7th Heaven

Aus7 Modellers Group Inc.

Journal of the Aus7 Modellers Group Inc.
No 24

$7.70 inc GST
Summer 2009/2010

In this Issue:

Weathering
Bruce Lovett 4

W Irons and Axleboxes - Part 2
David Peterson 9

Servo Motors for Signal Operation
Keiran Ryan.....11

Newcastle
Ron Fox 13

Getting To The Point - Building 7mm Turnouts
Roger Porter 15

Showcase 16

Regular Columns
One Modeller's Opinion.....3
Commercial News.....18

One Modeller's Opinion

by Keiran Ryan

The way we were, and the way we are going

The year 2004 saw a start to the newly formed group The Aus7 Federation. That was just under six years ago. This group was very soon to become the Aus7 Modellers Group and in those six years, we have gone from strength to strength. We currently have 107 members, a figure that always fluctuates. Some things we have done in the past, we have done well and other things not so well, but overall, everything is looking good for the future. The Yahoo Group, 7mmAusmodelling@yahoo.com, now has just under 200 members and information is regularly being shared.

Our attendance at major model railway exhibitions is increasing and the promotional work by members at these exhibitions is exceptional. Recently we have put together a subcommittee for the 0 Scale Forums which has proved to be a bonus as these folk can concentrate on obtaining interesting speakers and promoting the forums and O scale. These forums have been consistent in attendees up until recently, with the latest forum having a higher attendance than those in the past, which is fantastic. Well done to the subcommittee.

Suppliers and manufacturers of O scale products are increasing their inventories and are also positive about producing even more products. In the last year there has one O scale RTR model produced in ¼" scale and a 7mm model announced in a market that very few of us ever thought would produce RTR. This is a very significant milestone, and if successful can be seen to be leading to more RTR in the future. These models don't come about by just wishing and hoping, with many dollars being invested, so that the modeller can obtain a high standard model that comes RTR.

The technology involved with modelling has changed dramatically in the last six years, with the computer being at the forefront. Modellers can design 3D models easily, upload their 3D model to a 3rd party who will print the model in 3D in a plastic resin, and return the model within two weeks. This master can then be cleaned up and given to one of the many casters who will then provide the modellers with many copies of their work. This process allows a much higher level of detail than had been produced previously, and the processes and materials used are always improving, while the base costs are reducing.

The internet has been a fabulous aide to accessing information; from photo archives, modelling tips, obtaining parts or comparing products. Kit instructions can now be made available before kit purchasing, so modellers can make up their mind as to whether they have the skills to make up the kit. YouTube is available for modellers to access so that they can improve their modelling skills by watching other that have the skills do the work. And it is as simple as typing in a topic and selecting the one that you like and then watching the footage.

Finally, 7th Heaven. Not a lot to say really. From Issue 1 "Aus 7 Federation" starting as a couple of pages newsletter, to what we have today. This is due again to hard work by just a few people with a passion for getting the information out there. The only hiccup with maintaining 7th Heaven at this level is sourcing material for publication, and this can only be achieved by contributions by members. To that end if you have been building or designing a model and would like to tell others about it through this medium, just contact the editor and he will be more that helpful and show you how to go about it, but you will need to make the first step.

We are now entering a new decade, with new challenges and no doubt new aspirations. There will be new ways of doing things and new technology to adapt to. Are we up to the challenges? I think so, and I think we can grow even further in the next six years than we have in the last.

7th HEAVEN

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

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

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

All advertisements must comply with the Trades Practices Act.

Back Issues
Please contact the Treasurer to obtain back issues.

Issues 1-14 sold out.
Issues 15+ are $7.00 each
$1.50 p&h for one or two copies.
$2.50 p&h for three or more copies.

Aus7 Modellers Group Inc.

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

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

Treasurer
Anthony Furniss
32a Hillview St Hornsby Heights NSW 2077
anthonyfurniss@rocketmail.com

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

Web Site

www.aus7modellersgroup.org

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

On The Cover
A 36 departs Newcastle with a Sydney bound Newcastle Flyer on Ron Fox's Newcastle Layout. See more on pages 13/14.

WEATHERING

Bruce Lovett

"To weather or not to weather, Aye that's the question. 'Tis better to underweather than overweather and risk the slings and arrows of criticism."

With apologies to William Shakespeare.

BACKGROUND

The subject of weathering has been covered over the years in a number of model railway magazines by some of the "greats" like the late John Allen and Allan Mc Clelland in America, Martyn Welch and Gordon Gravett in England and many others including a few Australians. What I am about to present to you is a collection of ideas, some of which I have borrowed from the "greats" and some drawn from my own experience and experiments, not all of which were successful.

Many years ago, before and after World War Two, all model locos and rolling stock were painted with gloss enamels or lacquers, the glossier the better. This was done for the following reasons –

1. They looked better in the eyes of the manufacturer.
2. Prototype locos, particularly passenger, were usually kept reasonably clean in those days and naturally the model simulated the prototype.
3. The glossy finish stood up to constant handling without showing fingerprints and was easy to wipe clean.

To me, this approach appeared wrong, for my argument, or philosophy if you like, was that when you scale down locos or rolling stock you should also scale down the paint finish. In other words, a gloss paint should be at least scaled down to a semi-gloss. When you look over the fence at the prototype, from say 50 metres away, the locos don't look glossy. Even a clean one looks semi-gloss.

Although I wasn't actually into weathering as it was unheard of at the time, I put my philosophy into practice in 1947 when I joined The Sydney Model Railway Society which met weekly in the old Railway Institute building, Castlereagh Street, Sydney. In those days, like today, I was modeling the

N.S.W.G.R. in O Gauge 7 mm Scale, however we did not have the luxury of O-Aust or Waratah kits, which meant building everything from the rails up using Fleet and B.P.R. wheels , axleguards and bogies.

All my goods rolling stock was built from hard balsa, millimetre plywood, ¼" thick sugar pine timber and even Bristol Board cardboard. Fortunately, I had access to my fathers spray gun and automotive lacquers, so I mixed up a couple of different lacquers, one medium grey and the other a darker grey, from flat Dulux Grey Primer Surfacer and gloss white lacquers. As the primer normally dried flat, the addition of the gloss white gave it a sheen, the finish drying to a sort of quarter or semi- gloss. Although the rolling stock wasn't actually weathered, the flattish grey finish looked as if it had been on the road for some time. Quite a contrast to most of the rolling stock operating on the Society's O Gauge layout which were painted glossy black.

That was over sixty years ago and since then we have seen vast improvements in model locos and rolling stock, model paints, air brushes and application techniques. Weathering is now an accepted part of "the state of the art" as we strive for greater realism in our modeling, not only locos and rolling stock, but also buildings, structures, track and scenery. Whichever weathering technique you are using, try to obtain a coloured or at least a black and white photo of the prototype as a guide.

WEATHERING MEDIUMS.

There are a number of different materials that can be used for weathering.

COLOURED PASTELS

This is a recent technique that came into use about ten years ago where different coloured sticks of pastel are used to "weather" the models. These are special artists pastels, not the blackboard variety, and are only found in artists supply shops.

