



NORTHERN DISTRICTS MODEL ENGINEERING SOCIETY (PERTH) INC.

May—June 2015

A covered patio for Sandgropers approved

PLANS are underway to drastically improve facilities at Vasto Place for both members and the general public.

The main immediate proposal is to cover in the patio in front of the clubhouse, which was endorsed at the May members' meeting. This will necessitate the removal of both the tree, which has shown signs of dying and is dangerous, and the current timber framework.

The other big project being considered is a new pedestrian bridge to return passengers from the station to the picnic grounds. This project is listed in the society's Five-Year Plan, but is not an immediate priority – and is subject to the availability of finance. It is likely the society will apply for a LotteryWest grant for this work.

At the May meeting, it was proposed the patio "roofing" project go ahead, using society funds. Quotes have been obtained and were presented to the meeting.

There is a certain amount of urgency for this project, as the covered area would be an ideal venue for the Saturday night meal at the Sandgropers Gathering on November 7. Negotiations have started with the preferred tenderers, who will be responsible for obtaining City of Stirling building approvals.

The covered area will also provide cover from the elements – both sun and rain – for the Tuesday work crew, who carry out most of the work undertaken at the club grounds. Regular attendances have been somewhere between 12 and 17 over the past twelve months.

Planning is already well underway for Sandgropers, but the venue for the Saturday evening meal, which is likely to be attended by between 50 and 70 members and visitors, has always loomed as a problem, as the upstairs clubroom is only licensed to hold 50 people – and we need to settle on a dining area well before registrations are finalised. The May meeting was also told a preferred caterer had been selected.

The bridge project will greatly alleviate problems on busy public run days by providing a continuous flow of passengers from and back to the picnic grounds, obviating the need for passengers off trains to "swim against the tide" to get back into the picnic grounds via a crowded overbridge and ramp.

The two "races", currently used for arriving and departing passengers, can then be used to channel passengers to either the GLT trains or the elevated track trains. This, in turn, should considerably reduce blockages of passengers waiting for a particular train.

While the bridge project is at least 12 months away, civil engineer and committee member Geoff Wilkinson is already working on the plans.

Robot arm at May meeting!

Alan Ward has everyone's attention at the May Members' meeting as he explains the workings of a robot arm, one of 150 designed and made in three weeks by production engineers at Total Marine Technology, where he works.



TMT recently held a "kids day", inviting clients and their families for an insight into the fun of engineering. The day was a great success, with kids excited about building something bigger than Lego – and theirs to take home!

See May meeting report on page 7.

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It's been another full-on period!

THERE doesn't seem to be a two-monthly period when there's nothing to report! Again, it has been a fairly full-on period with consolidation of existing projects and new ones entering the scene.

The track realignment and extensions near the new workshop and 7¼" storage area is reaching its conclusion with Ken, Andy and helpers putting the finishing touches to points levers and making up the new set of points to provide access from the station direct to the new shed.

This new section will also allow us to use the back straight on run days to extend the usable track by 50% – if the committee and membership approves this concept.

The tunnel project is progressing well. The inside has been sealed up by our civil engineer, Geoff, while most of the soil on top of the tunnel had been removed by the end of April, initially by George but latterly by new member Jaco. The front section, once uncovered, was the first to be sealed, followed by the rear section and now the middle portion has all but been cleared of soil by depositing it on the completed front and rear sections.

When the centre part has been sealed, our attentions will turn to landscaping the whole area and perhaps building a pergola or two on the top and providing a viewing area – with proper fencing and safety measures, of course.

The signalling system and particularly the circuitry has been an on-going task for John M and Dennis, but they're making progress, particularly with the 5" signal approaching the tunnel.

But since the last newsletter, new projects have been adopted, some in preparation for the Sandgropers Gathering which we will host on November 7/8.

The main project is providing a roof over the patio area in front of the clubhouse. This work involves the removal of the large tree, which has become unstable and showing signs of dying, removal of the wooden structure and providing cover for the full length of the patio in front of the clubhouse. This is a fairly expensive project, so members were asked for their approval at the May meeting.

It is planned to have this covered area completed by the end of October so it can be used for the Saturday evening dinner at Sandgropers.

It will also provide valuable cover from the elements (sun and rain) for those who do most of the work at the club – the Tuesday morning crew, which averages out at about 15 a week.

Also required for Sandgropers is the provision of lighting in the steam-up shed, requiring a complete rewire. The current plan is to use 240v LED downlights.

