

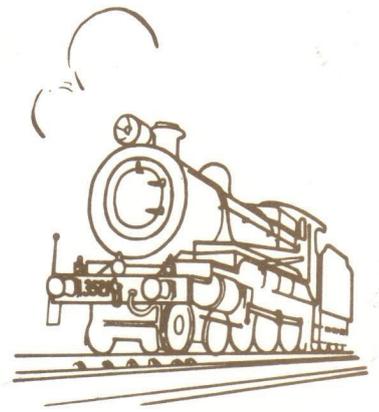
# Sydney Live Steam Locomotive Society

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

## 'Newsletter'

Volume 45. No. 4

November 2017



American invasion! James and Warwick pose beside their recently completed projects, Buffalo and Beaver respectively.

### August Running Day:

Our August running day was experienced in far more pleasant conditions than had been present the day before, with the strong winds calming overnight, making for very favourable conditions. As I arrived at the grounds, James was in the process of steaming up his 3 1/2" gauge Buffalo for a steam test. While it passed with flying colours, a shifted valve liner meant that a run round the track was not possible. While all this was happening, John L and David J were hard at work assembling David's Manning Wardle smokebox, and had finished silver soldering the joints before running commenced. Mark G was also seen attending to a defective point motor, while Martin D changed one of our signal globes.

In the clubhouse, Ross exhibited an interesting display of patterns and core boxes.

The elevated ran with the proven formula of having two large trains. One of these saw James' 2604 leading Wayne's Baldwin Mogul, with Tony's Ten-Wheeler acting as train engine. They ran successfully all day with 6 cars and John L acting as guard. James had just fitted the 26 class with new radiant superheaters, and I think he was pleased with the result. The second elevated train consisted of Simon with Simplex leading Bernie and myself with our Blowflies. We also took 6 cars and had David J as guard. We experienced few, if any, troubles throughout the afternoon, and handled the load with ease. Ele-



**Arthur and the heritage Mikado lead Ross and Toneya upgrade on the August running day.**

vated stationmasters for the day were Paul T and Deven.

The outer main ground level had the unusual combination of Arthur's Mikado leading Ross' Toneya. It was strange to see the Fowler dwarfing an engine which, in full size, it would appear somewhat diminutive next to. They took the Central West set and seemed to run successfully all day, with Graham Tindale acting as guard. The other outer train was handled by Jim and Dom Mulholland with 3901. While they experienced a few early difficulties, they were eventually sorted out and soon settled down to a trouble-free afternoon of running. The outer main station was manned by Bruce H and Peter D.

Warwick and V1224 were in charge of the inner main green set. David T did some of the driving, in between acting as guard at times. Tony E and Martin Y took over the role of guard at different times while David was engaged in driving duties. They did experience one incident in which a bogie was damaged and one of the cars had to be removed from the rest of the consist. Ray and 3281 leading Graeme K and 2401 took charge of the inner Pullman set, with Steve B fulfilling guard duties. They seemed to run without trouble all afternoon. Inner main stationmasters were Paul B and Carol.

Ian T did a wonderful job of manning the gate, being assisted by Martin Y during the initial rush. There was a long queue to get into the grounds, stretching to the gate for a good hour after running commenced. The large number of general visitors was augmented by 6 party groups, which helped contribute to 3322 rides being given for the day. Peter W was ticket seller, assisted by Margo, while the canteen was handled by Di, Joy, Margo, Lee and Diana. Signalmen were Barry M, Mark G and Martin D, and did a great job on what proved to be a rather hectic day. Mick M was track superintendent for most of the day, however when he had to leave David T took over. We experienced a couple of minor incidents throughout the course of the afternoon, mainly caused leaning over and dragging feet. One knee graze was patched up. It certainly was a busy day, but everything seemed to go fairly smoothly.

## September Running Day:

Our September running day turned out to be quite a pleasant one, with even cloud cover keeping the temperature down. It did get quite cool later in the afternoon, which seemed to send some of our patrons home. We did have a few of our regular members away, which meant that staffing was a bit on the tight side, however we managed to pull through quite easily.

Early before running started, James had his Buffalo in steam for another trial run. The Teflon piston valves seemed to seal well, however a stray motion pin brought his run to a premature end. Many thanks to Dennis O'Brien, Barry M, Deven, Graeme K, John L, Tony, Brad and others who took care of most of the setting up. A blown signal lamp was attended to by Deven, while Mark G and Warwick tracked down a dirty connection and made some point adjustments.

Barry and Dennis gave the carriages a vacuum test, while Dennis also did a wonderful job of washing the seats. John H had provided a period electric clock for the Ticket Office, which certainly looks the part.

Like August, the elevated had two large trains. One train was handled by James' 2604 leading Gary B's Impala, with Tony K and the Ten-Wheeler as train engine. They ran well on 6 cars, with David J as guard. The other elevated train saw Simon's Simplex leading Wayne and the Baldwin, with Bernie's Blowfly as train engine. They also took 6 cars, with my Blowfly providing rear-end assistance. John L and John H took turns at being guard, in between assisting Paul T and Deven with stationmaster duties. Peter D did a bit of driving for me on the Blowfly.

The ground level outer main Central West set was hauled by Mick's Shay, with Scott doing some of the driving in between acting as guard. As usual, they ran without major incident all afternoon. Neal took over guard duties on this train later in the afternoon. The other outer train had Max driving Lionel's R class unassisted on the blue set. A brake hose issue led to brief investigation in one of the sidings, however once this was sorted they settled down to a trouble-free afternoon of running. Guard was Martin Y, while outer stationmasters were Peter D, Lionel and Martin Y.



**Ray on 3506 and Graeme on 2401 traverse the top curve on our September running day**



**James with 2604 gives a quick glance behind, as he leads Gary and the B1 downhill on the October running day.**

On the inner main we had Andrew driving V1224 with the Pullman set in tow. Geoff H acted as guard, freshly back from the UK. Ray's 3506 leading Graeme K and 2401 took the green set, with Tony E as guard. When Ray came off, he was replaced by John T and 2904. Inner stationmasters were Ian T and Jo.

