7th Heaven



Journal of the Aus7 Modellers Group Inc. **No 23**

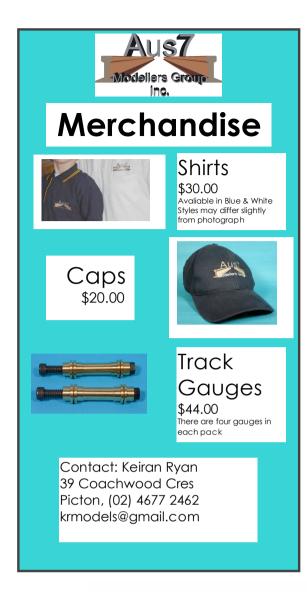
\$7.70 inc GST **Spring 2009**



ı	n	tŀ	ni	S	ls	S	u	e	•
				•		J	u	·	

ete Station in 7mm Scale - Part	2
Trevor Hodges	4
Trevor Hodges	8
ff and Ticket	9
	Trevor Hodges

W Irons and Axleb	son13
The GW Rivet Pres	15
Showcase	 16
Regular Columns	
•	3
Commercial News	 17



Aus7 Modellers Group Membership

Membership of the Aus7 Modellers Group costs just \$AU30 per year.

Memberships are due for renewal by June 30th no matter what time of year you joined. Please forward payment to the Treasurer, Anthony Furniss at 32a Hillview Street Hornsby Heights NSW 2077

CALLING ALL MODELLERS!

We offer.

Custom work in the areas of -

ETCHING (in many materials and thicknesses)
CASTING (in whitemetal)

TRANSFERS (in all colours, including white and gold) and much more........

such as - art-work, masters, kit design etc.

See Our Web Site for Further Details

Steam And Things, PO Box 277, SURREY DOWNS, SA 5126, AUSTRALIA (08) 8265 1570; sales@steamandthings.com; www.steamandthings.com (No e-mail? Write us and we'll call you back!)

The Waratah Model Railway Company First In Quality - Second To None



The BWF flat wagon is now available. The kit has a polyurethane body with whitemetal bogies and brass castings. The couplers and buffers are included in the kit, and it contains detailed instructions with colour photos. The price is \$190 plus postage.

Waratah Model Railway Company, PO Box 509, Revesby, NSW, 2212 Ph: (02) 9785 1166 email: waratahmrc@optusnet.com.au or charris@nigelbowen.com.au

One Modeller's Opinion

by Dave Morris

Just recently Stringybark Creek was exhibited at the Whitlam Centre, Liverpool, Sydney. The event is organised by the A.M.R.A (NSW Branch) and is held over the long weekend in October each year. Prior to the exhibition there was some discussion amongst the Stringybark Creek team as to how much exhibition life the layout had left to go and general consensus at the time was that it could be as little as another two years. This is due to the size and design of the layout, the fact that it is owned, stored and transported by nine individuals and also the mammoth task of setting up and packing up is very labour intensive. We are usually the first to arrive at the venue and the last to leave (just like unwelcome relatives!).

Stringybark Creek was born out of the need to keep a 7mm Finescale layout in front of the public at the exhibition due to the retirement of another layout back in 2004. This we did in 2005, 2006, 2007 and 2009 with Queens Wharf helping to fly the flag in 2008. What concerns me now is that there is no new layout that I know of to replace our layout anytime soon. This is a shame as an exhibition layout is a great promotional vehicle for our chosen scale .

Each year the A.M.R.A presents the Norm Read BEM "O" Gauge Perpetual Award to those that promote the scale by building and exhibiting an "O" scale layout. Stringybark Creek won this each year it was on show because we were the only 7mm finescale layout there but this year they have changed the presentation of the award to new layouts or modules and previous winners will not be entitled to receive the award. I applaud the updated criteria as it puts meaning and purpose back into the award and hopefully others will take up the challenge to get new layouts or modules out into the exhibition scene. Scale can be 1/4" or 7mm with track gauge 29.89mm to 33mm.

I also noticed at the exhibition a lack of 7mm finescale and 1/4" models in the display case for judging and this is another missed opportunity to promote our side of the hobby. It would be nice to see more interest by us in presenting some models for display next year and it is worth noting that 7mm models took out 1st and 2nd place in the scratchbuilt rolling stock category in 2008.

We had a very successful and enjoyable time at the Whitlam Centre this year and it was fantastic to see the crowds gathering in front of the layout taking in as much as they could, some awestruck by the quality and presentation of what was before them and amazed with the wide variety of loco's and rollingstock that is now available in 7mm and more than impressed by the scratchbuilt models running around the layout. We even had people sneaking around the other side to check out the Nymboida branch which was not officially on show this year. It was a very positive and worthwhile experience.

On behalf of the Stringybark Creek team I would like to thank the A.M.R.A (NSW Branch) for the opportunity to display Stringybark Creek once again and a thank you for awarding us the "Best Layout" and "Best Australian Prototype - Private Layout" trophies . Well done guy's .

So, after this high is there to be no 7mm presence at the exhibition when Stringybark retires? The answer is up to you, the members of Aus7 and readers of this magazine. We Stringybarkers would love to see our efforts eclipsed by others keen to show that 7mm is the premier modeller's scale. In the words now permanently attributed to me "Gunnas need not apply".

7th HEAVEN

Editor: Paul Chisholm 8 Amaroo Ave Blaxland NSW 2774 Ph (02) 4739 4618 paulchisholm@bigpond.com

Advertisements

Full Page: \$100 Half Page: \$50 Quarter Page: \$25 Eighth: \$12.50

Please contact the Secretary or the Editor for any advertising enquiries.

All advertisements must comply with the Trades Practices Act.

Back Issues

Please contact the Treasurer to obtain back issues.

Issues 4-8 are \$3.00 each. Issues 9-12 are \$4.00 each Issues 13+ are \$7.00 each \$1.50 p&h for one or two copies. \$2.50 p&h for three or more copies.

Aus7 Modellers Group Inc.

President

Keiran Ryan 39 Coachwood Cres Picton NSW 2751 (02) 4677 2462 krmodels@gmail.com

Secretary

Trevor Hodges 8 Golden Links Drive Murwillumbah NSW 2484 (02) 6672 3848 trevorhodges@dodo.com.au

Treasurer

Anthony Furniss 32a Hillview St Hornsby Heights NSW 2077

anthonyfurniss@rocketmail.com

Vice President

John O'Neill 66 Marine Drive Oatley West NSW 2223 (02) 9580 5403 john.oneill@optusnet.com.au

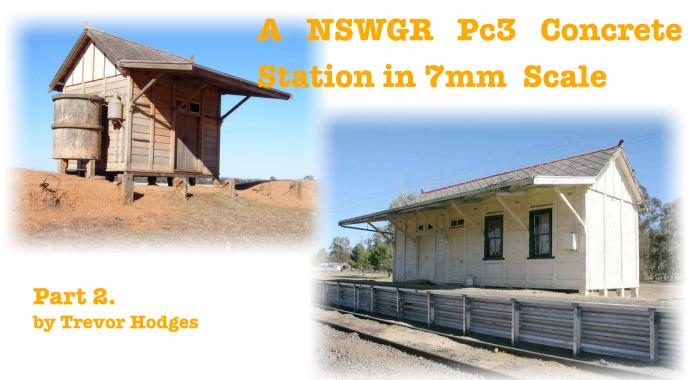
Web Site

www.aus7modellersgroup.org

All opinions expressed are those of the respective authors only and do not represent any official view of the Aus7 Modellers Group Inc.