President's Report



by Tom Winterbourn

The latest major project on the drawing board is a new bridge getting passengers back from the station to the picnic grounds. This will eliminate the present congestion on busy public run days with passengers off trains trying to get past those on the steps, bridge and ramp waiting for rides.

It will also allow us to use the present entrance/exit ramps to channel passengers to either the GLT or raised track trains, thus reducing present bottlenecks with passengers waiting for a particular train.

While preliminary work on the bridge is being undertaken by Geoff, it is not a priority project at this stage, although it is fairly high on the list in the five-year plan.

It is also proposed to use an area at the rear of the property for the proposed garden railway, freeing up the picnic grounds for just the public on run days.

Work has also continued on the beautification of our grounds with the latest effort by Paul J, Richard and Clive C involving the planting of about 20 Little John Grevilleas on the embankment on the other side of the 5" track from the steaming-up shed.

Meanwhile, the Sandgropers sub-committee is coming to grips with some of the issues in staging this major event. These include providing water, air and 12v power to all bays, lighting for night running, traction engine facilities, tractor pull competition, storage sidings, coal and char, catering (particularly for the Saturday evening dinner), promotion and registrations and deadlines.

And, of course, while all this has been going on, we have grounds to maintain, points to service and public runs to conduct.

Have fun – particularly at Vasto Place, doing whatever turns you on!

Tom Winterbourn

Phil gets a Polly ride

PHIL Gibbons couldn't resist an offer to drive Richard Turner's new Polly loco, Suzanne, at the club run day on March 15.



Phil was at the club to help John Wilson with his new Heidi, so a leisurely drive around the track after his work was done was just the ticket!

John road-tests his 'new' Heidi



A happy John Wilson and Zambesi with boiler inspectors Phil Gibbons and Steve Reeves at the club run day on March 15.

JOHN Wilson couldn't wipe the smile off his face as he road-tested his newly-acquired 7¼" Heidi during the club run day on March 15.

The loco is now named Zambesi, but it is better known to WA miniature railway enthusiasts as Emily. It is identical to the club's own Heidi 0-4-2 loco. John said he would more than likely restore the name Emily.

The loco has a current boiler certificate so John arranged to have boiler inspectors Phil Gibbons and Steve Reeves on hand to help in his first steaming.

The day went perfectly, but John said he wanted a little more time driving the loco before he would feel confident enough to drive it on a public run day. This was scheduled to happen at the May running day. With patronage at our running days at record levels, John's loco will be a welcome addition to the current fleet, along with Ed Brown's new 5" WAGR Pacific and Dave Robinson's new diesel outline loco.

Know your Society

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Calendar of Forthcoming Events

Public Run Day	Sunday	31 May	10:00 am — 2:00 pm	
AMRA	Friday	30 May—1 June	Daily	Claremont Showgrounds
General Meeting	Friday	12 June	8:00 pm	
Club Run Day	Sunday	14 June	9:00 am — 2:00 pm	
Public Run Day	Sunday	28 June	10:00 am — 2:00 pm	

Oh dear, Mr Ed cops it again!

“NOW this, Mr Ed, is a pipe. Please understand the difference between a pipe and a solid round bar. Bars do not allow the passage of steam through them!”

Poor Ed Brown came in for another salvo from his “friend” Ron Collins during the “Show and Tell” segment at the March members’ meeting on Friday the 13th.

For Ed, front and centre in the picture, this was the second time he had been the butt of Collins/Costall humour, after his embarrassing gasket gaffe was aired at a previous meeting and his supposed membership of Gaskets Anonymous!

Ed thanked Ron for his presentation and for the valuable information it contained! Of course, Ed took it in the same good humour in which it was offered. But...he who laughs last, etc!

Ed’s impressive new 5” WAGR Pacific had its first steaming at his home in mid-March and was due to make its first run on the society’s track at the May public run. It will be the first 5” loco to regularly use the ground level track.

Twenty-eight members attended the meeting, including another two new members, Allen Ward and Karl Keenan.



Ed Brown (front, right) wishes he was somewhere else as he is targeted by Ron Collins in a humorous salvo!

Etchings from the past



David Naeser shows some of the numbers and plates ready for etching.

I N a n o t h e r presentation during “Show and Tell” at the March 13 meeting, David Naeser showed an original Dubs works plate for locomotive number 416 of the South African Railways, built in 1893. David has both the works plate and the cabside number plate from this locomotive, which he is building in miniature form.

