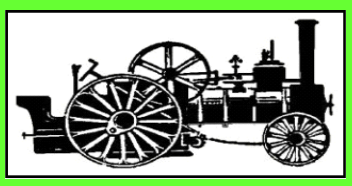
Issue 657 Oct 2025

A Wisp of STEAM SUPREME

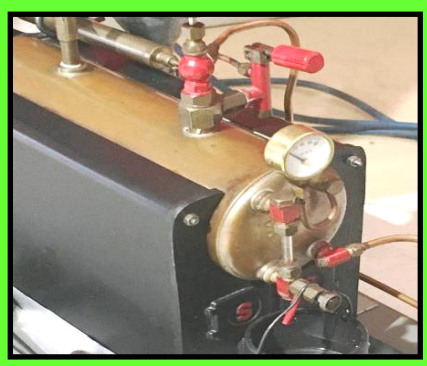


Extracts from tthe Melbourne Steam Traction Engine Club's Newsletter

Ross Shillton quickly reversing the Steam Shovel slewing engine.

Lets do our own Castings
Stuart tank headlight bracket

National Rally
Eyecatching flyer



Model Steam Engines
Front of Rogers minature boiler

SLEWING ENGINE'S FRST RUN

The big day was Thursday 16 Sept 2025 when our steam shovel slewing engine, now 100 years old, ran for the first time on steam since 1980 . Actually it took a bit of waking up after 45 years hibernation which was not unexpected.

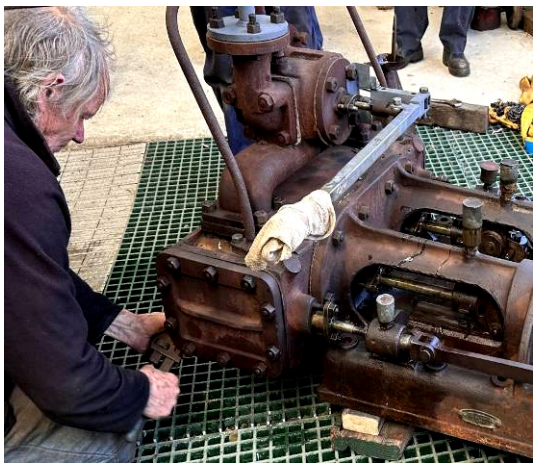
Laurie Hall helped by John Meade and Ray Bedford where primarily responsible for the restoration that over the last 2 years has included a complete strip down and freeing up of rusted pistons and trunk guides after cleaning off 100 years of gunk. It was all found to be in remarkably good condition with the only significant wear on the stems of the valve rods where they pass through the stuffing box. New rods were expertly made by Ray Bedford . The crankshaft was removed and journals polished up . The cylinder bores were honed as best as possible without removing the pistons. Attention was then turned to the valve gear with its quick reversing feature described last month . Careful understanding of how it worked allowed it to be correctly reset on reassembly .

← ***John Mills , Ross Shillton ,Laurie Hall and Warwick Bryce setting up the slewing engine for it's first run .***

↓ ***Laurie Hall and Ross Shillton flooding everything in oil in preparation the first application of steam .***

Last work day the Lyttelton crew arrived early to get up steam and while this was happening the slewing engine was brought over and plumbed up with a long length of 1 " copper. Laurie had already made up a 3 " flange drilled and tapped to take the copper pipe. He also made up a cunning linkage to be able to activate the quick reversing spool valve by hand.

With the Farrar now up to 40 psi the main steam valve was opened and lots of gurgling and discharge of water and steam took place from the drains and exhaust but no sign of the engine wanting to wake up . Some time was spent checking things over and tightening up joints and another try produced a few hesitant jerks. More fiddling and by this time the Farrar was up to 80 psi . This time a few hesitant turns and she was off with steam issuing from every possible place . The more we ran it the better it got and after several good runs was rotating very steadily in either direction with a nice even exhaust beat . At low speed there was a trace of bearing thump which disappeared after removing one shim .