On The Cover

1934 rides the turntable at Stringybark Creek during the recent AMRA exhibition at Liverpool.



The Roof

I evaluated the possibility of casting or etching parts for the roof of my Pc2.5 station but I could not envisage a cost effective way of producing a roof that would improve on scratchbuilding one. The biggest challenge was to get the distinctive look of the grey asbestos tiles on the roof so that they mimicked the prototype. I came to the conclusion that after putting a lot of thought into the process I might use in the production of the roof, the simplest and most cost effective way of producing the look I was after was to simply scribe some lines onto sheet styrene.

Before I got to that stage I needed to produce a roof structure that would support the "tiles". If you look at photo 2 in part 1. of this article you can begin to get some idea of the main challenge of producing this structure's roof. It may seem like overkill to produce the supporting structure of the awning in great detail, but I have learnt from hard experience that it is well worth the effort. I built the awning on the station for my Morpeth layout without the full underside detail of the awning. It was amazing how often this lack of detail showed up in photos both I and other people took of this model. Look at the prototype photos that accompany this article; they all show the underside of the awning to some extent. Now compare this to the photo on the cover of the last issue of 5133 pulling into the station. If the loco was just a few inches further back you would be able to see the lack of detail under the awning if it weren't there. Getting the detail under there is worth the effort and, thanks to Mick Moore's great prototype photo of Cumnock station, producing this detail is a relatively easy task if you take it one step at a time.

I began making the roof for Nymboia by producing five plain styrene roof trusses which are essentially triangles of sheet styrene. I began with five identical rectangular blanks cut from 1mm styrene, cutting corner notches into the bottom edges of these (photo 13) which would clear two "beams" of .125x.250 (Evergreen part #189) styrene that I planned to run along the inside top edge of each long wall. I wanted to make the roof truss assembly removable while I was constructing it rather than building it in place. This would allow me to carefully check components on the model as I worked but would also allow it to be removed for painting as a separate unit, doing away with the need for time consuming masking of the main building which, by this stage, had already been painted. I used these two beams to hold the structure together to allow it to be removed as a single unit. I had to allow clearance for these two beams in the styrene "walls" I'd installed inside the building by cutting notches into the top edges of these on both side (photo 14).

I held the beams in place while construction was taking place with some tiny, wooden clothes pegs. I'd purchased these at a car boot sale I'd been dragged along to by the better half. While she haggled over the sale of "surplus to requirements" prams and baby walkers, I wandered around the stalls and found packets of these pegs on sale at a craft stand. You never know where you're going to pick up something useful. The blank labeled #3 (photo 13) is the starting point for cutting the triangular roof "trusses". The notches allowed the truss to sit inside the walls of the building and are a slip fit for the two beams that sit inside the walls. I took each blank in turn and laid them up against the cast gable end and drew a pencil line on the styrene using the casting as a drawing guide; see the blank labeled #2 (photo 13). I then cut along these lines to produce the triangular truss; blank labeled #1. I then glued these trusses onto the beams using styrene cement, ensuring that they corresponded to a cover strip between wall panels. The awning rafters .125x.250 (Evergreen part #189) must be centred over the cover panels so the roof trusses must be offset by the thickness of an awning rafter. You can see this offset in the photo (photo 14).

I have a weakness for tools of all types, not just tiny clothes pegs. The NWSL Chopper (photo 15) is probably my most often used "bench" tool; namely a tool that sits on the bench rather than is used in the hand such as a Stanley knife. The Chopper is supplied with two different angled cutting guides that allow you to make repeated angled cuts accurately. However I needed to cut the ends of the main awning beams at an angle that was not a standard one provided with the tool. To overcome this problem I determined the angle I needed using a woodworkers sliding bevel, setting this using a photocopied enlargement of the datasheet plan.

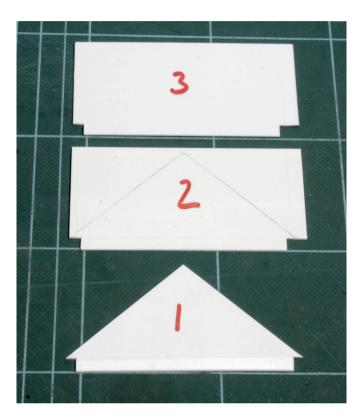


Photo 13. roof truss blanks



Photo 14. Truss installation

I buy my data sheets from Greg Edwards and then enlarge various bits of the plans to 1:43.5 scale by photocopying them at 200%.



Photo 15. the Chopper

Once I had the angle for the end of the beam I cut a wedge of 1mm sheet styrene using the sliding bevel and clamped this is the Chopper. This allowed me to make the end cut on the beams at the exact angle I needed. To permanently attach the beams in place I needed them to be a consistent height from the platform's surface. I determined the height I needed from the plans and set a woodworkers bench saw depth gauge to this height. In this instance the required height of the ends of these beams was about 6.5cm (photo 16) which you can read off the gauge in the photo. Don't trust this, do your own checks before you set your beams in place because this is the height of the underside of the gauge, not the height of the part of the gauge where the styrene is sitting.



Photo 16. checking the beams

I marked a pencil line where the beam would meet the outside edge of the wall, set the angle cut of the beam to sit on the height gauge and then ran some styrene cement on the mating surfaces of the beam and the triangular roof truss. I moved along the building setting all five beams in place in the same manner. You don't need a saw depth gauge to do this job; simply determine the height you require and make up a gauge from scrap styrene. I only used the gauge because it did the job and I happen to own one because

woodworking is another hobby of mine. After the five beams that make contact with the triangular roof trusses were in position I had to glue in place the two end beams that had no convenient truss to glue them to. You can see how I dealt with this problem in the photo (photo 17). I'm quite deliberately not providing you with dimensions for these stages in the modelling process because they can all be had from the Datasheet and you should make your own measurements anyway; measure twice, cut once.



Photo 17. positioning of end beams

Once the main awning beams were installed I glued a fascia "plate" to the front of the beams where I'd cut the angle on the Chopper. If your earlier measurements and cuts are accurate this plate should be exactly 90° to the platform surface. I ran pieces of styrene strip of the same dimension as the awning beams between them at right angles, running along the top edge of the wall, to fill the gap that would be left once the roof material (tiles and corrugated iron) was in place. I then glued in place three batten strips of styrene to support the corrugated iron that formed the roof of the awning. The dimensions of these battens is given as 2"x1" on the Datasheet but you might want to beef these up a little; 1" in 7mm is a little over .5 of a millimeter. After the battens were installed I glued in place seven awning trusses that would sit on top of the wall mounted brackets that I had glued on earlier, before the building was painted. The angles on these were cut and they were then fitted in a similar manner to main awning beams. This is the final step in the roof assembly before the installation of the roof covering of tiles and corrugated iron. I sprayed the truss assembly with white paint and gave it an overall weathered "dusting" of dark gray using an air brush. This was then set aside to dry.

