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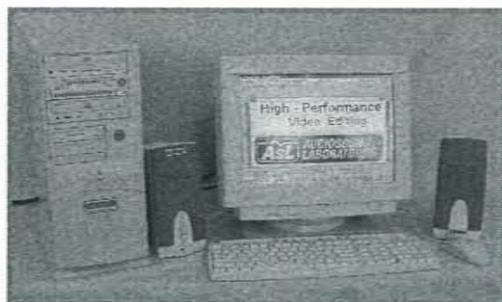
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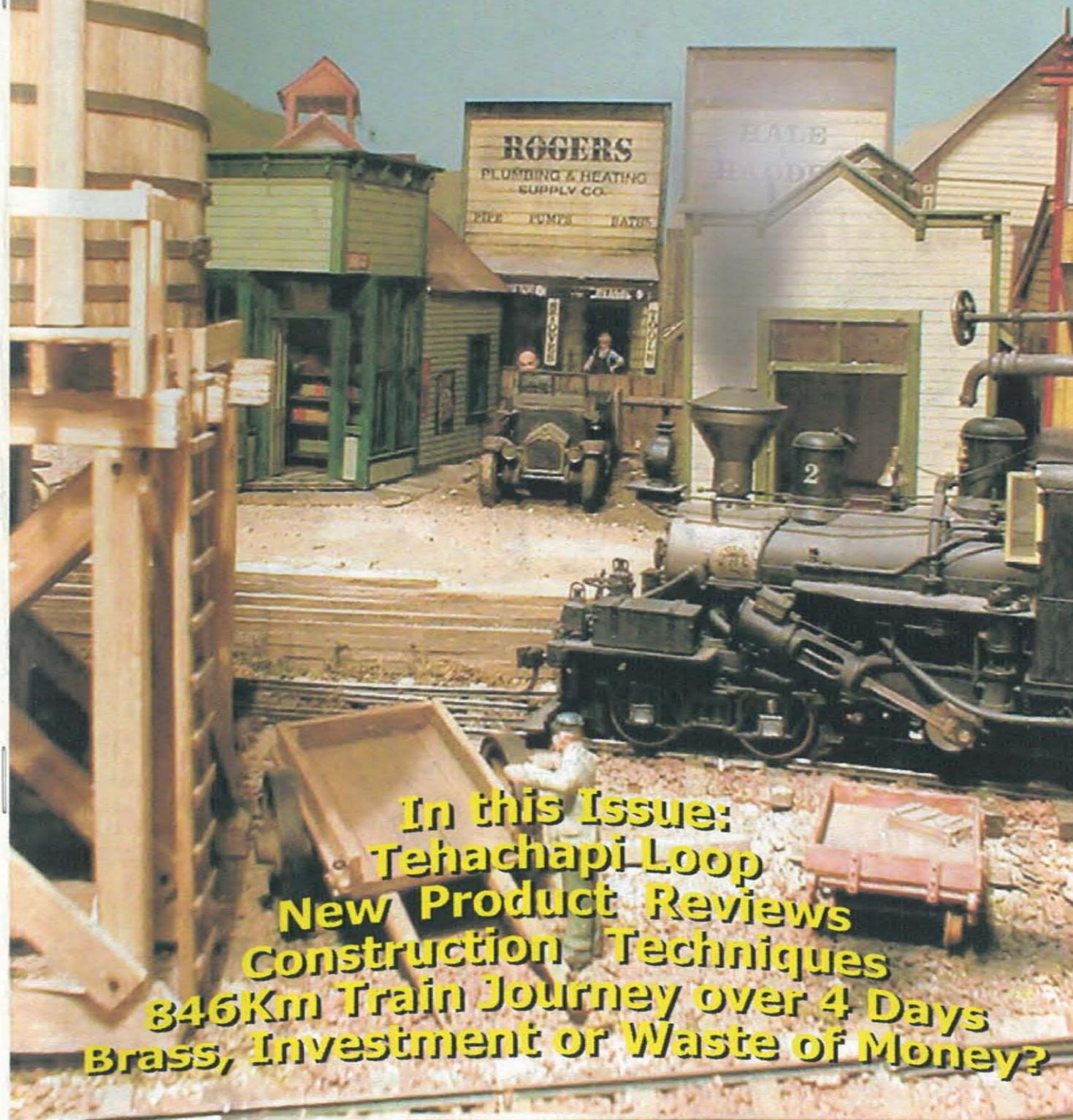


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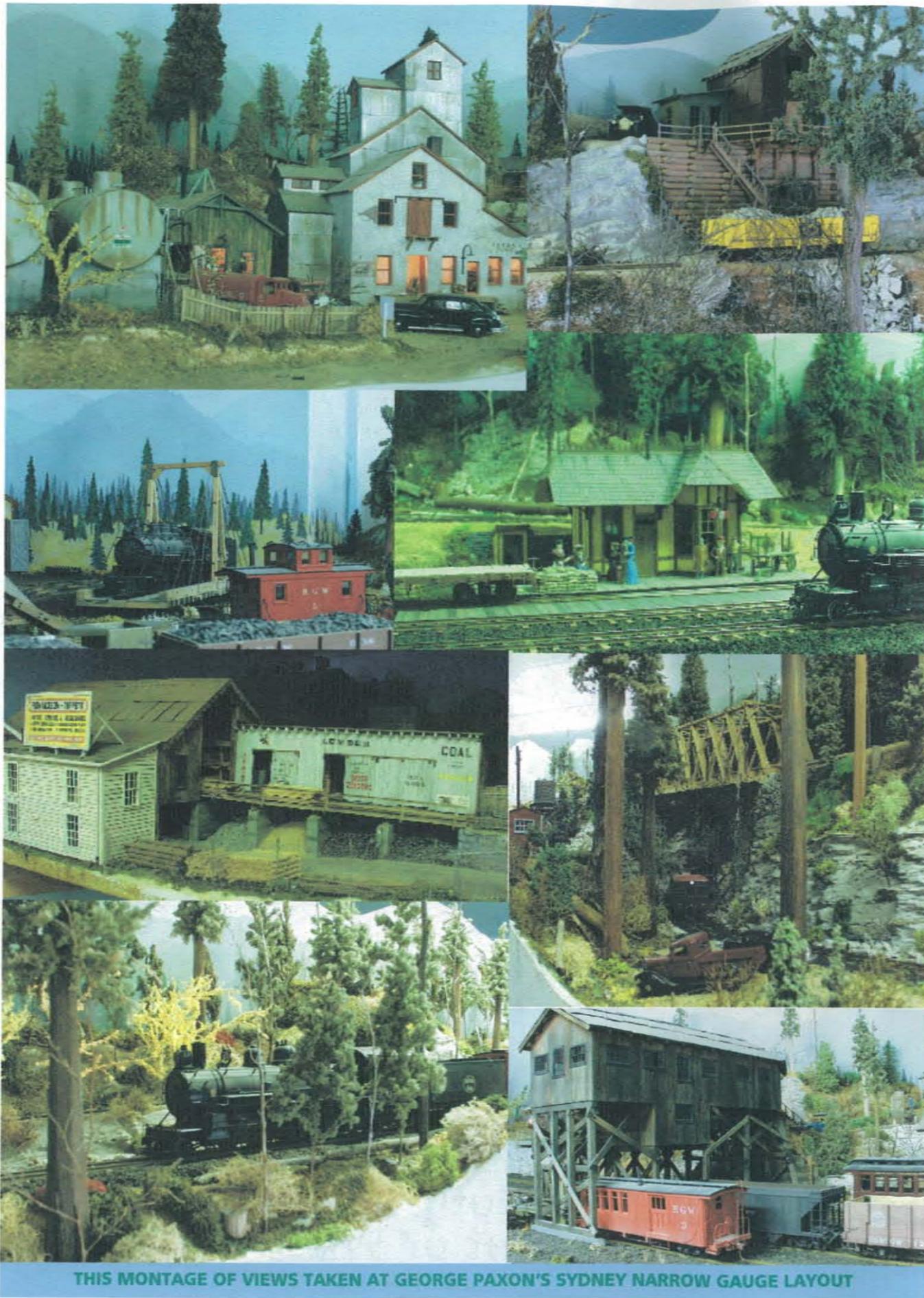
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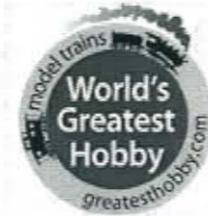
February 2003
Volume 20 Number 1
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New Product Reviews
Construction Techniques
346Km Train Journey over 4 Days
Brass, Investment or Waste of Money?

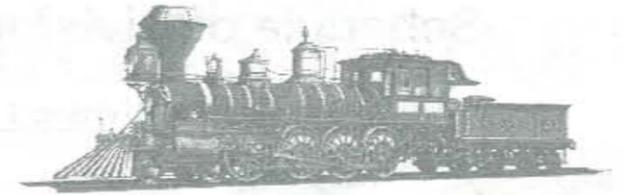


THIS MONTAGE OF VIEWS TAKEN AT GEORGE PAXON'S SYDNEY NARROW GAUGE LAYOUT



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ON THIS COVER:

Climax No 2 of the 'Big Sky Lumber Co' has just delivered a load of timber to 'Lands End Station' and awaits water before returning with the empties. This scene from Gavin Hince's (MMR) On3 'North Coast Narrow Gauge Railroad' Photo by John Dennis, with a digital Camera of 1.3 Megapixels. John's excellent digital photos, regularly grace the pages of the AMRA and Narrow Gauge Gazette Magazines.

The next MainLine will be available May 24th.

Featuring 'On30 Railroading Explained' & the 'NGSIG' Convention Report



Schedule of Divisional Meetings for 2003

Division 1 Queensland

April 15 th	Bob Brown
June 14 th / 15 th	Toowoomba Model Train Exhibition NMRA (Div 1) Stand
July 12 th	Ken Leitch
September 13 th	Venue to be Decided
November 8 th	Graham Prideaux
December 7 th	Division 1 Christmas Lunch

Start Times 1.30pm. For details of Queensland meetings and venue addresses, please contact Glenn Stevens. (07) 3207-2442

Division 2 New South Wales

Sydney meetings organiser John Baker (02) 9629-2349. Meetings start 2.00 Saturday unless indicated differently.

Please note new postal address for John Baker: 54 - 60 Roseberry Rd. Kellyville. Same house, different address.

24 hour recorded message meeting information line now in operation for NSW Group (02) 9975-5565

March 15 th	Gerry Hopkins (MMR)	15 Narara Cres	Narara	(02) 4329-0242
*April 13 th (Sunday)	Rodney Smith	26 Peel Road	Baulkham Hills	(02) 9624-3912
** May 24 th / 25 th	Mike Bartlett Expedition	83 Winmurra Dve	Rainbow Flat	(02) 6553-6227
June 14 th	Lyndon Spence	53 Springfield Ave	Figtree (Wollongong)	(02) 4272-9245
July 5 th	Dence Park, one day convention.			
July 13 th (Sunday)	Ray Walters	18 Pacasso Cres	Toongabbie	(02) 9631-1476
August 9 th	Sowerby Smith	174 Fullers Rd	Chatswood	(02) 9411-5726
September 13 th	Trevor James	124 Mandalong Rd	Mandalong (Morrisset)	(02) 4977-2816
October 12 th (Sunday)	Modular Group	54 - 60 Roseberry Rd	Kellyville	
November 15 th	Donald Davis	5 Wake Place	Kings Park	(02) 9671-4351
December	Venue to be Decided			

* Annual General Meeting See Page 19.

** (See details of this proposed two day bus trip at the bottom of page 9)

Division 2 Canberra

March 15 th	Rob Anderson	8 Purbrick Street	Chisholm.	(02) 6291-9183
April 12 th	John Bullen	39 Buvelot Street	Weston.	(02) 6288-7312
May 10 th	Ken Macleay	31 Shepherdson Place	Isaacs, ACT 2607	(02) 6286-2624
June 14 th	John Gillies	14 Earle Street	Lyneham, ACT 2602	(02) 6248-8408
July 5 th	Venue to be Decided			
August 9 th	Venue to be Decided			
August 30 th	Venue to be Decided			
September 27 th	Jess Brisbane	17 Forwood Street	Monash, ACT 2904	(02) 6291-4260 (H) 0404-254-910 (mobile)
October 25 th	David Service	1 Kleinig Street	Nicholls, ACT 2913	(02) 6255-7477
November 22 nd	Stephen O'Brien	138 Nemarang Crescent	Waramanga	(02) 6288-3614

Division 3 Victoria

All meetings start 11.30 Sunday. * N.B. Meeting is being held on the third Sunday of the month.

March 16*	Bill Black	15 Steel Road	Emerald	(03) 5968-3094
April 13	John Cracknell	55 Donnybrook Road	Norlane West	(03) 5274-1569
May 18*	Ron Wrigglesworth	2 Terrigal Court	Bayswater	(03) 9720-8076
June 15*	Gavin Hince	25 Dwyer Street	Clifton Hill	(03) 9489-4527
July 10*	Bob Backway	4 Tor Road	Belgrave Heights	(03) 9754-6502
August 10	Rod Hutchinson	40 Erskine Ridge (Cnr Hedwig Drive)	Mooroolbark	(03) 9726-6187
September 14	Peter MacDonald	4 Boyd Street	Bacchus Marsh	(03) 5367-3601
October 12	Graham Meyer	2 Elizabeth Court	Emerald	(03) 5968-4518
November 9	Geoff Truman	12 Goodwin Close	Hoppers Crossing	(03) 9748-7864
December 7	Grant M ^c Adam	194 Booran Road	Ormond	(03) 9578-8685

MainLine

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Editor / Publisher **David Jupp**
Assistant **John Saxon**



SUBMISSIONS: *MainLine* welcomes articles, photographs, drawings, cartoons, letters to the editor and other 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 either 3.5 inch floppy or CD in any Windows format. Preferably include hard copy of your contribution. Sharp photos, may be submitted for inclusion. Type written articles are also welcome. The NMRA accepts no responsibility for the accuracy of articles, which are published in good faith and at all times deemed the opinion of the author. Publication of any article shall be at the discretion of the editor.