Gatekeeper for the day was Evan, assisted by Jo, who had a reasonable crowd to manage, though not as much as the previous running day. Peter W was ticket seller, while David T acted as track superintendent. Barry M, Mark G and Warwick fulfilled signalling duties, while the canteen was looked after by Di, Joy, Gai, Margo, Lee and Kim. In all, we sold 2763 tickets, not as much as August, but still quite reasonable.

### **October Running Day:**

Conditions for our October running day were very favourable, with pleasant sunshine throughout the whole afternoon. James was at the grounds early to receive some old station lamps very kindly donated by a well-wisher. These will eventually be restored for the elevated station, and will no doubt look the part. James had his 12 class frames on display in the clubhouse, together with some wheels and newly shrunken tyres. Also on display were some O gauge tinplate engines, which I belong to Dennis O'Brien. It was very nice to have Arthur back at the grounds again after a bit of an absence, and we also welcomed Dave, Danny and Robert from Wascoe Siding, who had come down to view our operation. Geoff H also had his brother Barry from the UK at the grounds to see action in the colony (as Warwick put it!).

Before running started, James gave his 3 ½" gauge Buffalo a successful test run. Andrew also officiated a boiler test on Brian K's 3 ½" gauge Iron Duke, a beautiful engine which I viewed for the first time (and was suitably taken by it). A seized regulator handle meant that he couldn't venture out onto the track however. While all this was happening, John H, Martin D, Arthur and Barry M were busy tracking down a vacuum fault on an elevated car. Many thanks to Dennis O'Brien who again washed down all our ground level cars prior to service.

Overall, we were a bit on the light side in terms of motive power, however we managed to get by okay. The elevated had two trains, one in the form of James and 2604 leading Gary and his B1, with David J as guard. They took 4 cars. Gary had recently repainted Impala's boiler barrel, and it certainly looked the part. Warwick likened the 26 class to a "travelling volcano", noting it could be heard coming from some distance away! The other train had Tony K and the Ten-Wheeler leading Simon and Simplex, with John L as guard. When Simon and Tony felt like a rest, young blood took over with Zac on the Ten Wheeler and myself on the Simplex, which was very enjoyable. I also acted as guard on this train for most of the day, however was relieved at times by John L and Zac. Paul T and Brian K looked after the station.

The ground level inner main saw Mick and Scott with the Shay on the blue set. Scott and Mick alternated between driving and guard duties, being assisted at times in the later role by David T. They seemed to have a trouble-free afternoon. The other outer train was handled by Bernie and Blowfly leading Graeme K and 2401. They too seemed to run well all afternoon, and had



David takes Gary's B1 for a spin after our October running day.

Neal as guard. Outer main stationmasters were Peter D and Paul B.

The inner main had the usual consist of Warwick and V1224 on one train, with Tony E and Geoff H acting as guards. Andrew did most of the driving on the V. They did have a couple of minor derailments, but otherwise ran fairly successfully. The other train on the inner was initially taken by John H and the 4-8-2, which ran well until a left hand little end pin came out. The 4-8-2 was returned to loco, but John soon had his Nigel Gresley, which he had also brought with him, in steam. This was duly coupled up to a shortened version of the Mountain's consist, and was soon augmented by John T and 2904, meaning a few more cars could be added. The double headed Johns ran well for the rest of the afternoon, only being interrupted by a minor derailment on the bottom curve. Guard on this train was Tony E. Ian T, assisted by Geoff's brother Barry, did a good job of managing the station.

Carol and Jo were gatekeepers for the day, while Peter W sold the tickets. I believe Margo assisted at times in this role. In the canteen were Liz, Joy and Margo, while the signalling was taken care of by Barry M, Martin D, Deven and Mark G. This was Deven's first running day in the signal box, and was dubbed by Warwick as a very competent signaller. David T and Mick were track superintendents. We did experience one incident of a cinder burn. Overall we recorded 2447 rides for the day, our new best for October and about 600 above the average for the month.

### SLSLS Family Day:

Our Family Day, held on the Sunday on September 10<sup>th</sup>, was a very enjoyable one, made all the more better by an interesting array of engines and rollingstock. In steam were Warwick's 3609, James' Manning Wardle, my Blowfly (running bunker first with the Old Girl's train), Graeme's H class, Tony K's Ten-Wheeler, and Ross' traction engine. All engines had a variety of different drivers during the afternoon, and even Jo was seen taking Tony's Ten-Wheeler for a spin! A lovely day indeed.

### Small Gauge Day:

It was rather unfortunate our 2017 Small Gauge Day was a somewhat damp affair, which did seem to keep most visitors away. Nevertheless, it was still a very enjoyable event, with a wonderful display of engines in the clubhouse. We were also commemorating the 50<sup>th</sup> anniversary of LBSC's death (50 years exactly on Sunday), so the clubhouse display did have a distinct Curly theme. It was quite a thrill to see the late Cec Gunning's 4-8-4 'Coronation' on display, which I believe was at the grounds for the first time since the late 1970s. Neil M had brought it down for display, and it was much admired by everyone present. This is a monster of an engine for 3 1/2" gauge! Neil also exhibited Alan M's 2 1/2" gauge Duchess, another very fine engine from the old days. The Allisons displayed almost everything smaller than 5" gauge in their collection,

including Austere Ada, Ayesha, Mona, Maisie, Britannia, Beaver, Titfield Thunderbolt, Tich, the B2, and the Jim Ranford Climax (previously owned by the late Vic Scicluna and now in their collection), in addition to some of their gauge 1 engines. We also saw John H's Olympiade, David Archibald's 3 1/2" gauge 32 class, Brian K's Iron Duke, David J's Manning Wardle, and some of Dennis O'Brien's O gauge tinsplate collection. Another very historic engine on display was the late Arthur Sherwood's coal fired O gauge Allegheny, a proven passenger hauler. Almost invisible beneath it sat a tiny live steam 57 class in 1:240 scale (smaller than Z gauge!). These items were also brought down by Neil.

