7th Heaven

Aus7 Modellers Group Inc.

Journal of the Aus7 Modellers Group Inc.
No 26

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Winter 2010

In this Issue:

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Aus7 Modellers Group at the Brisbane Exhibition

Trevor Hodges

The Aus7 Modellers Group has occasionally had a presence at the Brisbane Model Train Show at various times over the last few years but this has been intermittent. In late 2009, when Peter Krause of O-Aust Models and I were discussing the possibility of the group having a stand at the show in 2010, I responded that it would be a great idea and promptly forgot all about it. Luckily about two weeks out he sent me an email asking me what days I was going to be able to attend. I came to the sudden realization that he'd actually paid some attention to what I'd said. Luckily we'd had done some initial planning and things were ready in time.

Being a newcomer to the far north coast of NSW/south east corner of Queensland, the timing and rhythms of the model railway calendar aren't ingrained in me in the same way they are for the Sydney events. The Aus7 Forums, AGM and Liverpool exhibition provide seasonal markers for my year but they do things differently in more northerly climes. A major exhibition in May just didn't fit with my model railway bio-rhythms; but I reckon I'm learning. The Brisbane Model Train show was held over the weekend of Saturday the 1st, Sunday the 2nd and Monday the 3rd of May at the RNA showgrounds in Brisbane.

I've never attended the Brisbane Agricultural Show but for me this facility has the authentic feel of the old style shows held in all the major capital cities at one time, in the days before they got modern, sterile and seemed to change their focus to efficient money making enterprises. It also means that the exhibition is held in a shed that I assume is used during the Show for judging domestic pets, vegetables and conserves. The exhibition was jammed packed with great layouts and a wonderful, relaxed atmosphere. Those who attend regularly tell me that numbers were down a bit this year but it looked pretty crowded to me.

I always enjoy going to exhibitions I've never attended before and the chance to attend one for free is a real bonus. The Aus7 stand attracted a steady flow of interest but I can't claim we were overwhelmed with enquiries. That's ok, it means more time to catch up with old friends, shop at the trade stands and view the layouts. The exhibition was well run, attracted a good crowd and was a real pleasure to attend. I'd like to thank Peter Krause for his work in getting me organized and to Anthony Veness for helping out on the stand. See photo opposite.

Straight Down the Line - Opinion

by Bruce Lovett

This opinion page diverts from the usual format a little by publishing a Letter to The Editor but I think it eminently qualifies for this section.

Paul Chisholm
Editor

Sir,
It was with a touch of sadness that I read in the latest issue of our 7TH Heaven magazine that the Stringy Bark Creek layout had been retired. I can appreciate the reasons for this retirement and the enormous task it must have been in working on the layout sections in many different locations, the trial fitting of all the sections together for a practice running day and clearing away afterwards. Then came the transport of all these sections to an exhibition hall, the setting up, having sufficient operators, locos and rolling stock for the duration of the exhibition, then enough hands to dismantle, clear away and transport the sections back to their homes. It was a logistical operation performed by amateurs which would put many professionals to shame.

This layout has been a milestone in O Gauge 7MM Scale modeling in Australia. Apart from being probably the largest portable layout, the standard of modeling raised the perception of O Gauge modeling by many of the public from 3 rail steam roller wheels to a scaled down version of the prototype. I am sure the sight and sound of superb O Gauge locos and rolling stock travelling at scale speeds through typical New South Wales country scenery will live in the memories of the thousands of people who stood in awe at the front of this magnificent layout.

When the layout made it's debut at the A.M.R.A. exhibition at Hurstville in 2006, although not a member of the team, I was invited to help behind the scene in running the layout. It was a most enjoyable time and will live with me for all time and is helped by a DVD that our Editor took at the exhibition and another I bought recently which I view from time to time.

Too often in our modern world, efforts by individuals or groups go unnoticed or unappreciated. To Dave Morris, who had the vision, desire and the driving force and all the other members of the team, may I extend to you all my heartfelt thanks for providing not only me but to many ,many people, a lot of enjoyment and inspiration with your STRINGY BARK CREEK layout.

Bruce Lovett

7th HEAVEN

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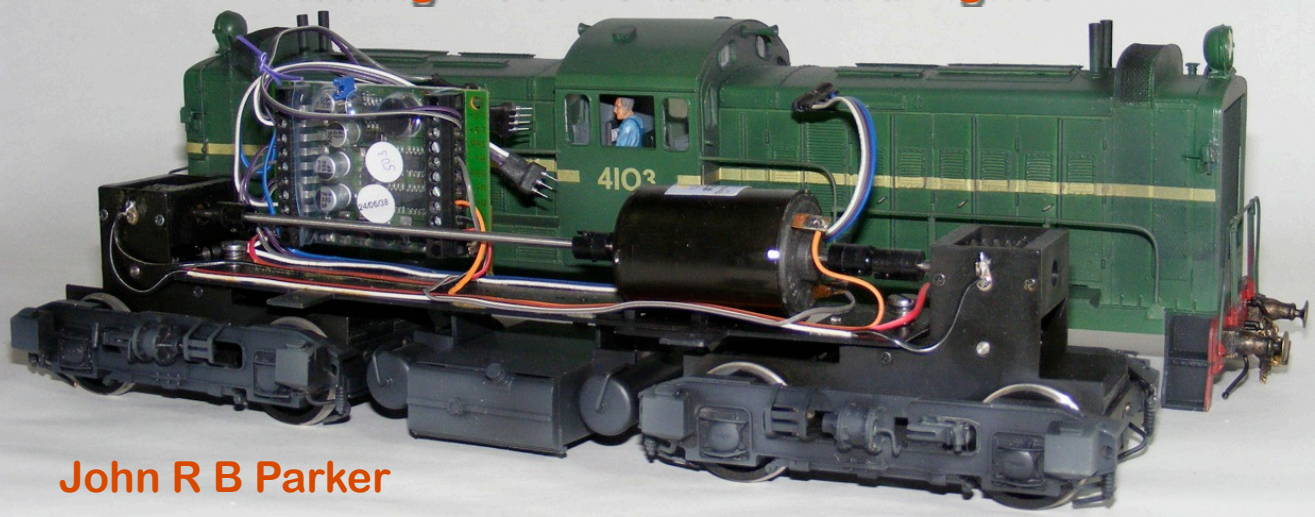
On The Cover
The 41 class loco constructed by John Parker that is the subject of the main article in this issue.

NSWGR 41 class locomotive

Adding DCC/DC Sound and Lights

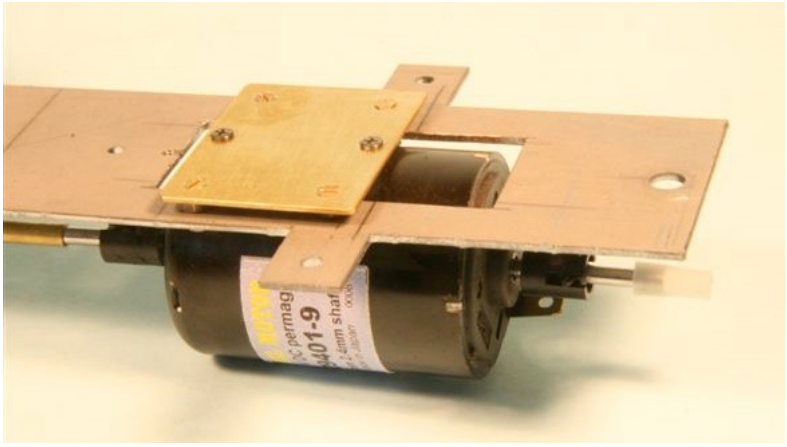


John R B Parker

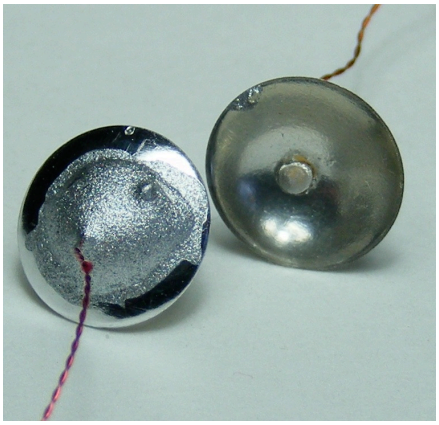
Bruce Lovett contributed an article in issue No 22 of 7th Heaven titled 'The Bergs 41 a Short Review". You are recommended to read that article prior to this complementary piece which will concentrate on the addition of sound and lights to this fine model of a very early diesel.

This is a relatively easy model to build, but as usual, I did deviate slightly from the instructions that are provided with the kit which also includes a CD containing useful photographs. The biggest design issue for me was the location of the motor in the middle of the loco.

It is beautifully symmetrical, but it is also in the middle of the cab, and the cab has large windows. Well I am sure you understand the problem, cabs should contain controls and a crew not a 'big round black thing'. The solution originally proposed by Roger Porter was to relocate the motor into the hood area as is the situation in the prototype. At the same time the opportunity was taken to recess the motor into the chassis so that the models drive train had the least possible intrusion into the cab. The photograph on this page shows the new motor mounting position as viewed from underneath.



The cab interior was fashioned largely from scrap materials to scaling by approximate sizes from the photographs in the book, Green Diesels by R G Preston. The photographs of the finished item will give you some idea. Due to the way the model is constructed it is necessary to fit the painted interior into the cab before final assembly. The method of mounting the two 3mm LED's used to illuminate the cab interior can also be observed.



