MainLine

National Model Railroad Association Inc - *Australasian Region*

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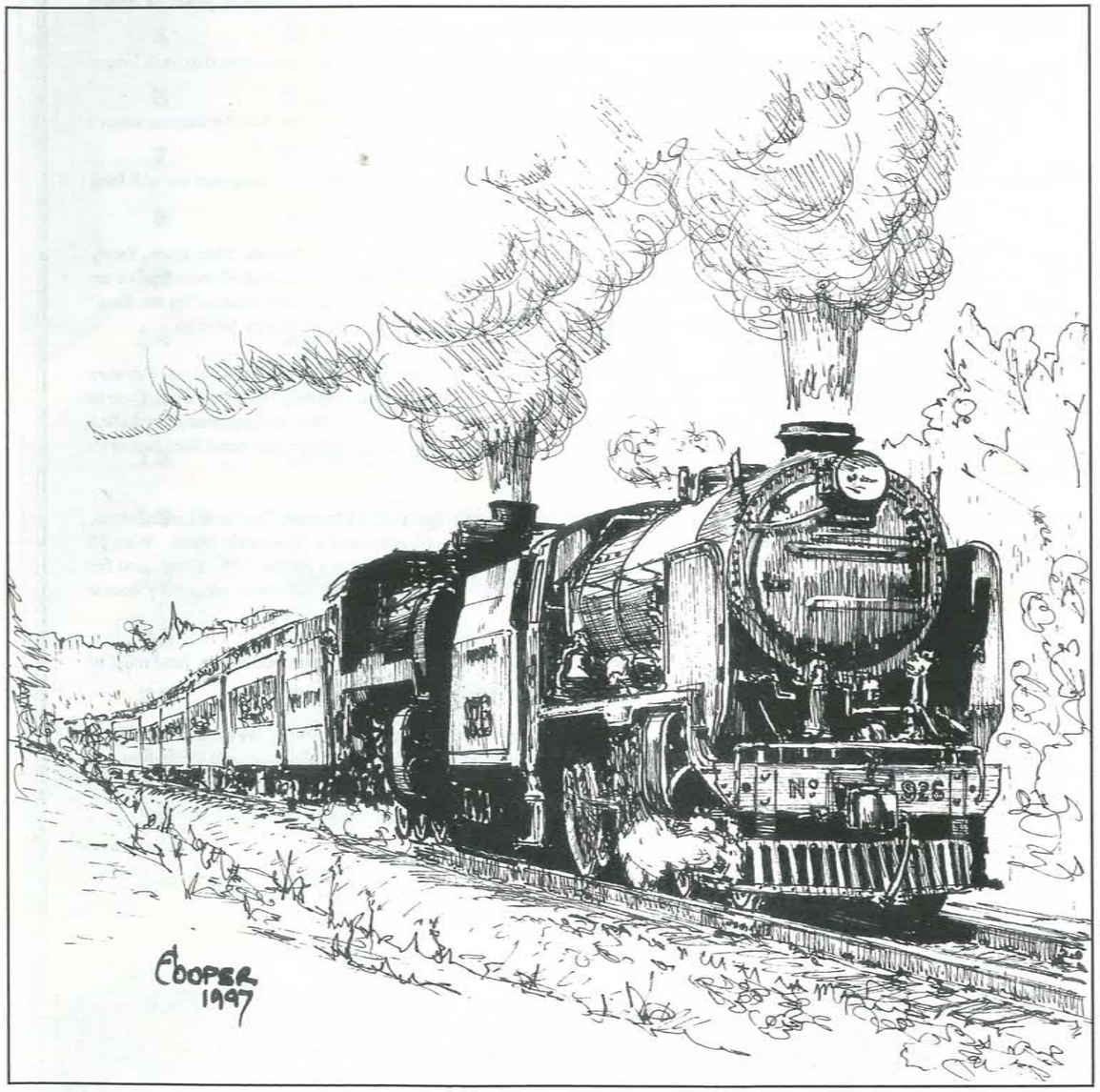

www.nmra.org.au

NMRA - SETTING THE STANDARDS IN RAILROAD MODELLING

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TRUSTEE'S REPORT

by David North

To say that the St. Louis Board of Trustee's meeting was interesting would be an understatement.

The Trustees knew that a balanced budget was needed to get us back on track after too many years of deficit spending. This deficit spending had been essentially caused by two factors:

Firstly, income projections relied too heavily on what turned out to be blue sky stuff eg., programs that took longer than expected to get up and running, or worse, never got off the ground at all.

Secondly, expenditure based on these projections wasn't reined in when it became evident that the income wasn't meeting target. The net result was we were spending more than we were earning.

Hopefully, the policy decisions we took in St. Louis will put an end to this dangerous merry-go-round and we will look forward to a steady improvement in future – time will tell.

We also realised that something we do all too often in this association was coming around to bite us, once again. Every year, at both National and Regional level, we agonise over the dues we charge you, the members. And all too often we err on the "safe" side and don't increase dues. Finally things reach the point where we have no alternative but to "up the dues" and naturally, like the elastic in a rubber band, the further you pull it back the more it hurts when you let it go.

We all feel the effect of inflation in our day-to-day lives and the impact on our Association is no different. So, as I'm sure you will know from other sources, we have elected to increase Region dues to A$55 per member. This will entitle you to full voting rights and access to all the facilities the Association offers, both in the US and here in Australasia, including four issues of our Region publication, the MainLine. And if you want to subscribe to the Bulletin, just send Toni Saxon an extra A$45.

On a different note, I would like to publicly thank John & Toni Saxon, Gerry and Lauris Hopkins, Trevor & Linda James, Jack Parker, John Parker and Allan & Ruth Garbutt for representing our Association at the Newcastle Show. With 16 names on the prospective new member list, many of them attended John and Toni Saxon's on the 22nd. Thank you for keeping an eye out and making these visitors welcome. Your hospitality could just make the difference when they decide whether or not, to become full members of the NMRA.

Newcastle and Liverpool are our major recruiting venues and without the efforts of those mentioned above (and most of them also showed up on the Liverpool roster in October) things would look rather bleak.

With sufficient numbers of volunteers, these days are good fun and you aren't selling memberships. We simply offer those interested a "three month complimentary membership so they can try before they buy." We get them to add their name and address to our list and we then ring them prior to the subsequent three meetings to invite them along – and it works – without stress.

So let us know if you can lend a hand for half a day – who knows, you might just enjoy it.

Finally, I'd like to wish you and your family the very best for a safe and prosperous year.

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Summer 2001
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Model - Rod Smith

On the cover... *"Hard-Working Ex-Pats"*

UK class V Schools 4-4-0 No 926 *Repton* double-heads with Canadian (ex-CPR) 4-6-2 No 2317, in the US, out of Scranton PA, in Steamtown service. Note the accessories required to run the British locomotive on US mainline: autocouplers, coupler lift bar, pilot, headlight,air hose, air pump and a generator on the apron, bell on right running board ahead of the cab, large whistle and extended tender side sheets.

Drawing by Bill Cooper

Schedule of Divisional Meetings for 2002

New South Wales

All meetings start 2:00 Saturday unless indicated differently.

March 9th	John Hughes	7 Wolf Close	St Clair	(02) 9670 4568
April 13th	Vic Quince	76 Good St	Granville	(02) 9637 6683
May 11th	Doug Wallace	12 Meares Rd	McGraths Hill	(02) 4577 4542
June 1st	Module Meeting	@ John Baker's 12 Rosebery Rd	Kellyville	(02)9629 2349
June 29th	**Sydney Convention**	Dence Park off Stanley Rd Epping		
	Convention Registration	8.00am for 9am start		
July 13th	John Montgomery	12 Lindwall Place	Shalvey	(02) 9628 9921
August 10th	Ken Scales	19 Goliath Ave	Winston Hills	(02) 9674 1563
September 14th	Bob Best	34 Winicoopa Rd	Blaxland	(02) 4739 1953
October 13th Sunday	Ron Cooper	47 Lincoln Ave	Collaroy Plateau	(02) 9982 1147
November 9th	Erik Bennett	33 Kananook Ave	Bayview	(02) 9997 7971
December 14th	Christmas Party Ian Hopkins "Toad Hall" 18 Mason St,		Thirlmere	(02) 4683 1550

Victoria

All meetings start 11:30 Sunday unless indicated differently.

February 10th	Paul Richie	28 Ascot St	Ballarat	(03) 5332 1138
March 17th	Bill Black	15 Steel St	Emerald	(03) 5968 3094
April 14th	John Cracknell	55 Donnybrook Rd	Norlane West	(03) 5274 1569
May 19th	Mario Rapinett	6 Steel St	Healsville	(03) 5962 2190
June 16th	Steve Cullen	67 Mowbray Cres	Melton	(03) 9747 6267
July 14th	Gavin Hince	25 Dwyer St	Clifton Hill	(03) 9489 4527
August 11th	Stuart Mitchell	5 Hertford St	Sebastopol	
August 11th	Geoff Truman	12 Goodwin St	Hoppers Crossing	(backup)
September 8th	John Dennis	62 Owen St	Mitcham	(03) 9748 7864
October 13th	Graham Meyer	2 Elizabeth Court	Emerald	(03) 5968 4518
November 10th	Laurie Green	20 Nambour Drive	Sunbury	(03) 9744 5188
	Sunbury MRC	Bulla		
December 8th	Grant McAdam	194 Booran Rd	Ormond	(03) 9578 8685

Canberra

All meetings start at 2:00 pm Saturday unless indicated differrently.

Februrary 16th	Ted Ankrum	10 Lawson Place	Jerrabomberra	NSW	(02) 6299 9685
March 16th	Rob Anderson	8 Purbrick Street	Chisholm	ACT	(02) 6291 9183
April 13th	John Bullen	9 Buvelot Street	Weston	ACT	(02) 6288 7312
May 11th	John Gillies	14 Earle Street	Lyneham	ACT	(02) 6248 8408

Queensland

February 9th	Nick Negerevich	22 Firtee St,	Capalaba	QLD	4157
April 20th	Bob Brown	63 Viscount St,	Bray Park	QLD	4500
July 13th	(Double Header in Toowoomba)				
	Mark Ward's OMA Belt & Darling Downs Model Railway Club' Drayton Harbour				
September 14th	Grahame Davis	41 Hersden Ct,	Benogin	QLD	4213
November 9th	Garth Fraser	28 Sylvan St,	Buderim	QLD	4556
December 8th	Christmas Lunch				

For details of Queensland meetings and address of the venue, please contact Glenn Stevens. (07) 3207-2442

Lights ON. Hot water urn ON. Power ON. Now what have I forgotten? Rod Smith contenplates preparations for Open Day at his layout

MainLine

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Editor **Keith McCarron**
Assistant **John Saxon**
BOD Rep **Allan Garbutt**

SUBMISSIONS: MainLine welcomes articles, photographs, drawings, cartoons and other railroad modelling related material as contributions to the mutual enjoyment of the hobby by the membership. Material should have wide appeal and preferably be sent by email or post to the editor. Articles may be submitted on 3.5" computer disks in any Windows or Macintosh based word processing format. Sharp photos, either B/W or Colour are welcome. Don't own a computer? That's fine - typewritten articles are also welcome.

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President's Report

President Geoff Hoad

The biggest news for us has been the decision by the US to increase membership fees. As I have been noting, we have for over three years now maintained the price of membership by curbing costs and exploring efficiencies. Even prior to the first plunge of the Australian dollar three years ago, and its subsequent further decline, these measures have protected our members from price increases.

Unfortunately the scale of the increase is such that we cannot absorb such a large amount, but instead of just passing the increase on to you, the Board has chosen an alternative, which will protect average members from these sizeable increases. This has been agreed upon and will be implemented to coincide with the projected fees increase. An accompanying article will give all the details.

I would also like to announce that in this edition we are asking for nominations for the election of the Board of Directors. An Annual General Meeting is to be scheduled for February, 2002. As you will remember, we previously held the AGM's in the early months of the year, but for quite a while they have drifted into the middle of the year.

Our Association is a volunteer organisation and we depend on members to contribute and participate; to lead the Region forward and basically get things done. If you have not been a Board member before, I strongly encourage you to put your hand up and support what is after all, a vibrant and successful group.

The news from America this week has not been good. I have sent a message to the President, Allen Pollock, expressing our sorrow and communicating our support.

Geoff Hoad

A Note From The Editor

During the evening of 11th September 2001 (our time), it was unimaginable to even guess what far-reaching affect the events, that were about to occur on the other side of the world, would have on the way we live our ordinary lives.

My phone rang at 11.45pm. It was the Operations Watchkeeper at Headquarters Australian Theatre. "Sorry to bother you," he said, "but you had better turn on your TV and tune it to CNN. All hell is breaking lose in the US." Needless to say, many Defence facilities around the world immediately went to a heightened state of security and commenced planning for the unexpected, just in case something more was planned by these aggressors. Fortunately the devastation was confined to just two places (New York City and the Pentagon). I imagined how the news of the attack on Pearl Harbour must have affected the population back in 1941. It is the element of surprise that is the most disturbing, while also being a most effective weapon. The problem with this attack, and all attacks that come from out of the blue, is that when you cannot clearly identify the enemy, you just feel helpless – and quite vulnerable.

