

Nick Kane gets his newly acquired Maisie into her stride before the gates opened for the August running day.

August Running Day.

We were very lucky with our last winter 2011 running day. While we had a cold, cloudy day and the forecast of a 90% chance of rain we were spared a drenching. There were a few spots of rain as the gate was opened but nothing else till a very sharp, heavy shower at about 4.30pm. Our visitors were well on the way out by this time and the sudden shower hastened the packing up. There was plenty of activity in the morning preparing for the afternoon's activity. On the job early were Barry M., John and Arthur Hurst, Victor, Lionel and Graeme Kirkby. Martin and Peter D. made some adjustments to the recently refurbished siding points and Mark and Mick packed up a low joint on the outer main. John H. spent some time trialling the covers for the elevated point

mechanisms he has been designing and constructing. Myself and, or, John H. circumnavigate the elevated track each running day checking that there is no vegetation within the loading gauge. Between the Griffith Tea Sign and the Signal box I found some branches from a dead tree in our way. A bit of work with the bush saw had the matter in hand in no time. If we keep the plant life well away from the track it removes the temptation for little hands reaching out to catch something.

David T. officiated with a boiler test for the Tindale "Maisie". The "Maisie" was then given a run by its new owner Nick Kane on the elevated before running started for the afternoon. In the club house Ross Bishop displayed the side cover, painted and lined, for his McLaren



Ross Bishop and Toneya on the inner main on the August running day.

The inner main was powered by two larger scale locomotives. Andrew Allison ran the V1224 2-8-2 on one train while Ross Bishop with 0-6-2 Fowler "Toneya" was at the head of the second train. Both Ross and Andrew drove their trains all afternoon. Ray Lee was first out on the outer main with C3803 then followed by Lionel and the TGR R class as train engine and Arthur and the heritage Mikado 2-8-2 running pilot locomotive. During the afternoon Tony assisted Ray driving the C38 and Max gave assistance with the R and the Mikado.

The number of rides for the day was 2250. This was down below the August average but considering the weather conditions it was a satisfactory result. The loadings on all trains were consistent all afternoon. The signal box was run by Mick, Mark

traction engine, David T. had the inner firebox for his SA 620 class and Mick had the Shay coupler bar.

Alan Mac and Bernie looked after the gate, after the initial rush there was a steady stream most of the afternoon. On the elevated track we had three trains running. Brian Carter with 0-4-0 "Perseverance" as train engine had Garry's B1 4-6-0 "Impala" coupled in front with five cars in tow. John H. ran 2-8-0 "Nigel Gresley" on a three car train and Paul T. ran two cars with his 0-4-0 Hunslet. I rode guard for John and throughout the afternoon our train carried some very good loads, with adult passengers out numbering children. Gary and Brian were last off, The adjustments Gary has made to the B1 have made a big improvement to its performance, the smile on Garry's face indicates he is very happy with the result.

and Barry M. Guard duty was in the hands of Steve, Graeme K., David, Martin and Tony.

The canteen was looked after by Diane, Sue, Joy and Lee and were fairly busy all through the afternoon. We were fortunate that Emily had no first-aiding to do even with a couple of minor derailments.

We had some visitors from Wascoe who were at our grounds to see how we managed our running days. They commented to Mick how well everything went with the involvement of all the personel in the operation of the afternoon, some of us working right through without a break.

John Hurst and Nigel Gresley at speed on the elevated track on the August running day.





Nigel Gresley (Driver John Hurst) leads Perserverence (Driver Brian Carter) on 6 cars and van with B10 (Driver David Thomas) just out of view banking in the rear in September.

September Running Day.

Our first spring running day for the year could not have been better. It was a direct contrast to the weather of the August running day though a little hot for the time of year. There was a good line up at the gate when it was opened and Alan Mac and Brian H. were kept very busy for some time as there was still a queue across the bridge at 2.30pm. For the first time in a long while the shady spots were very popular and we did have a few large party groups.

Setting up early was carried out by Barry M. Vic, Graeme K., Arthur and John H. Neal was able to spend some time adding to the roof covering on the elevated station, it is progressing well. To add to the atmosphere Neal parked his Burrell traction engine at the end of the garden siding near the level crossing gates, this did look good. Andrew showed us some laser cut wooden components for his QR passenger cars. These were great and the completed cars will really look the part. These pieces were manufactured by Sparc laser in Melbourne, a company usually making model aircraft components. David

John Lyons and 1915 rounds the bottom curve on the September running day.





Plenty of visitors watch Arthur Hurst and the heritage 2-8-2 leading Graeme Kirkby on 2401 during the September running day.

