



September 2001

## Steam Truck Invasion

article by Andrew Manning

**Inside this issue:**

<b>August Meeting</b>	<b>2</b>
<b>Steaming Bay Hazards</b>	<b>2</b>
<b>Foden Wagon</b>	<b>3</b>
<b>Run Day Report</b>	<b>4</b>

Andrew Manning's Foden steam truck invading the railway precinct at Balcatta on Wednesday 15 August 2001. Shades of what happened in the 1920's to full size railways. And it runs as well as it looks.

Photo by Dick Langford



The building of the 3" scale model Foden steam wagon has spanned the last 29 years. It is part of family folk-law. The wagon is now 90% complete with coachwork and some minor mechanical details to be completed. I am able to steam and drive the wagon, which is fun and very rewarding, after so long in the workshop.

For as long as I can remember I have been keen on steam and metal working, but I was never particularly interested in locomotives. I was looking for a project when in

(Continued on page 3)

**Your Committee**

President Ron Date	9246 2835
Vice President Ian Allison	9490 2381
Secretary John Shugg	9246 9549
Treasurer John Martin	9448 8843
Safety Officer David Naeser	9375 7785
Committee Members	
Lindsay Adams	9447 4646
Doug Baker	9341 1630
Jim Clark	9446 5870
Jim Crawford	9276 5464
Nigel Mammatt	9389 5775
Ernie Redford	9446 4513

**NDMES**  
**PO Box 681**  
**Balcatta 6021**  
**Western Australia**

### CALENDAR OF EVENTS

<b>General Meeting</b>	Laurie Strutt Park Elvire St, Waterman	8:00 pm	Friday 14 September
<b>Club Run Day and Public Run Day</b>	Club Track Site Vasto Pl, Balcatta	10:00am—4:00 pm	Sunday 30 September
<b>Annual General Meeting</b>	Laurie Strutt Park Elvire St, Waterman	8:00 pm	Friday 12 October
<b>Whiteman Park</b>	Whiteman Park Middle Swan	Contact Jim Crawford for times	Sunday 14 October
<b>Birthday Party Run</b>	Club Track Site Vasto Pl, Balcatta	11:00am—1:00 pm	Saturday 27 October
<b>Club Run Day and Public Run Day</b>	Club Track Site Vasto Pl, Balcatta	10:00am—4:00 pm	Sunday 28 October
<b>Bassendean Fair</b>	Ashfield Reserve Bassendean	Set-up on Staurday	Sunday 4 November
<b>General Meeting</b>	Laurie Strutt Park Elvire St, Waterman	8:00 pm	Friday 9 November
<b>Club Run Day and Public Run Day</b>	Club Track Site Vasto Pl, Balcatta	10:00am—4:00 pm	Sunday 25 November
<b>Note:</b> There may be additional Birthday Runs or other events scheduled at short notice. Contact Jim Crawford or John Shugg for latest details.			

---

---

## August General Meeting

The meeting was opened at 8.02pm by President Ron Date. Visitors Neville Merchant, Brenton England and Paul Gibson were welcomed to the meeting.

**BUILDING REPORT** — The President reported that the first ten pallets of blocks had arrived on site on Wednesday 1st August. Doors were to be made and everyone was invited to help with the block laying.

**GENERAL BUSINESS** — Steve Reeves was the Duty Officer for the run day in July. He indicated that the run went well. Steve then suggested that to assist the new driver or driver with a new engine we should either have another day with no public running, an earlier start on the run day, or in the summer, an evening run outside public hours or on a Saturday.

All these options are available already. Anyone wishing to operate on a day other than scheduled Run Days should let one of the Committee Members know in advance. There should always be at least two members present for an "unscheduled" private run.

David Naeser (Safety Officer) discussed Safety aspects, with progress to report. All coaches have been inspected and labelled. Ernie's shroud fittings have been fitted to most cars, and coupling bars and pins of standard AALS code dimensions are now in use. Standard Operating Procedure signs were displayed. Drivers will be asked to complete Questionnaires in an open book exam for theory tests. Practical experience for each driver will be reviewed for licensing purposes.

**MODEL ENGINEERING** — Doug Baker displayed a stand acquired from Wayne Roberts when in Moorabbin. The stand would serve as a staking tool or a lightweight press tool. Bogie for 5"G under construction.