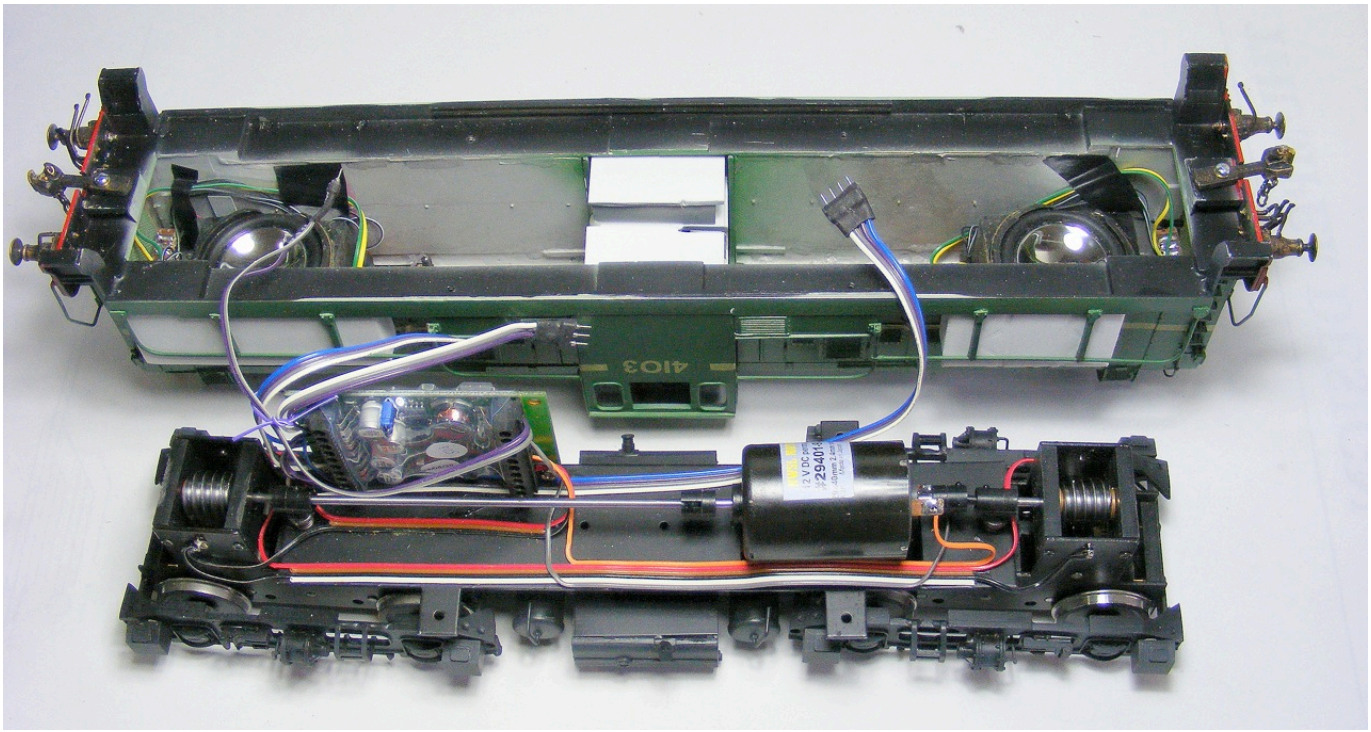
The availability of the range of Nanolights from DCCconcepts has greatly simplified the achievement of realistic lighting. The Nanolights are based on 0.8 x 1.0 mm surface mount LED's and come pre-soldered with wire leads and a selection of suitable resistors. Most suitable versions for our applications are the prototype white, and the red and white package, assembled from two LED's wired in a back to back configuration. This will fit in an opening only slightly larger than 1.0mm in diameter.

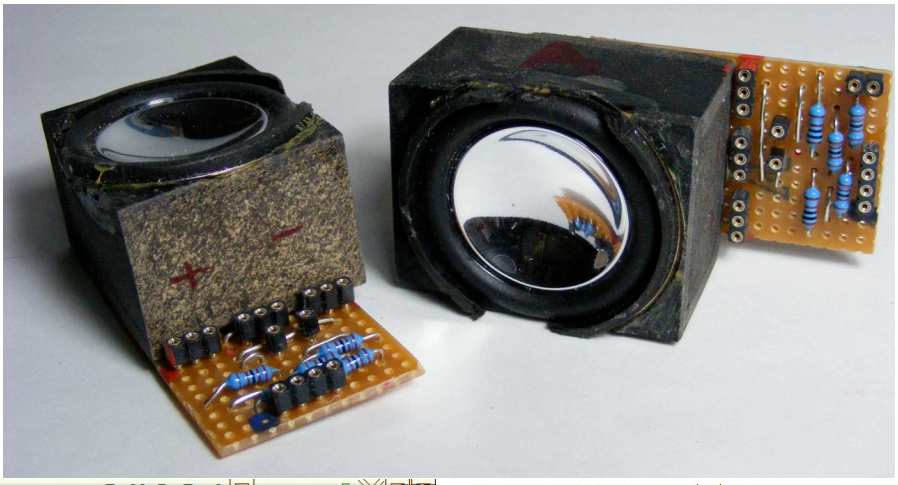
In relative terms this is a heavy model as all the main components have been cast in pewter. It can be easily assembled using low melting point (145 degrees) solder together with epoxy glue for the attachment of all the small brass castings such as the marker lights. The completed model is very well balanced and has excellent hauling power as Bruce Lovett confirmed in his earlier article.

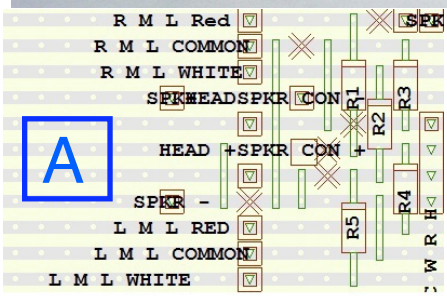
I found a slight problem with the attachment of the cosmetic side-frame assemblies to the bogies; the suggested design is a little fragile. One solution is to drill and tap, (12BA or similar), two holes in each end of the two plastic bogie assemblies. Matching holes can then be drilled in each of the side-frame transoms with each side-frame assembly finally being secured with 4 screws.

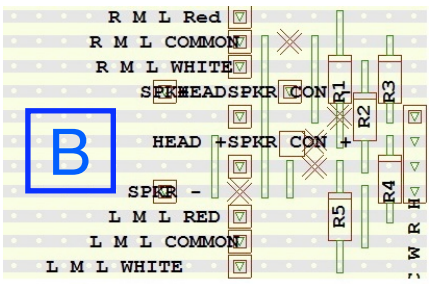
Unlike Bruce I chose to model the 41 class with the extended radiators, one side benefit from this decision was an increase in the space available for the speakers.

The 41 class was the least successful of all the early NSW diesels and most soon became fairly shabby with little effort expended to keep them clean.
I modelled 4103 in just such a state based upon available prototype photographs but as can be seen above the body did originally come from the paint shop in an as-new condition. Note that the LED's are fitted before painting; Microscale Micro Mask has been applied over the face of the lens. This can easily be removed after painting.

