



July 2002

Winter Run Days

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Your Committee

President Ron Date	9246 2835
Vice President Ian Allison	9490 2381
Secretary Andrew Manning	9446 4825
Treasurer John Martin	9448 8843
Committee Members	
Doug Baker	9341 1630
Jim Crawford Publicity & Events	9276 5464
Phil Gibbons	9390 4390
Dick Langford	9342 8049
David Naesser Safety Officer	9375 7785
Steve Reeves	9354 1395
John Shugg	9246 9549
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Jim Clark	9446 5870

NDMES
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Photo by Tony and Ian Jones

With the onset of winter rains, the Society's track site is looking particularly green and attractive setting for a train ride, as the photo above from our last public Run Day shows.

More in the Run Day Report on page 4.

CALENDAR OF EVENTS

General Meeting	Laurie Strutt Park Elvire St, Waterman	7:30 pm	Friday 12 July
Club Run Day and Public Run Day	Club Track Site Vasto Pl, Balcatta	10:00am—4:00 pm	Sunday 28 July
General Meeting	Laurie Strutt Park Elvire St, Waterman	7:30 pm	Friday 9 August
Club Run Day and Public Run Day	Club Track Site Vasto Pl, Balcatta	10:00am—4:00 pm	Sunday 25 August
General Meeting	Laurie Strutt Park Elvire St, Waterman	7:30 pm	Friday 6 September
Club Run Day and Public Run Day	Club Track Site Vasto Pl, Balcatta	10:00am—4:00 pm	Sunday 29 September

Note: General Meetings will now start at 7:30pm, not 8:00pm as previously.

June General Meeting

minutes of meeting by Andrew Manning

NOTE: As the Minutes of the previous General Meeting are circulated to all members by newsletter and/or email ahead of the next monthly General Meeting, it is proposed that the Minutes should not be read out in full at the meeting. Opportunity for corrections and a move for acceptance by the membership will of course still occur.

The June General Meeting opened with 15 members and 4 visitors present. Visitors Phill Kelloway, Richard Stuart, Trish Campbell-Wimyss and Albert Woods were welcomed.

BUILDING REPORT — Visit from the City of Stirling building inspector last week, who was very impressed with progress and quality of work. He will recommend we receive the remainder of funds to lockup. We need to achieve lockup by end of July.

A bricklayer is giving an estimate for internal walls. Aim is to complete these next week.

GENERAL BUSINESS — Ian Allison thanked all involved with the AMRA weekend.

Doug Baker noted the attraction of **Stuart Martyn's** engines and his conversation at the ME display stand.

Stuart Martyn moved that the **General Meetings** start at 7:30 pm from now on. Seconded John Martin. Carried by meeting. See Calendar and Page 3.

Ian Allison is looking for additional volunteers for the duty roster. The Society is introducing the practice of trainee Duty Officers to enable members to develop the knowledge and practical experience necessary to fill the Duty Officer position. Volunteers are required for training in all formal run day positions.

Ron Date — a special Run Day to be held on Sunday 16 June in support of a BMX event. Passenger hauling from 11:00 onwards.

Ron also noted that the latest vandalism practice is to kick off the pickets from the fencing. Assistance to repair is requested.

Dennis Lord — spoke to his letter, which he had submitted to the Committee. He explained that there was sufficient signal equipment available at present to adequately meet the need of the above ground track. The system may not be the definitive answer but would enhance safety for current operations.

Dennis also recommended that serious consideration be given to running both tracks in same direction to simplify safe management of traffic in tunnel, cutting and bridge areas.

Doug Baker explained the history of the track layout and the constraints with respect to running the Ground Level track counter-clockwise.

Dennis Lord moved that the issue of track layout and its operation be addressed at the next Committee meeting. Seconded Ian Allison. Carried.

Doug Baker wishes to sponsor an encouragement award for miniature steam engines which demonstrated basic principles. He suggested a bore of 20mm. A set of micrometers or a digital vernier is available as prize. Models are to be completed a month before AMRA 2003. The meeting thanked Doug.

Ian Allison raised the issue of naming the building. Ideas are to be presented by members at the next General Meeting (July).

MODEL ENGINEERING — Visitor **Richard Stuart** displayed the near complete power unit for his 7/4" freelance Garrett. Richard explained that the engine was not a scale model at all but rather an engine designed using current engineering practice, materials and off-the-shelf components to meet his operating needs and broadly following the Garrett layout.