The biggest challenge of this entire project was the grey asbestos roof tiles. I spend a good deal of time thinking about the methods I intended employing in a modeling project in the lead-up to starting construction. The best way to produce the tiles on the roof constituted a large portion of this thinking. As I had committed to producing parts for the semi kit, I felt that I owed it to the people who purchased the parts to make an assessment of the best method of producing the roof. I considered castings in polyurethane and

etchings in brass to produce a roof but I couldn't convince myself that this method wouldn't take ages. cost a good deal of money and, in the end, wouldn't produce a result that would be any more effective than a simple sheet of styrene scribed with some lines. So this was the method I used to produce the tiles and I'm convinced that it is more than adequate. The downside to this method is that it doesn't produce the slightly wavy effect along the edge of the tiles where they overlap that can be seen from a low angle in the prototype photos. However I'm convinced that having the tiles the right colour, with the pitch and spacing correct, is far more important than this feature; others may disagree. As the styrene I used in making this roof cost me well under 50c, I think the loss of the wavy edge is a compromise I can live with.



Photo 18. completed roof framing

The production of the asbestos tiles couldn't be simpler; cut two strips of 1mm thick styrene to the correct width and approximately 20% longer than needed, scribe the lines into the surface using appropriate tools, trim to size and glue into position. The tools I used to produce the scribed lines was a combination of the same sliding bevel I employed earlier and a scribing tool from the US company, Mirco-Mark called a Panel Scriber (item #60728). You can find Mirco-Mark on the web and they advertise in every issue of Model Railroader. I taped the strips of sheet styrene to my workbench and carefully scribed the lines onto the surface, with a spacing between each line of exactly 1cm. After they were scribed and trimmed to size, I painted the roof panels with a dark gray from an airbrush (in this instance Floquil Weathered Black combined with about 15% Reefer White). As soon as I had applied the paint to the surface I sprinkled on a thick coat of talcum powder to give the surface of the tiles some texture. I let this dry overnight and then gently tapped the excess powder off. I followed this up by dusting on some dirty coloured paint using an airbrush. This consisted of a very dilute mixture of Floquil Roof Brown and Rust.

The tile panels were then glued to the truss assembly. I cut up some panels of Builders in Scale O-scale corrugated iron for the awning and painted these a light grey which I then dry brushed with Rust. These sheets of corrugated iron were then glued in place. After the main roof sheet material is glued in place apply any final trim and gutter. This can then be hand painted the same colour you've chosen for the building. In the case of *Nymboida* this was Light Stone. I made the terracotta roof cap from two lengths of flat styrene strip, both cut to the same length as the roof. I used one piece of .

020x.100 and one of .020x.080 and glued them together along their long lengths. Using the two different sizes produced an exactly symmetrical ridge cap. After the glue set I scraped the edge of a knife along the sharp, top edge to produce a slightly rounded effect. To represent where the cap tiles overlap each other I glued short pieces of .010x.030 at right angles along the length of the this cap spaced at approximately 1cm apart. I carved the very distinctive finials following the instructions provided in the AMRM articles mentioned earlier on building concrete station buildings. I then painted the whole assembly an appropriate terracotta colour from a can of Humbrol paint I've had for years. The ridge cap was then glued in place using styrene cement (photo 19).

After you have the roof painted and substantially finished you can install your choice of glazing material into the main building. White out the toilet windows with some white or slightly off white paint. Once you're completely satisfied that the roof is ready to install, you can glue the roof assembly into place and carefully apply some glue to the end of each awning truss where they come into contact with the wall mounted brackets. Start in the middle, apply a tiny dab of glue to each one in turn and then weight the awning lightly and set aside while the glue sets up. After the roof is glued in place and any final adjustments made the whole assembly can be given a light weathering coat of extremely dilute Weathered Black avoiding the windows. This is mainly aimed at dulling down the roof. I can't overemphasize just how important it is that you make these last coats of weathering using extremely dilute paint, something like 10% paint to 90% thinners. It is best to do this weathering, in fact all your painting for that matter, in very good light as it's very easy to overdo it. You want the building to look slightly dirty and grubby, with the look of a light layer of coal dust and soot, you aren't aiming to make the building black.

Finishing Up

The level of final detail applied to any model is entirely up to the builder however what station is complete without some signs, a timetable and a figure or two? If you're looking for directions in this you can't go past Datasheet B30, which outlines station signs and font details, some of which is reproduced in 7mm. The signs you can see in the photos came from my station building for *Morpeth* which had to be scrapped once it deteriorated to a point where I couldn't see it ever being used on a future layout. So I salvaged the details and these are in a box of extras and some now reside on *Nymboida*. The decals for the platform signs were printed on an Alps printer, however they could also be

produced on paper using a standard printer. I seem to remember the font I used was Arial Black. Do some experiments with a word processor and some test prints, you'll get a size and style that suits. The signs were knocked up from different sizes of styrene strip and shape, following the drawings provided on the Datasheet and from photos. NSWGR signs in 7mm were produced under the SDM label a while back so you might have some of these on hand to use, however they are no longer commercially available. The station sign for Nymboida, and a second one for the front of the layout, were produced for the Stringybark Creek group by Keiran Ryan in etched brass. These signs weren't a commercial offering; however you could easily produce a sign from styrene and the lettering using a normal printer on paper.

After I had the building essentially completed I turned my attention to the platform. The platform facings were sets of polyurethane castings I made patterns for and offered for sale a while back. I painted and glued these to the front of the box foundation and then glued in pieces of 3.6mm ply to form the top of the platform. This surface was then covered in PVA and sprinkled with appropriate coloured sand and allowed to dry. I made some fencing similar to the fencing I could see in the photo of Gwabegar and glued this in place and then added some weeds and a garbage bin that I had on hand. The figures are all Model Company figures I picked up at Bergs Hobbies. The seats were scratchbuilt from styrene and were originally intended as bus stop seats. SDM made some lovely kits for station seats, but again, these are sadly no longer available.



Photo19. roof tiles and ridge cap in place



Just in closing, another reminder that Chris Harris from the *Waratah Model Railway Co* is willing to consider a rerun of the station building castings and the platform castings if there is sufficient interest. Contact *Waratah* to register your interest.

Aust Modellers Group at the Liverpool AMRA Exhibition

This year the AMRA Sydney model railway exhibition, held on the long weekend of the 3rd, 4th and 5th of October, moved back to the E. G. Whitlam Centre in Liverpool after several years at the Hurstville Aquatic Centre. The Whitlam Centre is very familiar to those of us who have been involved in this hobby for a few years, but it occurs to me that this was probably the first time that the Aus7 Modellers Group has had a dedicated stand at there.

The executive team decided this year to make a specific attempt to increase membership numbers and, at the same time, put some effort into attracting a greater number of modelers along to the biennial Forums. To achieve these aims we developed a special exhibition offer to attract new sign ups and offer a small discount on entry into the next Forum. Over the weekend we managed to sign up enough members to put the total membership back over the 100 mark for the first time in a few years. We'll have to wait and see whether anyone turns up to the next Forum with one of the discount vouchers we handed out to new members but I suspect that we might see an improvement in attendance there too.

Making oneself available to help man and organize a stand like the one we had at the Liverpool exhibition is an imposition on member's time and I speak on behalf of the executive in sincerely thanking all those members who turned up and did a stint. I'd especially like to thank our Treasurer Anthony Furniss for his organization of the stand and all those who helped over the weekend. Our thanks go to Mark Fisher, John Parker, Ray Rumble, Andy MacDonald, Martin Hartley, David Facchini, John Lee, Brian & Fran Thomas and anyone else who took a turn on the stand.

