

7th Heaven



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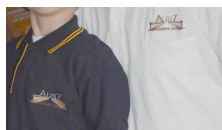
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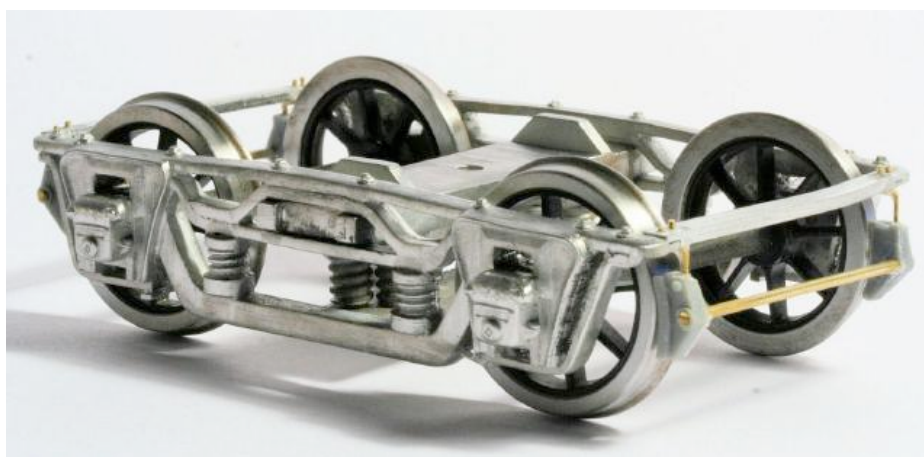
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One Modeller's Opinion

In Which Lifetime?

by Trevor Hodges

I imagine a few of you would have seen the feature article on my 7mm layout *Queens Wharf* in the April issue of AMRM. The feedback I've received about the article has been very encouraging and positive. I have a firm belief that photographing railway models well, and by this I mean realistically, is just a bit easier in O-scale than in any other scale. The scale is just about perfect for up-close, detailed photography, in that it is possible to include the majority of detail on the models, without things being so big that building realistic scenery on a layout becomes problematic. The range and quality of the detail components available in O-scale (and I do mean both 1:43.5 and 1:48 in this instance) is simply stunning. I love the trains, don't get me wrong, but being able to have realistic, scale models of cars and human figures on my layouts is a very powerful motivation to model in this scale.

The people who have spoken to me about the AMRM article repeatedly mentioned the impact of the steam locomotive and the quality of the photographs. This was such an oft repeated refrain that I started to feel a little guilty, as if I was in some way being given credit for someone else's work. 5133 is the work of Paul Chisholm, the editor of this very tome, and the photos were taken by James McInerney, the Production Manager of the *Australian Model Railway Magazine*. If the truth be told, I too was mighty impressed by both the locomotive and the photos and that got me thinking; perhaps it's about time I did something about the motive power shortage on *Queens Wharf*. As mentioned in the *One Modeller's Opinion* column in issue 19 of 7th Heaven, 4811 is still my only locomotive and I built her about eight years ago.

At about the same time that the article appeared in the April issue of AMRM, I was lucky enough to purchase a Century Models NSWGR 0-6-0 (C)19 kit on ebay. I already had an unbuilt 19 class kit, but the price was good and it came with an original six wheeled tender; my other 19 had an eight wheeled Baldwin tender. Upon arriving in the mail, and after I'd given it the once over to ensure all the parts were present, I was about to place this new kit in the cupboard where I keep all my unbuilt kits when something stayed my hand. I thought to myself "why am I putting this kit away?" Am I some sort of chipmunk, storing up modelling "nuts" for the winter? *Queens Wharf* may only be a tiny layout, but it really needs a couple of locos to operate it properly. It was at about this point in this sorry tale that I delivered a talk about my plans for my next, much expanded, layout based on Morpeth at a NSW O-Scale Modellers Forum. I could no longer ignore the growing sense of unease I felt as I paused to ask myself; "What was I planning to run on this new layout?"

As an HO modeller I'd never suffered this sort of hesitancy about building locomotives. Over about ten years I'd built approximately twenty kits of steam and diesel prototypes and would approach a new kit with relish, anticipating the day it would first run down the line. That's about two new locomotives hitting the rails a year! So why had this changed after I switched scales? Aside from the usual suspects - relationships, family, mortgage, career, the cost of the kits and lack of time - I think I'd simply allowed myself to be diverted by other hobby interests and somewhere in the back of my mind I had continued to believe that I could do something about such matters later. I've sometimes asked the people listening to the talks I've delivered and when the topic has come up in conversation, "in which lifetime" do you intend pursuing your main hobby interests; whether it be to build a layout or to finally assemble a locomotive kit? For me this question has answered itself; in this lifetime, in fact right now, as one of those 19's slowly comes together on my workbench. What's your answer going to be?

7th HEAVEN

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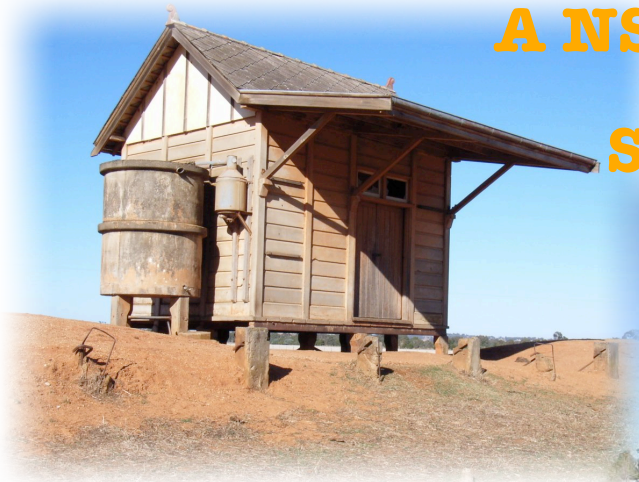
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On The Cover

The first train to enter Nymboida draws to a stand at the newly constructed station building. See the feature article in this issue

A NSWGR Pc3 Concrete

Station in 7mm Scale



Part 1.

by Trevor Hodges



Introduction

Many of you will probably be familiar with the NSWGR outline, 7mm scale layout, *Stringybark Creek*, both in person and in print. It has been exhibited at the Sydney AMRA exhibition on several occasions and its progress has been discussed a number of times in 7th Heaven. My involvement in the building of this layout has been intermittent at best and I'm more often a bystander than an active participant as work has been carried out over the last few years. The main reason for this is explained by the fact that I live approximately 500km from the main centre of action in Sydney. Helping to construct the layout segments of the new *Nymboida* branch-line is my main area of responsibility and, as this part of the layout is scheduled for its first public outing at the October, 2009 Liverpool exhibition, we have a very short timeframe in which to get this section to a reasonable state of completion. My main partner in crime in this is John O'Neill and between us we're responsible for the four layout segments under the branch station and yard.

After the layout segments were constructed and the track was laid, we decided that a "must have" for the branch's first public outing was a station building. Everything would fan out from this signature structure and we felt that, even if we didn't have a single other structure on the branch, then at least we would have a station to help provide scale for the trains.