We had some interesting running on the elevated. The major train was hauled throughout the afternoon by Brian Carter with "Perseverance" 0-4-0 and John H. 2-8-0 "Nigel Gresley" and consisted of five cars. Early in the afternoon David T. ran his 2-6-0 B10 as attached banker. Brian Kilgour had his newly acquired Brian Rawlinson built Blowfly set for his first run and was to team up with Paul and the 0-4-0 Hunslet on the four car blue set. This had the promise to be a very good locomotive combination but after only a few laps the train was refuged in the carriage shed siding with a failed vacuum ejector. Paul retired the Hunslet and David and the B10 came off banker duty and coupled onto the blue set as train engine and Brian's Blowfly ran as pilot. The B10 looked after the braking requirements and the Blowfly the bulk of the hauling power. This almost mimics a story in Ron Preston's book "Tender into Tank" that relates to the coupling up of a Z20 class tank engine, as a mobile compressor, in front of a C38 class with a failed cross compound compressor on the Melbourne Limited Express at Campbelltown to

T. had his SA 620 class combustion chamber inspected by Brian Kilgour and between David and Brian a couple of boiler tickets were renewed. Mark Gibbons made more progress with the cabling for the new TV and demonstrated the showing of a movie from a USB stick. We have certainly moved a long way from threading 8 or 16mm film through a projector.

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John Tulloch and 2904 leads Ray Lee and his new VR A2 locomotive while the tail end of an elevated train passes with David Thomas and the B10 banking on the September running day.





**Andrew and V1224 on the inner on the October running day.
The red bottle brush makes a pretty scene.**

run the express through to Picton where a C32 class could make the rest of the way to Goulburn. This combination ran well for the rest of the afternoon. Sometime later I overheard Brian K. telling Brian R. that he had built a loco with a mighty hauling capacity. Jim Mulholland had completed a steam test on the 0-6-0 "Pansy" and ran a few laps light engine. I ran Z1915 with one car after having a good run light engine while waiting to get a passenger car around the occupied siding. It was good to haul a load after a break of a couple of months. We had some solid work on the elevated, some trains carried more adult passengers than children.

The inner main had one train hauled by WAGR V1224 driven by Andrew for the whole of the afternoon. The second train was, I think, a new locomotive pairing of Arthur with the heritage Mikado 2-8-2 and Graeme Kirkby's 2401 pacific 4-6-2. The outer main had "Mountaineer" 2-6-2 with Barry T. and Peter D. sharing the driving. The second train was another new combination of Ray's new VR A2 class and John T. with the J class 2-8-0. There was only one minor derailment due to some dropped M&M's I believe.

The canteen was run by Liz, Lee, Sue, Margo and Kim, thank you very much for your efforts. Catering wise we were rather spoilt this running day. Peter Shiels was down from Toronto and his usual fruit cake was on the table for morning tea. To compliment the fruit cake we had Mrs. Taffa's scones, Sue Carter's biscuits and Kim Kane's chocolate slice. Kim also saw to it that everyone working on the elevated had a cup of tea at afternoon tea time, thank you Kim, that was well appreciated.

The boofhead of the day award has to go to your Editor. Having decided that I had taken my last load I left the train near the coal bin, changed signals and points, ran the train into the loop, changed the points and signals and then realised that the passenger car was still attached behind the riding truck. I transferred the lot into the elevated loco and when the locomotive had been attended to and running had ceased the car was walked back to the carriage shed.

We tallied 2794 rides for the afternoon, this was just short of the September figure for last year. Alan Mac. Considered that the gate takings could have been the highest he could recall. Thank you to all who worked to make the afternoon a success.

October Running Day.

We had a good day as far as the weather went but we were competing with the Granny Smith Festival and so there were some very light loadings early in the afternoon. We had a few party groups setting up early. One lot were almost a bit over board. An extension table and six dining chairs were set up in conjunction with one of our garden seats opposite the new elevated station. Simon indicated that these had been out for council pickup and so were put to good use for the party group. At the end of the day they were placed on the foot path

Mountaineer and Barry Tulloch lazily brings the train up the outer main in October.





October saw John Tulloch & 2904 double heading with Ray Lee and 3803 on the inner main.

near the gate for our ballast dump. What will we see next!

Getting the grounds ready for the day was attended to by John H. and Arthur, Barry M., Victor and Mark. Later in the morning I helped John H. with some adjustments on the elevated points operating rod covers. Neal had some time available and was able to fix some more of the new station roof in place. At lunch time we saw the crankshaft from Ross Bishop's traction engine painted and ready to go back in place as the rest of the painting is completed. David Lee was our gate keeper and while the start was busy we did not have the big early crowd as we have seen over the winter season.