Dubs was one of the predecessors of the North British Locomotive Company, along with Neilson Reid & Company and Sharp Stewart.

The locomotive was originally built for the Cape Government Railways, in the days when Britain ruled the Cape Colony. It was later absorbed into the South African Railways and renumbered 416. David also showed CAD representations of these works and number plates, which are being etched by Print and Etch in Balcatta. His graphics for etching include number plates for locomotives past and projected plus a few for friends and colleagues—and a special and very rare “Ed Brown” builder’s plate!

New projector

THE club’s new projector had its first work-out at the members’ meeting on March 13.

The projector was purchased by John Turney, who gave a demonstration of its capabilities.

It can show images on to the screen straight from a thumb drive and John encouraged members to take pictures of their works in progress, download them on to a thumb drive and show them during a Show and Tell segment, held at the end of each members’ meeting.

The projector can be fitted to the ceiling through special mountings and can also be used in conjunction with a laptop computer.



John Turney setting up the computer before the members meeting on March 13.

Combustion – where would we be without it?

By JIM CRAWFORD

Fire has been with us for a very long time, but this does not necessarily imply we have a comprehensive understanding of the phenomenon or its behaviour.

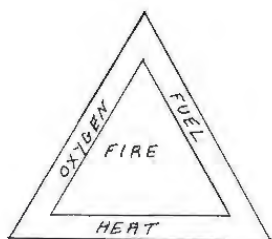
It is interesting to note the increasing levels of domestic fires caused by the misuse of candles, heaters and even, unwittingly, by spontaneous combustion.

Perhaps our modern style of living contributes more significantly to this issue than we may realise. Almost gone are the days of gathering firewood, setting a fire with scrunched newspaper and kindling and warming the family with a heat source within an open fire place. Most people knew of the risks involved and took preventative action.

The biggest danger was a chimney fire, with the chance that it could spread through faulty mortar joints to adjacent roofing materials and turn into a serious situation.

This discussion is not intended to be a trip along memory lane, but many aspects are relevant to today. Because there is far less involvement with fire in everyday life, it appears we are losing respect for and understanding of the combustion process.

The Fire Triangle, also known as the combustion triangle (see accompanying diagram), clearly illustrates the ingredients necessary to start a fire.



THE FIRE TRIANGLE

Oxygen is all around us, forming approximately 21 per cent of the air we breathe.

Fuel can take many forms, as a solid, liquid or flammable gas. Solids include wood, coal, metal (e.g. magnesium, sodium); liquids can be petroleum products, paint,

linseed oil etc.

Gases include a range of flammable material: LPG, natural gas, acetylene, for example.

Heat or source of ignition. This can occur spontaneously or, more usually, by an outside influence, such as a box of Bryant and May's, electrically localised heating, an IC engine spark plug or a compression (heat) ignition engine (diesel).

Now a profound statement: Solids and many liquids do not readily combust in their normal state and at their usual temperature. Try igniting ordinary engine oil with a match. Difficult, if not impossible—except perhaps, if you are lighting an oily rag.

The same applies with a lump of coal. It simply will not co-operate. And kerosene will not usually ignite by external flame. In previous times, commercial aircraft would seep kerosene from their integrated wings/fuel

THIS is the first in a series of technical articles on model engineering as it relates to miniature steam locomotives and traction engines.

Written by long-time NDMES member Jim Crawford, this article deals with an issue at the very heart of conventional steam traction – combustion. It is absolutely essential for all working steam locos (other than gas-fired, that is).

Combustion can be derived from several fuels, wood and coal being prime examples.

However, “coals ain't coals” in all areas. Take the UK for example. The GWR built locos with narrow fireboxes, to run on prime Welsh steaming coal, with its high calorific content. The LNER, on the other hand, had to run on a different, less calorific type of “North Country” coal, and so utilised wide fireboxes.

In this first article, split into two parts (the second will appear next issue), Jim explains combustion in its simplest form.

tanks, but this did not pose a great threat if the climate was cool.

When a turbine-engined aircraft was parked on a really hot, black tarmac, or was being refueled, some degree of leakage could occur. This spill could reach flame temperature after contacting the ground and only needed a source of ignition to become a conflagration.