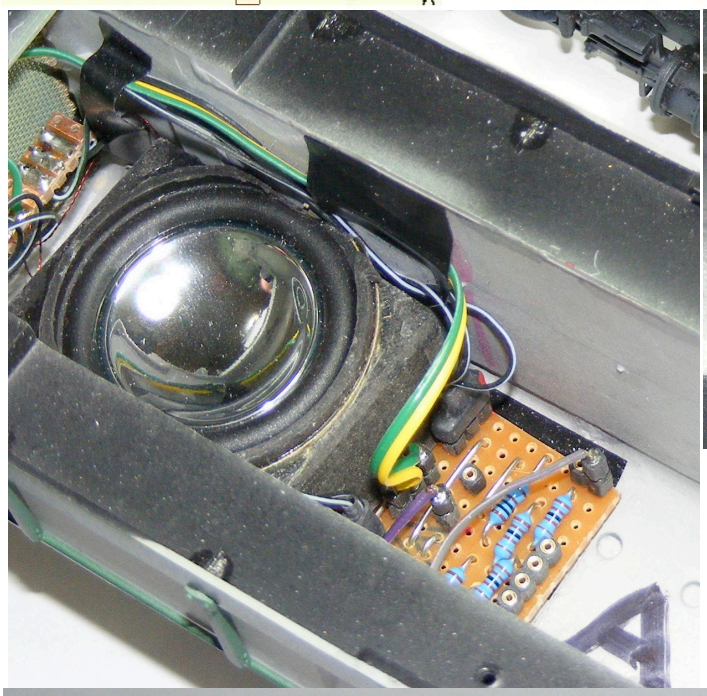


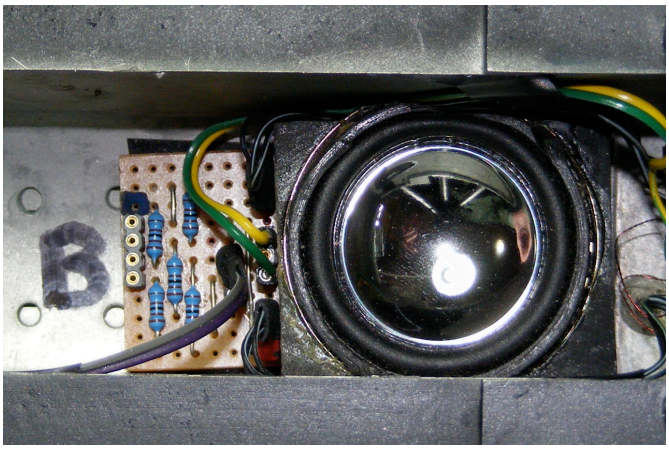




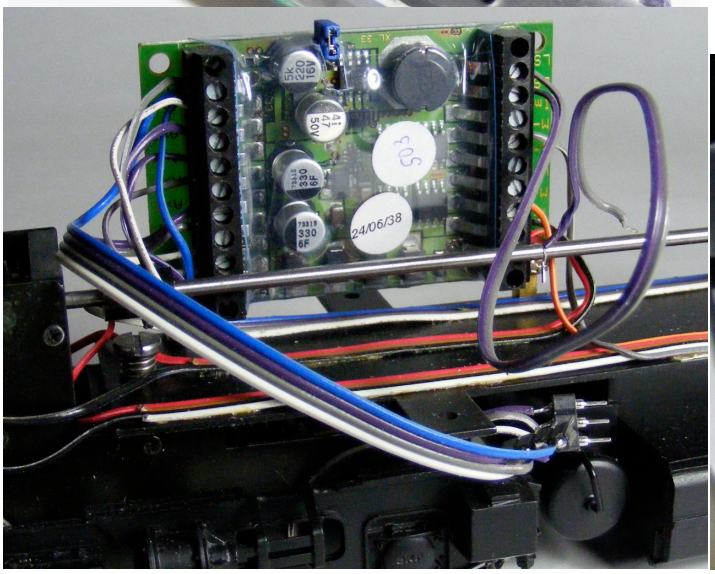


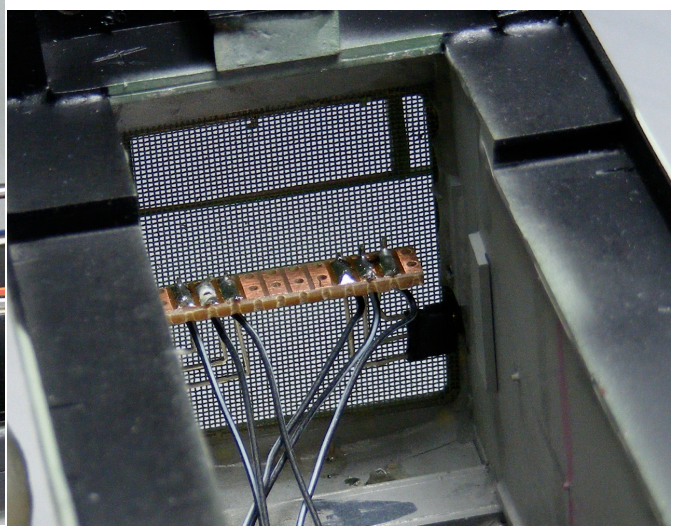
There is just sufficient space above the gear towers on the bogies to install 2 x 40mm Mylar speakers Width limitations require the removal of about 2mm off two sides of the metal frame. This must be done carefully ensuring that no metal filings fall into the cone. Masking tape wrapped around the speaker with the sticky side on the outside works well. The speaker enclosures were fabricated from 3mm craftwood (MDF). Terminals in the rear of the box permit connection to the matrix board which also includes the resistors and sockets for connections to the LED's as well the interconnecting cables. The final assembly was attached to the body shell with double-sided foam tape. Additional sockets on the 'A' board allow for the connection of the speakers in series.

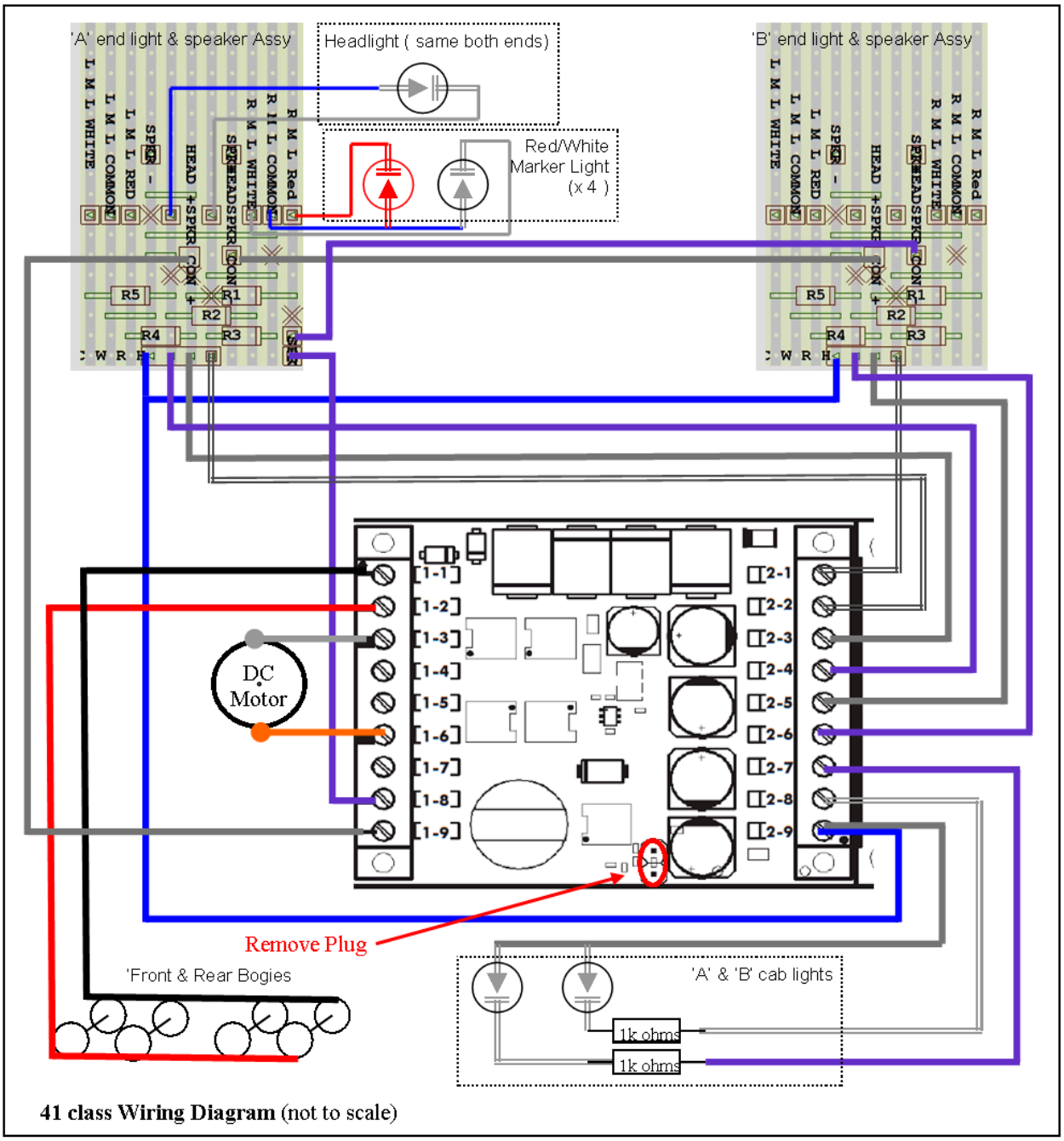




Working Marker lights were installed using two colour lighthouse style LED's. Red/White Nanolights would now be a better choice as they fit entirely within the marker light casting. These extremely tiny two-colour wired LED's became available after this model was built.







41 class Wiring Diagram (not to scale)

DCC FUNCTIONS

- **F0 Directional Headlights.**
- **F1 Sound start up/ run down.**
- **F2 Horn.**
- **F3 Short Horn.**
- **F4 White Directional Marker lights.**
  A end = Aux 1, B end = Aux 3
- **F5 Red Directional Marker lights.**
  B end = Aux 2, A end = Aux 4
- **F6 Cab light A.**
  Cab L/side leading = Aux 5.
- **F7 Cab light B.**
  Cab R/side leading = Aux 6.

The wiring diagram will hopefully make it easier to see how it all fits together. Don't be put off by the apparent complexity; the diagram is fairly easy to follow when read in conjunction with the photographs. Note the two light and speaker assemblies mentioned earlier, they are not exactly the same as the 'A' board has two additional sockets to provide the series connection of the speakers. **The following list shows the actual connections to the two terminal strips on the Loksound decoder**.

1-1	Right hand rail.	2-1	Headlight B end
1-2	Left hand rail.	2-2	Headlight A end
1-3	Motor	2-3	Aux1 Red Marker A end
1-4	Not used	2-4	Aux2 White Marker A end
1-5	Not used	2-5	Aux3 Red Marker B end
1-6	Motor	2-6	Aux4 White Marker B end
1-7	Not used	2-7	Aux5 Cab light A
1-8	Speaker	2-8	Aux6 Cab light B
1-9	Speaker	2-9	Common

I believe that sound is an integral part of today's model railways and therefore a considerable amount of planning goes into deciding how to fit the best possible speakers in the model.