Following lunch on the Saturday, we had a special LBSC cake cutting ceremony with Peter Glover (who met LBSC), the cake having been very kindly provided by Neal and Jo. After lunch, a few engines did venture onto the track despite the regular showers. James ran his newly painted Buffalo, Joe Huntley from Lake Macquarie steamed Maisie, and Ben Maguire from Wollongong had his 3 1/2" gauge 8F (Martin Evans 'Euston' design) out for a run. Zac flew the flag for 5" gauge by having Tich in steam (with a variety of drivers including myself). Steve Malone from Queensland steamed his coal fired gauge 1 'Petrie' on a circle of track provided by James and set up on the signal box concrete.



Graeme with his H class is hastily pursued by James with his Manning Wardle on our Family Day.



**Tony gives his newly acquired Kingscale GWR 14xx a run, complete with temporary front-end modifications!**

The Sunday was a little drier, but with less visitors. Warwick steamed Beaver, which ran successfully until the motion locked up. The engine then had to be lifted onto the works van and transported back to loco. Andrew then steamed Vic's Climax, which managed a couple of laps before some trouble was experienced with a gear slipping. This saw the B1 brought for a run to finish off the day. James also ran Buffalo again. Many thanks to all who helped make this a great weekend despite the rain!

### **Locomotive & Rollingstock News:**

Since the last newsletter, we have witnessed the completion of several interesting locomotive projects undertaken by members. James has successfully completed and steamed his 2-8-0 Buffalo, his first (and the editor hopes not his last) locomotive in 3.5" gauge. This engine, originally started by Peter Bradley, passed its steam test on the August running day, and has since received an attractive coat of paint. While a few initial minor problems have required sorting out, as already mentioned in this newsletter, the engine has been running quite successfully since. I can report from firsthand experience that it is a pleasure to drive!

Likewise, Warwick has completed the (major) overhaul of his 3.5" gauge Beaver, a design closely linked with James' Buffalo. Finished in Canadian National livery and complete with sloping tender, this locomotive was given a successful steam test on the Saturday before Small Gauge Day. A problem with the valve setting prevented a run taking place, however this was achieved on the Sunday of Small Gauge Day before the cross-

head picked up on the slidebar.

Keeping in line with the American theme, Warwick and Andrew have recently taken custodianship of the Jim Ranford built 3.5" gauge Climax, previously owned by Vic Scicluna. As already noted, this engine was also steamed on Small Gauge Day, and managed a couple of laps before it had to be retired back to loco due to gear slippage issues.

Warwick has also had his 36 class at the grounds for an accumulation test, following the fitting of new homemade safety valves. Warwick was most satisfied with the results, noting that they lifted "with not a pound more of accumulation and a sharp shut down when it drops below the red line". The V class has also recently been given a boiler test.

Tony K's 14xx has spent some time in James' workshop in order to have some modifications carried out, which has included fitting an injector and making more room to swing the shovel into the Firehole. David T officiated both a steam and hydrostatic on Graeme K's 2401 recently, which it passed with flying colours.

On the Saturday before running day, Simon successfully tested and ran his 5" gauge Springbok for the first time, minus tender. This has been the result of several years of work (interrupted along the way by a certain Blowfly), and it is a credit to Simon's skill and ability that it ran flawlessly on its first test. It is a beautiful piece of engineering and we look forward to seeing the engine progress further.

### **Model Engineering Activities:**

John L and David J have continued work on David's Manning

## Editorial:

The 5th of November this year marked the 50th anniversary of the death of the live steam fraternity's great hero, Lillian Lawrence, more commonly known by his pen name 'LBSC'. LBSC's influence on our hobby cannot be underestimated. A steam locomotive enthusiast from a young age, he largely pioneered the practice of building and operating passenger hauling coal fired live steam locomotives, something that had previously only been associated with the gauges 7 ¼" gauge and above.

Proving his theories in the famous 'battle of the boilers', LBSC made both friends and enemies through his writings in *Model Engineer*, and various other publications. While Henry Greenly and Martin Evans (or 'Copy-Cat Evans' as Curly called him) may not have been his favourite companions, LBSC established connections with other builders throughout the world, including Cec Mackellar, whose correspondence can be seen in these pages. His endearing style of writing and somewhat eccentric personality all the more added to his appeal, and many young tyros first cut their model engineering teeth on the likes of Tich, Juliet, Annie Boddie, Dyak, Iris, and Virginia, just to name a few.

The 50th anniversary of Curly's passing is a good time to reflect on just how much we owe him. The hobby may have largely moved on from the days of sitting side-saddle behind a 2 ½" gauge loco, but LBSC's legacy is still manifested in virtually every live steam and model engineering club across the world. Surely this is something to be grateful for. Nuff Sed!

**Nick Kane.**

Wardle project, which has included assembly of the smokebox and machining the chimney, and several valve gear parts machined with help from Simon. We have seen the first completed components for James' 12 class projects, including wheels, steel tyres and frames already put together. As one would expect, the engine is progressing at the usual rapid Sanders rate! John L has showed us some nice radius rods he has made for his Avonside, while Geoff H has exhibited his Speedy wheelset.

## Club Works & Maintenance:

John L has provided longer carriage bolts for holding the platform boards in place on No. 7 signal, and these were duly fitted. In addition to this, he has replaced the skirting boards around the bench covering the electrical boxes and applied a fresh coat of paint. John has also taken delivery of the new lathe chuck, and has spent some time setting it up. Martin D has been seen working on the signal electrics, which involved removing the wooden bench near the ticket office in order to access two electrical boxes hidden under the bench, this being done with assistance from a few members. Bernie has continued repainting our ground level signals, while Andrew, Tony, David J, Deven, Brad and Warwick have carried out some track checking, determining in the process which joints to lift and track formation to upgrade. David T has continued keeping our greenery in lovely shape, and Simon has given the ticket office garden a nice tidy up. Even Warwick was seen tending to our geraniums.