On the outer ground level we again had the two narrow gauge locomotives. Ross Bishop ran the Fowler 0-6-2 "Toneya" on a six car train and Barry T. steamed Alco 2-6-2 "Mountaineer" with seven cars. Ross drove all afternoon while Peter D. shared the driving with Barry.

The inner main saw Andrew out running, I think, the first train of the afternoon with the WAGR V class 1224, 2-8-2 hauling the Pullman set plus an extra car to make a six car train. The second train had the green set with an extra car making a seven car consist hauled by, train en-

up behind the guard's van as attached banker. We also had a first for the elevated. Garry Buttler coupled his B1 4-6-0 "Impala" to three of the blue set and ran very successfully all the afternoon, this was the first time Garry ran solo. Judging by the smile on his face most of the time he was pretty pleased with himself and very happy

gine, C3801 Ray Lee and the J class 2904 with John T. at the regulator. Tony Eyre assisted driving the 38 class during the afternoon. We used a number of guards on the ground level, Peter W., Graham Tindale, Peter D., Ian Tomlinson, Barry M. and Ray L.

On the elevated we ran a six car train with Arthur and "Betty" blowfly 0-4-0 leading John H. 2-8-0 "Nigel Gresley" as train engine. David Thomas was coupled

September Member's Day Scenes (page 7).

1. Mick Murray's Shay tender was started by Henry Spencer.
2. Garry Buttler and his Iron Duke chassis
3. David Thomas gets into all positions inspecting Jim's Ps4.
4. Simon & Simplex
5. Allan Mackellar and Brian Rawlinson in conversation.
6. Ross Bishop and his Standard Goods & train on the inner.
7. Garry Buttler & his 36 class
8. Andrew Allison and the Maxitrak 'Alice'.
9. Paul Taffa, and his Don Young 'Hunslet'.

with the modifications he has made to the locomotive's running gear in the recent past. I ran 0-6-0 Z1915 with the remaining car off the blue set and carried some good loads during the afternoon. I was very careful to stable the car at the end of the afternoon. Neal Bates was guard on the long train with Simon and Zac having turns behind the B1.

Brian Hurst was our ticket seller for the day and we carried a total of 2394 passengers. The signal box crew were Brian R., Barry M. and Mark. The canteen was well attended to by Liz, Diane, Lee, Joy and Margo. We completed another successful running day, there were a couple of minor derailments but these were of no consequence.

September Member's Day.

Since these days had been introduced it was the first time that the day was not threatened by unfavourable weather. The early cloud lifted and we had a pleasant early spring day and a good gathering of members to enjoy the event. There were a large number of locomotives and work pieces to observe. I had Z1915 in steam to give it a run after cleaning out the gauge glass and

Exquisite furniture of one of the party groups!



September Member's Day Scenes



A special thanks to Mick Murray, Mark Gibbons and John Lyons who were the staff photographers and provided the pictures for this edition of Newsletter, and to Arthur for the picture of Henry.

Henry Bolton Spencer

We were all saddened to learn that Henry passed away on the morning of September 19th. Henry was a member of the Society for twenty eight years and spent twenty four of those years as an elected official.

A Director from 1986 to 1990, Secretary 1990 to 2010 and another year as a Director after that. He was the longest serving Secretary the Society has had. As Secretary Henry was the interface between the Society and anyone dealing with us, including council, contractors, charities, the general public, radio stations and TV presenters. His quick wit came to the fore on a radio promotion for an early Redkite day on ABC 702 with, I think, Phil Clark. It went like his... "your trains run on coal". Henry replied, "actually they run on steel rails but they burn coal....".

Henry was a tireless worker in all aspects of the Society, his electrical experience had him involved in any of our power needs. If any of us had the chance to work with Henry we could learn new skills by following his example, watching what he did or just listening to what he had to say.

He put a lot of time into the signalling system, he ensured proper diagrams were kept and drew the signalling circuit book, an important document upon which all our signalling work is based. Henry was the sort of person who could get along with anyone and we all enjoyed his sharp sense of humour.

Before his health began to fail he was always on one of the ground level trains with the R class he had purchased from Eric Holmes. He enjoyed his driving. As Henry started to have to limit what he could do he was most frustrated that he felt he was not pulling his weight, I often said "your here, Henry, that what counts."

Our thoughts and condolences went out to Shirley, Peter and Jennifer and the regard the members had for Henry was shown by the number who attended his memorial service. We were all the richer for having known Henry and sharing his company. Vale Henry.



water passages. All went well running on the elevated and as I had the track to myself I took the opportunity to try some continuous running. I think I managed four laps on the run, it tests your driving skills after being use to one lap and tending to everything. It is interesting to note the water consumption running light and you realise how hard we work our locomotives on our public running days. Some other time I will have to try for a run of an actual mile or two. As I did not intend running for too long I reluctantly declined the opportunity to couple up to Graeme Kirkby's scale train of goods wagons and end platform car. This train did run on the inner ground level with Ross Bishop's saturated D50 class as motive power. Ross and Graeme enjoyed some scale speed running throughout the day.