This is always a compromise due to the difficulty of achieving any reasonable low frequency response from speakers which have to be small to fit in the available space. But there was another problem; no one seems to have recorded these locomotives in operation, so what did the 41 class sound like?

Once again the internet came to the rescue. The 41 class had two Paxman 12-RPHL 12 cylinder engines and I was able to find a short film clip of the start-up sequence of the Paxman engine on a workshop test bed.

The LoksoundXL CAT 44 sound file (72543) was then used as the starting point for the sound file. This was modified by replacing the start-up and shut-down sequences with two copies of the Paxman start up sounds with the addition of a slight delay between the two. Although not entirely accurate the end result is hopefully something like what a 41 class might have sounded like to an observer in 1954.

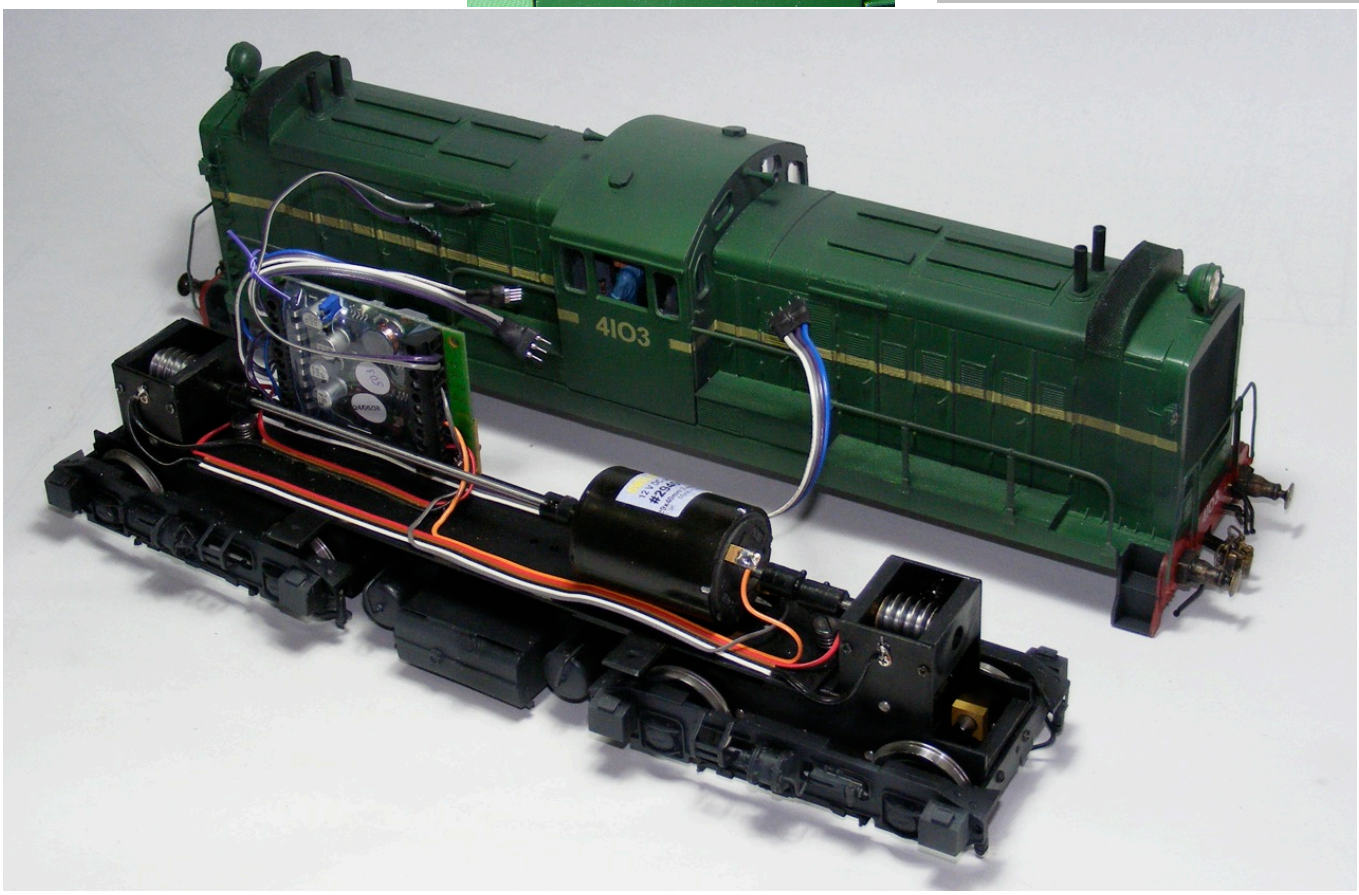
Major Additional Components Required

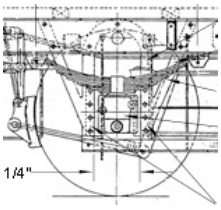
Your favourite DCC supplier:
1 x ESU LoksoundXL Decoder (Modified version of the CAT44 #72543 sound file used)
Provides motor control sound and all lighting and will operate on DC as well as preferred DCC.

Jaycar:
2 x 40mm 4 ohm Mylar Speakers Part # AS 3028
2 x 32way Socket strip Part # PI-6470
Cut to length to provide both plug and sockets.
2 x 1000 ohm ¼ watt resistors
1 packet 50 x PCB Pins Part # HP-1250
Only 4 required

Internet supplier:
2 MV products L-406 lens

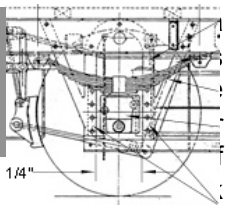
DCCconcepts:
1 x 6 pack prototype white Nanolights (2 required)
1 x 6 pack red/white Nanolights (4 required)
Both from DCCconcepts (necessary resistors are included)
2 x 3 mm prototype white LED's
Note that some of these parts may also be available from Gwydir Valley Models. Please support our advertisors whenever possible.





Suspension For Four Wheeled Wagons

Trevor Hodges



Background

You can never be too certain who's going to be reading an article you write: is your reader a trained engineer with a professional background in metalwork or an absolute beginner with little or no experience in the hobby? What follows will probably be of interest to both ends of this spectrum, and hopefully to most of those in between, but don't be put off by the title, it only sounds like a cure for insomnia. Rather than a comprehensive review of the topic of suspension for four wheel wagons, this short piece should act as a reasonably painless introduction to the subject and hopefully prompt some debate in the context of modelling an Australian prototype. The aim is more reliable and prototypical running of rolling stock and a look at ways of achieving this. I can follow up with one or two other articles if there is sufficient interest and as time and space in the magazine allow.

I approach the topic of suspension from the perspective of someone who views the building of rolling stock (either kits or from scratch) as a necessary evil rather than as a joy to be savoured. I'm not ashamed to admit that the desire to faithfully model the 1912, diagonally outside braced, 10' cattle wagon (I'm making this up) just doesn't get my juices flowing. However, while I may not be the most enthusiastic rolling stock builder in the world, I'm interested enough in these models to be bothered when my wagons derail constantly or jerk and bump unprototypically through pointwork. One of the reasons I'm in this scale is because of the more realistic look and feel of the rolling stock due to its greater weight and volume; the last thing I want is this effect to be spoilt by wagons that run like a line of three legged goats.

The vast majority of 1:43.5, four wheeled rolling stock kits produced in this country come supplied with a set of four white metal W-iron assemblies that reproduce the prototype's axle guard, axle box housing and leaf spring. Before they can be used most of these cast W-iron assemblies require the insertion of some form of brass bushing to accept the end of the axle. Once fixed onto the wagon's floor with wheelsets in place, these W-iron assemblies produce a robust and relatively simple way of getting wheels attached to a wagon and running on your layout. Simplicity equals happy modellers right? Well not necessarily if your aim is wagons that run smoothly and very reliably, especially through pointwork. This arrangement does work, and is relatively simple to apply, however the fact that it is less than perfect and it is prone to a couple of weaknesses in application.

The Problem

I've been modelling in 7mm for about 10 years and have assembled quite a number of this type of kit together in both cast polyurethane and injection moulded plastic. In the vast majority of cases the kits are highly detailed and make up into fine representations of their prototype. However I don't build showcase models, my rolling stock is built to run and earn its keep on my layouts and, because I don't particularly enjoy building rolling stock, I don't want to pay too much attention to wagons after they enter service; a situation I like to think closely mimics the prototype. I have an expectation that when I build a wagon, it will operate unobtrusively for the rest of the time I remain in a position to run it on any layout I own. I expect my rolling stock to work and operate well for decades and I can't see myself putting up with poorly running wagons for what will essentially be the rest of my modelling life.

I have recently been working on a small batch of four wheeled wagons which all happen to be of the same prototype and from the same manufacturer. I don't normally build in batches but temporary personal circumstances suited this type of construction. I had reached a stage in their construction where they were very close to being finished when disaster struck; I managed to drop one of the wagons while I was painting it and this meant that I had to carry out some repairs that were not wholly successful. After the repairs were completed a very bad "rock" had appeared in the wagon when it was placed on the track, with one wheel sitting a little under .5mm higher than the other three. In addition to this, and at about the same time, I discovered a problem with the gauge of the wheelsets on my other two almost completed wagons. The reason I haven't identified the manufacturer of these wagons is simple: the problems encountered were of my own making, they were not the responsibility of the manufacturer. I dropped the wagon and I didn't check the gauge of the wheels before fitting them to the other two wagons. However dropping the wagon exaggerated what I feel is an inherent design weakness in this style of kit. As it is a design feature shared by the vast majority of 1:43.5 four wheel wagon kits in this country from a few different manufacturers, I would suggest that what follows applies to all kits of this type.