On one of my occasional visits to Sydney to sponge on the hospitality of modelling friends, John and I discussed what sort of building we wanted for the branch. The design requirements were:

- That the guiding principle for deciding the style of building we selected for the branch was that

we wanted it to contrast with the station on the mainline section of the layout. In size terms, we felt that a station on a branch terminus could justify a building at least as big as the one on the front of the layout, but we didn't want it to be noticeably larger.

- We felt that a pre-fabricated concrete structure would be an ideal choice. Pre-fab concrete would contrast nicely with the wooden station building on the mainline section of the layout and this method of construction was specifically designed to save money on the "pioneer" lines.
- We decided that the paint scheme would be the heritage "stone" scheme used by the NSWGR in the first half of the 20th century, again to contrast with the scheme used on the mainline building. We also wanted to suggest that the paint scheme on this building might have been a bit of a left over from a previous era; perhaps a building that the maintenance department hadn't scheduled for an upgrade yet.
- The mainline station was sited so as to show its rear to the viewing public so we decided to deliberately site the branch station with the platform on the viewing side. This turned out to have one unforeseen advantage in that the brass station name-boards we had etched for the layout could be viewed from this side.

We got out some books and started searching for a bit of prototype inspiration and found almost exactly what we were looking for in a photo of the station at Gwabegar. We had very little space for the station platform and, relative to the space available, we wanted

a large building on a short platform, so Gwabegar fitted the bill perfectly. I also loved the quirky way the passengers exited the platform under the station sign, so this building provided the prototype basis for the proposed station at *Nymboida*. The prototype photos that head this article give you a fairly good idea of the style of these types of buildings. The photo of Gwabegar we found appears in *Country Railway Stations #6* by Train Hobby Publications.

Scratch or Kit Built?

There are no kits available for a pre-fabricated concrete NSWGR station building in 7mm but I felt from the start that this style of construction would lend itself to a relatively easy scratch building project. The simple, modular construction of the prototype buildings is an ideal subject for scratch building and there was a set of modeling articles published recently in AMRM (June 2008, Page 62 Issue: 270 & October 2008, Page 25 Issue: 272 Volume: 23) which serve as a great resource for constructing this style of building. As I took a good, hard look at the repetitive nature of the modular construction of these buildings I decided that it might be possible to take the same approach with my structure and have segments of the same type cast in multiples, thus saving on construction time. Of course for the model the segments would be cast in polyurethane rather than concrete. I never planned to produce a commercial kit as such, but I did ask at a NSW O-Scale Modellers' Forum whether anyone would be interested in purchasing a set of the castings I produced, on the understanding that this would be a "semi" kit which would provide a starting point for producing a structure rather than a complete kit provided with every last detail.

Enough people took me up on this offer to make having multiple sets produced worthwhile and this saved all of us a bit of money by spreading the cost of the casting. This article will act as a form of instructions for the use of these castings, however I've written these notes with the added intention of showing how someone might set about scratch building one of these structures in 7mm. As you can see, (photo 1) I had a set of castings produced from styrene patterns I made and these simply slotted together on a base to provide the main building. Photo 1 shows the castings as they arrived from the caster. These included a set of shorter panels and posts I wanted to include on my building which formed a screen for the gents' toilet at one end of building. The prototype inspiration for this feature came from the station building at Cumnock (Photo 2). I also had a casting produced which reproduced the concrete water tanks that accompanied all of these stations but is not shown. Each set of castings included three of these tanks.

As I studied the photo of the station at Gwabegar and compared this to the plans from Datasheets (Sheet No

B28) and the photos I had of other concrete stations, I realized that the building was not a Pc3, nor was it a Pc2, but rather it sat somewhere in between these two. It had only two windows on the platform side whereas a Pc3 has three. I tried out various arrangements using the castings to test different patterns (photo 3 shows a Pc3) and there were enough segments in the kit to produce one of these buildings. It became quickly apparent to me that the NSWGR used their "standard" designs as a starting point and simply matched the building to be constructed to the needs of the site. I felt more than justified in constructing the station for *Nymboida* to what I've dubbed a Pc2.5 design, which had only two windows on the platform side, the same arrangement at Gwabegar. In addition I included the screen for the gents' loo in the same location and orientation to that at Cumnock. The station at Cumnock has both its concrete water tanks at one end, adjacent to the gents' loo, rather than one at each end and I incorporated this feature into the model as well. The reason I made these changes was to disrupt the rigid symmetry some of these buildings display. I feel an asymmetrical building makes for a far more interesting model than one that is symmetrical. Take a look at the Datasheet, you'll see what I mean.

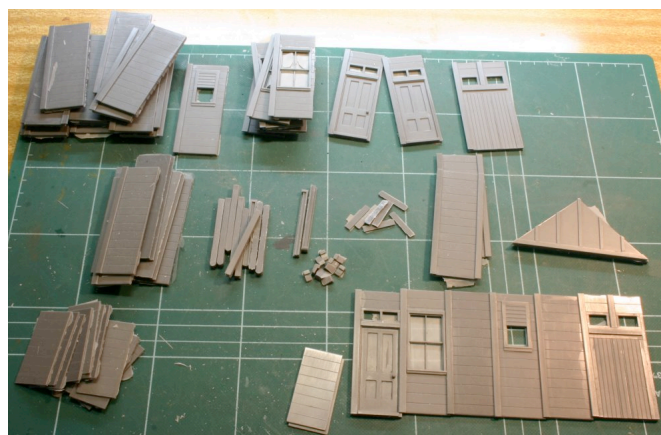


Photo 1. cast parts



Photo 2. station building at Cumnock



Photo 3. castings arranged as a Pc3

Starting Construction

After making the decisions about the arrangement of features such as windows and doors, all that was left to do was to actually build the model. The first challenge to be overcome in building this model was that the main building sits across a join between two layout modules. Work was begun by constructing a box foundation from thin plywood which would form a core for the station platform and provide a structure for the building to sit on (photo 4). The track sits on a raised foundation of 50mm blue extruded foam so the box foundation was constructed to ensure the building and platform would sit at the correct height in relation to the track. This box foundation was built with the intention of burying it into the scenery and was constructed in two halves to allow it to cross the join between layout sections. The building was assembled on a base made up of a sandwich of 6mm mdf and 3mm ply, with a layer of 1mm white styrene laminated to the top of this. This base would slot into the permanently sited foundation and would allow the building to be removed for transport. The base was cut to be slightly larger than the building on three sides and long enough to provide a "floor" for the toilet screen and water tanks on one end. The exact dimensions of this base will be determined by the model you build.

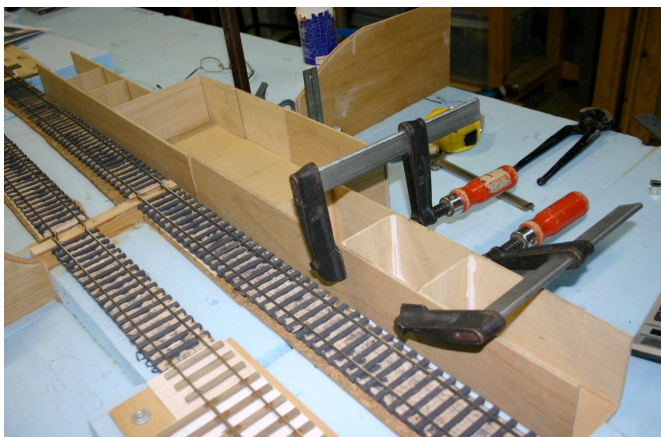


Photo 4. foundation for platform

I laminated a layer of styrene to the top surface of the base for two reasons: to provide a flat, smooth surface to glue the polyurethane castings to and to provide a strong bonding surface to the styrene locating "formers" I used to locate the walls. I began assembly by cleaning up the castings. While the castings were all approximately the same thickness, there was some variation and some showed "cupping" on their inside faces. To get them all to approximately the same thickness, and ensure they were all dead flat on the back, I placed a piece of fairly rough (200 grit) wet and dry paper on a small sheet of glass and gently sanded the back of each part in a circular motion using water as a lubricant. You need to be careful with this operation, the polyurethane is fairly soft and it's easy to take off more than you intended. To carry out this operation on all of the wall segments, including windows and doors, took about an hour in total and was quite therapeutic!