Each stick is ground to a powder by scraping with a sharp knife or a file, then worked into the surface with a stiff artists brush. A different colour can be applied over another colour

so that there isn't any division between colours. In other words one colour blends into another. After applying the different coloured pastels dust off the excess powder with a soft brush about 25mm wide. The brushes I use for applying and dusting off the powder are only used for this purpose and stored separately from my other brushes.

I have been using this technique for about eight years and find the results excellent but time consuming. One thing I learnt early with this technique is that the powder will not adhere to a glossy surface. For best results the finish on the model must be flat or matt.

To prevent damage to the weathering by handling or high humidity, the weathering can be sealed by spraying on a thin coat of clear flat finish. However this may not be necessary. The first wagon I weathered using this technique was an "S" truck eight years ago and despite not being clear flat coated, the weathering has remained intact although it has covered many "smiles" and been handled a lot. (A "smile" is a scale mile.)

Set out below is a short list of coloured pastels in the AS-ART SPECTRUM that I use, however, there are many more colours in the range.
Warm Grey V.584, Warm Grey P. 584, Spectrum Red.508, Australian Grey P.596, Burnt Sienna N.548.

ALCOHOL STAINING

No, I'm not referring to the glass of rough red you spilt down the front of your white shirt! This is a method developed by Wayne Wesolowski who described it in a Railroad Model Craftsman magazine many years ago.

Black shoe dye, such as Black Raven Oil, is dissolved in rubbing alchohol, obtainable from chemists and very lightly applied in streaks across the roof and down the sides of vans, guards vans and carriages using an artists brush with flared out bristles. This represents the streaky effect seen on the roofs and sides of these vehicles caused by rain washing away some of the dirt and grime. This can be overcoated with artists pastels for an even more weathered and rundown effect. The solution dries almost instantly, is quick and easy to apply and permanent. It does not attack paint or transfers, can be used on bare timber and is excellent on plastic rolling stock and buildings as it does not attack the plastic. For a variation try Brown Raven Oil dissolved in rubbing alchohol. Using both colours on a model gives a well worn appearance. Wayne calls it Dr. Weso's Weathering Goop.

A word of caution. If you are applying it to a number of models, make sure the area is well ventilated , otherwise you may wake up the next morning with a hangover!

PAINT

Last but not least is the method of using paint for weathering. The two brands specially made for model work and available through hobby shops are Floquil and Scalecoat, however, Scalecoat is no longer available in Australia. Floquil has a good range of weathering colours with Mud, Dust, Grime and Rust to name a few. They also have similar colours in their Polly S plastic paint range.

Over the past decade there has been a concerted move to water based or acrylic paints for painting and weathering railway models as

they are less damaging to the environment. The paint suitable for this purpose is Tamiya Acrylic with a range of colours in a flat finish. This range does not have any specific weathering colours as such, but many of the colours are suitable or can be mixed to produce your own versions of mud, dust, grime etc.

Some domestic paints such as a flat enamel or flat plastic could be used for weathering, however they are not as finely ground as model paints and would not give as fine a finish.

APPLICATION

Before commencing any weathering do some research by going through all your railway books and studying the photos, particularly those in colour, of weathered locos, rolling stock and buildings. If possible, pick a photo the same as your model and use that as a guide bearing in mind the area where your layout is situated. For example, if you are modeling the Sydney suburban electric system your rolling stock would not collect much red "bulldust" !

Another excellent source of colour photos is the calendars produced each year by the N.S.W. Rail Transport Museum and the Australian Model Railway Magazine.

STEAM LOCOS.

These are subject to more weathering than a diesel with coal dust or fuel oil spills, whitish deposits from limey water, soot, lubricating oil around valve gear and drivers, plus possible rust spots around the smoke box door and jacket, cylinders and tender sides. As well, they come in for their fair share of dust, dirt and mud splashes. We will assume that you have painted the loco black, applied transfers etc. In other words it is finished except for weathering.

My wife thinks we railway modelers are a weird mob ! We take a shiny brass loco, paint it a nice semi-gloss black, apply transfers etc., then make it look old and dirty by weathering. Yes, we may be a bit weird, but it helps us to stay sane in a mad world. Back to weathering..

To do a really good weathering job with paint an air brush is essential as you can apply a finer coat with more precision than brush application, or an aerosol can. Basically you need three weathering colours, Mud, Dust and Engine Grime from the Floquil range. These can be supplemented with Rust and a light grey applied with a small brush to represent limy deposits around blow off cocks, safety valves, generators and whistles after the bulk of the weathering has been completed.

First of all, using a good quality masking tape, cover the areas where paint is not required such as wheel treads, drawbar, headlight glass etc. Valve gear can be left in place and weathered, however a method I have used involves removing the side rods and main rods and cleaning in Shellite to remove oil and grease. When dry dip them in thinned black lacquer which you have used to spray the loco then hang up to dry. This method gives them a greasy, dirty look but does not completely cover the detail.

Thin the paint with the recommended thinner as per the directions and load the air brush with the first colour, Mud. Using a very light touch and referring constantly to the prototype photos, spray mist coats or short bursts across the buffer beam, front deck, boiler front, fronts and sides of cylinders, edges of running boards, air tanks, lower cab sides, lower part of tender sides and rear, drivers, leading, trailing and tender bogies. Remember lightly does it. These are the areas where mud and dirt are constantly splashed or thrown up by the wheels and carried by air currents as the loco travels at speed.

Clean the airbrush and allow the paint to dry before applying the next coat. Load the airbrush with Dust and for a two toned effect very lightly go over the same areas, plus areas around blow off cocks, generator, whistle and rear tender deck. Once again, clean the airbrush and allow the paint to dry. If required, this is the stage where you can apply the Rust and light grey as outlined previously.

The final weathering stage is to apply Loco Grime to the "greasees", that is , drivers and valve gear, but don't overdo it otherwise you will blot out the previous colours in these areas. Allow to dry thoroughly before applying a clear protective coating such as Floquil Flat Finish, or, Wattyl Instant Estapol Clear Matt thinned by 50% with Enamel Spraying Thinner and allow to dry.
If you want streaks down the sides of the boiler, or, in the case of an oil burner, oil spills down the sides of the tender, these will need to be applied with a fine brush using a black gloss paint.

DIESEL LOCOS.

These are not subject to coal dust, soot and water staining like the King of Locomotives, however, they do come in for their fair share of staining, such as carbon from exhausts, oil spills and the usual mud, dust and dirt. Whether (excuse the pun!) it is a 44 Class box or 48 Class hood type diesel, the same techniques apply. Start with the roof of the 44 Class type or long hood of the 48 Class type around the exhausts as this area accumulates a large dusting of carbon from the exhausts. Load your airbrush with black lacquer, adjust the gun to a very small spray pattern and spray in short bursts around the exhaust stack areas. Don't overdo it as rain tends to wash off a certain amount of carbon leaving a fine dusting.

Next, go through the same sequence as steam locos with Mud and Dust and if your locos operate in arid red soil plains areas, a light dusting across the pilot, steps, bogie side frames and wheels with Floquil Red Oxide Primer or Box Car Red gives the loco that dry, dusty look.

