Australasian Region Directory

NMRA Inc. P.O. Box 714, Willoughby NSW 2068
http://www.iinet.net.au/~espee/ar.html

Main Line is the official journal of the Australasian Region of the National Model Railroad Association Incorporated. It is published four times per year in approximately February, May, August, and November. Articles, letters, members classified advertisements and club notices are solicited from the membership and are considered to be donated free for the benefit of the hobby. They should be mailed to:- THE EDITOR, Main Line, 7 Booralie Road, TERREY HILLS. N.S.W. 2084.

Articles can be submitted on a computer disk 3.5" or 5.25". Most WP packages can be read at this time. Articles can also be sent to my Email address as shown above. Paid advertising is welcomed. Current rates for four issues are $130 for a full page, $70 for a half page, $40 for a quarter page and $150 for the back cover. All enquires regarding advertising should be directed to the Editor.

REGION SCHEDULE

16th November	**Emerald Vic**
Graham Meyers	2 Elizabeth Crt
2.00 pm	(03)
17th Nov (Sunday)	**Toongabie NSW**
Bob Kollwyn	7 Second Avenue
2.00 pm	(02) 9636 6907

NOTE CHANGE OF VENUE

7th December	**Clontarf NSW**
John Saxon	37 Beatrice St
12.00 noon	(02) 9949 4767

CHRISTMAS PARTY BRING THE FAMILY
$5.00 (children free)

8th February	**Granville NSW**
Vic Quince	76 Good St
2.00 pm	(02) 9637 6683
15th March	**Baulkham Hills NSW**
Geoff Hoad	55 Kimberley Cres
2.00 pm	(02) 9838 8590

7th - 9th June	**Marayong NSW**

NMRA Convention '97

13th July (Sunday)	**King's Park NSW**
Don Davis	5 Wake Place
2.00 pm	(02) 9671 4351
	Park in Madagascar Drive

FROM THE EDITOR

Due to the delay in producing this issue of Main Line I have made it a bumper issue for you to read over Christmas.

Over the past few months I have had some extra projects for my employer. This has meant that I have spent too much time in front of the computer. I hope you enjoy this issue, the next will be out in February '97.

Gerry Hopkins MMR

WAYBILL

Cover Photo

HO pile driver built by Ken Morecroft

Photo by Sowerby Smith

Convention Report

by Fred Gill GMMR

The 1996 Convention of the **NMRA Australasian Region, Victorian Division** was held at the Civic Centre, Melton, Victoria on Sat 7 and Sunday 8 July where 87 members, visitors and guests were present.

The venue was the Civic Centre building in the centre of the township of Melton, 40 km west of Melbourne. The centre had a large entrance vestibule where the Registration Area, Company Store , Photo Contest Display and The Railcar - trade stand were situated. The was also a very interesting 'turntable' display in this area. A large hall with stage was the main area where trade stands , layouts, Models on Display. Model Contest and video theatre were situated. There were 2 clinic rooms plus a Silent Auction room and a 'rest' area for modellers to sit and talk.

The Friday evening saw the assembly of the six layouts on display, Chris Elliott's N scale *S & D Shortline*, Bruce Richie's *Wyoming* by Train World , Laurie Green and Gavin Hince's On3 *Big Sky Lumber Company*, Adrian Hoad's *Far Twittering And Oyster Creek*, *Croydon Narrow Gauge* Group's modular layout in On30 and Alan Hamwell's N Scale *Skykomish* Layout.

Traders present were Mal's Models, The Railcar, Formlink, System One, Australian Railroad Photographs and Remote Control Systems. The model contest entries were judged and then displayed in a glass showcase as were the display models. Frank Kelly brought along a fantastic display of HO Locomotives and rolling stock of the Victorian Railways and he later gave a clinic on how these models were constructed.

Clinics included Layout Wiring, Model Photography made easy, Fiddle Yards and Turntables, Designing and Building small scenes, Secrets of Air Brushing, Animating Your Layout, Weathering and Ageing your Structures, Scenic Detailing, Keeping Trains On Track, Handbuilt turnouts, Tailoring your Layout Scenery, Styrene Scratchbuilding, Designing and Building an Exhibition Layout, Details make the Difference, Do's and Don'ts of Large Layouts, How to Build a Lumber Scene, The art of Soldering and scratchbuilding in Brass.

Two video screens were operating continuously in a small theatre, one showed Prototype trains and the second one showed Model Railroad layouts of members.

A spit roast dinner on the Saturday night was enjoyed by 80 attendees and the Guest Speaker was Graham Comish of the R707 Steam Preservation Society, who gave an informative talk with a slide presentation on the rebuilding of the "R"" class steam .locomotives.

The convention attracted members from New Zealand, South Australia, Western Australia, and a contingent from New South Wales. Those who attended, both members and visitors from other clubs remarked that the convention was a great success. Plans are already in the making for the NMRA's 1998 Convention in Victoria.

Vale

Ray Parr
1936 - 1996

Ramon Keith Parr passed away on Thursday 4th July 1996 after a short illness.

Ray spent all his working life working for the NSW railway system. Starting as an apprentice wood machinist Ray had many positions, his last position before retirement was that of Special Trains Officer.

Ray became an active railroad modeller about nine years ago, although hed had worked for NSW railways he opted to model USA Prototypes.

Ray was an active behind the scenes worker for the NMRA Conventions and will be missed by his many friends.

Meeting Reports

By Gerry Hopkins MMR

July

This month we travelled to Bruce Ballments home. The weather was favourable and many members turned up, many of whom had also been to the convention the week before.

Bruce's layout ran as well as always, this time with the benefit of plenty of lighting mounted behind the valance. It was a pleasure to sit and run the trains through the awe inspiring scenery. The background sounds of the steam engine added to the enjoyment.

A scenery clinic was presented by Lauris Hopkins, a shortened version of the presentation given at Melton.

Thanks to Bruce and his wife for again sharing their home with us.

August

The intrepid band of members made their way to Kanakahooka, a short 100km trip down the southern expressway.

Since our last visit most of the layout had either been rebuilt or re-sceniced by the managment of the Bega Valley Railway. The weather was again in our favour.

Keith presented a clinic on 'pouring' concrete roads around rail yards. A big feature on his finished layout will be a LARGE steel works on one of the penisulars, this will require a lot of poured concrete.

There are many interesting scenes on the layout for the visitor to enjjoy. Thanks to Keith and his wife for the invitation to visit the layout.

September

This month's visit was to Peter Jensen's layout at Castle Hill. I was unable to attend due to work commitments but I understand that the visit was a great success.

Thanks to Peter and family for their hospitality.

October

Another first time layout was at Ron Cooper's northern beaches home. Although the weather was fine nobody brought their surfboard.

Ron's layout is based on a section in southern California, and features Santa Fe in the 50's and 60's . There layout ran very well with a minimum of 2 trains at any time. (Ron was still soldering 1 hour before the first member arrived) A small section of scenery has been started at one end of the layout, a 280ft cliff over hanging the twin main line.

There was plenty of room in the layout room for the visitors to stand an 'just watch trains'.

Thanks to Ron and his family for letting us into their home.

HELP WANTED

I need a reporter to continue this section of the Main Line. The reports will need to be supplied on disk in any format.
Apply to the Editor --- **SOON.**

Division 4 Reports

June 18th

Vic Unicume hosted this month's meeting, on a very wet, windy night. Official Business revolved around discussion of the NMRA Achievement Program, with some lively discussion taking place. Social activities followed with the showing of an NTSC version of a D&RGW narrow gauge video. The highlight of which, was scenes along the now preserved Cumbres & Toltec Scenic Railroad, in which we were able to point out locations in which we had actually been!

The weather never really abated and we risked a soaking, running the ten feet to Vic's garage which held his layout. Vic has been working on a small switching layout, (up until now all he has had room for), that would very nearly qualify for a Golden Spike Award. A very enjoyable evening was had, with much encouragement given to Vic, to complete the requirements for a Golden Spike Award.

August 6th

For this meeting we travelled to the far north of the Perth Metropolitan Area, as Peter Thomson had offered to host this month's meeting. Prior to this, myself and Vic Unicume had judged John Humphrey's layout for a Golden Spike Award. John had no trouble with any of the requirements, exceeding most categories. No Official Business was on the agenda, so on arrival at Peter's, we had an operating session on his partially completed layout.