Now, nearly five months 'post-911,' we are adjusting to the changes that have been forced on us. Even going to the cricket, or the football, will be different, as restrictions on what can be carried are imposed.

And in the least, your magazine has been delayed, to now finally appear, but as two issues in one. For that I must apologise, but seek your understanding. The stage has settled quite a bit, and the next issue of MainLine, due out in early April, should be on time.

Nominations for BOD positions were called for some time ago, and I believe names have been received. The new BOD will be announced in due course, but I look forward to some new faces, some fresh ideas for the management of our Region, and a brighter year in 2002. Happy modeling.

Keith McCarron

Melbourne

by Grant McAdam

June 2001

The June meeting saw the members of Division 3 at the home of Ron Wrigglesworth who is known locally as a prolific builder of narrow gauge layouts. Ron's train room also acts as the storage facility of the Croydon Narrow Gauge Group and because of the limited space available, none of the layouts were operating but for the intrepid souls amongst us, they were able to view the layouts. Fourteen members were in attendance with one visitor. Visitors are always welcome to our meetings as it is seen as a way of encouraging people to join the NMRA.

It was one of our usual lunch time barbecue meetings held in Ron's backyard. The weather wasn't an issue and even if it rained there is plenty of protection from the elements.

The assortment of items for display was a little down this month. Peter MacDonald brought along his BGM kit of the Na in On2.5 that was nearing completion. Another prolific layout builder in Division 3 is Laurie Green who is currently constructing the McPhee Logging Company in On3. Needless to say it is a logging line and Laurie brought along an assortment of pulleys, gears and tools that will be used on the layout along with some CAD plans. Unfortunately I could not make the May meeting as I was overseas for work, but I was able to squeeze in some rail-fanning in France and Wales and had the photographs that I had taken. There was also an assortment of books that I picked up while in England. Mario Rapinett brought along an assortment of HO scale detailing parts that he was selling, many of which were also suitable for O scale.

Gavin Hince was not able to make this meeting, as he had become a father for the first time with Megan being born on May 31. Both mother and daughter are doing very well.

July 2001

Laurie Green hosted the July meeting of Division 3. Twelve members and some partners plus one visitor made the trek out to Sunbury for this meeting. It is always worth making the effort to make this meeting to see Laurie's latest project. On display were the Enterprise Gold Mining Co. (On2.5), Laurie's current exhibition layout, Old Ophir (On3) his former exhibition layout and the McPhee Logging Co. (On3) his new exhibition layout that will be shown for the first time in January 2002.

The formal part of the meeting was kept to a minimum as usual. Grant McAdam requested that those members with e-mail addresses to list them in the attendance books. This will allow the members to be contacted quickly if there is a change of location or date for a meeting and help to keep the postal costs down.

There was an increase in the items for display this month. Mario Rapinett had an example of the aluminium framing that he uses for layouts. Under construction was an O scale schoolhouse by Grant McAdam that is actually a model of an HO structure that he liked the proportions of. Stephen Hollian and Gavin Hince both had O scale rolling stock. Stephen had constructed an On2.5 water tank car while Gavin had modified an O scale Bachmann boxcar. The relatively low prices paid for this range makes them ideal for kit bashing projects. Paul Richie made it to Sydney for the recent convention and had a copy of the convention book plus an O&K 0-4-4-0 Sn3 loco kit and an Indian Trails Structure kit. The latest kit by Steam Era Models a Victorian HO "R" class was displayed by Peter MacDonald.

To help entertain the partners, Rosemary, Laurie's wife, took them off to the local creek to go platypus posting.

August 2001

For anyone who has lived in Melbourne for any length time would realise that holding a barbecue in the Dandenong's during August is either brave or foolish. Well you guessed it; our August meeting saw us making our way to Bob Backway's at Belgrave Heights in the Dandenong's. Fortunately, we were extremely lucky with the weather with it being a sunny day outside if a little on the cool side, which allowed us to cook our barbecue lunch in comfort. The divisional urn was put to extremely good use keeping the members supplied with tea and coffee.

After lunch there was the short formal part of the meeting. Grant McAdam reminded the members of the change of locations for the October and November meetings. To ensure that they do not forget he gave them an updated meeting schedule for the remainder of the year. He also explained about the problems with the meeting reports for Division 3 earlier in the year and gave them a copy of the reports that had not appeared in the Main Line. For those members who could not make this meeting they should have received a copy of this information through the post. The information also included suggested dates for meetings for 2002. Grant also introduced Bill Black one of our two visitors. This was Bill's first meeting while our other visitor Helmar Zangerl had been to previous meetings but had just returned from China the previous day, which was, considered a very good effort. Both Bill and Helmar have decided to join the NMRA so welcome aboard.

The Na locomotive kit by BGM in On2.5 that we had seen previously from Peter MacDonald was now complete except for a trip through the paint shop. Another O scale locomotive was provided by Stephen Cullen who was converting an HO scale Roundhouse Shay into a narrow gauge locomotive. It entails building a larger cab and boiler fittings. Stephen has already undertaken several of these conversions. Still yet another locomotive was on display by Geoff Truman. It was a BGM kit in HO of a Victorian Government Y Class. Laurie Green has been working on some of the smaller structures for his new layout and had on display a water tank. Further stimulation/inspiration was provided by Grant McAdam who had the following narrow gauge magazines: Light Iron Digest; OO9 News; Narrow Gauge and Industrial Railway Modelling Review and Narrow Gauge World and the book Full Steam Ahead – Echuca-Moama Sketch book by D. Williams that he picked up on a recent trip to Echuca.

Sydney

August

Over 65 people traveled to the Baulkham Hills for the August meeting at home of Rod & Anne Smith. Members were able to enjoy Rod's train room, the winter sunshine and great company.

Rod models the Missouri and Topeka Valley Division of the Missouri Pacific Railroad. The layout is in a purpose-built building measuring 31.5 x 15.5ft. The layout occupies 25 x 15.5 ft, the residue being lounge and viewing area.

Since our last visit in 2000, Rod has completed the industrial area, and the large town of Meridan is ¾ complete. These features complement the previously completed Rock Creek Gravel spur and the attractive river inlet and nearby bridge. Another interesting building complex we viewed on the day was a large scratch-built feed mill that was loaned by Geoff Nott.

Geoff Hoad presented the main BOD topic of the day, which was the restructuring of the Region fees. Geoff also presented President Awards to various members for their volunteer efforts to the Region.

We look forward to again visiting Rod's layout, as he has already commenced work on the river branch, which will conceal the 8 track staging yard.

September

Over 70 people traveled to the Central Coast for the September meeting at home of John & Toni Saxon at Yattalunga. Members were able to enjoy John's train room, the spring sunshine, water views and great company.

John and Toni had spent many hours preparing the layout and those who had previously seen it appreciated the extra additions, especially the 2,000 trees created mainly by Toni. John's layout is modeled on Tony Koester's Allegeny Midland Railroad. This is set in the eastern United States where coal traffic is a major revenue earner for the railroad.

Also present were several visitors, there following a very successful Regional promotion that was staged at the Broadmeadow Hobby Exhibition in late August. We welcomed Allan Eagle, John Sweetman, David Swinfield & his wife Joan. Paul Stevenson, a visitor from Jannali, was invited by John McEvoy

Gerry Hopkins conducted a mini clinic on track laying and ballasting, which was most informative. Hands-on displays are a great help to us all and if you have a skill that would be suitable for a mini clinic at a regular Saturday meeting, please speak with John Baker or one of BOD members.

Reminders were made of the Sydney Model Railway Exhibition at Liverpool on the long weekend and volunteers were called to staff the NMRA exhibit. Nominations for the new BOD will be called for over the next few months. Peter Jensen spoke about the one day convention to be held next year.

Lyndon Sydney (Lou) Davis
1 October 1947 - 29 August 2001

Members were sadened to hear of the recent passing of Lou Davis after a long battle with lung cancer. Lou, an NMRA member since 1997, was an avid Southern Pacific modeller with an extensive and well-equipped layout. He had been battling his problem for some time, but he never gave up hope. In fact, just prior to his last hospitalisation, he was planning special arrangements so he could continue to access his layout after he was released from hospital.

Lou's many friends in the hobby were represented at his funeral by Geoff Nott, John Bakler, Peter Hamersma, John and Toni Saxon, Don Davis, Steve Pettit, Rod Smith, John Sneller, Peter Webb and Ian Alce.

Our sincere sympathy is extended to Joan and the family.

Passing of a true friend of the region
Bruce Ballment

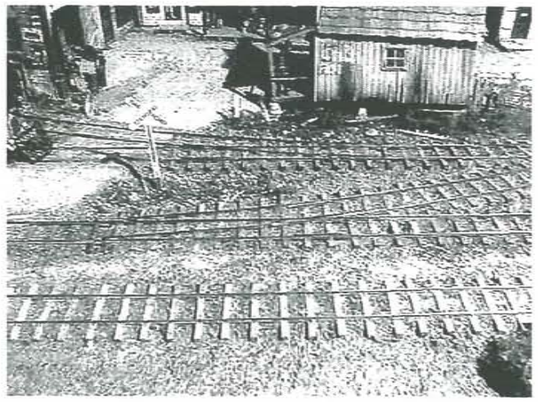
Bruce Ballment, for many years the region's Member Services Officer, died as a result of heart and related problems on 6 October 2001. Bruce had had a successful by-pass operation many years ago, but recently his heart started to fail again and he was admitted to the intensive care ward of the Sanitarium Hospital, Wahroonga in late August.

Many will remember Bruce and his wife Barbara as regular attendees at the monthly Sydney meetings. Others will also remember visiting Bruce and Barbara to enjoy his excellent and well-detailed HOn3 layout that was located in the attached garage at Normanhurst. Both Toni and I will also retain happy memories of the long personal friendship we enjoyed with them both; the meals, the bottle or two and the friendly exchange of views on the region, its successes and the future.

John Saxon

Reliable Hand-laid Track

by Laurie Green, MMR



Many modellers and layout builders look at hand-laid track with awe, and in some cases with horror. They exclaim "I don't know how you do it," or "I don't know how you have the patience!"

In this series of articles I am going to try and dispel some of the perceived horrors, and with these horrors gone, you will find the achievement of laying your own track will bring with it great enjoyment. You will realise that anything you enjoy doing, doesn't require patience – that comes naturally.

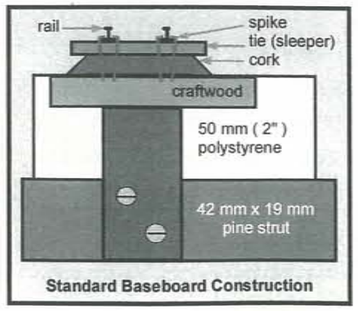
What are the advantages of hand-laid track? To me, the most important benefit is the look of weathered timber ties with lightweight rail spiked down - nothing looks more prototypical, especially in photographs. Secondly, the ability to build track that suits the location, especially with custom built turnouts, which means you can design track plans that would not be possible, if using only commercial track. Thirdly, hand-laid track is much cheaper than commercial track and anything that makes our hobby dollar go further, must be good.

I must say that I do not consider myself to be the absolute expert on hand-laid track work. I am still learning this art from others, from experience and from just plain trial and error. Hopefully, as I learn, these errors will become less and my enjoyment will grow. If you want to add to my experience with ideas, or things you have learnt or tried, please let me know.

Section One - THE ROADBED

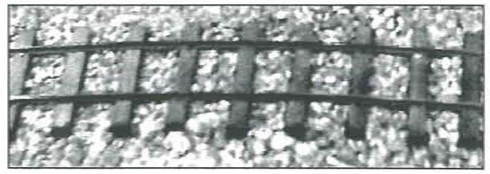
Before hammering the first spike into a tie, let's look at the construction of the baseboard and roadbed. All my baseboards are a frame work of 42 mm x 19 mm pine, with cross-struts every 300 mm. White polystyrene sheet, normally 50 mm thick, is glued to this framework using Selleys "Liquid Nails™". This foam is also used to form the scenery over the entire layout. For the roadbed, I use 6 mm Craftwood™ (MDF). I then mark out the shape of the roadbed required, including the centreline of my track. This is then cut to the required shape. I then "Liquid Nail" the roadbed into the foam base, so the top of the craftwood is level with the top of the foam. I also add 42 mm x 19 mm pine droppers through the foam, from under the craftwood roadbed to the cross strut for added stability. Before going onto the next step, I very carefully examine the roadbed for any undulations, warping, high or low spots. Also check that the grades are smooth and even and ensure that the transitions from the flat areas to the grades are correct. If your layout is modular, care should be taken at the joins between baseboards, to ensure that these areas are smooth and even. It is better to take a little time now to get the roadbed 100% correct, than to have to re-do it, after the track is laid.