Doug spoke of modifications to a Peter Goddard designed wagon. The bolster for the new bogie would be fitted with two balls for a load bearing. To make the square bearing housings Doug purchased a TOS 4-jaw self-centring 6" chuck, which was on display.

The Boat engine casting displayed had been bored on West City Engineering's horizontal borer.

Doug then opened a carrying case revealing a completed 5"G Speedy in BR livery. Doug had been contacted by the family of the late Bill Hawkins of Australind to help with the disposal of workshop equipment. Locos part built included a Speedy, a Box Hill in 5" G and a 7 ¼ G Virginia. Whilst work was needed to finish these locos, the workmanship was to a very high order.

Doug explained that the Speedy boiler would not hold water for a hydraulic test, and inspection revealed leaks

### minutes of meeting by John Shugg

with the Superheater flues and the regulator. Ernie re-made the regulator and Doug silver brazed the superheater returns. Difficulties were experienced in removing the internal tube regulator and the backhead bush had to be re-drilled and tapped with a specially made fixture. Ken Collet subsequently re-tested the Speedy Boiler and it was passed OK.

All Locos have been accepted by Doug on the basis that they would be club property, never to be sold. Doug offered the initial custody and care of the Speedy to John Shugg on behalf of the Society.

As soon as possible the loco will be fitted with name plates "BILL" to perpetuate the memory of Bill Hawkins.

Doug mentioned he had hydrostatically tested Andrew Manning's Foden Boiler and it had passed OK (WF 0039 — see article on front page).

Ed Brown's DD boiler had also passed its pressure test.

Steve Reeves displayed the pump for the Club Blowfly. The eccentric and thus ram travel had been reduced to 11.4 mm and Ernie's by-pass valve was also on display.

David Naeser displayed his adjustable height tool post he had made to fit his Myford and Maximat lathes.

George Palmer had given the club some boiler suits and bib and brace overalls for sale and many members took advantage of this excellent opportunity to re-equip their wardrobe.

**RAFFLE** - John Shugg won the Raffle for the 1-2 Inch Micrometer, kindly donated by Jim Crawford. The Raffle raised \$52.00 for club funds, thanks to all. No further Correspondence will be entered into!

John Shugg

## Steaming Bay Hazards...

At the last Committee Meeting some concern was expressed about the presence of children (probably member's children) in the Steaming Bays on recent run days.

Members should be mindful of the many dangers and hazards that are present in the Steaming Bays including hot coal from dropped fires, scalding steam and moving equipment, as well as numerous things to trip over, bump into or bang small heads on.

If the area can be hazardous for the unwary adult member, what chance does a child have? So please:-

**NO CHILDREN ARE ALLOWED IN THE STEAMING BAYS, regardless of whether or not they are being supervised by an adult.**

---

---

## Steam Truck Invasion—Foden Type C Wagon by Andrew Manning

*(Continued from page 1)*

May 1972 Terry Morris started the Foden construction series in Model Engineer — it was just what I was looking for.

E Foden, Sons & Co. Ltd, Elworth Works, Sandbach produced their first steam wagon in 1899, previously concentrating on stationary engines and special purpose machines. The most famous of the Foden Wagons, the Type C was initially produced in 1919 and continued in production until 1928. Many thousands of the wagons were made in a variety of formats, the 6-ton truck, a tractor and an articulated truck. All had overtype compound engines and locomotive type boiler. There is a 3-speed transmission with a long chain drive to the differential on the back axle. The engine was rated at 45 BHP at 400 rpm.

I started building parts of the Foden as details were published and materials could be obtained. The front axle assembly was the first item fabricated. I then decided I needed a vertical mill. I built one as a project at evening classes at the local technical college. I produced my own iron castings for headstock, apron and drive pulley, melting in an oil fired crucible furnace in the backyard (I had some foundry experience). I then built my father a 3" metal working lathe and set up a workshop for him.

Whilst all of this was going on, I was contacted by Brian Neische, he was also building a Foden and was in contact with four others in Australia. We agreed to pool resources to some degree. Brian was streets ahead and made all of the patterns and arranged castings. I cast a few of the bronze feed water pumps and arranged the profile cut gear blanks. Brian made the wheels with solid rubber tyres.