A so-called old fashioned kerosene blowlamp or kero stove will not ignite in a cold state. A small tray fitted below the generator tube is filled with methylated spirit and set alight (metho will freely give off combustible vapour at normal room temperature). The burning metho heats the generator tube until kerosene is vapourised and this, in turn, will ignite. It is so much simpler with an LPG torch.

With the fire triangle, it can be seen that the removal of any one of the sides will cause the triangle to collapse. This is the foundation of firefighting. As a matter of interest, in fire-fighting, solids are cooled below ignition temperature, usually by water. In effect, the heat is reduced below the temperature at which the fuel will be gaseous. Another method, where possible, is to remove or considerably reduce the fuel itself. This process is used to control bushfires, ie the use of bulldozers to clear a firebreak.

Liquids are smothered by foam, dry powder or a fire resistant blanket, but the fire can easily restart if the extinguishing agent is disturbed too soon—it has virtually no immediate cooling effect.

Placing a lid on a burning pan of oil is also a smothering agent. In this case, oxygen is again prevented from mixing with the flammable gases and

(Continued on page 6)

Combustion (cont...)

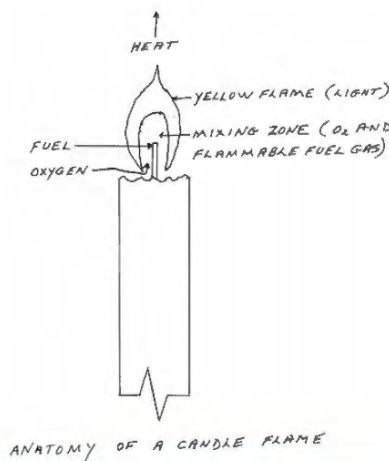
fire cannot burn. That is, unless the lid is lifted too soon and the residual heat can cause re-ignition.

Flammable gases in their natural state are a different ball game. An example is LPG, a commonly used product, stored under pressure in a liquid form. Usually, gas fires are tackled at their source with attempts made to close the supply line/valve.

Great difficulty can be caused by trying to extinguish a gas fire with a water spray. A water spray cannot normally absorb the fire's heat faster than it is being generated—hence ineffective cooling. Indeed, it is extremely dangerous to extinguish a gas fire with the gas still flowing. A moment's thought will show that with gas still mixing with oxygen in the air, an explosive mixture exists which can easily be ignited near the fire or further away.

LPG is heavier than air and will pool in low lying areas or flow through low areas where it can be ignited by any ignition source and immediately flash back to its source. Mishandled, a pressurised container of LPG is a virtual bomb.

At this point, we have established that solid fuel needs to be in a gaseous state before it will readily combust. The second diagram shows an example of this phenomenon.



With a burning candle, light is produced by the yellowish/white flame around the wick (unburned carbon). Look more closely and you can see the flame does not actually touch the surface of the wick; it burns some distance away — the wick has to be heated to produce combustible gas.

The clear area between wick and inner flame edge is a mixing zone for the wick gas and oxygen, so that they may combine in the correct proportions to support ignition.

Extinguishing a candle by blowing is using excess air as a cooling agent to prevent further production of fuel gas. It also introduces extra oxygen to the fuel gas mix, causing the fire to burn “lean”.

This is like the combustion process within an internal combustion engine. This method is also used to “blow-out” oil well fires, by setting explosives around the well head. The subsequent explosion forces a huge volume of air through the fire, both cooling and supplying an excess of oxygen. If the relevant aspects have been judged correctly, the fire will be extinguished.

In the next issue, we will move on to miniature steam boilers and the difficulties with combustion when you scale everything down from real size.

Our model engineering displayed at H&F sale

A DISPLAY of model engineering, prepared by Steve Reeves and mostly comprising his work, attracted considerable attention at the Hare & Forbes sale on March 19-21.

Again it was a great social occasion and we had more than enough willing hands to man the BBQ and satisfy the appetites of H&F clients, with some members taking advantage of the discount-on-discount prices offered to NDMES members.

Steve's display featured a number of aspects of model engineering, with a very clear definition of the working of an injector, its manufacture and the vital role it plays in the operation of a steam loco.

Pete Harding also had the rolling chassis of his 2-2-0 Northumbria and boiler parts on display with an appropriate description of the project, while Clive Chapman displayed his 5” 0-4-0 Juliet.

Some of the members at the Saturday session are pictured here:

Above: Dave Edmunds gives nourishment to Caroline Mpicamezo and Carla Pinter in the office at H&F. Photos: Tom Winterbourn

It's a far cry from model engineering, but Pete Harding and Richard Turner enjoy wielding the tongs at the “coal face”.