After clean up was complete all the castings were washed in warm, soapy water and allowed to dry on some paper towel. The only other preparation the wall sections require before they can be glued to the base is to glue some .040X.040 styrene strip (Evergreen part #142) into the small rectangular windows above the doors to retain the clear styrene "glass" to be installed after painting with some superglue. You can see this in photo 8 where this trim shows up as a white strip around the inside edge of the windows above the doors.

Once I had all the wall sections cleaned up I test fitted two plain wall castings together at one corner and checked that they were square and true to each other (photo 5) but I didn't bond them to each other or to the styrene base yet. That comes later. My plan was to bond a piece of strip styrene to the layer of styrene on the base to act as a locating strip. This strip needed to be straight and would be located along the inside lower edge of all four walls, providing a convenient guide to assembly. The exact dimensions of the piece of styrene is up to the individual modeler, but something approximately 5mm high would be more than adequate. I ended up using styrene angle (Evergreen part #297). The critical part in this process was getting the first sections of wall located accurately and making sure the styrene strip is located correctly. There's little room for adjustment later. If you fail to get the gluing strip located correctly, when you come to glue the final wall panels into position, they won't mate snugly. I began assembly of the walls on the corner that would be most obvious and on show, on this model the front right hand corner. If I was going to have to bodgy a corner (either pack out a gap or slice off some of the last wall panel to get it to fit) I wanted it to be at the rear of the building where it wouldn't be seen.

Once I was satisfied that the first two polyurethane wall panels were located correctly I glued them in place. I did this by running a bead of cyano along their long mating edges, first ensuring they were square and at exactly 90° to each other, and only then were they glued into position on the base. After these first two panels were glued into position I located and secured the styrene gluing guide into position using Acrynam styrene cement from Simply Glues. I used four of these guides, one for each wall; two long ones and two short. They did not travel the full length of the building but stopped short by about 1cm at each end. While these strips of styrene angle were to act as a locating guide for gluing the wall panels to the base, I didn't trust that I could get all four located absolutely correctly as a first step, neither did I trust that I'd get everything square and level once I'd set the guides in place.

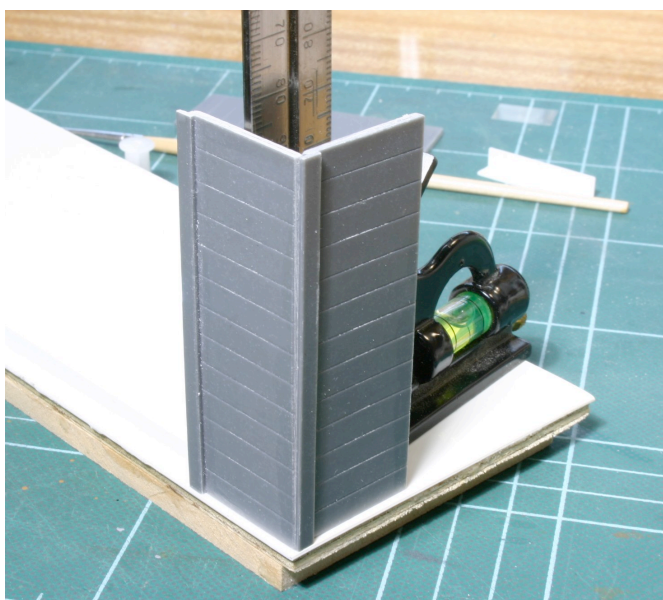


Photo 5. test fitting of wall castings at corner

I checked everything as I glued each panel into position, ensuring that each panel was square and straight in all planes. I didn't simply trust that just because I checked the first panels, that the rest would be square and straight. I only secured each of the four gluing guides in place once I was to begin building that wall. After the first corner was in place I gradually worked my way down the front wall (photo 6) adding each panel in sequence as required.

Due to the casting process I'd decided that the corners would be made up of one cast cover strip, with the other piece to be added as a length of styrene of the same dimension. This styrene needs to be beveled on both its outer edges to match the slight bevel I added to the strips used in the patterns. A couple of swipes with a sharp blade is more than sufficient to produce this effect. The styrene used was Evergreen part #147, .040x.156. You'll need to add one of these cover strips to each corner. If you're careful with your checking

constructing the main box for the building takes only a couple of hours. In this photo you can also see the effect of sanding the inner faces of the castings to get them flat and of uniform thickness.



Photo 6. front wall section

As you can see from the photo of the completed box (photo 7) I also made patterns for the gable ends of the building. These were extremely simple patterns to make, being a lamination of three triangular pieces of 1mm styrene with some .040x.100 styrene cover strips added in the appropriate locations. These gable ends were glued to the tops of the end walls and reinforced with some styrene blocks to give them a bit of structural integrity beyond the simple butt joint provided by them sitting on the walls (photo 8). I finished up by filling any gaps in the cover strips with some modeler's putty. Photo 7 shows this on the corner nearest to the camera prior to the putty being sanded back with some fine wet and dry and paper.



Photo 7. completed box structure

Overall, to get the model to this stage took three nights work of about an hour per night and was a relatively easy job, saving considerable time over what it would have taken to scratch build this phase of the project. This does not include the time it took to construct the

box foundation and base. To my mind however this style of building remains a relatively easy one to scratch build. I'm just lazy and don't like wasting precious modeling time doing tasks I can automate.



Photo 8. bracing of gable ends

After I'd assembled the basic box I placed it on the box foundation next to the track on the layout module (photo 9). I wanted to check clearances and that the building was level with the track. At this stage I added the castings for the awning support brackets and I had also constructed the privacy screen for the gents' toilet. The castings for this screen consist of 8 posts, 14 low panel "cast" walls and caps. You can see how I placed a door panel in the end wall to allow access to the toilet.



Photo 9. test fit on foundations

I placed the concrete water tanks in place next to the toilet screen (photo 10) to check their position and clearances. I wanted to paint the building before installing these permanently to allow for easier painting of both the tanks and the building. When I received the castings for the tanks in the mail I realized that these tanks were big, heavy lumps of polyurethane and they stand on small legs which I had planned to make up

from short lengths of .100x.100 styrene strip. These legs have a small beveled extension at the top which sits just under the tank base (photo 11). I began making these legs by cutting disks of styrene the same diameter as the tanks from flat 1mm thick sheet stock to which I glued four 15mm long .100x.100 styrene legs. I cut short lengths (about 7mm long) of .100x.040 strip stock for the beveled extensions and glued these in place after I'd scraped and filed a bevel onto one lower edge. The photo (photo 11) and the data sheet make this clear and provide dimensions.