Trevor Hodges

Authors Needed

For the first time ever since taking over as editor I have enough articles in reserve to be one issue ahead but this won't last long as the inflow has ceased. So once again I'm appealing to you, the Aus7members to support the magazine by writing about your modelling activities and sharing your knowledge and skills with others.

As I talk to modellers at the Forums and exhibitions many of them tell me about projects they have done that would be of great interest and value to others but they don't feel that what they have done is special or unique enough for others to be interested. This is hardly ever correct. There is some wonderful work out there. So, please supress your modesty and write about it!

You don't have to have a degree in English or be the worlds greatest photographer. We can assist with editing and photo enhancements. If you have an idea but not sure of its appeal ask us first.

Articles can be accepted in MS Word or Mac Pages format and JPG photos are ideal. They can be sent as email attachements of if too large can be posted on a CD.

Paul Chisholm - Editor



Ray Rumble and Mark Fisher man the Aus7 stand at Liverpool.



Modelling Steam Era Safeworking

Ordinary Train Staff and Ticket

by Derick Cullen

After two fatal accidents, a runaway near Bathurst in 1877 and a head on collision near Emu Plains in 1878, the New South Wales Railways commenced installing staff and ticket safe-working rules and equipment for single track lines in place of regulation by working timetable supplemented by rules and telegraph communication. It is thought that all single lines were worked by staff and ticket by 1880.

The staff and ticket system served throughout the steam era on many single line sections, although replaced on lines with high frequency traffic by electric train staff, track circuit and later centralised traffic control systems. The higher capacity systems require more equipment, however.

Emulating staff and ticket working on a single line model railway requires very little equipment and will add some railway-like flavour to operation. Our American cousins model their train-order and working timetable

system, and in the UK often branch terminus to fiddle yard models emulate block instruments and bell-code telegraphs.

The NSW ordinary train staff and ticket system divides a single-track line into sections. Stations, known as train staff stations, are at the beginning and end of each section. There is one train staff for each section, a length of wood or metal inscribed with the names of the stations at each end of the section. When in possession of the staff the driver of a train is authorised to enter the section. Most train staff stations provide track for trains to pass or overtake. Working through train staff stations is regulated by fixed and hand signals.

Fairly obviously, if the train staff is carried from one end of the section to the other from station A to station B, the next movement authorised by the staff can only be from station B to station A. The *ticket* part of the system permits following movements to be organised. A ticket is a written form with authorises a driver to proceed into the section provided he has been shown the train staff. So if the mixed goods is overtaken by the railmotor at station A, the railmotor will leave for station B *on the ticket*, while the mixed will follow with the staff. If another train is scheduled to follow the railmotor and the mixed down the line before the staff can be returned from B, then the mixed will be despatched on the ticket as well. Blank ticket forms are kept in a



Left: The fixed signals south of Michelago: the up home and, in the distance, the up landmark. Bredbo-Michelago section.



Above: This DEB set on the Canberra-Monaro Express leaving Michelago for Cooma displays its *tail disc*.

locked box, the key to which was on the staff, thus ensuring new tickets could be written only when the staff was at that end of the section.

A train following a previous one from A to B which was despatched on the ticket can proceed when the first train has *arrived complete* at B. Evidence of arrival complete is that the last vehicle in the train carries a *tail disc*.

The safe arrival of the first train at B is

advised by telephone or telegraph to A. However, many country stations were not equipped with telephone or telegraph in the early days, and many were unattended, or only attended during certain hours. Some sections were very long, and waiting until the previous train arrived complete would cause long delays. Therefore, the second train (in possession of the staff or a ticket) is permitted to follow a first on the ticket after a specified time interval has elapsed. This time interval is specified in detail in the working timetable for each relevant section and set of circumstances. The interval takes into account the types of train involved (a faster train, such as a railmotor, following a slow train, such as a goods, requires a longer time interval), and whether the first train is permitted to stop in the section at intermediate platforms or to shunt intermediate sidings. A driver being authorised to follow a train on the ticket which has not been reported as having cleared the section, must be issued with a notice of train ahead which details its time of departure and whether it was authorised to stop in the section.

On a lightly trafficked line, the staff, ticket and train ahead notice combined to cope with most circumstances. However, the staff could end up at the wrong end of the section through error, or through cancellation or delay to the train which was scheduled to return it, or a special train might need to be worked at short notice. If the staff is at station B and the next

train is required to run from A to B, a request from A to B to issue a *line clear report* is made. B advises A that the staff is at B, and that no train had been despatched from B to A on the ticket, thus ensuring the line is clear. On receipt of this advice, a line clear report form would be issued to the driver at A as an authority to proceed. The issue of a line clear report required 3 forms and a number of personnel to co-operate.

On a model railway, the staff, ticket, train ahead notice, line clear reports, signals and tail discs on trains would "selectively compress" the regulations into something

that added enjoyment and not burden. The regulations go on to specify procedures for dealing with lost and damaged staffs, trains disabled in the section, and so forth.

What you need

Hardware

Train staffs can be metal or wood. On the prototype staffs have shapes and colour to guard against misidentification, say in the dim crash and bang of a steam loco cab at night. The basic rules are that no adjacent |behind by the goods it is crossing here. sections can have staffs with the same shape or colour. Staffs are engraved or have a label showing the |triangle) on the guards van section, the colour and shape, as well the colour and shape characteristics being self-evident. A

model implementation might have some wooden mouldings 200 mm to 300 mm long of different shapes (round, square, triangular) as might be found in the scrap box; painted red, or blue, green, black, white; labeled with dymo for the section, colour and shape.

Staff boxes on the prototype are opened with a key on the staff. Because we are emulating rather than duplicating the fail-safe aspects on the model, this complication is purely optional. A simple pair of brackets on the benchwork at each staff station for storing the staff should be sufficient.

Tail discs are the only items of the system which appear on models. In most cases the tail disc (or triangle) can be painted on both ends of a steam-era guards van. In larger scales a physical disc may be practical, or a selfstick disc cut from adhesive label material might appeal to small scale detail fiends. Note the debate about tail disc shapes reproduced elsewhere in this article.

.Fixed Signals

As befits the lightly trafficked single lines the system requires minimal signalling infrastructure, good news for the modeller. "Fixed" signals in the form of controllable distant signals indication or fixed landmarks, plus controllable home signals were all required at staff stations (although some had more complicated arrangements). Rare, but not unknown, non-staff intermediate stations or sidings were also protected by fixed signals.

Distant Signals and Landmarks provide a warning to trains approaching a staff station about conditions ahead. Diagram No.1 from the General Appendix illustrates the aspects and lighting of a controllable distant signal. Whilst very railway- like, it is also reasonably rare in staff and ticket territory. Because most trains have to stop at the protected station for traffic and safeworking purposes, a fixed warning, known as a landmark, is effective under most circumstances. Diagrams 56, 56A and 56B illustrate progressively less maintenance intensive versions of the yellow triangular landmark.



Above: When 3813 finishes taking water and sets out over the next section of the single line North Coast route, we know it will not meet vehicles left The goods has "arrived complete", as indicated by the tail disc (in this case a

Home Signals are required by the system to protect trains shunting etc at the staff station. In cases where a distant signal is used rather than a landmark, the arms of both should be controlled simultaneously (interlocked), to avoid conflicting indications.