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Please note that fees must be received by the 8th of the due month in order to maintain continuity of Bulletin delivery.

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President's Report

The start of a new year is often the time when we think about new beginnings. Plan some new projects for your layout.

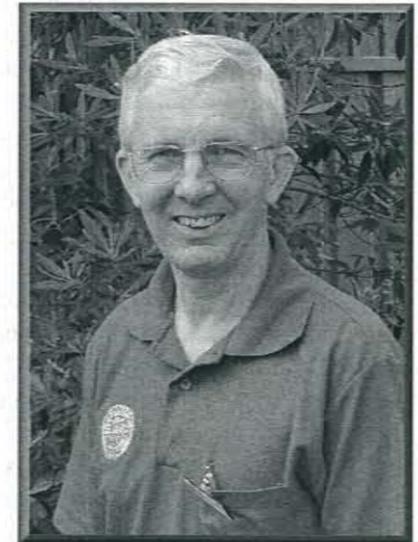
A new industry may be just what is needed to generate some additional traffic on your layout. There are many industry kits available and remember that their use is not limited to the manufacturers description. Think of them as a box of scratch builder's parts, or use them with parts from other kits.

A new industry may require additional rolling stock to service it. Plan the car movements to service the industry thereby adding additional operating interest to your layout.

If this has renewed your enthusiasm to build some additional structures for your layout then have another look at the photos of George Paxon's structures on his On3 layout on Page 2. These have all been scratch built and are most impressive.

Narrow gauge modelers are known for their detailed structures and scenery. If like me, you are not modeling narrow gauge but would like to improve and expand your own skills then consider attending the Sixth Australian Narrow Gauge Convention in Sydney on 19 & 20 April. Further information is in the article on page 32.

If you don't have a layout then start by building a diorama, module or section. The members of the HO Modular SIG at Kellyville, Sydney started just this way with a small number of modules each about 1200mm long. They now have nearly 40 modules that have been



grouped to form a large layout.

This gave many people hands on experience in basic layout construction. The layout is operated with a DCC system that introduced another range of skills. They are now moving into structured operation and thereby experiencing a further aspect of our hobby.

A one-day workshop is planned for 5 July, 2003. The aim is to provide members with hands on activities to build up skills and confidence. The Autumn Mainline will have information about the workshop.

Make 2003 a year of opportunity to expand your modeling skills.

I draw your attention also to our AGM on April 13th, the details of which you will find on page 19.

Allan Garbutt

LETTERS & COMMENTS

To the editor.

I have just read the article on DCC tips in the November issue. Deselecting the loco is a must, but setting to 0000 sets the throttle to analogue control and can cause slow response from other throttles. It's better to select a number that is unlikely to be used like 99 or 9999. Gerry Hopkins.

out and it wont work again. BE WARNED!

Deselecting the loco is a must, but setting to 0000 sets the throttle to analogue control and can cause slow response from other throttles. It's better to select a number that is unlikely to be used like 99 or 9999. Gerry Hopkins.



From your Editor:

Happy New Year. Just before Christmas, at the recommendation of Allan Garbutt and Ken Scales, I went to see George Paxon in the Blue Mountains. You may recall George was the recipient of the Rick Shoup award for outstanding modeling last year and it not difficult to see why. George models narrow gauge logging and scratch builds just about everything. Scenery, buildings, locomotives and rolling stock, very very well. Originally from California, George, an IT Systems Engineer, and Celeste bought a single level home in the mountains and George went about adding a second story primarily to house his layout. Into this upper level, George has created a double deck Easy DCC controlled layout that rolls from scene to scene and then some. The realism is completed with the addition of sound decoders in some of the locomotives. The upper level is nearly completed after some 3 years of work and George plans to continue with the already started lower deck soon. I thought the layout was so impressive that it had to be shared with you and in colour. You'll see a few scenes on the inside front cover. The cost of the additional colour in this edition is a donation from a member who did not wish to be named. Thank you for allowing us to share these impressive scenes and also to George and Celeste for allowing me to

invade their privacy.

Following the recent resignation of Mario Rapinett from the BOD, a decision by the BOD was made that nominated the 4th contender from the election last year. That person was yours truly so I am happy to stand now as an ordinary member along with Rodney Smith and Richard Roth to serve the best interests of you the NMRA AR members. I promise that the additional workload will not affect the MainLine.

I would like to mention just one last thing. Without wanting to make the MainLine a magazine full of advertising, we do need the support of advertisers. The list of advertisers giving this support is now at an all time high and this is a huge contribution, greatly subsidizing the cost of production. I am also extremely grateful for the help given by John Baker in helping approach the advertisers and the positive responses we both got was very satisfying. Thanks John, very much for your support and help. It is important we support those advertisers who support us. If you haven't visited them all, make a point of taking a visit some time. You just never know what they might have on the shelf for you. You may be surprised.

Take care, happy modeling and thanks to this months article contributors.

David Jupp



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Regional Roundup

Division 1 Queensland Glenn Stevens

Meeting 9th September

The September meeting was hosted by yours truly as a back-up for Grahame Davis.

The meeting was attended by 9 members and a visitor, John Morgan. It was good catch up with Tony Reidpath, on holidays from his job in Vietnam, and Ron Bennell, home on holidays from Oregon; with both members giving us a 5 minute talk on their "train" experiences while away.



The invitation to 'Show-and-Tell' produced a very good crop of models.

Firstly Tony displayed models of the railway trestle at Grafton (NSW, not West Virginia), and a road bridge he was currently working on, complete with commentary on his building method and approach for these particular models.

Garth was next with the display of his 'O' Scale 'Copper River' 2-8-0 which had been in the paint shop and was sporting the brand new Copper River steam colours.

Third cab off the rank was Bob Brown with a display of his upgraded Athearn Santa Fe F's (A-B-B-A) in the classic red and silver.

Lastly, yours truly presented a comparison of an old (maybe ancient) Atlas/Roco SD35, and the new (just released) model by Atlas, with the only similarity being the basic shape. The comparison really highlighted the improvements being made in our hobby, kit wise.

All members had a most enjoyable time as we do when we get together to talk trains, with a good afternoon had by all.



Meeting 9th November

The November meeting was hosted by Garth Fraser and his Copper River RR. As you are all aware, Garth models O Scale and has scratch built nearly all of his rolling stock, including an RS-1, a 4-6-0, and the 2-8-0 mentioned previously. Garth's modeling activities have spanned a lot of years with the 4-6-0 built circa 1948. A full description of Garth's Copper River was published in the Spring Edition of Mainline.

Division 2 Sydney Kim Bradley

Another hot sunny day for the October meeting at John Baker's Kellyville Estate. As usual for these Sydney meetings, in excess of 60 turned up including some visitors invited from the Liverpool Exhibition. As Allan was enjoying himself on an Illawarra train trip, the meeting was chaired by David North. There being no major items to discuss, the group surged toward the food mostly prepared by Ruth Garbutt. John's DCC layout was open for operating and obviously a great day was had by all as the last visitor did not leave until nearly 7pm. Thanks again John for your hospitality.

Erik and Denise Bennett hosted the beautiful November day meeting at their Bayview residence. Erik has converted his layout to NCE DCC since we last visited and as usual, the operation ran smoothly. He treated us to a pull up the hill of wagons too numerous to count. The formal part of the meeting from Chairman Allan included some awards given for voluntary service to the following, David North, Ken Scales, Peter Jensen, Allan Garbutt and an author recognition to Philip Moss. The sums all added to an attendance of 70 people. For the first time in a long time, many brought items for show and tell which is a great idea more common in the other divisions. The November MainLine was distributed to those present. This method of delivery adds up to a huge saving in postage. An endless supply of yummys was made available by Denise who I understand spent two days cooking. Thanks Denise and you too Erik for a lovely day.

The popular Christmas party was held on December 14 and attended by close to 100 members, wives and families.



Entertainment at the Christmas Party.



John Baker receiving award from Allan

Following a great meal we were entertained by the acclaimed and popular 'Highly Strung Bluegrass Band' comprised of Erik, Denise and Michael, collectively the Bennett's. Flowers

were presented to the family following the entertainment. In the formal part of the occasion, John Saxon read an email received



Ted Roberts all the way from England

Ruth Garbutt with John Baker

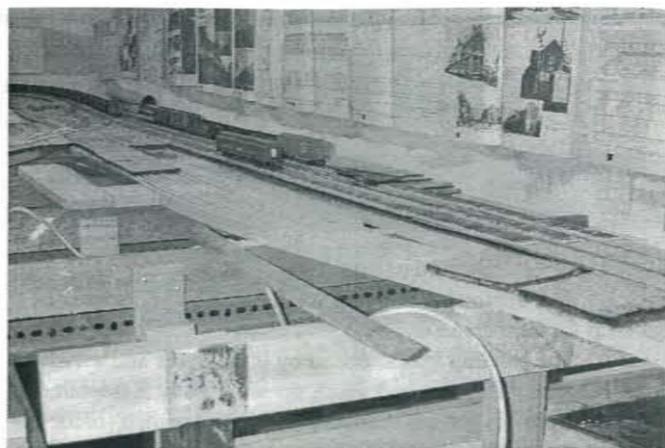


The Highly Strung Bluegrass Band in action

from US president Allen Pollock commending the quality and content of our Australian Region MainLine publication. A president's award was then made to John Baker for services to the NMRA over many years. John has been the Sydney meeting organiser for many years, the defacto NSW superintendent and has gained access to many new layouts with his jovial persuasive requests. John recently also donated an NCE DCC system for use on the exhibition layout. At the conclusion of the formalities, John presented roses to all the ladies present, and privately to Ruth Garbutt for her continuing, never ending contribution to the successful Sydney meetings and support of husband, President Allan. Thank you Ruth and John for all your time and efforts. We were privileged to have Ted Roberts from England present and Glen Mills from Victoria. Glen also took time to attend the BOD meeting on the Sunday.

Division 2 Canberra Viv Brice

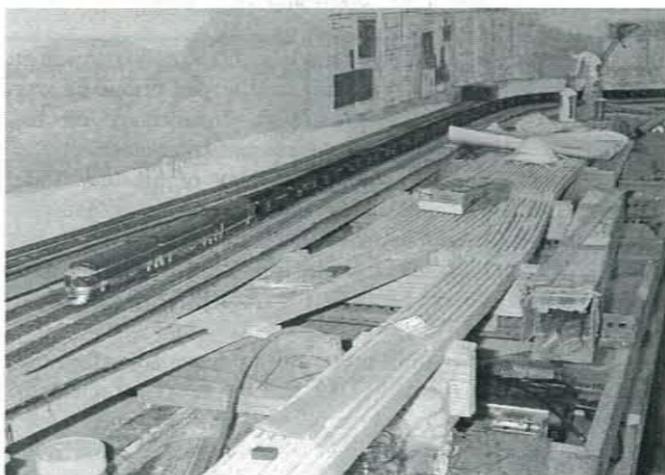
We met at Peter Weller-Lewis's home for November, our last meeting of the year (the next is actually our Christmas party). Peter gave us a talk on the development of his layouts over the years, from Elk Run through Buffalo Creek to his new layout, Elk Run II. He had chosen a logo for the new layout, EIIR, but it was pointed out that this was already taken by some family in the UK and he really ought to make another selection! This second Elk Run, like the first Elk Run, is based on the Chesapeake and Ohio Railroad in the New River Gorge area and is designed to run large coal trains, as can be seen from one of the pictures. To give some idea of the size, Peter has planned to run 40 car coal drags, complete with three unit diesels and caboose, and to me that is a big train in HO. His current task whenever he has a spare moment is to decal a few more



Elk Run showing splined roadbed and use of carpet tiles

hoppers. As my own layout is planned around coal, I can understand him when he says he can never have too many hoppers.

An interesting feature of Elk Run is its structure, using splined road bed made generally it seems from MDF and this can be clearly seen in the accompanying photo. On top of this, Peter lays inverted carpet tiles and finishes with 3mm cork. Track is generally hand laid using ties hand made from balsa wood. From what we have seen so far, this makes for a very strong roadbed with very good sound deadening properties. Peter described one particular problem with his layout room where he has had to incorporate heavy curtains over the only window. As the winter passed and the days lengthened, the angle of the sun



Elk Run showing road bed construction and long coal train

changed to where late afternoon sun was coming directly onto a very specific corner of the layout, which caused some considerable buckling of the track. Curtains that have cut the sun and cutting larger gaps between individual lengths of rail has now completely overcome the problem.

We ended up with a fine spread of food from Peter and Jenice, a fitting way to close the year's meetings.

**Division 3 Victoria Grant McAdam
Photos by Mario Rapinett**

The October meeting of Division 3 was held at the home of Graham Meyer in Emerald. The meetings at Graham's are always popular because during the day you hear the sounds of

steam whistles from the nearby Puffing Billy Railway. In fact one of the members, Glen Mills, attended the meeting by train. The weather was mild although there was a hint of rain about. It was one of our usual lunch time meetings and the day was passed in good company and with fine food. The formal part of the meeting was once again kept brief. The main topic of discussion was the meeting dates for the coming year. Venues were quickly decided upon (see elsewhere in this issue for dates and locations) and Grant thanked everyone for their offers. During the afternoon some members walked down to the



"O" scale Model by John Hunter

Puffing Billy Railway to do some train spotting. Stephen Backway, who volunteers on the railway, helped out while some shunting maneuvers took place at Lakeside Station. The members who stayed at Graham's settled into watching some railway videos.

