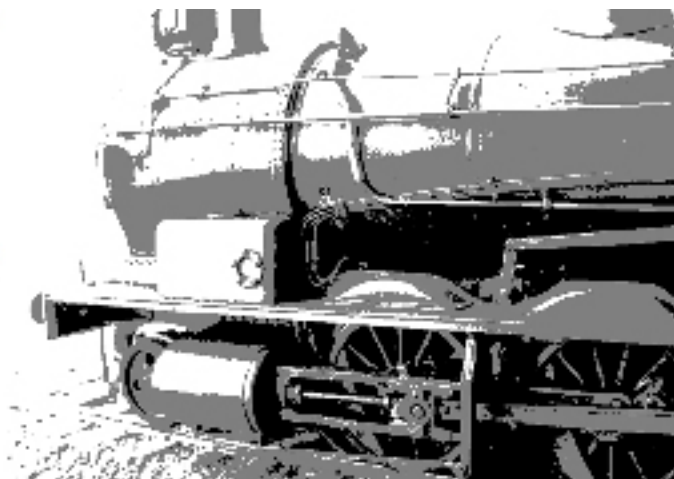


7th

Heaven



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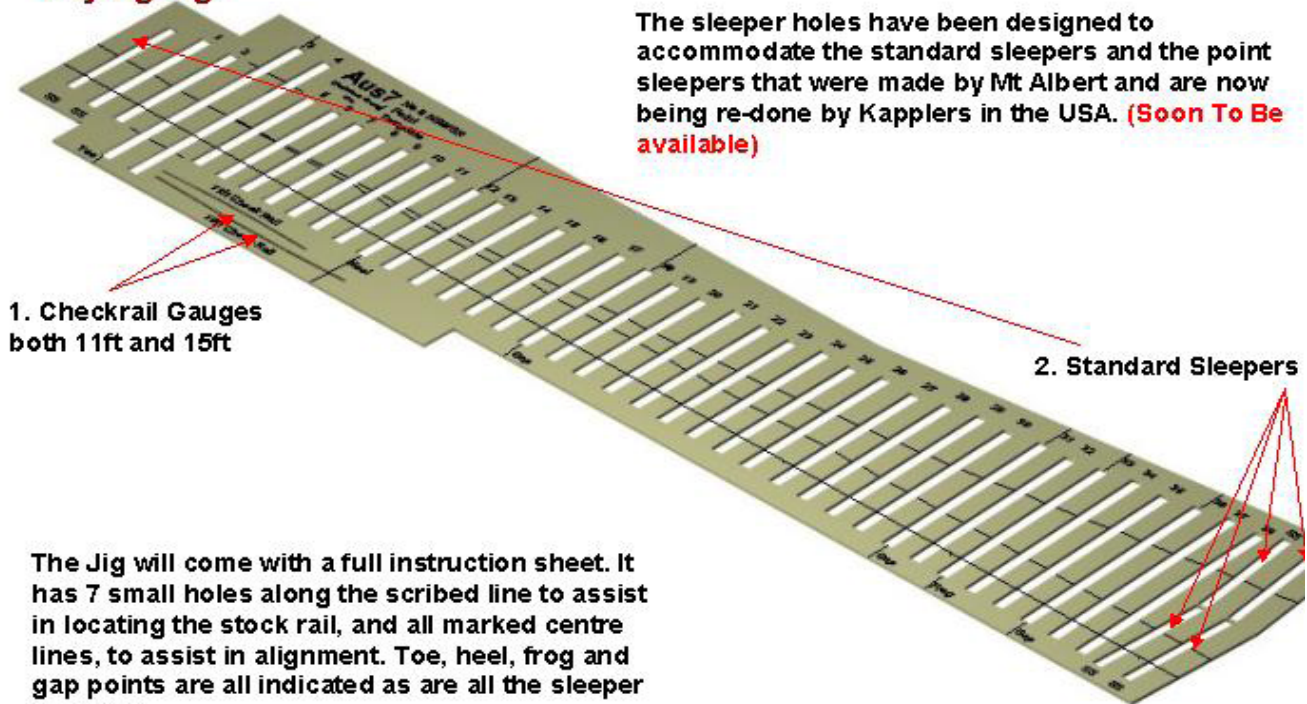
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Summer
2007

Aus7 Modellers Group Inc.

No 6 Point Sleeper Laying Jig



This No 6 point sleeper locating jig is a new jig to be sold through the Aus7 Modellers Group. The jig was laser cut by David Bennett in 1.5mm clear acrylic and will be available in late February /early March 2008.

The sleeper holes have been designed to accommodate the standard sleepers and the point sleepers that were made by Mt Albert and are now being re-done by Kapplers in the USA. **(Soon To Be available)**

1. Checkrail Gauges both 11ft and 15ft

2. Standard Sleepers

The Jig will come with a full instruction sheet. It has 7 small holes along the scribed line to assist in locating the stock rail, and all marked centre lines, to assist in alignment. Toe, heel, frog and gap points are all indicated as are all the sleeper numbers.

The Aus7 Modellers Group invites you to the

O-Scale Modellers Forum Saturday 5th of April, 2008

Planned Seminar Topics

- Photographing Models
- Modellers Talk About Their Models
- NSWGR U wagons – a short history

Plus

- Manufacturer Reports
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- Bring a model if you have one to share

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8.30 am sign in for a 9.30 am start



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

All memberships are due for renewal by June 30th each year, no matter what time of year you joined.

For details contact:

Roger Porter,

4 Bridge Quarry Place, Glenbrook, NSW, 2773

One Modellers Opinion

Trevor Hodges

Bite Sized Pieces

As a teacher I've always been interested in motivation. If anyone can tell me how to interest a group of 13 year olds in the function of the comma in a sentence on a hot, Friday afternoon at 2.30pm then I'm all ears. These days we hear a great deal about external motivation, the type offered by the latest US based motivational guru, but very little about the sort of motivation derived from the internal satisfaction of a job well done or a task completed to a high standard. As a modeller I'm interested in this type of motivation, simply because modelling is so often a solitary task and it's easy to be drawn away from the modelling desk by a swag of other alluring pursuits.

I've long believed that modelling has a momentum of its own; if you haven't done any modelling for well over 12 months you can be shocked by the state of your modelling bench and the difficulty you'll find in getting started. In that 12 months you'll find your super glue has dried into a solid lump and you can't seem to remember where anything is. Saying to yourself that the onset of Alzheimer's is an inevitable part of getting older only works up to a point; I used to be just as forgetful when I was in my 20's so what was my excuse then? It's at this point, when you realize that squandering your time on a Playstation is enticing you away from the modelling bench, that you need to look at what motivates you as a modeller and how you can set about getting back into the swing of things.

Modelling is like any pursuit; the more you do it the better you get at it. That kit, the parts of which have been sitting in an ice cream tub for six months, won't put itself together. While you have to make the decision to sit down and actually do some modelling, there are some things you can do to ease the path and make it a

little easier to get back into a rhythm. Here are my top five tips for getting back to the workbench.

No matter how small and unappealing the space is you should aim to get a permanent spot for your modelling. If you have to set up and pack away after each modelling session chances are you won't get very much done. The very best space is inside the house but we can't all have this. In spite of this you really should put some thought into a viable, permanent alternative. What you're looking for is a place where, if you put a tool or a model down on Wednesday evening, it will still be sitting there when you get back to it the following Monday.

Get some light on the subject. If you can't see you can't model so go for more light rather than less.

Make your modelling space as comfortable as possible. It's amazing what a small heater and a square of carpet on a concrete floor will do for your willingness to go out into the shed on a cold Winter's evening. If you're not comfortable sitting at your modelling bench then you're unlikely to spend much time there.

Think about the way you work and set your modelling space and time up to suit that pattern. Don't be afraid to vary a routine but be wary of the path of least resistance. I happen to model on one project at a time and I'm very reluctant to start anything else until a model is completed. I sometimes want to throw a particular project against a wall but it does mean I get things finished. Having ten projects on the go, but none complete, is a very unsatisfactory state of affairs.

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7th HEAVEN

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On the cover:

A scene from Stephen Reynolds
Tyler's Crossing. For more photos
see page 10.

Modern Methods in Scratchbuilding

Michael Tingay and Peter Manning



Modeller Michael, a retired medical specialist, has been building kits in O-scale for over 30 years. Draughtsman Peter received his initial training at The Horwich Works of British Railways. When he retired from Australian National he held the rank of Rolling Stock Design Engineer. He still performs consulting work. He is well known for his locomotive plans which often appear in "NARROW GAUGE DOWNUNDER" and "Australian Railway History". He is currently preparing a book on the history of Beyer-Peacock in Australia. Both authors are involved in 5" gauge steam.