Peter's layout is one of the largest home layouts most of us had seen. Based on the D&RGW both narrow and standard gauge, this occupies a rather large games room in his house, and is a multi-deck layout. The benchwork is only partially complete, but a lot of track was completed, to really give his DCC system a proper workout.

Richard Percy

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LONG MEMBERSHIP RECOGNITIONS

Congratulations to the following members for achieving continuous NMRA membership for 50 and 25 years:

John B. Trelease, Fullerton SA	50 years
A.H.Haberlin, Kirribilli NSW	25 years
Frank Steegh, Greymouth NZ	25 years
Roger Wheeler, Grange SA	25 years
John Lebsanft, Bundaberg QLD	25 years

Appropriate certificates have been forwarded to the above.

If you are aware of any other members who have had 25 years or more of *continuous* membership and who have *not* been previously recognised, please advise John Saxon.

NEW VIDEOS

Thanks to the generosity of Bob Kollwyn, we now have two additional Kalmbach videos available in our lending library. VT14 is Airbrushing for Model Railroaders by Hediger, Keller and Odegard. VT15 is Weathering Railroad Models by Malcolm Furlow.

Give Bob a call on 02 9636 6907 to use this free (except for postage) membership service.

LONG BEACH MEETINGS.

from John Saxon.

The meetings were long and arduous as usual with the main topic being the financial situation. Unfortunately we were unable to identify sufficient income to cover our already trimmed expenses and the financial year which commenced on 1 September is therefore budgeted to result in a loss of some $US64,000, which is in line with recent experience. Unless we find more income or really cut expenses to the bone, with our diminished reserves, we have perhaps two or three years left before our NMRA will have insufficient funds to carry on.

My term as chairman of the Finance Committee has ended with Roger Ferris, Pacific Northwest Trustee, a retired pastor, appointed by President Charles to replace me. Unfortunately, Roger was subsequently defeated in his region's ballot for Trustee and I have not heard who the President has in mind to replace him. Also, my membership of the Audit Committee has also ended as President Charles has decreed that individual trustees should only serve on one committee at a time.

I was asked by Roger to remain on the Finance Committee to keep an eye on our accounting (he is

a retired pastor). Apart from our continuing losses, another potentially more immediately serious matter is that the headquarters building valuation I have been pressing for for some years has come in some $250,000 below book value. Fortunately however, this is well above the existing bank loan of around $500,000 due for repayment or rollover in 1998.

Treasurer Draper was to discuss the implications with our auditor but I have not had a reply to my communications to him as to the result. If we cannot offset this deficiency against the Life Account reserve, we will be in a negative equity situation and that will then require some very careful and urgent attention.

With Pacific Coast Trustee Charlie Getz, a deputy attorney general for California, and two others, we have formed a trustee working group to consider our financial position and report back our recommendations to the next trustee meeting, scheduled for next March. A Board working group is quite independent of any influence outside the Board itself, unlike a Board committee where the President appoints the chair and has an influence on membership of those committees. Some immediate action must be taken about our financial position and we intend to make sure it is. Please feel free to call me if you want to discuss or offer any constructive suggestions.

The meeting agreed to a request to pay the President $1,000 per month whilst he is acting as Executive Director. This is in addition to his expenses which he has been rightly paid since stepping into this role (part time) since Peter Jehrio left suddenly a year ago after less than a years service. Although President Charles offered to carry on in his part time role for another year, at my suggestion the Board agreed that steps be taken immediately to appoint a new professional to this role rather than wait. Hopefully someone suitable will be found shortly to take on this difficult job.

The Board approved the appointment of an assistant to the Treasurer who has indicated he will step down after 18 years in 1998 to contest his Region's trustee position. It is likely that the new assistant will then take over this important role.

Finally, the Board gave approval to place orders to replace the existing antiquated computer equipment to improve headquarters services. Sufficient funds were volunteered by a number of regions (including our own) and individuals to fund these items.

CONVENTION '96 CONTEST WINNERS

Steam Locos
1st
Paul Richie   Sn3 Shay
2nd
Paul Richie   Sn3 2-8-0

Diesel & Other
1st
Laurie Green MMR   On3 Goose #2

Freight Cars
1st
George Paxon   O 36' box car

M O W
1st
Gavin Hince   On3 RGS Plow Flanger
2nd
Ken Morecroft   HO Pile Driver

Structures (On Line)
1st
Laurie Green MMR   On3 Rico Water Tower
2nd
Peter MacDonald   HO Victorian Goods Shed

Best in Show
(John Kiddell Award)
George Paxon   O 36' Box Car

Best Entry By A Modeller
(John Gordon Award)
Gavin Hince   On3 RGS Plow Flanger

Levity Contest
Adrian Hoad   End Of The Day Incident

PHOTO CONTEST WINNERS

Model Photograph
Peter MacDonald   Kennebec County RR

Prototype Photograph
Brian Mooseman   Paekak Raceway

MAKING CASTINGS FROM YOUR MASTERS
by Roger Hord

I have spent quite a bit of time looking for a good way to make small well detailed castings in Silicon RTV rubber moulds. At last I have found a product that has the characteristics that I required for casting my Nn3 coaches and other N scale items. It is Fastcast 810 which is a low viscosity rigid urethane in two parts.

Material for Mould

For those of you who haven't used RTV rubber before, let me assure you that its not necessary to be an analytical chemist to use it. I found that Rhodorsil 585 room temperature vulcanising (RTV) rubber is ideally suited for casting. The material has low viscosity (small amount of air bubbles) and fills crevices very well. Rhodorsil 585 is a pourable liquid that is mixed with a catalyst (60R) at the correct ratio to cure the mixture.

Masters

The 'master' used in this case was a Nn3 D & RGW Parlour car which was constructed from sheet, strip and scribed styrene. Two sides (each side was different window arrangements), two ends (different style ends) and a clerestory roof made up the total of five masters to be copied and cast in the one mould.

Making the Mould

The mould framework was built from sheet and strip styrene to form a box around the masters. The sides were constructed from 1/8" thick x 3/8" high styrene strip which were cemented to a .060" thick sheet of styrene which had been cut to a 6" x 4 1/2" size. The masters were then cemented to the floor of the box with a space of at least 1/4" around the edges of the masters. Make sure that there are no undercuts on the masters as the rubber will flow into any undercut and lock the mould to the master.

The last step before you pour in the rubber is to coat the masters and the inside of the box with talcum powder. When this job is done you then need to blow off any excess powder which should leave a thin film of powder as a release agent.

Pouring the Rubber

Make sure that you will be working in a **well ventilated area** when you handle the silicon rubber and its catalyst. An additional safeguard would be to use a twin cartridge respirator (cost about $20) and rubber gloves (throw away type). The respirator will protect you against fumes and vapours and they are lightweight and comfortable to wear.

Be sure to mix the silicon and catalyst according to the instructions and mix them very well, BUT do not overdo it or you will produce a mixture of air bubbles. Mix a small amount of the mixtures in a flat glass dish at the recommended amounts and then fill in around the masters themselves so that there are no air bubbles that will ruin the mould. Now you can mix the remaining amount in the flat at the required mix and SLOWLY pour it into the mould box. It is an idea to have a couple of spare moulds available so that if you end up with an excess of silicon rubber you can use it on the spare moulds and not waste it.

After pouring the rubber into the mould gently start tapping the base of the mould to assist trapped bubbles to rise to the surface before the catalyst sets. A toothpick can be used to 'break' and remove any bubbles on the surface of the rubber.

Removing the Mould From the Masters

Where the rubber has cured use a sharp knife (X-ACTO) and run the blade around the inside edge of the four sides of the box. This will break the contact of the silicon rubber away from the styrene sides and base of the box.

Now CAREFULLY lift the rubber mould GRADUALLY from the box on all sides and then from the base and the masters making sure that the rubber does not adhere to the styrene masters. If there are any pieces of 'flash' rubber on the mould then cut these off with a sharp knife. You should now have a rubber mould which is a negative of the masters and the mould should then be left to cure for at least 24 hours.

Casting Your Copies

To produce my car copies I used FASTCAST 810, a low viscosity rigid urethane in two parts. Possibly there may be other better urethanes on the current market, but I found that this product was suitable for my use.