May meeting one of the best yet

ABOUT 40 members and guests accepted the hospitality of Ken Austin for the May members' meeting at Kentin Engineering in Malaga on May 8.

The big attraction were the two 1ft gauge WAGR W class 4-8-2 locos and two South African 4-8-2 + 2-8-4 Beyer Garratts, constructed by Kentin for mining magnate Michael Wright, whose recent untimely death prevented him from seeing his dream of a private railway come to reality.

The Garratts weigh 4 tonnes and W Class 2.7 tonnes. Ken's precision engineering company recently manufactured and delivered 18 sets of turnouts for the Wright Estate, based near Margaret River.

The packed members' meeting in the workshops canteen approved several important projects, in particular the plan to roof over the patio in front of the clubrooms.

It also decided to introduce EFTPOS facilities for members (membership renewals, etc) and also visitors to our monthly running days.

Other items approved were the lighting project in the steam-up bay, with Jaco carrying out the work in conjunction with electrical contractor Steve Hawkins, and a public run day fees increase.

Also discussed were plans for Sandgropers in November and future projects in the Five-Year Plan, including the bridge to return passengers back into the picnic grounds.

In a "show and tell" and the end of the meeting, new member Alan Ward displayed a project he and his company generated as an introduction into engineering for children.

All photos: Tom Winterbourn



Birds of a feather? Well, maybe not! Pete Harding holds his miniscule 5in 0-2-2 Northumbria in front of one of the massive Beyer Garratts.



Society members inspecting the W Class locos on the left and the Beyer Garratts on the right.

George's sleeping car train

NO names, no pack-drill.* Suffice to say, this pic handed to the editor at the April run day shows a very relaxed George Palmer at a working bee!

And to think George told the wife he was going to the club to work. George, how could you, as man of the cloth, too?!

The date of the pic is not known, but perhaps the driver of the steam-hauled sleeping car (hauling a cement mixer!), one Steve Reeves, might know. Then again, onlookers John Shugg and Clive Jarman might also have an inkling.

Sure, the editor could have asked any one of these three for an approximate date, but then that would have taken a little of the mystique out of the story!

The only real clue is that there are no 7¼" tracks running through the station area. It would also appear to be a mixed work-play day, judging by the 5" gauge train in the background.

*Pack-drill was a punishment given to British soldiers until about 1845, requiring them to undertake drill (exercise) in full



uniform and carrying a heavy pack. The term is used to indicate the names of those who have committed a misdemeanour will not be mentioned in order to spare them punishment!

A run day with variety!

THE April 26 public run day was unusual in many respects – plenty of engines, double-heading, several visitors with locos and Dave's new bar fridge-equipped diesel.

After the shortage of "motive power" at the March run, we had four 7¼" locos in operation (with the club loco not used) and six 5" locos.

The visitors were John Jenkin (SWMEA) with his 0-2-2 Rocket, Ray Cooper with his ex-Phil Gibbons' Midland Railway 4-4-0 and Noel Henderson from Victoria, visiting WA after the Adelaide convention. Although he had his 5" diesel outline loco with him, he elected not to run it because of a lack of suitable linkages for our raised track.

For the first half of the run we had the totally authentic double-head combination of Tom's LMS Black 5 and Ray's Midland Railway (later LMS) 4-4-0. Later in the day the big-wheeled 4-4-0 easily handled two loaded carriages by itself.

For those with a flair for atmosphere and nostalgia, there was the view from passing trains of the club 0-4-2 loco just inside Vasto Place "loco"!

And then there was Dave's new twin-engined yellow (!) Westrail DB diesel, complete with bar fridge! Dave couldn't make it to the run, but son-in-law Harry was more than happy to explain all its intricacies, in addition to driving his own Westrail No 4.

The new loco is powered by a Kohler 9hp four-stroke petrol engine direct coupled to a hydraulic pump. The leading axle of each bogie is driven by separate hydraulic motors with a chain drive to the rear axle. Although longer than Harry's loco, its axle loading with driver is considerably lighter, due to its A1A A1A wheel arrangement (co-co with the centre axle unpowered).

Its accessories include GPS for distance travelled and speed, fire extinguisher in cab, LED headlights, two fans in the engine bay with individual switches, cup holder, a very comfortable seat provided by new member Dave Edmunds – and the 12v fridge/warmer in the front locker!