When I am happy with my roadbed, I start gluing 35 mm wide by 3 mm thick strips of cork to the roadbed, using PVA white wood glue. Use the centreline of the track as a guide. The cork strip I use has a 45° bevel along each edge to help form the ballast shape. To get the cork to follow a curve, cut almost all the way across the cork about every 50 mm and curve the cork in small straight steps. After gluing the cork down, I use a long steel ruler to check for any undulations, just as I did on the craftwood roadbed. Any high spots can be sanded off, or low spots filled in to give a smooth surface.



Standard Baseboard Construction

Section Two - THE TIES & RAILS



The track and turnout ties that I use when I am building my 'O' scale (¼" to the foot) 3 foot narrow gauge track are from the Mt. Albert Scale Lumber Co. The standard ties (product code MA377) are a scale 6'0" or 6'6" long, by 7" wide and 5" deep, while the turnout ties (product code MA378) are a scale 12' 0" long by 7" wide and 5" deep. The spikes I use are Micro Engineering medium spikes (product 30-106). The pre-weathered rail is code 70 and is also by Micro Engineering (product code 16-070). Both companies have a large range and will have the size and scale ties and the code rail that you require. I have found that this combination of 3 mm cork and 3 mm deep ties is perfect when used in conjunction with Micro Engineering rail and spikes.

LAYING AND WEATHERING THE TIES

Now that I have the roadbed and cork in place it is time to start laying the ties. First thing to do is to mark the outside position of the ties. A simple jig with the centreline and outside ends of a tie marked on it will make this job go quite fast. I use standard PVA white wood glue, which I spread the over about 300 mm of the cork, achieving a thin even layer - a finger is a great tool to do this. I model narrow gauge, where the ties are never neat and regular, so I just place the ties by eye, normally about two tie widths apart. If you want a much more accurate look, using a simple jig would help you achieve this.

Once I have the craftwood, cork and ties in place, I distress the ties with a coarse razor saw by dragging the blade across each tie several times. This is a very quick and easy method of imparting a weathered effect to the ties. I then stain the ties a weathered grey. The stain I use is a mixture of brown and black shoe leather dye (¾ brown and ¼ black) that I mix with methylated spirits to the required colour.

Another good stain can be made by mixing Artist's Oil Paint "Van Dyke Brown" and a small amount of "Black" which is then diluted with thinners. Again, mix until you have the desired colour for your ties. There are also commercial wood stains available, which may suit your needs.

Note: Before laying any cork or ties for turnouts, see the section on
TURNOUT TEMPLATES

Section Three - TOOLS & OTHER USEFUL STUFF

Before we start laying some track, let's look at the tools and other useful items that are needed.

N.M.R.A. Track Gauge
Small pointy-nosed pliers
Small tack hammer
Nail Punch - with a fine flat point
Bench grinder and a fine file
Rail Cutter - either a Dremel type power tool, small saw or cutters
Spare discs for the Dremel
Steel ruler (for straight track)
Good soldering iron, solder & Flux
Brass roller gauges
Wooden block track gauge
Lead blocks
Tweezers
Short length of a hack saw (I will explain its use later)
Fibreglass eraser pen
Razor saw (course teeth type)
Bench grinder
Track Rubber

You may already have most of the tools and gauges listed above. They require no modification, in order to be used for track laying. The one exception is the pointy-nosed pliers. The set I use have curved ends, which allow you to see the spike and the position on the tie clearly. I have cut a 'T' on the inside of one the pliers points. This allows me to position a spike in the 'T' and grip it firmly. It will stay there and not move around as you push the spike into the tie. It is also useful to magnetize the pliers as this makes picking up the spikes easier.

Section Four - LAYING STRAIGHT TRACK

If you are new to hand laying track, I suggest you start with laying a test length of straight track, then move onto laying some curved track, then finally to laying a normal turnout.

We are now ready to lay some straight track. To get these rails in the correct position on the ties I use two brass roller gauges and two lead blocks. Lay the two rails centred on the ties using the roller gauges, or the NMRA gauge as a guide. This is where a couple of extra heavy lead weights come in handy, to hold the rail in place while you put the spikes in. Place the first roller gauge on the two rails, about two ties in from where the first spike is to be driven. Check that the rails are centred on the ties. Hold the gauge in place with the lead block. Repeat for the second roller gauge about 300 mm from the first. I then lay a steel ruler against the outside of one rail and hold in place with a weight to ensure that the track will be straight. If you are modelling narrow gauge like me, a slight wavering of the track is quite prototypical - that's my excuse anyway.

Place a spike into the pointy nosed pliers, then position the point of the spike in the centre of the tie, away from the rail the length of the spike head, and then push down firmly. Don't try and push the spike all the way down, as more often than not it will bend. Sometimes you may have to realign the spike head as it can twist as you push down. Using the nail punch and the tack hammer, tap the spike home. Do the same on the other side of the rail. Repeat this several thousand times and it will become easier.

NOTE: Because of the size and weight of my On3 locomotives, I spike every second tie. This requirement will vary with the scale and weight of your locomotives. I spike every fifth tie, until the entire length of rail has been secured. I then go back and spike the ties in between those already done.

WARNING: Do not tap the spike down too hard, as you can distort the rail, or the spike can go under the foot of the rail. If this happens, it is easier to leave the spike there and insert another spike next to it. Also, by only having your spikes just firm, this will allow the rail to move when it expands and contracts with temperature fluctuations.

Section Five - LAYING CURVED TRACK

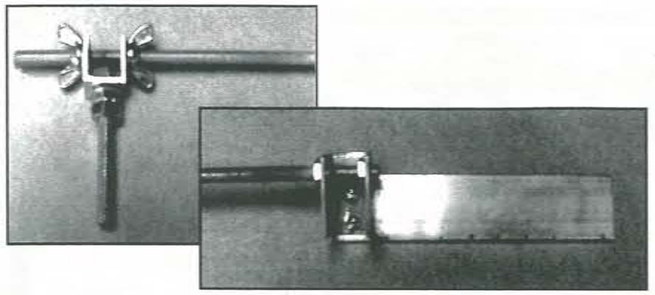
EXACT CURVES

When hand laying curved track, it's important to have some type of radius tool to enable you to accurately mark the position of the centreline of the track. This can be as simple as a length of timber with a nail in one end and holes, or notches in the side, at the required track radius. You then place the nail in a hole at the centre of the curve and draw the lines where needed.

While this works reasonably well to mark the centre line of the track, it won't hold the rail in the exact position while you spike it down.

Getting the curve exactly right is vitally important when the radius you want is at the minimum that your locomotives and rolling stock will negotiate. It's so easy to go slightly under this radius when hand laying track and this will cause on-going problems and frustrations.

I built a jig that eliminates this problem. The two ends of it can be seen in the photographs below. It was built from bits and pieces that were lying around the workshop and all the pieces can be bought at your local hardware store.



The parts to build this jig are list below:

- 2 x Aluminium 1/2" channel by 1/2" long
- 1 x length of 1/4" All Thread rod (36") long
- 1 x Aluminium strip 3/4" x 5" long
- 2 x 1/4" wing nuts
- 6 x 1/4" nuts
- 2 x 1/8" by 1/2" bolts and nuts

You will also need a hacksaw, a power drill and 1/4" and 1/8" drill bits.

The wing nuts allow the radius to be changed to the required length. The strip on the end has notches cut into it for the centre line, the two rails, the tie width and the craftwood roadbed width (if required). To use the tool, drill a 1/4" hole at the centre point, and draw the centre and tie width. When you are ready to spike the rail, use the two rail notches to hold the rail in place while it is spiked down. Remember to check that these notches match the NMRA track gauge.

OTHER CURVES

Not all track is an exact curve. We often require transitions from straight track to exact radius curves, 'S' curves or spiral curves.

There's no easy way to get these looking correct. The best that I have come up with so far is to use a long length of Masonite™ packing strip. This is available from all timber suppliers, including most hardware stores. It is 1" wide by 1/8" thick by 8 feet long and bends in a nice transitional curve. I draw the approximate centre line of the required track, and then bend the strip to this required curve and hold in place with nails until I am happy with the curve. I then mark the roadbed along the strip. This becomes the centre line of the track.

I then clue the cork along this line, and when dry, add the ties in the same way as for the straight track. When laying rail on these types of curves it is important to get the rails centred on the ties. To achieve this I use a simple jig made from a block of wood the same as the width as the ties. On the flat face I mark the centre line and using a hack saw, cut two slots across the face at the track gauge. These need to be deep enough for the rail to fit into. Make sure you check the width of these slots with the NMRA gauge. It may take two or three goes to get this right, but this is a very handy tool for laying all types of track.

LOOK FOR PART TWO - BUILDING TURNOUTS

A Representative

Cane Train

in HO scale

by A C Lynn Zelmer

While Rockhampton, a city of 65,000 with a trading area of perhaps 120,000, has a general purpose hobby shop, it isn't big enough to have a specialist model railroad shop. The owner is sympathetic, but he was unable to guide novices wanting to model cane trains.

I provided a small (A4 size) diorama using 009 cane models last year but novice modellers were more interested in off-the-shelf models. This train and display was my response to the question "How can a novice modeller build a Queensland cane railway using off-the-shelf HO models as a way of getting started?"

My representative cane train has a locomotive, two different cane bins, an open wagon for maintenance work and a bogie tanker for hauling water. It isn't prototypical and it does require some scratch building, but otherwise the major requirement is ability to build, paint and weather plastic kits or ready-to-run models.

The display is interlocking foamcore board with a computer-printed view of the Moreton Mill (Bundaberg) as a backdrop. The base was painted using water colors and a length of flex-track was then glued on top. A water tank and some foam ground cover complete the scene.

Some models were purchased specifically for this project, others came from my 'to do' cupboard. The cost was just over $100 but it seemed a reasonable investment to encourage individuals getting started in the hobby.

The hobby shop also distributes copies of my four page note on modelling Queensland cane railways (similar to my 1998 Narrow Gauge clinic notes) to interested customers.

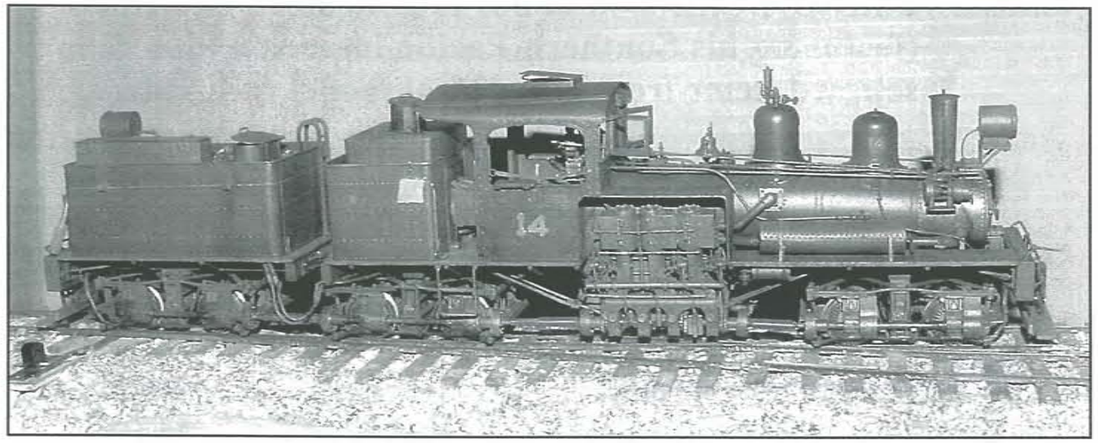
The display fits neatly in a display case and promotes CaneSIG (an NMRA special interest group) as well as cane modelling. The web site has detailed notes on kitbashing the cane bins.

The next step is to build a Queensland cane railway diorama for the ANGRMS museum at Woodford, then hopefully a modeller's guide and planbook.

CaneSIG: http://www.zelmeroz.com/canesig

SOLDERING
Made Simple

by Bernard Snoodyk



A Bernard Snoodyk scratch-built three-truck shay - in brass, of course. Photo McCarron

Bernard Snoodyk is an award-winning scratch-builder for whom brass, flux, solder and flame are but the tools for creating art. The Editor met up with Bernard at Castle Hill, were he agreed to share some of his soldering secrets with MainLine readers.

Most readers will at some time or other have wished that they could achieve a perfect solder joint every time or to assemble that brass kit for your next locomotive. Contrary to popular belief, soldering is not a black art, just follow the simple techniques in the article and you will be amazed at the results.