To affect a solution to the wheel gauge problem I needed to remove the wheelsets from at least one end

of each wagon, make a small modification to the wheels and then reinstall. This could not be done without cutting away some of my laboriously applied underbody detailing and prying off the whitemetal W-iron assemblies. On the wagon that had been dropped there was no way to adjust the precise location of the solid whitemetal W-iron assembly that didn't involve major surgery. The drop had somehow slightly distorted the wagon body and/or floor so that the wheels were out of alignment when I glued the W-irons back into position and it was this that was producing the rocking. After surveying the situation I decided that there was really only one solution to the problem of the "rocking" wagon but, just like the out of gauge wheels, before I could rectify the problem I needed to cut away some detail and remove the wheelsets at one end of the wagon. So I was in essentially the same position with all three wagons: I was forced to remove the wheels to fix problems on all three. In the space of five days I had gone from having three new wagons 98% complete, to having to make major repairs and adjustments to all three. To say that I was not a happy chappy would be a bit of an understatement!

The Solution

Right from the start I decided to make a virtue of necessity: if I was going to be forced to go hacking into my lovely new wagons then at the very least I wanted to end up with a final result that improved the running and tracking of the models involved, rather than just getting me back to where I'd started from, namely three wagons with solid wheelbases. By the way, none of the three wagons involved had ever sat perfectly square and level on the sheet of glass I use to test my wagons as I construct them, dropping one simply exaggerated a pre-existing problem that I hadn't managed to overcome in constructing them. In addition it might be worth pointing out that weighting the wagon does not, in my experience, cure this problem. I weight my wagons as a matter of course during construction but it has no effect upon the "rocking" introduced by wheels that are installed on axles that aren't parallel. After noticing this problem I deliberately went back and checked all of the wagons I've built over the years and every one of them had the same problem; I'd been building this style of kit for ten years and never managed to produce a wagon that sat absolutely level on the track. I can't be the only modeller who faces this problem. This is not to suggest that building wagons of this type straight from the box can't be done in a way that produces a model that runs quite acceptably under normal circumstances. Neither am I suggesting that it isn't possible to construct a wagon using this method so that is sits square and level on the track; I just don't seem to have managed it over the last ten years and believe me, I've tried!

While it is a matter of personal opinion and experience I don't actually believe that gluing four lumps of whitemetal onto a cast floor is a terribly sensible way to produce a model that will run and track reliably. It may be a fairly simple and cheap way of getting wheels under a wagon, but it produces a result which is less than perfect, quite difficult to get right and, from an engineering perspective, quite unsound. The point I'm trying to make is that I think we can do better and the best way to do so is some form of compensation or springing to allow some flexibility into the rigid chassis. The very best discussion of this topic I've ever read are in two issues of the English model railway magazine, *Model Railway Journal*, issues #80 and #101. If you're interested in the topic I'd especially recommend the article *Wagon Suspension Tested* by Peter Kirmond in issue #101, where the author conducts some controlled tests of various commercial compensation and springing systems and compares these to solid wheelbase wagons, one with all four wheels touching the rails and one with a deliberately introduced "offset" in the wheels so that one wheel was .5mm higher than the other three. After dropping my wagon I went back and re-read these articles. I won't repeat the entire discussion here; suffice to say that the bit that got my attention was the comparison between the wagon with a solid wheelbase with the .5mm offset and the commercial springing systems. The solid wheel base with offset, a situation very similar to my dropped and subsequently repaired wagon, derailed about 50% of the time in one of the tests, whereas the wagon with the springing tracked reliably 100% of the time over the same piece of track. I felt I had found a solution to the problem of my rocking wagon.

The Application

After I checked my Aladdin's cave of various kits and bits, I discovered that I just happened to have three springing kits discussed in the articles mentioned above. I'm not too sure when I purchased these kits but it was probably after I had read the MRJ articles in the first instance, with a view to installing them on some wagons I was going to build. As they never got used it's a pretty fair indication that 1) I don't build too many wagons because I really am a reluctant builder of such models and 2) utilizing them on a kit I was building all seemed too hard at the time. As a result I went on gluing the whitemetal W-iron assemblies straight onto the floors of my wagons. As I had three wagons to deal with and I had three springing kits it seemed fated that all three would receive the same modification. It would be best to mention at this stage that these kits are not correct to NSWR prototype or, for all I know, any other Australian state. However I feel that this minor aesthetic disadvantage does not significantly detract from the look of the wagon and that this is more than offset by more reliable and smooth running. The kits I used are from Slaters (Photo1) *Item #71546 BR Sprung W Irons*, however a local manufacturer is about to release a correctly patterned springing kit for NSWR outline kits in an early and late version. More detail will be provided

in a subsequent issue of 7th Heaven on these items. For those in a hurry to try this out you can purchase the items from several Australian suppliers like Bergs Hobbies or David Peterson Modelling Services or direct from the Slaters website at https://slatersplastikard.com/scaleParts/7mmParts/wagonParts/wagonFittings.php . The last time I checked, the kits were retailing for about $14 each not including postage from the website. Check the exchange rate before you buy.

Photo 1.

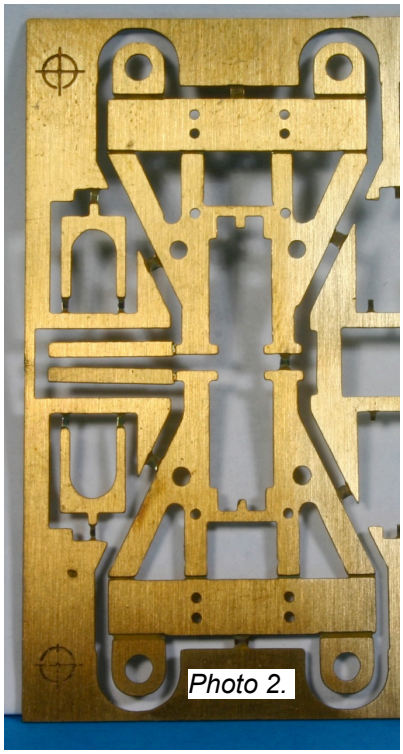


Photo 2.

The springing kits I used consist of a small brass etch which provides the "W" iron and a small sliding component that looks a little like a tuning fork in the photo (Photo 2). You can glue the components to the wagon or use the small self tapping screws to affix them utilizing the lugs etched into the W-irons. The etched W-irons are removed from the fret, folded up and soldered following the instructions provided with the kit. I found that the etched components benefitted from a little very light filing to ensure that the tuning fork like part slid smoothly in the W-iron. A couple of very light passes was sufficient to get things sliding smoothly. The rest of the kit comprises four standard Slater's top hat axle bushes, four square brass sliding "plates" that accept the bushes, the machine screws and six small springs which provide the action. The reason six springs are provided will become obvious if you install these kits on a wagon you are building; they have a tendency to shoot off into the nether regions of your work room never to seen again. Having a couple of spare springs is handy.

I soldered up the units following the instructions but decided to start with one wheelset first so I could compare the height and ride of the springing and see if installing them on one end would be sufficient to produce the improvement in reliability I was after (Photo 3).

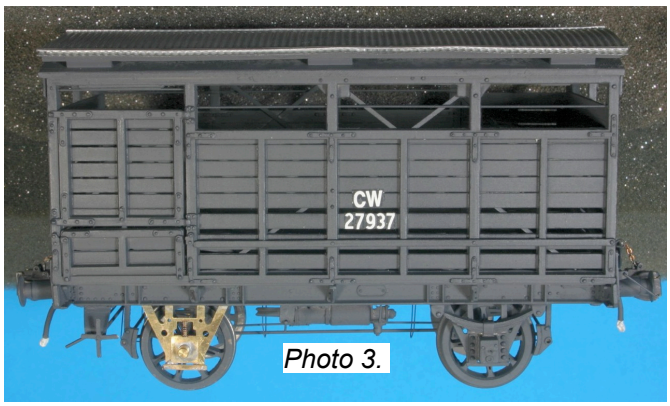


Photo 3.

This would also halve the cost because I could modify two wagons out of one kit. I also decided to start with the wagon that I had dropped because this was the one most in need of attention; if I could fix the rocking problem on this wagon, then the other two should be a breeze. You can see in the photo that from the side the basic outline and height of the unit is very similar to the whitemetal casting on the left. You can also see how the springing action is introduced into the unit. The only problem I encountered in the installation of the unit was that one of the fixing lugs was in the wrong position and interfered with some of the underbody detail glued to the floor of the wagon. To overcome this problem I simply snipped off the etched lug and manufactured a new one from brass angle a few millimetres along from the original. I attached the new lug to the etched W-iron with solder. You can see how the units attach to the wagon body in the photo (Photo 4).