Forget the rust as most diesels are reasonably well maintained and any rust spots are usually, but not always, cleaned up and repainted before they have a chance to grow. The only exception with older diesels is the cast steel brake shoes.

You can also forget the Engine Grime as diesel locos have enclosed wheel bearings and do not require regular oiling like steam locos valve gear. A little, repeat little, oil spill around the oil tank filler cap done with a fine brush and black gloss paint won"t go astray.

Before spraying the diesel body with a clear flat finish, fit the windscreens only and cut quarters of a circle from masking tape. Apply these to the windscreens under the windscreen wiper blades, then spray the whole body with the clear flat finish. When thoroughly dry, carefully peel off the masking tape. The clear area of the plastic represents the arcs of the windscreen wiper blades while the rest of the windscreen looks dusty and dirty.

ROLLING STOCK.

PASSENGER COACHES.

Both streamlined and non streamlined passenger coaches were, in the main, kept reasonably clean, so, all that is required is a little Dust sprayed around the bogies, wheels and under body detail such as battery boxes etc. If the coaches have end platforms and steps, these areas will also require a light dusting. On old coaches don't forget the rust on the brake shoes.

FREIGHT OR GOODS WAGONS AND GUARDS VANS.

These are the work horses of any railway system and earn more revenue than passenger traffic. Despite the fact that they earn more money, their maintenance is usually only a bare minimum and coupled with the quite dirty loads they often carry means they usually look very scungy. When weathering goods wagons and guards vans, try to have some variety, in other words, from light through medium to heavy weathering, even varying the colours so that no two wagons are alike.

I have adopted a two stage approach using Dust, Mud or both, lightly sprayed along the lower parts of the sides, ends, also wheels and axle guards of four wheel wagons. When dry the sides and ends are over streaked with the Weathering Goop. This tends to break up the regular look of the Dust and Mud giving a sort of two toned effect.

The bogies are weathered separately with Dust, Mud or both as I try to do up to twelve at a time held in a simple jig. These jigs are lengths of wood or Pynebord wider than the bogies with nails driven in at suitable distances in line to suit the bogies. The heads of the nails are then cut off and the sharp edge filed smooth. The nails stick up through the hole in the bogie stretcher which holds it securely while spraying and once one side has been painted or weathered , the bogie can be turned over and the other side done. You save time by doing them in quantity as it takes just as long to set up your air brush to spray two or twelve.

After the weathering is dry on both bodies and bogies, a little Rust applied with a fine brush around bogies, axle guards, wheels, air tanks etc. would give them the finishing touch. Once again, when dry apply a thin coat of flat clear finish.

BUILDINGS

This is an area which , strangely enough, is often neglected by modelers. They weather locos and rolling stock but forget that buildings

also weather, although not to the same extent.

The Weathering Goop works equally well on plastic and wood, so it is ideal for weathering buildings constructed from these two materials as it does not attack plastic or raise the grain on wood. For a little variety , I experimented with Raven Oil Dark Brown shoe dye dissolved in rubbing alcohol and although a lot lighter than the black, it gives a dirty or stained look to both light coloured plastic and wood.

Rain tends to splash dirt and mud onto the lower parts of walls, poles, fence posts, signal posts etc., up to about a metre above the ground. Lightly spray a little Dust or Mud on these areas and for the buildings finish off with a little Goop streaked over the painted areas.

For a little inspiration, next time you are near one of the older railway stations, take a close look at the effect that years of weather and minimum maintenance has had on them, then try to duplicate this effect on your models. Another source are photos of locos and rolling stock. Look past the subject at the background where often you can see buildings. Once again when the weathering is dry , spray on a thin coat of flat clear finish.

SUMMARY.

This article in not intended as THE textbook on weathering, for I have only touched on three different methods and no doubt there are many more. The main purpose was to show you the basics so that you can get started and possibly develop your own methods or techniques. Weathering of locos, rolling stock and buildings is important as it lifts them from the model category to a reproduction of the prototype in miniature. Don't overdo it. Be subtle so that the model looks authentic.
And isn't authenticity what we strive for in art of railway modelling.

RECOMMENDED READING

7MM MODELLING – PART ONE. THE ART OF WEATHERING
Gordon Gravett
Martyn Welch
Wild Swan Publications

The O-Aust Trophy

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

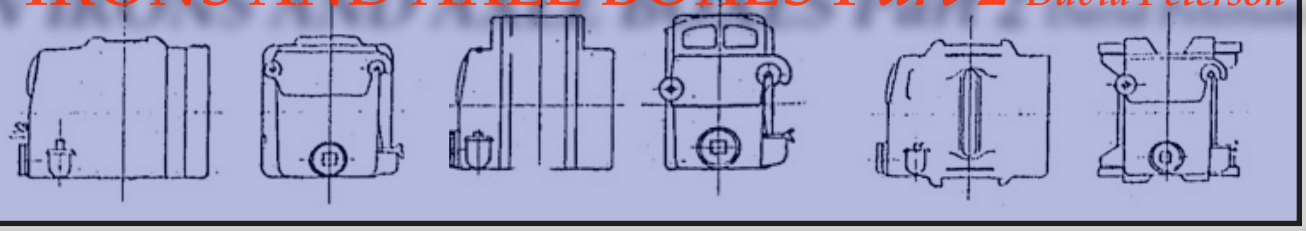
Trophies will be awarded for the best scratchbuilt and the best kitbuilt model.

The rules are as follows

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

W IRONS AND AXLE BOXES Part 2

David Peterson



This article is Part 2 of 2 which provides an understanding of the use of w irons and axle boxes in a selection of 4 wheel rolling stock and some bogies used by the NSWGR.

Readers are referred to Part 1 of this article so that the explanations and features of this part are kept in context. As a reminder however the reader is referred again to some of the namenclature used and to avoid any confusion or misunderstanding it should be noted that the assembly supporting the wheelsets often refered to as w irons in the modelling world is also referred to as axle guards or guard irons in railway terminology. Also this article has been limited to w irons fabricated using the forged weld process.

When the w iron assemblies of the prototype are viewed from a side elevation the configuration of axlesboxes, springs, and types of w irons can clearly be seen and a progression of change understood.

Fig 1 shows a typical arrangement for an early version of the D wagon. In this example the earlier axlebox (GA974) is used. The spring length is 3' 6". The w iron vertical struts are spaced at 8 3/4" and the axlebox runs directly in the w iron and no removable horn slides are used. Over time the axleboxes used on the D wagon changed as new variants were introduced and as maintenance was performed. The use of the 1 AA type was very common which would indicate that axles with 8" x 4" dia journals continued to be used.