Good soldering relies on three fundamental factors:

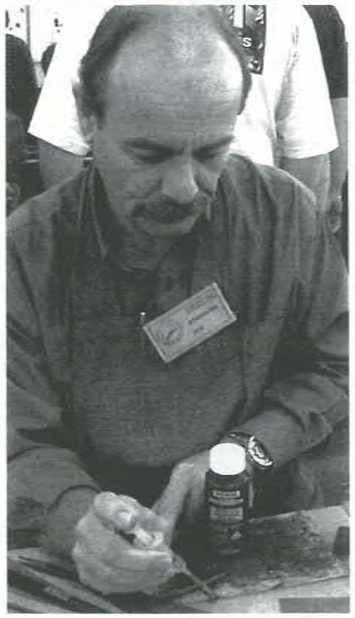
- Clean surfaces
- Rapid, controlled heat at the joint
- Control over the amount of solder.

Each of these factors is contained in the techniques outlined.

You will need the following tools and equipment:

- Piece of flat asbestos cement or Hardiflex sheet approximately 150 x 250mm. It has to be flat and have at least one smooth face;
- Hobby Knife with snap-off blade;
- 1.0 or 0.8mm 60/40 standard resin core solder [Dick Smith brand is great]
- Bakers Fluid [liquid flux]
- Butane Gas torch [±$80 from Dick Smith]
- Third Hand stand [±$12 from Dick Smith]
- Self locking tweezers approximately 160 mm long [from Australian Jewellers Supply Sydney & Brisbane and Dick Smith]
- Plastic Syringe with 1.0mm blunt needle [Chemists] [just tell them that you will be shooting up with Bakers Fluid and watch the chemists face]
- Empty film canisters

Cut a length of about 150mm long from the reel of solder holding it in an angled position over the asbestos sheet cut it into random length ranging from 2 to 4mm, making sure that they are left some distance apart on the surface of your heatproof sheet. Continue to do this with more lengths of solder until you have covered about half the sheet. [It's a boring job, so you may as well do a big quantity in one go]



Cutting resin-core solder

Next run the torch over all those little bits of solder sitting on the heatproof board keeping the torch at a relatively low flame setting and holding the flame about 50 to 80mm above the surface. This is important since the little bits of solder will move under the flame if the setting is too high or flame too low resulting in the little pieces merging into balls that are too big for our purpose. You will see each piece of solder forming into a small shiny ball under the flame and a very small shiny puddle surrounding each solder ball. The shiny patch is the resin that has now been burned out of the solder strips. This stage is important since we do not want residual resin left in the solder ball because it will cause corrosion in the final soldered joint. Continue across the board in a linear fashion until all the little strips of solder have formed into balls and are surrounded by a shiny patch. Leave to cool for a few minutes. When cool run your forefinger over the top of the solders balls in a pushing motion. This will loosen them from the resin. Gently work the little balls to the edge of your worksheet and drop them into a film canister for future use. The objective is to get a random mix of sizes in the solder balls to suit different joint sizes in the soldering process, therefore don't waste your time getting them all uniform [the greater the range of sizes the better]

Assuming that you will have pre-cleaned the pieces to be joined to a point where they are free of major surface dirt or oxidised areas [There is no need for a spotless surface, however remember "the cleaner the surfaces the stronger the joint"] position the pieces to be joined into the correct location. You will find it easier if the larger or flatter piece is placed on the heatproof sheet.

Lock the pieces into position using the weight of the third-hand stand and the

end pressure of the tweezers [locked into the 3rd hand] on top of the pieces to be soldered. Because in this technique you do not need to touch the pieces to be soldered you will only need enough pressure to stabilise the work piece, which requires very little pressure]

Apply flux with a needle

Once the pieces are in the correct position apply a small amount of Bakers fluid around the joint using the syringe. Take care not to apply a lot of pressure to the syringe otherwise you will flood the work, rather let capillary action do most of the work.

Now comes the real secret of the technique, which is to control the amount of solder in the joint. Remember that the strength of the joint is dependent on the MINIMUM amount of solder [not great blobs of the stuff], and that you want a minimum clean-up.

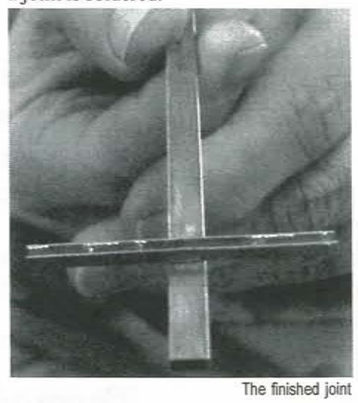
Select a solder ball that is appropriate for the size of joint to be soldered, remembering that you can add another one if not enough. This is easier than removing excess. The solder ball should always be placed at the side opposite to that from which you apply the flame. Also place the solder ball at one end of the joint. If the joint is very long, say in excess of 12 to 15mm then simply place a number of balls at intervals along the joint.

Apply heat to the joint

Having placed the solder balls, now run the torch flame on the OPPOSITE side of the balls. Use the lowest flame setting for the joint size, thickness of material to be joined and size of the pieces. The trick is instant heat, with minimum distortion and softening of the model. Apply the heat at the far end of the joint and let capillary action draw the solder along the joint, or in the case of a long joint gradually move the flame along the joint drawing the solder with it.

Once the joint has filled let the work stand for a few minutes to let the solder set and the work piece to cool. This process can be expedited by brushing the joint with a wet paintbrush [do not use a nylon brush for this]

That completes the basic soldering. All that is left to do is to check the joint and clean the work in a bowl of clean water using an old toothbrush and a light scrubbing action. Your work will remain more manageable if you do this every time a joint is soldered.



The finished joint

Write to me care of the Editor "if the mood strikes."

Bernard Snoodyk

The Ideas File

or, why didn't I think of that?

An occasional column conducted by
Mario Rapinett

I have several packets of HO & O scale lumber.

Some nights, before I go to bed, I will slide the timber through the small packet hole and do a bit of scribing and wood graining. It saves me from having to do it when I actually start a project. A lot can be achieved in 5 or 10 minutes and they soon add up.

I have used the razor saw and a file brush. However, the results from the razor saw are a bit uniform for me, even though I cross grain. The file brush is great and gives a true grain texture, especially on large timbers such as balsa.. But when I do small pieces, the file brush bristles are too far apart.

Also, using the file brush, at times I catch the bristles onto my fingers. Some nights I need a blood transfusion. I always ask myself, could there be a better way?

Recently, I found the solution to all my problems. I happened to be in the local auto shop and told the salesman, Paul, what I wanted to achieve. He showed me a brass brush, shaped like a shaving brush. It is the type you put into a power drill. The brass wires are very close and when I tested it on both softwoods and hardwoods, it was perfect for large and very small size timbers alike. Plus, it was very comfortable to hold, just like a shaving brush (Ouch!).

The grain it produces will "knock your socks off". The best part is, brush cost me just $5.00.

The photo shows a brush, as purchased, together with one, to which Laurie Green fitted a home-made handle that he cut from large diameter dowel.

CABLE RIGGING

At the last Victoria meeting, Gavin Hince remarked that I tend to look under layouts and in the nooks and crannies. I said to him that I do this, because it is where you find some interesting ideas. Hidden in Gavin's layout was some realistic looking rigging cable. It was brass picture wire that he had treated with a product called 'Blacken it.' After the meeting, I drove to our local hardware shop and purchased a few packets of picture wire of various strand sizes. 7 strand x 4.5 metres was $8.00 It is a nice size for O and G scale. 4 strand x 4.5 metres was $6.00 a pack.

I have tried using guitar strings for cable, but I find it too rigid. The picture wire, on the other hand, can be shaped quite easily and it looks great with the ends burred out. I gave mine a light coat of cheap aluminium colour spray paint to finish it off.

I hope to use this technique to model more coils of cable and cable rigging on spar trees, as modelled by Steve Pettit. (See picture at right)

Did you know "Wet Ones" (wet paper tissue) makes excellent "tar paper", etc for covering structure roofs, cabooooooses.

Much stronger than using ordinary tissue paper. (got this tip from Geoff Nott)

$2.00 for a packet of 30 sheets. Got mine from Safeway supermarket.

A fine example of cable work on the Red Stag

USING A GOOD PRIMER

I am painting over 100 'O' scale figures, using methods adopted by those who paint military figures. I am also using some of the tips I have received from Grant McAdam and Geoff Nott.

One thing I am doing first, is priming with etch paint, rather than just using any cheap grey paint. I use "Steam Era" grey. It just seems to hold better and is worth the extra cost, especially when you can spend up to six hours painting a figure.

Once the figures are primed, I then use a base colour, then various highly diluted dark paint washes to show the shadows. The etch paint also helps to give a shadow appearance. After the figures have dried for a few weeks, I then dry brush highlights with lighter colours, but not white. Coloured pencils can also be used to delineate highlights.

THE GOOD GLUE

Yellow Glue, for many modellers I know, is preferred in lieu of white PVA glue for model making. It holds better, dries quicker and in general is a far superior glue.

Two years ago, while in a model aircraft hobby shop, I purchased an 8 oz bottle ($7.60) of "Pro Wood Glue". This is an "Aliphatic Resin," or yellow glue, that is imported from the USA and I can say that it is an excellent product to work with. However, I recently had to purchase another bottle. It now comes in a 4 oz bottle ($6.50). The first thing I noticed about the latest batch was that it gave off an unpleasant odour at times and after about two months the colour had turned to white.

I thought it was time to investigate whether a locally made yellow glue was available. After an enquiry at my local kitchen joinery factory, I tracked down a product called AV180. It is a water based yellow glue, which seems to be very popular with many of the kitchen and staircase manufacturers, because it dries quickly and has great joining strength.

I experimented using it with timber, plastic and white metal. I believe AV180 is another "have-to-get" product, especially if you plan to do a lot of scratch building and it is also perfect for constructing layout benchwork.

I purchased a five litre bottle from which I made up a few 500 ml bottles. For some people, one bottle would last quite a while.

So there you have it. I hope some of the local Victorian NMRA members try this product and see how it compares to standard PVA glue. [Let's not limit it to just VIC members. Ed]

Product: **AV180** $70.00 / 5 litres
$13.00 / 500 ml
Plastic Bottles $ 1.50 / 50 ml
For information, email: info@avsyntec
telephone: Victoria: 03 9798 4944
NSW: 02 9744 3144

Buy' for now,

Mario

Dear Editor,

I recently attended the NMRA Christmas party at Kellyville, NSW. I really enjoyed the afternoon, especially meeting up with members I had not seen for a while and making some new acquaintances.

Congratulations must go to the organisers and the many people who helped prepare and serve the meals. The property of John Baker was an ideal location with the large building and plenty of parking.

There were a number of things I noticed about day that convinced me to continue my membership with the NMRA.

Firstly, the welcome I received as a visitor (actually Mario is a motivated member who frequently makes the trip from Melbourne to attend Sydney meetings, Ed). It really makes a difference, when visitors feel that they are part of the day.

Secondly, the NMRA in NSW is currently involved in selling items that were owned by a member who recently passed away. It is a huge job and an area where the Association should be congratulated for taking part.

Someone had prepared a list of items for sale and I was wondering in this case, and in the future, whether a list would be available to members in other states in Australia.

This may help obtain the best possible prices, a better chance to sell all items quickly and more importantly, items would not be sold off at bargain rates. I personally have been helping in a similar situation for the past nine months, here in Victoria, and having the NMRA involved would have helped.

During the day, I had a few "show & tell" items on display, including my aluminium framing modules. It was nice to get some feedback from the members present.

Some members were planning on visiting Victoria in the near future and asked whether someone could organise for them to see some layouts during their stay. We have many excellent layouts down South and I am sure if you contact Grant McAdam, or myself, we would be happy to look after any visitors.

Once again, I must say it was a great day for me and I managed to attend the Victorian Christmas party the next day.

Best wishes to all members in Australia.

Regards,
Mario Rapinett

Note: *Mario left the NSW function as planned, at 4.00 pm precisely. He drove to his pre-arranged accommodation, arriving at 11.00 pm, then travelled the next day, directly to the Melbourne Christmas party. When that finally finished, he went home to see his family. Now that is the sign of a dedicated NMRA member - Ed.*

Modelling Time

by Rob Nesbitt

Do you wake up early in the morning? Do you watch a quick 30 minutes of morning TV? Do you come home after a long day at work, and eiter don't feel like (or are not allowed) to devote the evening to railroad modelling?

One of the benefits of waking up early is that I have about 30 minutes a day before getting ready for work, where I can work on some modelling projects. In the course of a week, that equates to 2-3 hours of time. Not only do I find this a boon to my modelling, I also find it therapeutic in taking my mind off my day-job.

There are a couple of guidelines.

1) The workbench must be easily secured. One should not spend more than a few minutes in setting up, or closing down.
2) Choose projects that can be split into small tasks.
3) Make sure that there is adequate heating, and light.

Some examples of the tasks I do

- Painting figures - one colour per day over multiple figures.
- Pre-assembling Kadee couplers
- Preparing kits (like drilling holes).
- Cutting and staining raw material for scratch-building
- Assembling the subassemblies of plastic kits, where the subassembly needs to be set aside to properly cure.
- Glazing of models.

Modelling in the morning is a good habit to get into. Try it. What have you got to lose?