Mark Gibbons is developing more video making techniques setting up a camera bracket on the front buffers of Simon's 0-6-0 "Simplex" and recording the locomotive running on the outer main. The results were very good. There was some other video making tracking the Kirkby-Bishop mixed goods with the camera mounted on a flat truck.

Ray Lee ran his VR A2 on the outer main coupled up to two sets of passenger cars to do some load trials. Brian M. ran his Planet diesel with his usual livestock on the ground level. On the elevated Nick gave his 4-4-2 "Maisie" a good run and two Hunslets were run as well. Paul had his in steam and Andrew had a good run on Warwick's Alice class 0-4-0. Jim Leishman took the opportunity to have a steam test and run with the Ps4. Garry had the B1 in the elevated loco along with his 3½" gauge C36 class which was given a run in the afternoon. As well as those two locomotives Garry had a 4-4-2 part constructed 3 ½" gauge locomotive in the clubhouse. We think it is an "Iron Duke" a locomotive from the OB Bolton range that was introduced many years ago as Bolton's version of LBSC's "Maisie"

Other items in the clubhouse were parts of Ross Bishop's traction engine, the water elbow and cock as had been featured in the recent AME. Mick had the completed tender, bunker and bell for his Shay.

We enjoyed a tray of Mrs. Taffa's scones during the day and our BBQ lunch was well cooked by mainly Brian M. and appreciated by all in attendance.



**Above: John Hurst demonstrates working positions in fitting the cover plates to the elevated points.
 Below right: Simon attends to the ticket office garden.
 Lower: Lionel Pascoe, Brian Muston and Arthur Hurst at work on the signal box cable route.**

Despite our “no work edict” I checked out some of the pipe work for the elevation station roof drainage, Ray Lee primed and painted the clubhouse gable wood work and re-sealed some flashing. John H. did some more trial fitting of the point mechanism covers on the elevated track while Lionel sealed the new signal box cable entry.

Since their inception these members days have been very much enjoyed by all the members who have attended. Keep in mind that the next members day will be the Club Christmas run and BBQ on the first Saturday in December, that is December 3rd.

Works Reports.

Since the last Newsletter we have made progress on many aspects of our continual improvement and maintenance of our grounds at West Ryde.

The cabling for the signal system is now in place with the cables pulled through the new



conduit. An extra draw rope is in there in case there is any more that we need in the future. Over the time Lionel, Arthur, Brian M, Brian R, Peter W, and John T, have assisted. The cables have been terminated in the signal box, Brian M, made covers for the vertical run of the conduit. Lionel sealed the junction boxes with concrete. Peter W. has attended to some of the connecting work inside the signal box. While on the matter of signalling and safe working David Lee has been looking at the placement of axle counters on the track to assist with improved signalling at the lower end of the grounds. Mick has been investigating a CCTV system to allow the signal box staff to see parts of the grounds now obscured by our trees and scrubs. The cameras are wireless and we can have four images on the

screen in the signal box and open each to full screen as required, we should not miss anything.

Mark has continued his maintenance work on all the point motors to improve their reliability. The gaskets fitted to some of the mechanism boxes seem to be making a job of keeping the moisture out as they seal very well.

Gardening.

Simon and other members have had to spend time watering the ticket office garden as the dry weather has taken made this necessary. The garden is certainly an asset as we get many positive comments from our visitors. David T has been doing lots of work around the entrance from Anthony Rd. as the new road there resulted in some vegetation being cleared. After the August running day the dead tree on the northern bank that had caused an obstruction before running began was cut up



Above: Simon, Mark, Mick & Scott installing the new TV with the old one in the foreground. Below Left: Contemplation on the new signal box cable entry. Barry Millner, Brian Muston, and Peter Wagner.



by John L and then mulched by Arthur, Brian M and Vic. The mulch was deposited at the southern end of the grounds to help keep the weeds in check. Some of our gardening groups have been a bit light on lately, try to make it for your roster, it is only every five months.

New TV.

This TV, 55", was purchased recently at a saving of, as Mick put it, about 500 rides. It has the capacity to be hooked up with all our other equipment as well as USB stick and computers. Mark, Simon and Peter W. have all contributed to this setting up. Peter has made a timber cover to tidy up the bundle of cables from our AV devices to the new unit. Special note. To use the new set up CB 12 needs to be turned on and off when you have finished.