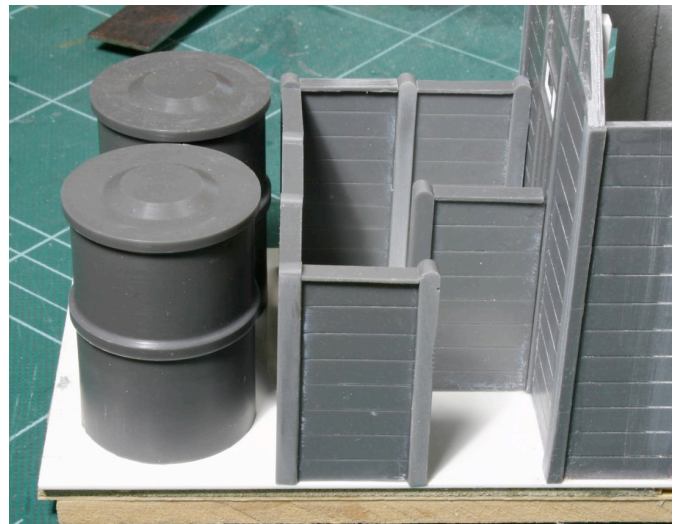


Photo 10. positioning of water tanks



Photo 11. tank stands

After I'd glued the legs onto the styrene disks I glued this assembly to the bottom of the tanks and filled any gaps with putty. You can just see the edge of the disk in photo 11. I wasn't convinced that gluing the tanks to the base would be sufficient to hold these big heavy tanks in place so I drilled and tapped a hole into the base of each tank and used a 1/8" brass bolt, inserted through

a hole drilled in the correct location in the base, to hold them securely in place. Once the platform fencing is in place these bolts cannot be seen on the model. Before painting the model I glued some styrene "walls" inside the building so that the structure was broken up into separate rooms. I don't like to be able to look through a window and be able to see right along a building when the roof is on. After I was satisfied with the final arrangement for the placement of the water tanks, I removed them and painted the building and the tanks in the NSWGR "stone" paint scheme. I would refer you to James McInerney's article "Stone Colour Schemes for NSWGR Buildings" in issue 1 of Branchline Modeller for information on applying the paint scheme I used on this building.

Part 2 off this article will appear in the next issue when the construction of the roof and final details will be covered. In the meantime 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.

Minutes for Aus7 AGM – 12/7/09

Apologies – Roger Pearson, Bruce Wood, Mark Fisher, John Parker, Chris Harris.

Present – T Hodges, J Lee, B Thomas, K Ryan, T Ryan, B Treseder, A Furniss, B Lovett, A MacDonald, M MacWilliam, R Porter, W Clowery, D Morris, R Rumble, M Ratcliffe, P Berg, D Peterson, H Horgan, G Imer, P Chisholm, J O'Neill.

Minutes secretary – T Hodges

Meeting Opened by Keiran Ryan – 11.06am

Presentation of Financial Account (Treasurer R Porter) – Report delivered by Roger. He wasn't able to present a typed report however he did present the relevant figures. Figures were discussed in detail with especial attention given to the cost of producing 7th Heaven. Membership stands at 75 members as of the AGM, a drop from 98 the previous year. Revenue and attendance from the Forums was discussed.

Roger moved that the report be accepted.

Seconded by – Harry Horgan

Passed on the voices

President's Report (Keiran Ryan) – Keiran made his report and discussed his impressions of the year. He mentioned the economic conditions, attendance at the exhibition, membership numbers and ways of improving numbers. 7th Heaven was mentioned and Keiran thanked Paul Chisholm for editing the magazine. Keiran thanked the committee.

Moved that the report be accepted – John O'Neill.

Seconded by – Harry Horgan

Election of Executive for year 2009-2010 – Chaired by John O'Neill.



Photo 12. painted but roofless

President – Keiran Ryan Nominated by Harry Horgan

Seconded by – Ray Rumble

Carried – unanimous

Vice President – John O'Neill Nominated by Trevor Hodges

Seconded by – Paul Chisholm

Carried – unanimous

Secretary - Trevor Hodges nominated by Keiran Ryan

Seconded by – John Lee

Carried - unanimous

Treasurer – Anthony Furniss nominated by Keiran Ryan

Seconded by – Harry Horgan

Carried - unanimous

Newsletter editor – Paul Chisholm nominated by Trevor Hodges

Seconded by – Dave Morris

Carried - unanimous

General Business

1. Bruce Lovett brought up three items. A) He asked could a membership list be published. Trevor said that permission is sought but Roger said that this hadn't been kept recently.
2. Bruce raised the issue of the BDO. He asked could local clubs be contacted personally. Trevor replied that the whole organisation needed to be discussed.
3. Bruce asked is it possible to put a membership form in each issue of 7th Heaven.
4. Paul replied by raising the issue of the organisation of the Forums. Paul moved that someone be appointed as an organiser for the Forums and perhaps they be assisted by some other members. Keiran mentioned some issues around the organisation of the Forums. Harry replied that we should form a sub- committee to organise this.

5. Harry moved a motion that a sub committee be formed to organise the Forum for next 12 months. Seconded by Keiran – unanimously carried.
6. Harry asked whether the number of forums was too many. People felt that this was about right. Trevor mentioned that one well attended event may be better than two poorly attended events. John asked how many people be on the committee. Trevor replied that he felt that two would be an ideal number and that perhaps . Bruce mentioned that the promotion of the Forums didn't just rely on the advertising, it also depended on the membership. John felt that the committee should have three members. John O'Neill, John Lee and Ray Rumble offered to form the committee. Roger Porter offered to help out.
7. Paul raised the issue of content of 7th Heaven. The material for this is becoming more difficult to garner. It raises issues of publication deadlines and planning. Discussion took place on this issue.
8. Peter Berg raised the issue of the younger generation. He asked what are we doing to cater for this group of members. Bruce replied that the same issue had been raised by other groups.
9. Harry raised the issue of memberships and appointing a membership officer. He felt that this would help to promote membership. The issue of raising memberships came up and Keiran said he felt we all had an obligation to help promote the group and the scale.

Meeting Closed – 12.22

HANDY HINTS FROM AN OLD BLOKE'S WORKSHOP

HOLES IN DISC WHEELS

North Yard disc wheels have only two small holes in the face of each wheel. The disc wheels used on N.S.W. rolling stock over the years were plain, two, three or four fairly large hole types. To represent the two hole type, the holes need to be enlarged with a No.36 or 3mm drill.

For the four hole type, make a jig from scrap brass 1.5 to 2.00 mm thick about 50mm long by 25 mm wide. Centre punch the centre of the piece and scribe a circle 13mm in diameter. Mark off the circle into four equal spaces and centre punch where the lines intersect. In the centre drill a hole 6.5mm in diameter to clear the centre boss of the wheel. On the circle drill two holes opposite each other to suit nails about 2mm in diameter. Into each hole solder a piece of nail about 7mm long.

Drill the other two holes with a No. 36 or 3mm drill. The method is to drill out the two existing holes in the wheel with a No. 36 or 3mm drill, place the jig with the two nails in the enlarged holes and drill two new holes with the jig as a guide. Repeat with the other wheel. You now have four equally spaced large holes around the wheels which look terrific when you watch them moving past slowly.