Assembling Athearn Locomotives

By Rob Nesbitt

A Primer

During the preparation for the Malkara exhibition, I needed to assemble a number of Athearn locos for running at the exhibition. Whilst my comments are aimed at the beginner, I think there will be something for everyone.

1) Remove the shell from the chassis. Athearn tends to rely on clips, rather then screws, meaning the plastic needs to be distorted in some way to remove the shell. The instruction sheet should mention the disassembly method. Depending on the model, it might be beneficial make adjustments to make subsequent disassembly easier.

2) Check the bogies run. Remove the plastic Worm gear retaining clip, which also holds the bogie to the frame. This will require a screwdriver blade to carefully ease the clip off the bogie gear train plastic sides. Once free, check the bogie will roll on its own without binding. If it does bind, then you will need to further disassemble, and de-burr all gears. When the bogie does roll, apply lubricant (Labelle 102 gear oil recommended).

3) Attach all the extras to the bogie sideframes before re-attaching the bogie. This is a lot easier than trying to do this when the bogie is attached to the chassis frame.

4) Confirm the motor spins nicely, with and without power before adding the now completed bogies. If the motor mount is not solid, or horizontal, then now is the time to make adjustments.

5) Attach all detail items to the shell. Athearn supply a number of parts, but additional items (such as grab-irons) may be added at this stage. Many parts can be superglued, or clean away the paint if using plastic glue. A few parts, such as windows, can be glued with water based contact adhesive. (Selleys or Simply Glues make suitable products).

6) With the long handrails, I find the metal ones superior to the plastic ones, at least when the loco is being viewed from normal operating distance. Attach one end of the wire handrail to the body shell, and slide on each handrail support in turn onto the handrail. Push (with care and needle-nose pliers) the support into the hole provided in the plastic shell. Then crimp the top of the support onto the handrail, with long same nosed pliers. Once complete, I solder the metal supports to the handrail. The secret here is to make sure the handrail supports are vertical, use phosphoric acid flux, and a hot iron. (I understand Carrs Red Label flux contains phosphoric acid.) Then clean the acid away with a cotton-bud soaked in metho. Paint the handrail the correct color with Floquil paint, but other brands may also work OK. The result is a handrail that will not distort, takes abusive handling, and looks much nicer than the unpainted variety.

7) Refit the bogies. Check the loco runs. Some people change the metal clip that provides electrical contact to the motor with soldered wire, but this is not necessary initially. Then re-attach the shell to the body.

8) Athearn locos include a metal coupler platform. A Kadee #5 should slot in OK here, but the brass plate may need to be fitted "upside down" to the Kadee, so the Kadee is at the correct height. A word of warning. The Athearn chassis is live, and adding a metal shank #5 coupler to the chassis means that the coupler is live. If you want to multiple head Athearn locos, then be aware that certain orientations will cause a dead short though the couplers. But, if you are careful with your bogie re-assembly orientation, and you can get classic ABBA orientations that work well.

9) Wrap a medium freezer bag around your assembled loco, and if you must use the original Athearn box, find, and reinsert the protective foam to add some additional cushioning.

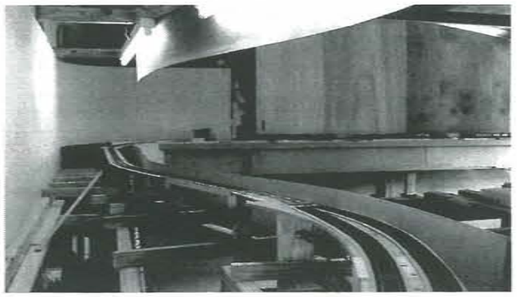
Gerry-atric Ramblings

by Gerry Hopkins MMR

Where do I start? My train room was finished at the end of March 2001. The internal size is 20ft x 24ft. and I am now building the layout. But let me take you back a few steps and look at a few decisions I made as to what I wanted from a layout.

First, what sort of layout? To build for train operation, build for car operation, build for rail fanning or, just for the sake of building a layout. Well as most of you know I am into operating, car operation. In other words I like the challenge of switching in and around industries.

Second, what construction methods? After a few months of planning, a rough track plan was drawn up. Chalk was used to draw the framework and the track plan onto the concrete floor to see if my ideas would work. A few minor changes later the framework was started. Hardware House has an on-going special on 2.4m lengths of 2x4 timber (all right, 45mm x 90mm) at $2 a length. Most of the framework is made of this with a few studs of 2x1. I can comfortably walk around on the frame work to fit the layout lights and the valance but I am not sure it will pass all tests as I have no elephant to climb up with me.



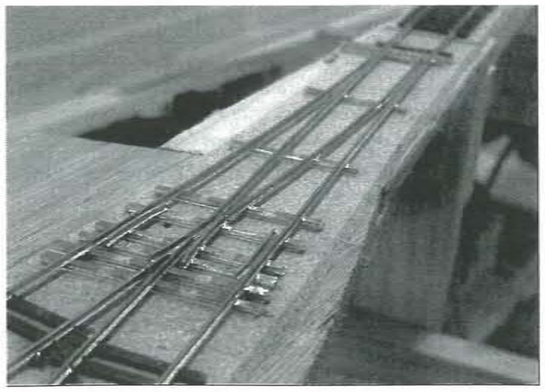
Third, where and when? Well, I decided on my old favourite Great Northern Railway. As I was fond of both steam and early diesel then the time period would have to be the 50's. Having seen some books and videos on the GN I decided on northwest Montana. This would allow flat plains and heavy mountain operations.

That's the location and period taken care of, now the type of operation. I like the challenge of switching in small yards, I like to sit back and do some rail fanning and I like the social side of having a few mates (I do have a few - they don't cost much) round for an operating session. This means a single-track main line with passing loops, some stretches of good scenery, some small towns with industries – and industries out on the main. Having a few mates around means reasonable isle width, I settled on a minimum of 900mm (or 3 metric feet).

The roadbed is 9mm blonde plywood. This is a good quality 5 ply that does not warp. In larger flat areas Canite is used on top of the ply. This allows for profiling the area for drainage etc. Out on the main I use 9mm ply and 3mm cork. I use the usual open grid approach to supporting the main line.

The base height of the layout is 1200mm and the highest point on the main line is 1500mm. Most of the grades are less than 2% but there is a section of 2.5% for 2m with curves. As we are told in all the books on operation there has to be a staging yard. I have 2 hidden staging yards that are connected by a through track. This allows for testing, re-locating used trains at the end of a session and just for running on show days. As the layout progresses there will be two more staging yards.

Most people have a phobia, mine is good reliable running. This means quality turnouts, there are only 2 good brands around – Micro Engineering and Railway Engineering, and hand laying. I decided on Micro Engineering track. I use code 70 on the main line and passing loops with code 55 on all other tracks. I purchased a few ME code 70 #6 turnouts and a few RE code 55 #6 turnouts – just to get me started. I made both types truly DCC friendly and added over-centre springs to the point blades so that they could be operated by hand. I now build my own turnouts.



The track is pinned down every 100mm or so with 15mm x 1mm panel pins with their heads cut off – Oooooh! Good metal straight edges are use for the straight bits and the usual easements are used on curves.

Curves – here's another dilemma. I want 72they would not fit! Inside curves therefore have a minimum of 24other curves 36s wired. As I am using DCC there are only two track wires required. A red wire for the front track, and a black wire for the back. Hey, I'm a poet and I don't know it! The power is then turned on and a loco used to test the track and point work so far. I am using the NMRA Track Gauge for the turnouts so all locos and rolling stock must have their wheel gauges checked before they can be run on the layout. Plastic wheels are being replaced with P2K, KD or Reboxx wheel sets.

I am using the EasyDCC system from CVP Products. I only need two wires for the track and a co-axial cable (TV aerial cable) for the control buss. Dick Smith sells a nice 17amp cable as a red/black pair and 6 amp red/black for the connection to the track. Once the track is laid, I drill a small hole (2.5mm) along side the track. I tin the wire then put a small L shaped bend at the end (1.5mm) and solder to the under side of the rail. Totally invisible once painted and ballasted. I had a roll of computer co-ax so I used this for the control buss. I can just cut the cable and solder in a throttle socket where needed, the sockets are $1 each so the cost is low.

As I mentioned earlier, all locos and rolling stock MUST run faultlessly so I am setting all the track standards and wheel spacing as per the NMRA Gauge. It's surprising how very few locos and rolling stock are 100% out of the box.

Something else that gets replaced on an asis are the couplings. The coupling of choice is the KD. The plastic types get set to open when coming down a hill and as the loco picks up the slack at the bottom of the hill some cars get left behind. The KD #58 is being used on locos an cabooses but for the time being the rolling stock gets #5's

Unlike many of the layouts in the USA that are built purely for operation and require a handful of operators, I can operate the layout on my own or with up to 8 operators. 95% of the time I am the only operator. It is quite relaxing to drive a loco out of the yard with 6-8 cars and drop off and pick up as the train moves around the layout. Only one industrial area has been laid so far but the main line does run its full length from staging to staging with all the passing loops.

Basically trains arrive in the yard from the staging area. Here they off load cars for the industries in the division and then run to the other staging area. I sometimes cheat here, I run the train around the system before it enters the staging area.

The cars that have been dropped off are then put into local and divisional freight trains. The divisional freights run the system and set out/pickup blocks of cars at the main areas. The locals switch the industries as they go and terminate at the top yard. I'm the fat controller, the layout operates my way!!

My biggest challenge, how to run GN (HO standard gauge) in the 50's with my old favourite SR&RL (HOn30) in the 40's. The answer - copy the prototype! Maineville is a theme park in Montana. The prototype? Edaville, it started in the mid '40s and is still running today. This means I can build a small fishing village with a narrow gauge railroad in good condition, and, then be served by the standard gauge railroad.

As time permits, the turnouts on the main line will be powered by turnout motors through accessory decoders. This means they can be operated by push buttons on the fascia, any throttle or can be computer controlled. Signals are being added as I go. The operator has to keep an eye on the track and obey the signals.

Some of the locos have sound systems fitted. A pair of SD7's will have one sound system. An ABA set of F3's will have one sound system. Most of the steam locos have sound systems. I work on the principle that the cost of 1 brass loco equals ten sound systems and I can still have money left over to buy some car kits. To get the sound decoders work at their best, momentum must be programmed into the decoder. This is a bit of a challenge to new operators but after an hour driving becomes second nature.

Rolling stock is another area of choice. I like detail on my cars, so I use P2K, Intermountain, Red Caboose and Bowser. As I have tight rail and wheel standards I can run my cars 1oz lighter than the NMRA Recommended Practice. This is quite OK on my layout but for rolling stock that gets taken elsewhere, such as the Module SIG, I follow the RP for weight in the cars. The cabooses are Athearn and will be detailed over the next few years.

I have done some basic scenery on one section of the layout and built a few structures. I will spend the next few years doing more scenery and the next 20 years adding the detail. Building a layout is fairly easy - it's adding the detail that takes the time.

When a few more industries have been added, I will start using the car card system I used on the old narrow gauge layout. It is the same system that many of the layouts in St Louis are using.

Listening to an Alco RS2 as its engine revs up/down, sounding the horn at grade crossings, ringing the bell as it passes passenger locations is much better than listening to some of the rubbish on the box. Or, then there is the working ABBA set of Alcos over the mainline with a full manifest where you get the chance to make the dynamic brakes sing as you descend from the summit.

This is my first real layout in this HO broad gauge stuff, I started the layout in April 2001 so I still have a long way to go.....but I'm having a lot of fun getting there!!!!

Gerry Hopkins MMR

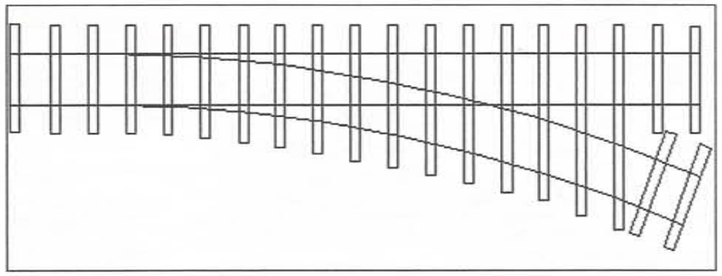
Building Hand-made Turnouts

by Laurie Green, MMR

Templates and Other Tools

When hand laying your own track work, building turnouts is definitely the area that instils horror into the stoutest of hearts. Most of us who attempt to build turnouts for our layouts, attack the task with hope and optimism, only to come away beaten and dejected. We might get one or two out of ten to operate almost perfectly, another three or four to work some of the time, and the rest are total disasters.

How can we build that elusive perfect turnout, not just once, but every time? Well almost every time! What tools do we need to build turnouts? The first item we need is an accurate template of the turnout. The example above is a No.5 narrow gauge turnout, which I drew on a CAD program. There are several advantages in being able to this: one is that you can tailor a turnout to suit your exact location. But, never fear, being able to do this is not critical. If you model standard gauge, the NMRA has many excellent templates available.



