

CRANKING

The Wessex Stationary Engine Club's monthly newsletter

July
2009

Thirty second
year of
publication

www.wessex-sec.co.uk

From the Sump

Please bear in mind that the September (not August) meeting will be consulted about the Theft Insurance I have been looking into for our members. Basically, it needs 25 of us to buy into the scheme, well under 10% of our membership. If you can't be there & wish to support it, please respond to me direct – contact details below.

I went to the Aero/auto jumble at Brooklands on Sunday. The entry price was £9 but £7 for me & the majority of visitors where bus passes must have outnumbered young 'uns ten to one! The museum is a very active one & every time I go there I find new things to look at, better presentation and lots of volunteers around to help.

However, the sale was nowhere near as big as I thought it would be & half an hour of head down looking & walking got it done. I found very little in the way of aero stuff & there were perhaps five stands specialising in old plane stuff. But it was an interesting day out.

I found a 6 volt dynamo, suitable for a stationary engine. a couple of Newton Pile voltage regulators, a very nice oval copper tank that was actually once a hot water bottle. The addition of a tap will give it a new lease of life! A twelve volt sports coil from 1930's in perfect order, a lovely little hanging lead lamp with fabric-covered cable that I swear has never been used. And a few other bits.

I wandered around the museum & was in the right place to see three blokes push start the Napier Railton, a record breaker in its day with a "broad arrow" W12, 24 litre, 500hp aero engine lurking under its lovely long bonnet. The body is plain aluminium & it had been polished that morning. It sat there in gleaming splendour as the engine burbled and clattered to itself. Next, they started and ran up a A.V. Roe replica with a Citroen 2CV engine, then an ABC "Scorpion" powered Bleriot AV10, a replica of the aircraft in which he crossed the English Channel 100 years ago this week. Then a powered glider from the '30's with an engine I didn't recognise. Finally, a Sopwith Camel, the rotary engine making its characteristic rustling roar, the displaced air from the whirling cylinders being readily heard over the bark of the exhaust.

All in all, an excellent day out & an easy run up the M4/M25/J10 & return in good weather.

Moving the Metal

For sale

Petter 8hp. 1919, M type. Class One prize winner, totally rebuilt reluctant sale. Best offer near £1.200.

Phone Eric Gay - 01225 754374

Enfield "Sloper" Diesel. Apparently in good order, free with compression. I'll never get around to it! Might **JAP 55 twin cylinder.** Ran fine the last time I tried. Probably never used in anger! Swap for something small & interesting. £140.00 for either (not both!).

Phone Kim Siddorn 0117 964 6818

WANTED

ABC engine. Particularly 1915 250cc Firefly but anything considered. Good price paid for the right engine!

Triumph twin WW2 genny or parts.

"Stationary Engine" Magazine. Now only need number 27. Surely there is a spare one out there somewhere? I would be more than happy to borrow a copy and photocopy it myself, guaranteeing not to let it out of my sight!

All above, Phone Kim Siddorn 0117 964 6818

This column works - a trailer, starting handle & a magneto gear were found.

Special notices

News from Earwig --- Several reliable sources have told me that the St Agnes Rally in Cornwall will be moving to a new site next year which is a purpose built showground in the Stithians area near Falmouth.

The Honeybrook Farm Rally, near Wimborne went very well and quite a few Wessex members were invited to attend, two of which set up camp in one of the farm's barns as on their arrival it was too wet to erect their tent, all was nice and cosy until 4am when the farm's rooster decided that they should have an early morning call and he kept calling and calling and calling !!

An editorial apology. In last month's edition, the Bristol & South Glos SEC rally was indicated as only being open to club members. This was a misunderstanding on my part as this only referred to their winter crank up, not the rally. My apologies to the B&SGSEC for my error.

The rally was well attended with over 60 engines, plus tractors, commercials, bikes, farm machinery & traders. There was a road run & the weather was kind

Articles, cartoons, photos etc are always very welcome – this is not a one-man band, but an expression of all our thoughts and experience. Submissions should be preferably typed or word-processed or even handwritten, (if brief), - it is the content we're after, not the grammar or spelling, so please don't feel your efforts will be ignored. The editor reserves the right to change, edit, augment or lessen your Deathless Prose and asks all to note that opinions expressed in this newsletter may or may not represent club policy

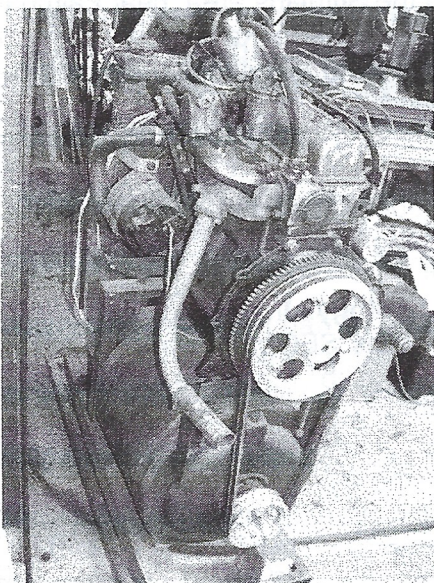
J. Kim Siddorn, 9, Durleigh Close, Bristol. BS13 7NQ or by e-mail to kim.siddorn@blueyonder.co.uk.