Traditionally, a design office would have many draughtsmen working in pen and ink. Computers made this work slightly easier but it was not until the advent of 3 dimensional Computer-Aided Design (3-D CAD) that things really changed. The modern CHAY hopper waggon was drawn, measured, weighed and assembled by Peter on a PC in his study. As work progressed the digital data was transmitted to the designer, a mechanical engineer, who performed stress-analysis. When the design was finalised the data was set to a laser cutting firm and the components manufactured. At no stage was it necessary to produce traditional 3-view plans but they could easily be generated for the client and for assembly of the waggons. We thought these techniques would be useful to scratch build an O-scale model.

In order to build any model, there has to be three essentials:

- 1) Familiarity with the prototype
- 2) Drawing skills or access to accurate plans
- 3) An ability and knowledge of how to construct the model - i.e. do not reinvent the wheel.

Together we had these skills. Veteran Models¹ had introduced broad gauge kits and Michael wanted a SAR locomotive to go with them. We

settled on the SAR P class 2-4-0T, a typical Beyer-Peacock product. Hundreds of similar locomotives were built for railways around the world but these had plain axleboxes for the leading wheels and used Stephenson valve gear. The P class differed from their numerous cousins as CME Mr Thow stipulated a radial axlebox and Allen straight link gear. Peter had the General Arrangement (GA) and some workshop drawings, P117 has been preserved and wheels were available. It also had inside cylinders and only two coupled wheels. It appeared to be a simple engine to build.

GA and Workshop drawings had been obtained by e-mail in TIFF (a high density bitmap) format or PDF from Islington² and Manchester³. The detail and accuracy is incredible. They are to a scale of 1:8 or full size. Do not attempt to reduce them on a photocopier as fine detail will be lost.

Detailed drawings used by craftsmen to construct the prototypes are now held by museums and archive departments. They are not only readily available but have been digitised for easy transmission anywhere in the world. Furthermore, they are readily imported into a CAD programme to be converted into vectors. A vector is a line which has length, direction, shape

and position; it does not have width, this is set by the computer operator and remains constant regardless whether the vector is scaled larger or smaller. Thus plans can be made smaller without loss of detail.

Peter imports these plans into "Solidworks"⁴ a 3D CAD programme. For preliminary design Michael uses "TurboCad"⁵ at a fraction of the cost but it is nowhere near as good for "mating" components and rotating and will not import TIFF files. We are assessing "SketchUp" a free download from Google - it has limited export options and will not export 3-D files but seems easy to use and will export 2-D TIFF files. Peter does this by tracing over each component in 2-D first. He then creates them as solids in 3-D by giving thickness. He can then reassemble the prototype at full size although the image is sized to fit the screen. Figures 1 and 2 show the detail one can obtain using this method. This "model" can be turned, sectioned and even put into motion - very handy when designing the valve gear for a miniature live-steamer. We turn it upside down and scale it to our model size. We have already created files for wheels, bearings etc. and we can then put them on our model.

Fig. 1

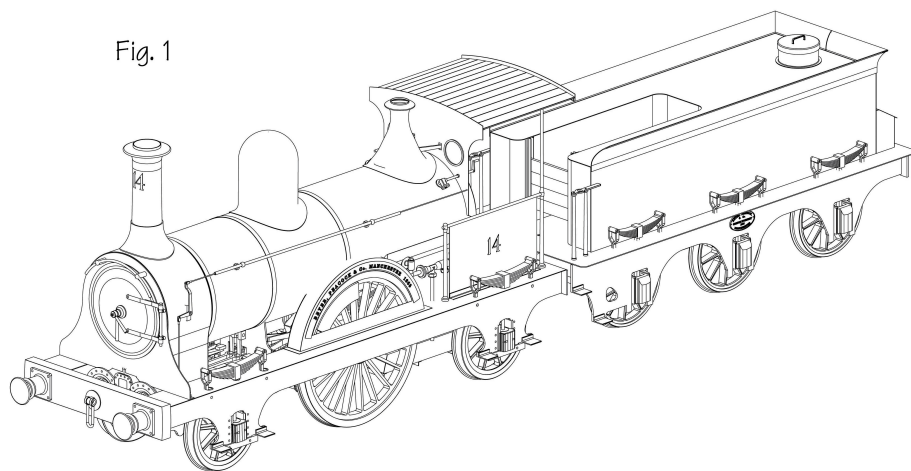
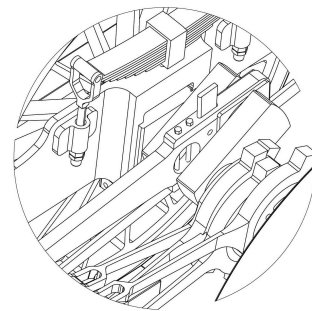


Fig. 2



Close View of Main Axlebox Horn
forged as part of Inner Frame -
NSWGR 'T' 14 2-2-2

As an example we are currently working on a SAR V class NG locomotive at a scale of 1:48 to run on S-gauge track. The crossheads, guides and cylinders of Slaters⁶ Manning Wardle Class F are very close to a V class in 1:48 scale if one ignores that the F has 7 bolts in the cylinder covers whereas the V has 8; fortunately only 6 are visible below the buffer beam. Fig: 3A shows the actual V drawn to scale but with 00 wheels regauged to S scale on the rear axle. Note how the boss on the back of these wheels cuts into the main frames and how close the drive rods are to the faces of the wheels.

In Fig: 3B (top half) Peter has put in model wheels on both axles, moved the frames towards the centreline and inserted the Slaters' components. The

clearance between the leading crank pin and crosshead is only 0.1 mm, so no room for side-play. In the bottom half of Fig: 3B he has moved the cylinder / connecting-rod out to give a clearance of 1.5 mm. He does this by using the dimension tool. A figure appears in a dialogue box and this can be changed. The skill is determining which item has to be fixed - it is of no use changing a negative (or overlapping) dimension between wheels and frames if the wheels move outwards instead of the frames moving inwards. We also see the out-of-scale gap (2.8 mm) between the rods on the rear drive-pin. We can then put in the slots for the cylinder-frames to mate with the side-frames (exploded in Fig: 4). Whilst these changes are well known to experienced builders, it is the ease in which the exact distances

can be determined before a single piece of metal is cut. It is also easier than trying to build a cardboard mock-up.

We had two major problems with the wheels on our P class. Firstly, although the wheels are exact scale, the flanges were oversize and would make contact with the front and rear walls of the side tanks, There were no smaller wheels with the correct number of spokes so we had a choice of shortening the wheelbase (would also mean moving the dome and 2 boiler bands), lengthening the tanks (would make the entrance to the cab too small) or lowering the wheelbase (looked wrong). These ideas were tested on our "model" and finally we had a compromise based on all three. The front tank wall was moved forward 1.5 mm, the rear unsprung wheel forward 1.0 mm and the wheel base lowered 1.0 mm. The differences are hardly noticeable.

The second problem involved the Back-to-Back wheel measurements. The boiler scaled at 28 mm and the tanks were nearly 30 mm apart. Clearly the wheels would not fit. Reducing the boiler diameter by more than 1 mm did not look right but we tried a diameter of 27 mm and made the tanks slight closer to the boiler i.e. the tanks were 28.8 mm apart but were to be of 0.5 mm brass - even without side-play the wheels would still foul the tanks, so we cut gaps in the inside wall of the side-tanks (Photo 1 - you may also make out some tabs and slots and the tube on the rear cab wall). Whichever way we viewed the model, the front gap was not visible but the

