



Newsletter of THE PALMERSTON NORTH MODEL ENGINEERING CLUB INC

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TRACK RUNNING

This is held on the FIRST and THIRD Sunday of each month, from 1 pm to 4 pm Summer and 1 pm to 3 pm during the Winter. All club members are welcome to attend and help out with loco coaling, watering and passenger marshalling - none of the tasks being at all onerous.

Visiting club members are always welcome at the track, at the monthly meeting, or if just visiting and wishing to make contact with members, please phone one of the above office bearers.

Sender:- PNMEC
22b Haydon St,
Palmerston North

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This Months Featured Model



MAY MEETING.

A very interesting evening. There was a wide variety of 'Bits and Pieces' brought along which showed the diverse paths this hobby could lead one down.

Ian McLellan had the chassis of his 'Maisie' along for us to see the progress he is making.

Barry Parker had the 'Britannia' boiler he is building.

Richard Lockett had the superheater elements, blast nozzle, blower ring and exhaust Y for the NZR 'W'.

Fred Kent had the drive gearbox and generator for a small experimental windmill he is working on.

Stuart Anderson had the tender floor for the 'Mogul' that is keeping him busy.

Murray Bold had the rotating beacon for the lighthouse he is constructing for his garden railway.

Graeme Hall showed us the pipe bender he had to make to bend pipe for the replica diesel roller he is building.

Doug Chambers had the nearly completed axle pumps for a 'Phantom' he is completing.

Bruce Geange showed us a replica of the Meccano saw-bench he has completed. He was given an original to repair and he made a copy of it for himself before he returned the original.

Fin Mason had brought along **Jeremy Guest** for the evening. Fin had persuaded Jeremy to bring along the Bentley racing car model that he has nearly completed. The model is about 1.2 metres long. Jeremy explained that the scale was determined by the size of wire spoked wheel that was available. (ex wheelchair).

The car is not powered, nor does it have steering or suspension. Jeremy said that he set out to build the car from materials he had in the shed. The radiator is a superb piece of work and the paintwork and finishing is of a very high standard.

Having completed a prototype model he wants now to make a more detailed model with steering, suspension, etc. The Bentley certainly came in for a lot of close inspection during the evening.

Richard Lockett gave us a short talk on 'edge finding' and the various devices used from 'wobblers' through to the sophisticated and expensive device he purchased from Scott Engineering in Christchurch.

This device has an LED spot and an audio sound that are used together or singularly to locate the edge of work set up in the milling machine.

JUNE MEETING.

This will be held on the 22nd June at 7.30pm in the Hearing Association rooms, Church Street, Palmerston North. Members are requested to bring along their most unusual, weird, interesting, useless or useful tool.

Perhaps something made up for a specific task that for one reason or another worked, or failed to work as expected.

As usual 'Bits and Pieces' can be shown to the members.

COMING EVENTS

Mid Week Run at Marriner Reserve Railway

27th June between 10.00 am and 2.00 pm
25th July between 10.00 am and 2.00 pm
Please contact Doug Chambers beforehand.

Track running at Marriner Reserve Railway

2nd July 1.00 - 3.00 pm
16th July 1.00 - 3.00 pm

OPEN WEEKENDS

Hawkes Bay Model Engineers
Mid-Winter Open Weekend 22 -23 July

For Sale

A 5" gauge driving trolley for ground level track. It has eight wheels, (two bogies) and mechanical brakes.

Price \$200. Bernard Coyne Phone (06) 753 4528

For Sale

0-4-0 NZR Tr. In 7 1/4" gauge. Powered by a Briggs and Stratton via an Albion gearbox. Including a driver's truck. Asking Price \$3,200

Dennis McConkey Phone (04) 904 6195

The closing date for the next issue of The Generator is Friday 14th July

SUBSCRIPTIONS

After many years of holding the subscription rate at the same level, it has been decided to make a small increase. (Inflation adjustment).

Member \$30. 00

Country Member or Junior Member \$15. 00

Please make payment to the Treasurer (Barry Parker) C/o 22 B Haydon Street, Palmerston North, or give to Barry on club night.