There were a large selection of items on display this month. Grant McAdam had the O scale school house that we have seen at several meetings before and it was close to being finished. He also brought along some reading material, the magazine *Narrow Lines* and the books *Steam on the Lens Vol. II* and *Focus on Victorian Narrow Gauge Whitfield Line*. More O scale items came from Laurie Green in the form of scratch built sawmill machinery. These will feature in a diorama that Laurie is preparing for the next Narrow Gauge Convention to be held in Sydney, Easter 2003. John Dennis brought along the video



Part of the talented and happy Victorian team

Maroochy Harvest that was shown during the afternoon as well as the notes from the recent SAR Convention. Pliobond adhesive has been mentioned regularly in the English modeling press and is used in constructing hand laid track. Rod Hutchinson has finally found a local source and brought along his first hand laid point in HOn2.5. John Hunter had his most recent building, a small cottage plus another shop that is under construction, both in O scale.



Peter MacDonald examines John Hunter's "O" scale diorama

**NSW PROPOSED TRIP TO
MIKE BARTLETT'S 'RAINBOW FLATS' PROPERTY 24th & 25th MAY.**

As a suggestion for something different, I propose a visit to member Mike Bartlett's layout. You may remember he challenged Erik Bennett for the longest train competition. Transport would be by private bus to Taree and Mike & Carmel's Ranch.

Saturday 24 May, all assemble at John Baker's, Kellyville. Street number has changed from 12 to 54 - 60, same location. Leave Kellyville at 7.30am. There will be a pickup at Narara for Central Coast members, if required.

Arrive Taree approx 12 pm. Lunch venue to be arranged, then check in at motel where Mike will meet us. There will then be a visit to Taree Model Railway Club and a visit to a private layout nearby. We will then proceed to "The Bartlett Ranch" (approx 15 mins. From Taree) by coach for a look see at his layout and a super dinner of roast on a spit with dessert, tea/coffee. Return to Taree for some well earned rest and

sleep. Sunday 25 May: Up early, motel breakfast available at additional cost. Return to "The Bartlett Ranch" for more viewing and morning tea. Leave from there to return to Kellyville. Cost per person : Coach: \$36.00 Non Refundable Motel: \$30.00 for twin share accommodation.

Sat. Night dinner \$14.00
Total \$80 per person.
NB: Lunch on Saturday, Breakfast Sunday & Lunch Sunday at your own expense.

Coach money must be paid by 28th Feb.
Enquiries to John Baker.
Tel: 02 9629-2349



PRODUCT REVIEW

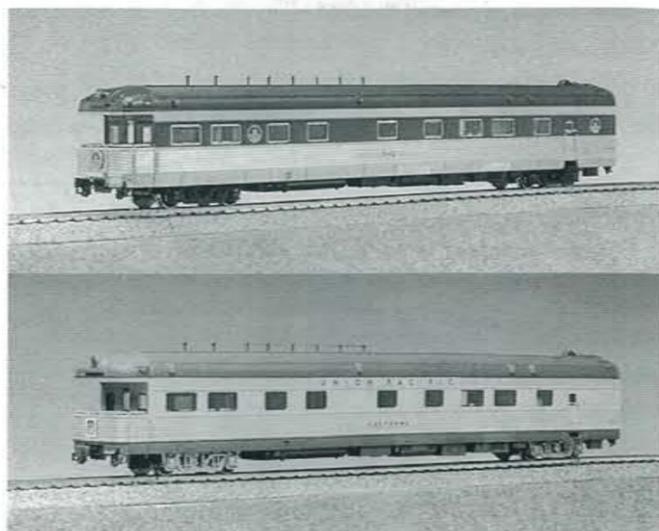
Kato Business Car

The predecessor to today's corporate jet, business cars have existed since the early days of railroading. Any railroad with any stature or merit, real or perceived, owned and operated a business car. Also known as "Private Cars," business cars were used by railway executives, their invited guests and family, and special dignitaries. These cars were also frequently assigned to key railroad personnel for the purpose of inspecting track and other facilities, often proving invaluable to reach areas not easily accessible by automobile. Some political candidates have also used these cars while "whistle stop" campaigning for elected office over the years. Used in these ways, business cars were often handled on the rear of a conveniently scheduled passenger or freight train. These cars were generally self-contained with office, meeting room, entertainment, dining and sleeping facilities on board. Many were built to a standard floor plan, although it was not uncommon for customized features to be built into them.

Business cars were built by several companies such as Budd and American Car & Foundry, as well as by individual railroads in their own shops. It was not unusual for executives of competing railroads to try to outdo one another with the furnishings of their private car. Actually a large number of business cars still exist today, many of them privately owned. Because these cars usually contain all the "comforts of home," it is not unusual for one to be spotted on the end of an Amtrak train or parked on an isolated spur track being used by a group or family on a personal vacation or excursion.

Model Features: Because so many business cars were built to "custom order," it is difficult to select one car as a definitive prototype of all business cars, for all railroads. The actual prototype of the model though, was a 1952 corrugated-side car built by the Budd Company and operated by the Burlington Route as the "Burlington." It is still in use today, although it has been renamed "Mississippi" as part of the BNSF executive fleet. This is Kato's first HO scale passenger equipment, Corrugated business car model features finely scaled body corrugations and window gaskets, body interior, knuckle couplers, metal wheels and lighted tail lights/marker lights. Adding some businessmen figures would be a perfect addition to the interior of the car. Paint schemes and body markings are still Kato's weak spot. For those with sharp eyes, the paint does not cover well and there are areas where the paint has not covered at all, such as in the fine mesh details. It is a shame that this continues to be their weakest area, because otherwise, this is a fine model which would be superb if the painting was better. It will be possible to light the interior of the car with the optional installation of the #7-501 Light Set (sold

separately). The trucks on this car are of a special design. Due to the full skirting on this car, the trucks would normally contact the skirts on tighter curves, causing derailments. Kato has developed a method to allow full truck and skirt detail, but



will also allow modelers with a tighter radius to operate the car. The simple conversion is the removal of piece that includes the corners of the truck casting. It is difficult to see this piece removed when the car is viewed at normal angles. Over all, these business cars will look fine behind a set of EMD E or F units with Walthers Budd cars and the soon to be released Pullman Standard cars. As I already own a few Walthers Budd cars, this model is at about the same level as these fine products.

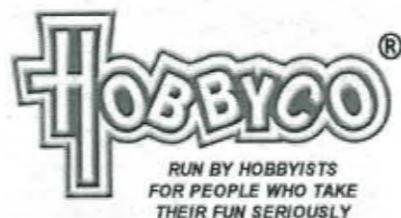
Reading between the lines, this might be the first of many HO scale passenger cars to be produced by Kato.

Price Approx \$95 Aus

Andrew Jordan



Prototype Burlington Business Car



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PRODUCT REVIEW

Athem Genesis SD70



An evolutionary progression from the SD60, the SD70 established a modest but meaningful increase in horsepower from 3,800 to 4,000 Hp. The major difference was the HTRC steerable radial trucks, which was a keynote in EMD's AC program. The radial truck stands as a revolutionary advancement in locomotive suspension, adhesion, ride quality and component life. Somewhat of a sleeper in the EMD catalogue, the SD70/SD70M sold just 209 units in its first 8 years of production, while sales on its AC counterpart, the SD70MAC were relatively brisk in comparison. However this all changed when Union Pacific placed an order in October 1999 for 1,000 units, the single biggest order placed to date for any locomotive, to phase out most of their older fleet of SD40-2's, acquired through the 1996 merger with Southern Pacific. This order has since been extended by 100 units. These units have filled UP's requirements for a no-nonsense dependable unit in the same vein that the SD40-2's. With new US federal Tier 1 emission laws coming into effect, all of the later production have been constructed with enlarged radiators, dubbed "flares" by rail fans, and they look reminiscent of the CN&W's SD45's which lacked dynamic brakes from the late 60's. However these flares are considerably less extenuated than those found on EMD's SD90MACS.

Athem has produced the SD70/75M's for a few years now, the



SD75 was an uprated SD70 to compete with the GE C44-9, but there has been a very limited supply of these available in Australia. Athearn has just delivered a new run of SD70M's to the shops and the spartan cab SD70 is due out shortly. The shell is superb, one of the very best produced and features excellent detail and paint work. Radiator fans, exhaust and the Dynamic brake intake are see-through. Plastic scale hand-rails are included and care must be taken when cutting them from the sprue I painted the vertical pieces white. A cab interior, flush fitting windows and wipers finish off the superb shell. Metal grab-irons are included, I used a small pin vice to clean out the holes of paint, before adding them with a small dab of CA glue on the ends. I touch painted all of the grab irons after installation. Lift lugs on the roof are solid, so I drilled them out with a # 77 drill. The Athearn paint job includes all of the safety tags and builders plates. The paint is applied neatly and has a nice satin finish. Athearn accurately represent EMD's HTRC Phase 1 trucks. However it must be noted that the phase 2 version was substituted early on. These can be purchased from Smoky Valley as replacements to represent later production.

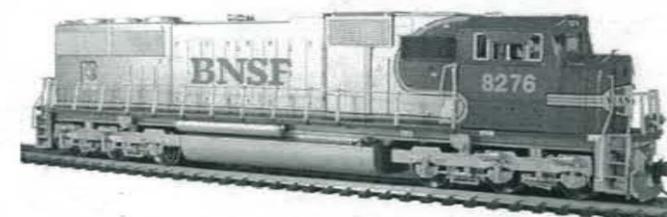
As with most Athearn locomotives, they have left off all of the super detailing, which means that the modeler can add

prototype specific details to the basic shell. Details West, now part of Athearn, makes many of these parts which can be used, please refer to a Walthers catalogue for reference. The cab roofs of all modern locomotives are now covered with a variety of Antennas, the SD70 is no exception, all of which can be added. The SD70's are constructed on dual I beams which support the walkways and hood of the unit. On the prototype this area contains a maze of pipes and traction motor cables. This area is left blank. Details West produces 4 detail kits and



an additional pack, which can be added to enhance this area. They are easy to add, with a bit of CA glue and touch up paint but is well worth the effort. These kits include the correct plow, bell, horn and other small details, as per the prototype. The second package includes sand lines and traction motor cables. MU hoses and coupler lift bars can be added using Details Associate products. I would highly recommend adding all of these parts. By adding these parts, one can end up with a highly detailed model that looks like it was custom made.

The Genesis chassis is an upgraded version of their standard line, and features a plastic fuel tank, however the weak point is that it is not DCC ready, which is surprising for new productions. The existing circuit board will have to be replaced if one is to convert to DCC. (See page 24) This is not too difficult, but still a pain. It comes with directional lighting using small 1.5V bulbs and ditch lights which have to be applied. Caution: this is not easy. It is best to enlarge the holes in the anti-climber a little bit before starting. The SD70 mechanism ran smoothly and relatively quietly. I substituted Kadee #58 couplers which dropped in, replacing the plastic couplers included. I will definitely be adding a few more to my roster,



and might even try to convert one to a flared version.
Roads include
SD70M Conrail, N&S
SD75I SP, UP, CSX, EMD Lease
SF, CN

Price Approx \$270 AUD

Andrew Jordan

PRODUCT REVIEW

American Model Builders Inc. The Dabler Mill & Supply Co. (HO).

This is a new kit from American Model Builders (AMB) in their Millennium Series. Weighing in at about 3 pounds, the kit consists of documentation about the history of the original structure built in 1883, a detailed parts listing, excellent sequential assembly instructions, some plastic bits, decals and stickers, castings and numerous packages of laser-cut timber components. The original building is described as a sprawling industrial site of considerable appeal although the given name "Dabler" is from an association with AMB and not from the buildings historical past. The structure is primarily clapboard, but one of the interesting features of the prototype is the use of "fake", rolled asphalt brick paper on one wall. This is duplicated on the model. The prototype is obviously, a number of "combined" structures that were apparently built as "add-ons" over the years. Several wall areas have detailed framing exposed. (This was apparently caused by over enthusiastic truck drivers backing into the building at the loading and unloading doors!)

It's a relatively easy kit to assemble but it takes a lot of time, in fact up to a month of multiple work sessions. If you enjoy construction you definitely get value for money. The manufacturer only makes this kit to order such is the complexity in the number of parts. It is recommended that the individual parts are painted (colours are suggested) before assembly to make it easier, with 'touch up' colouring and weathering applied later. Both sides of the timber should be painted to

minimize warping from moisture. The timber is sealed in plastic to minimise this problem. Some of the timber parts are fragile and they should be removed from their carrier with a modeler's knife. Other tools required are squares for getting the corners true, sanding block or emery board, glue and paint. The recommended glue is a gap filling CA adhesive and painting is best done with an airbrush. AMB use stick on components (eg brick wall, roofing material) which helps speed construction. The laser-cut timber fits together with a tag and slot system, hence the reason for the gap filling glue. It's hard not to be impressed with the finished model as it looks like a scratch built museum display structure. It will proudly fill a gap on any layout. Overall "footprint" of this model is approximately 13" X 18", depending upon how the office structure is placed. The model can accommodate up to three service tracks.

American Model Builders is represented in Australia by "The Railcar"

Cost approx \$500.