Starting Signals are an optional (and hence rare) frill in a system where authority to occupy the section ahead is provided by possession of the staff or ticket.

A Communication System is required to report train arrival events and coordinate issuing line clear reports. On the prototype this was provided by telegraph originally and later by telephone. A modeller might want to

emulate these with appropriate hardware (say an intercom system to substitute for a 'phone, or buzzers/ bells for a telegraph). On the other hand, simply calling out across the train room will get the job done in most circumstances.

Software

The system requires software in the form of book of rules, working timetable and safeworking forms. Paperwork can be produced on a computer or photocopied from this article.

The Working Timetable (WTT) sets out all sorts of information for working trains. For the OTS&T system the WTT specifies follow-on time intervals for various classes of train and section. This is an extract from the 1968 Southern Division Working Timetable. Modelling this for the typical layout should be straightforward. In most (model) cases the interval should be more time than it takes to clear the section, although those using DCC in the garden might have a bit of fun with two trains in the section being possible. Note you have to decide if the various sections permit "mainline speed".

Ticket Forms should be self-explanatory from the examples from the General Appendix. Note that form X485 is printed on same colour paper as staff to which it relates.

Roles and Responsibilities

Perusal of the safeworking forms will show that various roles are identified. viz. "signalman" and "driver". The General Appendix has a lengthy definition of the term "signalman", as this role can be undertaken by station personnel or train personnel (including depending the "driver") circumstances. On a model railway, multi-role jobs are the norm. To keep the impression of the OTS&T system it is desirable for the train personnel to communicate with others. So in a roomful of railway with 2 train operators, each might have to play "signalman" role to the other. This may not be as distracting as imagined: with a well-organised timetable and smooth operations, paperwork under the OTS&T system should be minimal. For example, only one train per week traveled on the ticket on the Tottenham branch in its heyday (aside from the odd special), all others traveled on the staff. This suggests that only once or twice per operating session on the model should ticket working be required, and that the complication of line clear reports be the result of a rare "situation", perhaps decided by throw of the dice or some other random event.

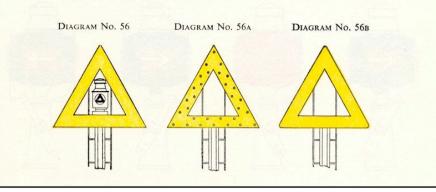
Apologies for the poor reproduction of the safeworking forms accompanying this article but to maintain authenticity it was necessary to make use of the original documents which had to be reduced considerably in size.

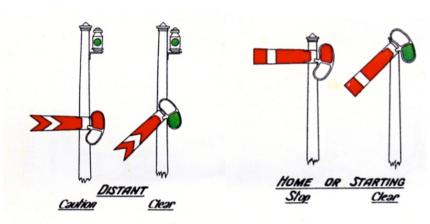
Below: An impressive array of safety hardware at the level crossing in Bombala, including the home signal.

(c) Landmarks—Provided instead of a distant signal at places where it is necessary in all cases for trains to approach with caution.

Landmarks may be one of the following types:

- (i) A black or yellow triangle fitted on a post. During dark a black triangle is displayed on the face of a white lamp (Diagram No. 56).
- (ii) A yellow triangle fitted on a post. During dark the indication may be given by means of cat's eye reflectors fitted on the triangle (diagram No. 56a) or the triangle may be treated with retro-reflective material (diagram No. 56β). In the latter case, the indication during dark, when the landmark comes within the beam of the engine headlight, will be similar to the daylight indication.





The fixed green upper light is provided to avoid the red distant light being mistaken for a stop



Above: The Diagram 56B landmark at Bombala peeps out from under the road bridge.

	Interval		
Description of trains -		Daylight	Dark
*Main Lines and Branch Lines on	which Main Line Speed is run-	Min.	Min.
Passenger following	Non-stopping passenger Stopping passenger Non-stopping goods or mixed Non-stopping goods or mixed goods Non-stopping goods or mixed goods Non-stopping goods	15 30 †	30 30 †
	Stopping goods or mixed	1	‡
Non-stopping goods or mixed following.	Non-stopping passenger Stopping passenger Non-stopping goods or mixed Stopping goods or mixed goods or mixed Stopping goods or mixed goods o	10 10 20 30	20 20 30 60
Stopping mixed following	(Stopping goods of mixed (Non-stopping passenger Stopping passenger Non-stopping mixed Non-stopping goods Stopping goods or mixed	10 10 10	20 20 20 20 30 60
Stopping goods following	Non-stopping passenger Stopping passenger Non-stopping goods or mixed Stopping goods or mixed goods or mix	10 10 15 30	20 20 30 60
* Section of Branch Lines of to which the main line intervals a bingal and Temora, Narrandera a	n which Main Line speed is run.—The pply:—Tarago and Bungendore, Coots and Hay, Narrandera and Jerilderie.	following is a lisamundra and Gui	t of the section dagai, Stockin
Light Pioneer Branch Lines on w	hich Main Line Speed is not run-		
Passenger following	Non-stopping passenger Stopping passenger Non-stopping goods or mixed Stopping goods or mixed	+	30 30 30 ‡
Non-stopping goods or mixed following.	Non-stopping passenger Stopping passenger Non-stopping goods or mixed Stopping goods or mixed	30	20 30 30 60
Stopping mixed following	Non-stopping passenger Stopping passenger Non-stopping mixed Non-stopping goods Stopping goods or mixed	15 15 20	20 30 30 30 30 60
	Non-stopping passenger	10 15	20 30

X716 S.V	V.F. SL3.121	X716		S.W.F. SL3.121
A/10 5.1	v.r. 013.121		F RAILWAYS, N.S.W.	5. W.F. 515.121
DEPARTMENT OF RAILW	AYS, N.S.W.	DEFARIMENT	SINGLE LINE	
SINGLE LIN	E	Message from S	Station at which Staff is Line Clear Report	held authorising
Message from Station	at which	No. of Words	_	No
Staff is held authoris	ing Line		Signalman hold-	
Clear Report			ing Staff.	
		To be issued to	Signalman who	Station
No			has requested	
No. of Words			Line Clear Report.	
		Purhose	To authorise the	Date
	Station	2 W/P000	issue of a Line	Date
	Doto		Clear Report.	
	Date			Time
	Time	1		
Trom			aff for the section	
From			is in my p	
То			key, and the line is I	
T			1 No 10r wn:	
Train			nat left here was No.	
(Signed)	Signalman	with		
Time and	-	(Sig	ned)*Time ser	Signalman
Time sent		*Time received	*Time ser	1t
(Signed)	0		This part is to be filled in by	the Operator Operator

Intervals Between Trains

X485	(Same colour as the Train Staff for the Section concerned)	S.W.F. S.L.3.110
les last he	F RAILWAYS, NEW SOUTH WALES	22.
	SINGLE LINE—TRAIN STAPF TICKET	No.
To be issued by	Signalman who is in possession of Train Staff.	2101
To be issued to	Driver of train who is to travel on Ticket.	. Station
Purpose	To give assurance that the Train Staff is at that end of the section.	Date
To the Driver o	f Train No.	Time
	authorised, after seeing the Train Staff for the section, to procumum, and the Train Staff will follow.	eed from
	(Signed)	Signalman