MODEL MEE

The Palmerston North Model Engineers are going to have a Model Engineering Exhibition in the Leisure Centre, 26th – 27th August with set up on Friday 25th.

Members are asked to start thinking about what they have to display.

Bruce Geange (357 0566) and

Chris Rogers (356 1759) are the coordinators.

RAIL EX 2006

On the 15th –16th July Palmerston North Model Engineers will be operating the portable track outside the Barber Hall. Inside the Hall the table top railway clubs will be hosting their usual show.

The portable track will be in operation from 10. 00am till 4. 30pm each day and if any members are 'available to help set up and dismantle the track each day it would be greatly appreciated.

THE BENTLEY LEGEND

By Doug Chambers

Jeremy Guest's superb model of a 4 ½ litre, supercharged racing Bentley was the inspiration for this brief history of the racing Bentleys and the men who drove them.

Walter Owen Bentley had completed an apprenticeship with the Great Northern Railway. He built his first Bentley car in 1919. It had a 2 litre four-cylinder engine. By 1927 it had developed into a two ton car with a 90 hp engine and a top speed of 90mph (150kph). When you consider that the suspension was of the cart-spring type this was a creditable speed. In the mid-twenties Bentley began building the "Red Label" 3 litre cars. Still with cart spring suspension and at first with brakes only fitted on the front axle.

The 3 litre engine was followed by a 4 ½ litre which was sometimes fitted with a supercharger. Both these engines were four cylinder models and they were followed by a 6 ½ litre for a car known as the "Speed Six", which was of course a six cylinder engine.

The best known of the Bentley driver's were;

J. Dudley "Benjy" Bengafield M.D. a bacteriologist, Harley Street consultant.

Sir H.R.S. "Tim" Birkin

S.C.H. "Sammy" Davis.

Lieutenant Commander Glen Kidston

Clive and Jack Dunfee.

Frank Clement was the Bentley Works driver, and the best known of all was Woolf "Babe" Barnato. Barnato's father owned the half of South Africa that Cecil Rhodes didn't. Barnato had begun racing in 1920 and after winning the Le Mans race for the third time in 1930 he retired.

Barnato first raced a Bentley in 1925.

After winning several races at Brooklands he was approached by W.O. Bentley who asked him to invest in Bentley as they were in financial difficulties. Barnato was to recall later that his investment over the five years totalled half a million dollars and he had the satisfaction of knowing that he had given W.O. Bentley the best five years of his life.

In 1925 and again in 1926 Bentleys failed to win although they should have. In 1927 just five hours into the 24 hour race disaster struck.

Needing a win to assist sales W.O. Bentley was dismayed to realise that his three cars, one 4 ½ litre and two 3 litre were no longer running.

Finally Davis brought a badly damaged 3 litre into the pits. The front right-hand side was badly damaged, wheel, axle and frame all badly bent.

The three Bentleys travelling in close company came upon another car stalled on the racing line.

Davis's car was the only one able to continue.

Only the driver was allowed to work on the car and after he had done the little he could he and Benjafield took it in turn to force the car on at speeds up to 100mph (160kph).

The leading car was passed just two hours from the finish and the Bentley won a most remarkable victory.

In 1928 Barnato drove one of three 4½ litre (non supercharged) cars for what was to be his finest race. Birkin's car punctured a tyre and fell behind by a couple of laps. The second car suffered a broken oil line and then a broken chassis. Barnato's car was expected to crack its chassis and with four laps to go Barnato was seen travelling past the pits at only 70mph (115kph). The car was visibly sagging in the middle and water was seen to be trailing on the ground behind. The radiator hose was pulling away from the radiator. There were still 42 miles to run and with each lap the car sounded worse. When it finally took the chequered flag it was not capable of running another lap. W.O. Bentley thought that he had witnessed a miracle, as the car should not have been able to finish.

In 1929 Barnato and Birkin drove a 6½ litre to an easy win. The second twelve hours saw the pairing just cruising to the flag.

Later the same year Kidston told W.O. Bentley that he was going to race a supercharged 4½ litre Bentley. W.O. Bentley disliked the idea as he felt the supercharged cars would be unreliable and it would be better to have a larger naturally aspirated engine.