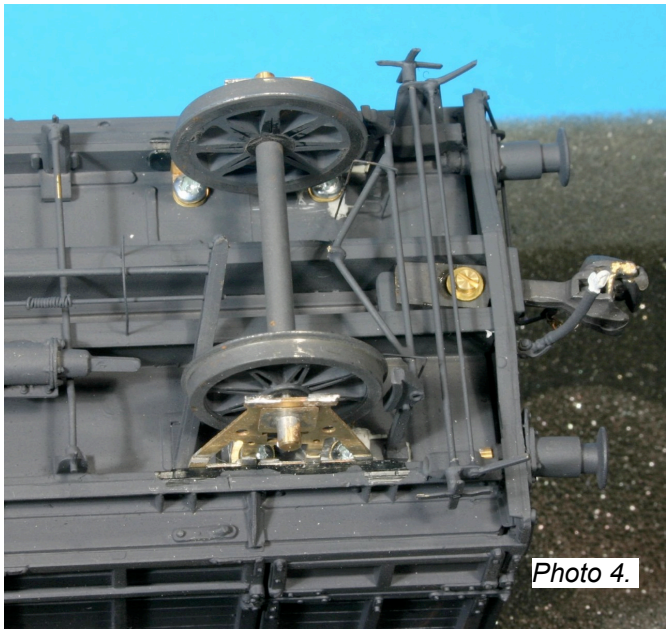


Photo 4.

Because the self tapping screws are essentially under the wheels after installation of the wheelsets I found I had to install the etched units by drilling the holes in the floor and screwing in the four self tapping screws before I installed the wheels and the sliding components. Things got a little fiddly at this stage, especially after the second spring shot off into nowhere, but I eventually got the wheelset installed and then soldered the keeper bar into position to hold the whole unit together (Photo 5). The photo shows the unit in its uncompressed state and this can be compared with the next photo (Photo 6) where I'm pushing down on the axle bush to demonstrate the amount of travel. There's about 2mm of travel in the unit, more than adequate for my purposes.

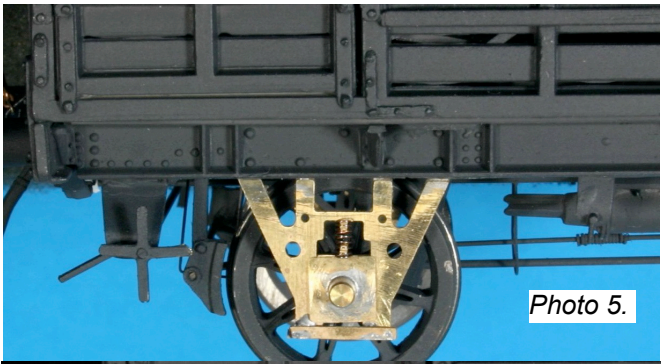


Photo 5.

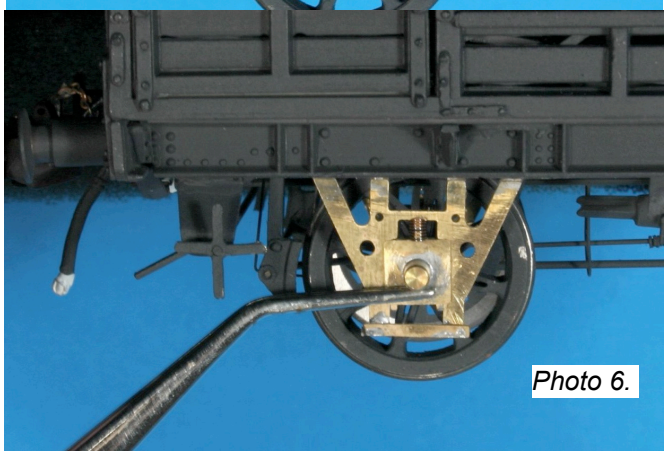


Photo 6.

The next step is the installation of the detail that is not included in the etched components from Slater's. There are a couple of different ways to represent these details but the simplest is to cut them from the original whitemetal casting and modify them so they can be glued to the new etched W-iron. I took to the whitemetal casting with a pair of snips and then cleaned up the resulting leaf spring and axle housing with various files. I also drilled out the old top hat bearing and in the process went right through the front wall. I will replace this detail with some brass or plastic shaped to the correct contour after the installation is complete. The leaf spring is glued into position on the front of the W-iron and the axle housing is glued onto the protruding end of the top hat bearing. This slides up and down with the springing action (Photo 7). The gap between these details is greatly reduced when the wagon is right side up on the track. This photo shows a progress shot; the castings will be cleaned up square and true before final installation.

Conclusion

The impact on the ride of the wagon following the installation of these units was dramatic to say the least. As you would expect with a sprung underframe, the wheels were able to find their own level and so the rocking was immediately eliminated. The ride through points and along straight track was silky smooth and and the wagon rode through the points on Queens Wharf beautifully. The axle that had been left rigid still tended to bump and drop into the frog of the point so this has convinced me to install springing on all four wheels of the wagon. If I needed convincing that springing the underframe of my four wheel wagons was worth the extra expense and effort of using these kits then the ride of this one test wagon through the points of my layout put paid to any lingering doubts I had. I doubt I'll ever build a four wheel wagon again without springing, however Queens Wharf is about to make one of her rare exhibition appearances in August 2010: I'll let you know how the wagons go after they've been subjected to a weekend of operation under exhibition conditions.

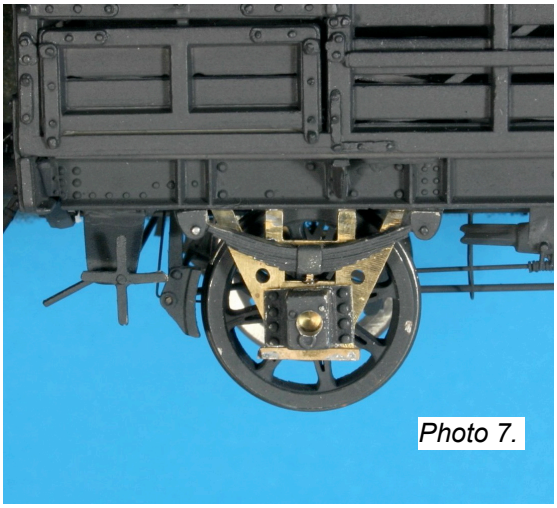
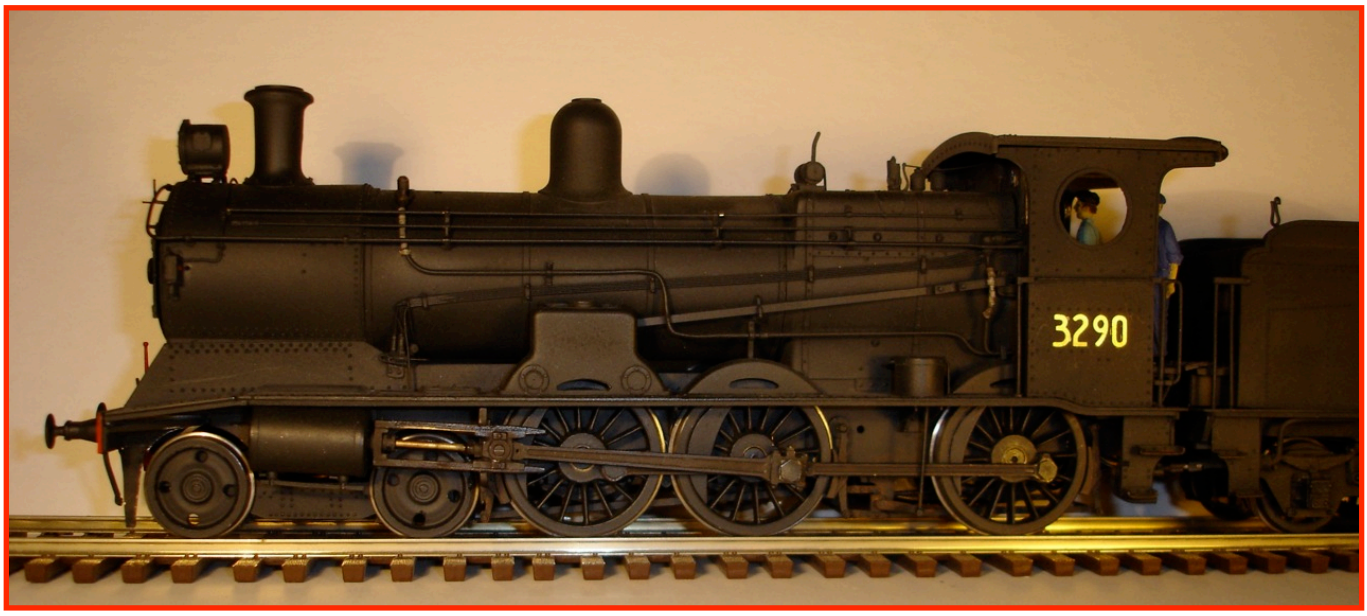


Photo 7.

O-Aust 32 Construction Tips

Paul Chisholm



The O-Aust 32 class kit is very good and what follows is not in any way a criticism. With care and a modicum of modelling skills an excellent model will result, but any model no matter how good is bound to have some features that could be improved or scope for modifications to suit the particular needs or idiosyncrasies of the builder. What follows is an outline of “enhancements” I made to my model of 3290 and is based on a presentation given at the O Scale Forum in April this year.

At first glance the parts from the kit looked excellent, however two small but significant (to me) details didn’t look right. The first of these was the size of the Thow porthole cab window which seemed too small. The second was the absence of the small holes in the pony truck wheels. The second was easy to fix. Some new blank disc wheels were sourced from Slaters and the holes drilled. Some locos had four holes; some only two and some had a set of each!