Peter W has been engaged in sorting out the magazines and books in the clubhouse, while Brad put in a great effort in dismantling the power hacksaw dashpot which needed repair. Neal has provided a second stand pipe, which has been fitted near the gates on the inner main that give access to the inner picnic area. This was achieved with help from Deven. Lionel undertook the task of filling our char bins, in addition to working with Warwick, James and Scott in welding an elevated bogie pivot back on one of our carriages which had come

adrift.

The floor of the ground frame has been lifted to attend to the reed switch below. In the process, a coat of rust converter, and then paint, was applied by James, while Cameron assisted Scott and Brad in releasing a frozen flat wheel. Simon then oiled the lever frame, and Brad greased some of the other wheels. Brad also obtained some new grease nipples, and set about replacing the existing ones. Mick, with assistance from Harrison, fitted a new 3 way valve to the weedkiller wagon, which now allows for a hose to be attached so that the pump can be flushed with clean water after use. Peter D, Paul B and Tony K, with help from several other members, have been hard at work on the ballast siding, welding together some separately manufactured track. John H delivered some 6m lengths of timber for the new footboards on the elevated points. After Warwick trimmed them to size, and a coat of paint was applied, the new boards were fitted by James, Geoff and David J, with assistance from myself.

## Diary:

December 2nd: West Ryde Neighbourhood Group run 11am to 2pm, members and friends Christmas Party from 3pm.

December 5: Members Meeting.

December 16: Public Running Day.

December 31: NYE run.

January 2nd: Directors Meeting.

January 20: Public Running Day.

February 6: Members Meeting.

February 17: Public Running Day & next Newsletter.

March 6: Director's Meeting.

# Small Gauge Day 2017



# Vale Vic Scicluna

## Eulogy by Mark Gibbons

Victor Scicluna was a very Special Person and a very dear friend - it was an honour to be his friend.

I met him in 1999 when I joined the Sydney Live Steam Locomotive Society at West Ryde - I knew then he was a remarkable man. The challenges of life often change people - and they can put on a front to deal with everyday life and its difficulties. This means the person you see on the surface is not the person who is underneath - Vic was not like that... he was a genuine person - a true gentle man in every sense of the term.

There are so many wonderful words to describe Vic's character. Some of them would be Honest, Humble (Vic was very humble in a special way), Dedicated Reliable, Caring, Helpful, Kind, Generous and Dependable. He had a remarkable sense of duty, putting other people's needs ahead of his own and he would often go out of his way to help you. He was very thorough in whatever he did.

Apart from his interest in steam engines, he had a passion for motor cars, especially VWs, British motor bikes, Photography, WW2 aircraft and New Technology - and like many of us, he especially liked that New Technology when he worked out how to use it! He was fortunate to work for Channel 7 in their film processing laboratory for many years - something he loved doing. We had so many wonderful times together and visited quite a few other Model Engineering Societies in the process.

It's hard to talk about Vic without mentioning Mary. They were married in 1960 and had over 55-1/2 wonderful years together. They were blessed with 4 children and many grandchildren. Starting out in Newtown they moved to Warner St in Gladesville where they had many happy years. They downsized in 2001 moving to Monash Rd. Although there was less space there for ME activities, Vic put an extension on the garage and so was able to continue his ME interests there with reasonable space.

Vic and Mary were a close, loving couple and Vic a very supportive husband. When Mary's health started to decline his wonderful character came to the fore once again helping her in every way possible. Mary passed away early last year and to say that was devastating for Vic and his family is an understatement. Just as he was beginning to come to terms with that, serious health problems started to plague him and he went through a major operation earlier this year. Vic's family have been absolutely wonderful in the support and help they have given him.

Life can be very difficult and hard to understand sometimes.... 2 months ago I didn't think I would be standing here talking to you about Vic today... I last saw Vic 2 weeks ago and am very grateful for the opportunity to have seen him then... So often it seems to be the the nicer people who suffer more in life than the others... despite being a Christian I do not understand why that is.

Vic helped me in so many ways and I learnt a lot from him too. I helped him where I could as well - that's what friends are for. In many ways he was like a father to me. Vic has left me with so many happy memories, photos and videos too - I thank him so much for that.... Most of all - I thank you for being my friend Vic.



# LBSC vs the World!

Warwick Allison

LBSC was born in 1882. By the 1950s he was nearly 70 years old and in the last 10 years of his writings. During his time he had his disputes but as he grew older and others took to writing of small locomotives, he turned to criticism of what were either copies of his ideas or worse still, where they strayed from the straight and narrow.

The Model Engineer editor let most of this flow into the pages of the magazine. Perhaps the Knight of the Blue Pencil was working overtime as it appeared to be civil but still pointed. In 1951 LBSC commenced the description of Britannia. Around the same time J.J Austen-Walton was describing the 'Twin Sisters', a 5 inch gauge LMS 'Jinty' 0-6-0. The Twin Sisters design had many unusual features. The method of its description was different to LBSCs, the boiler had unflanged plates, rod stays were used to support the crown sheet, and an alloy called Silbralloy was used to put it all together. As well the stays were tapped into the inner plates but were plain in the outer plates, as well as having stay heads inside and being fully silver soldered. Plates were 14g or 1/8" thick.

By comparison, LBSC specified flanged plates, screwed stays tapped into both plates sweated with soft solder, and girder type stays for the crown, plus various grades of silver solder or brazing strip.

Silbralloy was a self fluxing silver solder, and while it is difficult to determine now it's precise constituent parts, it would be fair to say it would have been high phosphorus and not permitted in our current boiler code. The high phosphorus is known now to react with the sulphur in coal resulting in its deterioration and failure. Knowledge of what the various alloys did would have been fairly sparse on the ground, and the editor permitted accusation and counter accusations to appear in the pages of Model Engineer.

LBSC was scathing in his criticisms. In his inimitable style, he referred to Austen -Walton as Bro. Hyphen.

LBSC pointed out that adequate drawings showing the valve gear had not been provided. A-W counterclaimed by saying

that adequate information had been provided. Additionally he went to propose a new type of vacuum brake with triple valve but gave no details. This got him into hot water with LBSC and other correspondents pointing out that vacuum brakes needed no triple valve. His response was to "wait and see when it is all revealed!" He also explained the handicaps he was working under but said "...if ever I am unable to make *all the models entirely myself*, that will be the time to stop." Clearly a reference to LBSC describing designs he had not built.