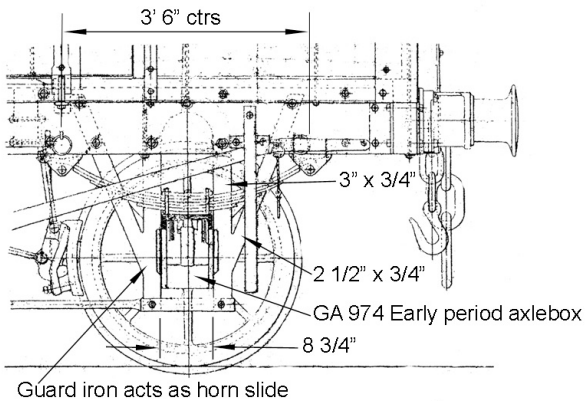
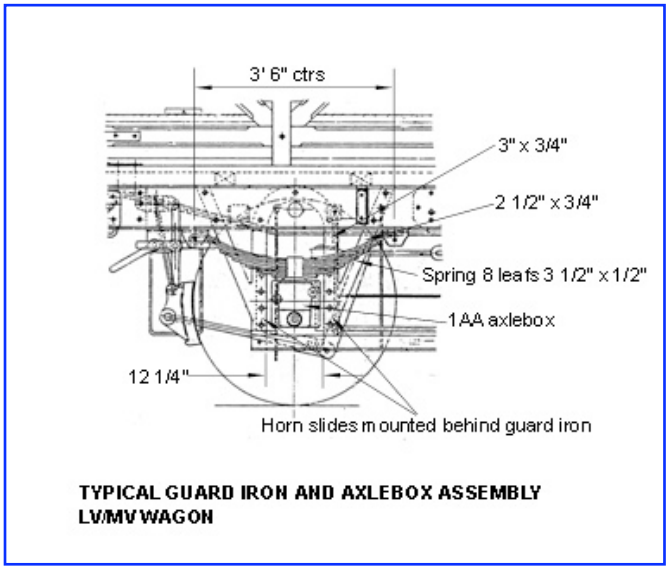


Fig 1
GUARD IRON AND AXLEBOX ASSEMBLY
D WAGON

Fig 1.

Fig 2 shows a typical arrangement for a LV/MV wagon. Again the spring length is 3' 6". The w iron vertical struts are now spaced at 12 1/"4 and removable horn slides are used. When horn slides were used they were sized so that the inner vertical faces were at the 8 ¾" spacing to allow the same pattern axlebox to be used, in this case 1 AA boxes indicating that axles with 8" x 4" dia journals were used.

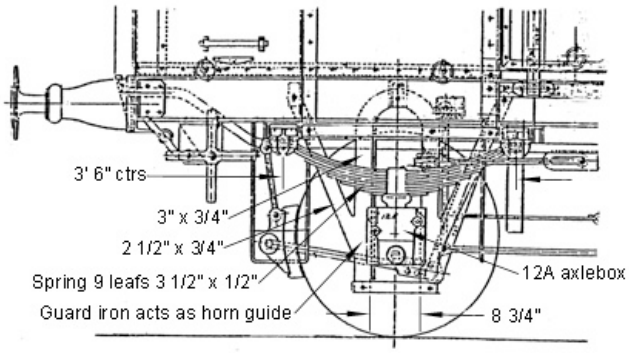
Note with this arrangement that the alignment of the w iron would be offset out by ¾", the width of the horn slide, and given the use of the same axle length (8" x 4" dia journals) in effect the solebars to which the w iron is attached would be at a wider spacing. In fact this style of change was normally associated with a change in wagon underframe construction such as the use of a composite construction where wooden solebars were replaced by wrought iron or steel members. The size of the steel elements of the w iron are unchanged.



TYPICAL GUARD IRON AND AXLEBOX ASSEMBLY
LV/MV WAGON

Fig 2.

Fig 3 shows a typical arrangement for an early version of the S wagon. Again the spring length is 3' 6" but the number of spring leafs has increased but the cross section of the leafs are unchanged. The use of a 12A axlebox using 9" x 4 ½" journals and spring type implies that the wagon is rated for a higher loading. Note with this arrangement the use of axles with larger (longer) journals and the non-use of detachable horn slides has predetermined the w iron spacing. In fact this variant of the S wagon used a steel underframe. Later variants introduced used w irons of 12 ¼" spacing using removable horn slides located on the outer faces of the w iron. In these cases the spacing and design of the solebars changed. The size of the steel elements of the w iron are unchanged.



TYPICAL GUARD IRON AND AXLEBOX ASSEMBLY S WAGON 1910 ALL STEEL (GA 12429)

Fig 3.

Fig 4 shows a typical arrangement for a U wagon. Again the spring length is 3' 6" but the number of spring leafs has increased but the cross section of the leafs are unchanged. The use of a 9AA axlebox using 10" x 5" journals and spring type implies that the wagon is rated for a higher loading. The w iron vertical struts are now spaced at 12 1/"4 and removable horn slides are used, in this example mounted on the outer face of the w iron. Note with this arrangement the use of axles with larger (longer) journals and the use of detachable horn slides has predetermined the w iron spacing. In fact the U wagon used toggled w irons to match the axlebox and 10" x 5' journal axle combination to the steel underframe employed. This can be seen in Fig 5a (Part 1 of his article). The size of the steel elements of the w iron are unchanged.

Fig 6 shows a typical arrangement for a 2SB bogie. The same design principles used on the wagon stock discussed has been used here. In this example the spring length has changed to 4' 0 ½". The w iron vertical struts are at 8 ¾" spacing and a 1A axlebox used implying wheels with 8 x 4" journals were used.

In comparison Fig 5 shows a typical arrangement for a 2AA bogie where the same design concept as used on the 2 BS bogie has have been employed but the vertical strut spacing is at 12 ¼" and hornslides mounted on the outer faces employed. I this example the use of a 12AA axlebox imply that axles with 9" x 4 ½" journals were used.

It can reasonably said from a modellers perspective the features of the various types of applications of w iron and axlebox assemblies discussed in this article contain a wide variation of detail. Additional research of other wagons and bogies would reveal other variations. Some modellers may wish to compromise by using available kits and or accessory components, others may wish replicate this detail by scratchbuilding or a modification or combination of both.

DPMS are producing kits for some combinations of w iron and axlebox assemblies. Presently etches in nickel silver for the fabricated w iron of either 8 3/4 "and 12 ¼" spacing are available. These are based on the prototype dimensions and designed for use on wagons but can be adapted to some bogie configurations. They can be built as sprung units or fixed. For the 12 ¼" spacing applications the horn slides can be mounted on either the rear or front faces of the w iron. In addition castings are being produced for some of the more common spring and axle boxes used.

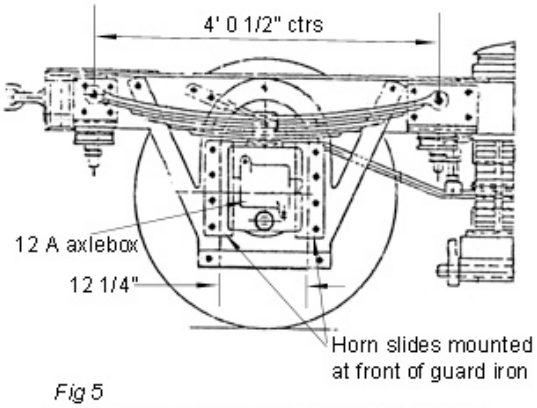


Fig 5

GUARD IRON AND AXLEBOX ASSEMBLY 2AA BOGIE

Fig 5.