The Quick reversing was put through its paces with the engine responding instantly .in both directions from any starting position of the crankshaft . In fact when throwing from full forward to full reverse the engine changed direction instantly with out any protesting or distress at all , just as it was designed to do . Most impressive it seemed to be able to change direction without stopping .

Close up view of Laurie's patent reversing lever. Being a pressure balanced spool valve no force is required to move it and it stays in the position it is left in

After an extended run the engine started slowing down , fitting a pressure gauge to the control valve out of curiosity , showed it would run right down to 5 psi . It certainly had limbered up nicely as the valves and rings bedded in . Exceptional for an engine that had been sitting around outside all its life.

The crosshead limbered up nicely as years of rust staining were expelled .

The next step is to turn attention to the racking engine , an identical machine except for the drive gear so this should be straight forward and another milestone.

Thinking back it is a years since we got the main engine running and with the cabin frame nearly finished painting and the wall cladding and corrugated roofing arrived . I think we are not too far off the home straight if you do not count the boiler !

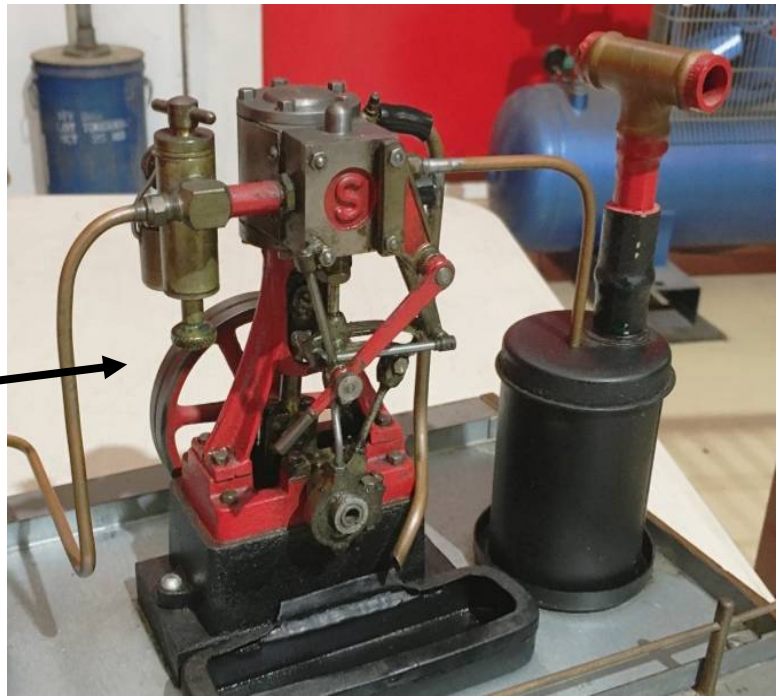
MODEL STEAM PLANTS have always been a fascination for boys of all ages.

A couple of RunDays ago this became apparent when young Spiros had his model steam plant on display down at the Club. It was set up on the arena safely out of reach of young fingers. He soon had it in steam and was operating it in accordance with full size practice under Greg's supervision .

That must have started something as the next Thursday Roger Pierson turned up with a model steam plant that he had just been given by an old friend. Not knowing much about it he thought we might be able to fill him on a few details and see if it would run .

Roger Pierson and Gary King inspecting Rogers latest acquisition a very early Stuart Turner miniature steam plant

