

THIRD SUNDAY RUNNING ...

After watching the weather forecast very closely on TV for the last week it proved to be correct although I was told that there had been a very brief shower about mid-afternoon. The general public was a bit slow in getting going but eventually they became a steady stream for the rest of the day. Approximate figures were around the 600 mark. We also had a birthday group on site making good use of the picnic tables, etc. They were there nearly all day.

The day was a bit windy and quite cold and that must have prompted the public to have a sausage or two. Lloyd's grandson Brad "drove" the barbeque for most of the day and managed to sell all of the 120 sausages we had bought in. We were thinking of making a quick trip to town to purchase some more but decided against the move.



Fresh up from the basement where newly painted body had been fitted.



Colin taking the DC for a full-load trip. The loco has just received its coat-of-many-colours paint scheme but has still to have the signwriting applied.



Lloyd and his "N" Class being made to work hard with some very good loads.

CLUB NOTICES

3rd Sunday Running — June 21, 2015.

Mid-week Workdays — Mostly Every Wednesday.

ANNUAL GENERAL MEETING JUNE 10th AT 5.30 PM

PLEASE SEE PAGE 3 — (NOT MANY TAKERS YET)!!

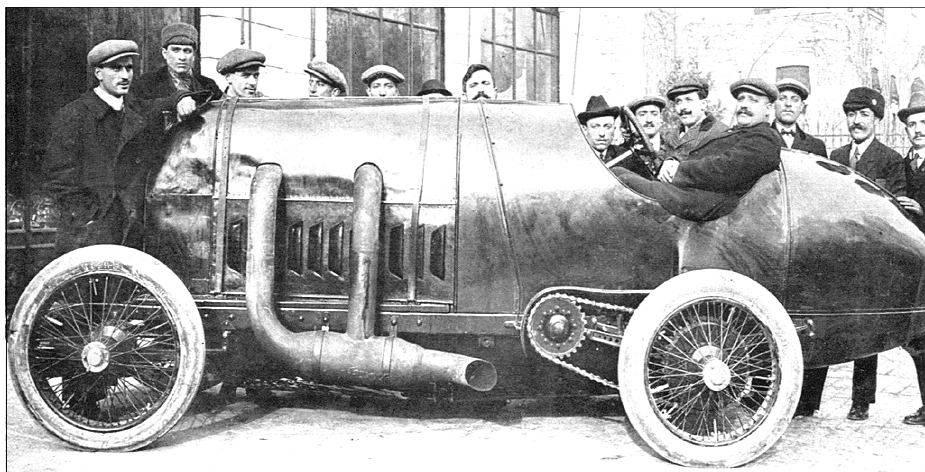
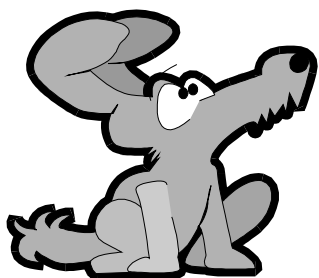
Extra Running Days This Month:

NONE ADVISED

THESE WORK IN WITH
MUSEUM "LIVE" DAYS AND
OTHER EVENTS

QUIZ — What is it?

For answer see Page 4.



WEDNESDAY WORKDAYS:

By The Editor



6/5/2015: Quite a warm day with only five present. Previously Rodney had installed the headlight and back-lit number box on the cab section of 444. Brian brought the cab back after painting it yellow and a couple of others proceeded to put some self adhesive insulation paper on the insides of it. The exterior of the barbecue shack has been painted, a start will soon be made on the fitting out of the interior. It was noted that the water tank was now almost full again after the previous wee accident.

20/5/2015: All metalwork on DC444 is nearly complete and exterior painted sans signwriting. Was in service on the regular 3rd Sunday and really looked the part. Water tower has been repainted and looks quite smart but the roof of it will probably need seeing to in the near future.

27/5/2015: The day's activities were cancelled because of the lousy weather.



Other Club's Events:

National Convention 2016: Hosts, Tauranga Model Engineers, January 7-11th 2016.

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“PEA, PIE & PUD NITE”

**IN CONJUNCTION WITH THE
A.G.M.**

**TO BE HELD PRIOR TO THE
MEETING AT 5.50 pm**



**IF YOU INTEND COMING ALONG COULD YOU LET THE EDITOR
KNOW FOR CATERING PURPOSES —**

TELEPHONE 434-3125 OR E-MAIL ME ON julianm@xtra.co.nz

WHEN USING PIPES ...