Eventually LBSC devoted an entire article in the March 19 1953 issue to one of boiler design. He went on in some length on past experiences and stories before getting down to tin tacks. *His* boiler joints were sound *before* they are brazed! The plate flanges were rivetted in place then brazed. He explains how his unflanged throatplate plates were arranged for the pressure to close the joint up, rather than tear it apart like the others he flanged.

His discussion on brazing media is intriguing. LBSCs idea of a properly brazed joint used brass wire, granulated spelter or easy running brazing strip with a high brass content. He also uses silver solders such as B6 alloy or 'easy running strip'. He likes Sifbronze, a proprietary 'super-brazing' material from the Sussex Iron Foundry. His warnings are that overheating the easy running strip will destroy it and render the joint brittle, and it should never be used with an oxy-acetylene flame (presumably because of the ease of overheating). He states that Silbralloy should never be used for joints in a boiler unless the joints are mechanically able to withstand the pressure without the material. He states it needs mild heat as otherwise it will become brittle, porous and spongy. He quotes a 2½" gauge boiler built with Silbralloy that simply split under hydrostatic test.

On May 28 1953 he described a boiler with a multiple element superheater. In it he warns against using silver solder to seal the stayheads. He says it renders the stays brittle and they will eventually fracture! He explains also that he had a boiler where the rod crown stays had 'wasted away' and hence the reason he always used extremely strong plate girder stays for his crowns. There was no detail given of what the stays were made of or the circumstances in which they were employed.

The war on brazing materials carried on in the letters columns and in the November 1953 edition where an article by H.E



Scott Murray steams up his LBSC 'Virginia'.



Barry Potter's first engine— a live steam O gauge LBSC 'Amy'.

White BSc (!) analysed the main contenders in a presumably independent manner, clearly by a professional who should know. The various brazing techniques were discussed and an analysis of the various brazing alloys and their strength and ductility given. He also gives examples of plain stays silver soldered in! Like all good papers on commercial products it simply states facts and gives no verdict!

There is no doubt that LBSC's boiler designs were generally conservative with lapped and rivetted plates large crown girders and plenty of firebox side stays, even though it would appear that it was more a standard formula than a design worked out to achieve a determined stress level. Brazing materials were evolving and the high silver content products were expensive, making their use less attractive. The soft copper material would bend easily when subjected to pressure and the staying was probably more to avoid the firebox sides becoming 'pincushions' as LBSC put it, rather than exceeding any safe stress. Notably he did state that a fully silver soldered boiler is much safer from damage from low water, and thus recommended for the 'tyro'.

LBSC would regularly attack things he didn't agree with in his writings. While this was part of the attraction of his work, it did get pointed in his later years.

Today the clouds have dispersed and boiler construction techniques and methods have become simpler and stronger. No

longer are stays screwed and nuted. High silver bearing silver solders have become the norm, and the only 'brass' permitted is tobin bronze (which is still technically a brass!) High phosphorous, low silver bearing material is not used. Rod crown stays are easier and simpler than the girders, and while flanged plates are still typical, brazing is still permitted for throatplate joints while smaller boilers are rising in pressure and permitted to have unflanged plates. The strength of silver solder is acknowledged as being the main item holding our boilers together, rather than rivets, and its lower temperature providing an easier means of construction.

In 1970 Norman Spink described in *Model Engineer* how he made two Simplex boilers with plain stays, fully silver soldered using propane for heating, an advance on Alec Frammer who used a similar technique but with oxy acetylene. While this is a published paper, it is clear that much earlier all silver soldered boilers were being made by individuals.

So the battles of the past have had winners and losers on both sides, but all contributing to our current standards.

If you are at a loose end for something to read, I thoroughly recommend the *Model Engineer* of the 1950s to 1970s. People such as LBSC, Martin Evans, K.N Harris, and many others were at each others technical throats, and the articles and letters column tell the stories!



'Tich', along with 'Maisie' and 'Juliet', was perhaps LBSC's most popular design. It has proved to be the first engine for many builders, including Warwick, whose example is seen here in the hands of Andrew on our 2016 Small Gauge Day.

## Duty Roster

**December:** W. Allison, S. Collier, G. Buttel, B. Millner, S. Murray, G. Tindale, P. Brotchie, J. Sanders, D. Shirke.

**January:** D. Thomas, B. Courtney, G. Croudace, S. Larkin, L. Pascoe, S. Sorensen, D. Lee, B. Wilkinson, G. Hague, M. Dewhurst.

**February:** J. Hurst, J. Leishman, J. Lyons, D. Mulholland, J. Mulholland, M. Yule, E. Lister, N. Woolley, B. Perrin.

**March:** R. Bishop, N. Bates, T. Eyre, M. Lee, R. Lee, P. Wagner, P. Taffa, J. Tulloch, Z. Lee, N.Kane.

**Gate:** December. J. Lyons, January. P. Lyons, February. D. Mulholland, March. J. Mulholland.

## Some Ideas

### Warwick Allison

I have been doing a few things differently lately and members may be interested in some of them.

#### Balls in Valves.

I became aware on the UK forums of the availability of silicon nitride balls. These are a modern ceramic material, extremely hard and more truly spherical with a better surface finish than the usual ball bearing. They also have a much higher temperature rating and a low coefficient of expansion. They are non conductive and thus do not suffer from electrolysis. They are also lighter than the usual stainless ball. For example, an 8mm silicon nitride ball weighs 1 gram compared to a stainless one at 2 gram.

They can be pressed into the valve seat (rather than biffed) and you don't need to replace the ball! Being lighter they should cause less damage to the valve seat or their lift constrainer, and there should be no corrosion of any type. Being more spherical they should also leak less longer!

So far I have used them in 3609s safety valves, and Beaver is fitted with them throughout. Time will tell how they perform. They are available on line from China in a great range of sizes.

