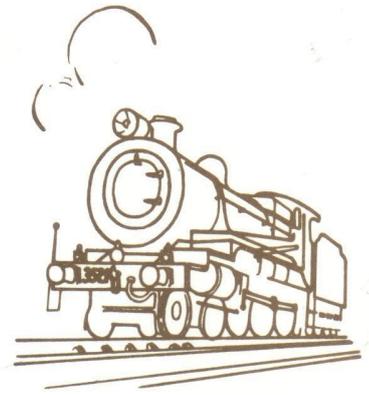


Sydney Live Steam Locomotive Society

Anthony Road, West Ryde, N.S.W.

'Newsletter'

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The first brand new 2½ inch gauge locomotive built within the Society since 1987. This Ayesha II was described in *Model Engineer* in 2008. The castings for this engine made their way to Australia in 2011 and eventually partly built came into Warwick Allison's possession in 2014 who recently completed the locomotive. The full story is in this newsletter!

February Running Day

This turned out to be a pleasant day for our last summer running for the 2018 /19 season. There was not an excessive temperature forecast, some cloud and a breeze that took the edge off the sun when the clouds were not in the way.

Setting up began with the early arrivals, John H and Barry M were soon followed by Arthur, Graeme K, Deven, Dennis O'B and others who all pitched in as they arrived. Deven had his parents visiting for the day. Some work had been completed on Thursday by David T and Mick to remove a largish tree branch that had fallen, without causing any damage, north of the GL loco depot.

On the Friday our new drinks fridge was delivered and installed ready for the running day.

We ran two trains on the elevated track. A six car train had 2-8-0 "Nigel Gresley" driver John H as train engine and Tony K's ten wheeler coupled in front. After the first couple of laps Tony handed the loco over to David J who spent the rest of the afternoon driving. This train ran very well all afternoon. The second train was the four car blue set run by Simon and Wayne. Wayne's 2-6-0 Baldwin was train engine with Simon's Simplex running in front. Late in the afternoon Mike D had a turn driving the Baldwin. With a lull in patronage about 4.30pm the opportunity was taken to close the track and begin preparing for home. Station staff were Mike D, John Simpson, Jim M,



Here we see Simon and Simplex and a largely hidden Mike D on Wayne's Baldwin heading up the elevated on our February running day. Photo J Lyons.

David T and John L.

On the ground level inner track one of the trains was hauled by Ross with 0-6-2 Fowler "Toneya". As we have come to expect the loco ran very well all afternoon. The second train on this track was double headed by Ray with

On the inner main we see 2401 and Graeme K leading Ray and 3281 into the lower curve. Photo David Judex



4-6-0 C3281 running train engine with Graeme K and 4-6-2 pacific 2401 in the lead. This combination also performed well for the whole of the running time.

On the outer main one of the trains was hauled by Mick with the Wolgan Valley Shay. The loco easily accounted for the loadings throughout the afternoon. Despite one rest for some attention to a lubrication matter the Shay covered 10.4Km's for the afternoon. The second train had some variations throughout the afternoon. Running started off with Arthur and the Heritage 2-8-2 Mikado coupled to the train and Garry with his C3807 4-6-2 running as pilot engine. Not long into the running this order was reversed to have Arthur and the 2-8-2 leading the way. Later on in the afternoon Garry returned the 38 to loco leaving Arthur to continue running the train with reduced loading. The outer station was looked after by Carol L and Peter D. Other duties were covered by Martin Y, Greg C, Tony E and Graham T.

Ian Tomlinson was our gate keeper while Peter W attended to the ticket selling. We sold 1415 ride tickets well down on the score of previous years. The signal box was operated by Martin D, Deven and Barry M. During the afternoon Martin attended to some matters with points 6 (gl) and 44. In the canteen the food service was provided by Elizabeth, Joy, Diane, Julie, Margo and Gai. David Lee was track superintendent keeping a close eye over the overall operation. Thanks to all members for their help during the afternoon.

March Running Day.

The forecast for this day was not very encouraging but despite the patchy rain in the morning and the overcast skies we managed a pleasant afternoon's run. A brief shower was of little consequence and there was an occasional burst of sunshine. This threatening weather accounted for the smaller crowd than we would usually expect and there were just enough members to run things well.

There was one train running on the elevated. Cars 1 to 4 of the red set had John H with 2-8-0 "Nigel Gresley" coupled as train engine and Evan's 0-6-0 Simplex running at the front. Guard duty was shared by Paul T and John L. Mid afternoon Evan had a problem with the Simplex, the petticoat pipe had dropped over the blast pipe making steaming very difficult. The Chimney and petticoat pipe were in place without any real secure fastening, something Evan will attend to. John reduced the train to three cars and continued running till about 4.30pm when we decided to finish off for the day. John Simpson was our station master.