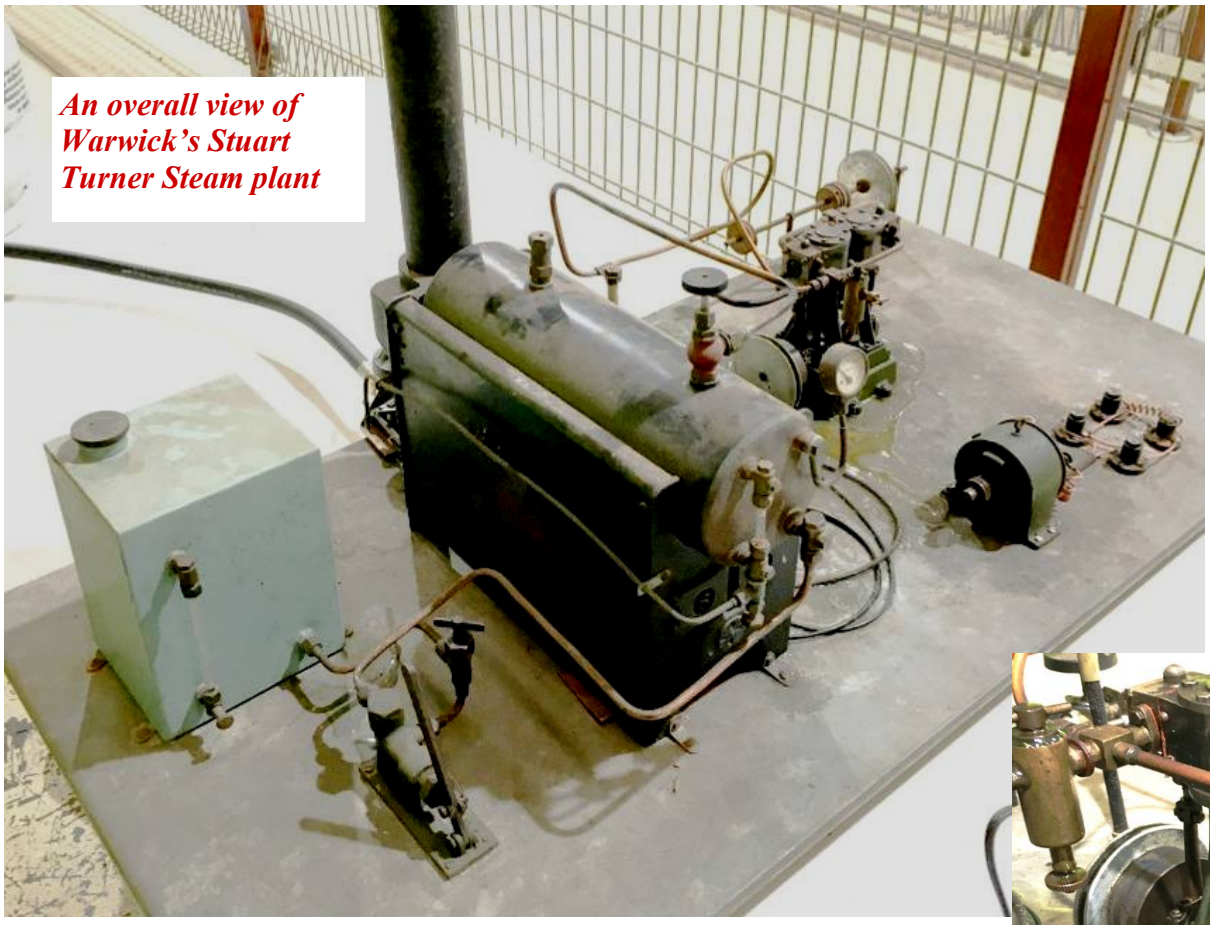
The boiler is a Stuart Turner 501 unit built to resemble a Babcock underfired unit with 4 water tubes and a superheater at 60 psi working pressure . It would have been fired by a vaporizing metho burner but that is missing . Roger's boiler has all its fittings and is equipped with a Stuart hand operated feed water pump drawing from a glass jar. Note the miniature tools including shifter , oilcan and funnels



The steam engine has been identified by John Mills as a Stuart 10 V . Tenth model commercially offered by Stuart Turner available in kit or assembled form . It is a single cylinder double acting vertical engine of 3/4 in bore and stroke with Stephenson's twin eccentric reversing gear. Note the working displacement lubricator hanging off the steam pipe just before the engine .

On these lubricators, when the main steam valve is opened, a proportion of the steam finds its way into the lubricator body which is filled with special steam cylinder . Being off to the side it is cooler than the steam so a proportion of this steam will condense back to water which sink to the bottom of the oil **displacing** it upwards so it slowly overflows into the steam supply pipe to lubricate the engine . In this way lubrication to the cylinder is automatically proportioned to the steam pressure (load) on the engine when adjusted properly .