The larger the ball the dearer they are, however they are quite inexpensive for our use.

#### Filling the Boiler

For many years I have used a normal clip fit hose connector to fill the V class boiler. For the adapter a brass clip fit joiner is used. These are cut a little to one side of middle. After removing the O ring a ring tapped 3/8" x 26 is silver soldered in.

On V1224 I have a 3/8" x 26 tail on the end of the blow down valve. On 3609, the threaded connector is placed on the water feed connection to the pump, located on the drag beam. This allows water to be fed in through the axle pump, thereby ensure the balls in the pump are not stuck as a bonus. This arrangement is very inconspicuous. Thus a normal clip fit hose can be attached to the adapter on the loco and water fed in reasonably leak free and convenient.

#### Teflon Piston Valves.

I was having difficulty getting a good seal on the piston valves. I had read good reports about using teflon in the piston valves. It appears the main critical point was to make sure the large teflon expansion did not jam the valve in the liner. Many years ago these type of valves were described by Maurie Turner who built a number of lovely South Australian prototypes. Since then they have been used by a number of people. The teflon is constrained within the piston valve body which is held together

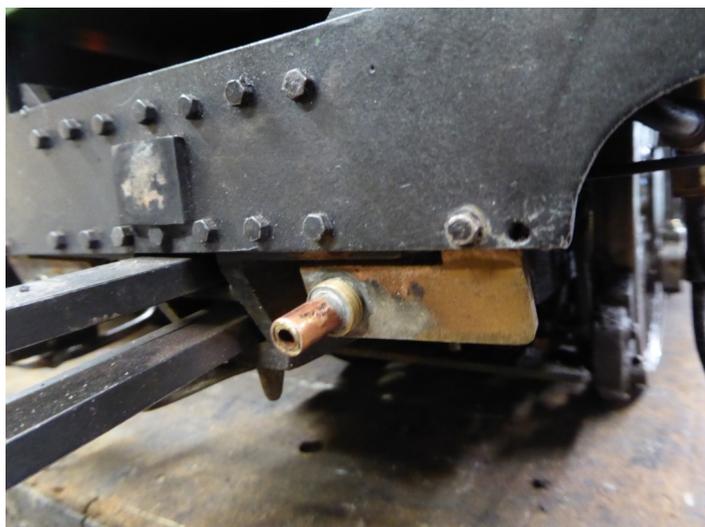


Photo 1: The water feed in connection with the threaded connection for the hose adaptor.

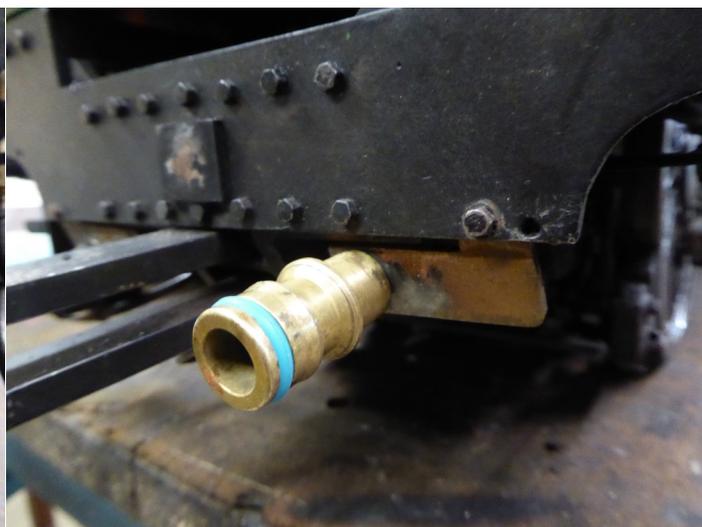
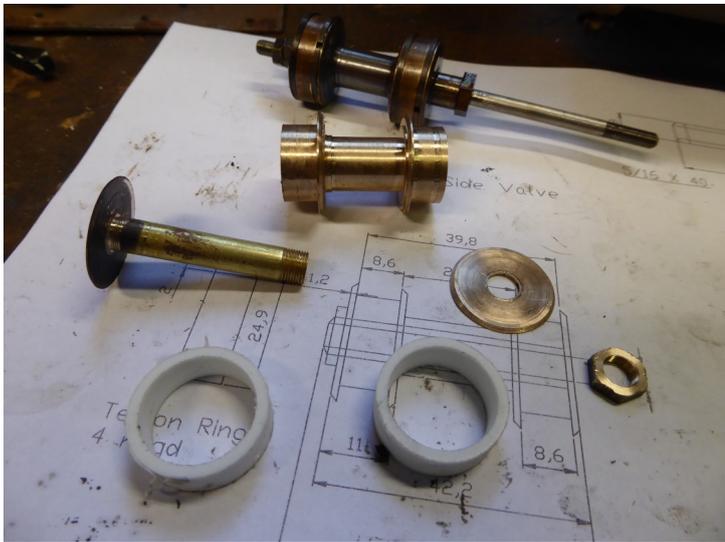
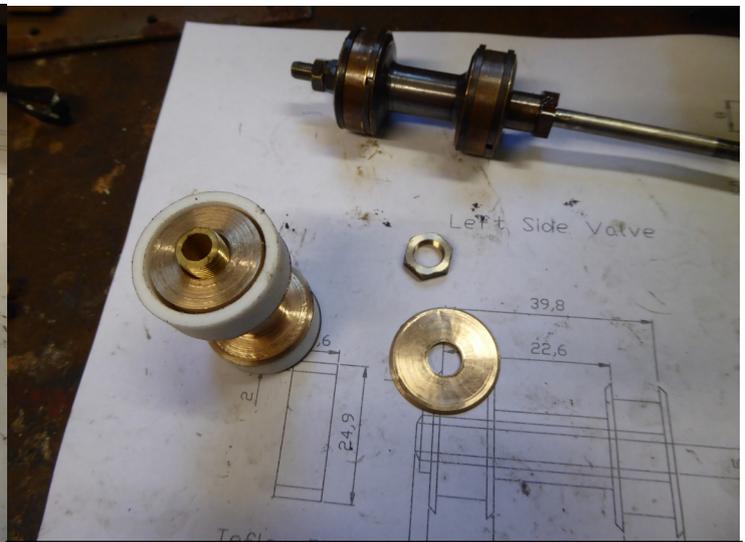


Photo 2: The adaptor screwed on and ready for the hose!