1. All pipe is to be made of a long hole surrounded by metal or plastic centred around the hole.
2. All pipe is to be hollow throughout the entire length — do not use holes of a different length than the pipe.
3. The ID (inside diameter) of all pipe must not exceed the OD (outside diameter) — otherwise the hole will be on the outside.
4. All pipe is to be supplied with nothing in the hole, so that water, steam or other stuff can be put inside at a later date.
5. All pipe should be supplied without rust. This can be more readily applied at the job site. NOTE: Some vendors are now able to supply pre-rusted pipes. If available in your area this product is a recommended thing, as it will save a great deal of time at the job site.
6. All pipe over 500ft (150m) in length should have the word “LONG PIPE” clearly painted on each side and end so that the contractor will know it is a long pipe.
7. All pipe over two miles (3.2km) in length must also have the words “LONG PIPE” painted in the middle so that the contractor will not have to walk the entire length of the pipe to determine whether or not it is a long pipe or short pipe.
8. All pipe over 6ft (1.83m) in diameter must have the words “LARGE PIPE” painted on it so the contractor will not mistake it for a small pipe.
9. Flanges must be used on all pipe. Flanges must have smaller holes for bolts, quite separate from the big hole in the middle.
10. When ordering 90° or 30° elbows, be sure to specify left-hand or right-hand, otherwise you will end up going the wrong way.
11. Be sure to specify to your vendor whether you want level, uphill or downhill pipe. If you use downhill pipes for going uphill, the water will flow the wrong way.
12. All couplings should have either right-hand or left-hand threads, but do not mix the threads, otherwise as the coupling is being screwed on one pipe, it is being unscrewed from the other.
13. All pipes shorter than 1/8in (3mm) are very uneconomical in use, requiring many joints. They are generally known as washers.
14. Joints in pipes for piping water must be watertight. Those in pipes for compressed air however need only be airtight.
15. Lengths of pipe may be welded or soldered together. This method is not recommended for concrete, plastic or earthenware pipes
16. Other commodities are often confused with pipes. These include: conduit, tube, tunnel and drain. Use only genuine pipes.
17. Scottish Regiments in the Army use Army pipes in unusual ways. These are not approved of in engineering circles.



ANSWER TO QUIZ ON PAGE 2:

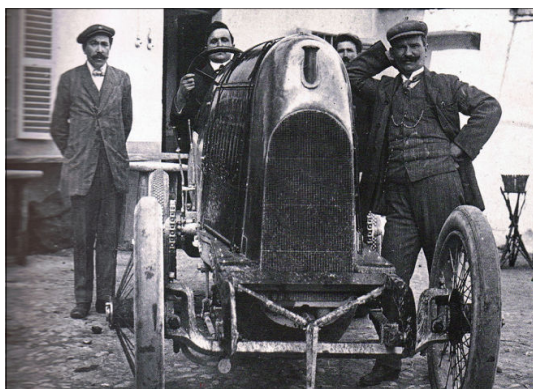
1911 FIAT S76 28.3 LITRE RACING CAR — (The Beast of Turin)

The quest for ultimate speed has led to some bizarre-looking machines, such as Fiat's elephantine S76. Built in 1911, it tried to wrest the land speed record away from Germany's "Blitzen Benz." (210 litre). Italian engineers came up with a monumental overhead valve (just four cylinders) engine of 28,353cc producing 300bhp at 1,800rpm.

At Saltburn Sands, Middlesborough, the intrepid factory driver Pietro Bordino forced the S76 to a thundering speed of 187km/h, setting the record for the fastest flying mile time. The French driver Arthur Duray — sponsored by a Russian Prince Boris Sukhanov — was said to have reached 220km/h with car #1 of the two built, but suspect timing equipment and bad weather prevented two runs within an hour — a requirement for a world record qualification. Sukhanov's team spent a further six weeks trying in late 1913 before admitting defeat.

Once the world's fastest car, it was rediscovered after a lifetime hidden on the other side of the world.

Finally awakened from its century-long slumber, 'The Beast of Turin' is one of two cars built by Fiat over the winter of 1910 and 1911 to take on the mighty Blitzen Benz. In fact, technically speaking, you could argue it's both cars.



Have a look at the height of the vehicle

The original rolling chassis is believed to be that of the earlier car, which set a new world flying mile record of 116 mph at Saltburn Sands in Yorkshire in 1911. The engine, meanwhile, comes from the second car, the rest of which was dismantled by Fiat after the First World War.