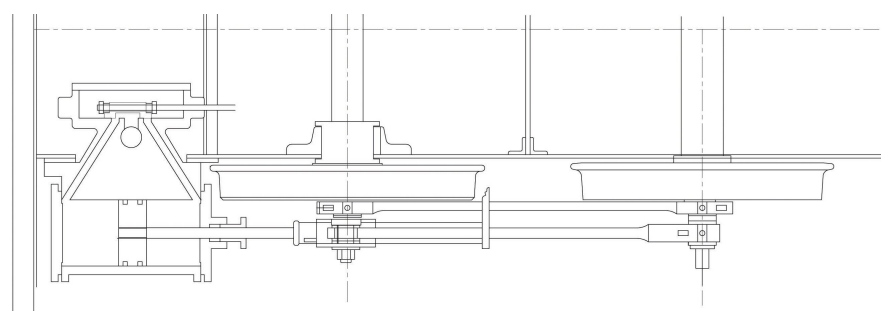


Fig: 3A

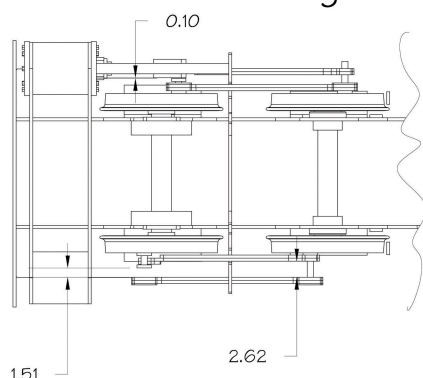


Fig: 3B

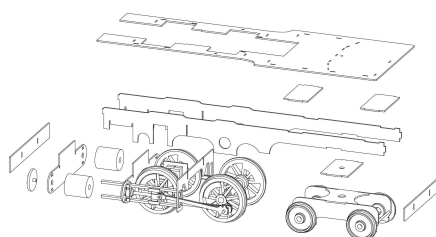


Fig 4

rear one was a different story. Finally we decided to sheet this over with thin styrene - the clearance from the wheel face was 0.2 mm and any wear in the rear bearings would cause this wheel to make contact, so brass was out. We also noticed that when we narrowed the distance between the tanks, they would interfere with the fire box (not visible in front of the cab) so this was narrowed to keep everything in the cab in the correct proportions.

We had settled on brass as our construction material. The debate over the thickness of major structural components (Michael wanted traditional 1/16 inch or 1.6 mm, Peter thought this was too thick) was settled when Michael visited his friendly neighbourhood laser cutter. He was happy to handle a small job at standard rates provided our job was done in conjunction with a commercial brass job and used the same material viz. 1.2 mm thickness - he would handle other thickness but we would have to supply it or he would bill for the minimum that his supplier provided plus there was extra programming. There would be a small one-off computer fee if we supplied the programming. He gave the following advice:

1) Keep the components attached to a fret or they could get lost in the waste scavenging

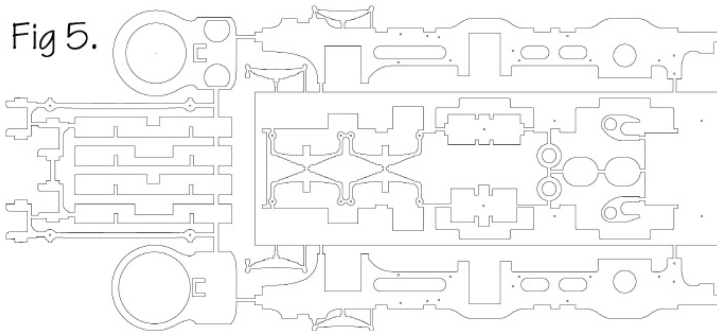


Fig. 6

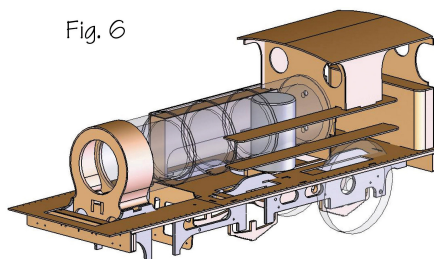
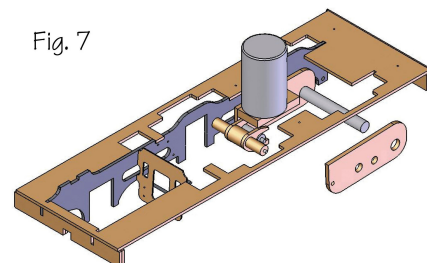


Fig. 7



2) Avoid small holes - use the laser to spot a 1.0 mm hole and open out with a drill or reamer, larger holes should be slightly undersize and reamed to size.

3) Draw both left and right handed components. The intense heat used to cut can cause small pits on the cutting side and this side should be hidden on the model.

4) The same heat may cause bowing of long, narrow components.

5) There was no need to allow for the thickness of the cut as he would programme into the computer the necessary offset

6) Save as a .dwg file (Fig: 5)

We also obtained invaluable advice from Veteran models and our Etcher, Model Etch⁷, also a friendly neighbour.

These problems under control we finished the basic bodies (Fig 6, in which we have hidden some of the left side tank and made the boiler in glass). We use the plural as Peter's model is of the original design whereas Michael's is as running in the 1950's. We did Peter's first and a copy was rebuilt with all the variations added over the years. We mimicked the SAR.

Now we had to power our model. This was remarkably easy. Slaters and ABC⁸ have drawings on their web sites and these are readily imported. Likewise Ultrascap⁹ and NorthWest Short Line¹⁰ publish full details of their gears if you have to construct your own gearbox. We chose an ABC mini 3-stage gearbox with Maxon 16 motor and reconstructed this in "Solidworks" and inserted it into our model. Fig: 7 is a skeletal view in which the left main frame is hidden and the left side of the gearbox has been pulled to one side. This clearly shows how the motor-gearbox unit is attached. The front slips into 2 lugs on a shaft but this coincided with a cut-out in the frames. It was a very simple matter to change this and as the front edge is behind the wheel, it is not obvious. Note also how the valance is a solid sheet and how it interlocks into

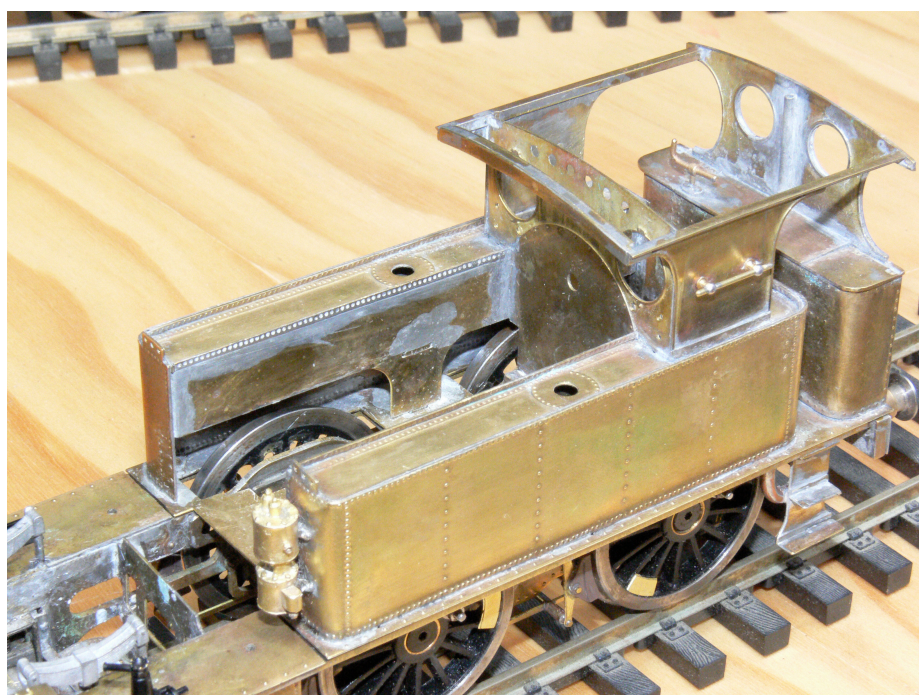


Photo 1

the right frame. Likewise note how the buffer beams lock onto the frames; the joints will be covered with a detailed etched layer (Photo 2.)

Having assembled our “model” we could look at its construction. Butt joints are out - they are inherently weak and are difficult to locate accurately. We decided all joined components must either interlock (1.2 mm brass) or have tabs and slots (0.5 mm brass). The advantage of 3D CAD is these can be generated in situ. We added the tabs and put the model together. On the screen we can see where the tabs say of the cab project through the floor. By looking at the view from below we can see where they project and these can be drawn onto the floor base. This component is isolated and slots “punched” through - accuracy is guaranteed. Photo 3 shows the top surface of the footplate. Note the etch to take the 10 BA nuts for the bolts for attaching the body to chassis which have been accurately located in-situ with the holes in the valence plate. Note also the slots. Unfortunately, on our SolidWorks model we did not put in the motor terminals and wires from the pick-ups and allowed only a 1.0 mm clearance around the motor so when Michael tested the rear footplate on our assembled chassis, he found he had to get out his piercing saw and enlarge the central hole - see next Photo. Moral: do not assemble a body before you have a running chassis. Photo 4 shows the underside of the same plate after the superstructure has been added. The row of slots with connecting groove marks the rear of the original footplate before the extended bunker was added in 1945. Note the exact fit of tab and slots. Side tanks, rear spectacle plate and coal bunker are shown. The front spectacle plate slotted into the inner sides and tops of the tanks and the cab sides slotted into the tank tops. The inside joints between the cab front and sides were reinforced with brass tubes instead of angle iron as on the prototypes (Photo 5 - which also shows the narrowed backhead). The same to the centre of the cab rear (Photo 1). These tubes are to take wires soldered to the underside of the roof so that it can be removed (hint - make these wires of different lengths so they can be sequentially inserted).