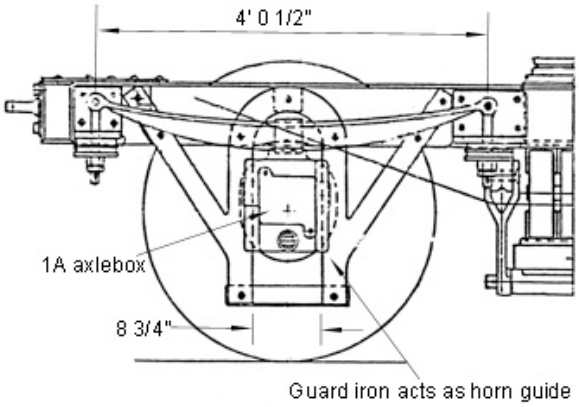


Fig 6

GUARD IRON AND AXLEBOX ASSEMBLY 2SB BOGIE

Fig 6.

Servo Motors for Signal Operation

by Keiran Ryan

I recently had the need to purchase something that would allow simple operation of a signal that I was making into a kit. So I had a look at the Tortoise point motors, but the bulk of them put me off, so I had to source something else. A friend of mine suggested that I could possibly use a servo motor, similar to the radio control servos that are used on the R/C cars, boats and aircraft.

So the search began in earnest, landing me on a web site named http://www.timesaverlayouts.com/. Then onto another link at http://www.timesaverlayouts.com/ANE%20Model%201.html. What I found was absolutely brilliant. (In my opinion)

For $99.00, (Non DCC) + $6.00 postage, or for $114.00 + $6.00 postage (DCC) I received a pack containing four servos, four switches, four brackets, program board, all the hardware, wiring, various actuation arms and screws required, and a comprehensive instruction booklet. Photo 1 shows everything that was included. The instructions (booklet upper right of Photo 1) on first viewing looked a little intimidating, but to my surprise they weren't as complicated as first thought. The programming of the servos was a simple matter and once done the versatility of these units was amazing, even to the point a changing the speed of the servo during operations.

The instructions stated that the servos could be programmed to operate for a period of 0.7 second up to 20 seconds over nine speeds and this was constant no matter what amount of radial movement is involved. The servos can be set up to start at any point and stop at any point and this movement will then be saved and kept in memory even if the servos are disconnected. Photo 2 shows the program board and the DCC board.

The programming of the servos is done with the use of an 8 segment LED and 3 press buttons (S1, S2, S3 in Photo 2) that change the

Photo 1.

status, speeds, and start and stop points. The instructions also have various wiring diagrams that assist in the setting up of the boards and servos. There are also connectors that allow the use of LEDS or other indicator lights that may be necessary to make operation a little easier.

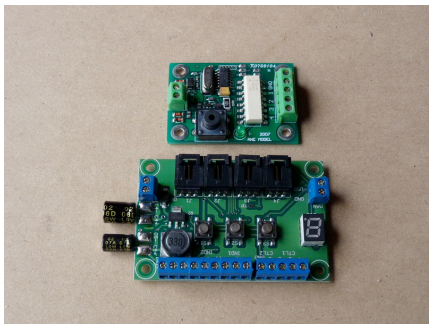


Photo 2

I mounted the switches onto a panel, with the program board screwed to the timber. The switches would normally be located on a main control panel and the wiring extended accordingly to reach the signals or point control. The servos simply plug into a 3 pin mini plug and the other end plus into the program board. The power supply is via 12 V DC or a DCC power supply.

On completion of the test signal kit it was placed onto a 9mm craftwood base (Photo 3). The servo was then test fitted and the bracket modified (Photos 4 & 5) to allow access to the centre of the signal. When the correct position was achieved, the bracket, with servo, was screwed to the base.

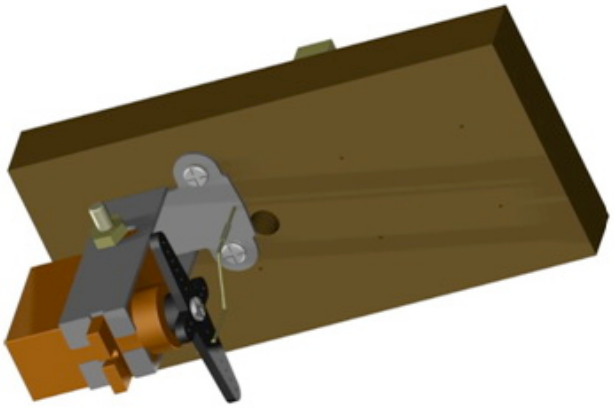


Photo 3

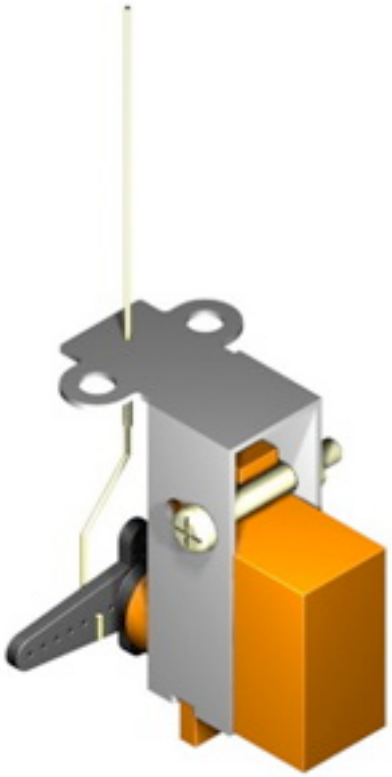


Photo 4

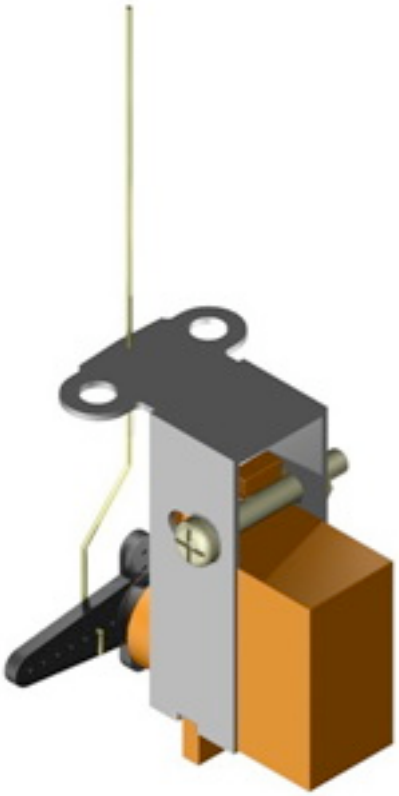


Photo 5

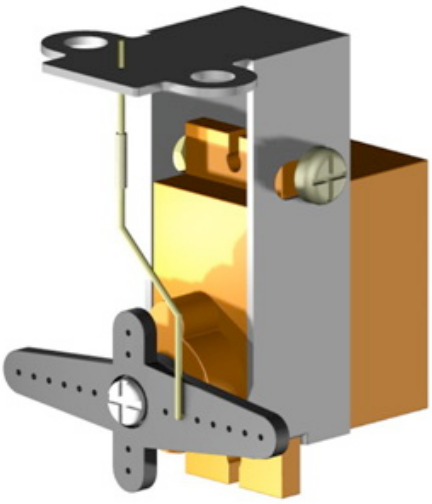


Photo 7

As the pack comes with various shaped actuating arms (Photo 6) you have a great selection to choose from. I bent a short length of 0.6mm brass rod so that it located and locked into the arm. This rod was then located into a small piece of tube (Photo 7) which was glued to the main rod that controlled the signal via the counter balance.