Another simple way of obtaining a template is to photocopy a commercial turnout. If you model, say On3, you can photocopy an HO standard-gauge turnout and enlarge it by 115% to get a fairly good On3 template. To calculate this percentage, just divide the gauge you want (On3 is 19mm) by the sample you have (in this case an HO gauge of 16.5 mm). Multiply the result by 100 to get a % figure. You will have to ignore the ties, but it will give you an accurate gauge and position of the rails, frog, guardrails and the turnout blades.

We will also need an accurate track gauge. I use and recommend the NMRA track gauge, which can check every aspect of the turnout as it is constructed. This gauge comes with complete instructions on all the areas that need to be checked when building your own track work.

We also need a good soldering iron, solder and flux, a nail punch, track hammer, file, pointy nosed pliers and a small steel ruler. A 'Dremel' cutting power tool with a cutting disc is also very handy when doing all track work.

A surprisingly handy tool is a piece of hack saw blade, about 2" long. I took a 2" length of blade and glued it into a 2" length of ¾" diameter dowel to form a handle. This makes a great file with which to clean the solder out of the frog and guardrails.

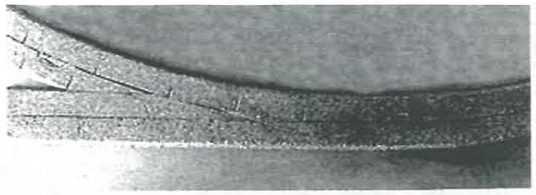
Building a Turnout

There are several other materials we need, apart from the ties, rails and spikes. We will need lengths of copper clad strip, and some small screws. The screws I use are about the size of the long ones that come with 'Kadee' couplers, and are used to pivot the turnout blades.

An alternative to the method I am going to describe is to use rail joiners to attach the blades to the frog wings. I'm not keen on this method because it is difficult to isolate the blades from the frog, and if you don't do this, you can get an electrical short if the back of a wheel touches the blade as it passes through.

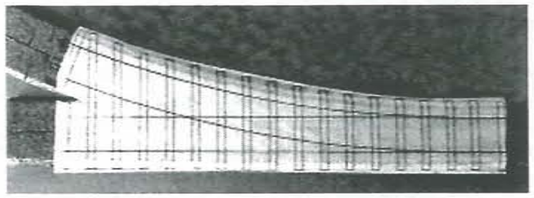
Step 1 - Cork Roadbed

Glue the cork in place using the centre lines of the turnout drawn on the craftwood roadbed. Lay some heavy weights on the cork until it is dry. Remove the weights and sand the cork until it is smooth and level.



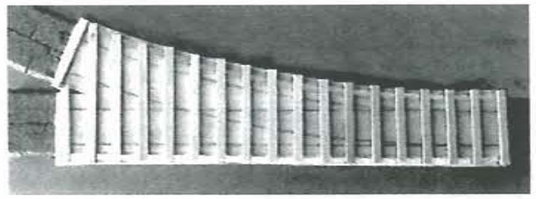
Step 2 - The Template

Now that we have copies of the turnouts we are going to build, and have the cork roadbed all prepared, we are ready to start laying a turnout. First, cut out the turnout template close to the edge of the ties, apply a thin layer of wood glue to the back of the sheet, and carefully lay in position



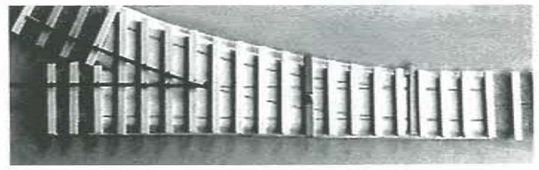
Step 3 - The Ties

Using the template as a guide, cut the required ties to length. Cover the entire template with an even layer of PVA wood glue and position the ties using the template as a guide. If you are going to add a switch stand later, the two ties either side of the throw bar need to be long enough to accommodate this.



Step 4 - The Frog

I always start building a turnout with the frog, which needs to be located exactly, as the rest of the turnout builds off this. Using a long pin or thin nail, I press this into the cork at the point of the frog, using the template as a guide. Take two pieces of rail and file each to a fine point, approximately half the turnout angle and lay in position over the template to check that they are correct. If they are a bit sharper than half the angle, it won't matter as any small gap will be filled by the solder. If you are using pre-weathered rail as I do, you need to clean of this weathering effect off from the outside of the rail, from the point back about 3/4". Flux both the filed area and the outside of each rail, where it has been cleaned, and tin both sides with an even layer of solder. This layer should look nice and shinny.



Place the two pieces of rail in position and hold down with a weight. The two points will not come perfectly together until the solder has been melted. Remove the pin, and firmly hold the two rail points together with the pointy nosed pliers. Apply the soldering iron across the area until the solder melts, the two rails will come together to form a perfect point. Remove the iron, but hold the points until the solder has cooled. Remove the weight and start spiking down the rails. Leave two ties before the first spike, as this is where the wing rails will be positioned. I then spike the next tie, leave one and spike the next. Double check that the rails are in the correct position before going to the next step.

Step 5 - The Blades and Throw Bar

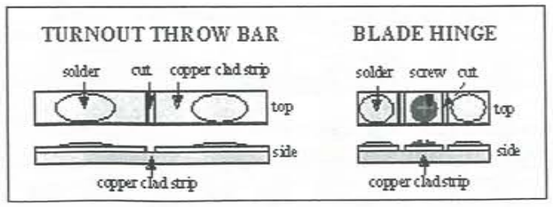
This is the second critical area in a turnout. The reasons I build the blades and throw bar next is it is easier build this on the work bench to ensure that the solder joins are perfect. Also it easier to lay the two rails over the throw bar with them in place.

The first thing I do at this stage is to build all the throw bars and pivot bars I will need. If I'm going to build say six turnouts, I will manufacture 8 pairs of these. The extra two become spares. Plus you normally wreak at least one during construction.

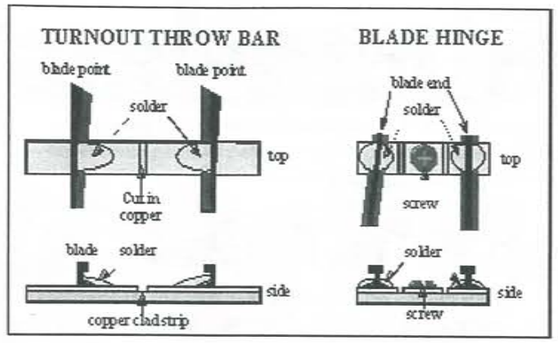
These two bars are made from 1/8" wide copper clad strip. You can either buy this in pre-cut strips or cut your own from a sheet.

The Throw and Hinge Bar

Cut a piece of the copper clad strip the same length as a tie. Across the middle of the strip cut the copper only to electrically isolate either end. Clean the copper with a track rubber, then flux and add solder to the areas that the blades will be attached to, as can be seen in the diagram opposite. The hinge bar is constructed similarly, but has a hole drilled in the centre to allow for a screw. Cut the copper either side of the screw to isolate the ends, clean, flux and add solder, as was done for the throw bar.

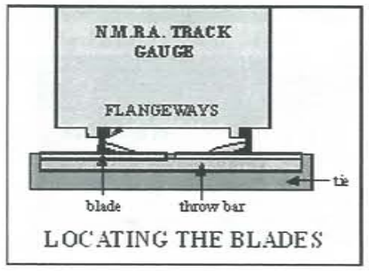


The Blades

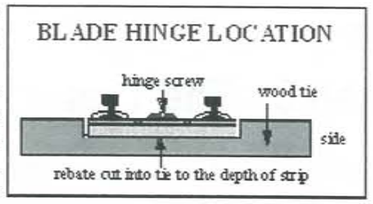


Referring to the template, cut two lengths of rail to form the turnout blades. Using a file, form both pieces into a pair of tapered blades. On the inside of each blade, clean, flux and add solder where they will pass over the throw bar, as can be seen in the diagram opposite. Do the same to both sides of the rail on the other end where they will pass over the hinge bar. Do not forget to bend the curved blade to the correct radius to suit the turnout you are building. Bending the rail over the template will get it close to the right shape.

Next step is to screw the blade hinge into place and position the throw bar in its location. Once this is done, lay a steel ruler from the inside of the straight frog rail down to the throw bar using the template as guide. Place the straight blade in position against the ruler and hold in place with a weight. Remove the ruler and heat the solder on the inside of the blade and on the inside of the throw bar.



LOCATING THE BLADES

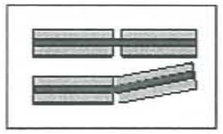


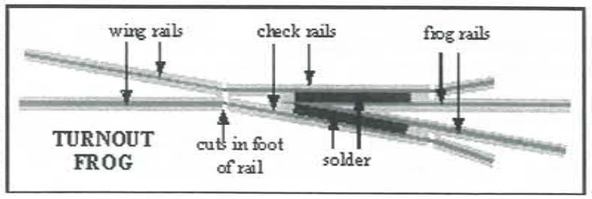
To position the second curved blade correctly on the throw bar, position the frog end on the hinge bar, then with the "FLANGEWAYS" edge of the NMRA gauge, position the blade end as can be seen in the diagram at left. Heat the solder to hold the blade in place at both ends. Add more solder if you think it requires it. File away any solder that is on the throw bar on the outside of the blade. If left there, it will interfere when the blade is moved against the rail.

The Wing Rails

Now its time to complete the centre part of our turnout by linking the frog and the blades with a pair of wing rails. The success of the turnout relies on these three components all linking together to form a smooth path for the wheels of our locomotives and rolling stock.

Cut two pieces of rail slightly longer than from the rail on the hinge bar to the point of the frog , plus enough to form the check rail that runs down the side of the frog. It's better to have extra rail length and cut off what you don't need later. Sit one end of these pieces of rail on top of the straight blade rail, overlapping by about 5 mm, and the other end on top of the straight rail in the frog. Mark where the rail is directly above the point of the frog. With the 'Dremel' or a 'V' file, cut or file a notch in foot of the rail, on both sides, as can be seen in the diagram. This allows the rail to be bent without distorting and allows the rail to bend sharply. Before doing anything else to this rail, repeat the process with the curved rail. On both these rails, clean, flux and add solder to the inside of the guard rail section of the wing rails. See the diagram opposite. These areas of solder should match the solder applied to the outside of the frog rails (see Step 4 - The Frog) Now to fit the straight wing rail. Lay the steel ruler against the inside of the straight frog rail and the straight blade rail. Position the wing rail with the foot of the check rail against the foot of the frog rail and with the inside of the wing rail against the steel ruler. This rail can be now cut to length to fit. Allow a small gap between this rail and the blade rail. The blade, wing rail and frog rail should form a straight line. With this rail fitted and in the correct position, hold in place with a heavy weight. With the soldering iron nice and hot, place the tip between the guard and wing rails and allow the solder on both to melt and join. Extra solder may have to be added to achieve a good solid join. Try and fill the area to about half the height of the rail. If you get more in there, don't worry. Any excess can be filed out with the short length of hack saw blade described earlier. Repeat for the curved wing/check rail. The two cuts in the foot of the rails should be opposite each other. To finish this area, spike down the rails on every tie, including the outside of the check rails. This will hold the turnout frog firmly in place.



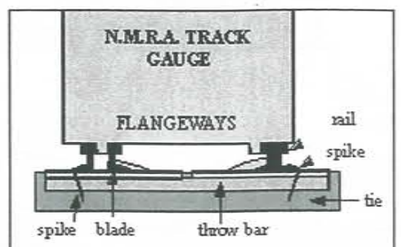


The Main Rails

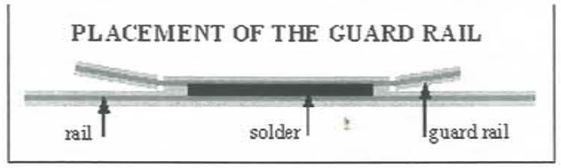
From here it's easy! The straight rail is the next to install. Take a piece of rail to the required length and lay in position in the turnout. Mark where the blade meets the rail. Using a flat file, file out a long wedge shape on the inside of the rail so the blade will fit precisely. Only file into the head of the rail enough to allow the point of the blade to match the inside of the rail head. Replace the rail in position, and spike down on the tie in front of the blade point. Move up past the frog and set the gauge with the NMRA gauge and spike the rail down.

Before inserting any more spikes, lay the steel ruler along the outside c the rail and run the gauge along the track to check that the gauge will be correc When satisfied that this is the case, spike the remainder of the rail in place. Repe the same process for the curved rail. When positioning this rail at the blade positio push the blades against the straight rail, and place the "FLANGEWAYS" edge c the NMRA gauge as shown in the diagram above.

Now this is done, the only thing that remains are the outside guard rail However, you should be able now to run a bogie through either road of the turnou without mishap. If there are any problems with the gauge, now is the time to adju the rails. A good turnout will operate well even without the guard rails.