Kidston formed his own team and got millionairess Dorothy Paget to back him.

W.O. Bentley was to be proved correct.

The supercharged 4½ litre powered cars **NEVER** won a race. The best placing was a second in the French Grand Prix.

In 1930 Mercedes Benz came to Le Mans with a supercharged 7.5 litre SSK driven by Christian Werner and Rudolph Caracciola. Birkin drove a 4 ½ litre supercharged Bentley which 'blew' its engine while leading. Barnato had chosen to use a 6½ litre Bentley and he applied that much pressure to the Mercedes drivers that they had to use the supercharger all the time to keep in front which had not been in their plan.

Half the race gone and the howl of the Mercedes supercharger ceased and the Bentley's lap time was slowed by 10mph with the car coasting to victory.

The Depression was starting to have effect and the failure of the Company became inevitable.

With Bentley finally out of the way Alfa Romeo won at Le Mans for the next four years.

It would be twenty years before British cars would return to Le Mans.

EDITOR'S COMMENT

It has not been my practice in the past to criticise fellow model engineer's efforts but in this case the said efforts are from an Engineering Firm making 'kitset' locomotives for the model engineering fraternity.

The company is no longer in business but I expect that most of us have seen the advertising in the 'Model Engineer' some years ago and like myself you have wondered just how easy it was to assemble one of these 'kitsets'.

I recently received a letter from Stan Compton who told me that he has just completed the assembly of a 5" gauge GWR. 1400 class steam locomotive.

The owner had attempted to assemble the kit but after running into trouble he passed the chassis on to a more experienced builder. It was finally passed on to Stan for completion. When he received the loco the chassis had already had a considerable amount of work done on it and it could be run on air. Surprisingly there were no oil holes provided for lubricating the connecting rod bearings. Nor were any oil holes provided for the eccentric straps of the Stephenson valve gear. The boiler was well made but the bush at the top of the front tube plate that carries the dry pipe and the wet header was tapped 5/8" 26 TPI. The internal thread that goes over the dry pipe was 3/8" 32 TPI which should have been 3/8" 26 TPI ensuring easy assembly.

Inside the dome was a ¼" BSP Worcester ball valve, fair enough, but unforgivable were the mild steel links coupling the throttle with threaded steel screws and nuts to make the connection to the lever on the throttle actuating rod inside the boiler. Rusting would lead to problems there.

The crosshead water pump leaked and proved nearly impossible to remove without taking the boiler off the frames. The suction and delivery valves had to be reversed to get the pump working. The O ring gland leaked but when a new O ring was fitted the pump worked all right. The nitrile ball on the delivery side was replaced with a stainless steel ball as were the check valve

balls.

All the brass fittings were found to have threads that were too tight and these all were re-cut with a good 32 TPI die.

The designer was seemingly unaware that a model locomotive boiler is retained to the smoke box with two or more countersunk screws, not Loctite as specified. Expansion clamps should be fitted to hold the boiler onto the chassis and these I made up and fitted.

The sliding firedoors needed work before they would work easily. The pipe work needed a redesign for home assembly. After annealing the pipes I was able to assemble them as specified.

All the steam valves were found to be drilled out of line so that they would not shut off. Again the threads were too tight.

The hand pump in a side tank was found to have a missing stainless ball but once another was fitted the pump worked well.

The boiler blow-down valve needed re-boring to produce a true seating for the spindle.

All steam fittings are brass, no bronze is used even for the safety valve. The safety valve and the whistle were the only items to work correctly.

The union nuts retaining the gauge glass packing were so plain and oversize that the glass was difficult to read. I made up new ones and the water level became easier to read.

Stan's final comment was that he had no doubt that the list could be added to if he talked to the man who had set up the chassis. He **NEVER** wants to get involved again with any product from this firm. This after forty years of building and running small locomotives this one tested him to the limit.

Perhaps a little disappointing but after all it is a very complex project and not too many of us can claim truthfully that our locomotives have

performed perfectly on the first run. Perhaps the Company concerned should have taken enough of the parts out of the production line to build a complete locomotive and then they would have found the errors that were occurring during production.