At any stage a few mouse clicks will generate traditional 3 view plans e.g. the boiler for Michael to turn from brass tube (Fig: 8). Likewise when we have finished, it is easy to produce an isometric view with accompanying layout of the components which can be individually transferred to “AutoCad”¹¹ a 2D-CAD programme for detailing and arranging onto the sheets that would be sent to our etcher.

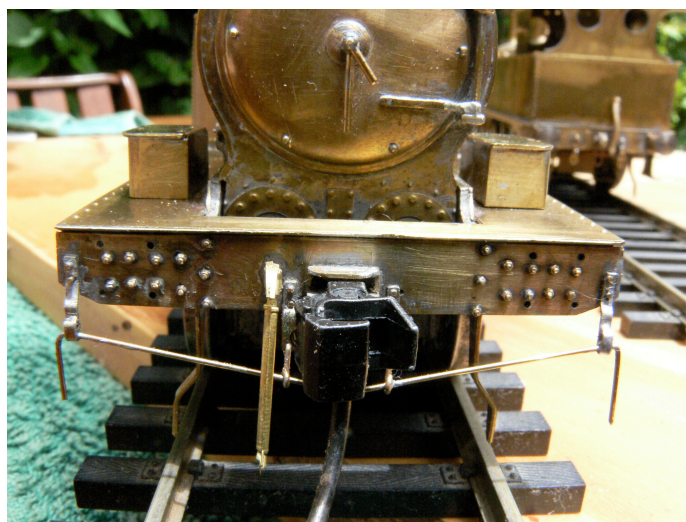
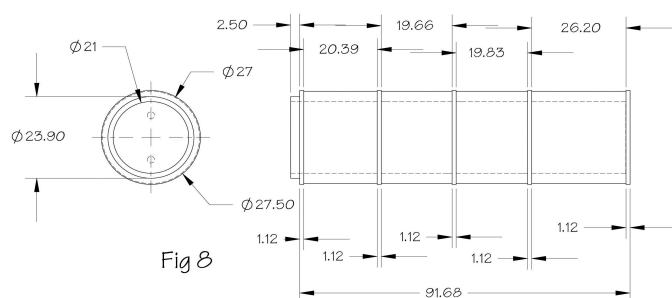


Photo 2

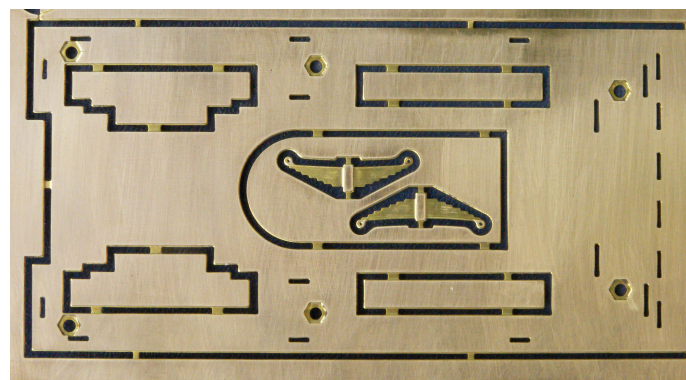


Photo 3

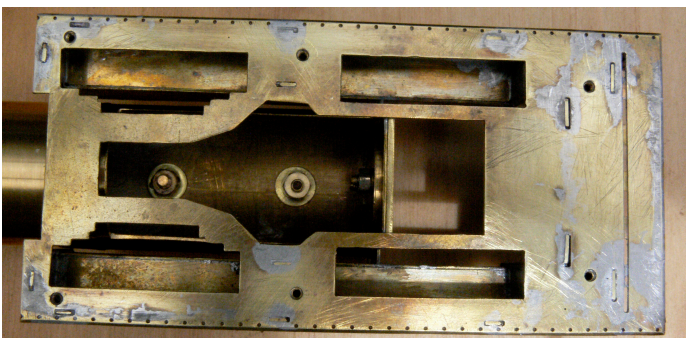


Photo 4

onto a shaft which is pinned to the frames by 1.0 mm rods. Michael assembled this shaft loosely on the frames so that he could rotate the shaft to get the motor vertical before soldering it in place. It took 5 evenings to have 2 chassis running (Photo 9). Nothing, except making funnels and domes, could be easier. Definitely much easier than all the fiddly work necessary to make the superstructure. We cannot understand why some modellers and a lot of kit manufacturers consider chassis making a “black art”. You buy the wheels, axles, bearings, pick-ups, motor and gears - all you need is an accurate box to hold them and the tools for this are now easily available in the digital age. We believe this box could be made of styrene provided **the joints are interlocked, cemented and pinned** (drill 0.5 or 0.8 mm holes across the joints, glue in pieces of brass rod and file flush). Unlike brass, most laser cutters will work with plastics but water cutting is another option. Valve and brake gear is just detailing like handrails, cab fittings etc.

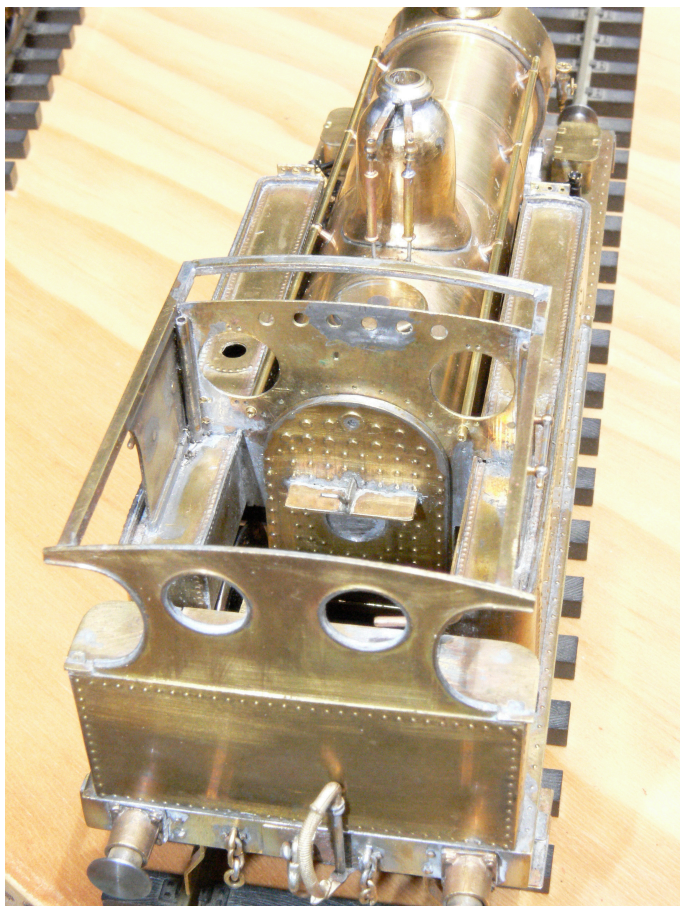


Photo 5

Detailing the components for etching took some time mainly because Peter returned to full-time work with the CHAY and Michael had to work on his live-steamer. However Michael had time to make the boiler and fittings. He also assembled the frame for the smokeboxes (Photo 10) and ordered in castings from Slaters and Precision Scale Co¹².

Many articles have been written of preparing artwork for etching and we took advice from them especially "Photo Etching" by King & Watkin¹³. Veteran Models and ModelEtch freely gave us advice and we won't go into detail here. If it wasn't for the bends in some pieces, the body would have gone together as easily as the chassis. We did make an error in placing a line of rivets too close to an edge. Fortunately, they were "dimples" on the back for positioning the rivet press but it was tedious work redoing them manually. We now place "rivets" (actually holes in SolidWorks) on our "models".

This has been a thoroughly enjoyable exercise and Michael got a big kick out of getting everything to go together so easily, especially the chassis which needed no fine tuning. However this little locomotive is surprisingly complicated. Maybe we should have selected a 4-4-0 like his very first kit (CCW Models LMS 2P) e.g. SAR S class.