Place the rubber mould on a flat surface (piece of thick glass is ideal) and coat the rubber mould surfaces with talcum powder. All excess powder should be BLOWN off leaving a thin coating of the powder adhered to the surface. This coating acts as a release agent and the rubber mould should be coated for each additional use for castings.

You now place EQUAL amounts of urethane A and B into a paper cup and mix GENTLY so as not to create air bubbles. Carefully pour the urethane mixture into the mould, making certain that all air bubbles are removed by tapping the mould and using a toothpick to disperse the bubbles.

When the mould is filled to the top of the 'masters spaces' gently and lightly run a straight edge (flat knife) across the top of the mould from one side to the other in ONE direction to remove excess urethane. Check again for any air bubbles and then allow for the urethane to cure. You will notice a slight shrinkage in the urethane after it has cured and set.

After curing you can remove the castings from the mould and clean off any excess of flash. The castings are now ready for assembly and painting.

Items Required:

- Silicon Rubber and Catalyst
- Urethane A and B
- Styrene sheet and strips
- Rubber gloves
- Sharp knife (X-ACTO)
- Paper cups
- Talcum powder
- Twin cartridge respirator
- Wooden stirring stick
- Straight edge
- Flat glass container
- Toothpicks
- A **well ventilated room** with an **electric fan**
- A lot of patience

Type of Silicon Rubber

Rhodorsil 586 (RTV) Sizes - 1 kg, 5 kg, 20 kg

Type of Urethane

Fastcast 810 Sizes - 500 g, 1 kg, 4 kg

Materials were purchased from

One Stop Plastics Pty LTD
19 Ardena Court
EAST BENTLEIGH VIC 3165
PO Box 142, EAST BENTLEIGH
Tel 03 9579 2044

NOTE - Postal regulations do not allow chemicals to be sent by post, I had my items sent by road transport. RH

CARING FOR YOUR RAILROAD VIDEOTAPES
by Fred Gill GMMR

Videotapes are composed of a plastic polyester backing onto which a layer of magnetic material (metal or oxide) and binder is coated. The proper care of videotape relies upon looking after both the base and the magnetic layer in which the image and sound information is contained.

The life of a videotape is difficult to predict as the life of a tape depends on good storage conditions, the quality of the tape, the frequency of use and the care in its use.

Heat and humidity are the greatest enemies of videotapes. The recommended storage conditions for videotapes are 18° c - 24° c with a relative humidity of between 35% and 45%, ie an even temperature with low humidity. Satisfying these conditions in a typical domestic environment is difficult.

1   Storage places to be avoided - directly on concrete floors (susceptible to spills and water damage and high humidity)

2   Next to the VCR in an enclosed cabinet (high temperatures)

3   Adjacent to bathrooms, kitchens or laundries or other areas where steam is found

4   Attics or cellars (high temperatures and high humidity)

You should always return the tapes to their containers when you have finished using them and store the containers in an upright position. Storing the containers this way helps prevent damage to the edge of the tape. If several containers are stacked horizontally on top of each other the plastic cassettes can warp and the VCR may not accept the tape. It is also a good idea to fast forward and rewind the tapes before storage, this will ensure that the tape is correctly wound inside the cassette.

Only very strong magnetic fields will damage videotapes. The most likely articles found in the home that can affect tapes are those with small powerful magnets such as magnetic flashlights, fridge magnets, small headphones, speaker cabinets, etc.

Tapes that are rewound or played at least annually to rewind pack stresses may last longer than tapes which are not played at all. However, the more often you play a tape, the greater the likelihood that the tape will be damaged.

Under normal circumstances head cleaning tapes should not be needed. Dirty heads on a VCR show as picture 'dropout' - either a poor quality picture or no picture at all. If the heads require frequent cleaning there may be a problem with the videotape being played. If the heads do need cleaning it is preferable that they be cleaned manually by a trained person.

You should consider safeguarding any videos of great personal importance (railroad type) from extreme hazard, such as household fires or floods, by copying them onto other videos and storing the copies separately.

In the case of fire, evacuate the tapes or bury them in a sealed container. In the event of a flood, evacuate the tapes and try to avoid the tapes becoming wet at all costs.

Rails in Malaysia
by Ian Petherick

Malaysia has railroad line interconnection north south connecting Thailand in the north and Singapore in the south. The main island of Singapore is connected by a viaduct for rail and road.

Singapore Visit

I have recently visited Singapore and tried to make it a Railfan trip. I failed, but have vowed to make up for it on the next opportunity. The rails into Singapore are the metre gauge lines of Malaysia with locos and rolling stock operating in a manner to the old systems in Brisbane where the NSWGR used to run to Acacia Ridge.

In Singapore's case there are many freight lines serving the "world's busiest port". A Single passenger track allows the three trains per day passenger schedule to operate.

Singapore Mass Rapid Transit (SMRT)

The newest public transport system in Singapore is the MRT which has been developing for number of years. The completion of the northern loop line allows fast air conditioned travel around much of the island. A circular trip of about 50 km in less than 2 hours with two interchange changes of trains.

The trains are similar in appearance to current design Light rail trains in other parts of the world. Third rail electric operating on a high "elevated" viaduct for most of its route the trains descend into tunnels nearer to the City Centre. A closely spaced layout of 10 or 12 underground stations serve the

financial, tourist and commercial centres of Singapore.

The rolling stock looks identical to the London system and both combine sections of underground tunnels near the City centres with ground level and viaduct trackage in the outer suburbs. It has been said to me that the UK's Islington line was the pattern which Singapore copied. All modern electrics and controls are used.

Kuala Lumpur - Light Rail Transport

The mass transport system chosen for Kuala Lumpur and named the LRT is in many ways the same as Singapore's except that tunneling has not been a chosen option in KL..

Here the targets for Malaysia are often aimed at completion for the 1998 Commonwealth Games which are to be held in Kuala Lumpur and surrounding locales. So the LRT will begin operating soon for Stage 1 and Stage 2 completion is to be early in 1998.

Electrically powered with diesel shunting and recovery locos the trains will operate from the National Electricity Company (TNB) grid power as do the existing inter-urban electric trains. Before the new rapid transit light rail system opens for the public it has been test running and used for promotional trips.
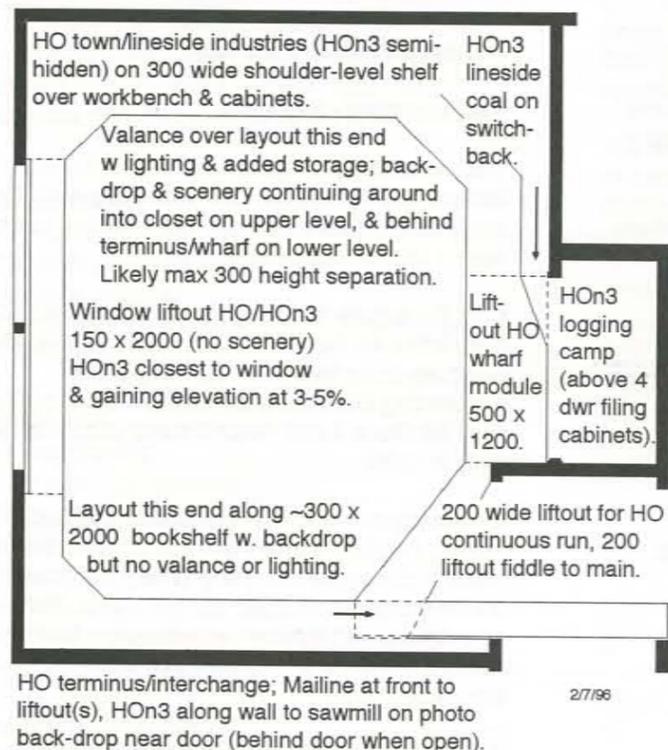
When an extended electrical power failure occurred recently it gave an opportunity to test the rail recovery techniques with diesels brought into use to move trains to platforms and safe sidings after they all stopped wherever they happened to be.

A C Lynn Zelmer
Box 1414, Rockhampton, QLD 4700, Australia

Singapore, 2 July 1996
Editor, The *Mainline*,

HO town/lineside industries (HOn3 semi-hidden) on 300 wide shoulder-level shelf over workbench & cabinets.

HOn3 lineside coal on switchback.