Ground level running saw Warwick's WAGR V 1224 running the Pullman set of cars. Andrew did most of the driving

during the afternoon with Bernie and David J riding as guard. David J was noted at the regulator towards the end of the day. The train was well patronised all afternoon and the station was taken care of by Ross, Tony E and Bernie.

There were two trains running on the outer track. Mick had the Shay hauling the blue set with Mike D as guard. Late in the day David T had a go driving the Shay. The second train had Graeme K with 4-6-2 2401 coupled to the Central West car set as train engine assisted as pilot locomotive by David L and his Commonwealth GM. This displayed the correct locomotive arrangement when steam and diesel locomotives ran together. This limits the chance of smoke and soot being sucked into the diesel cooling system! Guard was Martin Y and Bill P was station attendant. When the GM's batteries were exhausted it was retired to the loco depot and 2401 continued the service only loading two carriages. Peter D and Simon assisted as well. David T was track superintendent swapping this duty with Mick when David had a spot of driving. John T was gate keeper for the afternoon and Peter W was in the ticket office. We sold 1103 tickets for train rides for the afternoon, well down on what we usually have but not too bad considering the threatening weather. We were lucky to have two birthdays that still went ahead with their birthday celebrations. The signal box saw Martin D, Deven and Mark keeping all the ground level operations running smoothly. Mark attended some minor problems. The canteen was run by Elizabeth, Diane, Margo and Joy keeping up our usual good service. The rain did eventu-



Ross & Toneya head downhill on our February day. Photo David Judex

ally return as the last of the packing up was completed. A big thanks to all members who attended today and assisted with the running of the afternoon's operation.



Above: 1224 & Andrew has a lighthearted moment with Ross as he prepares to lift the load out of the station on the March running day.

Left: Mick and the Shay powers up the grade on the February running day. Photo David Judex.

Below: A pre running day event that David and Mick cleared up for us!





David Lee on the GM leading Graeme K with 2401 on their way down the outer main on the March running day.

April Running Day.

Easter Saturday, the first time our running day has shared this day since 2006 when the Convention was hosted by the SSME at their Luddenham grounds. Weather wise it was a very pleasant day for the middle month of autumn. Setting up was begun by early arrivals John H and Barry M. Mark G opened up the signal box and proceeded to oil and check the point mechanisms, some special attention was needed for #38 points. Dennis O'B washed down the seats of the GL cars while John H tested the vacuum brake systems on all the cars. Mike D put out the signage around the ground. As other members arrived the other setting up tasks were attended to. At morning tea Garry showed us some O gauge

April Running Day scenes: Right: Wayne Fletcher and the Baldwin leads David Judex driving Arthurs heritage 2-8-2 with John Lyons as guard , while Below: Garry Buttler has 4 cars behind 3807 with Neal as guard



steam locomotives that created some interest. Dennis O'B took these home to give them a once over.

We were lucky to have an excess of locomotives, John H was able to have his 2-8-0 "Nigel Gresley" stabled in the elevated Loco while David L's Commonwealth GM diesels in the GL depot. Also on display in the elevated depot was a very interesting 5" gauge NSWGR Z27 class recently acquired by Evan.

There were two trains running on the elevated both consisting of six cars. Arthur coupled up the Heritage 2-8-2 mikado as train engine with Wayne and the Baldwin 2-6-0 pilot locomotive. After a couple of laps Arthur handed the driving of the 2-8-2 over to David to see out the rest of the afternoon. The second train was a double "Simplex" affair with Simon and his locomotive running train engine. In the lead we welcomed back Ken Baker after a long absence, the two locomotives ran well for the entire afternoon. Helping with the elevated running as

guard and station duties were John Simpson, Paul T, Brian K, Bernie, Mike D, Arthur and John L. It was a special effort from Brian K as he is making excellent progress following double knee replacements. While some of the trains were not fully loaded we did manage many fully loaded trains. Things eased off about 4.30pm and the opportunity was taken to stow the carriages and return the locos to the depot.

There was one train running on the ground level inner main. The Pullman set was hauled by Warwick's WAGR V1224. Andrew did most of the driving but David T and Warwick were also involved. Station attendants and guard were Ian T, Carol L and Dennis O'Brien and David T.

On the outer main Ross hauled the blue set with Fowler 0-6-2 and Steve B acting as guard. Peter D did some driving late in the

Duty Roster.

June R Bishop, N Bates, J A Topp, R Lee, P Wagner, P Taffa, J Tulloch, Z Lee, N Kane, D Judex.

July M. Murray, A. Allison, M. Gibbons, W. Fletcher, G Kirkby, J. Noller, I. Tomlinson, G. Scott, B. Hartwell.