LOCATING THE RAILS

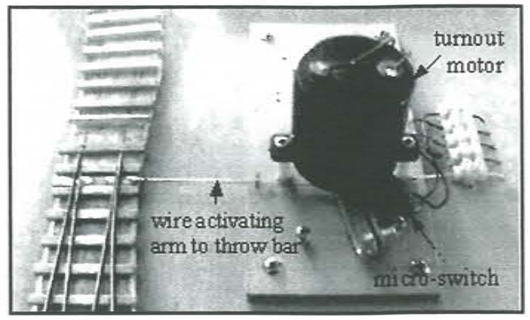


The Outside Guard Rails

To complete the turnout, cut two lengths of rail for the guard rails. Scrap lengths are great for these. With the pliers slightly bend each end of these guard rails. Clean the inside edge of the rail, apply flux and a good run of solder. Do the same on the inside of the rails where the guard rails will be located. Place a guard rails in position and with the soldering iron, allow the solders to run together. Add more solder if necessary. This is the same procedure as was done with the frog and its guard rails. File out any high solder with the hack saw blade tool. Again, run a bogie through the turnout to check for any minor faults.

Wiring The Turnout

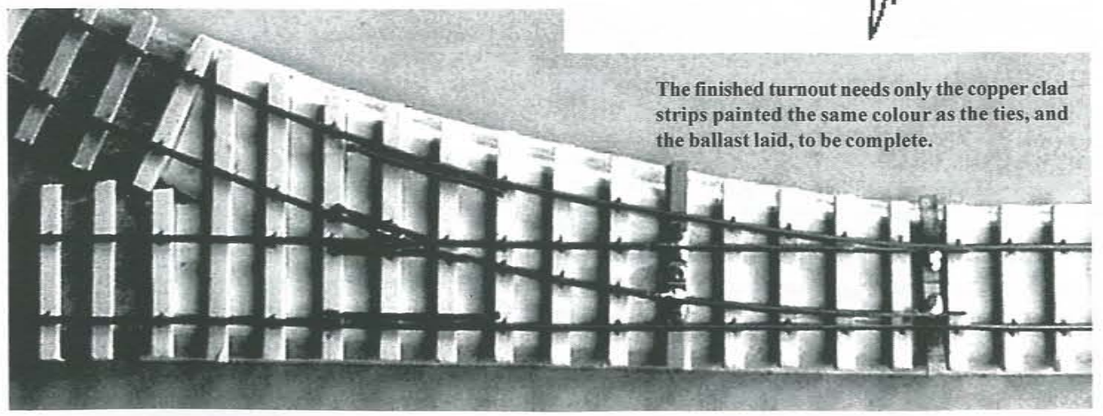
I don't rely on blade contact to get power to the blades, as this can be very unreliable. I prefer each blade to be hard wired to its corresponding rail and solder a short length of hook up wire from the blade to the outside of the rail. The frog, which has to be electrically isolated from the rest of the turnout, has to be wired through an "either/or" switch. This can be a simple micro-switch or slide switch mounted beside the turnout out throw bar. Some turnout motors have these switches attached to them. Where you locate this switch very much depends on how you control the movement of the throw bar. The system I use can be seen opposite. This turnout is part of the storage yard and has the ***"Switchmaster"™*** turnout motor mounted above the roadbed for easy maintenance. The micro-switch can be seen located where the aluminium activating arm attached to the turnout motor will switch it, depending on the arms location. A length of brass wire runs from the activating arm to the turnout throw bar.



Conclusion

Well, that's about it for building trackwork. I have tried to be as detailed as I can in this series on building your own track work and I hope that you will have a go at this art form. It is a challenge, but a very rewarding one, indeed.

Cheers,


The finished turnout needs only the copper clad strips painted the same colour as the ties, and the ballast laid, to be complete.

BEGINING THE AP PROGRAM

By Ken Scales MMR

The usual stumbling block to modelers getting into the AP program is knowing where and how to start. When we read the paperwork it looks a lot more difficult than it really is. However there are a few ways to simplify the process.

The first is to try to earn an award in something you are good at and find easy. This could be structures, motive power, or cars. One of the stumbling blocks to the AP program has always been the high emphasis on scratch building. This has now become easier, as points for scratch building have been reduced from 25 to 15. Motive power requires only one fully scratch-built model, 'structures' requires six and 'cars' requires four. However, I would still recommend that you scratch build as many models as possible, because of the 15 points for scratch building

The 'structure' category requires us to build 12 models, one of which must be a bridge or trestle. Only six of these needs to earn 87.5 points. The other six are required to be good quality, super-detailed models. Six of them must be scratch built and six must be different, which means we cannot build the same structure again and again. While this may sound difficult, remember, basic kits can be kitbashed and rebuilt as super-detailed structures. One of the simplest techniques is joining three or four small kits together to make an industrial complex. These could even be old kits you have lying around. Super-detailing can be achieved by adding a mixture of scratchbuilt items and parts purchased from hobby shops, or even pirated from other kits. This 'structure' can be one of the super-detailed models that are not judged.

Remember that models for the AP can be on a layout. They do not have to be on a plain base, like contest models. A good technique is to build models on a base so that you can work on them at a desk or bench and then scenic the base onto the layout.

An important point to consider for all categories is 'conformity.' Use articles from model railroad magazines to build models, which *conform to prototype practice*, because points are awarded for this.

An excellent method of learning to scratchbuild is to first build a kit that consists of a bag of cut lumber and some plans. Try to start with a kit that is not too complex and has very good plans, because they will be your learning guide. You will develop most of the construction skills necessary to scratchbuild by constructing this type of kit.

Many of these ideas can be applied to cars and locomotives too. A loco can be diesel, steam or electric. It can be a boxcab, industrial switcher, or even a mine switcher. It has to be super-detailed and one of the three has to be scratch built. However, it does not have to be a hand built Big-Boy or Shay. Only one car has to be a passenger car and this could be a simple excursion car.

The AP program is really a set of goals with a fixed standard to aim at. We can build the super-detailed non-judged models first, to improve our skills. By the time we get to the models that are going to be judged, our skills will have improved to the point where we can achieve the standard to earn the 87.5 points, with confidence. If you have a go you may be surprised just how quickly your skills improve and how much more enjoyment you get out of the hobby.

"The question of the month is on DISPATCHER" *By Frank Koch*

If someone participates in an operating session - does all the time of the session count, or only the time spent running a train, or performing a particular job, and does a local operator only count time actually operating a train and not include layover, or idle time between assignments?

Judgment is a part of our role as A P managers. It is also the responsibility of the applicant to exercise common sense. I've always viewed my time at an operating session to be "on the clock" the whole time. If an extra is called and needs a crew, I choose to volunteer. If I'm on a second class through-freight and get stuck on the mainline for an hour (real time) because of higher priority traffic or a cruel dispatcher, I'm still on the clock. If I'm Yardmaster and there is a lull in the action (built into the schedule to allow a short break) I'm still on the clock. My inclination is to count the full time of the operating session for anyone operating "an approximate fair share" of the assignments. If someone splits their time between yardmaster, dispatcher, and way freight operator, they cannot claim full credit for three operating sessions in one night, but should split the time between the three jobs. Most folks have so many extra hours in a job, it does not really matter. In my case, I have over 300 operating and yardmaster hours, but only three dispatching hours — not very good planning!

I believe the same applies to VOLUNTEER credits. Many positions don't require activity every month, but we count the time anyway, because the person is always "on the clock" if action is needed. Other positions, such as ticket seller at an annual show, do only count as one-day events, even if the person is in a permanent position. Judgment and common sense - that's generally the answer.

Lastly, for those who sent congratulations on my name being listed in a recent Bulletin as earning MMR status - thanks. Close, but not yet true. It was a typographical error. I still have to earn three Certificates.

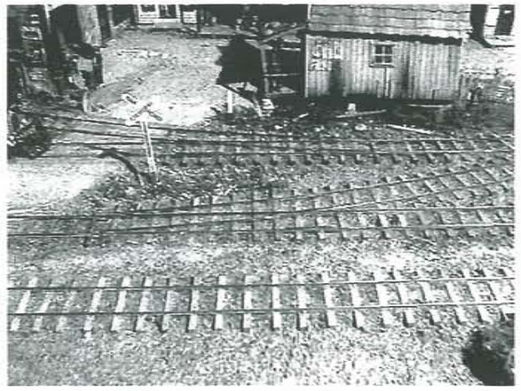
Frank, 4/7ths MMR, *Koch*.

Takes you back, doesn't it? Rod Smith has taken on a huge task. He is modelling a cityscape. You can see what a fine job he is doing in this, and the other photos of his layout that are in this issue.

STAYING ON TRACK

The conclusion to the Hand Laying Track series

By Laurie Green MMR



Probably the most frustrating and annoying aspect in our hobby of model railroading is when our locomotives and rolling stock continually derail. This can occur not only on hand laid track but also on commercial track. This problem is the main reason why the hobby loses many good modellers. However this need not be the case. By following a simple check list, most of the derailment problems and poor running qualities can be eliminated, or at least minimized.

This check list can be divided into three distinct sections:

1. **LOCOMOTIVES AND ROLLING STOCK**
2. **THE ROADBED**
3. **THE TRACK**

Several tools are required to perform the following checks on your track and rolling stock:

WHEEL AND TRACK GAUGE an NMRA gauge is recommended
SHEET OF GLASS - 6mm thick by about 300mm x 100mm will do
STEEL RULER your 300mm scale ruler will do
SMALL SET SQUARE about 50mm x 100mm

SECTION ONE: LOCOMOTIVES & ROLLING STOCK

These checks should be performed on all your locomotives and pieces of rolling stock when they are bought or built, and should be done whenever a locomotive or piece of rolling stock gives you trouble.

WHEEL GAUGE - using the track gauge, check that all wheel sets are correctly in gauge.
AXLES - check that both axles are parallel to each other and also parallel to the cross centre line of the bogie.
WHEEL POSITION - place the steel ruler against the flanges on the two wheels on the same side of the bogie, ensuring that the bogie is in line with the centre of the car. The ruler should be parallel with the centre of the car. If this is the case the bogie will track correctly.
LEVEL WHEELS - place the locomotive or piece of rolling stock on the sheet of flat glass. Check that every wheel touches the glass when the wheels are straight as well as when they are fully turned in both directions.
WHEELS - check each axle will spin freely. If not, check the axle ends and the journal boxes.
BOGIES - ensure that bogies will rotate smoothly and that they remain level when rotated.
CURVES - place the locomotive or car on some track of the minimum radius that you will use on your layout and check they will run smoothly on that curve.
COUPLERS - make sure that each coupler is free moving in its housing and has enough sideways movement not to cause cars to derail on your minimum radius curves. If the coupler does not have enough sideways movement they will lift the wheels on the outside rail and can cause the cars to topple to the inside of the curve.
WEIGHT - weight each car to ensure they are heavy enough. The NMRA has a set of specifications available.
WHEEL GUNK - with dirty track, oil and dust, gunk can build up on wheel flange areas causing rough running.

SECTION TWO - THE ROADBED

Just like the prototype, good track starts from the sub-roadbed up. A model roadbed should be solid enough to stop any warping, contraction, expansion, or bludging. All these things will distort the track we lay on top of this roadbed, causing many problems that are hard to locate and remedy.

MOISTURE - This is the biggest cause of problems occurring with the roadbed. Using materials that will not absorb moisture or by sealing the material will hopefully solve this. I have found a base of medium density white polystyrene with 9 mm craftwood (MDF), cut to the desired roadbed shape and "Liquid Nailed" to the foam, to be a very stable base. I also paint the craftwood, paying special attention to the edges to stop moisture from entering.
UNDULATIONS - By placing the steel ruler along the centre line of the proposed location of the track you can see if there are any severe undulations in the roadbed. These will have to be eliminated before any track is laid.
YAWL - Place the small set square across the roadbed and check that the other edge is vertical, then move the set square along about 100mm and check again - a second square is handy here so you can site against the other. Two business cards can also be used. The square should still be vertical. Continue to check along the roadbed. If the edge of the square doesn't remain the same along the roadbed, you get a yawl effect, similar to the movement of a yacht moving on a gentle swell, and this movement, if severe enough, will cause derailments.
TRANSITIONS - Where level roadbed and a grade meet, ensure there is a smooth transition between the two.

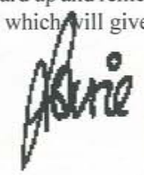
SECTION THREE - THE TRACK WORK

This section is primarily aimed at hand laid track, however most of the checks also apply to commercial track work. Smooth running hand laid track work has to be as close as possible to perfect. But don't be deterred, if you use the following check list, gain some practice and draw on your patience you will get excellent results.

