastly stick to our Lenz systems.

Lenz has appeal to me for their ability to supply a contiguous chain of hardware for use in computer control, where other brands need off grid bolt on stuff; but I digress.

CV 29 uses 8 subdivisions, or bits for control of some critical functions of motion decoders. In most decoders the bits are numbered 0 to 7, while in Lenz they are numbered 1 to 8.

This numbering disparity doesn't really affect the programming, as the bit value refers to the function you are trying to change, or vary – hence the thing we use to personalize our decoders (vary the configuration of), is called a Configuration Variable or CV.

In daily use, there are 6 bits of CV 29 which we use for basic control, viz:-

Motor direction; forward or reverse.

14 or 28/128 speed steps.

DCC or DCC/DC

Railcom on or off

Use of speed tables (CV 67 to 94) or three step settings (CV 2 6 and 5).

2 digit addresses 1 to 127 (CV 1); or 4 + digit address 128 > (CV 17 and 18).

It's NOT possible to change one bit by itself. Each time we want to change a bit, the total values of all of the bit integers must be re-entered.

Here's a table which shows us what we need . . .

So, if a decoder has a value of zero for CV 29, then the motor will go forward, the throttle will be 14 steps, DC will be off, Railcom will be off, the three step control will be on and the loco will only be able to have a two digit address. Perversely 2 digit addresses go up to 127. Now,

Bit Number Most decoders	Lenz Decoders	Value	What it does	Explanation	
0	1	1	Reverse motor	0=Normal	1=Reverse
1	2	2	28/128 Speed Steps	0=14 steps	2=28/128
2	3	4	DC/DCC	0=DCC	4=DC/DCC
3	4	8	Railcom	0=Railcom off	8=Railcom on
4	5	16	Speed Tables	0=CV 2 6 5	16=CV 67-94
5	6	32	Four Digit Address	0=2 digit (CV 1)	32=4 digit (CV 17-18)
6	7	64		Reserved for manufacturers	
7	8	128		Reserved for manufacturers	

if we want the motor to go forward when we select forward on the throttle (0), we want to use 128 speed steps (2), DCC only (0), Railcom to be off (0), a speed table (16) and a 4 digit address (32); if we add $2 + 16 + 32 = 50$ – that's the number to enter into CV 29 to make those three changes happen.

If we decide later to only use CV's 2 6 and 5 for speed control, then the value for the speed table (16), is subtracted from the 50, becoming 34 which is the integer entered into CV 29.

Simple, yes?

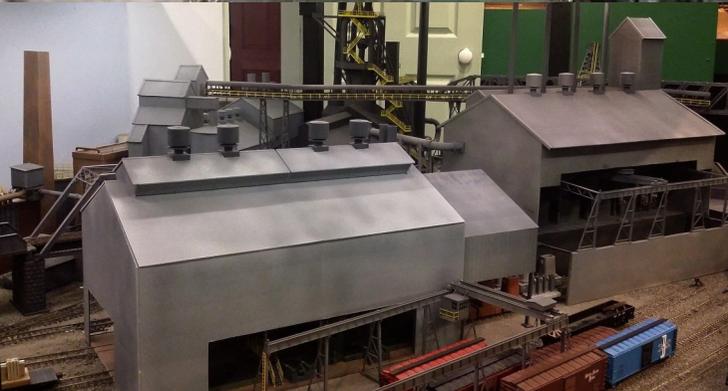
For those who have got this far and now have a migraine, I've attached a chart which will solve every problem.

Just set CV 29 to 0. Add up the integer values for the combination of facilities you desire and enter them into CV 29.

Happy Throttling.

Max

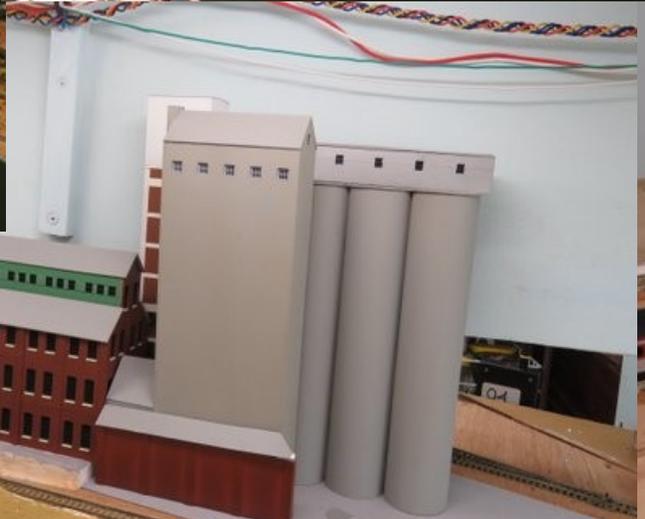
Photos from the AMRA (NZ) 2017 Convention layout tours