Single line ordinary train staff ticket

X484 S.W.F. SL3.111	X484	(Green Paper)	CWD CI
DEPARTMENT OF RAILWAYS, N.S.W.	Committee of the Commit	Western Landson	S.W.F. SL _{3.111}
SINGLE LINE	DEPARTMENT C	OF RAILWAYS, N.S.W.	
No		SINGLE LINE	No
Notice of Train Ahead	IN WALES IN	Notice of Train Ahead	
Station	To be issued by	Signalman at Staff Station.	
Date	To be issued to	Driver of train following another	Station
Time	statistics of	before it has arrived at the Station ahead	
Time	Purhase	To warn the	Doto
Received Notice that Train		Driver of the presence of a	Date
and has not been reported as having arrived at, and	Little Child	train in the	Time
that I am required to proceed cautiously through the section in	To the Driver of	of Train No.	
order to stop short of any obstruction.	Train No	left here at	
*Train Nowas authorised	and has not bee	n reported as having an	rived at
to stop at intermediate Sidings and Platforms.	You must pr	oceed cautiously throughto stop short of any of	gh the section in
(Signed) Driver		was authorised	
	mediate Sidings	and Platforms.	to stop at inter-
Train	(Sign	ned)	Signalman
* If not authorised to stop at intermediate Sidings and Platforms erase this clause,	* If not authoriserase this clause.	ed to stop at intermediate S	idings and Platforms

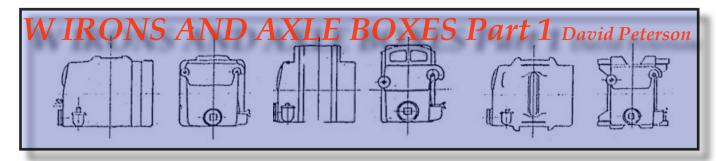
Train Ahead Notice Form is issued in conjunction with a ticket, when the train ahead has not been reported arrived

Authority to Issue Line Clear Report

requesting Line	120—Single Line—Ordinar Clear Report.			
X1172				S.W.F, SL3.120
DEPARTMENT OF	F RAILWAYS. NEW SOUTH	WALES		
	SII	NGLE LINE		
	Message Requ	esting Line Cle	ar Report	
To be issued by	Signalman not in posses Train Staff.	ssion of		
To be issued to	Signalman in possession of Staff.	of Train .		Station
Purpose	To request issue of Lin Report.			Date
				Time
To Signalman at	Train 1	No	† approaching is † at	my Station. The
	e my Station with the Staff			
	on the	Please is	ssue a Line Clear Re	eport.
		(Signed)		Signalman
Time received	Time	sent		
		(Signed)		Operator
	† Frase f	he word not requir	ed	

Request to Issue Line Clear Report

K717	X717	X717 (Yellow Paper) S.W	V.F. SL3.122
N.S.W.G.R. S.W.F. SL _{3.122}	N.S.W.G.R. S.W.F. SL _{3.122}	DEPARTMENT OF RAILWAYS, N.S.W SINGLE LINE	7.
SINGLE LINE	SINGLE LINE	Line Clear Report	No
Line Clear Report	Line Clear Report	No. of Words Received at	10.
No	No	To be issued by Signalman not in posses- sion of Train Staff. To be issued to Driver of train proceeding	Station
No. of Words	Station	on Line Clear Report. To give assurance that Staff is safely secured at	D-4-
Received at Station	Date	Station at opposite end of section.	
Date	Time		Time
Time	I beg to report that Train No. was worked under Line		
From	Clear Report, numbered, as above, from		
r o	to this day		
Frain	19	THE RESIDENCE OF THE PARTY OF T	
(Signed)Operator	(Signed)		
NOTE.—Line Clear Reports must be made	Superintendent,	Time received (Signed) (Signed) Operator. (Countersigned)	Signalman Station Signalman
out in the order of		NOTE.—This report must be collected from the	Station



This article is part one of two which provides an understanding of the use of w irons and axle boxes in a selection of four wheel rolling stock and some bogies used by the NSWGR. By its nature this subject can be very complex and it is not the intention in this article to delve into the fine detail but to give modellers a general understanding so that models may be constructed to portray the prototype with a degree of accuracy.

These articles rely on available general arrangement drawings (GA's) prepared by the NSWGR, practices employed in the UK, which the NSWGR adopted in the early years, and photographic evidence. It should be recognised that specific detail of wagons as-built from GA's could vary and that over time. Modifications and replacement and repairs of components occurred which changed some visible detail.

In order to avoid any confusion or misunderstanding it should be noted that the assembly supporting the wheelsets often refered to as w irons in the modelling world is also referred to as axle guards or guard irons in railway terminology. This article has been limited to w irons fabricated using the forged weld process.

The origins of the 4 wheel wagon designs utilising w irons used by the NSWGR can be traced to those employed in the UK. The history is interesting. Prior to 1887 in the UK wagons were built to individual company requirements and to varying standards. The high incidence of wagon failures in operation prompted the government to appoint the Railway Clearing House (RCH) to develop standards for construction of new wagons. Only wagons certified to meet these standards were allowed to operate on the public systems.

Of particular interest to modellers, the standards defined items such as the timber type and framing sizes, the minimum wheelbase (9 '0"), the spring leaf sections (4' x ½" or 5/8") and length and types of axleboxes to be used. (Fully enclosed oil type rather than grease type [Attocks]), w iron thickness ¾", and w iron spacing (a nominal 6' 0"). It should also be noted that, although not defined in the standards, the largest four wheel wagon employed in the UK was of 12 ton capacity. As you will later see in this article NSWGR employed much larger capacity wagons than this which brought with it some significant changes to the wagon construction in respect to w iron and axlebox configuration.

The four wheel stock introduced to the NSWGR system soon took on standard w iron and axlebox configurations. Wheelbases of 8" 0" to 8' 6" became common. So too axle journals of 8" x 4 "dia with matching fully enclosed oil type axleboxes (1A, 1AA). A standard spring length of 3' 6" was utilized. Axle box

spacing of 6" 0 3/4" measured across the inside faces of the w irons was adopted. W iron thickness was standardized at 3/4" and the vertical struts spacing adopted, measured inside the inner faces, was 8 3/4".

Concurrent with the introduction of 4 wheel wagons, the system was introducing bogie stock which borrowed heavily on the w iron and axlebox wagon designs, particularly in respect to the w iron profiles and axleboxes, but differed in spring length (4" 0 ½").

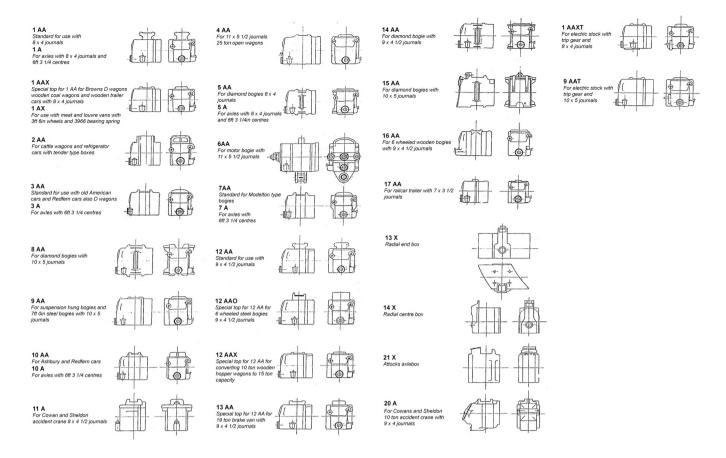
As more demand was placed on wagon and bogie design to carry higher loads, changes to journal sizes, and correspondingly axleboxes were made. Concurrent with the change in axlebox sizes the spacing of the vertical struts was increased to 12 ½", and separate (to the w iron) horn guides were introduced.