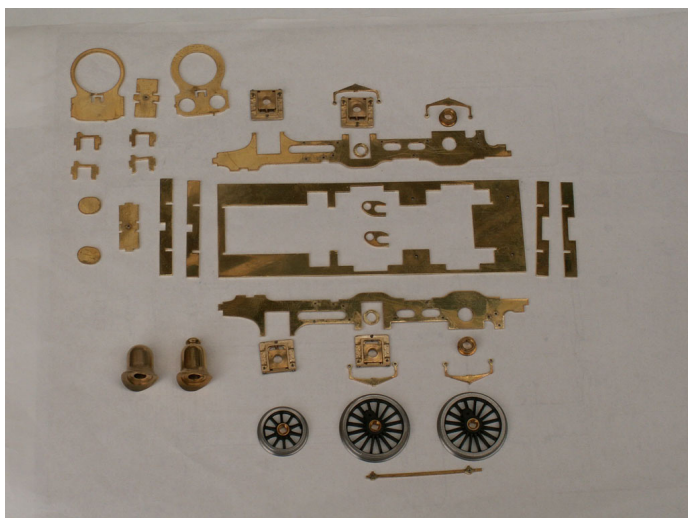


Photo 6

By now a FB flat waggon (the GA drawing is a rivet-counter's paradise as every one is marked) should be at the etchers and the design of the SAR Brake Vans well under way. The V is almost ready to transfer to 2-D but Michael is itching to get on with a Pacific but one thing at a time.

This exercise has made us very respectful of kit designers, some of whom come in for a lot of mainly unjustified criticism. Remember, they not only have to design a model but satisfy the skills and preferences of many builders. We only had to keep one happy.

Finally, there is the photo of the models to date. We apologise for showing models that are only 85% finished but we promised your editor this article in 2006.



Photo 7

References:

- 1) http://www.users.bigpond.com/swarm_leeder/
- 2) <http://www.inprotrans.com/>
- 3) <http://www.msim.org.uk> (follow links: Collections and Research > About the Collections > Information Sheets > Companies > Beyer, Peacock & Co. Ltd)
- 4) <http://www.solidworks.com/>
- 5) <http://www.imsisoft.com> & <http://www.turbocad.com>
- 6) <http://www.slatersplastikard.com/>
- 7) <http://www.modeletch.com>
- 8) <http://www.abcgears.co.uk>
- 9) <http://www.ultrascale.co.uk>
- 11) <http://www.usa.autodesk.com>
- 12) <http://www.precisionscaleco.com>
- 13) available from <http://www.ameng.com.au>

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Part 2 describing how Michael turns boiler fittings will be published in the next issue.



Photo 8



Photo 9

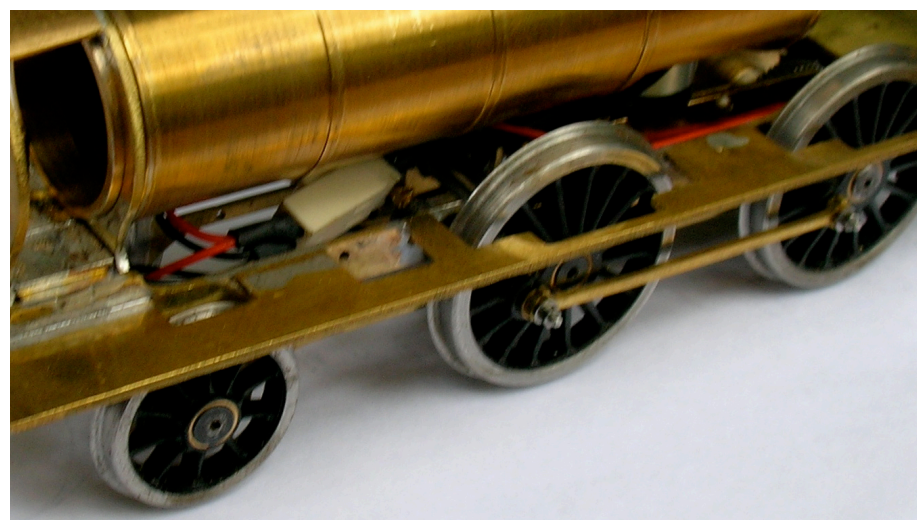


Photo 10

Beware of using Line Drawings or Load Diagrams.

The SAR and others made these available to modellers at a very reasonable cost but readers of SAR construction articles in the AMRM may recall the frustrations of the authors over their reliance on these drawings. These are published in 3.5mm=1 foot or 1/4 inch = foot but their main purpose is for use by train and station personnel i.e. identification, weights and dimensions. In the days before photocopying a draftsman was not going to waste time drawing a detailed, accurate plan when all it was to be used for was whether the train was the correct length to fit a siding and whether the locomotive was of sufficient power.

The figures for weights and dimensions are accurate. Sometimes the errors are obvious (a P class with sloping smokebox and extended bunker) but often the mistakes are more subtle (wrong radius for roof curvature, extra beading on a brake van). Michael models in "0" scale because he wants more detail and more accuracy and these diagrams are inadequate for this. Their only use today is as a catalogue.

Tylers Crossing

Modelling Stephen Reynolds - Photos Trevor Hodges

Right : O' Tools Garage is part of a smaller diorama that featured in 7th Heaven. Issue 10 Like all the buildings on T.C. it is scratch built.

The crossing gate was constructed following an article in Australian Model Railway Journal Number 6. A mixture of both Balsa and Basswood was used in its construction, as was the picket fence. Both are painted with household flat plastic paint. The gate still waits for fine detail to be added.



The road and footpath also come from plaster castings of my own moulds.

The figures are mostly Mountain Blue Miniatures. The canvas roll-up-blind is from a material not commercially available that was painted and the same stencil used.



Left : The butcher's shop, again scratch built, following photos of the prototype. The brickwork comes from a plaster casting of my own moulds. The sign is a stencil.

Below : The G1 good shed is scratch built. It has a removable roof and a full timber frame as per the prototype. The post and rail fence is a Waratah Models white-metal casting. The trees are constructed using a method that will be described in a future article.



The S wagon is a Waratah Model Railway Company kit. It was heavily weathered following a photo of the prototype. It is not completely finished with some detail missing. Maple is the timber used for both the telegraph pole and the track sleepers.



A Different MLV

Paul Chisholm



Picture this in your mind if you can; a suburban electric train, single deck open door variety, coloured red, running express from Redfern to Strathfield on the suburban line. Suddenly the paper-reading commuters are awoken by a disturbing growl. There, looming alongside on the parallel main and slowly overtaking, is a 44 class diesel running number two end leading. Behind follows a motley collection of louvre vans. We have just encountered what in those days (late 60's) was called a "fruit express", in this case returning empty from Darling Harbour to the North Coast for another load for the Sydney Markets. Amongst the vehicles one stands out as a little different. It is rather smaller and has a "fish belly" underframe. Even though coded MLV like most of the others it has a special appeal.

Forty years later a no longer young rail enthusiast and modeller who was travelling on that suburban electric resurrects a mental note made then that one day he's going to build a model of that van. Well I have finally done it, though in O scale not HO, as I expected at the time.

This is a fairly simple project which will give you a different style of louvre van with little effort. For me the stimulus was being given two partially completed Waratah LV vans. I really had no need for these but one day while pondering them I was struck by the similarity between the bodies and the long remembered MLV. By comparing photographs and diagrams it was evident that the MLV was in effect almost identical to two of these vans mounted end to end on the fish belly underframe. About the only thing missing was the diagonal bracing running from the top of the body to securing points on the underframe.

Of course the real vans were not built this way but were rebuilt from older BLV vans and fitted onto the "fish belly" underframes built by Tulloch in 1957-8. Some were given 2AE riveted bogies and others a 2AP Bettendorf style. They had tare of only 21 tons and a capacity of 24 tons. They were all originally fitted with a raised corrugated roof but by the mid 60's many had just plain roofs. (Reference

– Railway Freight Wagons of New South Wales – John Beckhaus. 1970)

The only real scratch building part of this project is the underframe and the roof. For the underframe I could not find any suitable diagram or measurements so relied on judgement from photographs to construct the fish belly side members from styrene. These were marked and cut out and a strip edging attached top and bottom. Cross members in suitable locations for supporting brake cylinder and for mounting the bogies were estimated from data available from other similar vehicles. The buffer beams were the castings that came with the original kits. Waratah automatic couplers and buffers were fitted.

I wanted to have the 2AP bogies but there is no such thing available commercially. Close examination of photographs shows very little difference between the Waratah 2BR bogie and a 2AP. The latter has a slightly curved top edge compared to a straight line for the 2BR. This was easily overcome by careful filling of the Waratah bogie. Slaters disc wheels

were fitted but spoked would be acceptable as well. Other underframe details were castings from the bits box, all readily available commercially if you have to go and source them.