A visit to Malcolm Jenkins N Scale

South Australian Layout

Photos by Eddie Stavleu Division One



Division One highlights

Visit to Malcolm Jenkins' Layout



On Saturday 29th April, the Division 1 meeting was held at the home of Malcolm Jenkins. The formal part of the meeting must have been a record for its brevity with Martyn Jenkins (no relation) chairing and having only a couple of notices. Firstly he reminded those present of the National Convention in Adelaide on 16th and 17th September. The N Scale Convention is being held in Adelaide the week before on 7th – 10th September. Martyn then presented the Hopkins-Bone to Ian Venables and then a Hosting-a-Meeting plaque to Malcolm Jenkins for having us there at his place.



Charles Page showed us the recently released Broadway Models 6,000 gallon chemical tank cars for Penns Salt for transportation of chlorine. These are about the best HO freight car models I've seen and will be a real "stand-out" item on any freight train. They are short and to scale, with red oxide colouring and white lettering. Detailing is superb.

Duncan Cabassi then showed his home made N scale turnout switches made using the Fast Track

method and as fine as they are, these looked quite robust and were obviously going to give him many years of smooth shunting.

Phil Marrow Showed a very detailed model of a Western Pacific No.1 Heater Car in silver and orange.

Charles Clarke showed some resin and other materials castings of loads such as wheat bags, straw bales, wool bales, pipes and fittings, etc.

Malcolm Jenkins showed a very detailed 3-D printed railcar.

Martyn Jenkins then gave a short Clinic for those who had missed his previous presentation at another place, on how to run your layout from Android and Apple portable appliances like mobile telephones, iPads, etc. He explained the cost structure of the equipment required.

After a delicious lunch in a lovely garden, there was more running of Malcolm's layout which is an N scale representation of the South Australian Railways encompassing the areas of Mount Lofty, Taillem Bend, Adelaide, Belair and Murray Bridge. His layout in N scale, is, in places triple decked with the areas clearly separated by view blockers so that the scenes will have features relevant to the real world.

While I am not too familiar with South Australian railway buildings, it seemed to me that Malcolm's scratch built buildings were typical of those I remember seeing in that area. The Bridge over the Murray River is most dramatic and the colouring of the water is what you see where the mighty Murray's waters meet the tidal sea water.

Malcolm Jenkins' model of the Murray River crossing



Charles Page's chlorine tankers behind his model of the Pennsylvania's one off Q1 class 4-6-4-4

Division Four Highlights

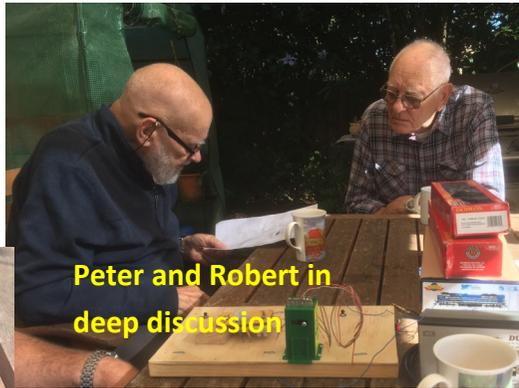
Our April meeting was held at Rod Tonkin's place. The main activity was to review our locomotive performance contest. The spelling of the headings of the entry forms caused some comment. The appropriate corrections to these forms were made prior to the print run.



Martindale Creek's LED lighting system

Rod showed us the day/night lighting system he has started to install on his Martindale Creek layout and the cake decorating turntable he bought for painting and weathering models.

Alan showed us the mock up of his latching relay multipoint input Tortoise point motor control system for AMRA WA's Valentine layout, his new Santa Fe pacific and the

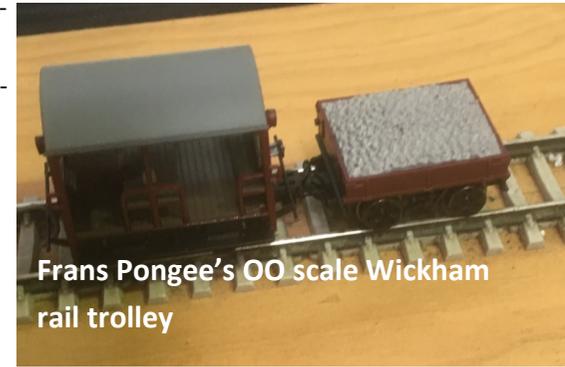


Peter and Robert in deep discussion

Our may meeting was a practice session of the performance trial equipment for the following weekend's exhibition.