The servo was then set up to have a starting point and a stop point as per the written instruction. The important thing here was to make sure that the servo had the correct amount of movement, so that the signal arm did not extend past its stop, and load up any parts in the linkage. This was checked and rechecked and it was very satisfying to find that when it was set up, the signal arm returned back to its original position without fail. Once I was happy that all was adjusted and operating correcting I glued the short bottom rod into the tube. The signal also had a turnbuckle between the counterbalance and the signal arm which could also be adjusted as necessary.

Photo 6

I had to adjust the speed of the servo so that the movement of the signal arm looked correct. I would have liked to be able to give the signal arm that little bit of bounce that they have in the 12 inch to the foot version, but I was unable to do so. The speed that I left the signal to operate was speed 4. The servo does make a small noise when operating, but it was of no consequence. The servos are also very small, allowing them to occupy very little space.

In conclusion the servos operate very well, and consistently start and stop in the same location time after time. They are very easy to set up and are very versatile. The variations in speed and stop start positions make the servos very useful for all types of operations. The price breakdown means that each servo costs around the $25.00 mark and this also include the program board and ALL the hardware.

These servos are a great product and I would recommend them to anyone looking for a device to operate anything that moves on their layouts including points, signals, railway gates, wig wam signals etc. Now if we can get a program board that will allow the operation of an upper quardrant 3 position signal! Well apparently these 3 position control boards are being produced as I write, so come on the upper quad signal.

Newcastle

Ron Fox

As a young man in the 1960s I would often stay with an aunt who lived near Hamilton and visit Newcastle station to spot trains. Memories of this time still linger and I always had it in the back of my mind to model it some day. I wanted to model a period of about the 1950s with steam in full flight but the main problem with modelling Newcastle is its size. It would be large enough in HO and massive in my preferred O scale so modeller's licence had to come into effect. The layout also had to fit into my 6.5 metre long garage or I couldn't use it at home.

After much thought I decided to model the station area only down to to the end of Scott Street, which included Market Street crossing and the signal box. From there it would run outside and join my garden railway giving a 60 metre run. For exhibition use two more boards would be added onto the Scott Street end for stock set-up making the layout about 12.5 metres long. The two main boards hold the three platforms and a third contains Scott Street. Number one platform is really 217 metres long and at 198 scale metres my model platform is a little short but this is unavoidable. But the station building is close to scale length.

All buildings, signals and accessories are scratch built. The only commercial parts are the vehicles and the track. The back scene buildings are printed from photographs of buildings that ran down Scott Street at the time and they have been worked over with Corel Photo Paint. The track plan I used was of 1936 as it was the only diagram available. As I wasn't modelling the railway yard of Newcastle I have left off the points and crossovers to number four platform, as they would have looked silly going nowhere.

Track and points are standard Peco Streamline sitting on cork. Ballast is ground up rock mixed with river sand painted with acrylic paints and dirtied as much as possible to match my memory of Newcastle which was plain filthy.

Locos that will run on Newcastle are 32, 35, 36 and 38 classes mostly scratch built in brass except the 36 and

Rolling stock is made up of scratch built and old and new kits; too many to list. Coaches are mostly scratch built although there are a couple of L sets I had cast in polyurethane.

Controllers are analogue DC walk around hand held units. Points are manually operated from the front of the layout. Operating signals will appear in the future.

The layout has taken four years to build and is the biggest project I have ever undertaken. The hardest part was getting information and diagrams. Newcastle Station has changed a lot over the last one hundred and thirty one years (1878 – 2009).

38s which are old O Gauge House bodies on new two rail mechanisms fitted with Slaters wheels. Some of the brass locos I built over twenty five years ago and they don't have today's detail but are good runners, which is a must for an exhibition layout. They are powered by NWSL 2240 motors through my own gearboxes and pick up is by live chassis. Platform four is the only platform at which freight is received and where the odd 50 or 19 class can be seen. It used to be the old carriage shed.

I have done the best I could with what information and space was available to me and I am hoping to exhibit the layout some time in the future before it is eventually retired to, the garage.

Getting To The Point

BUILDING A 7mm FINE SCALE TURNOUT - PART ONE by Roger Porter

for modellers who don't want to build turnouts.

1. AN INTRODUCTION.
These notes come from an inherently lazy modeller, who was recently faced with the need for about a dozen fine scale 7 mm turnouts. I really didn't want to build them myself, believing that life is too short for such time consuming tasks, so a search was mounted for suitable ready made alternatives. Turnouts were ordered from two manufacturers in the U.K., and a recommended "fine scale" manufacturer from the U.S.A. Also, turnout kits were sourced from the U.K., and locally in Australia. Disappointingly, none of them worked well or provided a smooth path for wheelsets, and the turnout kits were either crude or not much of an advance on scratchbuilding.

So very reluctantly, thoughts returned to building the turnouts, a task that I was trying to avoid at almost any cost, the last turnout that I made having taken forever.

But things have changed recently, and there are now some marvellous gadgets around that take all of the pain and guesswork out of building turnouts. A turnout was constructed using these aids, and believe me, all of the pain and guesswork vanished !

Following on from that cautious start, several turnouts have since been built, including a "wye", a crossover, and a slightly curved turnout. Don't for a moment think that it's difficult, or that it will absorb a dis-proportionate amount of your modelling time. Things are different these days. You'll be thrilled at the smoothness and lack of "wheel drop" that comes with making your own turnouts. You'll also admire the slender appearance of a scale NSW turnout, and marvel at the ease with which it can be achieved.

Let's have a look at some of the gadgets that make this possible.

1. Aus-7 No.6 NSWGR Point Template from the Aus-7 Modeller's Group.

2. Fast Tracks Point Form as hown in Photo's 3, 4, and 8. from Gwydir Valley Models, (02) 5732 5711, www.gwydirvalleymodels.com

3. Fast Tracks Stock Aid shown in Photo 9, also from Gwydir Valley Models.

4. Fast Tracks Frog Helper shown in Photo 5, also from Gwydir Valley Models.

5. Spike Insertion Plier Cat No.82839, from Micromark, www.micromark.com

Note. The Fast Tracks Point Form and Stock Aid are specified for a rail code number and turnout crossing angle. I've used code 125 rail, with a No. 6 crossing angle. You'll need to nominate both when ordering.
The Fast Tracks Frog Helper is specified for a rail code number but handles No. 5, 6, and 8 crossing angles. Again, nominate code number when ordering.
After some scepticism, I found the Spike Insertion Plier to be almost the best tool I've ever bought !

To get started, you'll also need these.