The body itself was made by joining the sides of two vans end to end and reinforcing the joint behind. Careful work here will result in no filler at all being needed. Two of the existing ends were used. Styrene sheet and strip was cut and attached to form the

cross bracing which is a distinctive feature of these vans.

Some of these vans had a plain roof, others a raised, corrugated roof. Although a bit more work is involved I decided on the latter. This was achieved by forming the first roof from the original kit parts. Three strips of styrene were then glued along the centre and outer edges. Corrugated iron was then cut, curved and glued in place. Batten strips were attached.

The vehicle was air brushed and lightly weathered. The code board was made up on a computer, printed out and glued to a panel attached to the side.

While probably not accurate to the last rivet this kit bash does result in an impressive vehicle which is quite eye catching in its difference to the more common louvre vans and certainly is very close in all major dimensions.



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Photo Trevor Hodges

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O-Aust BCW Construction

Mick Moore



I decided to kit bash an O Aust BCW kit. I wanted to make the third series in the 1959 contract group which were converted from BSV's that were surplus to needs. All measurements in this article are in scale feet. To make the same kit bash I did you will need a packet of Evergreen strip styrene (#166) .080x.125 (2.0 x 3.2mm) and a sheet of .020 thick V groove styrene with a spacing of 3.2mm (#2125) and some thin scrap, enough to make up eight 6" x 9" rectangles, these are for the diagonal brace supports plates. Use whatever glue you would normally use to fix styrene to the cast polyurethane material. I use Zapp (Zap-A-Gap CA+) superglue which I find still works fast in humid conditions. For styrene to styrene use what ever you find works best for you. Get yourself a couple of pictures of the prototype, it helps a lot.

I needed to fabricate new ends and lift the roof supports so while I was at it, I replaced the roof. I used a sheet of Slaters O scale corrugated iron, which is easy to work with. You could also

use the brass corrugated iron Waratah provides which is a little more robust than thin aluminium.

The side on the unmodified kit is 7' 2" high, you need to increase the side height to measure 8' 3". You could remove just the rail that the roof sits on or, as I did, remove the entire support. I found it easier and stronger than trying to hide any ugly butt joints. With a razor saw or sharp knife remove the nine roof supports from each side. Cut ten pieces of the strip styrene 2' 8" long, eight pieces of stripe to 2' long and two pieces of stripe at 36' 3" long being the horizontal roof supports.

Secure the side down making sure the bolt detail is face up. Secure the side down in whichever manner you find the easiest, glue it, tape it or bolt it down. I use styrene strip glued down in layers so it pins and holds whatever I'm working on in place. Lay a straight edge on each end to use as a guide for the new roof supports. Fix the two (one 2' 8" and a 2') outer roof supports in place with super glue first. Place a

weight to prop against the new support to hold in place while it sets. With the two end supports fixed in place fix the 36' 3" horizontal roof support into position. Place a straight edge running along the top then position and then glue the rest of the roof supports. The idea of the straight edge on top is in case you cut the supports either too long or you have to pack them because they are a little short. The prototype has a bar placed above the gate. Fix the bar over the gate and at this point refer to the kit instructions for the rest of the bracing. You can fix the two top bracing plates now refer to the instructions for their location. The other two have to be fixed when the chassis is married to the wagon body.

The kit sides have a cast bar and by removing the uprights you will have to replace the bar, the kit has enough brass rods to do the trick or you can use styrene rod. You will need to fix a pair of bars on either side - refer to prototype photographs - they cannot be fixed while the side is fixed down. Fit the horizontal brace and decide



whether you intend having the bracing on the inside or the outside; again refer to any reference material you have. For the outside brace you will have to fit them after you place the body onto the wagon chassis. That should just about finish of the sides.

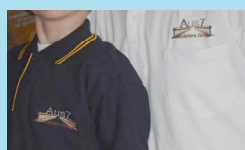
The ends are even easier to fabricate. The width of the wagon, be it the BSV or the BCW, is 9'. The width of the new end piece is 8'. I cut a piece of sheet 8' 3" high and 8' wide. The reason for an 8' wide end is after you marry it with the sides (each side is about 6" thick) you get a total width of 9'. Find the centre of each end and fix a piece of styrene strip vertically as the centre support. From the middle of the centre support, mark 1' 3" either side at the bottom and mark 1' in from the each top corner. Lay the diagonal supports centre to the marks, with the two diagonal end supports make them a tad longer about 9'. You can trim any overhang later.

Being old sheep vans there are two sets of outer boards consisting of either three or four board widths on each end. You can decide on how many you are going to use depending on the reference material you have on hand. These layered boards were for ventilation of the floors of the wagon. I used the four board version and these were glued in place, five planks up from the floor of the wagon. The other was at the top flush with the roof support. Depending on the amount of work you want to put into it you can either cut these four pieces at 8' for a flush fit or as in the references 8' 6".

Fit the sides and ends together making sure of a nice clean fit then put the roof on, finish the model as per the rest of the instructions with as much or as little detail as you like and bingo, Bob's your uncle. Reference material used came from September/October 1975 and December 1995 issues of AMRM and an extract from the Australian Journal of Railway Modelling (#9, page 23).



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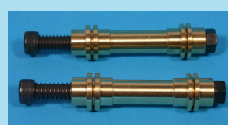
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A Modelling Stand

Ray Rumble

Further to Trevor Hodges' recent article "A Place For Everything", I took note of his previous article some years back and built a similar bench, hutch and overhead lighting. It works extremely well.

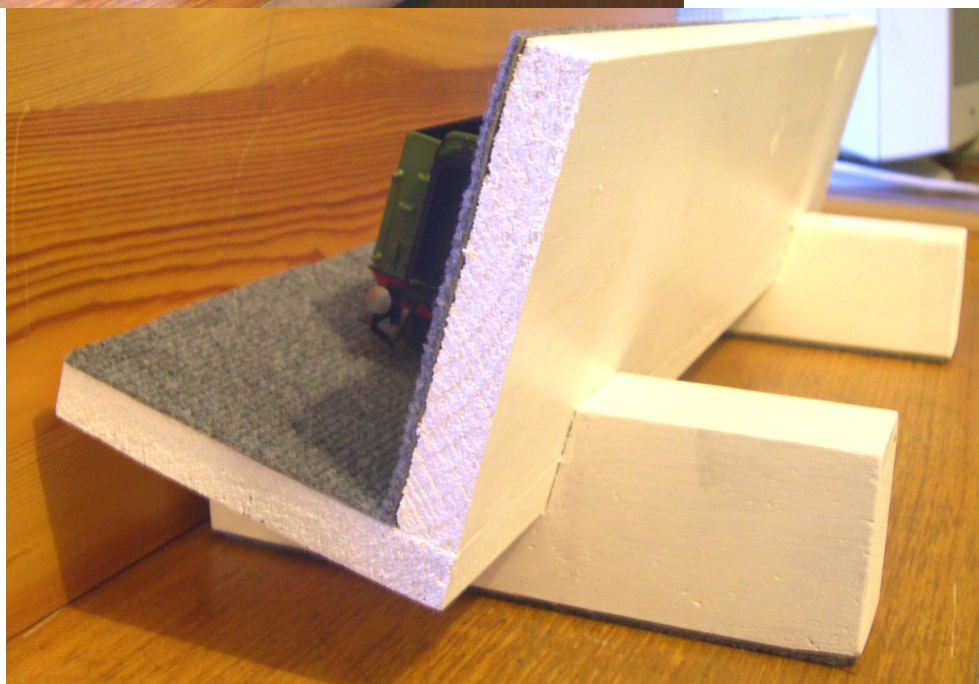
I have built another small aid to support bench work, a simple laid back stand that can accommodate assembly of models as they grow with a soft carpet finish that saves damage along the way. I don't claim this as my idea as I first witnessed a similar stand when viewing a DVD of a series of instructional sessions on kit building

by renowned professional UK kit builder Tony Wright.

It is simply 2 pieces of scrap pineboard, screwed together at right angles, then support legs of two scrap pieces of 70mm x 45mm pine frame timber. The two 19mm pineboard pieces measure 60mm x 130mm glued and screwed at right angles. The two support legs are scrap pine used in house frames with a checkout of 130mm length at roughly 30 degree backward angle to allow the floor of the support to lean back for easier manipulation and support of the model.

The "soft" covering could be anything from glued-on felt or rubber to what I used, a couple of leftover rubber backed carpet tiles glued on the floor and back support. A coat of paint and presto, a good solid stand for working the latest kit bits or scratch building project.