The power unit required four strong members to lift it in and out of the trailer! See photo below.

Steve Reeves — discussed how he went about painting his models and displayed some of the materials and equipment used. Steve also gave an update on the progress of his boiler.



RAFFLE — was won by **Jim Clark** the prize being an end mill.

Andrew Manning

Left: Visitor Richard Stuart and one of the impressive power units from his 7/4" freelance Garrett.

Photo by Jim Clark

President's Report

by Ron Date

After the big effort of the AMRA long weekend, immediately following on from our May public Run Day, it is most gratifying that activity at the various levels of Society business has not diminished.

In the month of June we made over \$2,500 at AMRA, another \$240 at the special Run Day on Sunday 16 June (with the BMX carnival next door) plus another \$440 at our normal public Run Day on 30 June. These are much needed funds which will help to pay for the ever-improving facilities at our track site.

To all those who contributed (about 50% of the membership), thank you for your efforts — to the other 50% who did nothing, consider yourselves fortunate to be members, benefiting from the efforts of the rest!

While all this has been going on, the new Club House has all but reached lock-up stage, with a particularly fine effort put in by John Shugg, who (in disguise, of course) was brickies labourer for the best part of three days doing the internal walls. In the pouring rain Tony Jones, Andrew Manning and others hung the big steel doors on the Club House, while I was prowling around legendary Kalgoorlie.

Run Day Checks

On public Run Days Doug Baker and Phil Gibbons will be checking all locos for AALS compliance prior to their leaving the steaming bay.

Checks will include a redundant working boiler feed water supply, safety valves working, couplings OK, pressure gauge working, etc.

These checks are to ensure that all locos on the track meet the minimum requirements of the AALS Code and to ensure smooth operation of the track during the Run Day, with minimum hold-ups due to breakdowns.

Meetings — New Start Time

At the last General Meeting, the subject of dark winter evenings and late nights was raised and it was proposed that meetings should start earlier to give everyone, especially those who have a long distance to travel, an earlier finishing time.

Please note that General Meetings will now start at 7.30pm sharp, same place of course.

Please bring along something to show — a great deal of the interest at meetings is seeing what other people are up to, what problems they have come across and the ways they went about doing things.

On Saturday 29th Tony Jones and John Hudson got the fire stairs fitted, no mean feat if you have ever tried to pick one up. Well done you old b....rs! Just don't blow your clack valves though.

Andrew Manning and Dennis Lord have rendered around the window mounts so the windows can now go in. Excavations for the power have commenced with the efforts of Ray Shersby and John Shugg (he just loves digging holes).

My personal thanks to quiet Jim Crawford for all the many small but important maintenance tasks he does which make life easier for all of us.

On my wish list is enough people one Saturday morning before the next Run Day to do something with the mess at the west end of the track site. Any takers?

Ron Date

Articles & Photos Wanted

Thanks to everyone who has submitted articles for Steamlines in the past — I think there have been many excellent ones, and the variety of subjects and opinions provides something of interest for almost everyone.

However, the supply of material waiting in the wings is running low again and now we need more articles and photos for publication.

The sort of thing can range from a long article about a recent trip you made, or anecdotes from your early experiences, down to simple hints and this-is-how-I-did-it articles. Photos and/or drawings are a great enhancement. You don't have to be a computer expert either — a hand written note and photo prints will do.

If you think there is something that hasn't been covered and that you would like to see in the newsletter, how about having a go at providing a short article on it?

Jim Clark

Steam Day at Yarloop

For those of you who are interested in seeing some serious industrial steam engines in action, the Yarloop Workshops near Bunbury are having one of their steam days on Sunday 14 July.

Yarloop Workshops serviced the old Millars sawmills and its extensive private railway network. The museum and exhibits include large stationary steam engines (many will be working), demonstrations of sawmilling equipment, the old workshops and historical displays.



Northern Districts Model Engineering Society Inc.

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June Run Day Report

The June Run Day turned out fine despite the gloomy weekend weather forecast — the weather is always a bit of a lottery at this time of year.

A couple of new features of the Run Day were provided firstly by Andrew Manning's Foden steam truck towing a snappy trailer with pneumatic tyres. A lot of our happy patrons availed themselves of a ride along the BMX road and back—see photo at right.



Above: Stuart Martyn's 'Widget' IC engine
Below: Some on-shed maintenance!