Another Stuart Turner on display in shed 6 for the RunDay was a complete steam plant comprising 504 boiler of 3 1/2 " dia at 60 psi fully equipped with miniature pressure gauge , main steam cock and water level gauge glass . The boiler has 6 water tubes and a superheater underneath but is found a bit lacking in steam to drive the little 4 volt alternator . The burner is one I cobbled up so it might be a bit small . It has a Feedwater tank with water level glass and a hand feed pump . The engine is a Stuart No 10 vertical twin complete with miniature displacement lubricator .



An overall view of Warwick's Stuart Turner Steam plant

While being closely along the lines of the real thing the emphasis is on being capable of running miniature model machinery rather than a true scale copy of a real steam plant . Altogether a very nice set up but in need of a bit of TLC and perhaps a few more things to drive .

A closer up of the Twin cylinder engine basically 2 singles on a common base

Availability The traditional Stuart Model s , especially the steam plants displayed on the RunDay , are still available . They generally come in 3 forms **For the Model Engineer** a set of raw castings and billet material for machining the solid parts along with a set of nuts and bolts and accompanying detailed drawings.

Mostly early Stuart Turner raw castings found down the tip by Adam Powell. Obviously the project got too much for some old chap

The Enthusiast, who is not in a position to do machining himself but wants the pleasure of making something can get kits of all the machined parts necessary to put together a model for themselves .

The Collector can get already assembled and ready to run engines as well as associated accessories, necessary to build up a steam plant of their own .

While the engines and boilers are not exact scale copies of anything in particular they are well proportioned in the style of the real thing and put up a good performance so certainly make up and impressive and pleasing working display but you would want to check prices as they are not toys! Warwick

Stuart Models Overview

Stuart Models began as the model-engineering arm of Sidney Marmaduke Stuart Turner's engineering work, founded around the turn of the 20th century at Henley on Thames, Oxfordshire, England to produce small working steam engines, castings, kits and finished models for model engineers.

Founding and Early Development The business grew from Turner's hobby of making miniature steam engines and ordering castings for them. Publicity in early Model Engineering publications and steady demand led to a formal shop and works in Henley on Thames in the first decade of the 1900s, and the company built a reputation for accurate castings and well machined, working model engines.

Growth, Branding, ownership and recent moves

As Stuart Turner expanded into larger engineering work, the model range was branded Stuart Models (around the 1930s) and remained a core, long running supplier of castings, boilers, parts, kits and completed models; the brand changed ownership and location only a few times in its history, including a sale in 1991 and a relocation from Guernsey to Bridport in the 2010s, while continuing to supply the model engineering. Acknowledgements Generated by Microsoft Co-Pilot Artificial Intelligence

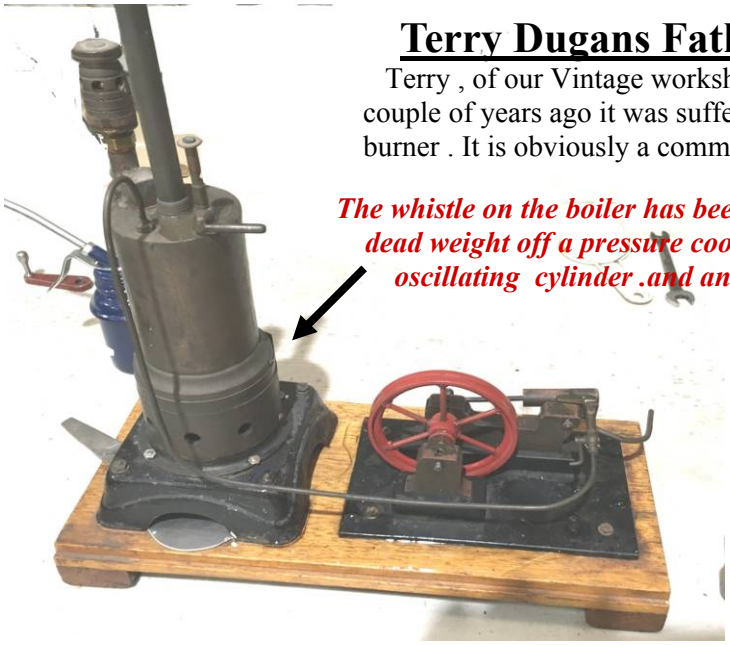
McGeehan's Engine

This was another model displayed working in pavilion 6 on the August RunDay . Note full size taps and press gauge