August E. Lister, S. Collier, G. Buttell, B. Millner, S. Murray, G. Tindale, P. Brotchie, M. Dumble, D. Shirke.

September D. Thomas, B. Courtenay, G. Croudace, S. Larkin, L. Pascoe, S. Sorensen, D. Lee, B. Wilkinson, G. Hague, M. Dewhurst.

Gate Roster

June M Yule

July A. Allison

August K. Baker

September N. Bates

Here is a David Judex's shot of Evan and Simplex drifting down-grade with John Hurst and Nigel Gresley. John Lyons is guard. Now what is that second driver doing? The answer is below!

afternoon. The second train was a four car consist with Garry and C3807 taking the load. This was a big test for the 38 and Garry handled things very well. Whatever fuel Garry was using certainly added to the atmosphere of the afternoon. Neal was guard and the station was attended to by Greg C and Martin Y.

There were some issues with the signalling through the afternoon, these were looked after by Warwick, Mick and Mark. Mick M was track superintendant, Brad Wilkinson was on the gate with some help from Mike D early on. Ticket seller was Jo-Anne T who sold 1395 rides and in the canteen Elizabeth T and Christine H were able to serve our visitors. A big thanks to all who participated on this holiday Saturday to make the day a success.



Above: Mike receives his members badge from President Mick in March.

Below: Tony looks after the mowers, and here he checks them all to be functional before the April mowing day!



Diary

1 June	President's Breakfast & AGM
8,9,10 June	Hot Pot Run ILS
15 June	Public Running Day
2 July	Directors meeting
20 July	Public Running Day
17 August	Public Running Day & next newsletter!
1 September	(Sunday) Family Day
3 September	Directors meeting
7 September	Members Meeting 9am.

Also Note!

2,3 November	Small Gauge Festival
30 November	Special General Meeting, 9am
7 December	WRNCC Christmas party (lunch) and SLSLS Christmas Party (evening)

Please see AME for other events.



Left: Double Simplexes with Ken Baker leading Simon Collier as Arthur Hurst observes during the April running day. Right: Graeme Kirkby proudly displays the SSME Trophy awarded to 5035 at the recent AALS Convention at Warner. Below Left: Sheila looks after the clubhouse garden and a very nice job she makes of it too!



Andrew trying out Ayesha before March public running started.

Jim Leishman and Barry Millner didn't find it too hard to smile for the camera! 13 April 2019.





Mark has plenty of advisors while contemplating why the signals were returning to stop intermittently on the March day.

Here we see David T trying his hand at Super Shay power on the March running day..
Below: Evan works on his latest acquisition.



Above: A certain regularly-attending-the-grounds-gentleman has produced this mysterious construction. There are no prizes for guessing who or what it is, but it may stimulate conversation!



Left: Many hands work on Garry's bogie, Below: A triple header on the private run for a local church.



Editorial

Congratulations to David Judex for his winning of the AME Under 25's Encouragement Award presented at the recent AALS 2019 Convention for his 5" gauge HG guards van. David had built the van as his Industrial Technology major project and had recently completed the final detailing. Graeme Kirkby had taken the van to the Convention and accepted the award on David's behalf. David joins a select group of our membership who have received this award over the years since it was introduced. Perhaps it is time that many of us "older" members recognised the new skills that our younger members are bringing to the Society with their computing skills. The use of CAD programs, 3D printing, laser cutting and whatever else. It is a matter of "working very much smarter not harder".

John Lyons
Fill in Editor.

Grounds.

The tree branch that fell before the February running day was a forerunner of things to come. In the week following that running day a very large branch off the Box Alder tree, identified by David T, had fallen. If this had happened during a running day afternoon we could have had many serious injuries. The branch displayed a typical fatigue failure, much of it being quite rotten. David T had completed a lot of cutting up on the Friday and on Saturday other cleaning



up was carried out. A lot of the branches went out on the grass verge outside the grounds to be eventually removed by the council. A lot of the smaller branches were mulched, Bill P and John L assisted. David organised an

inspection by Council and as a result the tree was removed and some dead branches on other trees were removed at the same time. Over the following weeks some other dead scrubs have been removed from the eastern bank. David T in recent weeks, with the help of Neal, Jo-



Anne and Dennis O'B have planted new trees in the vicinity of the position of the removed Box Elder.

Track work

David L and Peter W with help from various other members have continued working on the inner

main signalling. Most of the cable and conduit work is complete and rail contacts have been fitted. Completion for the level crossing is not far off. It has been a long project but it will make a big improvement in the safety aspect of our train running.

Andrew and Warwick have installed new brass negative connections soft soldered to the rail or sleeper at the signals to replace the old wires under the sleeper screw.