Valance over layout this end w lighting & added storage; backdrop & scenery continuing around into closet on upper level, & behind terminus/wharf on lower level. Likely max 300 height separation.

Window liftout HO/HOn3 150 x 2000 (no scenery) HOn3 closest to window & gaining elevation at 3-5%.

Lift-out HO wharf module 500 x 1200.

HOn3 logging camp (above 4 dwr filing cabinets).

Layout this end along ~300 x 2000 bookshelf w. backdrop but no valance or lighting.

200 wide liftout for HO continuous run, 200 liftout fiddle to main.

HO terminus/interchange; Mainline at front to liftout(s), HOn3 along wall to sawmill on photo back-drop near door (behind door when open).

2/7/96

Conceptual Schema for Proposed West Coast Canada HO/HOn3 Bedroom Layout

Rationale: HO/HOn3 Lines

Freelance based on Vancouver Is., Central BC & AB prototypes; located on Vancouver Island pre-1950.

The HO line is a small island-based branch connecting a cross-island main line (the liftout fiddle yard out the door) with the mainland through a wharf/barge service.

Some distance between ends is suggested by the run across the window and the town/industries (lumber, fuel, lcl, etc.) but the town mainly provides switching/operating interest.

The HOn3 branch connects near the HO branch/main interchange & shares facilities with branch line.

The coal mine, based on AB Coal Branch prototype (Van Is does have coal), requires 1-2 gondolas weekly.

The logging camp, based on small BC outfits, generates considerable traffic & requires daily passenger (mixed) service as well as log trains. The logs are delivered (via switchback & grade) to mill at interchange.

As readers of the *Mainline* are aware, when I recently concluded the Computers in Model Railroading series I indicated that I wanted to change topics—the articles were, after all, a revision of a somewhat longer series which had begun roughly seven years ago for the PNR *Switchlist*. For a variety of reasons, mostly work-related, my involvement had not kept up-to-date with current technologies for model railroad use and I needed a change. This is the first of what will likely be a quite irregular series documenting my current modelling activities and their rationale.

It might be more useful for me to be back in Rockhampton unpacking boxes from our recent move, however, a Singapore work trip provides me with some time to explore options for the use of my first exclusively model railroad space in over twenty years.

The space, as you can see from the drawing, is roughly square (3560 x 3120) plus a closet space. The room must house my railroad book and photo collection, 2 four-drawer filing cabinets containing historical data (in the closet), 2 two-drawer and 2 similar sized shallow-drawer filing cabinets containing tools and models, my workbench, and a small railroad. The latter will need to be on an eye-level shelf with lift-out sections at critical points. There is also the potential for a point-to-point garden railway running around the back and two sides of the house.

Organising the books and other items in the railroad room is a relatively easy task. Building the model railway will be more problematic as it will require more time than I've generally been able to find for leisure—and I'm still committed to preparing a series of articles on cane railways for another magazine—but the real challenge is deciding what to build!

My model interests are eclectic, but they have a focus in branch line and narrow gauge operations. While I grew up in Alberta and explored the Alberta Coal Branch under both steam and diesel operations, my railroad

interests mainly revolved around Vancouver Island logging lines, particularly as they were under steam.

I have a number of HO and HOn3 locomotives and kits in a collection which is oriented towards pre-1950 logging and mixed train activities. The locomotives and rolling stock need some repair since several moves and the tropical climate have left their mark. I also have the beginnings of a HOne cane railway and a very small collection of 7 mm kits suitable for kit bashing for true 2 foot gauge cane railway models.

I want to repair the existing models and build the kits in my collection, if only to restore my very rusty skills and to be able to demonstrate that I can actually complete some of the models that I purchased or started far too long ago (more than 20 years in many cases). But, I know that doesn't necessarily mean I need a layout or continuous run in every scale/gauge. I could, for example, use a test frame on the workbench to run in the locomotives as they are repaired. I definitely don't want to build a floor-to-ceiling or wall-to-wall layout to show them off—individual modules might do; and building the garden line might satisfy my 'need' for a long run.

I have been considering a freelance branch line (HO) connecting an off-layout main line via a barge-based connection to another line (also off-layout) with a HOn3 line taking off from the interchange. The basic prototype for this exists both on Vancouver Island and in interior British Columbia. A lift-out across the door could provide a continuous run by connecting the wharf and main line links.

Looking at the room plan, both the HO and HOn3 lines might start at a terminus on one shelf of a floor to ceiling bookcase across the bottom with the main line connection disappearing out the door (portable fiddle yard?). They would run parallel in front of the window but with the HOn3 rising fastest.

The HO line might have a small town at top; the narrow gauge rising semi-concealed behind the town (with the high-backed work bench and the four two-drawer filing cabinets for model and tool storage below a 600 mm wide layout shelf on that side) and out into the open to a coal mine (1 short siding) in the upper right corner, and then continuing to climb via a switch-back to a logging camp (built over the four-drawer filing cabinets in the closet). Both lines would have 3-5 car sidings for very short trains and speeders.

Meanwhile, the HO branch could continue to its terminus and wharf (on a liftout in front of the closet/filing cabinets) where a 4 car barge would move cars on and off line. The wharf terminus would be a removable module for display, filing cabinet access, and maintenance of the upper level logging camp).

Such are my initial thoughts. The scheme would provide credible point-to-point operation for both lines—the prototype rationale is another article—with optional continuous running for the HO line.

Eventually I could build a small cane tram layout in HOne and a 7mm display (2' gauge) to show off those models as they are built. In the meantime, I'm experimenting with an A4 picture frame as the base for smaller displays and have a metal carrying case for exhibit and conventions. After that, perhaps on to the garden layout.

Unfortunately, the layout would be crowded and I'm not sure whether there would be room for a 65' turntable kit I would like to build, nor for the obligatory dual gauge engine shed and servicing facilities. I'm resigned to the limited wall space for prints, map, and other room decorations because of the necessity for a shoulder height layout. Finally, I need to ensure that it will provide sufficient scope (and scenery area) for NMRA Achievement Award requirements.

Equally important, I've become interested in 2' gauge cane train operations, partly because of work and a railway engineering project, but also because of the narrow gauge branch line appeal of the tiny equipment and more casual operations. While my interests have changed, the proposed concept plan does not reflect those changes—which do I want?

This current trip is providing the opportunity to stop and think about what I really want and can reasonably hope to accomplish with my time constraints and other interests. I'll keep you posted as developments occur.