Unfortunately it is too late to find out the background of this curious engine so all I can do is speculate . It is a horizontal underfired boiler made from copper pipe with flanged ends riveted in . This leads me to suspect it might be soft soldered in contrast to the silver soldered Stuart boilers designed for a higher 60 psi. There is a fair bit of detail in the boiler casing with various hinged doors that can be opened to see the flame . Unfortunately the burner is missing so I just apply a propane torch up from underneath . It has pretty much the full compliment of fittings such as Safety valve , Main steam cock , and both Try cocks and Gauge glass for water level . Also a Blow down cock which doubles as a blow through for flushing the sight glass. It has been pointed out combining these functions is a No— No as fiddling with the gauge glass could inadvertently completely empty the boiler .

Engine wise it has an inclined oscillating cylinder engine which buzzes away at a great number of revs very smoothly . Being a twin cylinder is well balanced but does not represent any kind of real engine. In the steam line to the engine is a water trap for removing condensate when warming through . Now for the curious part all the steam fittings including taps and even the pressure gauge are the smallest commercially available full size parts with no attempt to produce a scale appearance as you would if building a model . One thought is maybe it is an instruction model for use in teaching steam principles in schools ?

Terry Dugans Father's Model .



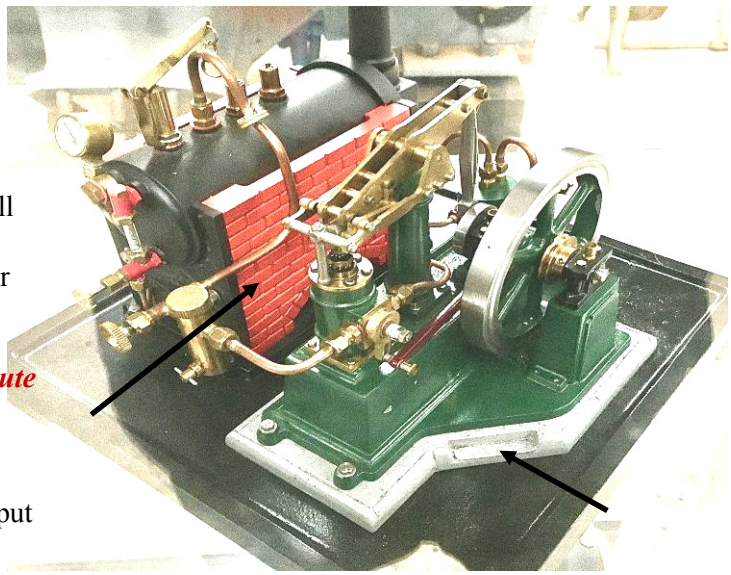
Terry , of our Vintage workshop , remembers seeing it running as a lad . Given to Warwick a couple of years ago it was suffering from a broken flywheel and missing it's metholated spirit burner . It is obviously a commercially made model with basic vertical single flue boiler .

The whistle on the boiler has been scaled down too much to beep but still gives the idea and a dead weight off a pressure cooker .is used as a safety valve . The engine it's self has a single oscillating cylinder .and an old style flywheel with cast in round iron spokes.

Warwick gave it a run on the Sunday and it went quite well with plenty of water capacity but the cobbled up metho burner is too small for continuous operation so there is scope for improvement .

This model is more along the lines of a working toy for a young lad with a mechanical mind and is probably not capable of doing real work

While not pretending to be an exact scale of any engine it would certainly be the cherished possession of any budding engineer. as Terry can attest !



John Davies Models .