The stand could be made smaller or less chunky if you wished. I arrived at my unit size to accommodate both a loco/carriage plus tender length.



Caption Competition

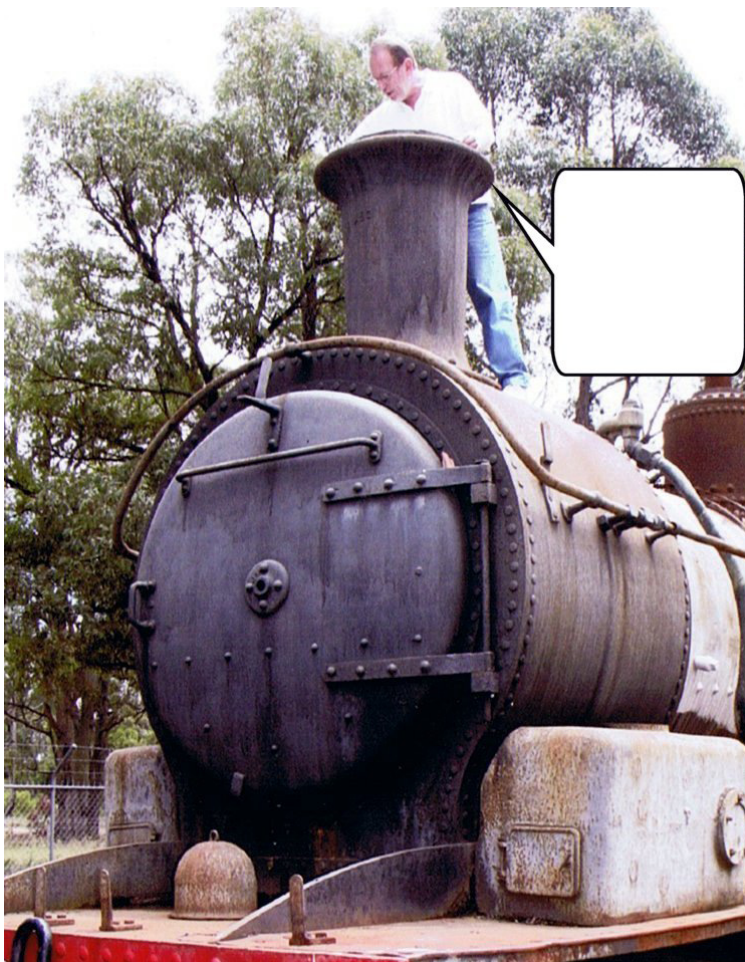
Ever the one for prototype detail Paul Chisholm spent some time recently running a tape measure over a D50. Unfortunately for him an Aus7 spy was there too and snapped this photo.

We thought it might be fun if members came up with a caption for the accompanying photo. The winning entry, to be judged by the editor will be in the running for a small prize. Forward entries to the Editor Kim Mihaly care of the contact details on page 3 before April Fools Day.

The prize, a set of O-Aust white metal bogies.

The subject of our photo Paul Chisholm has graciously agreed to judge the winning entry.

The winner will be announced at the NSW O-Scale Modellers Forum on April 5



One Modellers Opinion

Don't be intimidated by the size of a project or the quality of someone else's modelling. If you're the owner of an un-built Century Models 50 class locomotive kit, don't be intimidated by that friend who is currently building their third (you know who you are). If you've ever seen Stringybark Creek in the flesh you'll be well aware of just how enormous it is. The question that crosses my mind every time I see it (and there are some bits of it sitting out in my shed as I write this) is "how the heck are we ever going to make enough trees to cover that vast acreage?" The simple answer is to get started and make some trees, but it's also imperative that you break the project down into small, achievable "bite sized" pieces. Edmund Hilary and Tenzing Norgay climbed Mount Everest one step at a time; it was only when they looked down from the summit they would have realized how high they'd climbed.

Happy Modelling.

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Keiran Ryan Models

Keiran Ryan, *Keiran Ryan Models*, 39 Coachwood Cres, Picton, NSW, 2571, (02) 46772462, krmodels@gmail.com & www.7mmkitsnbits.com have announced that the planned NSWGR standard lower quadrant signal kits will be available for sale at the upcoming April O-scale Modellers Forum. Components will be of etched brass, white metal details and a laser cut timber post.

Keiran is investigating how a modeller might light and motorize these signals. He will report on the results at the upcoming April Forum.

The KRM ladder building jig is being re-worked to make it a little longer. This should result in a better value for money product.

As a result of a discussion on the 7mmAusmodelling Yahoo! group Keiran has produced a point timber sleeper laying jig for a #6 32mm gauge point. The jig, details of which can be found on page 2, has been financed as an Aus7 product. It will be available to members at the retail price of \$17.50 and to non members for \$20.

The 20 class project is progressing well and parts will be available for viewing at the April Forum. Keiran is determined that the 20 will be released

O-Aust Century Models 32 Class - pilot model

by the end of 2008.

O-Aust and Century Models

O-Aust Kits/Century Models can be contacted at 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 anytime or on (07) 3298 6283 between 7 and 9 pm has announced that pattern work for the (C)32 is complete. A pilot model will be available for viewing at the upcoming April Forum and order forms will also be available at this event or direct from O-Aust (and Bergs) in April. The kit will include everything needed to build a model of the locomotive including wheels, motor and gearbox.

Pattern work for the NSWGR SRC is complete and the components for this kit are in hand. Release of the kit is subject to the completion of the instructions. Price should be comparable with that of the O-Aust CW.

Pattern work for the NSWGR LLV bogie louvered van will soon be complete and release will then be subject to completion of the instructions. A pilot model of this wagon will be available for viewing at the upcoming April Forum.

A pilot model of the NSWGR CR passenger carriage will be on display

at the upcoming April Forum. Release of this kit is slated for later in 2008.

The 3000 gal tanker project is on target for a release in time for the Oct Hurstville exhibition.

Pattern work is about to commence on a NSWGR MHG guards van. Release of this kit should be during 2009.

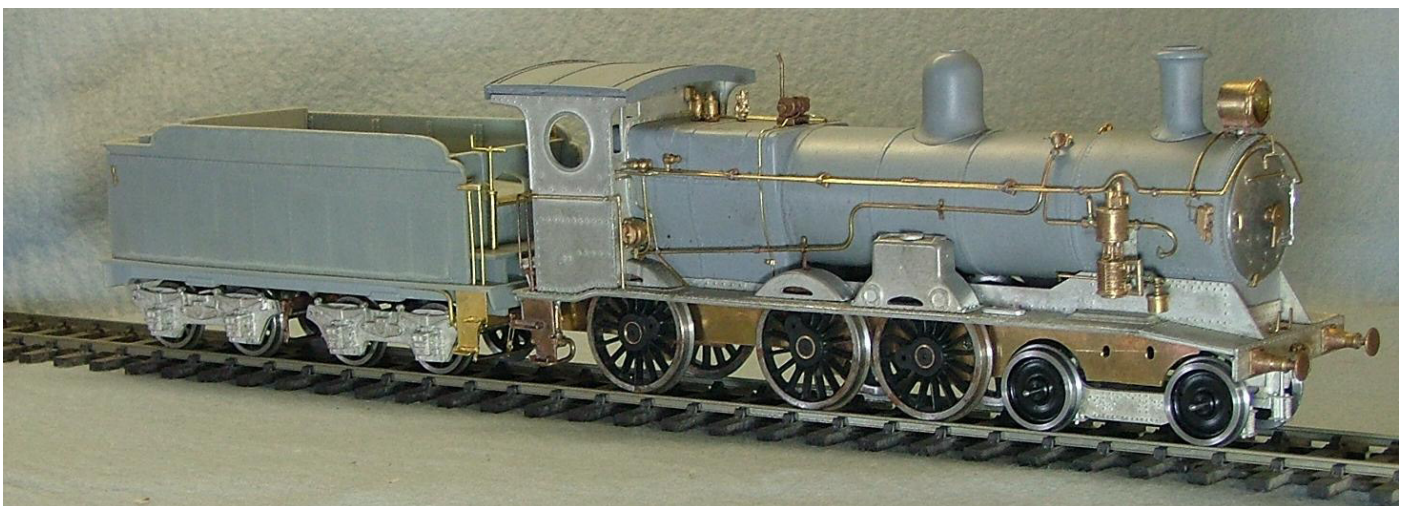
Pattern work has begun on all three versions of the LCL container. O-Aust is considering the viability of re-working its kit of the UME so a modeller can produce a model of an FME to haul these on.