Bruce Lovett

Fitting Waratah Wheel sets into O-Aust Bogies.

by Martin Hartley

I was assembling some O-Aust 2AE bogies and found that the holes in the bogie side frame castings were far too large for the Waratah bearings. This is because O-Aust originally designed their kits to accept North-Yard Wheels. These are made for the 9mm scale narrow gauge market, and the bearings are 4mm in diameter. With a little bit of research I found an effective method of fitting the smaller Waratah bearings into the O-Aust Bogies.

For this you will need:

five-minute epoxy/araldite.

Evergreen Strip Styrene 5/32" tube (4.0mm diameter) item no. 225

3mm twist drill bit.

Drill (I used a power screw-driver/cordless drill running at low speed)

Only buy one packet of the styrene tube. Each length of tube is enough to convert about seven or eight bogies. If you have a couple of mates who are using O-Aust bogies pass on this article and share around the packet of tubing.

To fit one bogie:

Cut four lengths of this tube about 6mm in length (better to be slightly over than slightly under).

Mix up a batch of the five-minute epoxy. Dip the ends of the bits of tube into the epoxy and insert them in the holes in the bogie side frames where the bearings will go. Its better to use a little much than too little, as the excess can be removed with a hobby knife once it has set.

Once the bits of tube are set in the bogie side frames trim off the excess tubing with a sharp knife and/or file them flat. I used a cheap bastard file bought from a \$2 shop.

Take a 3mm drill bit and open up the holes to 3mm to accept the Waratah bearings. It is best to use a power screw-driver as it drills slowly enough that it will not melt the plastic and it drills faster than a pin-vice! Once you have hit white-metal stop drilling. The Waratah bearings are shorter than the North Yard ones and do not need a deep hole.

Once the holes are drill out remove any burrs with a hobby knife. You may also like to make a slight bevel in the plastic to help the bearing slide in easier. The bearings should be a press-fit into the bogie side-frames now.

Assemble the bogies now as per the O-Aust instructions.

Note: to fit Slaters or Peco wheels and bearings, use a drill bit 2.5mm in diameter.

Happy modelling!
Martin "Mad Marty" Hartley



THE PROTOTYPE.

In August, 1949, the N.S.W.G.R. called tenders for ten shunting diesels to replace ageing steam locos with the tenders closing in December, 1949. This was to be the second diesel loco for the N.S.W.G.R. following on from the highly successful Alco 40 class. When tenders closed in December, 1949, twenty had been received from companies in Australia, England, Germany, Japan and U.S.A., the successful tenderer being British Thomson – Houston Co. Ltd. and Metropolitan – Cammell Carriage & Wagon Co. Ltd. in England.

After many design changes and setbacks, the first loco, number 4102, finally arrived in Sydney in October, 1953, three and a half years after the signing of the contract ! The class leader, 4101, had been retained in England for demonstration purposes and arrived soon after. However, it was almost two months before the two locos, 4101 and 4102, entered service whereas the 40 class were ready for service within days of landing in Sydney. This delay in commissioning the first two “Beetles” was a prelude to the problems this class of locos would experience throughout their career. Delivery of the remaining locos was progressive, the last member of the class finally arriving in November, 1954, with a much modified radiator system.

Right from the start there were problems with engine overheating, so, the radiators at each end were extended taking up most of the end platforms and making access for the crew very difficult. This did not solve the problem entirely so extra vents were installed in the tops of both hoods.

Other problems manifested themselves in the electrical department for these were diesel electric locos, that is , a diesel engine driving a generator which powered two traction motors on each bogie. Then there were problems with the M.U. connections. The problems went on and on until most of them were sorted out over time but such were the problems with these locos that not once in their career of twenty years were all locos in service at the same time. However, they were popular with crews as they had a comfortable cab, rode well and

could haul a load of up to 900 tons when all the parts were working.

The end finally came when they were replaced by the 73 Class and the last “Beetle” was taken off the books on the 2nd September, 1974. Fortunately, negotiations to preserve 4102 were completed in March, 1976, and this loco became part of the loco roster of the N.S.W. Rail Transport Museum at Thirlmere, N.S.W.

THE MODEL.

The model under test was built and painted from the first kit produced by The Model Company to represent number 4101 in it's original condition. This kit consists of a series of pewter castings, brass etchings, lost wax brass castings, brass wire, plastic blocks, worms, gears, stainless steel wheel sets, a North West Short Line can motor and hookup wire. The model uses the English split axle electrical system with all wheels used for pickup and return, the parts for the two powered bogies being supplied by North Yard.

Included in the kit is a step by step set of instructions totalling eleven pages with an excellent drawing of the chassis and drive arrangement supplied by North Yard. Also included is a CD containing a series of both prototype and model photos which should prove very useful in assembling the kit. The instructions are written in a friendly railway modeller fashion and I felt the modeller should not have any problems as long as each step is followed with plenty of reference to the photos.

THE TEST.

This was a brand new model without any run in period, so after oiling all moving parts and applying graphite grease to all worms and gears it was run around the layout without a load to “bed in” all the moving parts. This was the fairest way to start the tests and also to ensure that the moving parts were not damaged through lack of lubrication.

The loco is quite heavy at 1.4kg and sits well on the track, the weight being a contributing factor in the excellent pulling power. As you can see from the test

sheet, starting voltage in each case was surprisingly low and very smooth with little difference between loads. All starts were made with the train sitting on level track.

With loads of 4, 8 and 12 vehicles there was very little difference in the running voltage and amps, with only a 20% increase when loaded with 16 vehicles. This particular train measured 16'0" long. It was only when I placed my hand in front of the loco to cause it to slip that the voltage dropped and amps increased by 75%. In each test the train was stopped on the grade and restarted with the result that it did not stall or the wheels slip.

THE LAYOUT.

All tests were carried out on clean nickel silver Codes 124 and 138 track in an anti clockwise direction to make full use of the grades. The grades were various of 1 in 72, 1 in 87 and 1 in 624, plus level track with very little run up or level track to each grade. Curves were all 36" radius, transitioned and super elevated with Peco and scratch built No. 6 turnouts. The controller was home made using a Tenshodo 40 ohm rheostat , fitted with

volt and amp meters and powered by a 4 amp filtered 12 volt battery charger . Rolling stock were all weighted to N.M.R.A. standards and fitted with clean metal scale wheels running in brass bearings.

CONCLUSION

The tests showed that this is a very good model and the pulling power and quiet operation exceeded expectations. The only criticisms I have are minor and are as follows –

1. The method of fitting the bogie side frames is disappointing as they tend to bend inwards with handling and drop down touching the track and shorting.
2. Buffer springs are too strong.
3. The directions do not contain a list of contents.
4. Not all tools required are listed.

Apart from the minor criticisms above, I have no hesitation in recommending this model for any large small 0 Gauge 7mm Scale layout of the N.S.W. prototype.