**Photo 3: Component parts of the Teflon piston valve with the original valve in the background.**



**Photo 4: The valve assembly awaiting the final end disk and nut.**

by the end discs by a central tube and end nut. The relatively close fitting discs form the usual valve opening edges and prevents it extruding outside the valve. The picture shows the components. An important piece of information was gleaned from Allan Wallace who has recently fitted them to his 3½" gauge 'Doris'. He suggested that machining the teflon to a diameter achieved at 70C would give the right amount of tightness for operating conditions. In the case of 3609 this was 0.008" for a 1 inch diameter valve. The teflon donut was easy to machine and was made only 2mm thick to reduce the amount of material subject to expansion. A gap was also left beneath the teflon. This avoided an awkward trial and error adjustment of the teflon diameter. The resulting valve was leaky under air but perfect under steam. Now why would you bother with any other sort!?

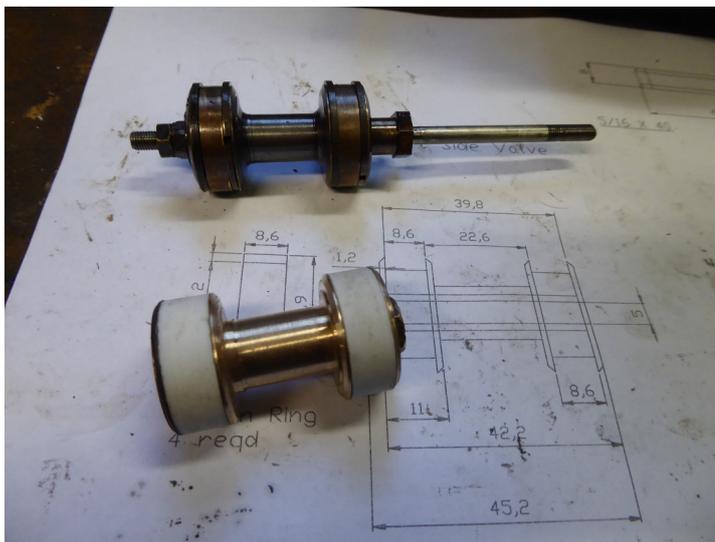
### Storage & Transport Boxes

Small locos and rolling stock benefit from having their own box for transport and storage. The boxes I have, have evolved over the years and have encompassed some suggestions by Andrew to be what they are today. The boxes can be stacked easily

(although they are not interconnected) and are the best way to move rolling stock without damage. However the large 5 inch locos will be too heavy to handle in the box, so in such a case they are storage or transport cases. Hinges, handles and door lock arrangements have proved problematic and this design avoids them (and reduces the cost too so you can use decent ply!)

The are constructed from plywood. Locos of medium 5 inch gauge size should use 19mm ply, while 4 wheel rolling stock I have used down to 9mm ply. The 9mm ply ones are definitely lighter but 12mm is a good size for strength. On the 9mm boxes I used a 12mm plywood base.

The internal size of the box needs to be a close fit on the rolling stock and I suggest no more than 5 mm each size. The top is a bit different because if you load at an angle they can sometimes jam if too close. As it is unlikely the box will be turned upside down, 20mm clearance on the top should be OK. ( I might say that if you are going to make a mistake it will most likely be the height!) The length should be over couplers although if a bit long sponge rubber can be used to prevent any rolling about.



**Photo 5: The old and new valves.**



**Photo 6: A typical storage box.**

To measure the width, length or height it is best to use a sheet of ply and hold it against the side or top. You will be surprised which bit sticks out furthest! To keep the vehicle central, a strip of thin ply or masonite just less than the wheel back to back is glued to the base.

The sides feature hand holes at the top ends. These are formed by a hole saw and then cut out between the holes, then filed and sanded to remove any rough edges.

I fit the base with two ply strips as feet. This keeps the base out of the mire (especially when wet) and are wide enough apart to locate over a 5 inch gauge track when unloading. It also avoids you jamming fingers if you pick it up from underneath.

I assemble them with Durabond glue and screws. The Durabond is very strong and water proof but expands out of the joint if used excessively. I have found it best to leave it and when dry it is easily trimmed with a knife. The sides are simply screwed into the edge of the base and top. Pilot holes prevent the plywood splitting.

The top and base fit within the sides and the back over the lot. This means when lifted the base is held on not only by the glue but by the screws in shear.

The door is a sliding door. A strip is attached to the top as a handle. Two strips of aluminium angle with one edge cut to the same width as the box material are secured to the sides using the door as a jig to get them in the correct position.

The whole is finished to suit your taste, but don't let the paint affect the fit of your sliding door!

### Silicone Tubing

Silicone tubing is also easily obtainable on line. It comes in a range of sizes. It is usually specified by its internal diameter and the wall thickness is usually quoted. This is normally 1mm or perhaps 1.5mm in the larger sizes. It is fairly soft and is cut easily with a sharp knife. It withstands steam temperatures very well, although it does expand a bit. It is very useful for gauge glass seals, and can also be used for stuffing boxes such as regulator glands. The gland only needs to be finger tight, and they last a long time.



Photo 7 (Above): Inside the typical storage box.

If you decide to buy some, make sure it is silicone tubing and not some other plastic type. About \$1 - \$3 / metre (free postage) depending on the size you want.