There was another big crowd and perfect weather for the run and it was good having Ian Huxtable back on the BBQ after a period of ill health.

Here is a selection of pics taken on the day:

All photos: Tom Winterbourn



The double-headed combination of Ray Cooper's 4-4-0 and Tom Winterbourn's Black 5 emerge from the shadows climbing out from the tunnel.



New member Karl Keenan and station master John Shugg caught in an unguarded moment.



Above: SWMEA visitor John Jenkin with his 0-2-2 Rocket.



Steve Briggs had his Klipspringer going well throughout the day.



Victorian visitor Noel Henderson driving Ocker.

April run day (cont...)



Above: Harry Rosser with Dave Robinson's new Westrail diesel.



Steve Reeves pulls away from the station with Ray Cooper's 4-4-0.



Harry showing where he stores his bar fridge!

Welcome back "Hux". Ian Huxtable returned to man the BBQ again after several months, due to illness.



Club run days gaining vibrancy

THERE has been an improvement in the response to the club run days, the frequency of which was increased last year following member complaints about lack of "model engineering opportunities".

The club run day on March 14 saw three locos – Tony Sutcliffe's green 5" 2-6-2T Mountaineer, Richard Turner's 5" Polly kit loco Suzanne and John Wilson's recently acquired 7¼" Heidi, currently named Zambesi, but better known in WA as Emily (*see page 3*).

All three locos appeared to run well. There were also a number of members present without locos.

The society is encouraging more members to avail themselves of the club facilities on the second Sunday morning of the month to simply "play trains" without having to worry about passenger haulage.

So, come on guys. You wanted more club run days so how's about showing a little more support?

What about bringing the family down with a picnic hamper and making a social day of it?

Sci-Tech here we come!

FOLLOWING the success of the last members' meeting at Ken Austin's factory in Malaga on May 9, when over 40 members attended, Bill Wall has come forward with an offer to host a future meeting at Sci-Tech, where he is a technician.

He has already got management permission for such a meeting and is now looking into the first available last Friday of the month vacancy. Watch this space for more details.

Priscilla goes to ground

SUNDAY, April 12, was a sort of red (sorry, read pink) letter day for Lynda Jennings, as she tried out her decidedly feminine loco Priscilla on the ground level track at the club run day.

Lynda has not been too well of late, which is why we haven't seen her or the loco at the club for a while, so Clive took them both to the track on April 12 to blow out the cobwebs.

And, as usual, Priscilla ran well.



Steve hosts first 'boiler day'

STEVE Reeves hosted a boiler brazing and repair day at his Parkwood home on Sunday, March 1.

Boilers worked on were the three 7¼" Juliets being built by Steve Reeves, Phil Gibbons and Robert Otway, also Ken Cooper's NSWGR C36 Pacific and Geoff Wilkinson's Maid of Kent 4-4-0.

The two pictures show four of the boilers during the course of construction and Phil Gibbons carrying out brazing work on one of the boilers.



Four of the boilers during construction.



Phil Gibbons brazes one of the boilers, watched by Rob Otway (left), Doug Pitney and Geoff Wilkinson. In the background are Clive Chapman and Ken Cooper.

One of those present, Doug Pitney (in brazing pic) left two days later to return to his Canadian home, between Vancouver and the Rocky Mountains. We'll no doubt see him again before the full impact of the 2015/16 winter hits Canada!

Steve says this is the first of several such days to help members prepare and silver solder their boilers.

Three little Juliets

THEY always say two heads are better than one. But how about three?

Three of our best have combined in a novel joint venture to build three almost identical 7¼" locos, with each member being responsible for a specific element of the project. It's the closest we'll get to a loco production line!

Phil Gibbons, Steve Reeves and Rob Otway are building three 0-4-0 Juliet No. 2 tank engines with Baker valve gear and they hope to have them ready by the end of the year. The three loco chassis are on their wheels, with water pumps and coupling and con rods fitted.

The cylinders, cross-heads, motion brackets and a lot of the valve gear are complete. The smoke boxes are also complete, as are their saddles, chimneys and front end pipe work.

Rob is looking after the "computer stuff", laser cutting, painting and accurate CNC repetition work, plus the three tender riding cars.

Phil has been responsible for the machining and assembly, plus "a little dabble with the brazing".

Steve has built the boilers, which is where there is one variation in design. The Juliets being built for Phil and Rob are non-superheated and have 29 ½" tubes and 93 ¼" stays.