By 1983 I had a rolling chassis and the start of a copper boiler. I had already built a Briggs style boiler but found I could not conform to AMBSC code part 2 with respect to fixing the cylinder block to the boiler using 2BA bolts. Compliance required 5/16 bolts, which the cylinder casting could not accommodate. In order to use the boiler, I made a 7/4" Titch based on castings provided from John Welch of SASME.

In 1983 I moved from Whyalla and steel making to Karratha and gas processing. Over the following 16 years I have worked in spurts on the Foden which turned out to be very complex at every stage from the chassis on. The boiler is a standard loco boiler but it has steel brackets and the horn plates included in the fabrication plus internal doublers at 4 different locations. My single biggest problem has resulted from failing to achieve full sealing of the doublers, and most

of the bolt connections to the boiler have leaked at one time or another (I am currently fitting blind bushings for all of the bolted connections to eliminate the leaks).

Terry Morris ceased the construction articles just as work on the engine was to commence. The cylinder block is quite complex with double D valves on both LP and HP cylinders, the cylinder liners form part of the steam passages for HP, LP and exhaust steam. It took me some time to pluck up the courage to start machining the casting. But eventually it was completed and seems OK. The trunk guides are fabrications, the crossheads wearing surface was machined from a car brake slave cylinder.

I first steamed the Foden in 1987, chassis, boiler and engine with a 4 L plastic bottle as the feed water tank. I drove it up and down our drive with terrific pride. At one stage my whole family was aboard, all 4 of us.

I have just about completed the coachwork and am now trying to tidy up a little of the detail. The engine performs reasonably well once running but is not a good starter, the compounding is not too effective and there seems to be a problem with the simpling for starting. The boiler made far too much steam so I have reduced the grate area by 20% and the blower orifice by 50%.

Building the Foden has been a real challenge - not always fun, but rewarding as each stage is completed, and as those with locos know, there is nothing like that first successful run under steam.

I have put off completing the paintwork as I would very much like to base the final colours and lettering on a Foden that was once used locally. If anyone has knowledge of local Foden wagons I would be delighted to hear from you.

**Andrew Manning**



Driver's eye view of Andrew's Foden Wagon

Photo: Dick Langford



Northern Districts Model  
Engineering Society Inc.

Track Site:-  
Vasto Place  
Belcatia  
Western Australia

All correspondence to:-  
PO Box 881  
Belcatia  
Western Australia 8021

<http://www4.tpg.com.au/users/jimclark>

Phil Gibbons with his new LBSC  
designed "Purley Grange" in 2½"  
gauge, on its maiden run.

Photo: David Naeser

## Run Day Report

by David Naeser



longish spell on the track, the loco was eventually brought in — a successful first run. The only problem encountered was that the displacement lubricator seemed to have stopped feeding. LBSC of course hated displacement lubricators on larger engines, preferring his own mechanical design. "Nuff said"!

Back to the run day: A number of other locos were present, Mike Rogers with his Sweet Pea — now minus smoke deflector but with a mesh spark arrestor in the smokebox, Ernie Redford with the Club's Blowfly and Clive Chapman with his Butch. The Butch is now an effective passenger hauler and with the others, took a good turn of duty. My SAR F class tank did a two hour spell,

before disgracing itself by dropping the grate into the ashpan in public. I would like to find the running shed staff member who fitted the grate, but of course the shed log book was unsigned!

Jim Crawford handled the Duty Officer's post capably (see newsletter Supplement), leaving last month's duty officer, Steve Reeves, free to drive on this day. He had his Tich with matching driving truck and guards van out, but didn't get a chance to give them a run, jumping at the opportunity of driving the "Grange" instead. Look forward to seeing them run another day.

A pleasing acceptance of the Safety push is now taking place, and thanks must be given to those members who have brought the members' riding coaches used by the Society up to standard. But members are reminded that private driving cars and passenger wagons must comply to ASME standards. Coupling clevises must be at least of equal strength to the ASME standard couplings.

All who drove on the day, including enthusiastic new member Brian Lawrie are now in possession of the club driver's licence document. We now need to take in completed answer sheets for the "open book exam" after which, following an assessment of driving experience, we will be able to issue full licences. So please return your completed questionnaires to myself or to the secretary John Shugg, as soon as possible.