Yours in modelling,

p.s. How does a railway survive when its station is located away from the city centre and isn't very well connected to public transit? Singapore isn't the only city I've visited with this same problem.
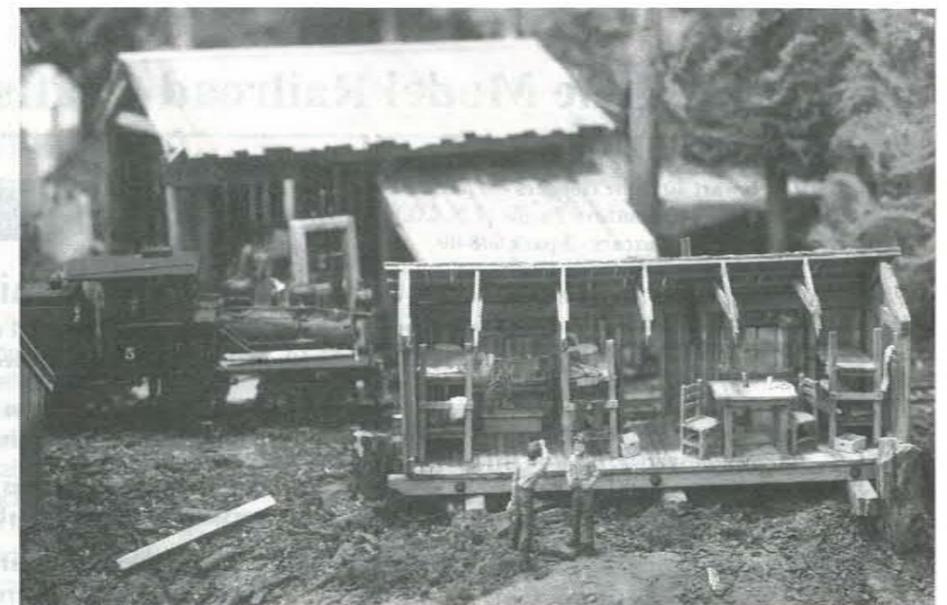
NMRA MELBOURNE CONVENTION LAYOUTS
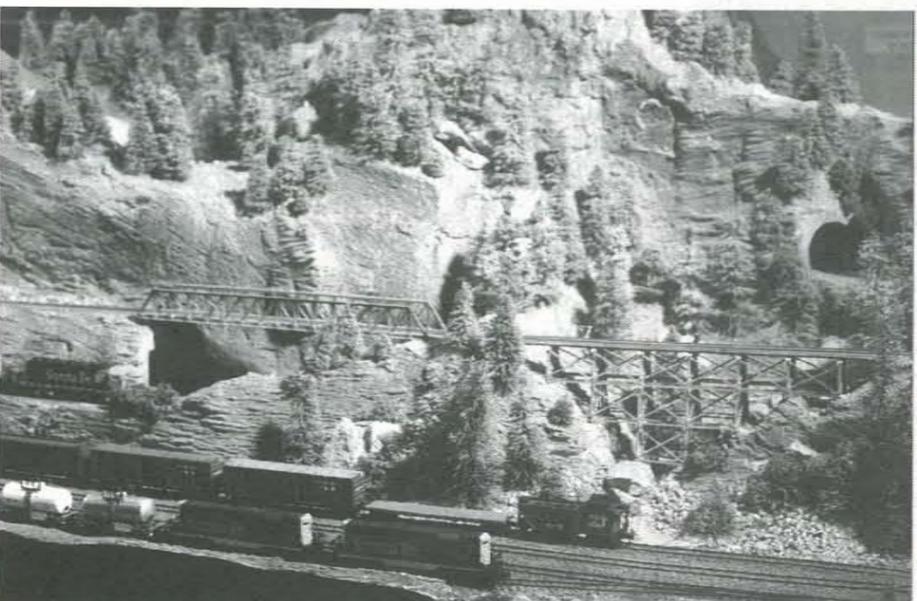
Croyden Narrow Gauge Group

Far Twittering & Oyster Creek

Big Sky Lumber Company

Wyoming by Train World

Photos - Gerry Hopkins & Sowerby Smith

Big Sky Lumber Company

Skykomish

Lost River Canyon

Big Sky Lumber Company

SEQUENCE OPERATION & CARD ORDER SYSTEM ON THE HEM LINE
by Bob Timmins

The Hem line is the parochial name for a little known east west bridge route railway line built early this century to cross the great barrier range by the Hyden, Endover & Midway Railway Company. The line was built to transport the timber, minerals and produce from the rich mountain areas and connect with the two major east west rail systems operating at that time. It was a single track line branching from the main at Hyden junction on the eastern side of the range to run thru the city of Midway and various small towns, up and over the range to reach Port Sendorl on the great inland lake, then on to connect with the western line at Endover.

By the late forties the two major rail systems had amalgamated and having obtained running rights over the shorter mountain route, were now scheduling quite heavy traffic over what was officially the Midway Division but still locally called "The Hem Line"

This actual railway does really exist albeit in HO scale model form and is built and operated in a purpose built fully lined and insulated shed in my back yard.

The layout was designed for operation from the start and covers an area of 12 by 18 feet. It is a walk in point to point design with staging yards, return loops and a division point yard with turntable, roundhouse and passenger terminal.

The following sequence and card order system was devised from many articles and books that I have read and studied over the years. My thanks to all those authors who have inspired me to build and operate the Hem Line. (see ref.)

All trains are operated in sequence order and by a sequence run card which is used to give instructions to operating engineers for direction, route, station stops, loco service and switching etc. These are 3 by 5 index cards, numbered in train sequence order and filed one behind the other in a card index file. (fig 1 shows the No 4 sequence card)

Twenty trains are sequenced to run from way freights, mixed and local passenger to express thru freights, unit trains and limited passenger with mail service. Even maintenance of way and log trains are run.

All thru passenger and thru freight trains operating over the bridge route stop at Midway to service or change locos and crew. Mixed freight, way freight and local passenger trains leave from Midway to towns along the line and then return to be broken up with loco to shed and cars moved to the yard or local industries by the yard switcher. The Midway yard master has a list of duties which are also set out in sequence run order. (see appendix)

The sequence run card includes instructions for all passenger and mail coach movements but not freight car operations as these are controlled by a separate card order system. Each freight car on the layout has a matching car card showing the car type, number and owners name, also M. T. return to Midway. These cards are made out each time a new car is added to the system and are plain buff coloured 3x5 index cards with 38mm folded up and glued each side to form a pocket. (see fig. 2) The back of the card is used to record manufacturer, purchase date & cost.

Each freight car operating in a train is directed to various locations along the line by a waybill which is a separate card that slots into the car card. The information on the waybill shows the operator or engineer if the car is loaded or empty, its destination and by which train or trains it will move on.

For operation using this waybill system the most important information on the waybill is **where to** and **on what train**.

``To``- shows either an east or west direction or a local town and or industry.

``Via``- shows which train or trains the cars will be moved on. Thru east, thru west or local, etc. For clarity each train movement is underlined by a colour. Red for West, Green for East and Yellow for Local.

The creation of waybills is the most time consuming job required when starting a card operation system. However, it is also a side to the hobby that is most pleasing if one likes planning various moves of cars and trains to towns and industries on and off line, etc.

To start this system, I began by noting down all the town and industry sidings on the layout. Then on separate sheets I wrote the name of each industry as a heading. Under each of these, on the left hand side, I listed all the raw materials and commodities each industry might use and on the right side, all the things they could produce or supply. Using this information and a lot of imagination, I began making up waybills.

The waybill cards are made from white 3x5 index cards cut in half. Five or six were made out for each **type** of freight car on the layout. I use an identification code in the top right hand corner to designate and locate a waybill. This code is simply B for box, R for Refrigerator, S for stock, F for flat, etc.

These waybills were made to send cars to various town and industry locations on the layout and to east and west destinations off the layout.(staging)

The majority of waybills are made for two way operations. Side one shows``Empty`` to shipper (seller) via train type and when delivered, turn over. Side two shows``Load`` to consignee (purchaser) via train and when delivered, remove. (see fig 3) When the waybill is removed, the car card then shows :- `` M.T. Return to Midway`` This in effect, ensures a car has at least three moves and sometimes more, if it requires movement by two trains to reach a destination. eg. LOAD to EAST via **Local to Midway & Thru East** as shown in fig 3 side 2. Should it be found an industry is not receiving or producing enough traffic, just make out some extra waybills to suit.

These two way type waybill cards are filed one behind the other in groups and kept in the dispatch master file, which is a card index file with dividers marked corresponding to each car type such as-- box, reefer, hopper, gondola, flat, tank and stock etc.

Also, some waybills are made as four way operations and stay with the car card at all times. These are for special cars such as chemical tank cars or covered hopper cars to ensure they are consigned to a suitable industry and not sent to an oil depot or coal mine.This is also a way to control traffic flow to a particular industry, as the car will head back to the same place every fifth operating cycle. However, never in the same train.

The car cards with or without waybills are held in files located around the layout. Each town has a set out and pick up file. (see photo)

Midway division point has a larger file with five separate slots for- Empty cars, Midway industries, Thru freight East, Thru freight West and Local way freight.

The yard master uses the Midway files to make up local way freights, switch Midway industries and to add thru cars to the East or West thru freights.

Turning the waybill card over when the car is delivered is done between operating sessions by the despatcher (me) as is moving the cards from set out to pick up at the town location files.

OPERATING THE SYSTEM

To see how the card system is used during a running session we can first follow the operation of a Thru Freight and then a Local Way Freight.

THE EXPRESS THRU FREIGHT

A Thru Freight train will leave from either East or West staging to arrive at Midway division point. The engineer will be operating the train using the sequence run card and clipped to this card using a spring clip are the car cards and waybills for each car in the train. Some waybills show destinations of cars heading thru (east or west) and others are for local towns and Midway industries. Some cars will be empty returns without a waybill.