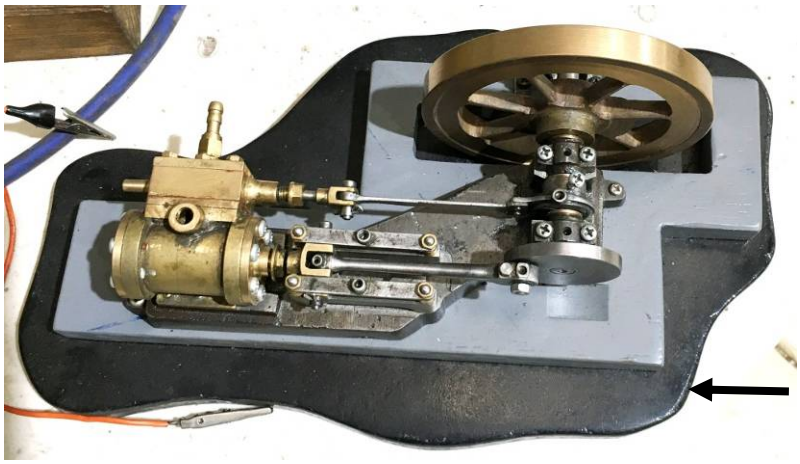
So we have just about covered all facets of miniature steam except John Davies models that can be seen on permanent display in our main building . These, with their fine detail and slender parts, are more rich mans ornaments than working models or a young lad's toy.

The detail is incredible while the engine has correct scale minute hexagon nuts the detail extends to the rest of the model as well .

Note the correct stretcher bond for the 1/2 thickness brick wall and diamond checker plate insert in the concrete step.

At best it might have been tried out once to prove it worked and put in a glass case . Pics and words Warwick

A Local Engine The final consideration is the origons of the models. Part of the appeal of this model, with its horizontal single cylinder overhung crank engine with slide bar cross head guides, is that it is locally made. It is very similar in layout to our Walker Sugar Mill Engine but 1/50 th the size . John Mills is pretty sure the castings are the product of Oliver Burnaby Bolton a Sydney optometrist who established his model engineering supply business in the early 1920's . Bolton is renowned amongst model engineers as a pioneer in the hobby both in Australia and abroad.



Following his death in 1974 the business was sold to Warwick Turner , one of Australians most renowned marine steam preservationalist who played a lead role in establishing the Sydney Heritage Fleet and for many years was king of steam preservation in Echuca. In later years when E. J. Winter took over he expanded the model business and today is still the place to go to for this type of

Machined up by Warwick from some of the tip casting . ***It has a 5/8" bore by 1 '' stroke . While it has not been on steam after a bit of attention to the ports,it can be blown over by mouth .(3 psi)***

Summing Up The Shed 6 August RunDay display really brought home the diversity of model steam engines . There was the highly priced fine scale models bordering on ornaments followed by well proportioned functional steam plants but not exact copies of anything right down to working toys that would delight any young lad and even what is thought to be an instructional engine with all the key working parts but not really looking like anything in particular. Couple this with engines ranging from already fully assembled to kits of unmachined parts and you have something for every taste and pocket. If that is not enough then there is the choice of local or overseas Western suppliers . How lucky can you be?