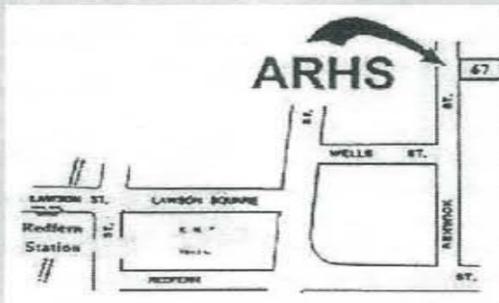
David Jupp



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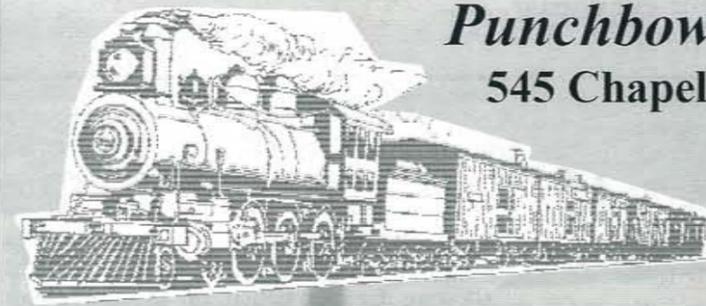
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LOCOMOTIVES AND ROLLING STOCK

Atlas, Stewart, Kato, Athearn, Roundhouse, Rivarossi, Brass Locomotives, Powerline, A R Kits, Ian Lindsay Models, Main West Models, Lima, Concor, Ibertren, Bachmann, Liliput, Jouef, Fleischman, Roco.

BUILDINGS AND SCENIC ACCESSORIES

Atlas, Woodland Scenics, Design Preservation, Evergreen, Camp Bells, Fox Castings L J Models, Pola, Heki, Heljan, Volmer, Preiser, Viking, Kibri, Brekina, Roco.

ACCESSORIES AND TOOLS

Atlas track and accessories, ties, Peco, Shinohara, North Yard Wheels, Romford, Detail Associates, Wheel Works, Sentinel, Cal Scale, Kadee, Mitronics, Labelle, Lubricants, MicroScale Decals, Kerrob Models, AMRI Signals, J & C Models, Front Range, Brawa, Eda, Floquil, Dremel, Pro Edge Knives, Drills and Taps, K & S Metal, Fuller Pliers, Jeweler Screwdrivers Sets, G-Clamps and many other tools.

MAGAZINES AND VIDEOS

Australian, American, New Zealand & British Videos. N Scale Magazine, Model Railroader, Rail Model Journal, Pacific Rail News, Trains, Narrow Gauge and Shortline Gazette, Australian Railways, Roundhouse Bulletin, Australian Model Railway Magazine, Pacific Railway, Railway Digest, Main Line Modeler, Continental Modeler and Model Railroad Craftsman.

THE ONLY DRIVE-IN HOBBY SHOP IN SYDNEY

PRODUCT REVIEW

Rivarossi Big Boy 4023



Rivarossi has long been the manufacturer of the largest number of Union Pacific Big Boys with different cab numbers as long as I can remember. Since the change of distributor to Walther's in the USA there have been major advances in the quality of mechanisms and transmissions in the Rivarossi product. First was the Allegheny reviewed last issue and now the release of a new Big Boy cab 4023 with the same new mechanicals as the Allegheny. I was keen to see if this new Big Boy was as good as the Allegheny. Available only in a DC version, (some of the previous Big Boys came in digital guise with 2 digit Arnold decoders) this new model is definitely an improvement although there is no new detail. Whilst it is not to the standard of the Allegheny it is better than previous 4-8-8-4s and comes with traction tyres, but no tender pickup, blackened RP 25 (approx) drivers and the correct paint scheme. Big Boy 4023 was the penultimate 4-8-8-4 of the second batch to be delivered to the Union Pacific and stands today proudly on display rusting beside a DD40X in an Omaha Nebraska public park. The model comes in typical Rivarossi packaging

with separate cab handrails and brake shoes to be applied. A brass bell is fitted but there are no number board numbers. Slow speed running is good and it weighs in at 584 grams locomotive and 232 grams for the tender. Both driver sets are powered and articulated allowing for negotiation of 18 inch radius

curves. It looks ridiculous though on these sharp curves and shouldn't be seen on anything less than 36 inch radius. A clip in horn hook coupler is all that is supplied for the tender and a plastic knuckle equivalent is available from McHenry for direct replacement. I was a bit disappointed with the model and it's nowhere near the standard of the Allegheny nor the Trix Big Boy but then neither is the price. It's nice enough though, looks the part and would be a good workhorse on any UP layout. Starting voltage is 4.5 volts and 12 volt stall current 1.1 amps so a 1 amp decoder may be on the small size. Directional incandescent light is non constant and dull. There is no operating tender lamp and after having removed two screws in the tender base thereby setting the tender weights free, I found no way into the tender to correct. Seems a chop job is the only answer to my problem. Oh well, it needed a sound decoder. What's available? Limited production run Cab No 4023. Price \$550 Aus. David Jupp

PRODUCT REVIEW

TTX RRampmeter



Command Control Professionals

DCC is a magical way of operating model railway layout but because of the unconventional voltage waveform on the track (a bi-polar 10kHz pulse width modulated squarewave) it is near impossible to get a true voltage reading on a meter and accuracy is only guaranteed on an oscilloscope. Tony of *Tony's Train Exchange* has been involved in Command Control for 16 years and recently has had designed DCC reversing loop modules, over-current modules and now the latest device, a true voltage and current digital meter for the DCC user.

Known as the 'RRampmeter' three models are available, hand held for direct measurement from the track, panel mounting and a battery version for use when the DCC volts measure below 7 volts. The RRampmeter draws its operating power from the track and if the track voltage is below 7 volts it will not operate. If panel mounted and the continuous current is 5 amps then adequate cooling space around the unit is required. All devices operate the same way and have simultaneous digital readouts for volts and for amps. Additional LED indicators advise the presence of DCC, AC and no indication, DC voltage. The meter is polarity sensitive to DC and one way will give a reading of zero and the other way the true DC reading. The maximum voltage on the track is specified as 23 volts making the unit suitable for measuring all gauges. Maximum current readings for DC and DCC are 9.2amps, and for AC, 17 volts and 6.2

amps. An overall accuracy of 2% to 3% over the entire range is displayed. As with conventional measuring, volts are measured by placing the input across the track and current in series with the track using both legs as in the diagram. Mounting the RRampmeter this way as a panel meter will give simultaneous volts and amps readings. Because of protective current limiting in the program track the battery version is required in that situation otherwise erroneous programming may occur.

For panel mounting, a red coloured gel placed over the digital display improves the contrast of the digital readout. I was impressed with the unit, it's well made and takes the unknown out of the readings of the past. You will be surprised just how much voltage loss occurs in a length of code 100 nickel silver track and it's even worse with code 75. The RRampmeter is telling the truth. Add additional droppers to your main bus bar feed!

Cost, \$39.95, \$54.95 and \$69.95 all in US dollars available from www.ttx-dcc.com David Jupp



Method of wiring for simultaneous volts and amps measurement

THE TEHACHAPI LOOP

A World-Famous Railroad Construction Achievement of the 19th Century

Located about eight miles west of Tehachapi, California, near Highway 58

Most modelers would be aware that the helix is a great way of gaining height in a model railroad. Some love them and some hate them. They can consume a large amount of space and are usually hidden inside a hill which means that trains are out of site for a considerable time. Murphy's Law states that if something can go wrong, then it will and in our hobby that means derailment or electrical problems. The hidden helix is the perfect place for these problems, however they offer great convenience in elevation changes. Whilst we use them for convenience, are they prototypical or not?

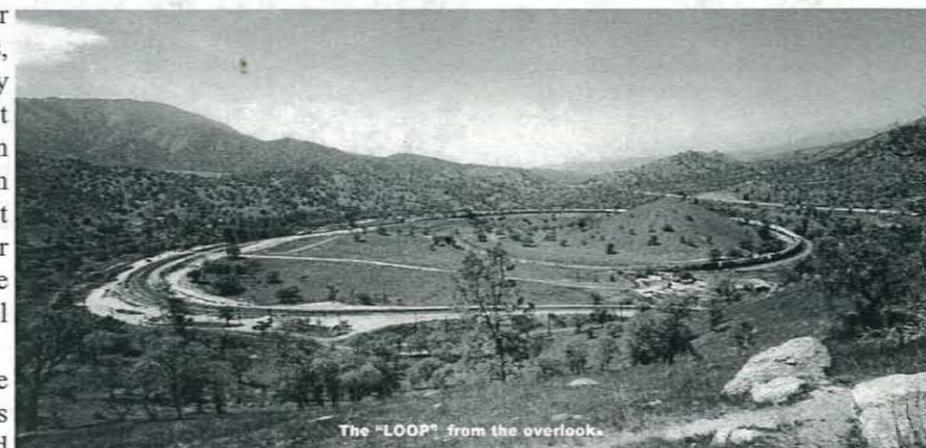
A single turn helix is really a loop and there are plenty of famous 'loops' in the railway world. Amongst these, the Raurimu Spiral in New Zealand, the Border Loop at the Queensland NSW border, the stop-start kind of loop at the Zig Zag Railway in Sydney and even Horse-shoe Curve. Probably the most famous of all though, is the Tehachapi Loop.

Speak to an avid "Railfan" and you can guarantee one thing. If you haven't personally observed the thundering horsepower on "The Loop," then you have missed out seriously bad! While famous to railfans, the Loop is not your typical tourist spot, so there is not much there. The closest gas and snacks are 3 miles away in Keene and the closest lodging is at Tehachapi, 14 miles away. What you will see is a whole lot of trains of different railroads, awesome scenery, rolling hills and long sweeping valleys. Paved and unsealed roads provide access to highlight areas whilst a little hiking will get you in further. Any time of the year will provide a different look. Spring is green and autumn rather brown. Winter will sometimes provide really cold weather and maybe snow, so

be prepared. Weekends tend to be busier as there is less track maintenance. Take something to read because when it is quiet, it is quiet. Do not walk through the Loop tunnel to get to the other side. Trains have a habit of sneaking up on you, their noise masked by the rolling hills.

The Tehachapi Loop is considered one of the "seven wonders" of the railroading world. In the 1870's

the Southern Pacific (then called the Central Pacific) Railroad sought to link their rails in central California to those in Southern California. The path was blocked by the rugged Tehachapi



The "LOOP" from the overlook.

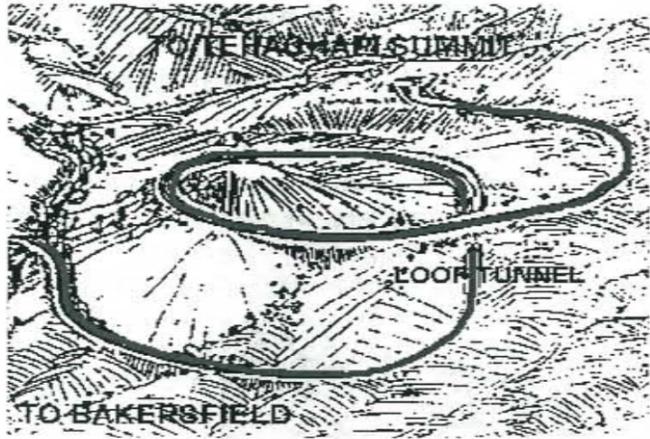
Mountain range, which acts as an east-west barrier between Bakersfield and Los Angeles. The grade at this location would have been too steep to climb directly, so William Hood, the civil engineer who designed the line, created this loop. The summit at Tehachapi Pass was 4000'.

Construction from Bakersfield to Caliente was somewhat routine, but from that point on the elevation going east rises quickly. From Caliente to the summit (now the town of Tehachapi) the rise is 2,735 feet. The maximum grade permitted was 2.2%. By routing the track alongside the slopes of the Tehachapi foothills, engineer William Hood could envision completing the



The Loop! Same train, above and below

task. However, just east of Keene, there was an apparently unsolvable problem. An increase in elevation of nearly 80 feet was required, which was unattainable using typical designs, so the problem was solved by constructing a unique loop. By going around a hill, and then back over itself, the train faces a slightly gentler climb. Going south-easterly from Keene, a train first passes through an entry tunnel, then does a complete counter clockwise loop, and passes over the same tunnel



before continuing east.

The loop is sized to have a length adequate to achieve the needed gain in elevation. The result is a loop 3,799' long, with a typical diameter of about 1210 feet. By continuing to gain elevation throughout the loop, engineer Hood was able to make up the needed elevation (about 77' rise in the loop). With modern freight trains, which are often more than a mile long, the locomotives can be seen passing over (or under, depending upon direction) the final cars of its own train!

The line was constructed between 1874 and 1876 by some 3,000 Cantonese labourers from China under the direction of the chief engineer J.B.Harris. But with construction tools consisting of mostly dynamite, picks and shovels, understandably many of these men lost their lives in the two years it took to finish.

The Chinese workmen referred to the Tehachapi Loop as "Walong", even though there is no such word in Cantonese. Since the workmen spoke no English and the Americans spoke no Chinese, the English interpretation of Walong could have come from either of two Chinese expressions. Dr. Fung Chi-ming of the Hong Kong Museum of History suggests that "Wa" = China (or Chinese) and "Long" is similar to the Cantonese word for "road". Hence, Walong means "Chinese Road". James W.H. Wong suggests that "Wa" could have really been "Wan" = coil or coiled, and that "Loon" in Cantonese could sound similar to Long to the American ear. "Loon" = Dragon. In this case, Walong would be "Coiled Dragon", which also seems an appropriate name for the Tehachapi Loop.