BUYER BEWARE

Also via Stan Compton comes this warning. A man in New Zealand bought a 3 ½" gauge 'Jinty' 0 - 6 - 0 tank engine from England off the Internet. It came with a boiler certificate supposedly issued by the Hereford Model Engineers in England. The new owner emailed the Hereford Club secretary asking for confirmation of the certificate which was issued on 29. 3. 05.

Now here is the catch, Stan Compton is, and has been, for some time the boiler inspector for the Hereford Club. He has **NEVER** seen this engine or its boiler. He believes that someone has obtained one of their certificates and forged the details and signatures.

I have a photocopy of the certificate in front of me as I write and neither of the boiler inspectors' signatures is Stan's. Also he points out that a genuine certificate has a printed number on it and this 'certificate' didn't.

It does make one wonder if there is a serious fault with the boiler that led the seller to falsify a boiler certificate to facilitate the sale of the locomotive.

EXPERIMENTAL LOCOMOTIVE

The following picture shows an experimental 5" gauge 4 - 6 - 4 tank locomotive being built at Kinver just north of Hereford. The boiler has 24 tubes 7/16" diameter. There are 5 super-heater flues.

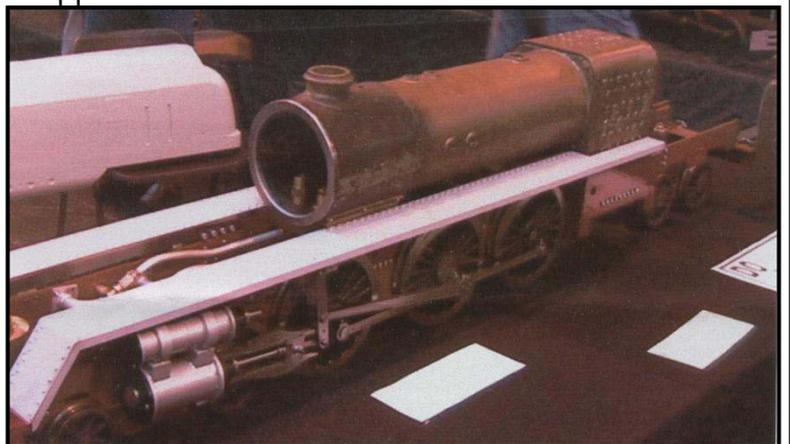
Note that the thrust of the piston goes to the twin rocking levers then to the connecting rod.

The two levers will span the guide bars.

The water tank will fit in front of the smokebox.

This will allow easy access to the boiler backhead for firing and operating the controls.

I wonder what arrangement will be made for cleaning the tubes?



The Generator

Thames 2006

Richard Lockett

The Thames Small Gauge Railway is one of the tracks that we seem to enjoy travelling to each year. Its all to do with the setting being located on a narrow strip of coastal reserve land, tidal estuary on one side residential street and tennis/squash courts on the other, with the track being of a figure of eight layout 900 metres in length.

Good to catch up with friends and others, the latest gossip from the north and to run me eye over any new locomotives in attendance.

There was a new steam locomotive running on the Saturday, the owner wasn't too happy afterwards having found that the flange missing off most of the driving wheels, how come you ask.

Now this was a large 7.25 gauge loco possibly the biggest around. A WATO design from Western Australia,



narrow gauge with the wheels inside the frames, bodywork 685mm wide.

The flange was machined to the design drawings and not to the standard to which we should all be using hence the flange was way to big to fit through the check rails in the turnouts etc.

A light loco will climb up over such impediments; a heavy one will destroy its flanges.

End of lesson

You're a brave man to take a 5-inch gauge engine away to some other tracks, with the maintenance not up to scratch for a loco to get around without derailing, it's a bit sad really. Graeme Learbourne ran on the Saturday until after tea then hightailed it back to Napier to be at work by noon on Sunday. Now that's a good keen man.



Graeme Learbourne's 5" Loco



Richard driving Mr Sandman

Thanks to the Thames members for their hospitality and to Murray and Janice Bold for allowing me a few laps in control of Mr Sandman.