The remains of the car were acquired in Australia and brought it back to the UK in 2002. At the time it was just a rolling chassis - rusty, somewhat mangled and missing its engine and gearbox. Like a lot of Edwardian racing cars it had been 'modernised' in the 1920s, replacing the gargantuan 28.3-litre engine and body with something smaller and lighter.

While it hasn't been possible to positively trace the origins of the chassis back beyond its time in the 1920s as a modernised Edwardian Fiat racing special, he's confident that it is the missing

S76: "The chassis is certainly an original 1910/11 Fiat, the surviving pedals and steering box exactly match those within the Fiat drawings for the S76, as do the chassis dimensions."

When first identified in the 1950s the chassis and axles were thought to be that of an earlier Fiat S74, but the S76 is a recognisably different size and shape. It also uses a gearbox of uniquely unorthodox design, which results in the sprocket shafts from the transaxle passing through two large, distinctive holes in the chassis side rails.

All this, of course, was academic, until Pittaway managed to track down and acquire the engine from the second car. Between the two, he now had enough original S76 parts to make the restoration of a running Fiat S76 authentic and viable.

Perhaps most impressively, the restorer has manufactured a complete new gearbox from designs in the Fiat archives — managing the project himself despite no formal engineering training. The outwardly eccentric driveline layout is reproduced in painstaking detail, ready to face the 2000 or so lb ft of torque generated by the monstrous power plant. The restoration was undertaken by Duncan Pittaway and a team of dedicated workers. ■

Newsletters Received . . .

Title	From	Dated
BOIVR	Bay of Islands Vintage Railway	May 2015
Blast Pipe	{ Hutt Valley Model Engineering Society (Inc)	May 2015
	{ Maidstone Model Engineering Society (Inc)	" "
Fares Please	E.P.O.B. Society of Model Engineers (Inc)	May 2015
From the Engine Shed	Ballarat Tramway Museum (Inc)	April 2015
SWARF	Canterbury Society of Model Engineers (Inc)	May 2015
JOURNAL	New Plymouth Society of Model Engineers (Inc)	May 2015
The Generator	Federation of Rail Organisations NZ (Inc)	April 2015
Pukemiro Junction	Palmerston North Model Engineering Club (Inc)	May 2015
	The Bush Tramway Club (Inc)	May 2015

THESE MAGAZINES ARE AVAILABLE TO READ IN THE CLUBROOMS FOR APPROXIMATELY 1 MONTH



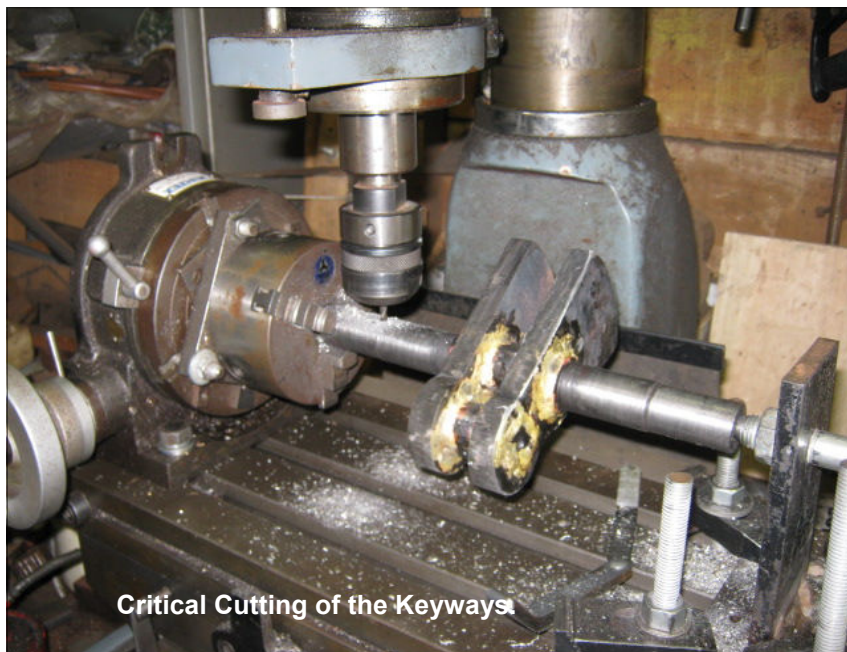
The story about the 20 wheels!