TESTS CARRIED OUT ON BERG'S HOBBIES 41 CLASS DIESEL 0 GAUGE 7MM SCALE

TEST NO.	NUMBER OF BOGIE VEHICLES	TOTAL WEIGHT OF VEHICLES	WEIGHT OF LOCO	WHEEL SLIP WHEN STARTING	STARTING VOLTAGE	RUNNING VOLTAGE	RUNNING AMPS.	CURRENT WHEN SLIPPING	CURRENT WHEN STALLED
1	NIL	NIL	1.4kg	NIL	3 VDC	4-5 VDC	0.4 - 0.5	NO SLIP	UNABLE TO STALL
2	4	990gms	1.4kg	NIL	4.5 VDC	4-6 VDC	0.5 – 0.6	NO SLIP	"
3	8	2.54kg	1.4kg	NIL	3 VDC	5-6 VDC	0.6-0.8	NO SLIP	"
4	12	3.78kg	1.4kg	NIL	3 VDC	5-7 VDC	0.6-0.8	NO SLIP	"
5	16	4.99kg	1.4kg	NIL	4VDC	7-8.5VDC	0.9-1.0	8VDC 1.75AMPS	"

Motor temperature on completion of test – slightly warm.

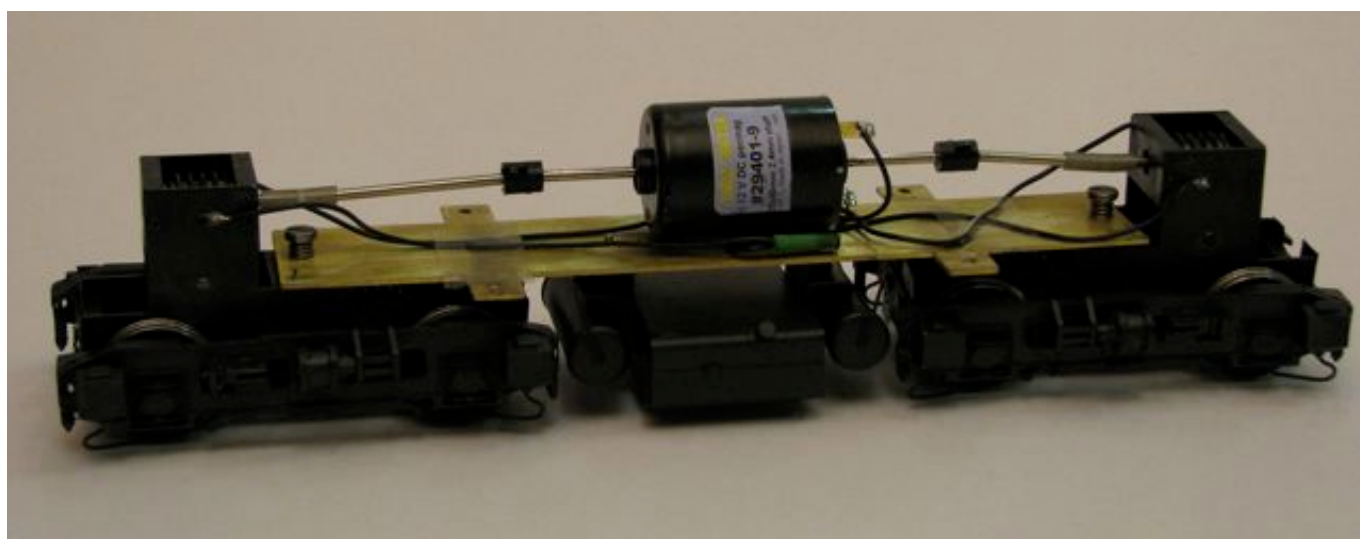
Room temperature – 20 degrees C.

Time for one lap of 55'0" with 12 wagons – 36 seconds.

Time for one lap of 55'0" with 16 wagons – 40 seconds.

Distance covered for each test – 10 x 55ft. – 550ft.

Total distance covered by loco – 5 x 550ft – 2750 ft or one third of a mile.





I should set some context for this. I live in the UK, where even among railway enthusiasts there is only a vague idea about Australia's railways – the most widely known fact being that there is, or was, no standardised gauge. I have modelled in 0 gauge for about 40 years, but only spasmodically as the demands of family, a career, and subsequently running my own business have intervened.

The modelling interest was in London's Metropolitan Railway, but I have always been fascinated by overseas railways, especially those with a strong British flavour. When I noticed the existence of the Century, 0-Aust and Waratah ranges, it seemed that NSWRR was a real possibility in 7mm scale. At about the same time I had been introduced to a group building a large Scaleseven layout and discovered there were three helpful and friendly Scaleseven modellers within six miles of my home. It seemed like a reasonable idea to build the NSWRR layout to these standards. The problem is that the Century models 50 class kit was not designed with this in mind and some drastic work is necessary. I am grateful to David Peterson for his kind guidance on some aspects of building this chassis.

My kit arrived with laser cut steel frames. These seemed too thick and I decided to cut a set from 28thou (0.7mm) nickel silver using the steel frames as a template. The overall width of the frames in the Century kit is only 24.7mm when assembled. Ideally they should be in excess of 29mm. The frame spacers were never going to be

usable and the spacer material is simply N/S strip guillotined to a constant width.

My first attempt was soldered up and then the hornblocks were set up using a Hobby Holidays chassis alignment jig. Like all such jigs, it is set up using the coupling rods to set the jig to the correct wheel spacing (whereas the Century instructions require you to build the chassis and then fettle the coupling rods to fit). I used Slaters sprung nylon hornblocks on this, but when I failed to get this chassis to run totally freely (I suspect all I needed to do was ease the coupling rod holes a bit more), I decided to build a second chassis, but this time used Hobby Holidays own ball raced sprung hornblocks. These have the added advantage of having a milled brass body which can be soldered to the frames and this strengthens the weak spots around the openings in the frames. This second chassis was assembled using an Avonside Works chassis jig belonging to a friend and is very strong and true. The overall width of the frames is 29.2mm and this gives rise to further problems.

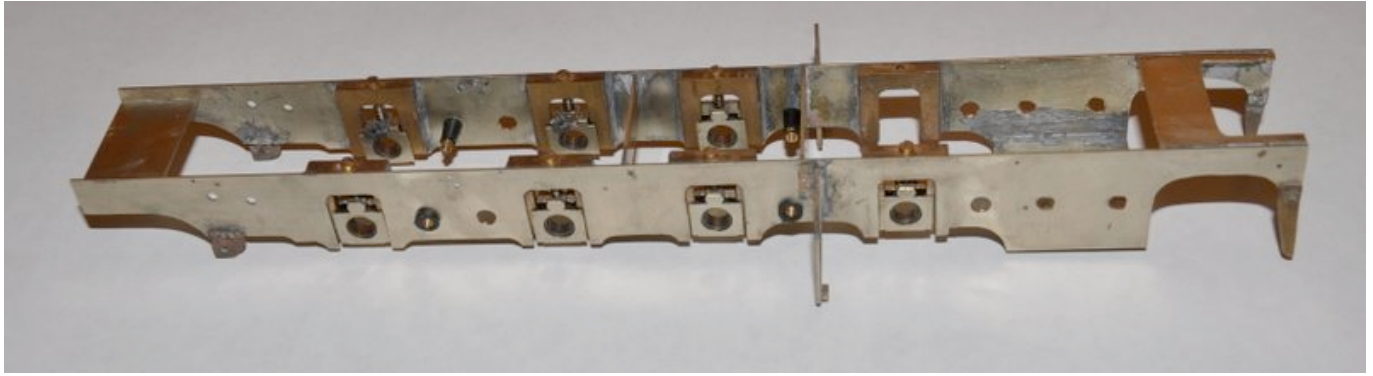
Firstly, the cylinders. These have been cast to allow for the narrow frames of the kit. I milled 2.2mm off the back of the body of the cylinder casting before soldering it to the backplate. This gave a correct overall width but created another problem which I'll come to.