6. A sub-base, shown in Photo 1. I used 3 mm balsa, but you may choose ply or MDF.

7. Point Sleepers Kappler Cat No. KP00PS7mmB from Gwydir Valley Models. Each turnout will require about 3 metres of material.

8. Rail, Micro Engineering Code 125 from Model Railroad Craftsman at Blacktown (02) 9831 8217, www.mrrc.com.au

9. Rail Spikes. Micro Engineering Small Spikes, Cat No. 30-106. One pkt of 1000 will spike 4 turnouts. Also from Model Railroad Craftsman.

10. The Data Sheets Trackwork Manual is an essential reference work for all aspects of track and pointwork … From the ARHS bookshop, or Data Sheets at www.datashet.actewagl.net.au

GETTING STARTED.

1. Using the Aus-7 Point Template, cut the sub base to the approx outside line of the sleepers. This was roughly sprayed grey to avoid light patches showing through the ballast. This is shown in Photo 1.

2. Again using the Aus-7 Point Template, cut the point sleeper stock into the various lengths to fit into the template. Some of the slots in the template may need to be eased slightly with a file to suit the sleeper width. This is also shown in Photo 1, but the transparent template doesn't show up very well.

3. At this stage, the sleepers should be removed from the template and stained if desired. A few drops of black Indian Ink in a small shallow tray of Isocol works well.

4. Lay the Point Template over the sub base, and glue the sleepers through the slots in the template onto the sub base. Use the glue sparingly, as too much will ooze out from under the sleepers and glue the template to the sub base, which isn't good. This step is shown in Photo 2.

5. When the glue is dry, carefully lift the template away from the sleepers and sub base. It's now that you wished that you had eased the slots in the template just a little bit more.

MAKING THE CROSSING VEE.
1. Cut a piece of rail about 100 mm long, and clamp into the Point Form as shown in Photo 3. File the rail until the head of the rail finishes in a point as shown in Photo 4.

2. Repeat the above, using the other side of the Point Form to make a point of the opposite hand to that made above.

3. Forming a sharp point with the two pieces of rail, clamp them into the Frog Helper and solder them together, as shown in Photo 5.

Note. The Point Form has two sets of slots, one set forms a short taper for the crossing vee. The other set forms a long taper for the point blades. The first crossing vee that I made took about an hour, the second was filed, assembled and soldered in 13 minutes. It's that easy !

4. The wing rails can now be added by starting with a piece of rail about 100 mm long, and bending it as shown in Photos 6 and 7. To bend the rail, cut about 1/3 of the way through with a razor saw, and form a sharp bend.

5. Assemble the wing rail to the vee, with the foot of the rails touching, and lined up with a straight edge as shown in Photo 7. Invert the rails, and solder the feet of the rails together as shown in Photo 7.

6. Photo 6 shows the stages of fabricating the crossing vee assembly. The rail ends will be trimmed later when laying out the turnout.