### Reversing Screws

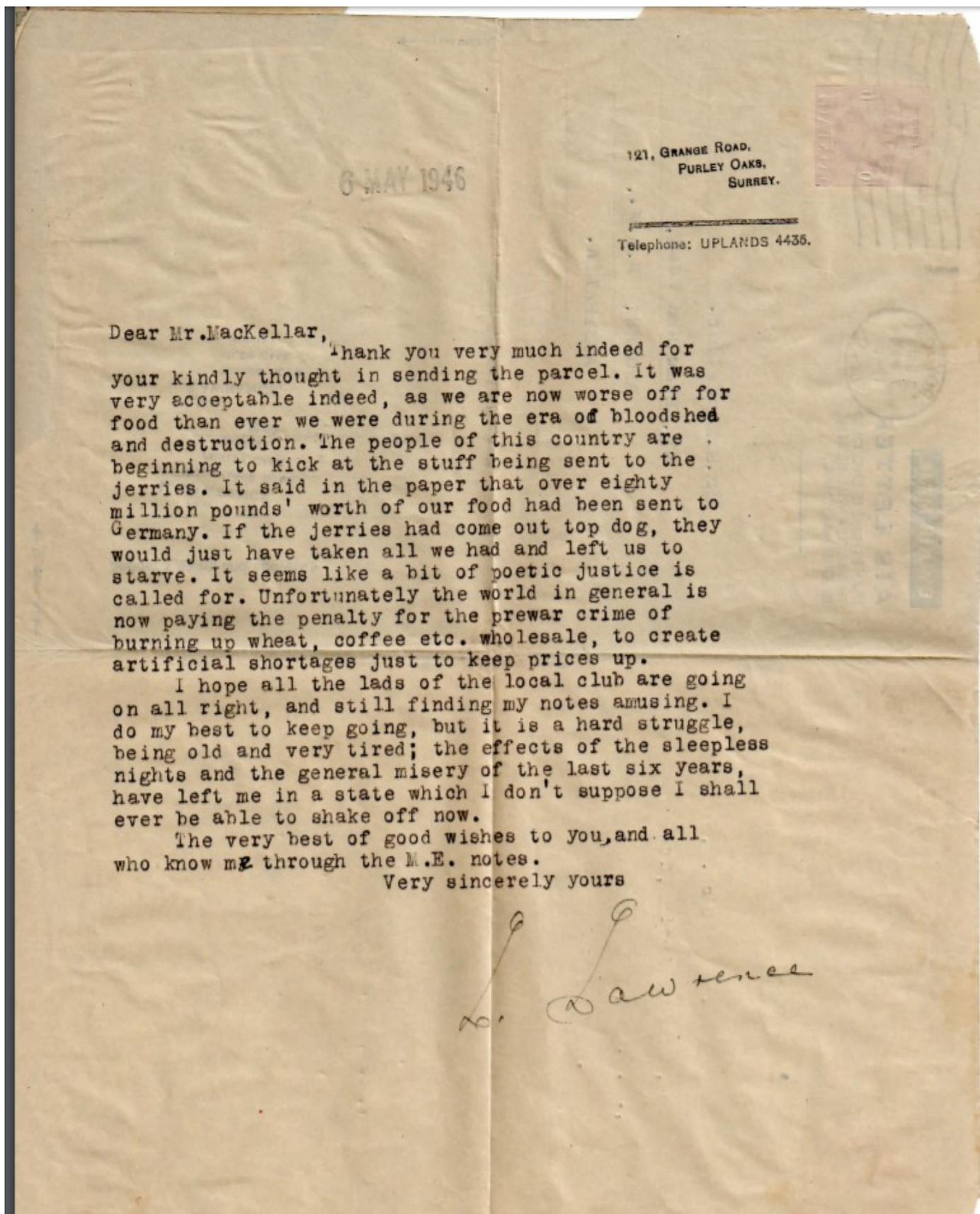
The production of a proper screw thread for reversers is always a challenge! Many 3d printers use a multi start square thread screw for their Z axis drives. These are 8mm diameter, made of stainless steel and feature a 4 start thread with 2mm pitch giving a movement of 8mm per turn. They are still right hand though! They come with a matching nut in brass. The nut should be soldered into the usual reversing block. They are available in varying lengths up to 500mm. They are available online and there are a lot of sites with widely varying prices, so look carefully before you purchase. In particular check whether or not the nuts are included. About \$8 (free postage) should get you one.



Photo 9: The 8mm diameter 4 start square thread screw!

## Letters From LBSC

Simon Collier has very kindly provided scanned copies of these fascinating 1946 letters sent from Curly himself to Cec Mackellar. These are now in Alan Mackellar's possession. LBSC was well aware of the presence of our society, and Cec Mackellar's home track at Rhodes which preceded it. He referred to the latter site as the 'Rhodes Live Steamers', and provided encouragement to establish a track for passenger hauling live steam locomotives.



121, GRANGE ROAD,  
PURLEY OAKS,  
SURREY.

ENG.

Telephone: UPLANDS 4435.

12 AUG 1946

Dear Mr. McKellar,

The cake arrived this morning all safe and sound, except for a big dint in the tin, which didn't matter as it never hurt the contents.

My fair lady and self send our very grateful thanks to your good self and the Rhodes Live Steamers for your kindly thought in sending something so very acceptable. We haven't seen a cake to equal yours, for about six years now; those in the bakers' shops are like sawdust concoctions, with hardly a currant in them, and we can't get the needful to make any ourselves.

Best wishes to you all, from us both.

Very sincerely yours

L. Lawrence



Above: The late Cec Gunning's 3 1/2" gauge 4-6-4 'Coronation', completed in 1957, on display on our Small Gauge Day.  
Below: Simon Collier testing his near complete Martin Evans 'Springbok' for the first time.



*'Newsletter'* is Published by: Sydney Live Steam Locomotive Society Co-op Ltd.

Track location is Anthony Rd, West Ryde adjacent to Betts St, behind West Ryde shops. 33° 48' 15.99" S; 151° 05' 12.78" E

**Telephone:** (02) 9874 8696. **Postal Address:** The Secretary, PO Box 124, West Ryde, NSW, 1685

**Web Page Address:** <http://www.slsls.asn.au>

Public Running Day is the **THIRD** Saturday in each month from 1.30pm. Entry is \$2 adults, \$1 children. Rides are \$1 each.

*To ride on the trains, enclosed footwear must be worn.*