The model locomotive performance contest held at AMRA WA's WA Day weekend exhibition was a lot of fun and the results were rather surprising. Entries ranged from a track inspection trolley through a wide variety of steam and diesel locomotives up to a large 4-8-4.

The smaller all wheel driven models convincingly out performed the larger prototypes on a drawbar pull divided by overall weight basis. As expected the larger models recorded significantly higher actual draw bar pulls than the smaller models.



Frans Pongee's OO scale Wickham rail trolley



Alan testing one of his steeds at the show

Division Four



SD70mac he intends to use to haul his string of super dome coaches.

Doug Firth's Scratch built Sn3.5 WAGR S class 4-8-2 on the test track



Division Five Highlights



Report on the 2017 AMRA (NZ) Convention Philip Sharp

AMRA (NZ) is the American Model Railroaders of New Zealand. This is an informal organization in New Zealand for people who model American prototype trains. The organization has no central committee and there are no formal clubs. Instead, there are groups of American modelers in several parts of New Zealand. Every two years since 1979, one of these groups or a local model railway club has hosted an AMRA convention, usually over the long weekend at the start of June.

This year's convention was the 20th and was my first AMRA convention. It was held at the Porirua Club in Porirua City, Wellington and hosted by the American Central Model Railroaders. One hundred and twenty-five people attended, on par with the biennial convention of the New Zealand Association of Model Railway Clubs. Two attendees were from Australia.

The convention ran from 9am Saturday to 10:15am on Monday. There were several 'Extra Fare' events. These were operating sessions on the Wednesday and Thursday before the convention, an operating session after the convention, and a dinner on Friday evening at which Paul Hobbs gave a presentation entitled "The Passenger Train – why it is what it is". The pre-convention operating sessions were booked out several weeks in advance.

Clinics

The convention began on Saturday morning with a short official opening at 9am by Kel Sherson, the long-serving superintendent of the New Zealand division of the Australasian Region. The rest of the morning was devoted to four 40 minute clinics, organized in two parallel

streams of two. There were four more clinics on Sunday morning. Despite there being just eight clinics, there was a good range of topics, as the following list shows.



Darryl Bond, *Adventures in Railway Photography*

Allan Davidson, *Kit bashing HO American Trucks*

John Gillies, *Box Cars 101 Revisited*

Paul Mahoney, *Logging Railroad Modelling – How to make layouts more interesting*

Tony Owen, *Railfanning in the USA*

Brian Roulston, *Ideas for Easy Tree Making*

Philip Sharp, *How to set up and operate JMRI Operations*

Doug Weir, *Using the Official Railway Equipment Book as a Modelling Tool*

Layout tours

Saturday and Sunday afternoon from 1pm to 5pm were devoted to layout tours. There were two tours, labelled Eastern and Western, each of five layouts. Both tours ran both days. People signed up for a spot in a private car to take them on a tour. Those on the Western tour were permitted 25 minutes viewing time per layout, giving 125 minutes viewing time for the tour, around 50% of the time allocated for the tour, a good percentage. The Eastern tour required more travelling than the Western tour and the percentage was around 40%, still a good percentage.

The convention ended with a business meeting. Kel Sherson in his role as divisional superintendent first presented three awards. Paul Hobbs received the Bone-Hopkins award for his contribution to the Australasian Region, Stan Agar his 25 years NMRA membership award, and Brian Moosman his 50 year NMRA membership award. These awards were greeted with warm applause and had the secondary benefit of promoting the NMRA and the Australasian region.



Division Six Highlights



The working bee to prepare our backdrop screens for the June Adelaide MR Exhibition. Thanks to Ray Applebee, Ray Brownbill, John Eastaff, Dr Vern Cracknell MMR and David Orr, for their hard work. And a special thanks to Marcelle Applebee for afternoon tea AND for putting the screens and supports away – after we left; forgetting them.

On Saturday 13th May 2017 at 2.00 p.m., the members of Division 6 met at the home of the Rev. Dr. Vern Cracknell MMR .

Max thanked Vern for hosting the meeting and presented him with his plaque.

Ray Applebee reported on the progress of preparations for the upcoming AMRE. DECCA SIG has a new laptop and a partial rebuild of the layout has hopefully improved performance over last year.

Ray Brownbill reported that there are a few members ready to have assessments for AP Certificates and he still hasn't been able to trace Max's MMR parchment.



In the absence of John Prattis, Max gave a brief report on progress of the convention preparation. Hutch volunteered to present a clinic on making signals.