David Naeser

The Public Run days are certainly starting to take off. Parking in the area is taking on a distinctly busy look and hopeful passengers were on the station well before the official 11am start. An energetic queue was in place for most of the run day — even over the usually quiet lunch time spell. In fact this was perhaps the busiest run day yet with rides being in demand until closing time. Takings were best ever and are hopefully a good indication of things to come.

The 28 August Public Run day was also marked by newly introduced "clubman's time", where private running, loco testing etc. can take place prior to the official passenger hauling... and even during the official period if traffic and the Duty Officer allows it. And a very auspicious first clubman's hour it was too, with Phil Gibbon's newly made 2½" gauge "Purley Grange" having its maiden run. Phil circulated without any evident problem, giving the waiting passengers something unusual to watch. They probably didn't realise it, but this is the first time we have had a 2½" g loco on the track for many years. Does anybody know how long it has been since this last occurred?

I would not be surprised if this does not mark the beginning of a resurgence of interest in 2½" g models. Anybody who has limited workshop space, limited time and wants to build a loco without incurring the expense and handling problems associated with the big 'uns could well consider this gauge.

The Purley Grange design is an LBSC design, based loosely on the GWR Grange class, and Purley is of course where LBSC used to live. Phil lit up uneventfully and soon took to the track, circulating without problems; a continuous feather of steam at the safety valve in true LBSC style. After a

---

---

## What's in a Name?

Article by Jim Crawford

What's in a name. Well, the best part of a fair bit, it seems!

At a General Meeting a month or two back, the prospect of an alteration to our Society's name was discussed by those present and, as I understand it, a decision was made to retain the status quo. Fair enough, however as I was the one who initially raised the matter as a discussion point at a Committee Meeting and was not at the General Meeting in question, it seems appropriate to let fellow Members know the background to this topic.

As you know, the Society opened the site to Public Running last year. This was done in an attempt to arrest dwindling income. Up to that point, our main sources were revenue from external public runs such as Bassendean Fair and the AMRA Exhibition at the Showgrounds. We will continue to attend these functions while we can, however an increasing number of aching backs and other ailments are gradually limiting the activities of our regular workforce in terms of handling the portable circular track and other heavy equipment. It's simply a case of facing reality and looking for alternatives.

Because the Vasto Place site is virtually self-contained, it is sensible to make full use of the facilities and earn some income whilst doing what we would be doing, anyway. Although some effort is required to set up for a Public Run day, and to close up afterwards, there seems to be a rising tide of opinion that most of us enjoy the monthly passenger hauling without the hassles of erecting the portable track. It would seem that Public Run days and children's birthday parties will be a significant part of our endeavours for the foreseeable future.

Given that the above pretty well outlines current thinking, the Committee agreed to appoint (read "drop in it") yours truly as Society Promotion and Events Co-coordinator, on the same salary, if you please! Anyway, what this mouthful of verbiage means in reality, is that I have responsibility for advertising and promotional material aimed at attracting the public to our runs, together with public relations and arranging parties etc.

On public run days, I spend as much time as possible talking to patrons about a wide range of Society activities and such matters as suggestions for improving our presentation. A number of ideas from the public have been implemented around the site and I see this as an ongoing feature.

An issue that arises frequently is that of the Society's name. You and I know what "Northern Districts Model Engineering Society" means and all that the title embraces. Not so, it seems, with the paying patrons. Some have problems remembering the name, others feel it is too long and "couldn't we have a name that the kids can understand". Even the media, with which I deal on the Society's behalf, have expressed the opinion that to attract attention, we need to keep it short and to the point. You may have noticed our ad in 'The Stirling Times' and/or 'The Eastern Suburbs Reporter' for Tuesday, July 17 2001, a copy of which is in the coach. The enquiries generated by this simple ad, which makes no mention of our Club name, have been considerably greater than previous levels. We shall have to wait to see if this translates into more derrieres on seats.

There never was any suggestion of changing "The Northern Districts Model Engineering Society" as our official Club name.

Rather, I, and subsequently others, felt that the railway aspect of our activities would benefit from a sub-title type name, which would only be used in advertising and promotions of related public running at Balcatta. As can be seen from the ad mentioned above, the image certainly attracts attention and, in my humble opinion, takes nothing away from what we are about. Still, I have been wrong before, so I ask that you consider the matter and let the Committee know what you think and any preference for a title, if that is your wish.