The steep grade of the track from Keene to Tehachapi has always been a problem for the railroad. In

1882, a special locomotive, "El Gobernador" was developed especially for hauling trains to the summit. It proved to be too bulky for this service, and after a few years El Gobernador was scrapped. Today the Tehachapi Loop (operated jointly by the Union Pacific and Santa Fe Railroads) is on the main artery joining the agricultural and petroleum products of the San Joaquin Valley to Arizona and east. Long eastbound freight trains cannot negotiate the grade with a normal locomotive



complement, and it is undesirable for the couplings between forward cars to support the high-tension loads. Therefore, "helper" engines are inserted in the middle of the train. Upon reaching the City of Tehachapi, the helpers are usually switched out, and then returned to Bakersfield, but on some westbound trains they continue on to Mojave. Santa Fe had surveyed the site in order to run its own trains through the Tehachapi bottle-neck but construction would have been excessively expensive and in 1899 the Southern Pacific granted Santa Fe trackage rights possibly to recover some of its construction costs. Rail traffic at either end of the Tehachapi Pass is relatively uncongested with each railroad having its own single track.

With the building of the loop the entire 68-mile section of track from Bakersfield to Mojave was finally completed on July 10, 1876. However because of the rugged terrain, the 16-mile section from Caliente to Tehachapi has been the main problem area during any natural disasters. As this section includes eighteen tunnels, with a length of 8,240 feet and ten bridges it doesn't take much to cause a major line closure. One such event happened on September 30, 1932 when, following heavy rain upstream, one bridge over Tehachapi Creek just east of Woodford, was engulfed in a thirty foot high wall of water and washed away along with an ATSF 200 ton helper locomotive. The engine which was stopped near the bridge at the time, was eventually found after the line was re-opened two weeks later, buried under ten feet of silt, one hundred and fifty feet downstream.

A more recent occurrence was an earthquake that happened on July 21, 1952 which resulted in three

tunnels west of Keene being badly damaged along with the loss of over 500 foot of track. With the help of one hundred bulldozers a repair crew managed to build a temporary 4,300-foot track around the collapse so that trains were able to run again after only twenty-six days. The bill for the repairs ended up costing the railroad US\$2,500,000.

The loop itself certainly is impressive, but the entire line seems to draw railroad buffs from all over the world. Other good train watching spots nearby along this section include, the tunnels near Allard, Tehachapi Summit, the Caliente narrows, Bealville, Woodford and Mojave where the tracks parallel the main street. It seems as if railfans like to watch at all these locations, not just the loop to see some of the forty odd freight trains a day that make this line



between Bakersfield and Mojave the busiest single-track mainline in the country. Relatively high average speeds are maintained with reasonable fuel consumption in the level landscape surrounding the mountain. However, once trains start to scale the mountain things change dramatically. The grade reaches 2.52% and locomotives need to be run with full dynamic braking sending exhaust and heat hazes skyward. Although there is competition between the railroads for hauling loads there is incredible co-operation as they share the bottleneck right of way. In fact the name Tehachapi



seems synonymous with the word congestion and it's a real test of patience for the skill of the crews and dispatchers.

The loop carries an enormous amount of freight daily and is easily accessible by car. Take Highway 58 northwest from Mojave or southeast from Bakersfield,

to the Keene exit which is where you turn off to see the loop. At the bottom of the exit ramp, you turn towards a "T" intersection. At the stop sign, the road to the loop goes to the right. On the way you will pass "La Paz"

which is the burial site of Cesar Chavez, and the headquarters of the United Farm Workers Union. "Loop Ranch" is the name of the ranch hosting the loop. It is about three miles from Keene to the loop along a paved road. Be aware, however, that freight schedules are not predictable, so there is no guarantee of railroad traffic frequency.

If you continue on about one mile past the ranch there will be a view site with two monuments on your left, looking down on the loop. The first monument is a National Historic Landmark. The second monument is a National Historic Civil Engineering Landmark (installed 10/10/98). The Civil Engineering Landmark honours the construction feat of the entire track from Caliente to Mojave. It especially recognizes the effort of Southern Pacific Railroad chief engineer and construction boss J. B. Harris in designing and constructing the line, whose major feature is the Tehachapi Loop.

The overlook (lookout) is just a wide spot in the road with two stone markers. A little parking area is cut into the hill and covered with gravel. The "classic" view of the loop is from the overlook. Before reaching the spot, one passes several little openings onto a gravel road, which all lead to the loop. The railroad is on one side, and there is a little commemorative marker along a fence line, telling about an engine that was swept off the tracks during a flood. The dirt openings are rutted near the paved road but with care, can be driven over in your rental car. This way you get to see the trains close-up as the tracks lead to several great viewing spots, one of which is trackside on top of a large mound where you usually find other railfans parked. Standing along the

fence gives another view of the trains passing over themselves on the loop.

Your first visit to the loop is best at the overlook site. There will be others there such is the popularity of the loop and someone will know when to expect a train. You'll get little warning of an approaching train. Trains maintain a reasonably slow speed along this line, and the trains circle slowly away following the loop. The engine will disappear behind a little hill and appear a few minutes later on the other side. For a short while, the engine will point towards the trailing cars. The engine then turns near a barn and runs parallel to the trailing cars. Soon, it's hidden behind the cars and under the hill as the rest of the train goes around the loop. It's worth waiting an hour or so as it's likely you'll see more trains come down the pass and around the loop. Imagine as many as ten lead locomotives, five or more mid-point and more at the rear. That is serious horse power!

If you return another day it is likely you'll see the same train spotters and new ones too. You can hear trains sometimes about five or ten minutes before they arrive and you may even mistake them for trucks labouring up Highway 58. But the sounds gets closer and you'll soon recognize them as a train moving along the track. Just when it seems though that the train should arrive, the sounds begin to diminish until suddenly the lead

locomotive will round the corner just in front of you. Occasionally there will be a train stopped in the loop too awaiting a pass from the other direction.

The reason the approaching sounds tend to come and go is due to the terrain. There is also a 307 foot tunnel known as number 10 close to the loop on the high side that contributes to the confusion and it's easy to see why it is dangerous to venture onto the track. You will not leave disappointed. It is a great experience that has to be seen to be believed. In order to keep traffic rolling over the Pass Southern Pacific have installed many devices track-side including electronic sensors for hot box detection and dragging detectors that report straight to the cab of the locomotive that there is a problem. Rail greasers too, automatically activated by wheel flanges also add significantly to reducing rail wear on the tight curves. As an example in the one year alone early 90s, 125 tons of grease was consumed. Addition of grease can also cause problems with traction control equipment on the modern locomotives and even cause brake lockup on downhill runs. Software however, has enabled these problems to be significantly reduced to a point where there is no longer a major problem with the use of grease.

Following what has now become known as 911, security has been stepped up on the US railroads. Whilst

it is not an offence to 'train spot', the railroad operators are keeping a close watch on anything they deem to be suspicious which could involve a call to the police. Don't be surprised if the law does arrive with lights flashing etc and quizzes you if you are observing trains. Be prepared to justify why you are there. You should obviously be particularly careful about trespassing on private property.

Now for a treat less likely to get you on the wrong side of the law. The San Diego Model Railroad Museum has on display "Tehachapi Pass" a layout constructed by the La Mesa Model Railroad Club. Tehachapi is more than just "The Loop" and La Mesa have constructed in HO gauge, an operating curve for curve and switch for switch joint single track railroad of the Santa Fe and Southern Pacific involving the entire 70 miles of railroad between Bakersfield and Mojave. Two of the attractive things about the area are the mountain scenery and the nearly continuous series of sharp curves due to the rugged terrain. The model is famous not just for its size but also its geographic fidelity. The La Mesa club was formed in 1961 by a group of High School Students unable to join another club because of age restrictions and with the assistance of some other adults and an alliance with the San Diego Model Railroad Club, together they formed the San Diego Railroad Museum. If

you don't have the desire or staying power to wait at the "The Loop" then the display at the museum may be the alternative for you. The model is large, operational and definitely worth a visit. Entrance charge is \$4.

San Diego Model Railroad Museum
1649 El Prado
San Diego, CA 92101-1621 Tel. (619) 696-0199

Philip Moss, David Jupp.



MAP LOCATION OF TEHACHAPI CALIFORNIA

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NOTICE OF

ANNUAL GENERAL MEETING

Notice is hereby given of the Annual General Meeting of the National Model Railroad Association Australasian Region, to be held prior to the regular New South Wales monthly meeting at 3.00pm on Sunday April 13th 2003, at the home of Rodney Smith, 26 Peel Road Baulkham Hills. In keeping with the rules for an Incorporated Association, the NMRA must hold the AGM within 6 months of the expiration of its financial year being December 31, 2002. Subject to rule 24 of the Act, the following agenda must be strictly adhered to.

- Confirm the minutes of the last annual general meeting.
- The President's Report on activities of the association.
- The Treasurer's Report.

No business other than that specified in this notice is to be transacted. Questions will however be allowed following the AGM.

Rob Barker Secretary.

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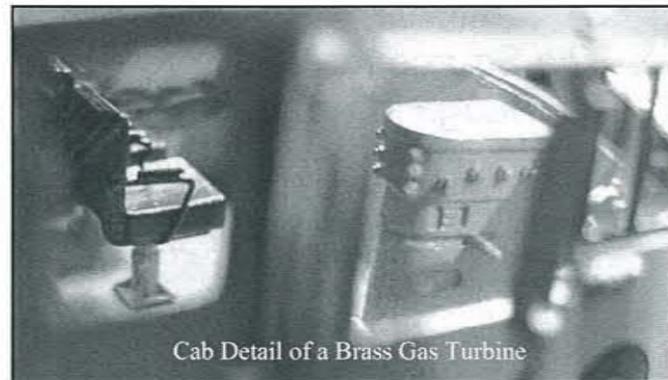
BRASS, AN INVESTMENT OR WASTE OF MONEY?

Author
Andrew Jordan

With the ever-increasing level of detail available on ready to run locomotives, many modelers must ask why would I ever buy a brass locomotives when there are much cheaper alternatives available, such as those from Athearn, Atlas, Bachmann, Kato and Life Like.

Many modelers in our local area have differing opinions on the issue of Brass Locomotives. Some think that Brass is out of their reach and far too expensive. However, a few devotees actively purchase brass, including the most recent runs from Overland, Key and Challenger, to name a few producers of North American products.

To me, the lure of brass is that I can purchase items that have and probably will never be available in plastic or kits. Items such as some of the Union Pacific's unique locomotives, ranging from Gas turbines of the 50's, Large Double Diesels from the 60's to their massive Steam engines. Brass also offers models that are ready to run and exquisitely detailed. These locomotives have to be seen and studied in person to appreciate the level of detail that is included. Unlike their plastic versions, brass also caters for specific prototype variations amongst the same locomotive fleet. A good example would be any

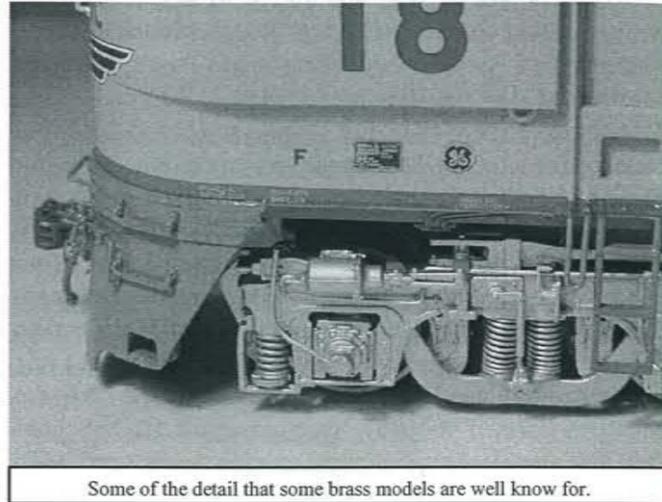


Cab Detail of a Brass Gas Turbine

steam locomotive. Over their active lives, steam locomotives received many modifications. Usually in a run from a Brass manufacturer, they will offer many variants prototype specific, some thing that a plastic model just can't match. Brass offers a good investment, in that models are bought and sold in USD and appreciate, at sometimes remarkable rates. Due to the small size of runs, anywhere from a few pieces to perhaps at most 100, if you can get in on a future production when they are announced, 12-18 months before delivery, a good saving can be made and if demand is high enough, a tidy profit can easily be made if you ever want to sell.

To those detractors of Brass, who state the following.

1. I can modify existing production locomotives to



Some of the detail that some brass models are well know for.

represent specific prototypes. Go ahead and be my guest, if you have the time and skills. It is not a problem, but with so many things, the time or the skill level to scratch build it is not there, no matter how dedicated you are. Brass offers these items straight out of the box ready to run.

2. Brass runs very poorly compared to production locomotives. That is definitely true of some early runs, that were built more for show than anything else. The current performance of brass is about that of Kato or Atlas mechanisms. They run very smoothly and have good adhesion and pulling power due to their weight. Brass also requires much larger radii to run locomotives, in that they are more prototypical. For articulated Steam locomotives, the rear mechanisms are fixed, just like the real things unlike the articulated mechanism found on virtually all plastic articulated locomotives. I have a 2-8-8-0 UP bull moose that requires a minimum radius of 32 inches? Enough said. I understand that we don't all have the room to have large radius curves. That obviously needs to be considered.