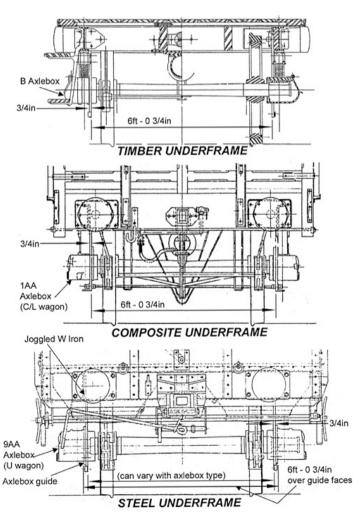
The diagram show some of the axleboxes used by the NSWGR. The journal sizes are given and the outlines are to scale for comparative purposes. Notation is made of some of the uses made. The vertical line shown on the end elevation is the line of the rear face of the w iron to be used. As can be clearly seen the size of the boxes increased considerably with larger axle journal sizes. These increases necessitated a change to w iron spacing.

Examples of these changes can be seen in the wagon end elevations. where the w irons have been joggled outwards from the axle box guides to meet the wider spacing of the solebars used, in this case a U wagon. Also noted is that the w iron spacing at the axleboxes could vary depending on the axleboxes used. Despite these changes the w iron thickness remained at 3/4".

Obviously for modeling purposes a w iron spacing equivalent to a nominal 6' $0\ ^3\!\!\!/^2$ " can be used to portray the prototype. It is interesting to note that wheelsets supplied by many of the UK manufacturers have standardized on axle length and bearings so that when assembled the distance across the bearings shoulders is to this dimension. This allows for cast axleboxes which do not extend inwards beyond the face of the w iron.

The second part of this article will discuss the application and characteristics of w irons and axleboxes to various 4 wheel wagons and some bogies used by the NSWGR.





The GW Rivet Press by John Birch

You may well have seen this rivet press advertised if you read Model Railway Journal. It is not a cheap bit of kit and I am sure that many modellers would find it hard to justify the expense. However, you don't press rivets out that much, and it may be that a group of modellers would find sharing one a potential option, provided you live close enough together. I actually share this one with another modeller who lives about 6 miles away.

Most rivet presses are really only capable of pressing out rivets in a line parallel to one edge of a piece of metal. The difference with the GW is that it has what is effectively a small machine table which gives very precise control in 2 axes, while the material is held in a clamp which can allow very close spacing of rivets where required. Each turn of the leadscrew moves the material 1mm in the relevant direction. There is some backlash on the leadscrews but you can easily detect this and compensate for it.

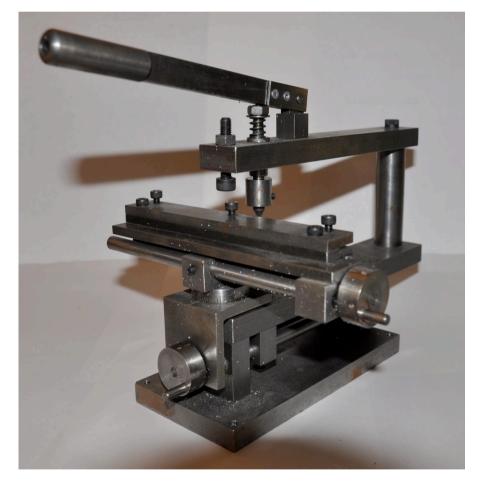
The construction is entirely of mild steel and is very chunky while the anvils and punches (there are 4 anvils and 2 punches for varying rivet sizes) give as good a simulation of rivet heads as I have seen. There is a small version which is probably OK for 7mm work, but this is the heavy duty version.

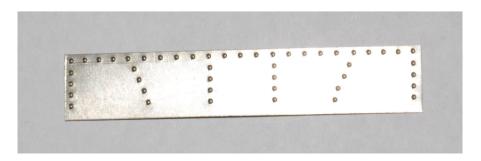
The illustration is of a small part for a Tulloch tank car. I really don't think I could have made that rivet pattern with any other press. Any pattern is possible, even circles, provided you calculate the coordinates correctly.

If you scratchbuild in metal then this really makes a lot of difference. If you intend to assemble etched brass kits where the rivet detail just needs pressing out from the half etched pattern of dimples on the material, then it is more than you need.

In the UK it sells for £150 (about A \$330). As it weighs 4 or 5kg I guess the postage would add a bit too.







Showcase

A selection of images of Stringybark Creek at Liverpool



Commercial News

Trevor Hodges

The Balmain Drawingboard

The Balmain Drawingboard at 560 Darling Street, Rozelle, NSW, 2039 (within Australia) 04 25 21 55 44 or (02) 98182198 and at http://wolganrail.com/index.html and sales@wolganrail.com are selling a range of styrene kits of Australian prototype structures in a number of different scales. On sale at the recent Aus7 Forum in 1:43.5 were kits for a NSWGR relay hut (\$20) and a "Scarborough" (\$99) style signal box. These kits are described as "scratchbuilders" kits and are not really suitable for children or absolute beginners. The Balmain Drawingboard plan to produce a range of kits in the near future, including different types houses and railway related structures.

The Balmain Drawingboard provide a drawing service to customers from which they can produce kits and components in styrene. If a customer provides the information, and it is felt that a kit can be produced then the terms under which it might be produced are open to negotiation. Contact The Balmain Drawingboard for details.

David Peterson Modelling Services

David Peterson Modelling Services, PO Box 644 St Ives, NSW 2075, Tel 61 2 9144 1521, Mob 0402 156 048, Email dwpeterson@optusnet.com.au have passed on the news that the NSWR 12 class kits should be available late 2009. There have been some delays due to minor detail changes but all the parts are in hand with the kits in the process of being prepared, ready for delivery. Instructions are virtually complete.

DPMS announced that a kit for the NSWGR (Z)13 4-4-2T will follow on from the 12 in a reasonably timely manner due to the similarity in the design and components of the two locomotives.

DPMS announced that the NSWGR (C)38 class 4-6-2 project is back on the drawing board. The production and delivery of the kit will be on a slightly different basis to the 12 and 13 class kits in that DPMS will be providing the research component of the project, with a separate manufacturing company producing the kit. As further details of this project emerge they will be passed on to customers.

Keiran Ryan Models

Keiran Ryan, *Keiran Ryan Models*, 39 Coachwood Cres, Picton, NSW, 2571, (02) 46772462, krmodels@gmail.com & www.7mmkitsnbits.com has passed on the news that the NSWR 20 class project is progressing satisfactorily. Most of the patterns for parts are in hand and castings have been ordered.

KRM hope to have a kit for the BMT (milk tank wagon) available in 2010.