Secondly, the motion brackets. No such simple solution here and I decided the only option was to make new ones. I thought the bead

around the brackets and the opening in them would be difficult to scratchbuild and as I was getting a sheet of brass etched for 50 and 32 class cabside replacements, I would put the motion brackets in a spare corner. These were done by etching two pieces for each bracket which were then soldered back to back. In this way I got the beading effect. The opening is very marginal, and the coupling rods will foul the bracket unless the chassis is properly weighted and the springs are fully compressed to the correct ride height.



Thirdly, the plunger pickups. I would have liked to use the American pick up system (one side via the loco, the other via the tender) to avoid any sort of wiper, but this involved using the ball races as a current path, and the Gauge 0 Guild manual advises strongly against this as arcing can destroy the ball races themselves. So I decided to use the plungers provided, but cut down the springs so that there is very little pressure on the backs of the wheels. The frames are much closer to the back of the wheels than when the kit is assembled as intended.



The wheels were turned to Scaleseven dimensions by a member of the Scaleseven society. The photo shows the finer flanges. In addition I replaced the axles with the longer S7 version from Slaters (the S7 gauge is 33mm).



The leading drivers needed extra work as it was evident that I would not get enough clearance between the rear of the crosshead (alligator in this case) and the leading crankpin. Instead I countersunk the rear of the leading drivers and screwed an M2 bolt from the back. I then turned a "top hat" style retaining nut which screws onto the M2 bolt and sits flush with the face of the coupling rod.



The coupling rod needs to have a countersink on the front face. The easiest way to do this would be to

open out the holes in the first one or two layers of the coupling rod etches before soldering them up, needless to say I didn't think of this early enough. Even so the clearance was very tight, and I opted to put a 0.5mm piece of brass behind the cylinder backplate to ease the cylinders out enough to clear. It makes the overall width too great but seems to have been the most acceptable compromise. With hindsight perhaps I should not have milled so much from the castings.

Pony truck

The pony truck casting appears to have an error. It has been cast with a slot across the front which does not appear in any photographs I have seen. I soldered a piece of N/S suitably riveted over this. Courtesy of pictures from David Peterson, I also added spring hangers to the pony truck which give a nice touch of added detail to the front view. Unfortunately I cannot match David's workmanship on such tiny details. The pony truck has a piece of square tube soldered vertically to it into which I have put a piece of brass attached to a spring. This puts some weight on the pony truck wheels and will hopefully aid tracking. There are also two pieces of 0.5mm phosphor bronze wire soldered either side of the nut to which the shouldered screw attaching the pony truck is attached. These are parallel to the pony truck arm and give an element of side control. We shall see.



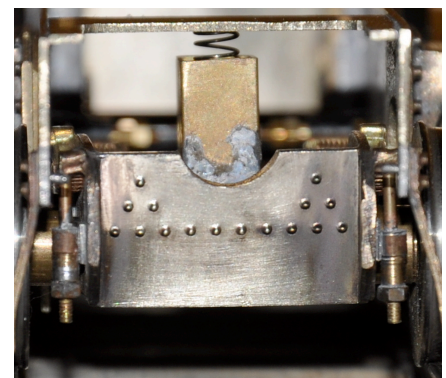
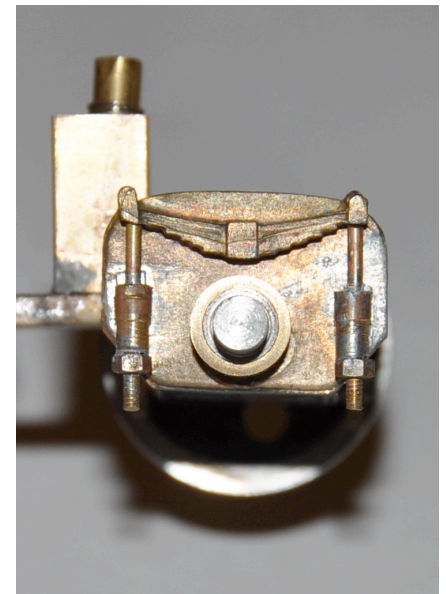
That's the story so far. I hope I will have a 50 class one day – it seems to have taken a long time to get this far.

Hobby Holidays:

www.hobbyholidays.co.uk

Avonside Works:

www.avonsideworks.com



A Self Critique

by Stephen Reynolds

The pictured building, Lawson's (the S would not fit in the available space on the building) General Store has taken out 1st Place for structures at the NMRA Australasian Region 2002 Convention and the Berg's Award for Best Line side Structure at the O Gauge Workshop 2002. It now resides on Trevor Hodge's Queen's Wharf.

Over the last twenty or so years I have entered dioramas, buildings and rolling stock in modelling competition, all with various degrees of success. What I have achieved has given me the great thrill of competing against other modellers and more importantly the opportunity to show off my efforts to the general public and of course other modellers.

In recent years a modelling competition has become part of the O-Scale Modellers Forum thanks to some generous manufacturers and hopefully this will continue.

After winning the Waratah Models Diorama competition in October in 2007 with the diorama Tyler's Crossing. I decided to conduct a critique

While not wanting to be over critical of oneself I felt it would be beneficial to go through the whole procedure of what I had just completed and see how the process could be better organised to produce higher quality models, achieve a more professional approach and also improve the environment I was working in.

The list I have compiled I hope will encourage you to compete in these competitions and enjoy a part of our hobby that is sometimes overlooked and has the potential to be a hobby in itself. Some of the items in the list below relate to my own personal circumstance but I feel that they are of value to all.

START EARLY

- 1) Make sure all jobs around house are up-to-date, especially in the last month.
- 2) Have better floor coverings, rather than conveyor belt on a concrete floor! This resulted in a very sore back, because of the long hours spent standing in the one spot.
- 3) Have everything in its place and a place for everything.
- 4) Start to gather appropriate tools and materials weeks-months beforehand.

5) If constructing a diorama have the main components finished before starting e.g. buildings, rolling stock completed beforehand.

6) Have a stock pile of detail parts, constructed, painted and ready to be applied.

7) If using prints for backdrop, have them printed out enhanced, cropped and ready to apply.

8) Be more organised with the way you work e.g. stop losing tools amongst everything

else. There was enough room but this was being cluttered up because too many tools, materials, plan etc. were on/in the workbench area.

- 9) Clean the workbench every day or better still after every change of job e.g. if constructing trees and you finish them and start woodwork, clean the bench of tree making material.
- 10) Take photos of progress during construction.
- 11) Think of what you are going to transport the finished item in e.g. a box so the item cannot be damaged and that said item fits in this container well before hand.
- 12) Have this list hanging above the workbench before starting.
- 13) Practice what you preach.
- 14) And remember

You don't have to build a layout to be a 7mill modeller.



Showcase

Send in a photograph of your work and let us be inspired.