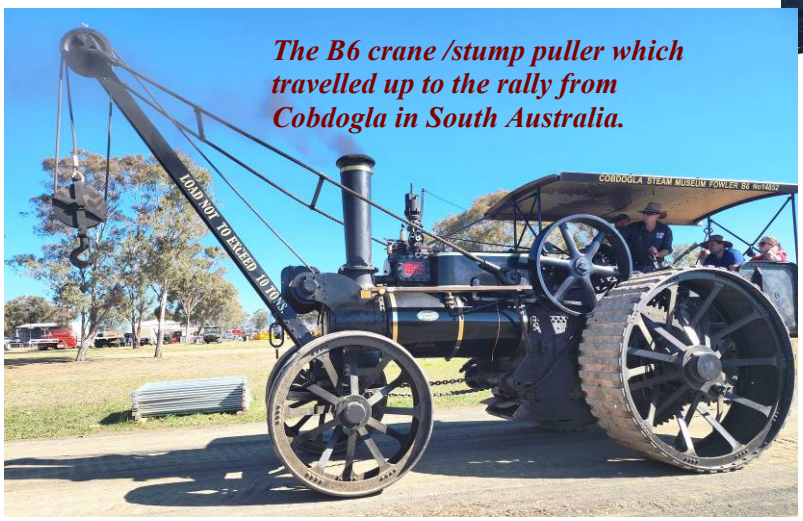
Steaming under the Southern Cross

By Jo Lloyd

This year's NHMA rally weekend was run by three Queensland clubs. They elected to extend the NHMA weekend by another week as "Steaming under the Southern Cross". On display over the NHMA weekend were a couple of hundred stationary engines and nearly 300 tractors and other vehicles. Most of these departed after the NHMA weekend but most of the 60 steam exhibits stayed on for the next week for "Steaming under the Southern Cross" as did Jo and Ross Lloyd

The B7 road locomotive. One of two imported for use developing Canberra.

Jo Reports All up there were a little over 20 steam vehicles. The most impressive among the traction engines were the two big Fowlers.



The B6 crane /stump puller which travelled up to the rally from Cobdogla in South Australia.

Amongst the engines from the many British manufacturers this very original looking American Buffalo Pitts stood out.

It had interesting Wolf valve gear infact the whole engine was

cont →

→ in contrast to the English engines with their emphasis on practicality and economy rather than stylishness and durability. The other American manufactured traction engine present was a big tandem compound Case.

The Portable Engine Display was Excellent . Almost all of the 18 engines were belted up and running implements adding greatly to the spectator interest and understanding.

← ***They were running threshers, chaff cutters, pumps, generators, a stone crusher, saw milling machinery, a variety of grain processing equipment and even a pumpkin chopper.***

The Canadian made → pumpkin slicer was apparently used for chopping pumpkins for cattle feed.

Another local exhibit was this Eclipse maize reaper/thresher.

Australian steam engine manufacturer Southern Cross was situated in Toowoomba only 20km from the rally site.

This portable one was displayed driving a maize husker. ↓

← ***Model T with tractor attachment. .***

This would have been quite an attention grabber . Information boards describe how you can convert your model T ford car into a tractor by buying this special set of rear wheels complete with substantial cradle and towing hook . After taking off the car's back wheels the rear of the car's chassis complete with original differential is sat in this cradle and the drive chains fitted. Better conversions also include improved cooling system and an engine aircleaner. Other literature suggested they were no substitution for a real tractor .

1914 fiat lorry and information board advising that it could carry 3 1/2 ton with a top speed of 16 MPH in 4 th Gear. From a 4 cylinder engine of 18 . 8 litre. I wonder whose it is ? . →

A much more workmanship machine than the model T Ford based contraptions but costing at least 5 times as much.

Words and Photos Jo Lloyd

Around the Club

A triumphant Ron King declares the clubs furnace is now ready to melt some metal .

Years ago we were donated the furnace along with some moulding boxes and tools from a Tech School and since then always looked forward to the day when we could do our own castings . Unfortunately the stumbling block was no burner as something special is needed to reach the required temperature around cherry red. Rob Hull came to the rescue and developed an automatically controlled waste oil burning system that is perfect for the job .

The crucible at cherry red . More than enough to melt aluminium and brass and a good chance of doing small amounts of cast iron .

Bright orange around 1000 deg C
Pouring temps Aluminium 700 deg C
Cast iron 1100 deg C
Brass 960 deg C
Steel 1600 deg C

Heave & Veer

The unusual use of the word VEER on the Lyttelton's quick reversing anchor winch , featured last month, generated a bit of feed back . These days Veer seems to mean a sudden change in direction e.g. the car hit the pot hole as it veered to avoid the kangaroo . Last month Wiktionary suggested Veer is a very old Norse word for "calamity, sudden danger, peril. A bit of investigation by ex seaman Bill McRobb reveals from 'The Oxford Companion to Ships and the Sea' in nautical terms it actually means " The operation of paying out a rope or cable. The word is most usually applied to a vessels anchor (sic) cable. (chain) "

Bill just had to be sure in the case of an emergency we would know what to do !