TIES - Once the ties are laid on the roadbed, place the steel ruler along the ties where the rail will be laid and check that all the ties are level. Sand any high ties to the correct height and raise any low ties until the tops of the ties are level.
GAUGE - It is most important to have your track in the correct gauge. I recommend the NMRA track gauge, as you can check your wheels, track and turnouts with the one gauge and know that the are all compatible. This gauge comes with a complete set of instructions on all the uses and checks that should be made on track work.
CURVES - When checking straight or near straight track I gauge the track exactly to the NMRA gauge, how ever when I am laying curve track, especially track that is close to the minimum curvature, I increase the gauge to the maximum of the gauge (one side of the gauge will drops of the shoulder) - this increases the track gauge by about 5 thou of an inch. Increasing the gauge on the minimum radius curves allows the locomotives and rolling stock to move through the curve freely. If the gauge is to tight, the wheels on the outside of the curve tend to lift and then derail.
TURNOUTS (LEAD AREA) - Make sure that the blades seat snugly against the running rail so the wheels will pass along the chosen route and not pick the wrong route. With STUB turnouts, ensure that the move able running rails line up perfectly with the fixed rails of the turnout, and ensure the tops of all the rails are the same.
TURNOUTS (FROG AREA) - It is critical that the rails passing through the frog area are exactly in line, and that the wing and check rails are positioned correctly and at the proper spacing and gauge. This is where the NMRA track gauge is invaluable. Follow the instructions that come with the gauge and this will eliminate most of the problems in this area.
FROG - Ensure that wheels do not drop into the frog
YAWL - As you did with the roadbed, use the small square and by laying it across the track about every 50mm check that the track does not have any dips or rises in one or both rails.
SPIKES AND BALLAST - Be sure that all spikes are firmly down and below the bottom of the wheel flanges. Also clean away any ballast which the wheel flanges may hit.
EXPANSION GAPS - When laying rail, leave a small gap between the rails to allow for rail expansion. A thick business card placed between the ends of the rails is a good gap size.

CONCLUSION

While there might seem like a lot of checks and things to remember when building track work and ensuring that your locomotives and rolling stock run perfectly on that track, most of the points will become habits and you will do them automatically. The important thing is to ensure that you start these habits from the baseboard up and remember that you might not get it right first time, but with perseverance, you will build good track work, which will give you years of pleasure.



Division 1 NMRA Activities.

The final Division 1 meeting for 2001 was hosted by Graham Emery. With the structure of his layout now finished, track layed and wired, and with him stuck at where to start scenery wise, Graham's layout was the ideal candidate for a scenery clinic by that other Grahame, Grahame Davis, whose scenery and structures are well known in SE Qld. And of course the idea of someone else applying scenery to part of his layout was welcomed with open arms by our host.

Brief Resume of Clinic

Preparation. Grahame (Davis that is) and I arrived before lunch, to carry out the necessary preparatory work prior to the arrival of the other members. This entailed fixing heavy guage dressmaking brown paper to the layout as the foundation shape. This is used because it is easy to shape, it retains its required shape when damp with plaster, and ends up as a very strong and light foundation, the strength coming from the application of 100mm squares of newsprint soaked in casting plaster. This forms a laminate that when dry is as strong as you will find. Before the plaster was completely dry, Grahame added two rock moulds and a rock retaining wall, which were stuck on with wet plaster.

Next Steps. He then painted brown all those areas of terrain that were to have ground cover, foliage and trees. This is to give a credible look when the ground cover is added, and if laid a bit thinner on some areas, then the brown underneath shows through and looks fine. Any light brown, tan, or sand colour looks good. All rock moulds and areas that will be left as rocky sections or retaining walls should now be coloured. Grahame used acrylic colours, mixed with water and applied via a spray bottle. Some good colours are raw and burnt sienna, raw and burnt umber, and carbon black.

Grahame then added ground cover, twigs, boulders, and all sizes of dirt, gravel and rocks. The dirt and small rocks were added straight, i.e. not washed, as he wanted it to look as natural as possible. He let it fall naturally from the container and did not try to redistribute with fingers etc, so as not to spoil the look. When he was happy with the general look, he sprayed with 'wet water' and then a 50/50 mix of white glue and water.

Grahame then added weeds, as there are plenty of these all around in real life, in particular around water run areas. Woodland Scenics have great weeds that add interest and realism. To plant weeds, he just used a dab of white glue and stuck a group of very small short weeds upright into the glue.

Over the half hour the clinic actually took, he had all of us enthralled at how easy it all looked, and how well the results turned out. I wonder how many of those who attended went home and tried their hand?

In all twelve members and five guests attended a very enjoyable afternoon, and with the comments overheard about Grahame's work, the clinic was very well received, with most of us not believing how easy it was.

Division 1 Christmas Function

The Christmas Function will be held at the Australian Narrow Guage Railway Museum (the Durundur Railway) at Woodford, north of Brisbane. Lynn has done all the required liaison with the Society, including rides for members and families. There has been a minor change from the e-mailed advice some of you received in that members are requested to bring their own lunch, with a cold lunch probably being best.

We are scheduling lunch at about noon because at 1:30 Lynn will be formally presenting to the Museum two cane railway dioramas.

Personal Activities

During early October I spent a short time in Cairns, during which I managed to fit a visit to Graham Hodges (is he G3?). Graham nominally models HOn3. I say nominally because what Graham really models is buildings and vehicles, the trains are just a very nice adjunct to his real passion. His vehicles are just exquisite, and I am continually amazed by the exceptional talents of the participants in our hobby.

I would like to pass my apologies to Bert Toogood in Innisfail and Barry Meynell in Tolga for not dropping in, but time didn't permit.

2002 Activities
Next year Division 1 members have a goal of more actively promoting the NMRA and its activities, with the aim of expanding membership and promoting the hobby. We did this in 2000 with both our Beginners and Scenery Clinics which were well received by the participants. However next year we intend broaden our thrust by running a promotional stand at one or two major shows during the year. I have previously made tentative steps in this direction but did not do enough preparation, and did not think it through enough about how we were going to go about it. To give us plenty of preparation time next year, we will be conducting a meeting on 19 January, hosted by Grahame Davis, where anyone who has any ideas, and who is interested in helping is more than welcome.
In addition I still believe the Beginners Clinics are a good idea, and at the February meeting would like to discuss the possibility of holding another during 2002.

OFFICIAL RAILROAD EQUIPMENT REGISTER

Gordon Belt, Director of the Kalmbach Memorial Library, advises:

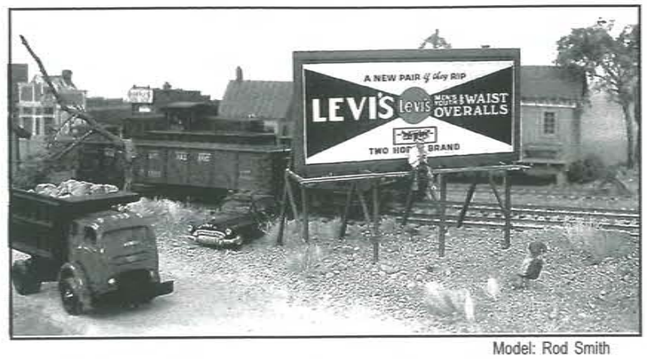
The final proof of the 1943 ORER has been approved and we now await delivery of the books from the printers. We are offering a special 50% off the 1953 edition when you purchase a softbound 1943 ORER. Pricing for the 1943 ORER is as follows:
Pre-publication pricing (NMRA member only)
Softbound $34.95
Hardbound $49.95 (limited to 200 copies)
Post-publication pricing
Softbound (member) $39.95
Softbound (non-member) $49.95
Hardbound (member) $54.95
Hardbound (non-member – if copies are still available) $64.95
Contact: Kalmback Memorial Library

The following upcoming events are sponsored by the NMRA or NMRA affiliated clubs.

NMRA Convention - 29 June 2002.
Darling Downs Model Railway Club Exhibition 15/16 June 2002.

Glenn Stevens

THE LIBRARY CAR



Model: Rod Smith

Video List as at 19/06/01

NO.	TITLE
VT14	USA Railroad Layouts (compilation videos 1-6)
VT15	USA Railroad Layouts (compilation videos 7-13)
VT16	Airbrushing for Model Railroaders
VT17	Weathering Railroad Models by Malcolm Furlow
VT18	Scenery Tips No.1 Rock Moulds by Donald Davis
VT19	Scenery Tips No.2 Backgrounds by Donald Davis
VT20	NMRA Australasian Region 1993 (Tony Koesters Clinic) by Kevin Brown
VT21	Waitemata (Auckland NZ) Convention 1990 by Gerry Hopkins
VT22	Piki Piki Tram (visit to famous NZ NG layout of Merv Smith)
VT23	Diamond Valley Lines (visit to famous layout of Fred Gill) by Gerry Hopkins
VT24	US Pittsburgh Convention by John Saxon
VT25	All Aboard An Introduction to Model Railroads by Madeline Trimby
VT26	Optimum Use of Space by John Allen
VT27	Gorre & Daphetid Railroad by John Allen
VT28	NG&SL 1991 Convention Clinic by Gerry Hopkins
VT29	Exhibition Layouts 1982 to 1989 by Gerry Hopkins
VT30	Layout Tours No 3 by Gerry Hopkins (Sowerby Smith's & Geoff Nott's layouts)
VT31	Realism with plastic Structures
VT32	Convention 1993 and Three Layout Tours
VT33	The Clinic (Woodland's)
VT34	Distinctive Rolling Stock by Dean Freytag
VT35	Convention 1995 at Marayong & Layout Tours
VT36	Rocks & Basic Scenery Made Easy by Dave Frary
VT37	Painting Model Structures by Dave Frary
VT38	Finishing Your Scenery by Dave Frary
VT39	Southern Pacific Vol.2 (Tennessee Pass)
VT40	Union Pacific Vol.5 (The LaGrande Subdivision)
VT41	Santa Fe's Arizona Mainline
VT42	Santa Fe's Mojave Mainline
VT43	Burlington Northern's Crawford Hill
VT44	Thornleigh Mini Convention 1998 (Rolling Stock, Soldering, Weathering Your Models & Pine Trees.)
VT45	Trains On Location Stevens Pass
VT46	Toronto To Chicago Railfan Way
VT47	Tehachapi Trains on Location
VT48	Great Layouts US Prototype
VT49	Scenery Tips No.3 by Donald Davis
VT50	Prototypes To Make You Comfortable by John Armstrong
VT51	Memorable Locomotives by Charlie McCoy Frequently Seen, Seldom Modeled by Jim Cope Signals Made Simple, and also Computer and Railroad Together by Mark Hanslip
VT52	Trees from Weeds by Louis Godbold Weathering and Ageing with Pastels by Robert W Baily jr Rolling Stock from Cardboard by W Meijndert Van Alphen Foamcore Buildings by Robert Hubbard
VT53	The Art of illusion by C J Riley N Scale and N Track by Jim Fitzgerald and Ben Davis Model Railroad Photography by John Allen
VT54	NMRA National Convention 1998 - Kansas City Layout Tours
VT55	Convention at Marayong 1995 and Clinic Presentations by Allen McClelland
VT56	Union Pacific BIG BOYS volume 2
VT57	Southern Pacific 1941 volume 1
VT58	Santa Fe 3759 Final Run Over Cajon Pass
VT59	Santa Fe - War Bonnets Through Raton Pass
VT60	Santa Fe Odyssey Vol.1.
VT61	Santa Fe Odyssey Vol 11.
VT62	Santa Fe - Seligman Sub and New Mexico Main
VT63	Model Railways of Australia
VT64	1997 National Convention, Madison USA
VT65	Little Engines of NZ
VT66	The Two Foot Gauge Tramway (NZ)
VT67	
VT68	
VT69	
VT70	Great Northern Vol 1
VT71	Great Northern Vol 2
VT72	Great Northern Vol 3
VT73	The Milwaukee Road Vol 1
VT74	The Milwaukee Road Vol 2
VT75	The Milwaukee Road Vol 3
VT76	Utah Midland – GMR#4
VT77	L&N Henderson Div – GMR#9
VT78	Cumberland Valley – GMR#10
VT79	Virginian & Ohio - GMR#11
VT80	Piedmont Div of WM - GMR#12
VT81	Yosemite Valley – GMR#15
VT82	Cat Mountain & SF – GMR#17
VT83	Erie Railroad – GMR#18
VT84	F & SM – GMR#24
VT85	Rock Island Railroad (Pentrex)
VT86	BSNF Sand Hills Sub
VT87	All Aboard Series Vol 2
VT88	All Aboard Series Vol 5
VT89	Rock island Railroad (Grn Frog)
VT90	Forks Creek Central - Ron Morse
VT91	California's Baldwin Diesels
VT92	Santa Fe's Raton Route
VT93	Santa Cruz Northern - GMR#35
VT94	ATSF Argentine Div - GMR#29
VT95	
VT96	

CD1	DCC Forum Chaired by Peter Jensen
CD2	1999 Convention Opening Address by Jack Burgess
CD3	PC Data – photos, shareware, etc.
CD4	Alberta Coal Branch by Lynne Zelmer

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