The pony truck might also benefit from the addition of a little weight to ensure good tracking although I have not done this and haven’t encountered any trouble. A spring slipped over the pivot pin and bearing down on the truck may also be a possibility. One potential problem with the pony truck is that the axles run in bearing holes drilled through the white metal frame and if your loco is likely to do a lot of running these might be subject to wear. John Parker in his article on the 32 in 7th Heaven # 20 and 21 overcame this by drilling out the holes and inserting brass sleeves. This could probably be done at a later time if the problem arose.

The porthole was a bit harder. First I had to be convinced that my perception was correct and a visit too Thirlmere with camera and tape measure soon convinced me that I was right. How this was rectified is the subject of a short article I wrote for 7Th Heaven # 20 so I won’t dwell on it here. To me the larger window looks much better and is worth the effort. If it doesn’t bother you, don’t let it.

At first glance the brass frames seem to be a tad light and compared to the very solid frames of the original Century Models 50 Class kit they look flimsy. However once assembled they become quite rigid enough for their purpose and they are certainly much easier to work with than the heavier material. One variation I did make was to ignore the instruction to remove a spacer section after assembly. I think leaving this in adds strength and doesn’t seem to cause a problem.

Another issue with the frames is that there is very little clearance between the pony truck wheels and the frame and this didn’t become apparent until the loco was completed and test run. A somewhat brutal grinding down of the arches above the wheels with a motor tool overcame this but it would have been preferable to do it before painting.

One step that is absolutely essential to get right is the alignment in all planes of the smoke box, boiler and firebox. If this isn’t right there is no way the assembly will sit correctly on the frames or line up with the cab spectacle plate. A flat surface doesn’t help much and a straight edge across the top of the assembly is probably better. Marking a pencil centreline along the top of the three sections also helps the eye judge it better. All I can suggest is some slow setting adhesive and good judgement.

The kit comes with a Mashima motor and fold up gearbox. I didn’t use these and substituted a Slaters motor/gearbox unit the same as I had previously used in my 50 class loco. The supplied motor gearbox may

be perfectly adequate but I can't comment. I believe that Slaters also have now introduced another similar unit where the gearbox is not enclosed. While the enclosed unit may seem preferable it can be a bit difficult to open the access panel for later lubrication, though this is not something you would need to do very often.

I elected to place the decoder in the boiler and the speaker in the rear of the smoke box. I don't know if it's absolutely essential but decided to give the decoder some ventilation and the speaker an opening by cutting two narrow slots along the bottom of the boiler. This is easy to do and the slots cannot be seen once the loco is assembled.

To fit the 28mm diameter speaker in the smoke box it was necessary to enlarge the opening by a few millimetres. This was done for me by a friend using an abrasive drum in a drill press and is not as scary as it sounds. Once done the speaker slides easily into place and the sound seems to come from where it does on the real thing. Then you need to come up with some way of retaining the smoke box door so that the wiring and the speaker are accessible if you should need to get at them in future. John Parker's excellent article on the 32 shows how he did this with a brass clip and I copied his idea.

The section of the loco frame that sits above the footplate and encloses the bottom of the smoke box comprises two white metal parts that have to be glued in place. Getting these right proved quite trial and I still didn't achieve a perfect result. If they don't sit correctly they don't line up with the smoke box or slope down to the buffer beam correctly. It's just trial and error but I suggest sitting the smoke box in between them before gluing so that you can check everything lines up.

There are five lubricating lines (four for a saturated engine) running from the cab down the drivers side of the boiler to a casting mounted on the frame behind the smoke box. These can be fiendishly difficult to get in place and I found it necessary to substitute slightly finer wire to get them to fit within the securing brackets. If you try to run each line individually you will upset the neighbours with your swearing so a way to prevent this is to join all five together into one unit that can then be curved into place and secured by the brackets. There are a number of ways you could do this. I placed them all alongside each other and secured them with adhesive tape to a sheet of paper, then ran a bead of superglue along and let it dry. Once dry the paper needs to be scraped off and the pipes, now all bound together, can be attached. Another way is to solder them inside one of the brackets, attach to the boiler and then hold the splayed wires together as you attach the other brackets.

The kit comes supplied with Slaters plunger pickups that contact the inside faces of the driving wheels. These work well but care needs to be taken to ensure correct alignment. The wires connecting them to each other need to be sufficiently flexible to allow the springing action to work properly otherwise efficient electrical pickup will be compromised.

The driving wheels and plungers are not sufficient to give reliable pickup and some form of electrical pickup from the tender wheels is advisable. There are a number of ways this could be done but I elected to follow the method outlined by Roger Porter in his article on the 50 class in 7th Heaven #11.

A potential problem, which may not become apparent until the loco is test run, is related to the crosshead. The guides are longer than they need to be and the result is that the connecting rod strikes the bottom one as the wheels rotate. This can be solved either by reducing the length of the guides or filing a subtle chamfer at the ends.

Another problem with the connecting rod that may occur is that the oil cup on the top of the big end might strike the underneath of the footplate. I don't know if this will happen in all cases but it did with mine. Simply filing a little from the top of the oil cup solved this.

The coupling rod between the second and third driving wheel on the drivers side might also foul the rod running down from the brake cylinder, as there is not much clearance here.

This locomotive has a lot of weight forward of the centre driving wheel with the result that the rear drivers may actually not sit on the rails. A lot of weight is required to push them down and achieve a good spread of tractive effort over all six driving wheels. Sheets of lead glued inside the top of the firebox, under the cab floor and in the cab roof and anywhere else you can fit it will help.

I found that the drawbar attachment would not work because of a height mismatch between engine and tender. To overcome this I made a stepped drawbar out of brass rectangular section that extended from the locomotive then stepped down to fit under the front of the tender. I also located the attachment point to the tender further back towards the front bogie transom than specified to allow closing the gap between engine and tender without them actually coming into contact.

Finally, given all of the above you might conclude that this is a difficult kit to build. Not so. It was only the second loco I had ever built and I found the instructions excellent so that if followed step by step things are broken down into manageable sections with no high level skills required. Each of the recommendations in this article was easily achieved and if you can benefit by knowing about them in advance as construction proceeds you should find it even easier than I did.

PALM TREE CONSTRUCTION

By Stephen Reynolds

When I first starting writing this article I was about to start researching the many types of palms, pick a prototype then go about constructing it. Then it occurred to me that the construction would be the same for any palm one was to pick and just the formation would change. We don't need to be that pedantic as to model a certain species of palm but if you wanted to then by using these construction notes I am sure you will be able to produce the type of tree you want.

I will call the tree I have constructed here a Generic Palm. Something along the lines of a Bangalow or Alexandra Palm. A tall majestic palm that you see growing in suburbia, country towns, wetlands and indeed on train platforms or goods yards. You may have one growing in your very own backyard. Richmond had one growing alongside the engine shed that was a local landmark and in Enfield goods yard they were planted near the workshops.

So lets get started. The trunk will come from balsa wood that is light, easy to work with and takes water based paints well. For foliage we will use silk flowers, the type used for indoor decorations that can be purchased from a discount shop. I used a flower that was an imitation of a rose. The petals and the leaves lent themselves well to the project. I chose a cream colour; even though the foliage will be painted over, but don't purchase flowers that have bright outlandish colour.

1] Take a length of 10mm square balsa and roughly remove the edge on all four sides and start to form a round trunk.

2] If you want the trunk to curve, and I think it adds a lot to the finished appearance of the tree now is the time to do it. Take a piece of ply, draw a straight line across the ply. Then draw another line 90 degrees to this line and insert small nails the width of the trunk on either side. Then to create the curve, at the top insert a few nails 10 to 20 mm going away from this perpendicular line. Insert your balsa trunk between the nails and bend it so it conforms to the formation of the curve. Wetting the trunk may also help with this exercise. Leave for a few days to let the trunk dry-out and once done the trunk will stay in this way.

3] Now is probably a good time to decide on the finished height of the palm. Cut the trunk to length remembering to allow for the finished height that the placement of the fronds will add. The palms shown here vary in height from 28 scale ft to 36 scale ft.

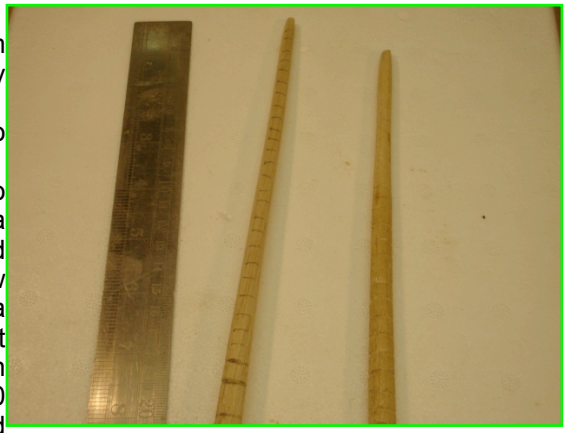
4] Shave and sand the trunk, bring them to a rounded shape but not a perfect cylinder. Flat, uneven parts will enhance the finished look.

5] Add the growth rings next, mark uneven intervals about a scale foot apart. Next impress the rings at these marks using the edge of a steel ruler. I used a saw like action and rolled the trunk around the edge of the ruler, this seemed to work best for me.

6] Distress the trunk now with a razor saw or wire brush and leave the fuzz/fur as this will also add to the overall appearance.