Suggestions so far have included:

1. Balcatta Miniature Railway
2. Balcatta Train Rides
3. Westrak (Miniature Railway)

Well, that's it, now over to you. By the way, with the Society Annual General Meeting approaching, all Committee positions will be up for grabs, including that of the advertising bloke. If you aspire to such dizzy heights and at the same salary, then I would be delighted to pass on some inside information, strictly on the QT, of course.

Long may your crownsheet remain straight.

Jim Crawford



---

---

## President's Report by Ron Date

In the last year our Society has embarked on three major new projects and activities:

- Public Run Days at our track site
- Building a new Club House
- Constructing a dual gauge ground level track.

Well, that's great, you might say, but in the meantime the maintenance has to be done, and the existing track, which is really the whole focus of our facility, needs a major overhaul or we will have nothing.

Despite Dad's Army being there every Wednesday morning, and for some again on Saturdays, we are getting behind on all fronts. Add in the occasional damage done by the local vandals, and what you have is, as usual, a small band of dedicated members doing too much. How about lending them a hand?

However, Public Run days are getting better by the month with a good turn-up of members, but we still lack a loco or two capable of pulling two riding cars. Have you got one?

Block laying on the new Club House is getting under way, and this is where you can all help soon, because once the first course is down we can put them up as fast as we have people to mix the mud and place the blocks.

It's normally a bit unfair to single out an individual member for praise, but we should take our hats off to quiet Jim Crawford for his work in arranging the special Birthday Party runs, for his publicity work which is bringing the public in increasing numbers, and all the little odd jobs he does to help make life easier for the rest of us. Not to forget the coffee service on workdays!

John Hudson has a new hip joint and is doing fine. Best wishes for a quick recovery from all the members — Good on you, John.

Don't forget that our Annual General Meeting is on Friday 12 October, so even if you have missed most of the other meetings this year, try to make it to this one. Your Society is only as good as its members, so be there — and be available!

**Ron Date**

## Duty Officer's Report Jim Crawford

It was my privilege to act as Duty Officer for this Public Run day. We opened the site early at 0900 for Member's running by special request. If this is to become a regular feature, please direct your request for an early start on a specific Run Day to a Committee Member.

As some would know, the track was damaged in two places, one requiring a transplant of new materials and much deftness with the angle grinder/arc welder. Our Saturday work crew carried out this necessary work as well as continuing with their commitment to the Clubhouse construction. Well done! Another area requiring urgent attention was the inner straight leading to the tunnel. It was apparent that the track had distorted and caused some gauge widening. This matter was temporarily rectified by the insertion of  $\frac{1}{4}$ " bolts in the sleeper centres, thus forcing the bent sleepers into submission and hence the 5" g rails returned to gauge. This work was undertaken during the early stages of the Public Run out of necessity, with a temporary speed restriction in force at the time. The public were quite accepting of our dilemma and, in fact, some said it added another interest to their outing. However, we do not plan to make such demonstrations a routine event!

A word of caution for all drivers is that the bolt heads project above the sleeper tops by around  $\frac{1}{4}$ ". Please exercise care when first traversing the section, as one of our passenger car bogie centre pins did strike them on Sunday - causing no serious damage, but the driver and passengers were given a bit of a fright.

As mentioned in the Run Day Report, Sunday 26 August welcomed our largest ever patronage. The gazebo was in use once again for a birthday party. We had a good roll up of motive power which was kept on the go all day and some drivers were suffering from sore backs and needed regular relief - we do need more trained drivers to help out!

I offer my sincere thanks to our members at the station for their great effort. In my opinion, the movement of people and the trains was superb. With so many people present and awaiting rides, any delay would have caused a bottleneck that would be difficult to clear. That did not happen, thanks to the coordinated efforts and leadership of the team.

Also included on my thank you list is David Hunter. David spends each run day confined to the pergola, where he quietly and efficiently welcomes our patrons and relieves them of some excess cash. Being the front-line man, David also has the unpleasant task of declining entry to those who do not meet the safety criteria, a job which has seen his tolerance tested on some occasions. A big 'thank you' from all of us, David.

Concluding this report, I extend a thank you to all who helped make the day a success.

**Jim Crawford**