On arrival at Midway the loco will be detached and run to the engine shed for service or change. The yard switcher will then pull the empty and local cars from the train and add the thru cars from the yard that were made up from either the East or West files. After the new or serviced loco and caboose is added, the train is ready for departure.The car cards for the dropped cars are held by the yardmaster, while the thru and new added car cards for each car on the train are attached to the sequence run card, given to the engineer and the train departs for distant places. (to run over the layout to staging East or West)

The yard switcher now has the job of sorting the dropped cars. Maybe some to local industries and others to a holding track for the next local way freight. The cards are then filed in one of the Midway files corresponding to the car location. ie. Empty, Local or Midway industry.

Meanwhile, after completing its run as shown on the sequence run card, the thru freight train is held over in staging and the waybill cards are turned over or removed from the car cards as directed. (usually by the despatcher)

The train now becomes a **new** train with a **new** number, ready to operate in the opposite direction when called at a latter sequence time. The car cards are filed at staging in the return file for which ever direction the new train is headed. The sequence run card is returned to the back of its file, ready for a new operating session, at a latter date.

Note. The waybills when turned over or removed will always show the car moving in the opposite direction. ie. From east to west (or vice versa) or, back to Midway for the local way freight, or empty return to Midway. Therefore eventually all freight cars will end up back in Midway yard ready for a new waybill assignment. The system once started is continuous and self perpetuating.

THE LOCAL GOODS OR WAY FREIGHT

The local way freight is made up in Midway yard from the car cards and waybills filed in the Midway local file. This file holds the cards of cars that have come to Midway on thru freights or from empty cars

that have received new waybills from the dispatch file.

The yard master is about to make up sequence No 4 The Local Port Turn, so let's ride along as we follow its operation from makeup in the yard, to its duties along the line.

The yard master picks out the car cards with waybills from the Midway local file. Usually six 40 ft cars make up a local because that length of train fits the various town sidings OK. Sometimes the local will leave with only one or two cars. It all depends what is in the file. Today there are only five cards in the file so we take the lot. We sort the cards into station order to help block the train. First we have a chemical tank car for Dorigon Chemical works, second an empty flat for Ernesta Saw Mill, then a box car loaded with cement is required at Hillside team track and two empty refrigerator cars for the Cannery at Port Sendorl.

The train is made up on the departure track and after attaching the loco and van we get the green board and start off west to our first stop at Dorigon. We have in hand the No 4 sequence run card and the five waybilled car cards showing our instructions.

We check with the station master on arrival to see if there are any pick ups. Sure enough we have two. An empty hopper is waiting at the brickworks to return to Hillside Quarry and a loaded box at Will Keiths Engineering is due out to the interchange with the North Western. We make the required drops and pick ups, adjust our cards and start off on the climb up the range thru Turne Junction and on to the small mill town of Ernesta. We check the pick up box but find nothing. Good, we only have to spot the flat on the trailing sawmill spur and we can be off. We are switching the spur with the bulk of our train still on the main line here and we must not hold up any thru trains.

We slot the card in the set out box and head on up to Hillside. We take the loop line as we must hold here for the Eastern Flyer. It is due thru here any minute now and the main must be kept clear. While we are waiting we look over the files. Is there anything to pick up? Yes-- a covered hopper of grain at Ace High silo for Midway grain elevator, a load of cattle at the loading ramp for Western Meat Co. and a loaded ore car at the Quinn Tin Mine for the Port Sendorl wharf.

Suddenly, the distant wail of a train whistle is heard and we look out to see the Flyer come storming around the curve with a long plume of silver grey smoke trailing from its stack and a full head of steam streaming from the safety valve. Its big side rods flashed in the sunlight as it charged thru with eight heavy weight coaches in tow all clanging across the points and vanishing into Hillside tunnel.

All is quiet again except for our little local still idling in the siding just waiting to get on with the job. We will leave the grain and cattle for the return journey, as both are headed back to Midway. We drop the box at the team track and the hopper at Morc's Quarry, pick up the ore car from the mine and head off to Port Sendorl as quick as possible as this is a long stretch of single line and a unit coal drag is following close behind.

We arrive at Port Sendorl with time to spare and head over to the barracks for a lunch break before sorting our train for the return trip.

We check the pick up file and find two loaded box cars at the cannery for the east, one loaded coal hopper at the coal wharf for the Midway loco coal elevator and an empty oil tanker at the oil depot, all going back to Midway.

Note. All loads for East or West are taken back to Midway yard to be picked up by the next thru freight or express.

With all the switching completed and the cards sorted we head back up to Hillside, pick up the grain and cattle cars and run on down to Turne junction which we passed on the way out but as the interchange track is a facing point spur it is best switched on the way home. We drop the loaded box car from Will Keiths Engineering and after checking for any pick ups, head back down the mountain to Dorigon where a stop is made to adjust the train brakes before running on thru long tunnel to cross over the northern branch at Jointing and back to take the third loop track into Midway yard.

We uncouple from the train and run our loco to the shed. Our shift is now finished and the yardmaster will sort the cars and switch them to the various industries and yard tracks. The car cards will be slotted into their respective Midway files with the oil tank card into the empty file,the two box car cards to the thru east file, the cattle to the west file and the grain and coal to the Midway industry file.

Of coarse while all this local work was being carried out, many other trains had passed through Midway and beyond all operating in their sequence order on the HEM LINE.

references :-

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Model Railroader Mar. 1993   Tony Koester

WAYBILL

1	EMPTY	R

TO   **HILLSIDE**

VIA   LOCAL

WHEN DELIVERED   __TURN OVER__

FIG.3 SIDE 1

REEFER		R

RAILWAY EXPRESS
REX 6248

M.T. RETURN TO MIDWAY

FIG. 2
CAR CARD

2	LOAD	R

TO   **EAST**

VIA LOCAL TO MIDWAY
    AND THRU EAST

WHEN DELIVERED __REMOVE__

FIG. 3 SIDE 2

TRAIN No   SEQ No4

LOCAL WAY FREIGHT TURN   (6 Car Max)
Originates---Midway to run westbound to Port Sendorl and return.
Yardmaster to make up train from waybills in local file.
May switch trailing spurs on outward journey and facing on return.
LV. Midway stopping and switching all stations to Port Sendorl.
Keep out of thru trains way.
AR. Port Sendorl, switch and run around train to return over same route
LV. Port, up past Endover, returning back to Hillside. (Water if steam)
LV. Hillside for Turne Jnc. Switch Interchange if required.
LV. Turne Jnc. down to Dorigon--pick up for East, West, & Midway
LV. Dorigon to arrive Midway Tk 3 Yardmaster to sort train and
waybill cards. etc.   Loco to shed.

FIG.1 SEQUENCE CARD

MIDWAY YARD DUTIES.

SEQ.	AR./LV.	NAME	DIRECTION	WORK REQUIRED
1.	AR.	Passenger Limited.	West	Pick up R.P.O. No 1307
2.	AR.	Freight Thru East.	East	Drop Shorts, pick up cars for East.
3.	LV.	Local Way Freight.	West	A maximum of 6 cars from Local File.
4.	AR.	Local passenger Mail.	West	Drop RPO 3406 Pick up Bag/Mail No 1837
5.	AR.	Passenger Express.	East	(Eastern Chief) Drop Bag/Mail 1827 pick up RPO 3406 change loco to E8
6.	LV.	North West Mail.	West	Consist- Bag./Mail 1827, Observation 1517 & one Reefer, empty or West
7.	AR.	Coal Drag	West	Add or drop cars as required.
8.	LV.	Mixed Freight	West	Consist-Combine 2602 & any two cars either empty or West.
8A	LV.	M.O.W.	West	From Diesel Shed.
9.	AR.	Passenger Limited	East	Loco to service or change.
10	AR.	Tourist Passenger	East	Arrive Track 1. Stop then leave East
11	AR.	Thru Freight	West	Drop shorts, pick up cars for West
11A	LV.	Local Way Freight	West	A maximum of 6 cars from local file.
12	LV.	Local Passenger	East	Loco & Combine 2602 or Railcar.
13	AR.	Coal Drag	East	Loco to service, add or drop as req,d.
14	AR.	Passenger Express	West	(Western Chief) Pick up Bag/Mail No1827. Change loco to P.A.
15	LV.	Mixed Freight	East	Consist- Grey Obs.coach & any two cars either empty or East
16	AR.	Passenger Limited	West	Drop RPO 1307 & Observation 1517 Pick up combine 2602
17	LV.	Northern Mail	West	Consist- Obs.coach 1517& RPO 1307
18	LV.	M.O.W.	West	From Diesel Shed.
19	LV.	Log	West	0.4.0 Loco from shed.& log trucks.
20	LV.	Railcar	East	From Diesel Shed to track one.