Talking of Emergencies these people certainly knew what to do . I arrived to find considerable excitement in our car park the other day . There were big red fire trucks with flashing lights and their crew, complete with their protective suits, hosing down a number of piles of material lined up along our car park behind an enclosed semi trailer . It seems the load had started smouldering while travelling along the tollway and emergency services had diverted the driver to the safest place to deal with it .Our front car park ! It appears in these cases the strategy is to discharge the offending material while creeping forward so it forms a series of small heaps that can be checked and cooled down if required .

Before long everything was under control and a series of tip trucks arrived and a low loader transporting a large front end loader . It was all soon scooped up and carted away and the car park smoothed of and left as if nothing had happened . Overall a very efficient operation and no harm done , a credit to all

Spontaneous combustion . While not knowing what the load was a condition can exist where a material catches fire by itself due to heat build up due to chemical or biological decomposition which can in some cases eventually reach it's auto ignition temperature.

Most common materials prone to this is are hay , coal , oily rags, manure piles and compost heaps . These materials are good thermal insulators so that as heat builds up the temperature rises more quickly and decomposition continues to accelerate until it catches fire.

A Lesson for Us All

The best precautions against spontaneous combustion are **Small Piles** so there is less concentration of heat . **Keep Dry** so the fermentation process cannot start. **Well Ventilated** area so heat can escape . **Avoid Prone Materials** such wet hay , compost heaps and piles of oily rags but especially any soaked in linseed oil as woodworkers might have . These can catch fire just sitting on the bench or in the bin.

This U tube bucket caught fire by its self after several hours Internet pic →

Navy Visit

On Thursday, 4 September a small group of trainees from HMAS Cerberus visited the Club The group was made up of trainees who are on General Duties which means they are not doing their studies at this time. The Thursday crew made sure their visit was interesting and worthwhile - Bill showed them around the steam section as well as the Lyttelton area and also demonstrated the ancillary engines, Ian showed them around the diesel section and then the diesel team started the Willans and the V12 Dorman - they were all fascinated with the Willans, and then the diesel crew walked them through most of the other sheds. The long term aim is potentially for some of the trainees to assist for example, on the re-assembly of the Foden (once we have a plan), or any other material project that relates in some way to their training. Thanks to the Thursday crew for taking time away from their projects and ensuring the trainees had an interesting visit. Chris Glassock & Len Brighton

Len Brighton photo

Steam Shovel Update

With the boiler in limbo work has been surging on with the cabin frame which is now getting its final coat of paint . Robert Jones has put in a tremendous effort to get specially rolled and curved heritage profile corrugated iron for the roof, down from Queensland . The only place in Australia still doing it . Also thanks to Rob new galvanized flat sheet for the walls was picked up at an auction at a bargain price. After all this effort it is a bit disappointing that after 3 months we are still waiting for the bolts to put them on.. It was not thought 3/8 Whitworth would be so hard to get !

In the mean time attention has turned to the coal bunker severely damaged from a fork lift attack before we got it . ***The bunker is not actually the original as this rotted out years ago but a poorly fitting substitute .***

The Blacksmiths have been weaving their magic on this one and with just a bit more tweaking it should be as good a fit as the original .

With the substitute straightened out and offered up it was obvious that it should go inside the corner post not around it or the back wall will not fit .

Peter Lynch

Unusual Railway

Peter Lynch is enjoying a holiday in Ireland and took time to visit this unusual monorail steam railway . The engine , shown here on the turntable straddles the single rail elevated on trestles .

I am looking forward to hearing the logic behind it as I imagine level crossings and points can be a challenge but there must have been some hidden advantage

LARTIGUE —Single rail system Mallet's Patent

Peter Lynch

LARTIGUE
Railway web page

Unable to control my curiosity I looked up their web page . Apparently Lartigue was a French man who spent too much time in the desert and was so impressed with pack camels he built a railway like them .
The mind Boggles

I am sure Peter will give us the full story .
Ed.

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Coming Events

SOCIAL MEETINGS

First Wednesday each month .

Regular Events : - MSTEC Social meetings, 8 pm Scoresby. First Wednesday of each month .
Museum open every **Thursday, Saturday** and **Sunday** . Miniature Train running every Sunday 11 am to 4 pm
Museum Machinery in action. Last Sunday of each month **Except end of year December.**