Paul B, Peter D and Tony K, with others, continue their work upgrading the GL track. Sleepers are being replaced with stainless steel ones to enhance their life span. On the elevated track a new travel limit stop has

been fitted to point #6. The stop limits the travel when the points are returned to the main line. The original stop has been



straightened many times. Warwick and John L attended to this. John L sourced a piece of 4" x 3" x 1/2" angle which was cut to provide clearance and drilled and threaded for a 5/8"BSW round head screw provided by Warwick. The angle was located on the roller pad, orientated so it provided the best mechanical position and a good length of weld for fastening down. Warwick cut and fitted a new striker plate, 3/8" mild steel, on the swing beam. After final adjustment all seems to work well and is much more substantial than what we had before. Since then a second has been provided for the other side.

Mike D is continuing his work re-painting various items around the grounds. It keeps the place looking well cared for. Simon has continued caring for the ticket office garden, it certainly adds a touch of colour on our running days.



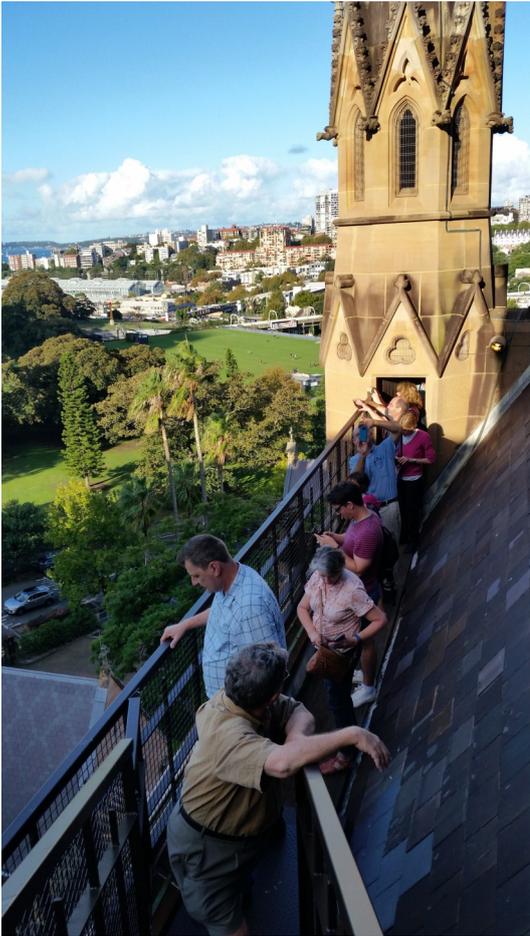
Model Engineering.

Andrew has displayed a nice pair of bogie NSW refrigeration wagons for gauge 1, at the same time we saw the front bogie for his Z21 class in 5" gauge. Garry has been working on the front bogie of his 5" gauge C3807. This is to sort out the clearances so the locomotive will run through the points better. Garry has also added some extra detail to the loco. Warwick has persisted with the rebuild of 2 1/2" gauge "Ayesha". Getting the valves just right took some time but the locomotive now seems to run well.

We have watched as David J and his HG van has neared completion. At the time of writing the van has been transported to the convention by Graeme Kirkby to be considered for the Under 25 Award. We all agree that it stands a very good chance and by the time this Newsletter is published we will know the result. (See Editorial and back page!)

The SLSLS Bell Ringing Tour!

Many thanks to Bill Perrins for arranging our visit to St Marys on 21 March and to all the bell ringers we observed displaying their skills!



I was fortunate to be born when STEAM..... Greg Croudace

was still running in revenue service on the rails in NSW, albeit in ever decreasing numbers and some of my earliest recollections are of being at Berowra station on the main northern line, where I grew up watching the passing cav-



alcade of steam transfers to and from the short north with electric trains, from U boats and red rattlers to 46 class hauled trains.

Hearing the staccato exhaust beats steadily grow in intensity as they approach you, then it suddenly comes into view, whistle blasting, scurrying along the rails towards you to get their charges safely and quickly to their intended destinations and then disappear as quickly as they had appeared was somehow always a joy to behold. With the trail of freshly burnt coal mixed with steam leaving that sweet smelling aroma the only reminder of the passing wonder, remaining for but an instant and the memories lasting for a lifetime.

As a small child those hot, noisy, smelly, smoke belching machines that trod the rails were somehow fascinating and incredibly scary, I feared close proximity to the heat and loud sounds, yet I was inextricably compelled to touch and explore at the same time.

Thus the stage was set for a lifetime obsession with all



forms of machines that utilise steam as the working medium.