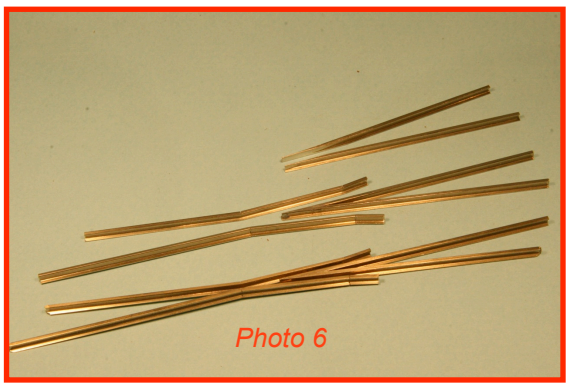


Photo 6

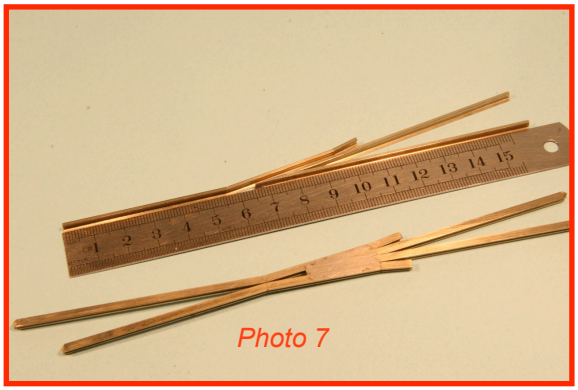


Photo 7

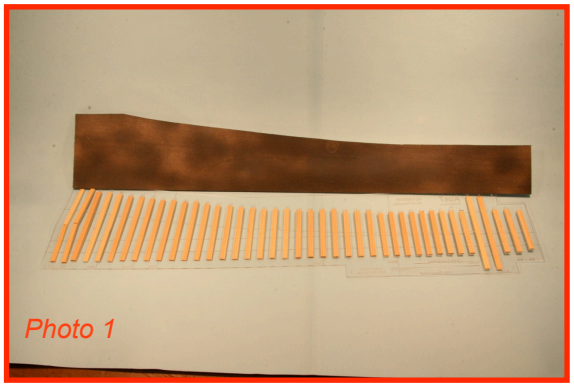


Photo 1

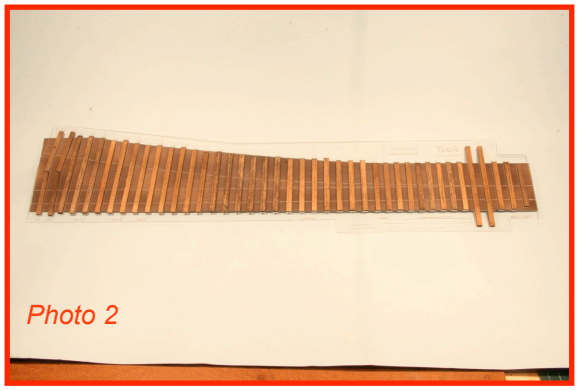


Photo 2


Photo 3


Photo 4

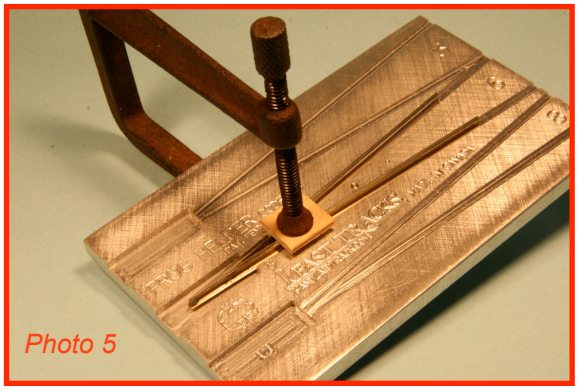


Photo 5

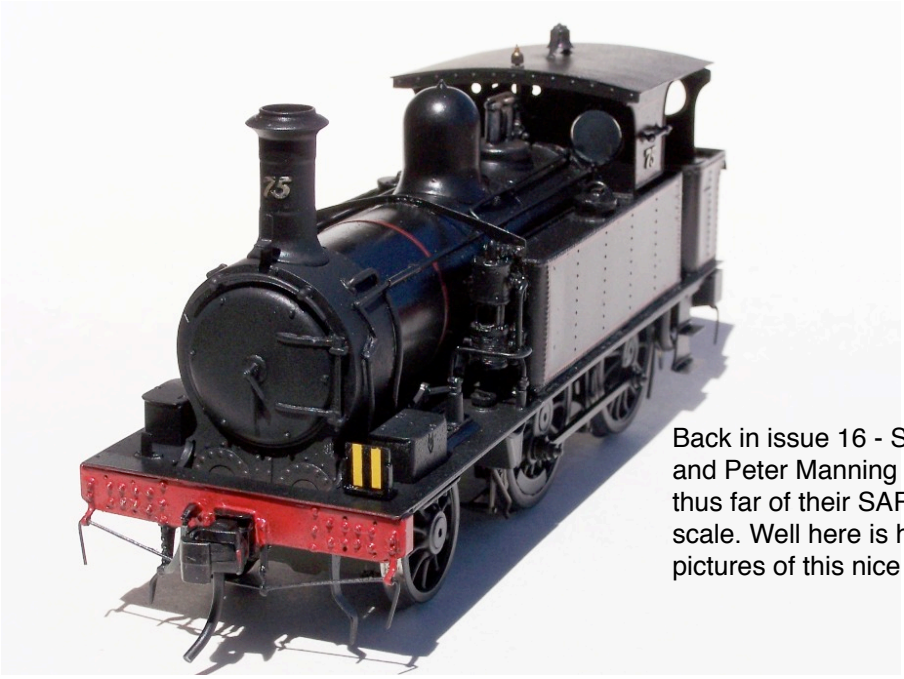
Photo 8

Photo 9

Part two in the next issue will deal with making the point blades, setting out the various rails and finishing off.

Showcase

Roger Porter's model of railmotor HPC 402 was the winner of the O-Aust trophy for best scratchbuilt model at the October O Scale Modellers Forum . An article on some of the methods used in its construction will appear in a future issue.



Back in issue 16 - Summer 2007 Michael Tingay and Peter Manning described the construction thus far of their SAR P class 2-4-0T loco in 1/4" scale. Well here is how it turned out. More pictures of this nice little loco in the next issue.

Commercial News

Trevor Hodges

David Peterson Modelling Services

David Peterson Modelling Services, PO Box 644 St Ives, NSW 2075, Tel 61 2 9144 1521, Mob 0402 156 048, Email dwpeterson@optusnet.com.au have passed on the news that the NSWR 12 class kits should be available late February 2010. At the time of writing the kits have been suffering some delays in the UK associated with disruption caused by the weather conditions. This is having a flow on effect to all production, not just the 12 and other classes. The revised and final etches and overseas sourced castings and components are due mid Feb. Local castings and other component supplies are essentially complete. Kit instructions will be completed by early Feb. DPMS will contact all customers who have ordered and paid a deposit as soon as the kits arrive. They will be supplied in an attractive box with coloured artwork of a completed and painted 12 on the lid.

News on the 13 Class is that the pilot mock-up will be completed early Feb, castings and local components are now complete now. Final etches are due in Australia by June 2010 with the kit available in July.

DPMS has passed on news concerning the release of an English outline kit from MOK, the same manufacturer who is producing the 12 and 13 for the local market. The Armstrong 4-4-0 will be produced in 7mm and anyone interested should contact DPMS for details.

O-Aust

O-Aust Kits pa_rl_krause@bigpond.com, and via the web site at www.oaustkits.com.au, at PO Box 743, Albany Creek, Qld, 4035, mob 0419680584 or (07) 3298 6283 have announced that the NSWR BR passenger carriage should be available for purchase in time for the April Aus7 Forum.

O-Aust have developed a self powered 48 bogie and this should be available for sale at the April Forum. This unit has been specifically designed as a replacement for the “NZ” chain drive motorised chassis supplied with some 48 class kits. O-Aust are selling these to customers who have not yet built their 48’s and who wish to have more room inside the body for items such as speakers and DCC decoders. There is a cost involved in purchasing these bogie units however anyone who wishes to swap their “NZ” chain drive can do so at a slightly reduced price upon presentation of the components. Some of these items can be “recycled” into other projects O-Aust are producing. Contact O-Aust for details.

O-Aust have announced the release of an S wagon specifically aimed at the new entrant into 7mm. These models will be produced without all of the detail available in the separate kit however anyone wishing to upgrade the detail can do so. Each wagon will be supplied ready to run for $75 (painted with decals supplied but not applied).

The NSWR (C)30 tank should be available for sale in the middle of 2010 with the (C)30T possibly available later in the year. The tender loco will be available with either the 6 wheel P class tender or the bogie T class tender.

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 have passed on the news that the first pilot model of the Waratah/Haskell NSWR CPH has arrived from China and has been returned with a list of minor corrections to be made. Overall the technical team were very happy with the pilot.

The CPH is to be offered in true 1:43.5 scale, ready to run in brass and painted in one of four versions based on customer orders:

- Masonite sided Indian Red.
- Matchboard sided Indian Red
- Matchboard sided Tuscan and Russet
- Matchboard sided unpainted
-

The detailed driver and passenger compartments will be lit, with headlight and marker lights also lit. The drive shaft turns and propels the railmotor as per the prototype. It will be supplied to run on DC but will have provision for the installation of DCC and sound. Negotiations are currently underway with a DCC supplier on the possible production of a plug in DCC sound module which can be purchased as an aftermarket item to be installed by the modeller. More news on this as it comes to hand.

The CPH will be available in strictly limited numbers at a pre-production price of $1395 upon payment of a $200 deposit. Postage and optional insurance extra. There should be models available to purchase that have not been pre-ordered however exactly what versions will be available will depend upon on demand and stock remaining on hand. The only way to be assured that you get the version you want is to pre-order. Post production models should sell for $1495. Expected delivery date of the final model should be Aug 2010.

Those wishing to order a model should contact Waratah including details of the version they wish to order. An order form has been included in Aus7 member copies of this magazine.

Aus7 Modellers Group Membership

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

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

O-Aust Kits

www.oaustkits.com.au

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

AVAILABLE

SHELL 3000 TANK

SHELL 5000 TANK NOW AVAILABLE

CR COMPOSITE CARRIAGE - NOW AVAILABLE

Kits Available Now

O-Aust Kits
C32 steam loco, 48 class diesel, 830 class diesel, Flat Top T (VR), ACM, FR (ind), CR, Shell 3000 & 5000 tank S, MRC, UME, BCW, CW, BHG, BCH, BWH, SRC, LLV, MLV, QLX (QR), BBV (QR), K/KA (QR), CJF (QR)
Century Models
Z19 loco, D50 loco

For Future Release

O-Aust Kits
C30 tank loco, 44 class diesel, MHG, BR (ind&int), HR, EHO, DH loco (QR), 1400 loco (QR), ELX (VR)
Century Models
C30T loco

PO Box 743, Albany Creek, Qld, 4035 or email info@oaustkits.com.au
Phone 07 3298 6283 Fax 07 3298 6287 Mobile 0419 680 584
www.oaustkits.com.au