3. Brass is expensive and overpriced. I can go out and buy 10 or more locomotives for the price of one Brass piece. Have a look at any household and in many cases there will always be a few expensive items designed to grab attention, from paintings, antique furniture, porcelain to crystal ware. The same can be said of a layout. A few brass pieces can be used to highlight your model empire, items that get away from the masses of ready to run plastic currently available. They give your

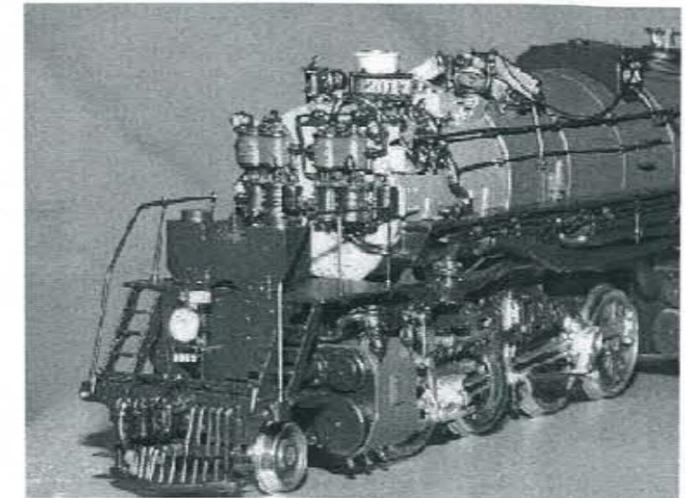
layout its uniqueness from other modelers of the same road. For example Union Pacific; large steam, Gas Turbines and Double Diesels. Great Northern; big custom electrics such as the W1 and unique articulated Steam Locomotives. Milwaukee; Electrics and their Beautiful Hiawatha's. Southern Pacific; a range of Steam to their oddball diesels. Santa Fe; their big steam locomotives to E1's. Pennsylvania; had everything and anything, as they had one of the largest fleets of one of a kind engines. The list could go on for ever, but if you



can see my point, every railroad had unique locomotives that will probably only ever offered in brass. By saving for and purchasing one or two pieces, they can be used to give your layout it's own personality.

So, hopefully by now I have convinced some that perhaps a brass locomotive is within his or her reach. In part 2 I will detail how to go about purchasing a Brass locomotive.

Andrew Jordan



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SAVANNAHLANDER

Cairns – Forsyth – Cairns
846km Train Journey over Four Days.
Author Mal Carroll

History:

Our silver 2000 Class Rail Motor departed Cairns Railway Station at 6:30am Wednesday on its weekly four day service to Forsyth. It was built in 1960 and featured two power cars No's 2026 Forsyth and



L. 2000 Class Rail Motor traversing Rocky Tate River Bridge

2028 Mt. Surprise powered by two Rolls Royce diesel engines.

We first traversed the 75.1km Cairns to Kuranda section construction of which was commenced in 1884 and completed in June 1891. Work on this section was undertaken by labourers and navvies using picks and shovels, building 15 tunnels, (No 15 longest at 900 metres with a bend in the middle as workers encountered rock) ninety three curves and dozens of difficult bridges metres above ravines and waterfalls.

The climb began near Redlynch, 5.5 metres above sea level to the summit at Myola, an altitude 327.1 metres. The purpose of this railway line and beyond was to provide access to the Herberton Parma River Goldfields and mineral deposits at Chillagoe, Mt Surprise, Mt Mulligan and Mt Garnett (Tin, Wolfram, Coal, Copper) and Forsyth.

In the early 1900's the line from Kuranda to Almaden and Chillagoe, a distance of 204km was constructed to supply the private copper mine at Chillagoe which was later taken over by the Queensland Government and finally closed in the 1940's when the copper supply expired. This line was built above Standar using 60lb rail, ballast and high level strong bridges laid on Cooktown Ironwood sleepers which have naturally occurring strychnine which prevents wood borers.

Beyond, Almaden to Forsyth, a distance of 229km,

the track was laid without ballast using 42lb rail short section, low bridges and ironwood sleepers, following the contours of the land, sharp curves and grades of 1 in 12 and 1 in 16.5. At the time of construction in the early 1900's, many railroad companies and shareholders lost their money and life savings, so the Government decreed that a maximum of \$250,000 could be spent on any new rail line, hence the subsequent lower standard construction.

Today, timber sleepers are being replaced with metal sleepers that are only replaced when there is a derailment that puts the rails out of gauge or leaves permanent dents in the metal. To date work gangs have completed replacement of sleepers to Mt Surprise. Further work to Forsyth involving the spending of approximately \$70,000 was withheld when Einasleigh Trestle Bridge over Copperfield River was destroyed this year after receiving 26 inches of rain over 2 days on 12 / 13 February. Cost estimates to repair the bridge vary between \$60,000 and \$1,000,000. Further more, operation of the train



Copperfield River Trestle Bridge following Flood Water Damage

line is to be put to a tender for the next three years. Up to now it has been owned and operated by Queensland Rail.

The most picturesque part of the line beyond Kuranda is between Einasleigh and Forsyth and a prospective purchaser would need to investigate rebuilding the trestle bridge at Einasleigh.

Communication:

Train communications between Cairns and Mareeba are by computer screen link with train control at Townsville. Beyond Mareeba a staff and ticket system operates. Between Mareeba and Cairns, two

trains operate each day (morning and afternoon) carrying liquid sugar cane to Cairns for refining. In the section Kuranda to Cairns, two passenger trains operate daily except Saturday, departing Cairns at 8.03am and 9.30am, returning 2.00pm and 3.30pm. Expected travel time each way is one hour forty minutes after stops at Barron River Falls.

Trackside:

Cattle loading docks are a feature of this line. Station Managers control farms of 15,000 acres plus and need to move stock to a railhead. Train loads in this situation would consist of 29 + 1 which equated to 28 cattle wagons plus one composite guards van with guard and drover. The job of the drover is to check on the cattle throughout the trip to ensure no stock are down and being trampled. The principle cattle in this area are Brahmans and Brahmans cross.

A track deviation in 1957 was completed at Lidd River to Lessen Grade to increase cattle loads.

Almaden – Crew change, water stop, steam trains,



L. 2000 Class Rail Motor at ALMADEN Railway Station Nth Qld.

cattle yards.

Bullock Creek Station – Water Tank for Steam Locomotives. Withdrawn in 1995 and purchased by a local farmer.

Outann Siding – Lime mined and transhipped to district tin mines together with fertilizer and cement. Lappa Junction – Transfer to Mt Garnett. Site of Espanol Hotel established in 1901 by Spanish Miners.

Cape Horn – Watering point for Steam Locomotives from Emu Creek.

With the arrival of Chinese, Indian and Afghan miners, exotic pests were also introduced and these pests are unfortunately still with us today. The Afghan's introduced the Kopoc / Chilliotrope Tree from the filling in their saddle bags which leaked to the ground throughout the tablelands.

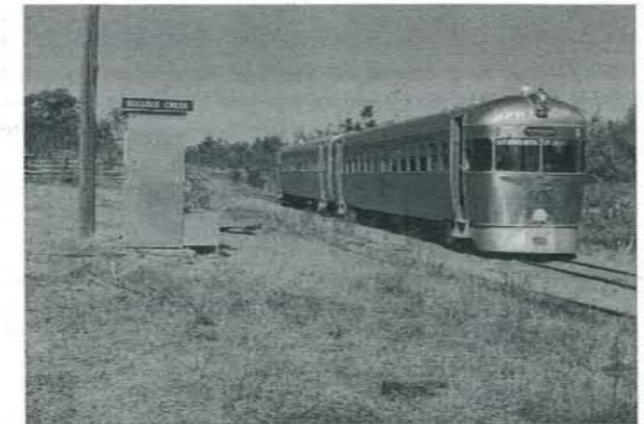
The Chinese introduce the Chinese Herbal Tea Tree



Stoney Creek Falls Bridge, Barron River Gorge North Queensland

which has spread in the favourable conditions.

I hope this brief outline of the Cairns to Forsyth Railway Line encourages you to take the trip before it is too late.



Bullock Creek North Queensland.

For bookings and more information, contact;

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Telephone: 1 800 620 324

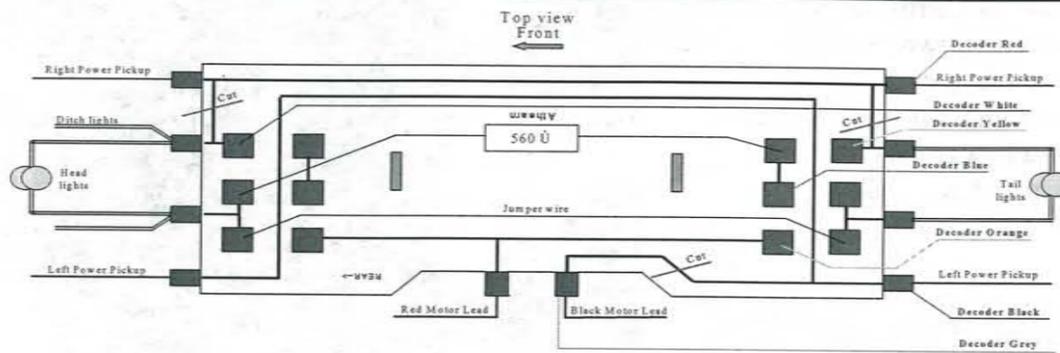
Happy Training!



Ex Queensland Railways Rail Motor 2006 pictured here is used frequently weekdays at the Sydney Zig Zag Railway in lieu of steam to haul passengers from Clarence to Bottom Points and return.

Ed.

Genesis SD 70 Light Board Decoder Installation by Erik Bennett.



- Unclip leads and remove light board
- Snip off 6 diodes and clean up contact pads
- Cut circuit track in 3 places as shown
- Solder jumper wire as shown
- Solder 560 ohm 1/2 watt resistor as shown (Jaycar: 8 for .38c)
- Re-fit light board with etched "Athearn" uppermost and "Rear" pointing to front
- Solder lights, track pickup and motor leads to contact tabs as shown
- Use double sided tape to fix decoder onto chassis in space to rear of light board
- Trim and solder decoder leads as shown

When using DCC, an alternative to replacing those locomotive 1.5 volt lamps is to add a voltage dropping resistor. Careful calculations are required to ensure that the heat dissipated in the resistor does not damage plastic components on the locomotive body and the voltage across the lamp does not exceed its rating. As the lamps in the Genesis draw only 12mA a 560 ohm resistor will work well here.

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GP.18 diesel I.C.	\$ 90-00
SD.60 M diesel	\$174-95
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- **Athearn Genesis:** HO SD70 Spartan Cab.
- **Rivarossi FEF** HO locomotive upgraded to same specification as 2-6-6-6 Allegheny.
- **Rivarossi** HO Union Pacific 44 seat passenger cars, Dome Lounge, Diner and Baggage cars. Set "A" and "B" 4 packs will be available as well as add on cars in 2 tone Grey, 1956 to 71 colour scheme as well as the UP excursion scheme. New trucks and operating diaphragms.
- **Kadee** HO 'scale' metal coupler No 78 with scale draft gearbox fully assembled.
- **South River Model Works** HO kit Whitinsville Spinning Ring Co Laser cut building kit.
- **Walters** American hardware Supply Building kit 1920s styling.
- **Walters** Thrall Door Box cars with add on metal grab irons. Single cars and 2 packs.
- **McHenry's** new 'scale' size HO coupler.
- **Trix** Union Pacific HO 2 rail Big Boy with new Road Number. Available with Marklin Sound Decoder.
- **Atlas** N scale Dash 8-40B and 40BW locomotives
- **Bachmann** On30 Class A 2 cylinder T Boiler Shays and Skeleton Log Cars in 3 pack..
- **Kato** N scale SD70 MAC limited run.
- **Proto 2000** E 8/9 Diesel Locomotives.
- **Proto 2000** Heritage 2-8-4 Berkshire locomotive.

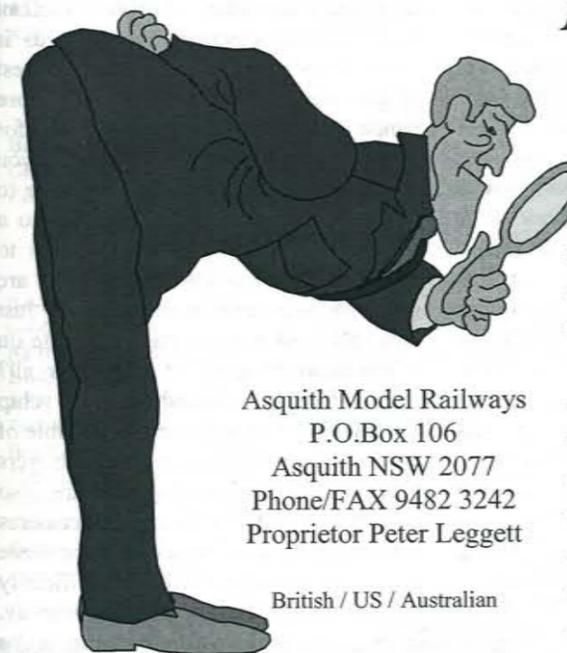


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The dictionary defines photography as the process of producing images of objects on photosensitive surfaces. To produce black & white negatives, an optical image is focused on a surface of metal, glass or paper, coated with collodion or gelatin, and sensitized with the chlorides, bromides, or iodides of silver, or other salts sensitive to light. The exposed material is then treated with reducing agents, such as Metol and Hydro quinone, to develop the latent image. The image is then 'fixed' by washing off the excess of unchanged sensitive salt with sodium thiosulphate or other suitable reagents. It stands to reason therefore that as there are no chemicals involved in digital photography, then the process of light falling on a sensitive surface which causes electrons to flow (or a voltage charge to be measured thereby causing electrons to flow) must be known as Electography. As yet however, no such word exists.