Steve's loco will have two stainless steel radiant superheaters with 22 tubes and 121 stays. There is also a variation in wheel base, with Steve's loco 3 inches longer than the other two (14 inches compared with 11 inches).

A third variation is in the external appearance, with Steve's loco having a British outline, Phil's an American and Rob's "freelance design tending British".

Phil said nine months work had gone into the project by the end of January. "We have high hopes that the three locos will be completed by the end of this year," he said.

Steve said all three locos were being built to run mainly at NDMES, although Phil said they would no doubt travel to Bunbury and even further afield from time to time.



Phil Gibbons undertakes some brazing on the boiler outer cover, watched by Rob Otway.

Club loco makes public debut

THE March run day was another full-on day, with eight booked birthday parties, and the perfect weather attracted a big number of general visitors, keeping station staff and drivers busy.

Most passengers were moved by the GLT trains, due to a shortage of elevated track locos.

The club's new petrol loco made its public run debut, while the club's battery loco made a welcome return, thanks to Paul (of the Costall variety).

Here is a pictorial round-up of the day's activities, provided by Steve Reeves:



Ron Collins looks on as Paul Costall hams it up for the photographer -- again!



Station master John Shugg has another busy day, juggling passengers between the ground-level and elevated tracks.



The relaxed driving style of Harry Rosser is evident as he waits for a station road with his diesel outline loco.

Steve Briggs waits to enter the station with the club's battery loco while, in the background, Rob Otway brings the club's GLT loco into the station.



Do you know the whistle code?

WITH increasing patronage at our monthly runs and trains lengthened with additional carriages to cope, guards and whistle codes will take on increasing importance.

Ken Austin has indicated he will have the two new 2.4m aluminium carriages ready to run soon, which gives us the option of allowing the two older brown carriages to be split and added to the carriages supplied by Ron Collins.

But three carriage trains require a guard, so some training up will be necessary, including knowledge of the whistle code.

So, how many of us know the code and when it should be used?

Having trouble remembering? Well here's a run-down.

Firstly, drivers must observe "whistle boards" by sounding the engine whistle or horn to advise of the train's presence. The full code is:

- ◆ For a forward movement, such as leaving the station: One short whistle.
- ◆ For a reverse movement: Two short whistles.
- ◆ Driver signifying he/she wants assistance: A continuous whistle or horn or arm raised vertically.
- ◆ Stop/danger: Three blasts of the whistle/horn.
- ◆ To despatch guard to protect the rear of the train: Two short and two long whistles.
- ◆ To recall guard from rear of train: Two long and two short whistles.
- ◆ On entering a cutting or tunnel or at a level crossing: One short whistle.
- ◆ When a person or animal is about to cross the line in front of a train: One long whistle.

All drivers should make themselves conversant with the whistle code for the safe operation of the railway when the general public is involved.

Boiler operator's certificate plan rejected

A controversial boiler operator's certificate proposed by the Australian Miniature Boiler Safety Code was soundly defeated at the AMBSC AGM at the AALS Convention at Penfield, Adelaide, on Easter Saturday.

The proposal would have required all steam loco drivers to have their competencies to drive regularly assessed by a boiler inspector and issued with a certificate before they can continue to drive a loco.

Steam loco drivers' competencies are originally assessed before they are issued with an AMBSC driver's certificate.

At its general members' meeting in March, NDMES followed the lead of SWMEA (Bunbury) president Jeff Clifton in opposing the move, considering it an unnecessary burden on boiler inspectors and unnecessary extra paperwork.

Boiler inspector Phil Gibbons, our representative at the convention, said about 75 per cent of delegates at the AMBSC AGM rejected the motion.

Phil also sent back a number of pictures taken at the convention which seemed to show considerable interest in the garden railway. As this edition of the Steam Lines was finalised, he was still in the eastern states so we couldn't confirm with him whether he is a new supporter of our garden railway proposal!

Some of the pics taken by Phil are published here:



Wombat, built by the late Bob Brown, a NDMES stalwart, has been restored and appeared to run beautifully.



The layout of the garden railway at the convention.



Leon Brack's twin-axe steam truck was one of only two working road machines at the convention. Leon is from the NSW Central Coast Steam Model Co-operative Ltd, of which Tom Winterbourn was president for three years.



Another view of the spacious garden railway layout.
All photos: Phil Gibbons



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