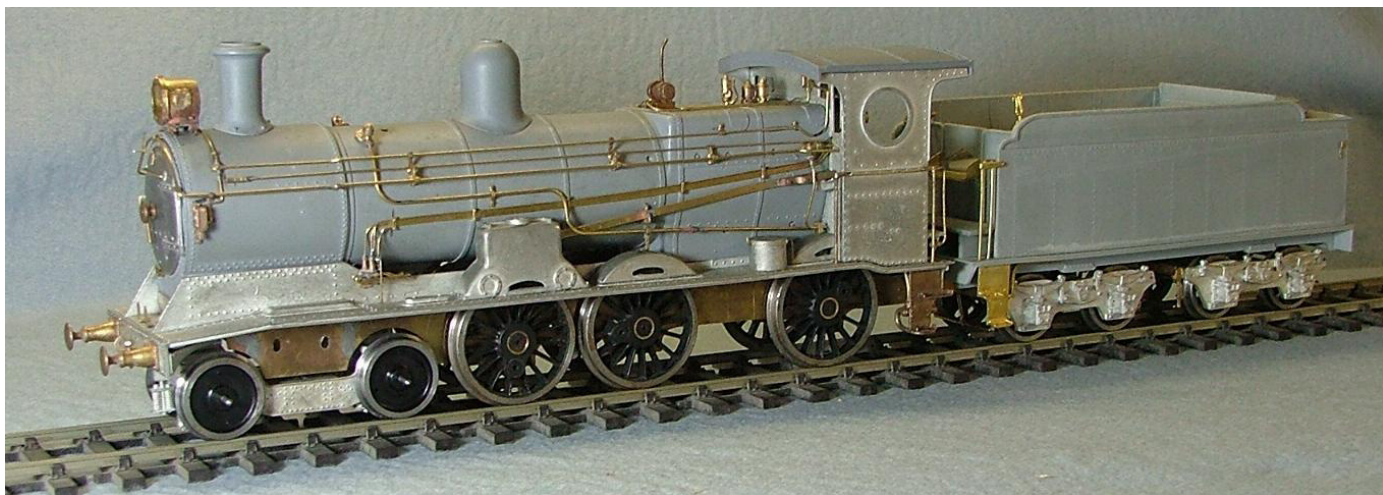
Prototype Model Engineering

Prototype Model Engineering (PME), PO Box 644 St Ives, NSW 2075, Ron Sebbens on (02) 9449 6605 have made the following announcements concerning their kit projects:

The (Z)12 class is progressing well. PME expect the first test etch within the next couple of weeks. All masters for castings are underway and PME are pleased with the way this model is coming together. PME thanks its customers for their patience after some unforeseen delays including the loss of a pilot model in the mail. Orders are still being taken for this kit.

The (C)38 class wheelset samples being produced by Slaters for PME have been approved and will be on display at the upcoming April Forum.





Potential customers who wish to order a (C)38 should do so before the kit is fully subscribed.

Orders for both the (T)14 and (AD)60 class projects are now being taken.

Waratah Models

Waratah Model Railway Company, PO Box 509, Revesby, NSW, 2212 (02) 97851166 charris@nigelbowen.com.au and waratahmrc@optusnet.com.au have announced that the NSWGR ICV van kit will be available for sale at the upcoming O-scale Modellers Forum in April. The kit features a one piece body casting in polyurethane making it a very simple

wagon to build. The instructions are over 15 pages in length, so long in fact that Waratah are having trouble working out how to fit them into the box. The kit comes complete with wheels, couplers, components for the double roof and a choice of decals. The price should be somewhere in the range of \$175 to \$185. There will be limited numbers for sale at the Forum after pre orders have been filled.

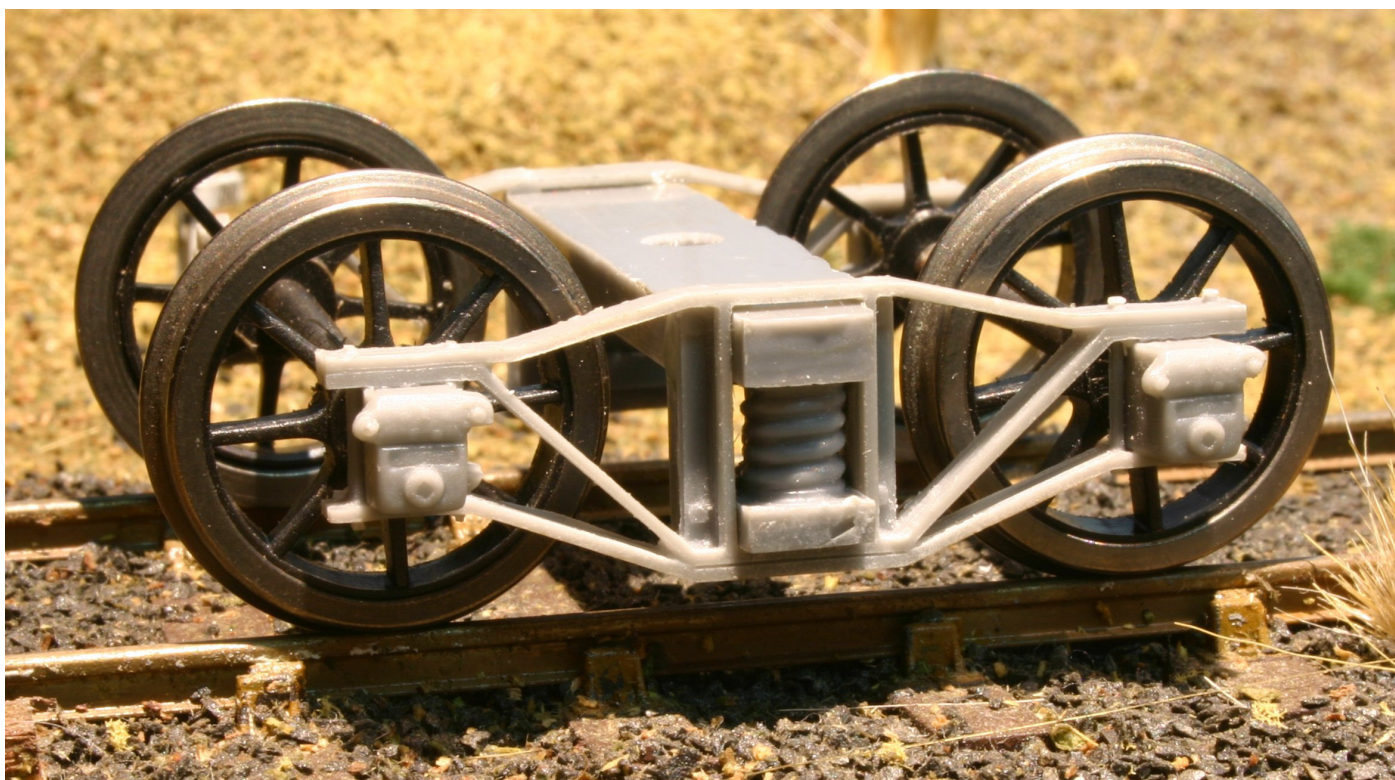
Waratah have announced that the kit for the U wagon will be available for sale at the Forum. This kit comprises the basic K wagon kit in addition to the required underbody and ridge pole detail needed to make up the U wagon. These wagons, used to transport wheat, were first introduced

O-Aust Century Models 32 Class - pilot model

in the 1920s and were second only in number on the NSW system to the ubiquitous S wagon. A model of these wagons should find a home on any layout of the NSW system.

Waratah are progressing work on the BD bogie flat wagon. It has been decided that the diamond bogies for these wagons, a polyurethane sample of which was on display at the last Forum, will be produced in cast brass.

Polyurethane version of Waratah's diamond bogie as displayed at the last forum



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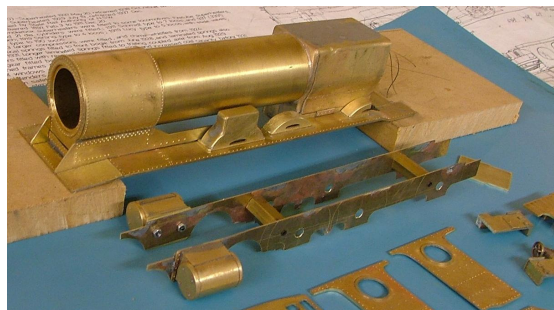
NSWGR BWH Wheat Hopper

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NSWGR ACM Branchline Sleeper

WORK IN PROGRESS



Pattern work for C32 steam locomotive

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