On club house matters Peter Wagner has been working through the cataloguing of our book collection. This is a big task and Peter should be complimented for his effort. This will help us know what we have and how to keep track of it.

Elevated station.

Neal Bates took on the job of fitting the roof and has completed the job working on his own fitting in time when he was able to. Neal, it has been a very good effort and very much appreciated. He has had some assistance from a few members along the way. John L. and Jim L

Duty Roster.

- December.** B.Hurst, A.Hurst, T.Eyre, M.Lee, R.Lee, P.Wagner, P.Taffa, B.Tulloch, J.Tulloch, N.Bates.
- January.** M.Murray, A.Allison, M.Gibbons, W.Fletcher, G.Kirkby, B.Muston, J.Noller, P.Sayer, I.Tomlinson.
- February.** W.Allison, N.Amy, S.Collier, G.Buttel, B.Millner, S.Murray, P.Ryan, V.Scicluna, G.Tindale.
- March.** B.Courtenay, G.Croudace, S.Larkin, N.Lyons, L.Pascoe, S.Sorensen, D.Thomas, D.Lee, S.Miller.

Gate Roster.

- December.** N.Lyons. **January.** D. Mulholland. **February.** J.Mulholland



Brian Muston has boiler inspector Bernie pass judgement on his Maxitrak Southern R class before taking it for a run.

measured up and fitted the downpipe for the rain water system. John made and fitted some saddle brackets holding the downpipe against the column nearest the lever frame. Once some roof panels were fitted John set up the overflow pipe to take the water to the Tonkin drain while we set up our water tank. John found some spray paint that matched the down pipe to paint over the pipe fittings that did not match the rest of the piping. A couple of weeks ago Warwick and John fitted the fascia to the ends of the roof and early in November the station Indicator was located near the new station entrance gate, this indicator was rescued from Woolooware station on the Cronulla line.

A station sign is being prepared to be located on the bank adjacent to the station. We will be fitting lights and these will be underway soon. John H has been very busy perfecting the moving cover plates for the point operating mechanism at the new station and are just about finalised. A few weeks ago when cleaning around the point rod John L discovered the operating wire for signal #8 was down to only a few very rusty strands. A metre or so of new wire was fastened into place.

Locomotive and rolling stock news.

David T has continued to make good progress on the boiler for his SAGR 620 class. We have seen the fire box and combustion chamber, now passed by the boiler inspector so more work can follow. Ross Bishop is in the final stages of painting his traction engine, we have seen the crank shaft on display last running day. Arthur H has had the brake mechanism improved on the tender bogies for the heritage Mikado. This work has been carried out by Max Gay. The design and execution of the work is excellent, it is a shame that it is out of sight. John L. bought along a small rotary table he has just finished. This is 4" dia. As described by G.H. Thomas in the ME many years ago with a few modifications to make up for lack of equipment.

We have viewed parts of the Shay that Mick is finishing off and the work to date on the Hunslet that Mick is working on. This is to the Don Young design and has taken a second place to the Shay of late.

Editorial.

We have almost finished another year of activities and can be happy with what has been achieved. The new elevated station is nearing completion and may be in use as you read this newsletter. There have been many favourable comments from our general visitors as well as members of other societies. I would like to thank those members who have contributed to the Newsletter this year. Special thanks to Andrew, for his help with the production of the August issue while Warwick was travelling. Also to Mick and Mark for their reports of club activities during the same time and for their photos of our activities. These are things that help make a better record of our Societies' progress and history.

In this Editorial last year I mentioned what 2011 may bring. The new rail heritage centre opened at Thirlmere, called "Train Works" (it was at least spelt the right way) and the North American images on their web site did not last all that long. The Office of Rail Heritage is still operating. As for looking forward to C3801 running again, well we will just have to wait. It makes one wonder how, at this time, a contract could be let for something that could not be certified to operate when it was delivered. And that was apart from the dimensional problems. Many of you will have seen the matter mentioned in the tabloid press a few weeks ago and may have heard the comments by Warren Brown, the writer, on ABC 702 with Adam Spencer. The Telegraph is hardly a publication of engineering renown but you could expect, perhaps, that the facts could be explained with more accuracy.

Best wishes to all members and friends of the SLSLS for the Christmas season and very best wishes for the New Year of 2012. Let's hope we can have another year of progress and enjoyment at our West Ryde grounds.

John Lyons.

Young Nick is now the very proud owner of the former Graham Tindale "Maisie" 4-4-2 Atlantic. Apart from spending a lot of time polishing the locomotive Nick has had some assistance fixing some minor problems and has been sighted on the elevated track having a run and gaining confidence all the time.

Members News.