The more politically incorrect times or more correctly the lack of WH&S, allowed me to go all over the state as a young child and experience all aspects of railway operations, with none of the constraints that are so pervasive these days, no hi vis, no one stopping you from entering the rail corridor, just using common sense and taking responsibility for my actions. So exploring working depots like Enfield, Lithgow or Broadmeadow yards and clambering over dirty, soot encrusted steam engines, cab rides, firing and even driving on the mainline as a 12 Year old, with relative ease were the norm for us, rather than the exception. The crews were more than happy to sit back and laugh whilst we smashed the shovel against the fire-hole door, while trying to keep our balance from the



roughly writhing and rocking engine while firing, struggling with reaching valves to get the injectors on, or awkwardly shovel forward the coal in the tender, while vainly trying to balance on the unstable coal underfoot. Can you imagine doing that now days, I think not!.....my first cab ride was on double garratts heading north in 1967.....oh to experience that once again, alas tis but only a dream.

In later life, working as a volunteer with the RTM, 3801 Ltd, Powerhouse Museum and privately owned 3112 restoring, maintaining and operating heritage locomotives was long hours of hard, dirty but exciting work and the bonus of riding in the cab, firing your beloved steam machine is always delightfully good and worth all the effort.

On my work computer I uploaded photos of all my steamy adventures to use as a screen saver, in the vain hope of impressing the passing parade of customers and sales reps. Then one day it all paid off, a gentleman by the name of Adrian Price, noted with great delight my photos and through the ensuing conversation, he invited me down to Campbelltown Steam & Machinery Museum located at Menangle, to assist in the running of Benny Rachwel's two foot gauge Hudson steam locomotive on CSMM rally



days.
At first I was embarrassed to go down to such a small engine, maybe after working on mainline engines this felt like a toy not a “real” steam engine.... Oh boy, how wrong I was....not only is it fun to operate, exactly the same challenges are faced as on larger engines, maintaining water levels, fire condition and sufficient steam pressure to get the train successfully up the grades and not waste fuel, water and steam by blowing off going down the

grades.

I now feel greatly privileged to operate any form of steam machine, be it portable engines, traction engines, mainline and branch engines to diminutive models and I thank all concerned for allowing me to indulge my passion, especially my long suffering wife.

A brief History of the Hudswell Clarke(Hudson) 0-4-0.

In 1911 Robert Hudson entered into an agreement with Hudswell Clarke for the manufacture of narrow gauge locomotives, an agreement that ran from 1911 through to 1929. This arrangement produced 16 standardised designs, designated A to Q, which ranged from four coupled (0-4-0) 5 hp engines to six coupled (0-6-0) 55 hp models. The designs were sufficiently flexible to allow for the various track gauges in use. Over the years, 188 such locomotives were supplied to those designs.

In 1920 National Portland Cement, based in Maria Island, Tasmania ordered a locomotive from Robert Hudson to haul cement products and raw materials around the manufacturing site. Portland Cement Company began cement production on Maria Island 1924. After the engine was transported from England by sea, she was operated for a small number of years, however, she was soon found to be under powered for their requirements and was later set aside under cover when more powerful engines became available. The Hudson, was replaced by Kraus 0-6-0 Locomotives and they ran successfully hauling their loads for some years until the operation closed.



Many years later the loco was purchased by Corrimal Coal & Coke around about 1944. The engine was transported to Wollongong by ship and then by road to Corrimal. The company refurbished the engine back to running condition and put the engine to

work. The photos show Hudswell Clarke 1423 in operation at the Corrimal mine site (date unknown). It carries a builder's plate that reads "Robert Hudson Ltd, Engine No. 1423, Gildersome Foundry, near Leeds England' but is listed in other sources as a Hudswell Clarke product.

The Corrimal-Balgownie Coal Co. operated a complex and interesting railway system at their Corrimal Colliery, including a 2' gauge railway that traversed the mountain-side linking mine adits with an inclined haulage to the coastal plain below. Along this route worked a number of small locomotives including Krauss 2859 and 6927. Ken McCarthy has written an authoritative account on these railways and locomotives in his article "The Corrimal Colliery Railway" in which he states those locomotives were stored around 1944, ironically having been replaced by the newly arrived Hudswell Clarke 1423 of 1923. The engine performed all the tasks required of her until some-