CONTINUED FROM LAST MONTH

The wheels themselves, as cast, weighed 7.4 Kg. each. Generally they looked fine. I noted a couple of spokes would need some bog and one nasty inclusion in the rim that took some grinding out. A considerable amount of fettling was needed on some of the wheels, as it would appear to me that the sand mould had shifted on at least two wheels and a lot of filing was needed on one half of the spokes. I suspect a clumsy sand caster or a long time awaiting the actual casting. In any event, I decided to proceed with some trial machining.

First problem!

My faceplate has six "T" slots and these wheels have 20 spokes. So I made up a plate of 16mm steel with six holes to take countersunk 8mm screws and attached this to the face plate and then "faced" it at the point where the cast wheel rim would "land". I then counter-bored a recess from the centre to accommodate the boss on the rear of each wheel. Laying a wheel on this dummy faceplate allowed me to drill and tap five off 6mm holes to take studs to hold the wheels between selected spokes. This was fine and the first wheel was mounted and positioned to run as near as possible 'true' to the inner of the cast rim. This proved very difficult as the rim had shrunk unevenly. However the best possible was all I could do and proceed to face the back of the wheel and also the back boss to be 3.5mm proud. I did all six wheels in this manner. I learned that the best speed was 120 RPM for the rim and 200 for the boss. The tool that did the best job was an old fashioned brazed tip tool, that was essentially a round nosed tool with a left handed triangular bit. I used this "hook" to do all the facing on all the wheels without re-sharpening! While set up, I also centred and drilled the axle hole with a 22mm Morse taper drill, as a preliminary and also as a mandrel mount.



Critical Cutting of the Keyways



Machining the Driving Wheels.

The next step was to turn the rim to be a shrink fit into the tires, while each wheel was thus mounted and bored.

All the tires had slightly different internal diameters. I had an Christmas present, from me to me, of a 300 digital calliper, which is far superior than the measuring stick I had when boring the tires. Thus all the wheels are turned to fit individual tires plus 0.010". I set up one tyre on a hot plate (a 300mm diameter, 16mm thick steel plate) and brought it up to plumber's solder temperature. Measuring when still on the hot plate indicated OK clearance. But not ready to fit yet, so back in the oil pot.

I had made the crank pins from a Land-Rover half shaft and had bored the wheels to size for the axles, when dealing with the tyre fit turning. A push fit jig was made up

to drill and then bore the crankshaft holes in the mill drill. I borrowed a club member's 1/4" broach and cut the keyways on all six wheels in an afternoon. The axles I made some time ago proved too short. I had worked on English wheel sizes and of course the NZ code calls for wider treads and thus longer axles. \$20 bought me a metre length of EN8 30mm diameter

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and new axles were made up. The leading and trailing axles were set up in the rotating table horizontally in the three-jaw and a dummy tailstock that I made up. I was able to cut the right and left hand keyways at 120 degrees without any trouble. The drive axle is a crankshaft to take the third cylinder con rod. This had been fitted with the longer axle and was set up in the mill drill to have the crank pin vertically below the axle centre. The bit of axle passing between the cranks had not been cut at this stage. All went well and the right and left keyways cut as for the other axles.



Boring the Crank.



Crank Pins.



Heating Crank for Brazing

Thus the present "to date" situation is that the three axles in their axle boxes rotate nicely in the boxes in the horns in the frames. The six wheels (which still need final fettling of the casting spokes), crankpins and tires are ready for final fitting, key steel has been procured. Brake parts are all made, as are all the springs and carriers, etc. ■



THE ROCK-HARD PAINT BRUSHES

Discovered the other day at the back of the workbench in the basement were about five rock-hard paint brushes. They were still in the tins they had been put in.

I guess they had been hurriedly thrown in with a drop or two of turps (or water) with the good intentions (hopefully) of washing them out in the immediate future.

That good intention obviously didn't happen.

An attempt to make them useable again was tried and all but one of them was beyond it.

PLEEZE ... knock off a few minutes earlier and have time to clean your brushes.

GOOD BRUSHES ARE NOT CHEAP!!

Life is like a taxi — the meter keeps ticking whether you're getting anywhere or not.

Of course I talk
to myself.



Sometimes
I need
expert
advice.



Lloyd Cross and Mike Orange double heading a large consist at the Hamilton Model Engineer's track earlier this year. Quite an impressive sight isn't it.



And talking of impressive sights ... preserved locos in Canada.

IF UNDELIVERED PLEASE RETURN TO:—

Whangarei Model Engineering Club Inc,
P.O. Box 10233, Te Mai, Whangarei 0143.