Since the last Newsletter we have had three new members accepted at recent general meetings. These are Neal Bates, Ian Tomlinson and Graham Tindale. We have received an application from Bill Stacey, please make him welcome when you meet him. It was reported by Mark in the last running day report



Below: Neal Bates tackling the big job of installing the station roof. Above: Brian Hurst and the ongoing seat upgrades!



that Peter Shiels had been un-well, we hope you are on the mend Peter. Alan Cottrell and his wife have moved to a nursing home on the South Coast near to other family members. On a sad note Neal Bates had a rush trip back to the UK as his mother took ill and passed away. Our sympathies were with you Neal at that time.

Book Review

The Aspinall Era by H.A.V Bulleid

Published by Ian Allen. 1967.

Reviewed by Warwick Allison

This is an excellent book.

Aspinall is mainly remembered as one time CME of the Lancashire and Yorkshire Railway, and this during the later parts of the century before last. The absorbing of the L&Y into the LNWR, and then the creation of the London, Midland & Scottish Railway in 1924 tend to overshadow the true achievements of the late 1870s. It pushes things so far back it is beyond current technologies, and we find it hard to understand.

Aspinall started at Crewe in the days when the LNWR were the Premier railway. He was taken by Ramsbottom together with H A Ivatt. In those days the CME actively sought out the up and comers and gave them every opportunity to shine. Aspinall

shared quarters with Ivatt, and were destined to run on parallel lines through out their lives.

Aspinall was eventually offered to Inchicore in Ireland. He was fairly closely followed by Ivatt. Aspinall looked after engineering while Ivatt was more closely associated with locomotive running.

He gained a solid reputation and when in 1886 the L & Y needed a new CME, Aspinall, at age 32, got the job. He was championed by Ramsbottom, who was consulting for the L & Y, and his first task was to set up a proper works to improve efficiencies in production, reduce costs and standardize the locomotive fleet. Aspinall, being an old Crewe man knew all about standardization and efficient loco works. He established Horwich. This grew to become the equal of Crewe. It even had its own signal shops (one of only two railways in the country so equipped). He was a man whose solid technical competence oversaw everything that happened. His locomotives all had a common theme. Inside cylinders were the norm.

Recent visitors to the grounds.



Diary.

- 3 December SLSLS members and friends Christmas run and evening BYO BBQ.
- 6 December. Members meeting.
- 17 December. Public running day.
- 31 December. New Years Eve run and BBQ.
- 3 January Directors Meeting.
- 21 January Public running day.
- 7 February Members meeting.
- 18 February Public running day and next Newsletter.

He adopted Joy valve gear (paying Joy his patent rights) to ensure he got maximum bearing areas for his axleboxes and big ends. Right to the end, his locomotives were on this theme, using standard components, and just beefing up the areas needed to suit the increasing power and speed he needed. He delayed in going to an Atlantic because he considered the business didn't need it, but when he did he pitched the boiler so high, that it was startling to the uninformed.

Aspinall knew it would be OK, and cited its easier riding on the track with a high centre of gravity, than other engines with the weight down low.

In 1899 he was appointed General Manager, a most unusual course for a mechanical man, but one that shows just how well rounded he was. At the outbreak of war he found himself at a conference in Germany. He was interned for a month, but hard work in negotiations saw him released. The Germans probably never knew how he progressed the English industrial machine in the war against them. In 1915 he introduced Train Control, the first in the UK.

Ivatt, of course, took on the CMEs job on the Great Northern. Out of that came the large atlantics, the precursors of the LNER Pacifics. Under Aspinall at the L & Y came his new premium apprentices Hughes, Gresley and Maunsell.

Aspinall gave his time to the professional associations which nurtured engineering thought and helped educate the new engineers.

He retired in 1919, at age 68. He carried on working for the Government, scheming out the reorganization of the railways that resulted in the 1924 grouping. He continued to be involved in consulting across the industry. He died in 1937 at the age of 86.



Garry Buttel displays his new NSW cap with club name which he arranged to have embroidered on. If you want a cap, see Warwick, if you want to have the embroidery done, see Garry!

The railways that then grew into being, the pinnacle era of steam before the second war, were largely shaped by Aspinall's pupils.

Bullied (the author) has done a remarkable job in mixing the family with the technical. How he obtained some information is amazing. The many hours of research through many journals, diaries, personal papers and proceedings has paid off in the coherent story he presents. There are many lessons for today as well, as we relearn the truths of the past.

The elevated station takes shape!



More on Traction Engine Tests

Ross Bishop

As a postscript to Traction Engine Tests in the last Newsletter new information is at hand.