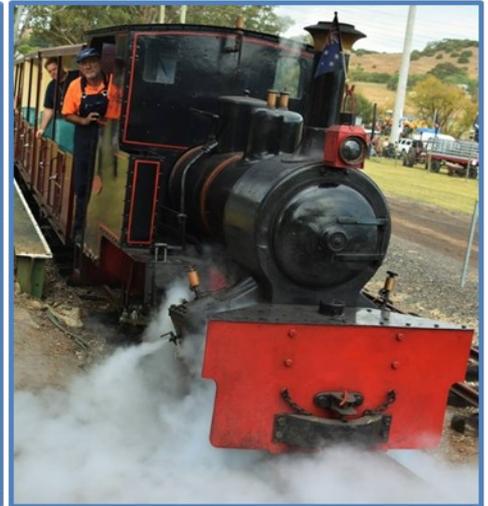
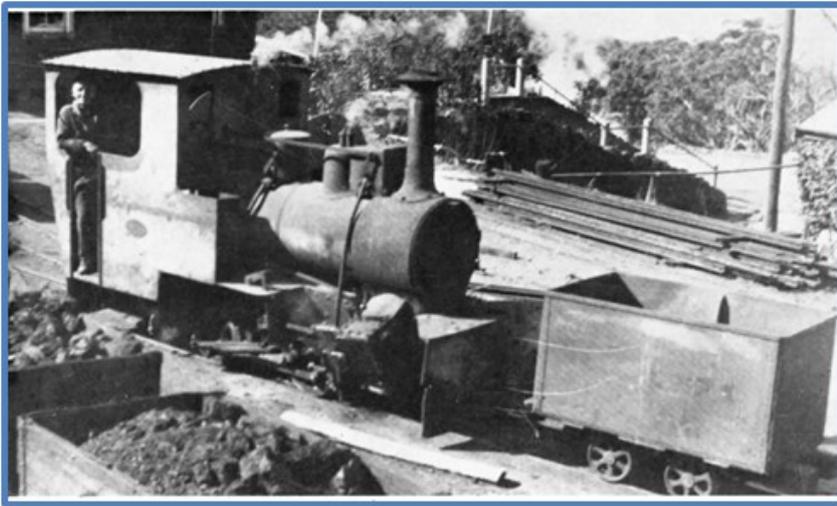


time in the late 1950's, when again fate would have it and she was set aside, this time with no cover or protection.

Time and the elements took their toll on the neglected engine, with the company making no effort to preserve or maintain the engine, so much so that lantana had taken hold, completely and utterly covering the engine and bees had setup home in the smokebox. Steel panels and boiler cowling pitted with rust and bearings seized and boiler fittings lost or stolen. Fast forward some years to the early 70's and the hero of the story enters from stage left, in the form of Benny Rachwel. He was a colourful character, an ex NSWGR man having started his railway career as a cleaner, rising to fireman and then finishing his time as a driver on steam locomotives. He always had a dream of owning and running his own steam locomotive to complement his fleet of traction and stationary engines.

After negotiating the purchase of the engine and track from the company, clearing the lantana and copious amounts of debris commenced, bee keepers called to remove the hive and a temporary track constructed to get it on the truck to transport the engine to the Illawarra Light Rail for repairs with the view to eventually getting it back into operational steam for use at the fledgling museum located at Menangle.

When he left the railways he owned a bus company and he used his own Company's bus workshop to do all sorts



of repairs and manufacture parts, machining the many parts and bearings required even down to new tube plates for the boiler and a full set of carriages for passenger hauling. Missing brassware including gauges, lubricators, safety valves and injectors were generously (well maybe unknowingly) donated by the NSWGR. Bearings were cast at Eveleigh using his connections in the LES and in time, emerging from the small erecting shop for the first time in heritage operation in a beautiful green livery.

At a recent rally, whilst servicing the engine, I was approached by a gentleman who was the workshop manager at the old Telfords bus company and I listened to his spirited reminiscing about the work he had carried out on her over the years. He expressed pleasure and great delight to see her still running in steam. He also mentioned that Benny had at one time even considered naming the engine Lantana as a testimony from where she came and the state it was in.

Unfortunately, with the passing of Benny to that great roundhouse in the sky, his heirs decided it was too great a litigious liability to them, so arrangements were made to try and sell the locomotive, carriages and track. For some time there was great sadness and uncertainty with each rally if this was to be our last run with the train at the club, if a sale was to be made and the engine and train were to be removed from our site. Contingency plans were formulated but never came to fruition. We were extremely fortunate that the sale was never made to anyone else for an anonymous benefactor came forward and generously provided the funds for the train to be owned by the CSMM so that many more generations of families can see and hear this beautiful little steam engine at work, valiantly hauling

passengers around the site at Menangle to the delight of young and old.

Future plans for the railway include restoration of a recently purchased Kraus 0-6-0 steam locomotive (also ex Corrimal) to running condition and we are negotiating for another privately owned 0-4-0 steam engine to be housed and run after boiler repairs are completed. So then we can run push-pull operations with steamers at either end, instead of the diesel / steam combination we currently run. Being 2 foot gauge we are under the same accreditation and governance as on the mainline, workcover high risk boiler tickets and grade one medicals for the crews. The engine cannot propel the train if we want to run the entire length of rail.

Also, we have modified the Hudson loading gauge for a visit the Newington Armoury in the near future, giving a new audience the chance to experience the joy and romance that is steam.