Featured Engine No. 31

Reliant 850 Generator by Roger Glover

The GEC generator was once part of a military mobile power trailer powered by a Coventry Climax four cylinder engine which had been converted to run on propane. One day the engine broke a piston, damaging the bore, so as a temporary measure, the offending piston and con-rod were removed. A Jubilee clip was fitted to the big-end journal to prevent oil-pressure loss. The valves for that cylinder were disabled and the unit put back into service with just three cylinders working. Soon after, this set was replaced with a Lister TS2 and a 'tiny' 1500rpm three phase alternator.

The alternator – which had been left lying outside until I rescued it – is a heavy (2 cwt?), single phase, 2 pole type so for 50Hz output it had to spin at 3000rpm. I was told that it needed 12 volts for field excitation but strangely there was no voltage regulation system with the alternator. A few sums indicated that at 100% efficiency, 8hp would be needed for full output and after allowing for losses, a guesstimated 10 to 12hp would be adequate. A rotting Reliant 3 wheeler supplied the power plant including the radiator. This 850cc engine was rated at 40bhp at 5500(?)rpm so with a another bit of 'pi by eye', I reckoned that it would produce something of the order of 12bhp at around 1500rpm. I then think(?) that the 1:2 ratio, if I was to run the engine at 1500, might cause beat problems with the engine-drive-alternator system so, I went for a non-harmonic ratio. With my mind set on belt drive, some time was spent squinting at the tiny print of my ancient Kemps, I came up with a design using twin 'A' section belts with a 9" pulley on the engine and a 5" on the alternator, therefore, requiring the engine to run at 1666rpm.



The pulleys and belts were bought and the engine was mounted on top of the alternator using bits of angle iron & some long studs to allow the belts to be tensioned. The pulleys were directly bolted to the engine's flywheel and 'well-drilled' flange of the alternator. Some wiring, an oil pressure gauge

and car rev-counter were connected to this lash-up and it was time to try to fire it up. I didn't have a starter solenoid so I used heavy jump leads, flashing the positive to the main 'go' terminal of the starter. After a few turns the engine sprung into life and ran reasonably well, if noisily. Initially, the oil pressure

was low at 20psi, but renewing the oil pump's non return valve spring increased it to 50psi.

When 12 volts was connected to the field, it drew about 4 amps which looked good. What I hadn't bargained for was the effect of the inductance of the field winding! When my 5 amp 120V dc switch was opened it started talking to itself in a buzzy husky voice, quickly followed by smoke, then flames as it dripped itself to the garage floor. Touching and removing the field wires directly to the battery and being able to draw 1/2" arcs gave me some idea of the back EMF produced by this hefty winding. I decided that it wasn't a good idea to do this after the battery had been recently charged by the engine's own 12 volt alternator!

Next, the engine was started and the idle screw on the SU carb' was adjusted for the magic 1666rpm and the field connected. Something must have been happening because the engine note dropped. A 60watt lamp was connected and it lit up beautifully, the 'idle' was readjusted to 1666. More and more load was added to about 5kW, adjusting the engine speed each time, and all was well. One annoying trait of this set-up was the way that the belts tended to flap about somewhat (perhaps I should have used 1500rpm after all) otherwise all seemed fine.

As I said the means of starting this lump was to flash the positive jump lead to the starter terminal. Once, I was a trifle careless in the replacement of the live jump lead to a place of safety and it managed to touch the oil filter where it did a fine job of burning a hole in the casing. I was quite surprised at the amount of oil at 50 psi that can squeeze through a 1/4" hole in the short time it took to stop the engine!

The next step was to build a governor of some form. Various ideas were considered but I thought that an electronic type would be easiest. The initial idea was to use the 50Hz output of the alternator but if there was a problem with the belt drive the engine could race to destruction, so the decision was made to use the contact breaker 'square' wave to feed a phase locked loop (PLL) referenced to an electronically generated reference frequency. The output from the phase detector of this PLL would be amplified and used to drive a model control servo with its electronics removed connected to the SUs butterfly. For starting, a standard throttle opening was selected & automatically disabled when the engine's 12 volt alternator started operation.