Compounding

An oversight on my part has led me to wrongly conclude the Low Pressure Cylinder is “a bit lazy”. I first reported the pressure in the HP was 80 psi and by virtue of the relative piston areas, decided the ideal pressure for the LP was about 34 psi. Measuring in reality at only 26 psi I thought “a bit low” and declared “the LP was not doing its share”. Refer to the picture again to see the pressure gauges.

My error was to overlook that the 26 psi showing in the LP steam chest is also acting as back pressure against the 80 psi acting on the HP piston. Therefore the net effective pressure acting on the HP piston is not 80 but reduced by 26 to 54 psi.

If you allow something arbitrary, say 3 psi, for back pressure on the LP piston (blast pipe) then the net effective pressure acting on the LP piston becomes $26 - 3 = 23$ psi

Comparing the two pressures, the ratio 54 to 23 turns out almost exactly identical to the ratio of the two piston areas! (2.35)

Therefore, I'm pleased to announce the revised conclusion being that both cylinders share the work equally!

However, I still wanted a reason as to why the steam dropped to 26 psi on leaving the HP cylinder bound for the LP steam chest. By analysing the relative volumes pertaining to HP and LP inside the cylinder block it started to make more sense.

In full gear, the HP has 87% cutoff which means that for each stroke, a volume of steam equal to 87% of cylinder is exhausted at around 70 - 80 psi into the LP steam chest. With such a long valve opening little or no expansion takes place. Without dwelling too much on the maths there is about 8 cubic inches of steam at 80 psi supplied to the LP steam chest each stroke. Why does it show up as only 26 psi on the steam chest gauge?

The volume of the LP steam chest comprises of 3 things: the transfer passage + steam chest (minus the valve) + a proportion of the LP cylinder (because the valve is open to admission and the piston is passing mid stroke). This combined volume is equal to 24 cubic inches.

If you assume no change in temperature (perhaps unrealistic but may be minimal in a steam heated block) then Boyles Law supports the theory that increasing the volume will decrease the pressure by the same proportion. That is, at a constant temperature, Boyle says volume and pressure are inversely proportional.

In rough terms the 8 cubic inches @ 80 psi is expanded by a factor of 3 to take up 24 cubic inches in the combined LP

steam chest volume. Here it becomes 1/3 of its former pressure which is damn close to the 26 psi you can see on the gauge!

By the way, whilst sharing my findings with the world as you can these days, a helpful Engineer from Canada came back with a formula called the Combined Gas Laws which combines Boyles Law, Charles Law and Gay Lussac's Law:

$(P1V1)/T1 = (P2V2)/T2$ (If you assume $T1 = T2$ then you're back to Boyle anyway).

So after all this I have a new perspective on the complexities of compounding. It's not as simple as using the steam once and trying to get something more from what is left over. There are definite relationships of pressures, cutoffs, volumes and piston areas to be considered when proportioning a compound engine. Throw in the mechanical constraints, distances (as in articulated locomotives) and even greater respect for the designers is felt. In marine work further intricacy to balance a massive piston against gravity, individual adjustment of cutoffs, valve gears designed to bias forward running valve events and irregular crank angles to match steam availability at different stages of compounding.

As Arthur Birch (of Warnervale) used to say: “There are no down hills or stations at sea – it's up hill all the way”.

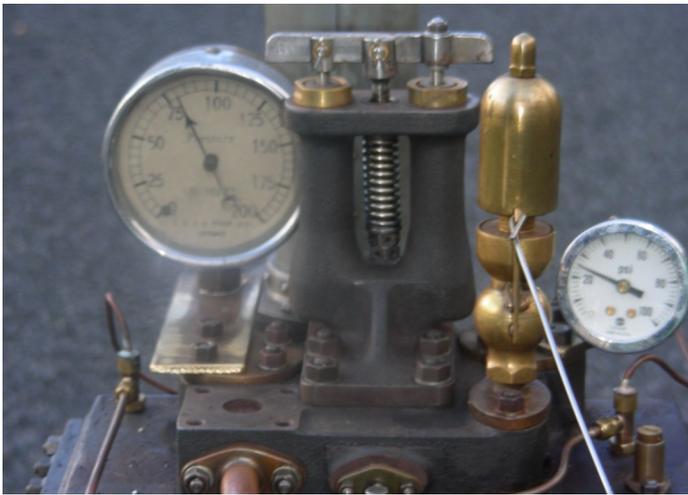
Superheaters

The rationale behind fitting the McLaren with a superheater was to recover some power lost due to reduced boiler pressure under AMBSC. You may recall the UK design worked at 175 psi. Earlier experiences with saturated locomotives have shown a definite improvement after fitting a superheater. Beyond the obvious I wanted to know why?