7] To give the tree a base to anchor it when it is finally planted on the layout and to also stabilize the tree during the rest of the trees construction a 15mm washer with a 10mm hole was forced into the bottom of the trunk. This was then covered in a layer of two part Epoxy, Builders Filler in my case. Smooth this out, higher at the very base of the trunk flowing out to the edge.

8] Insert a 40mmx1 mm



length of wire into the base of the trunk. I used the soft steel wire that is left over from used fireworks sparklers.

9] Cut a piece of Radiata pine 70x70x35 mm and drill a 1-2mm hole in this block of wood to accommodate the length of wire and hence the tree.

10] Paint the trunks with Acrylic Paint using a Flat 5-10mm brush. I

used Tamiya Film Grey #22. Not waiting to dry or cleaning the brush, apply Tamiya Khaki # 49 thinned. Then followed by thinned 50/50 coats of Dark Yellow # 60 Red Brown, not all over but in random parts. Last I dry brush Flat White just to give some highlight.

11] With a 60mm length of Hemp rope start to apply the dead Fronds and growth that accumulate at the bottom of the foliage and also give bulk to this area. Glue this to the trunk with Super Glue or PVA. Once dry paint this a straw colour. Better results could be achieved using a straight less entwined piece then I used here, but as little shows and it is more just to add bulk and not all that important.

12] We now turn our attention to the silk flowers and this material is used somewhat in reverse to how it is arranged on the imitation in as far as the petals become part of the lower dead fronds and the leaves become the new fronds. Pull the flower apart and strip the leaves off the stem. The petals are kept attached in their three petal formation as we can use this to our advantage.

13] Place on a flat surface and paint them with a mix of 50% thinners and 50%, Tamiya Khaki # 49, Dark Yellow # 60 as well as small amount of brown. A few coats of this mixture will be needed as the material seems to have a waxy surface. To try to achieve the natural colour of these fronds I laid a piece the real frond along side the petals.

14] Once dry start to serrate the edge of the petal. A single edge razor blade or scissors work fine. Cut well in to the middle of the petal and the more serrations you apply the better the final appearance and don't worry if you accidentally cut pieces off it will only add to the overall appearance.

15] Enlarge the hole in the centre and place over the trunk, pushing down onto the Hemp rope and hold in place with a small amount of PVA. Repeat this process at least two more times.

16] The new healthy growth can now be added. I used the leaves from the Rose Stem as they were similar in shape to the prototype fronds but still needed further attention to achieve the right appearance.

17] Paint these fronds with the same Tamiya Acrylic paints, thinned 50/50 but add more yellow to achieve a greener appearance. Remember thin coats more often rather then one thick coats that hides the detail.

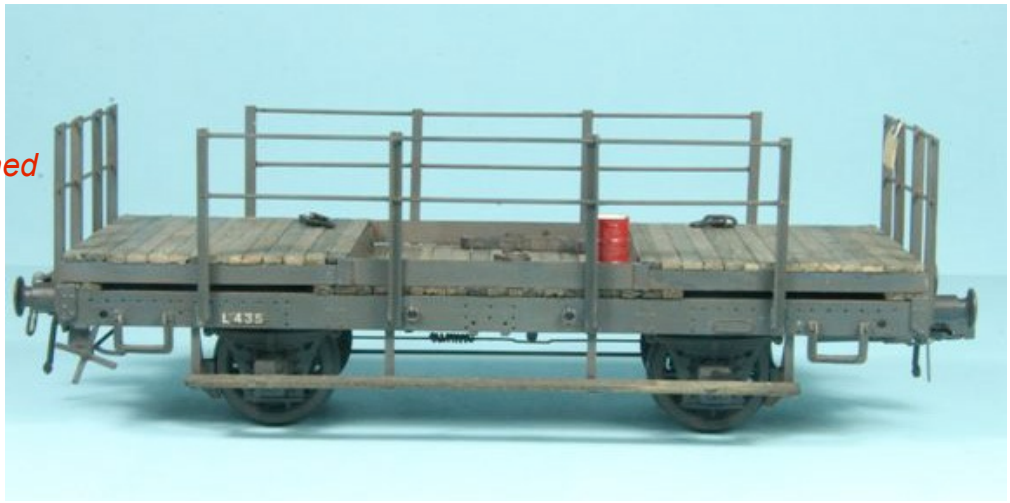
18] Apply three or four of these formations in the same manner as the previous dead fronds as well as some individual fronds towards the top and try to arrange these in a pleasing realistic appearance.

That just about finishes this project, I would approach this exercise in a production line like manner, completing three or four trees at a time. Like all my modeling it is not rocket science and is put out there so others may try it and improve on the methods I have employed.

Showcase

This 40 class in the royal train blue colours was modified from an Atlas kit by John Parker.

A shunters truck kitbashed from a KF by Ian Seers



This model of the only elliptical roof BR (BR 1719) is a modification of the O-Aust Models kit and was made for Harry Horgan by Peter Krause. Note also the Dean bogies.

Commercial News

Trevor Hodges

O-Aust

O-Aust Kits info@oaustkits.com.au, and via the web site at www.oaustkits.com.au, at PO Box 743, Albany Creek, Qld, 4035, mob 0419680584 or (07) 3298 6283 has passed on the news that the FR with corridor connections should be available in August. The terminal FR will also be available at the same time but only by direct order from O-Aust.

O-Aust has announced that they are to release a kit for the NSWR LCL container. Pattern work for this kit is complete with only final details yet to be finalised. Price is yet to be determined.

Pattern work is complete for the NSWR CV four wheel van with production due to commence shortly. Price will be in line with to that of the SRC. This kit will be cast urethane with brass details. The underbody detail is the same as the recently revamped O-Aust S wagon.

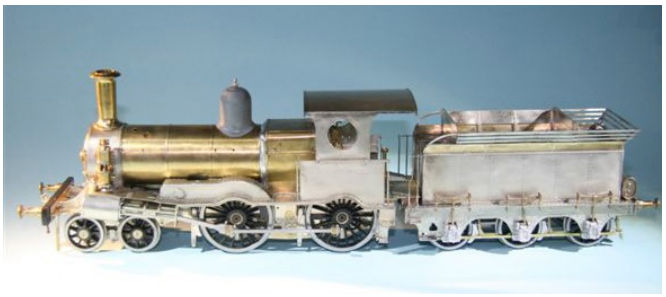
Self powered bogies for the NSWR 48 should be available by the time you read this.

Finally the C(30) tank is still on schedule for release at the Oct Liverpool exhibition.

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 the etches for the NSWR 12 class are due at the beginning of July, all pewter castings and machined parts are in hand and wheels were in the mail from the supplier at the time of writing. As soon as all components are in hand kits will be assembled and dispatched to customers.

The NSWR Z(13) will be progressed as soon as the Z (12) has been delivered. Concept drawings are complete but the focus is on the Z(12) at the moment.



Model Railroad Craftsman

Model Railroad Craftsman, Shop 2, 1st Floor, 64-70 Main Street, Blacktown, 2148, Tel02 98318217, Email sales@mrrc.com.au, and www.mrrc.com.au have been working on a DCC sound decoder "package" to suit the upcoming release of the Waratah/Haskell CPH railmotor. The package will incorporate a Loksound V3.5 1.5amp decoder with an authentic CPH sound package preloaded. The sounds will include motor start and shut down sequence, a long horn, the sound of the seats and blinds being raised and a guards whistle. The decoder will utilise an NMRA compatible 8 pin plug and the package will include a suitable speaker that will fit unobtrusively inside the body of the railmotor. The modeller can either install the decoder and speaker themselves or arrange for installation through the Model Railroad Craftsman. The decoder should retail for around $210. Direct all enquiries to Gary Spencer Salt at the Model Railroad Craftsman.

Waratah Model Railway Co

Waratah Model Railway Company, 149 Kyle Bay Rd, Kyle Bay, NSW, 2221 (02) 97851166 charris@nigelbowen.com.au and waratahmrc@optusnet.com.au has announced that the pilot models for all three versions of the CPH have been approved and returned to the manufacturer. Production is expected to be underway at the time you read this.

Waratah have decided that there has been sufficient interest to do another run of the PHG NSWR guard's van. An advertisement will appear shortly and a modest deposit will be sought from those interested in ordering one of these kits. It is hoped that the price can be held to the same level as the previous run four years

Haskell/O-Aust/Bergs Hobbies

In a joint venture, *Keiran Haskell, O-Aust & Bergs Hobbies* have announced they are to produce a ready to run of the A. E. Goodwin NSWR 44 class diesel electric in brass. They hope to have a pilot sample of the model ready to show by the time of the Sydney AMRA exhibition at Liverpool. At this stage two versions will be produced: the original maroon with chrome yellow and red lined paint scheme and the unlined "austerity" scheme. Body detailing variations will be based around these two paint schemes. Delivery is expected to be in the first half of 2011 and the price is hoped to be in the $2000 to $2500 range. All enquiries should be directed to Peter Krause of O-Aust.

44 Class

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A project jointly developed by:

HASKELL Berg's Hobbies O-Aust Kits

Initial Inquiries to Peter Krause O-Aust Kits info@oaustkits.com.au or 07 3298 6283

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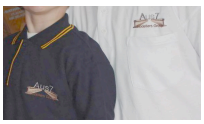
Merchandise



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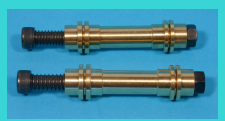

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