I frequently get asked about my camera at the NMRA meetings. The question usually is, "Is that a digital camera? I have been thinking about one of those, what should I get?" Whilst this appears a simple request, the answer is not quite so simple. Mine looks like a 35mm Single Lens Reflex film camera and it is digital so you would think it would be good, right? Not necessarily. The idea of a digital camera sounds great, but just how good are they? The answer is simply, you get what you pay for, but not always.

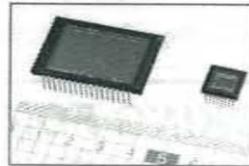
If you want to take pictures, lots of them, and normally use a compact style 35mm camera, then a cheap compact style digital camera may be the answer for you. One thing that is advantageous is that you don't have to buy film or pay for processing again. It's easy however to get totally confused by the jargon used these days by the manufacturers and sales persons. The common terms are, CCD, megapixels and megabytes. A pixel is the smallest element that can store a portion of your picture and a byte is 8 bits (pieces) of digital information which together enable an electronic 'letter or number' to be stored. Mega is a multiplier of one million. More of that in a minute. It's interesting to note that if you take what you think is a great picture and you are

proud of it, then you would think it should be worthy of printing in the professional modeling magazines. If however it just happens to be from a digital camera, then the publisher will probably say no thank you, unless it meets certain criteria. Firstly it needs to be taken with a camera having a CCD or alternative chip (The light sensitive electronic film equivalent) with a capability of capturing greater than 3,000,000 pixels. (3 megapixels) so that when the image is magnified optically or electronically, it will not show the individual pixels 'blocking' into objectionable squares. The picture will therefore be deemed to have good resolution.

Because a lot of digital storage is required to hold such a high resolution picture, compression of the picture is used. The key is, how much compression can you get away with before it becomes objectionable to a professional well before an amateur. Compression is done electronically and almost instantaneously using complex 'algorithms' by removing parts of the picture that are deemed unnecessary to recreate the picture being taken. Compression leads to a considerable saving in memory and the most common resultant file is known as a JPEG (an acronym for 'joint photographic experts group') with the syntax extension jpg. Excessive compression can cause 'artifacts' or horrible looking colour casts and unnatural unwanted additions to the picture, usually in non-detail areas. Just what is compression. Simply, let's look at a part of a picture that has an area of the same colour. Instead of having to record a digital code for each pixel of that colour, the system records the pixel once and uses a simple repeat code to fill the similar spaces. Consider a cut and then paste, paste repeat command. This can save huge amounts of memory. As mentioned previously a professional will pick the artifacts from compression but an amateur will probably not. Some digital cameras are capable of storing uncompressed pictures (TIFFS) or one or two compression levels of JPEGS. A TIFF picture can easily use up 8 Megabytes of storage so you generally steer away from those.

The answer seems simple then

doesn't it? I'll buy a camera with 4 megapixels, use the highest quality JPEG capture mode and I will be able to take great pictures. Maybe and maybe not. More megapixels and higher quality means fewer pictures can be recorded into your digital memory. That means you need to buy a bigger memory module and these are still expensive. By expensive I mean possibly hundreds of dollars. Most digital cameras have zoom lenses and they are made of plastic. Nothing wrong with that when you are taking family shots, but try shooting close in amongst models and you will find all sorts of light flare and distortions get introduced through the lens especially in the wide angle position. The compactness of a small camera does mean however that you can get right in amongst the models, a big advantage for model 'electography' but unfortunately that is when the distortions really start to show. The CCD chip where the picture is



Sony's new photosensitive chip beside the more common smaller standard chip.

focused is also considerably smaller than a 35mm frame too so it will just not supply the detail that a 35mm frame will. The short focal distance of

these small area chips produces excellent depth of field meaning overall focus is sharp from the closest to the furthest object except when you are too close which unfortunately is what we want for model picture taking. Sometimes you deliberately want parts of the picture to be out of focus to 'draw' attention to a particular subject. Not always easy to do. A small chip also means you are going to lose some more quality. Just how much information can you write on a 'pin head or grain of rice' after all? Sony recently introduced a chip approaching 35mm frame size capable of 6 megapixels and other manufacturers have followed. 12 megapixels are also available on some of the top end cameras but expect to pay big dollars for these and some are interpolated or artificially created from 6 megapixel chips anyway. In other words the picture 'appears' to be higher resolution but you can't 'accurately' create something from

(Continued on page 28)

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(Continued from page 26)
nothing.

Auto focussing can also be much slower too than a conventional camera so when you push the trigger, it may take up to half a second before the exposure is taken. This is not always the case and some cheap cameras are better at focussing than the more expensive ones. The area with digital cameras that annoys me intensely though affects depth of field. When you get really close to a model with your picture composed at an angle, the depth of field (focus from foreground to background of the picture) can be poor and the picture taken will obviously look like a model unless you can stop your lens down. It is just too difficult though to manufacture a diaphragm that closes down that small in such a small lens without light diffraction problems.

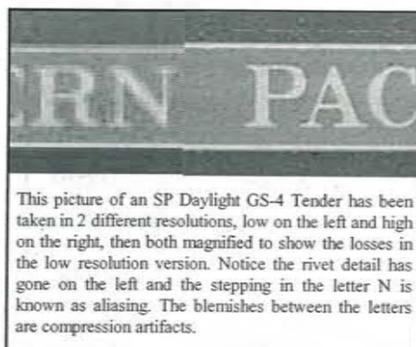
If you move into the professional Nikon D1, D100 and Canon camera equivalents, then you get beautiful ground glass removable lenses. Digital cameras will take pictures in poor light using electronic amplification although this will add noise (visible

sparkles) to the picture and noise is the curse of compression because it is nearly impossible to compress.

So ask me about digital cameras and the answer will simply be, if you want to have some fun, by all means buy a digital camera. They produce great results for the web. Get one with the features you want at the price you can afford. Take it away on your holiday with you and you will need either huge amounts of memory or a laptop computer to transfer to hard disk. Oh, and a supply of batteries or a battery charger. One camera from Sony has a built in CD to burn to with huge storage capabilities. That is a great idea. If you are serious though, go back to the 35mm camera and scan the pictures into your computer or be prepared to pay big amounts of cash for a 'quality' digital camera.

One final thing to take into consideration. These digital pictures need to be stored somewhere. Leave them on your computer hard drive and a crash could lose them forever. Experienced that? A digital Compact Disk is obviously the answer for permanency but you need a CD burner. More expense!

Scratch or damage the CD and the pictures maybe gone. Forever! Didn't a university just recently find a fungus eating into the surface on a CD in storage? Permanent record eh? I still have my 35mm negatives from 40 years ago. They seem OK to me. Interesting or not? Oh, one final thing. You need a photo quality colour printer to get a hard copy or pay through the nose for the processing lab to print from your CD files. Glossy ink jet paper is really expensive so expect to pay \$20 for a small number of 6 x 4 sheets. And the ink? Hey, it is a lot of fun though! But then so is spending money. Just get one!



This picture of an SP Daylight GS-4 Tender has been taken in 2 different resolutions, low on the left and high on the right, then both magnified to show the losses in the low resolution version. Notice the rivet detail has gone on the left and the stepping in the letter N is known as aliasing. The blemishes between the letters are compression artifacts.

Layout Construction Tips

from Erik Bennett

I recently completed the trackwork for my fairly large layout, the trackwork of which consequently took several years to complete. I learned a lot and my track-laying technique greatly improved and so, as a result of my experiences, I offer the following hints that might help anyone building a layout or laying track.

The Major Lesson Learned

Countless times I would study a particular branch alignment, place loose points and track in various positions, trial them, then finally make a decision and tack them down. Then, a week or so later, I would change the alignment, believing I could improve on it. Sometimes I would change it several times. In almost every case, I have changed the alignment back to the first one.

The same sort of thing happened with many aspects of layout construction, electrical connections, block positioning, structural positioning, etc, etc, etc.

For any specific task, provided you consider it and its effects thoroughly, your first plan of attack is the best.

Peco vs Atlas Track

The only advantage of Atlas over Peco is the pre-drilled holes and even this has the disadvantage of leaving lots of unused holes that don't look prototypical.

Some say Atlas track more correctly resembles the US prototype because the rail sits on the tie rather than on a shoe that sits on the tie. This may have been the case in earlier days, but a close inspection by the author of newly laid track laid above Caliente near Tehachapi Loop, California, shows that it sits on shoes more like the Peco track than the Atlas.

Peco allows the sleeper/tie closest to the join to be undercut and leaves clearance for the joiner - resulting in track with no bumps. Atlas requires the

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tie to be cut off to be able to fit the joiner. To replace the tie you need to trim its height or you get a bump.

Peco allows both rails to be adjusted in the shoes, which is convenient for rail gap adjustment, curve length cutting and last tie positioning. Atlas has one rail fixed, which I find inhibits the above. Allowing both rails to move in the shoes makes Peco particularly easy to solder curves without melting ties.

The plastic that Peco track is made from accepts much more soldering heat than Atlas. When affected by heat, Peco plastic softens then, when the heat is removed, reverts to a reasonable copy of its former self. When Atlas plastic is affected by heat, it forms a hard, distorted substance which is hard to do anything with.

Track Joiners

Atlas joiners come in strips of 4. When separated, the little length of join strip that is left interferes with the tie closest to the join. They have to be cut off. Do this by holding the joiner with its underneath uppermost and trimming with Xuron rail nippers. Doing it this way ensures there is no rough edge

formed to interfere with rail or ties. Peco joiners don't have this join strip, but I don't think they look as good as Atlas.

Some might think that cutting individual joiners like this is a bit of overkill. It's just that if you do it, you get perfect joins.....

Joiners can be "tightened up" by placing them face down on the trackbed and lightly tapping the back with your tack hammer. If you do it face up, you are sure to squash the joiner.

Soldering Curves

These days, I always solder the joins on curves. Soldering the join always results in a smooth join and good electrical conductivity. This is my procedure for joining curved flextrack sections together:

For soldering track, use a fairly hot iron, resin-cored solder and iso-propyl alcohol to clean the rail, joiners and the solder. (You will be surprised how dirty the solder is.) Use iso-propyl alcohol rather than metho and similar solvents. They leave a residue, which affects the flow of the solder and the strength and longevity of the join.

Let's presume you are joining a new curved section to a curved section already laid. Position and test fit the new section. On the new section, push the ties back so that 10 cm or so of track are exposed. On the laid section, untack the last portion of it and push back the ties as far as possible. With Peco, this can be done to the tune of well over 4 - 5 cm.

With a Dremel, wire brush or light sandpaper, clean and roughen the outside and underside of each of the 4 rail ends for 1 cm from the ends. Take two joiners and clean them as best as possible. Clean and roughen one side of each. If you have a Dremel, you can do this by slipping the joiner onto a piece of scrap rail and stopping it with a screwdriver while you clean it. It's fiddly I know, and wear your safety goggles.

With the cleaned side of the joiners to the outside, join the sections, then straighten both rails. Make sure they are perfectly straight and flat in the area of the join. Use weights to ensure this because you will need both hands free. Touch the iron to the outside of each joiner and run in some solder. Wipe the iron along the joiner to spread the heat until the solder runs well into the joiner. You don't need too much solder and don't let the work get too hot. There is little chance of melting ties if Peco is used because of the distance you have pushed the ties from the work.

Remove the iron and don't touch or vibrate the rail until the solder solidifies. Slide the ties back to the join area and curve the newly joined track into a perfectly smooth curve.

Peco turnouts

The straight stockrail in Peco turnouts is sometimes

not straight. This results in jerky passage of a train through the turnout but can be fixed by holding the turnout in both hands and gripping the ties with your thumbs on the ends of the centre ties, then applying pressure to fix the problem.

Real-time Track Tester

I bought a Bachmann Spectrum DD40AX for checking horizontal clearance and track smoothness. It has the longest wheelbase (for inside clearances) and longest overhangs (for outside clearances) of any rolling stock item I will run. This includes Rivarossi Big Boy, Cab Forward and 86' passenger coaches. Its long bogie length highlights any irregularities in curves or track joins.

It runs slowly and smoothly and starts at low voltage. It never stops due to dirty wheels even on newly laid, dirty track. (It has had its wheels cleaned once in 2 years of track testing.)

It is ideal for this purpose and is worth its purchase price for this alone. I realise not everyone models UP in the 60s/70s, but any smooth-running long wheelbase engine will do. You need an engine because you want to be able to take a good sight on a join, alignment, curve, etc, and you can't do this pushing a car or coach by hand.

Finally

When I first started on my layout, people told me, "You learn it by doing it." I certainly found that to be true, so good luck.

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ebennett@blackwoods.com.au

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THE SIXTH NARROW GAUGE CONVENTION

As stated in the President's Report in the last MainLine, a Narrow Gauge Special Interest Group (SIG) has been formed and some of the Australasian Region's Narrow Gaugers have been helping to organize this years convention. There are quite a few Narrow Gauge modelers in the region and we hope to see many of them in April, along with others who may come to see what Narrow Gauge has to offer. We have secured a great venue (Tara School North Parramatta Sydney) with modern facilities which will enable us to present the many and varied presentations on both prototype and modeling in comfortable surroundings. Some of Australia's premier Narrow Gauge modelers, along with Boone Morrison, will be featured over the weekend. Boone is a regular contributor to the 'Narrow Gauge & Short Line Gazette' in which he has written over thirty articles on both prototype and modeling topics. Many of these feature in his own Buckhorn Logging Co. layout. Boone also has acquired a recent interest in ON30, having been influenced by the new range of locomotives and rolling stock from Bachmann.