Superheat is not a substitute for pressure. 175 pounds acting on a piston is always going to provide more crank turning force than 100 pounds, wet, dry or otherwise. e. Is the impression of more power from superheat only an illusion?

If you have an engine that runs well notched up near mid gear you might realise more expansion from that extra temperature. Maybe you'll keep a load moving notched back further than a saturated engine would. But this does not represent “more power” merely less volume of water evaporated to provide the same power i.e. a more economical engine.

In any case, many well-built engines pulling hard need full gear to shift a capacity load (mine does). In full gear the superheat may well be at its hottest due to strong draft and hot fire but the long cutoff means the valve is open to admission most of the useful stroke. Little or no benefit comes from expansion. You're pulling with the pressure not the temperature so what benefit can be attributed to the superheater?



In the case of the compound traction engine, experiments show the best running is near full gear (80 to 87% cutoff). This gives you the powerful, full pressure stroke from the little piston in the HP and the correct pressure of steam for the large piston in the LP to do the same. As such, with the HP cutoff at say 85%, the valve is admitting steam for over 85% of the stroke after which the valve closes momentarily and then opens to exhaust. Virtually no benefit is had from expansion of the superheated steam. The steam passes to the LP via the passage etc. becoming 3 times the volume at 1/3 the pressure. Does superheat play a part here in preserving the steam temperature or pressure? I suppose I need a three way valve to cut the superheater in and out during a climb to see what happens. (Not actually planning to do that by the way).

In fullsize practice they reported superheated steam temperatures of 700 degrees F (330 C). With the ability to run and pull hard on very short cutoffs, modern piston valve engines of the 20th century could really utilise the expansive properties of hotter steam to advantage. However, in the model world we probably don't achieve superheat temperature higher than 180 C (I measured only 150 on the pipe surface) nor do we use the expansive properties well.

So what is it exactly that superheat does in a model that makes the difference? The Canadian Engineer I mentioned was from a family of model engineers whose steam stories appear to span 3 generations! He was quite interested in the discussion and knowledgeable, I suspect, due to his apparent employment on large contemporary steam plants, ships I think. His remarks, at least my interpretation of

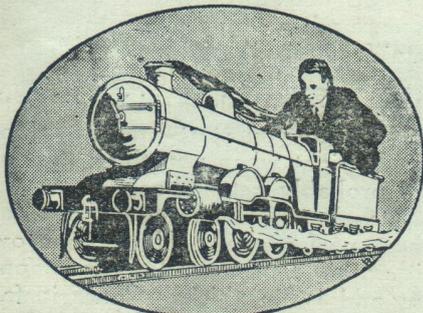
them, suggested the following: -

Superheated steam, safely held at a margin above saturation temperature (i.e. above condensation point) would behave more like an "ideal gas" as per the Combined Gas Laws. That is to say changing volumes, pressures and temperatures would occur in a predictable way according to the maths without being compromised by losses to condensation. In other words the steam stayed steam the whole time it was being squeezed through throttles and ordered about by valves and pistons out on the job.

When a flow of steam that IS near saturation temperature is subjected to changing volumes etc, the results, I am told, are difficult to predict. You have a system that is partly gas and partly liquid in ever changing proportions. Scientists call it a "Polymedium". We know "wire drawing" wet steam through an orifice like a throttle with a pressure drop causes some of the water vapour to flash into steam. We know about Latent Heat associated with Liquid becoming Gas and vice versa. What else happens to saturated steam while travelling through a variety of cross sections, bends and passages en route to the blast pipe?

What with cold metal, radiated losses as well as various disruptions to smooth flow along the journey, quite understandably; the actual amount of steam to usefully reach the cylinders could be somewhat less than started out. Consider the shrinkage, if you like, as condensation occurs. Does that further decrease the volume and accelerate the deterioration? To know or predict exactly what is taking place is a curiosity but largely irrelevant to us. Suffice to say, for our purposes; saturated steam is far less likely than even mildly superheated steam to remain a gas of uniform consistency throughout its passage through the cylinders.

The conclusion I've reached is that the model superheater probably does not enhance the steam's expansive properties sufficiently. Nor are we able to recover those benefits to the extent a fullsize locomotive is able to. The advantage we gain by superheating a model seems to come from elevating the steam by a small but distinct margin into a range where it becomes most assuredly "Gas". This not only gives a buffer against radiated losses but also ensures the steam remains a gas all the way without succumbing to the odd behaviours and deteriorating properties of a confused Polymedium.



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Above: Andrew brings V1224 into the station with the first load of the day while Ross & Toneya wait to start on the outer on the October running day. In the background, Mountaineer is collecting cars from the carriage shed.
 Below: John Lyons & 1915 passes a period train in the ground level siding on the September members day.



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