The working bee last weekend at Ray Applebee's place successfully painted the old backdrops ready for AMRE in June. Max is investigating the making of new backdrops for next year, as members have com-

plained that the old ones are very heavy.

For Show and Tell, Vern presented his G scale figures made for his new carriage, then he ran his audio/visual presentation which he is planning to give as a clinic at the convention. It shows how to create a narrative brief for a layout.

The presentation surprised us all with how helpful it can be to have a narrative brief – not only for new layouts, but for those of us partway through building.

Ken House was an apology, but Ray Brownbill played a movie made by Ken, showing operations on his layout. The sound and video projector has turned out to be a real success.

Afterwards, Vern treated us all to tea/coffee, biscuits and lamingtons.

Photographs courtesy of Peter Jackson MMR.

Max WRIGHT JP MMR 578
Division 6 Superintendent





There was no June monthly meeting as such, as Division 6 attended the AMRE. The Division had an exhibit, the SIG DECCA had an exhibit and Vern Cracknell MMR had a layout as an exhibit.

It was a gruelling three days, but we all managed to survive. Thanks goes to Hutch, Sol, David Orr, Swampy Marsh, Scott Taylor, Peter Jackson MMR, Ray Brownbill, Jane Robinson and Michael Robinson and to David Stokes who ran the Timesaver for the kids. On the SIG layout were Ray Applebee, Chook Leong, James Tate, Ainslie Brittain and Peter Wynne Jr.

Photos by Peter Jackson MMR



Coming Conventions



15th N Scale Convention

7th – 10th September 2017

Modelling Competition

Locomotive	Kit built or Modified kit
Locomotive	RTR Modified
Locomotive	Scratch built
Rolling Stock	RTR / Kit Modified
Rolling Stock	Scratch built
Structure / Non-rail Vehicle	Scratch built
Structure / Non-rail Vehicle	Kit Built or Modified Kit
Diorama	
T-Track Module	

Entry Forms for the Modelling Competition will be available through the web site early 2017



Welcome to the Online Home of NMRA 2017 Orlando
Where We'll Be Making Model Railroading Magical

Prototype You'll Only See in Florida

- Amtrak's Auto Train
- The NASA Railroad
- The Ringling Brothers Circus Train
- CSX Headquarters



NMRA 2017 Orlando
July 30, 2017 - August 6, 2017
The Rosen Plaza Hotel
International Drive Orlando, FL

The ideas and concepts behind NMRA 2017 Orlando, The Orange Blossom Special, are simple. Create an outstanding model railroad convention with everything model railroaders have come to expect and enjoy in an NMRA convention and locate the convention in the number one convention destination and the number one vacation destination in the world, Orlando.

If you're new to the great hobby of model railroading or if you're curious about the hobby and want to find out more about how to get started or don't know where to start the NMRA convention is perfect for you.

Prototype Observations

Darr River Bridge Replacement

Arthur Hayes MMR

The Darr River Bridge was one of 23 bridges listed in stage 2 of Queensland Rail's Central West Timber Bridge Replacement program. VEC Civil Engineering Pty Ltd, Ulverstone Tasmania replaced the bridge at a cost of \$ 1.3 million.

As the bridge stretches 76 metres over a flowing river, VEC had to create a methodology of piling and erecting the bridge from the top of the bridge without encroaching the river bed. The selected design allowed for the ease of substructure construction between trains and for a 60 day possession period to demolish the existing superstructure and piers, place the new crossheads, packers and superstructure construction before re-connecting the rails and re-opening to rail traffic. The piers were designed in such a way that the crossheads were able to be installed under the existing bridge super structure during regular track closures. Construction of precast cross heads filled with in situ grout is a cost effective and achievable solution to the construction of bridge superstructure under limited track closures.

Precast elements for the bridge construction were delayed due to the effects of category 5 cyclone Marcia during construction in Rockhampton. Construction crew battled temperatures in excess of 43 degrees Celsius. A Cultural Heritage Induction team taught the crew how to identify artefacts and how to report them correctly to Queensland Rail. The project

was led by Rambury Project Manager Joedy Biddle.

The bridge was reopened to traffic in time to allow the ANZAC Troop Train Re-Enactment commemorating the 100 year celebration of ANZAC. A steam train with nine authentic refurbished carriages de-



Replacement Darr River bridge



Hollow cast concrete cross head



Underneath bridge access walkway



Bridge decking . Rails clipped to bridge beams

parted Winton at 10:00 am on Monday the 20th of April 2015 for Brisbane. Following overnight stops at Longreach, Emerald, Rockhampton and Maryborough the train arrived in Brisbane on the afternoon of Friday the 24th of April 2015.

Longreach end of bridge



Winton end of bridge