Boone will do a clinic on 'Logging in the Redwoods' in Sonoma County, USA. This will show how these magnificent trees were cut and transported to the mill. He will also discuss his Buckhorn Logging Co. and how his study of the prototype has influenced his layout's design and construction. He will also do a slide show on one of his favourite railroads, the North Pacific Coast. This very interesting line skirts the edge of Tomales Bay and terminates at a ferryboat landing in Sausalito on San Francisco Bay. Boone will also do a talk / slide show on Hawaiian Narrow Gauge discussing the history and unusual aspects of the early Hawaiian railroads which will follow our Dinner and Presentation on Saturday evening.



Gavin Hince's (MMR) On3 'North Coast Narrow Gauge Railroad'.
Photo by John Dennis.

Other presenters will do prototype clinics covering topics from Australia, USA, Europe and Cuba. Presentations will include - Bush to Mill Transport, - Walhalla VIC, - European Narrow Gauge Railways, - Cuban Narrow Gauge Today, - Steam Engine Facilities



"RED STAG LUMBER COMPANY" Photo Gerry Hopkins.

and several others on Australian Narrow Gauge subjects including a multi-screen slide / video opening presentation. Modeling clinics and workshops will cover a variety of topics. Some of these will be; Soldering Metal Kit Assembly, Cut Your Own Stripwood, Creative Installation of Sound, Clinics on Building Construction and Presentation, Australian Landscape Modeling, Animation Ideas, Super-detailing Models, Scratch-building Rolling Stock, and several presentations on Painting and Weathering Models, Decaling Techniques, as well as clinics on Small Layouts, A Two Level Layout, Minimum Space Modular Construction and Garden Railways. A detailed final Convention Schedule / Timetable listing all clinic, workshops and presenters will be released during March on our web-site or by mail on request.

A selection of Narrow Gauge Layouts will be on display and will include, "RED STAG LUMBER Co" (ON3), "TALL TIMBERS" (G SCALE) "TIGER VALLEY" (HOn3), "LEITH & DIGGLE" (ON30), "CHILI LINE" (HOn3), "NO HOPE COAST" (3/8n20) and "BROUGHTON VALE TRAMWAY" (HOn30). We will also have more layouts presented in our Small Layout Contest, also part and finished modules and displays, featuring various prototypes including: "CUBAN SUGAR CANE", "WALHALLA VIC", "AUSTRALIAN STEAM FACILITY", "AUSTRALIAN LANDSCAPE MODELING" and more.

Traders and Societies who are scheduled to be at



"Leigh Creek Lumber Co." Photo by Gerry Hopkins

the convention include, 'The Railcar', 'The Model Railway Craftsman', "Greg Waldram Scale Models",

"Gwydir Valley Models", "Ian Lindsay Models", "Keroby Models", "The Model Works Australia", "EFD Simply Glues", "Light Railway Historical Society", "Australian Railway Historical Society" and the "NMRA Narrow Gauge SIG Stand".

ATTENDANCE AT THE CONVENTION IS BY PRIOR REGISTRATION ONLY PAID PREFERABLY BY THE END OF MARCH.

So, if you are open to be informed, inspired, entertained or just generally enjoy good company amongst fellow modelers, you should consider attending the NMRA Narrow Gauge SIG's presentation of the **SIXTH NARROW GAUGE CONVENTION.**

(REGISTRATION FORM INCLUDED IN THIS ISSUE OF MAINLINE)

Geoff Nott & Ray Walter (Co-Convenors)

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EXHIBITION & CONVENTION CALENDAR

FORESTVILLE - NSW.	March 1-2, 2003 Forestville Memorial Halls, cnr Warringah Road and Starkey Street, Forestville. Open 9am-6pm (Sat), 9am-5pm (Sun).
SPRINGWOOD - NSW.	March 22-23, 2003 St Thomas Aquinas Primary School, 186 Hawkesbury Road, Springwood.
MARSFIELD - NSW.	June 7-9, 2003 Epping Boys High School, cnr Epping Rd & Vimera Rd, Marsfield. Open 10am-5pm (Sat-Mon).
CANBERRA - ACT.	April 5-6, 2003 The National Hockey Centre, Mouat St, Lyneham. (9am-5pm) Sat & Sun.
BOX HILL - VIC.	March 7-10, 2003 Whitehorse Aquatic & Leisure Centre, Surrey Drive, Surrey Park, Box Hill. Open 6pm-10pm (Fri), 10am-6pm (Sat, Sun, Mon).
WOODEND - VIC.	March 8-10, 2003 Woodend Primary School, High Street, Woodend. Open 10am-5pm (Sat & Sun), 10am-4pm (Mon).
BURWOOD EAST - VIC.	June 7-9, 2003 World Vision Centre, Cnr Springvale Rd & Vision Drive, Burwood East. Open 10am-6pm (Sat & Sun), 10am-5pm (Mon).
MILDURA - VIC.	September 20-21 2003 Irymple Leisure Centre, Karadoc Ave, Irymple. Open 9am (Sat & Sun)
WINDSOR GARDENS - SA.	April 25-27, 2003 Windsor Gardens Vocational College, cnr Danby Ave & Mckay Ave, Windsor Gardens. Open 6pm-9pm (Fri), 9am-5pm (Sat & Sun).
Narrow Gauge Convention - NSW	April 19 - 20 Tara School, Mason Drive Nth Parramatta. Sydney
N Scale Convention - VIC	April 24 - 27 La Trobe University Melbourne
NMRA 2003	July 5 Dence Park Epping.

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LMB/KMT	4-8-4	New York Central 6003	\$1,210.00	Atheam	SD40-2	Illinois Central 3000	\$70.00
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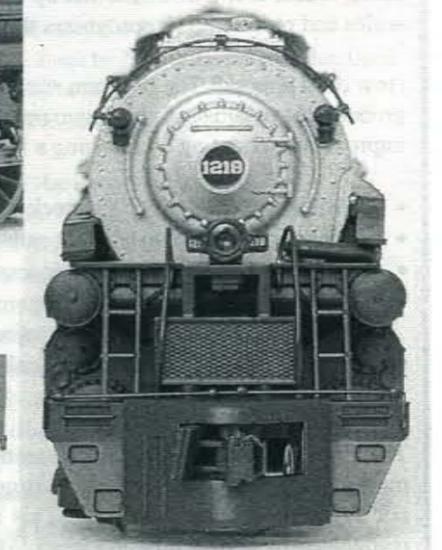
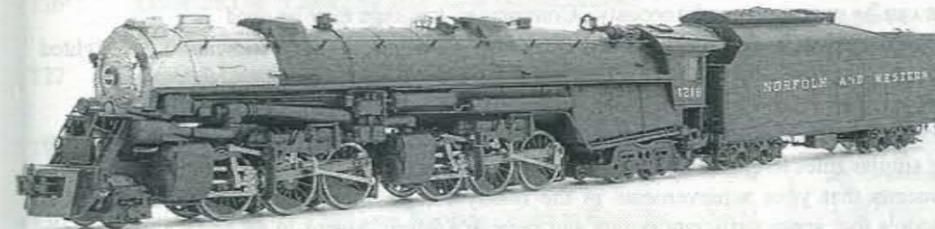
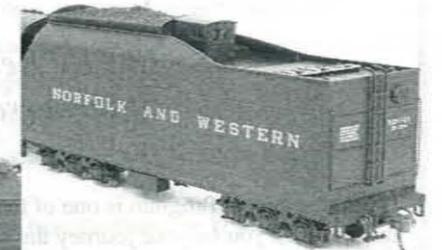
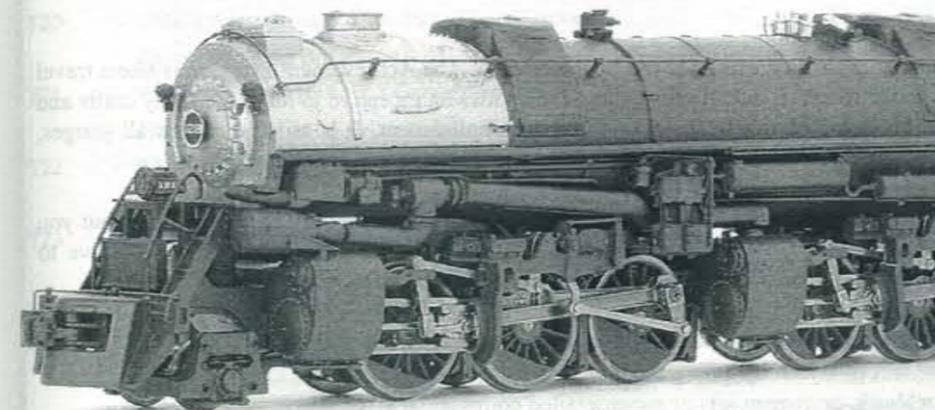
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BROADWAY LIMITED In the November issue of MainLine we were fortunate enough to be able access and review a pre-production run model of new importer Broadway Limited's NYC Hudson. This model is now released and has received rave reviews and sales for the company. Broadway Limited set many objectives for their first venture and many said it was a fantasy vision that would not be achieved. Broadway has proved all the critics wrong, having come up with the results and this may well be HO model of the year. Following the MainLine November issue, Broadway made available these engineering photos of their next model, the Norfolk and Western 2-6-6-4 with the same technical specification, auto select DC or DCC complete

with sound in both modes of operation, as the Hudson. For those that have not seen these, here are the pictures. Note that there are still some details missing, the smokebox will be charcoal and the front and tender light lenses and glazing are in red to identify this as a pre-production engineering model not for sale. The models are Korean made in a factory that produces high quality brass railway models. Expect it at the USA retailers in April or May and expect it to be a first class model. MainLine will review it once released if not before.

Price \$470 US approx. D.J.

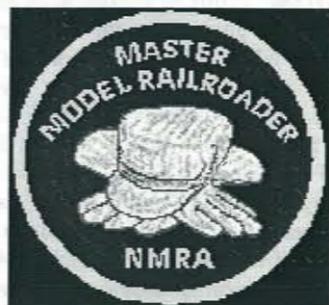


TAIL PIECE
"THE EYES HAVE IT TAKE 23"

I reckon if we both close our eyes, then you tell me which way to move and after 10 seconds if this building isn't flattened by a train, then that's the place it oughta be. Right? No ifs. No buts! OK?

THE ACHIEVEMENT PROGRAM

By Ken Scales MMR
AP Chairperson Australasian Region



The Achievement Program is one of the most rewarding activities run by the NMRA. The Achievement Program is like a travel guide to help you on your journey through the world of model railroading. It provides an incentive to learn the many crafts and skills, which are, part of the hobby and gives a feeling of satisfaction and accomplishment. It is tailored to suit all gauges, scales and prototypes. It recognizes the wide range of interests of model railroaders and also service to the hobby.

How does it work? The program starts with an introduction called the "Golden Spike". If you already have a home layout you probably have most of the requirements to earn a Golden Spike. This part of the program is designed as an incentive to improve our modeling by reaching a fairly simple goal. To obtain a Golden Spike you need to:

- Display six units of rolling stock either scratchbuilt, craftsman kits or superdetailed commercial kits.
- Construct a minimum of eight square feet of layout including scenery.
- Construct five structures either scratchbuilt, craftsman kits or superdetailed commercial kits
- Lay three types of trackage (e.g. turnout, crossing, crossover, etc.) which must be properly ballasted, installed on proper roadbed and wired so that two trains can be operated simultaneously. Commercial trackage may be used
- Provide one additional electrical feature such as power operated turnouts, signaling, turnout indication, or lighted buildings.

There is a required standard for all sections of the Achievement Program. This standard is reasonably high but is achievable by most modelers. Models are judged using similar rules to contests. The allocation of points for Achievement Program judging is not as strict as contest judging. This means that your achievements in the hobby can be measured by a standard that is recognized by your fellow modelers. Models that score sufficient points and receive a Merit Award in an NMRA contest are counted towards an Achievement Award.

There are eleven main categories in the Achievement Program, which are grouped into four broad areas. These are building Model Railroad Equipment, building Model Railroad Settings, Railroad Construction and Operation and Service to the hobby. The ultimate honor bestowed by the Achievement Program is the title of Master Model Railroader (MMR). This is awarded to those who have qualified for seven achievement awards.

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 6 and cars requires 4. However I would still recommend that you scratch build as many of the models as possible because of the 15 points for scratch building.

The best source of Information on the AP program on the main NMRA website in the USA which is located at "http://www.nmra.org". There is a hotlink to the appropriate part this site on the NMRA Australasian website. If you do not have internet access contact either the Regional AP Chairperson or one of the two AP Vice Chairpersons who are listed in the directory on page 39 of this copy of Mainline Magazine.

This is an over-simplification of what the Achievement Program is about. One of the best features of the program is that it can guide you through the learning process and get you more involved in the hobby. It will also help you to get to know other members of the association and allow your achievements to be measured by standard that is recognized by your fellow modelers.

THE LIBRARY CAR

Current Video List Managed by David Latham

No	TITLE	No	TITLE
VT14	USA Railroad Layouts (compilation videos 1-6)	VT50	Prototypes To Make You Comfortable by John
VT15	USA Railroad Layouts (compilation videos 7-13)		Armstrong Memorable Locomotives by Charlie McCoy
VT16	Airbrushing for Model Railroaders		Frequently Seen, Seldom Modeled by Jim Cope
VT17	Weathering Railroad Models by Malcolm Furlow	VT51	Signals Made Simple by Mark Hanslip Computer and
VT18	Scenery Tips No.1 Rock Moulds by Donald Davis		Railroad Together by Mark Hanslip
VT19	Scenery Tips No.2 Backgrounds by Donald Davis	VT52	Trees from Weeds by Louis Godbold
VT20	NMRA Australasian Region 1993 (Tony Koesters		Weathering and Ageing with Pastels by Robert W Bailly
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