Another view of Trevor Hodges' Nymboida station building.



Bruce Lovett's scratchbuilt Z18 tank loco. Originally built by the late Jack MacMicking and rebuilt, detailed, painted and weathered by Bruce.

Commercial News

Trevor Hodges

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 wanted to pass on the news that he is now available to be contacted during normal business hours and most evenings and weekends at reasonable times by phone.

The 3000 gal 4-wheel and 5000 gal bogie Shell tank car kits are now both available for sale at \$185 per kit for the 4 wheeler and \$235 for the bogie tanker. Both kits are selling fast and are being supplied as batches become available.

O-Aust wanted to mention that there appear to be some supply problems with wheels at the moment from his normal supplier. Kits can be supplied direct to customers from O-Aust with Slaters wheels or without wheels for those customers who prefer to source their own wheels.

Pattern work is complete on the full range of R carriages O-Aust is releasing; the CR, BR, FR and HR. These will be produced in a staged manner so they don't all arrive at the same time, with approximately two months between each type. The manufacturing challenges of producing diaphragms for these carriages have been sorted out so all appropriate carriages can now be built in either independent or intermediate versions. The CR will be produced first (it is hoped in late Aug/early Sept) with each kit costing \$450. See above regarding the supply of wheels with these kits.



Work on the Victorian flat top T (1:48) is progressing satisfactorily. It is hoped that this kit will be available at the AMRA model railway exhibition, Saturday 22nd and

Sunday 23rd August, 2009 at Caulfield Racecourse, Victoria.



The QR 1400 class diesel (1:48) kit will be available at the Queensland Model Railway Show Saturday 24 & Sunday 25 October 2009.

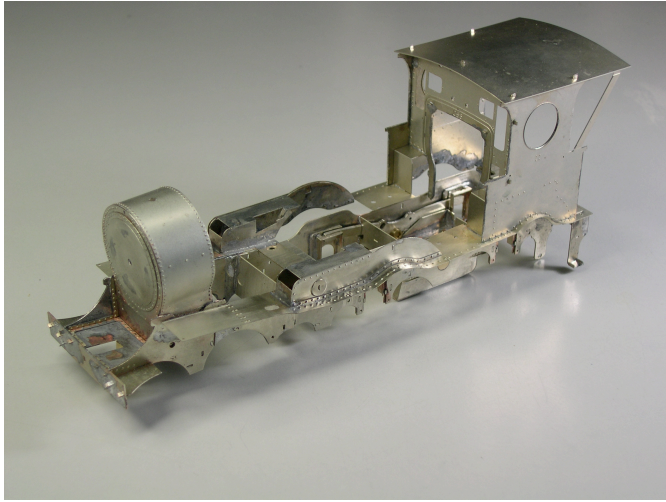
Berg's Hobbies

Berg's Hobbies, 181 Church St Parramatta, NSW, 2150, (02) 9635 8618, <http://www.bergshobbies.com/> has announced that the NSW 41 class diesel kit is now available for sale at \$995. The kit comes complete with a CD of instructions, prototype pictures and 29mm can motor. Flywheels can be supplied upon request. The chassis is being produced by North Yard of NZ.

Bergs wanted to remind members that they retail the full range of O-Aust kits through their Parramatta shop.

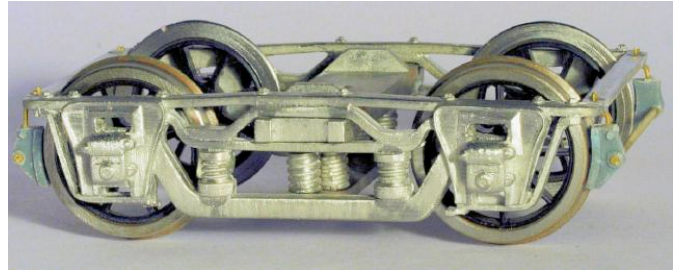
David Peterson Modelling Services

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 has passed on the news that progress on the NSW 12 class is on schedule for an early Oct, 2009 release. The kit etches will be in Australia by the end of July and castings should begin arriving at around the same time. Instructions are 50% complete at the time of writing and the kits will be provided with a CD including prototype photos, progress shots of the pilot model being built and written, explanatory text. The kits will be supplied with everything the modeller needs to build the loco except couplers, decals and brass numbers. Numbers can be supplied upon order. The kits will come with a Mashima can motor, ABC gearbox and wheels. A Canon motor can be supplied for a small extra cost. It is hoped to have the pilot model available for viewing at the Liverpool exhibition.



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 that all the pattern work for the NSWGR BWF bogie flat wagon is now complete and a pilot model has been produced. Instructions are being written at the time of writing. Each kit will include a set of 2SE whitemetal bogies (illustrated below) and comes complete with brass buffers and couplers. Price TBA with the kit to be available at the next Aus7 Forum.

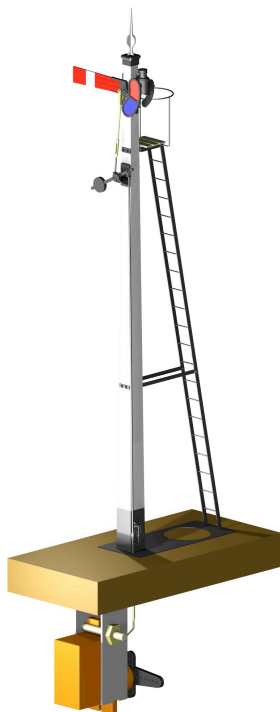


Keiran Ryan Models

Keiran Ryan, *Keiran Ryan Models*, 39 Coachwood Cres, Picton, NSW, 2571, (02) 46772462, krmmodels@gmail.com & www.7mmkitsnbits.com has announced that the NSWGR 7mm signal kits are now available for sale with a price to members of \$52 for each kit. These kits make up into an accurate model of a standard NSWGR home signal. They come supplied with all parts to light the signal and they can be built fully operational. They are supplied with comprehensive instructions, including suggested methods of activating the finished signal. Modellers need to supply their own activation control parts, these are not supplied with the kit.

The NSWGR 20 class is still under active development and it is hoped that a pilot model will be available for viewing at the Liverpool exhibition.

KRM also wanted to let members know that they are now retailing a range of Scale Hardware which includes rivets, nuts and bolts in a range of sizes.



The NSWGR 7mm yard crane is progressing on schedule and should be available at about the same time as the BWF. The kit will be made up of brass and whitemetal components and will make up into a highly accurate, detailed model.

Waratah have announced that the next rolling stock kit to be produced will be the NSW HG, four wheel brake van.

Gwydir Valley Models

Warren Herbert from *Gwydir Valley Models*, PO Box 740, Glenn Innes, NSW, 2370 or on (02) 6732 5711 or info@gwydirvalleymodels.com wanted to let members know that he retails a comprehensive range of tools and electronic components, including the Tsunami decoder and all the LEDs mentioned in the recent locomotive construction articles published in 7th Heaven.

We'd encourage all members to support our advertisers, who help to make the publication of 7th Heaven possible

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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 on Saturday 31st October 2009

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

Saturday 31st of October 2009

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

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www.oaustkits.com.au

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Century Models

C30T loco.

PO Box 743, Albany Creek, Qld, 4035 or email pa_rl_krause@bigpond.com.au

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