Ayesha II

Warwick Allison

Once upon a time I received a phone call. This was not unusual. However this call was from Hugh Elsol of QSMEE. Again this was not unusual. Hugh explained that there were some people who wished to sell parts for an 2½ inch gauge Ayesha (although they did not know what it was precisely) and he thought I should have them! After some discussion I agreed and in due course they were collected from Hugh.

The parcel consisted of a small cardboard box in which there were tender parts and an engine chassis very nicely constructed and with wheels fitted. The loco also had a steam chest machined but still to be attached. The cylinders had been bored but the ports and all holes remained to be done. The box contained the remaining bits and pieces which included some unformed copper and some flanged plates for the boiler.

Thence followed some investigation and it was clear that the parts were for an Ayesha II, a remake relatively recently described in Model Engineer, of LBSC's original 'Battle of the Boilers' little engine.

These parts were supplied by the 2½ inch gauge Association to a person in Battersea, London. The address is a very tall apartment block with imposing views of the Thames!

The box of bits subsequently made their way to Brisbane. The box has a label noting despatched 24 February 2011 to Clayfield in Brisbane and travelling by QF 52 on 10 March via QF10 on 9 March to Singapore possibly as part of luggage. It was marked 'fragile'!

Following that details are sparse. We think it was delivered to Clayfield, Brisbane. This address was pencilled on the box.

In June 2014 they were presented to Hugh Elsol of QSMEE and Hugh transacted the sale. He thought I should have them and I agreed the price which was a figure Hugh had talked the sellers down to on the basis that not many people would be interested in them. I brought them home after visiting the Track n Tent in August 2014. Not much happened immediately as I had just retired and the construction of a garden railway was under way.

Simon Collier provided me with all the Model Engineers in which Ayesha II was serialised. I scanned these and printed them out and placed them in sheet protectors in a folder which became my reference.



The casting set and work done at the time they were acquired.

Work progressed spasmodically. Firstly the tender body was completed in May 2016. This was a pleasant exercise in brass and solder and when completed was put away.

Then the boiler followed after a review and design modification to suit the AMBSC code. Mid 2016 boiler construction was conducted in conjunction with some other boilers, including ones for Austere Ada, Beaver, Britannia and Ayesha. A job lot and then a lathe overhaul! The design changes included the elimination of the longitudinal stays as not required, and replacement of the crown girder stays with rod stays. With a 3 inch barrel it is small!

The regulator arrangement is an external screw down valve which supplied a stainless superheater that is fed through a

The tender was finished first, followed by the boiler. Left is Ayesha's and right is Austere Ada, which was made at the same time.





Some of Ayesha's components. A special T spanner to screw the pistons into the crosshead, the unusual water pump, the cab and firebox.

hole in the backhead above the firedoor, then through the firebox and into the superheater flue, ending in a union in the smokebox.

It passed the hydrostatic test and it too was put aside. Meanwhile work was progressing on finishing Beaver and then overhauling a Heisler. When these were completed it was Ayesha's turn! Work commenced about September 2018 on finishing the cylinders and motion, then the fittings for the tender such as the hand pump and progressively it was all assembled and tested in late 2018. Dis-assembly followed and by February 2019 it had been painted and back together and ready for a steam test! This last work only took about 6 months.

It was difficult to determine accurately the colours of the Marsh Umber coloured LBSCR locomotives as the only evidence is paintings! There is a Brighton Terrier on the Bluebell painted in the umber scheme, plus of course other peoples interpretations of the colours all adjusted by computer screens. Ultimately two colours were chosen from the British Standard colour chart and some spray cans obtained in a quick dry industrial enamel. These were BS381 No. 412 Dark Brown and BS381 No. 414 Golden Brown and seem ok, but I think the lighter colour could have been a bit more brown and a bit less 'honey'.

The prototype colour scheme is daunting so a simplified version was used. The inside frames are red, the outside frames are chocolate. The boiler and cab is a light umber with a white cab roof and cream inside the cab. Boiler bands are black with outside yellow lines. The yellow/black/yellow lining should have been applied throughout, however these were simplified to a single yellow line. It does look different and very nice.

While cab numbers were obtainable, the tender lettering was not. After some thought some old stick on 1/2 inch vinyl letters I had spirited away many years ago were used by painting them yellow and sticking them on.

There are many interesting design aspects that are not common on larger models. One thing is that there are not many screws! The smokebox is held down by the steampipe and

exhaust pipe. The chimney is attached to a tube that simply slips into a slightly larger tube in the smokebox top. The smokebox front just pushes in. The rear of the boiler is held down by the cab. The grate is a rosebud type (in lieu of the bars in the design) and the designed ash-pan arrangement is very good, allowing not only to drop the ashpan but to remove the grate as well, something not usually possible on Atlantics. While you can get it out of the loco, it doesn't fit between the rails!

The cladding is 0.7mm stainless steel. I would have liked to use something a little thinner but it seemed unobtainable. The ashpan is also stainless.