Note. 1) All Thru Passenger and Thru Freight trains change or service Locos at Midway.
    2) Trains shown as LV. from Midway usually return and terminate at Midway. to
        be broken up, with cars moved to yard and industry tracks by yard switcher.
    3) Passenger coaches and caboose vans are held on yard track one.
    4) All passenger trains use the main line station track one.
    5) Thru freights use thru loop track two to drop and pick up.
    6) Local freight and mixed goods etc. are made up on thru loop track three.
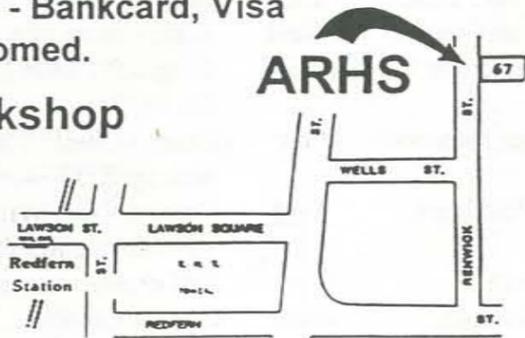
Musty, Dusty & Rusty
by Gavin Hince

Weathering & Ageing

Here's the weather . . .

Spring rain will streak dirt down vertical surfaces, create mud puddles which splash onto walls, and leave irregular blotches on level surfaces such as roofs.

Then, harsh sun will fade the paint, particularly bright colours. Eventually, the paint will crack and peel. Wood will warp and split as it dries, fading to a variety of greys and browns.

Finally, snow will pile on roofs, causing rafters to sag. Ice will lift wooden shingles, crack slate tiles and rust iron sheeting. Continued damp causes dry-rot to form around the base of wooden walls.

*Sounds like Melbourne on a good day, hey? However, these are the sorts of natural weathering our models are supposedly subject to. To accurately portray prototypes exposed to years of model weather, we **must** consider what happens to the real thing - both natural and man-made ageing effects.*

Everything ages; therefore, only very new items won't show some effects. Particularly in industrial areas, eg. around railroads, age shows quickly. I have categorised this effect into:

Designed-in ageing

When building a model structure or a piece of rolling stock, give early thought to the presentation of the final model. Was the prototype *modern* in the period being modelled? If so, the model will largely represent *as-built* condition, plus some light weathering.

If not - and the hand-me-down equipment favoured by narrow-gauge railroads was very **rarely** new! - modifications over time may have changed window or door locations. Additions or repairs have been added, often from new or available materials that rarely match the initial structure. Older rolling stock is converted for maintenance of way use; these cars show their revenue-earning ancestry in boarded-up doors, obsolete reporting marks, etc.

Built-in ageing

We read magazine articles where the layout owner nonchalantly reveals that every piece of wood, in every model, is weathered with wood grain and nail holes, "I spent 400 hours adding termite holes to each board". This is extreme, but many ageing effects are easily added during actual construction of a model. That's the time to distress scribed siding, adding board-ends, nail holes and grain. That's the time to remove boards to simulate damage, with interior framing showing through. It's your best chance to add texture to your models, and this clinic will discuss many of these methods.

Finish weathering

This includes fading, staining and other effects on the colour and finish of the model. There are innumerable methods which generally involve stains, dry brushing or use of dry pigments. I list some of the more useful materials for this process later, and during the clinic we will discuss and demonstrate several.

Some of these weathering effects are quite subtle. For example, both wood and slate shingled roofs accumulate a layer of moss in damper climates. Look at some older buildings and note that the moss is concentrated around gutters and wetter areas. It doesn't seem to grow near chimneys, probably because of the soot. To suggest your building has been out in the weather for many years, wash some thinned dark green paint into appropriate spots. In larger scales, some extra-fine ground foam will add texture as well as colour.

Certainly, some of your models require weathering; even pristine European narrow gauges run past older structures, and a freshly polished locomotive soon acquires a patina of soot, oil and grime. If your desire is to accurately represent the real thing, be aware how the real thing deteriorates. Keep your eyes open for interesting effects and use a camera to record colours and textures. I once shot a whole film on a stack of 44-gallon drums because of their interesting colours and conditions!

There is no substitute for assembling a bunch of base materials, then experimenting with a number of methods to find those which work for you. Hopefully, this clinic will illustrate some old and new techniques, so even experienced modellers may see some new ideas. A truism in most modelling books and magazines is that only **practice** will improve your results - hone your techniques until good results are regularly achieved.

A POTTED LIST OF WEATHERING FINISHES
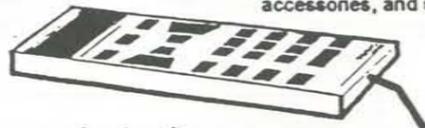
Stains & washes

These consist of a pigment suspended in a carrier liquid, such as thinned paints. Both enamels and acrylics are useful, but be careful if using water-based stains on wood because it causes sheet wood to warp unless weighted during drying.

One of my favourite weathering materials is a stain made from Meltonian shoe dye (black and dark

brown colours) diluted with rubbing alcohol. Just a few drops of dye in a film canister of alcohol gives a versatile stain for raw wood (streak with the grain using random dashes of black and brown) or for dulling painted surfaces. Dyes are available form most supermarkets, and the alcohol from the chemist. I guess you can use other alcohols as the solvent, but your friends may notice if your lips go black!

Dry-brushing

This must be the most commonly mentioned technique in American train mags. Basically, dry-brushing is about putting *tiny* amounts of paint onto raised surfaces. The brush is dipped and then almost all paint removed by scrubbing. The remainder is gently brushed over the model to highlight edges and cast-in detail.

Don't confine dry-brushing to white paint only; many colours are suitable: silver highlights stand out well for simulated metal surfaces, while light browns and tans work well for dirty surfaces. Military and figure modellers dry-brush a lighter shade of the base colour over much of the surface to simulate light and shadow - this doesn't seem to be used much in our hobby but is very effective.

Dry pigments

The "chalk powders" you read about in Model Railroader are actually known as "pastels" here. Cheap brands are available at your newsagent - simply scrape or sand the end to make a fine powder that is brushed onto the painted model. Chalks are excellent for adding dusty effects and subtle colours. On matt surfaces and for structures, there is no need for a protective finish. I spray rolling stock with matt artists' fixative to avoid the chalk rubbing off. Don't use Testors Dullcote - it makes the chalk disappear!

Finely ground powders are available from better hobby stores- Carr's are one good brand. I use their "smoke and rust" pack which has a range of orange, red and brown pigments. The method of application is identical to that of chalks.

Rust is easily simulated with dry pigments - you can make your own by leaving a steel wool pad in a jar of water, but don't use the soapy kind! Excellent finely ground real rust is sold by Bragdon Enterprises in a range of colours. This is the best material I have seen, and is available by mail order. Readers of the *Narrow Gauge Gazette* will recall Lane Stewart's beautiful modelling, and the "rottenstone" powder he uses to good effect. Rottenstone is hard to find here, but light grey tile grout is a good substitute. The powder is simply dusted over large sections of the model - I use the

soft brush included with the Meltonian shoe dye described above. For heavier applications of any dry pigment, spray the surface with matt fixative and apply the powder over the damp surface - the sticky finish causes more to adhere.

Notes:

1. Available in Melbourne from The Engine Shed in Box Hill

2. Available via mail order:
   Bragdon Enterprises, 2960 Garden Tower Lane, Georgetown CA 95634, USA

Destination Unknown
by Geoff Truman

Fiddle Yards, Sector Plates and Turntables

Trains are always going somewhere. They move people and freight from one location to another. To do this in model form, we rely on the hidden yard or staging tracks.

There are numerous ways of solving this off-layout destination problem. Many exhibition layouts are of the "doughnut" shape with a highly sceniced and detailed front and a rear fiddle yard holding trains waiting their turn onstage. The fiddleyards usually have a lot of loops which require points, point motors, complicated wiring and a complex operating panel.