Permission for this was granted by the BMX President, who by the way has a bike shop in Scarborough Beach Road Osborne Park, so take the hint if you need bike stuff.

Another variation to steam locos was provided by Stuart Martyn, with his internal combustion engines — see the photo at left of 'Widget' in action.

There was some reasonable locomotive action on the track as



usual, however some more locos and drivers for passenger hauling on public Run Days would not go astray. Some station attendants to assist Ernie Redford and his apprentice would also be appreciated to be fair on this pair.

Altogether a good day, and once again many thanks to all those who contributed their efforts, and without whom the Run Days could not be the well-established success that they have now become.

All Photos thanks to Tony and Ian Jones

Below: Ron Date and passengers leaving the Station in fine style.



POSITIONS VACANT

Electricians/Plumbers — Fit-out of the new building is continuing, and we desperately need people with the above trade skills.

Multi-skilled People — Lots of other work also needs to be done on the interior of the building, you would surely have a skill that's in need—carpentry, painting, fitting, joining, whatever...

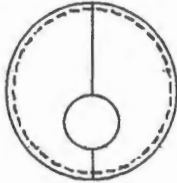
Contact Ron Date for more details, or just come on down to the track site.

How To Do It – Making Eccentrics Part 2

by Phil Gibbons

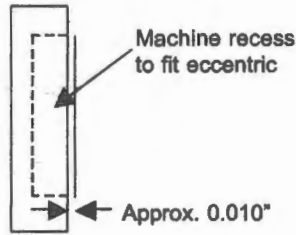
This is a continuation of the original *How To Do It - Making Eccentrics* article (Part 1) published in the November 2001 issue of *Steamlines*.

If we have been lucky you should all have a batch of eccentrics that look like this:



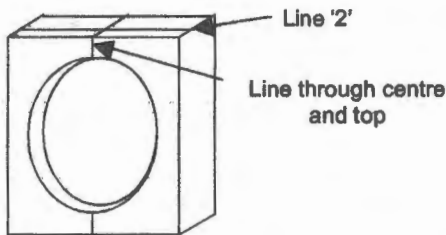
Remember the little scribed line that I requested you put on? It is for drilling.

Jig No. 2 - We need a sliver of square bar, big enough to bore out to take your eccentric, about 1½ times the thickness of the eccentric. Chuck in the 4 jaw and set true. Machine to this sketch:



The eccentric should be proud by about .010" and about .003"-.005" loose.

Remove from the chuck and scribe a line across centre and top as shown below:

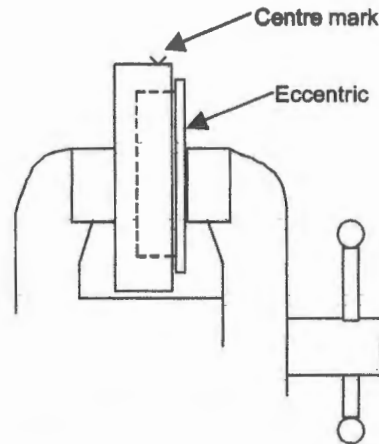


Lay the machined side on a surface plate and scribe line '2' at a correct height to drill through the middle of the eccentric for grub screws. Don't forget to add the amount that the eccentric is proud of the jig when working out the height.

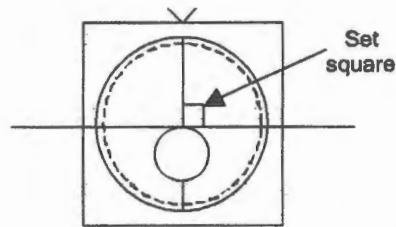
I am assuming that you will have a surface plate, a vernier height gauge and an optical centre punch. If not, you can use mine, I'm always in my shed from 7:00 pm to 9.30 pm Friday nights and I am only a

phone call away. I'm sure anybody North of the city would be able to source someone in their area to help out.

Centre mark the jig with the optical punch. Place the jig with one eccentric into the vice with centre mark at top (side view shown):

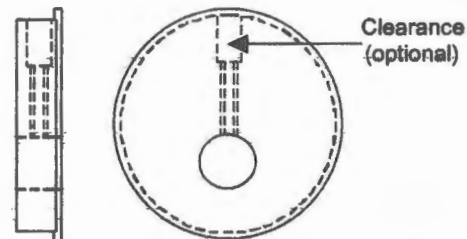


Set the eccentric square in the jig with the engineer's square and tighten up the vice.