The tender handpump is fed into the locomotive axle pump, which thus requires only one boiler clack, and that is underneath the boiler, just in front of the pump. I have used ceramic silicon nitride balls in the clack, pumps and safety valve, which is a pop valve.

The steam chest is circular and fits between the frames. These were popular in the early 1920s being described in Greenly's book. The Model Engineer article, in fact states that LBSCR used commercially available castings designed by Greenly to build the original Ayesha. The later Ayesha described in English Mechanics in 1930 was somewhat more conventional. The ME designer Tony Weald of this Ayesha II has used the main elements of the original Ayesha in his later design. As this varied from the prototype, he has usefully provided details so that builders could align their own version with either the LNER or Southern versions, or indeed, LBSCR's original Ayesha! Even so, it is not a true scale model. It is typically what a 2 1/2 inch gauge little loco should be!

Generally the Model Engineer articles were very brief. Some drawings are missing, or are out of place appearing late in the series after they were discovered missing! Sometimes a detailed description was given for a simple part while something more complicated is glossed over! Nevertheless a path through was easy to find and it was certainly nice to be able

Right: Components being painted.

Below: Beginning to look like a loco! Firebox cladding being sized.





**Above: Final assembly testing on air.
Right: David Thomas officiating at the steam test.**



to follow a published design. I am not sure when the last 2½ inch gauge loco was mostly built by a member, but I suggest it was a very long time ago!

It passed the steam test with no problems, but was stiff and the valves would not seat without much effort. It also had little adhesion. One valve had a blow at one point. The blow was due to the valve contacting the steam chest and lifting it off the port face. The beats were not quite even either. When opening the blowdown, nothing came out!

Back to the work bench and the valve was trimmed on the corners to clear the circular steam chest, and a brass spacer was soldered in the slot on the slide valve to place the valve closer to the port face. This provided about 0.10" clearance, which will provide for easier running with the regulator closed as no snifting valve is fitted, and a more reliable re-seating when the regulator is opened. The main driving wheel springs were replaced with stiffer ones.

The blowdown valve was a commercial one and it was dismantled to find the valve part was a teflon slug that had swollen and jammed in the body. It was discarded and replaced with a ceramic ball.

One valve did not have the exhaust cavity correctly centred so this and a slight gouge in the portface were dealt with. I have come to like the circular steam chests! It is very easy to get the cylinders off and on. I schemed that the valves could be accurately set by measuring the distance from the valve edge to the steam chest with verniers (when on dead centre), and then comparing it to the distance from the port edge to the edge of the circular port face spigot. This is easy to access and do and I thought quite precise. Also only a smear of jointing is needed around the spigot for a good seal. Alas while this got the eccentrics correctly adjusted I never got the valves quite right using this method. Eventually I managed to set them by running the engine on air and noting which dead centre was impeding the rotation. I then

adjusted the valve rod to retard this opening and tried again. Of interest may be the changes I made to the published design. Briefly these are Viton O rings for pistons and piston rods, ceramic silicon nitride balls for clacks and pumps, piston rods screwed into crossheads, all silver soldered cab (no angles or rivets), stainless used for ashpan and cladding, whistle mounted above boiler in front of turret.

Making a 2½ inch gauge locomotive is significantly less work than a larger one. There are less holes to drill and tap, less detail to provide, fewer controls, and its easier to manage on the work bench. When complete, they are also very cute! Certainly building an engine in 12 months is very feasible, and they will certainly teach you how to drive one!

Now we have to see how we can run her and not upset the paint!

Postscript: An inspection of the boiler books reveals the last newly built 2½ inch gauge loco was Allan Cotterell's 36 class in February 1987. As the boiler code started in 1968, there is a large number of pre code boilers registered then continuing to 1976. it is not clear when these locos were first steamed as it is likely this was a catch up phase. They are all marked as pre-code. More recently Wayne Fletcher has restored a Purley Grange in 1996 and Andrew is working on a restoration of Austere Ada steamed in 2017.

Some extra information about circular steam chests. It is apparent that this method assists construction by lathe as it removes the need to mill any large surfaces. Interestingly, Harry Ball (SLSV) recalls that there was a cylinder design by a fellow named Averill. This had circular steam chests but as well the steam port was crescent shaped. This was achieved by using a slot drill on an angle. The crescent shape thus allowed for the slide valves also to be circular. If anyone has any further information on Averill cylinders, I would be pleased to know.

Beneath the tender, and the rear three quarter view. Those large boilered Atlantics are very stylish!





Above: David Judex and his lovely HG van, an exquisite first attempt and an Under 25s AME winner at the recent QSMEE convention!
 Below: Tony K and the 10 wheeler with John H and Nigel Gresley on the February day. John Lyons is guard. Photo: David Judex.



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