I will talk about some simple solutions to storage yards; where you do not need a degree in electronics to operate!

One of the basic tenets of building a model railway is to operate it as per the prototype. Your fiddle yard or rail yards should only be as long as the long as train your layout can accommodate or smaller, and cater for the number of trains you *need*, not what you want!

Train Lifts and Cassettes

A fiddle yard can be one loop at the end of a branchline where the loco can run around it's train or be physically removed from the railway and replaced by another. This can be accomplished by a train lift or cassette - a section of track laid into a "U" shaped framework which can be removed, placed in a storage rack and replaced by another cassette complete with train. End plates swing down to stop the train falling out. A piece of plastic downpipe tubing with flex track glued inside springs to mind as an easy solution. Electrical contact is maintained by

a printed-circuit board gapped and placed under the train lift, matching corresponding sprung contacts in the baseboard. Examples of this method are found on the exhibition layouts of "Twigg" and Rob Wingrade's "Frankenbahn".

Reversing Loops

My exhibition layout "Trentham", when at home, is the middle leg of an E-shaped point to point track plan. At exhibitions, because of the grades, two fiddle yards were needed along with a method of turning the trains. I designed two-tier reversing loops that can turn and hold an entire train. Trains in the loop can be run only in one direction, due to a bridge rectifier placed in the track wiring to eliminate the need for a reversing switch. Another option would be to use a Tortoise point motor for the entry/exist point, using the auxiliary contacts to change polarity at the same time as setting the points.

Sector Plates

Sector plates are used to store a train or move a whole train on to a siding. Sector plates can also be moved vertically by hinging one end. John Dornom did so on his 7mm fine scale layout of the Great Western Railway's Laira Shed (see Model Railway Journal #83, 1995). You only need a little imagination.

The sector plate I built has 9 tracks. It moves on two 3-inch wheels and pivots on a bolt in the rear left corner; a captive ballbearing cupboard latch locates the track you want. When laying the track allow room for fingers, to pick up rolling stock. One rail on each track is wired to a common return; the other is connected via a home-made brass tubing & rod throw bolt. The brass rod is soldered to the outside of the rail so it will not foul rolling stock; in this way the track is perfectly aligned and connected electrically in one hit.

Train Turntables

Train turntables are sector plates that pivot in the middle. They must be supported when turning or the rolling stock could roll off, and the immediate area must be kept clear. With modern days of mile-long trains train turntables are rarely practical for the modern image modeller. A train turntable built by the Rev. Peter Denny of Buckinghamshire Central fame featured in early issues of Railway Modeller.

My latest method for storing trains is a turntable fiddle yard. It is only 1.5 metres long but has storage for four trains 470-750mm long. My layout needs only small trains, say 10 4-wheel wagons. The turntable - manual of course - lets the loco escape from it's train and be turned. Wiring is simple - track

feeds are at the mouth of the yard and controlled by throwing the points. The turntable has two wipers onto a print-circuit board, gapped into two halves. Each track is located by a ballbearing cupboard catch, or with a throw bolt.

Turntables

When building a turntable you must get a perfect match between turntable and it's pit...All you do is cut out a circle from the roadbed...Sounds easy?

The Table: I still can't cut a perfect circle with a jigsaw, but on inspecting my router I found I could replace the base plate with a piece of Masonite. The piece I used is 3mm stock approx 600 x 300mm. At one end, using the base plate as a template, mark out and drill the retaining screw holes, countersink them and attach the Masonite to the router. Pick a square cutting bit and insert it in the chuck. Starting up your router plunge it through the Masonite. This gives a base point from where all measurements are made.

Remove the Masonite base plate and measure from the far side of the router hole, half the desired length of your turntable. Mark and drill a clearance hole for the turntable pivot bolt.

Now measure from the near side of the router hole half the desired turntable length and mark & drill another clearance hole. The first hole is use to rout the pit, the second hole for making the table. In this way the thickness of the router cutting bit is eliminated.

The Pit: Locate and mark the centre of he turntable put on your roadbed; I use 9mm Craftwood. Draw in the centre lines of all roads off the turntable to the centre point. Drill a clearance hole for the table's pivot. Now cut a square piece of roadbed stock and a piece of masonite 50mm larger than the pit. Locate the centre and drill another clearance hole; bolt together with the table's pivot bolt and screw together in each corner.

Attach the template to the router and the table bolt in the first hole. Set the plunge depth to the thickness of the roadbed, and move the router carefully around in a full circle. You should have a pit and a disc.

Choose another piece of roadbed, oversize for the table, and screw it to scrap wood that can be held in a Workmate, vice or clamped to the bench. Locate, mark and drill a clearance hole on the halfway line of the roadbed. Attach the router and template using the second hole and with plunge depth already set, move the router in an arc of approximately 100mm; repeat at the other end. Disassemble the router, template and remove the scrap from roadbed. Mark and cut out the table from the roadbed piece. Bolt the table into the pit - it should spin readily - and file to adjust if needed.

Wiring: Using a round piece of circuit board about 50mm diameter, drill a clearance hole in the centre and cut the copper cladding on a line through the centre. Glue this disc to the pit centre with the dividing line near the centre of the approach road. Drill a hole in either side of the circuit board and insert hook-up wire from underneath, soldering to the copper cladding.

Solder short pieces of wire to each rail on the table and feed through holes in the table. Attach these wires to brass wipers underneath the table, set on each side across the centre, ensuring the wipers don't foul the soldered hook-up wires in the pit.

Indexing: remember that disc cut out of the pit? Cut a notch on the edge at each marked centre line, which aligns the notches with each exit track. Bolt the disc to the pivot bolt under the roadbed, aligning the approach road. Insert a small captive ball-bearing cupboard catch into a piece of 50x25mm timber, and screw underneath the pit in line with the centre of the arrival road. Job's done!!

Big Sky Lumber Company

Built and Operated by Gavin Hince and Laurie Green MMR

From deep in the rugged backwoods of Oregon's Cascade Mountains comes the sounds of saws, the cry "Timberrrr" and the crash of falling trees. Small logging operations like the Big Sky Lumber Company used second hand rusting and aged equipment, small geared locomotives and very tough men to harvest these giant stands of timber.

Initially, a stand of timber is located and a temporary rail line is laid to the site, in the quickest and cheapest fashion possible. The tracks twist and turn to find the easiest way up. From the largest tree in the area, branches are stripped and the trunk rigged - similar to a sailing ship - to be used as a "spar tree". Using lines attached to the top of this tree, portable steam winches called "donkey engines" were used to haul the cut logs to the loading area. These logs were loaded onto wooden rail bogies called "disconnects" for the trip to the sawmill.

Back in camp, crude accommodation is supplied. Some lucky loggers live in wooden bunk houses supplied by the company, while the less fortunate live in tents with log walls - no place to be on those snowy sub-zero nights. The logging company also provides basic maintenance for it's locomotives, cut wood for cooking fires, and sometimes a company store. It's hard and lonely work until Saturday and the trip to the nearest town...

This layout shows the various stages of logging and how loggers lived and worked among the tall trees.

A FEW TIPS ON PLACING TREES
by Lauris Hopkins

1. Make sure it is where a tree would germinate.

2. Group the trees if possible. Odd numbers look better

3. Stand the trees straight (I know they don't all grow straight, but on a layout they just don't look right leaning in all directions). Fallen logs and felled trees are the exceptions

4. Last but not leat, it looks right use it! It's your layout after all, and to heck with all the nit-pickers.

Use a certain amount of modeller's license **but** you don't put desert plants in rainforest or cold wet areas. Don't mix trees from different areas; try to find which trees and plants grow where in a depicted area - ie what grows on hills and what grows along the streams.

Open you eyes and really see the world around you; be aware where different plants grow, even in the one species of tree, what effect dampness has and where water would run. All these things determine where you put your model trees, greener grasses, brambles, reeds and so on.

Research research research. You can't really do too much. Use your model railway books, magazines, videos, photos, encyclopedias. Even study the country behind a train photograph, and if at all possible, visit the prototype area you hope to re-create.

Take your camera not just for the trains, but for the country and vegetation they run or ran through. Don't forget your local library - even your kids' school libraries.

Buy your trees ready-made, make your own, get your wife/girlfriend/friends/kids involved in making trees, but HAVE FUN and cover that land the trains run through.

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