O-Aust

O-Aust Kits pa_rl_krause@bigpond.com, and via the web site at www.oaustkits.com.au, at PO Box 743, Albany Creek, Qld, 4035, mob 0419680584 or (07) 3298 6283 have announced that the NSWR CR is now available for purchase (\$450). The BR will be the next carriage to be produced with the HR and FR after that. As planned there will be approximately a two month interval between the delivery of each carriage.

After the R cars have been produced the next carriage release will be an EHO guards van and then an FO American end platform car. It is felt that this will be a good complement, and should accompany, the planned release of the (C)30 tank loco kit. The (C)30 should be available in the first half of 2010.

The Victorian T class is now available for sale and the Qld 1400 (both 1:48) should be available shortly.

A NSWR 44 class is being considered as the release to follow the (C)30, with a release date some time in late 2010 or early 2011. The construction method of this kit will vary from earlier releases with the motors in the bogies. It will however have a fully detailed interior and will allow for a number of different versions to be built by the modeller.

O-Aust have passed on the news that they are considering the production of "entry level" loco and rolling stock kits. These will be entry level in the number of details provided, ease of construction and price. Details will be announced as they come to hand.

Waratah Model Railway Co

Waratah Model Railway Company, PO Box 509, Revesby, NSW, 2212 (02) 97851166 charris@nigelbowen.com.au and waratahmrc@optusnet.com.au have announced the NSWGR BWF has been released and was available for sale at the recent Aus7 Forum, where they promptly sold out. The kits retail for \$195. If anyone missed out they should contact Waratah to place an order for a possible re-run of the kit. These kits are provided with detailed instructions which include photos of the construction process.

The BD bogie open wagon should be available in 2010 however the next planned rolling stock release is to be the HG guards van. More details will be provided as they come to hand.

Waratah also released the NSWGR 5 ton yard crane kit at the Oct Aus7 Forum. A few of these kits are still available at \$175 each but this kit will not be re-run after stocks are sold. If you wish to purchase one it

might be advisable to get one while they are still available.

Also available for sale at the Forum was a line-side kit for a NSWR weighbridge which includes the humpy (hut) and the weighbridge plate. The plate casting is a highly detailed and accurate scale reproduction of the real thing. There are no plans to release the weighbridge plate as a separate detail item. This kit is selling for \$100 and is also available in extremely limited quantities. Once it sells out it will not be re-run.

The big news from Waratah is that they are planning the production of a brass, ready to run NSWR CPH railmotor in 1:43.5. For anyone familiar with the recently released Victorian DERM railcar, this model will be produced to a very similar standard by the same manufacturer and in conjunction with Keiran Haskell, the team that produced the DERM. Paint schemes to be offered are still being decided however the model will have full interior detail and should be available in both matchboard and masonite sided versions. It is hoped to offer the model with the provision for easy installation of DCC decoders and a speaker.

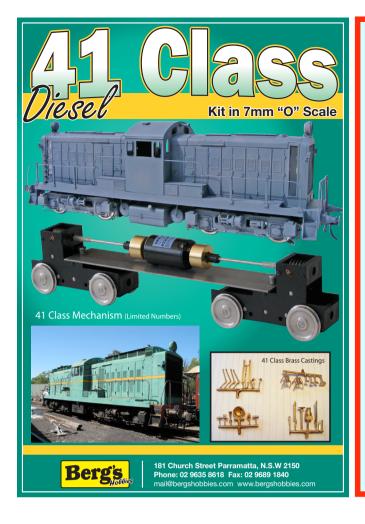


"Scarborough" style signal box from The Balmain Drawingboard.



CR composite carriage from O-Aust.





Gwydir Valley Models

EasyDCC now available in Australia
Irdot INFRARED Train Detection Systems
TCS DCC Decoders from \$29.00

Now Available

7mm wood sleepers & point sleeper stock

Soundtraxx Tsunami decoders for steam & diesel PowerPax, Rrampmeter & Auto reverser

NEW Build your own Turnouts with Fast Tracks

go to, http://gwydirvalley.fast-tracks.net
We offer a 10% discount on all Fast Tracks products
Layout Sounds:

Lightning & Earth Shattering Thunder
Carr's Solder, Fluxes & Powders
AIM Weathering Powders
Drills & Modelling Tools, tweezers, files etc.
Golden White (prototype) LEDs 3mm
0.8mm Golden White LEDs with leads
Miniature Globes 1.5v, 12v, 14v, from 1.2mm dia.

Clover House O scale PC Sleepers

Other Brands Stocked:

Visa

BA Screws & Nuts-Kadee Couplers – Billboard Decals-Model Etch Brass Wire & Strip - Kappler Scale Wood - KR Models – Clover House Uneek detail parts - Railey Paint – Miniature Pin Connectors-Fibre Optic

> P.O. Box 740 Glen Innes NSW 2370 Ph. 02 6732 5711 Fax. 02 6732 1731 www.gwydiryalleymodels.com

ww.gwyuirvaneymodeis.co Mail Order Specialists

Mastercard

The O-Aust Trophy

O-Aust Kits is proud to announce that they will once again be sponsoring a modelling competition at the next O Scale Forum to be held in March/April 2010

Trophies will be awarded for the best scratchbuilt and the best kitbuilt model.

The rules are as follows

- winners will be selected from models on display at the forum and the modeller must be in attendance
- models must be to 7mm or 1/4" scale
- models must be of Australian prototype, any system or state.
- kits may be from any manufacturer, not limited to O-Aust.
- prize winning models will not be eligible for entry in any future competition
- models may be a locomotive, rolling stock or structure
- competition to be judged by Peter Krause or his nominee

The Aus7 Modellers Group invites you to the

NSW O-Scale Modellers Forum

Date to be finalised - March/April 2010

Seminar topics will be announced when finalised.

- Modelling Competition (O-Aust Trophy)
- Manufacturers' Reports
- Traders who specialise in O scale

Everyone welcome!

North Sydney Leagues Club Kamaraigal Room, 12 Abbot St Cammeray 8:30 a.m. sign in for a 9:30 a.m. start

For details ring Keiran Ryan 0409952874 or 02 46772462

O-Aust Kits

www.oaustkits.com.au

Suppliers of:

O Gauge Australian rollingstock as kits and ready to run* Century Models 7mm scale NSWGR steam locomotives A large range of O-Gauge parts and accessories * to order only

AVAILABLE



SHELL 3000 TANK





CR COMPOSITE CARRIAGE - NOW AVAILABLE

Kits Available Now

O-Aust Kits

C32 steam loco, 48 class diesel, 830 class diesel, Flat Top T (VR), ACM, FR (ind), CR, Shell 3000 & 5000 tank S, MRC, UME, BCW, CW, BHG, BCH, BWH, SRC, LLV, MLV, QLX (QR), BBV (QR), K/KA (QR)

Century Models

Z19 loco, D50 loco

For Future Release

O-Aust Kits

C30 tank loco, 44 class diesel, MHG, BR (ind&int), HR, EHO, DH loco (QR), 1400 loco (QR), BBV (QR), CJF (QR), K (QR)

Century Models

C30T loco

PO Box 743, Albany Creek, Qld, 4035 or email <u>pa_rl_krause@bigpond.com.au</u> Phone 07 3298 6283 Fax 07 3298 6287 Mobile 0419 680 584

www.oaustkits.com.au