If your unit includes a clearance hole for the grub screw, drill the clearance hole first to its correct depth. Then drill the tapping size hole right through to the bore and remove from jig.

Repeat for your other eccentrics. Tap the holes, clean up the burrs... job done! Your finished eccentrics should look like this:



NOTE: The subject of eccentrics has now been pretty thoroughly covered. Would someone like to do a short article on some other frequently required but tricky workshop item? – Ed.

Valve Gear

by Phil Gibbons

When asking for articles I dreaded that valve gear would come up... and it did.

I will do an article on Walschaerts valve gear and ask the editor to tag it onto our magazine. It won't be soon, as it should be thorough, and not some dogs' hind leg method where forward operation is good and reverse is non-existent!

Please bear with me on this one as well as the article on setting. You should know what every part does and why it does it.

For myself, it took about 10 years to understand, as when I was an apprentice in the Steam Loco Shop AIS Pt. Kembla, it was a closely guarded secret.

Why? Because there was a certain amount of prestige in valve gear setting. Bill set the valves, Merve fixed generator sets, Tommy did white metal, and so on.

Just to show how set in their ways these guys were, we had a chap start there from Newport workshops in Victoria. One of the first jobs he got was to fit new rings to a loco. Piston rings for steam were soft iron tuncd circular and just parted off onc after another, and were made so a piece about 1" long was cut out no matter what the diameter of the bore. It used to take all day with a hacksaw and a file.

But not Ian, he put a cold chisel in the vice, hung the ring on, put another on top and gave it a sharp crack with a 4 lb hammer, and I caught the ring. Two seconds and a ring clean as a whistle.

Laurie the leading hand saw us and came running across the workshop emitting some pretty foul language ... "we have never *@#! done that before and it ain't gonna be done here!"

Ian was a pretty big young, fit fellow and knew a few four-letter words himself. He promptly questioned Laurie's legitimacy and whether he shouldn't perhaps be wearing his shorts on his head to cover his reproductive organs! Well, in half an hour we had all the rings fitted to bores, marked and laid next to the corresponding pistons.

'No siree Bob, we ain't never done it that way and it ain't RIGHT'.

I often wonder how these guys would have taken to carbide tips, or N/C machines, or lasers.

An article on Walschaerts valve gear will appear fairly soon, we hope... watch this space.

Horses' Arses and E.T.

The US standard railroad gauge is 4' 8½". That's an exceedingly odd number. Why was that gauge used? Because that's the way they built them in England, and English expatriates first built the US railroads.

Why did the English build them like that? Because the first railways were built by the people who built the pre-railroad tramways and they used that gauge.

Why did "they" use this gauge then? Because the people who built the tramways used the same jigs and tools that they had always used for building wagons, which used that wheel spacing.

OK! Why did the wagons have that particular wheel spacing? Well, if they tried to use any other spacing, the wagon wheels would break on some of the old, long distance roads in England because that was the spacing of the deep wheel ruts in the old roads.

So who built those old roads? The first long distance roads in Europe were built by Imperial Rome for their legions. The roads have been used ever since.

And the ruts in the roads? Roman war chariots formed the initial ruts, and everyone else had to match them or risk destroying their wagon wheels. Since chariots were made for (or by) Imperial Rome, they were all alike in the matter of wheel spacing.

The U.S. standard rail gauge is therefore derived from the original specification of a Roman war chariot. Specifications and bureaucracies live on forever so next time you are handed a specification and wonder what horse's arse came up with it, you may be exactly right, because Roman war chariots were made just wide enough to accommodate the back ends of two war horses. Thus we have the answer to the original question.

Now for the Extra Terrestrial twist to the story. When we see a Space Shuttle sitting on its launch pad, there are two big solid booster rockets (SRBs) attached to the sides of the main fuel tank. The SRBs are made at a factory in Utah. The engineers who designed the SRBs might have preferred to make them a bit fatter, but the SRBs had to be shipped by train from the factory to the launch site.

The railroad from the factory runs through a tunnel in the mountains and the SRBs had to fit through that tunnel. The tunnel is slightly wider than the railroad track and the track is about as wide as two horses behinds. So, the major design feature of what is arguably the world's most advanced transportation system was determined over two thousand years ago by the width of a horse's arse.

And you wonder why it is so hard to get ahead this world!