When tried, good old back-emf reared its ugly head again in the form of whacking great spikes from the ignition coil but some serious filtering sorted that, then lo and behold, the governor worked very well. A bit of hunting was sorted by a change of the loop filter response together with some adjustment of the output amplifier gain. Rock steady output speed from no load to 5kW but what I found most surprising was that the 240 volt output stayed remarkably constant over this load range – perhaps it's down to the quantity of heavy metal in the thing.

Calendar of Events for 2009

NEW SEPTEMBER EVENT

Aug 2nd . **Event.** Haynes rally. A one-day event as last year. Camping available from Saturday night. Free admission to the Museum.

Aug 24th . Club night. Member's evening – bring something from your "alternative hobby"!

NEW! Sept 3rd & 4th **Event.** Strawberry Line Miniature Railway at Avon Valley Country Park, Pixash lane, Keynsham, BS31 1TS, **Engines required.**

Contact Mike Bass, Tel: 0117 9860124

Sept 28th Club night. Guest Speaker:- Dennis Chedgely illustrated talk on 1930's RADSTOCK

Oct 4th .**Event.** Vintage & 4x4 Sort Out, A34/M4 junction, Newbury Showground (*Sunday only*)

Oct 10th .**Event.** Skittles and supper evening at The Royal Oak Corsley

Oct 17th **Event.** Winter Sort out at Cranmore Railway Station Yard.

Oct 26th . Club night. Guest Speakers:- Bob Burgess, Colin Dipper **TRADITIONAL ENGLISH FOLK MUSIC**

Nov 14th . **Event.** Engine Sort Out, Enstone, Oxon.

Nov 30th Club night. Guest Speaker:- Keith Shephard, illustrated talk titled A Look at the **ENGINE MAKERS OF WESSEX**

Dec 6th . **Event.** Winter Crank Up at Nunney Catch.

Dec 27th **Event.** Mince Pie Crank Up, The Court Hotel (**Note change of venue**)

ALL DATES ARE SUBJECT TO ALTERATION

Chairman's report (*printed as received*)

The club rally at Semington was blessed with very good weather and was quite a success. It attracted a good entry in all classes and provided plenty to see and do for the paying public who came through the gate. I manned the pay gate on the Saturday, aided by Henry and Oliver, from 9-30am until 5pm, and we took the sum of £740-00, which equates to 296 paying public. We do not know the final financial details yet, but I'm certain it won't be a loss. I won't elaborate anymore on the rally as I think a detailed report will be published by someone else. The club night at the O.D. on Monday 29th June had our editor Kim giving a talk, backed up with a DVD and his digital projector on Viking ships. This was a well researched and interesting evening's entertainment, I would personally like to thank Kim for giving us a very entertaining meeting and I hope that won't be the last. The August meeting at the O.D. will not be a crank-up as advertised but will be a member's night, bring along your other hobbies, interests, models, collections etc and put them on display for other members to marvel at. There will be a prize for the best display.

Social news

By "Earwig"

Belated congrats to **Martina & Paul Chant** on their 8th wedding anniversary on 17th June Our congratulations to **Gloria & Edward Carp** who celebrated their 50th wedding anniversary in July. Happy birthday to **Pete Gear** on 21st August.

The Wessex Midsummer Vintage Gathering

Semington, 20/21st June - by Eric Gay

I cannot thank everyone enough for helping make this two day event the undoubted success that it was. This write up is going to start with a long list, all of whom assisted in putting on the event that the members asked for.

First, thanks must go to the other two committee members that worked so hard and gave me their support all the way through, Kim Siddons and my dear friend Pete Gear. To our President Brian Verrell, Cars, Commercials motorcycles and much more, To Paul Chant _ now a Committee member - without who's help, dedication and unceasing hard work we would not have had the wonderful display of tractors and horticultural machines that we did.

To Herb Gane for transporting our rally equipment from the Fosse Way, the other side of Shepton Mallet to Semington, the supply of water containers for fire points and the loan of two generators, and all the help he and Wendy gave us over the weekend.

To John Bullock for the loan of generator and for all his hard work before and after the event. A huge Thank You must go to Don Rodgers for without your unstinting efforts over the whole of the event, we would have found it hard to cope.

Now to Saturday evening a big thank you to Mell for entertaining us through out the evening.

Now, what about the girls?, Diane, Linda, Christine, Wendy, Catherine (my daughter) Maureen and Mary. Thanks girls you did a fine job over the weekend.

With a very limited budget I had to go begging for help, I am not going into fine detail but **SPECIAL THANKS** must go to the following.

To the Selwood Preservation Club – especially to Pearl for your kindness. To the Wiltshire Agricultural Preservation Group. To the Castle Coombe Rally, to the Test Valley club, to Wessex Water for the supply of 500 gallons of drinking water free of charge. To N.B. Plant of Trowbridge for the supply of earth moving plant and for putting in all our stakes, again free of charge. To my niece and her husband Julie & Nigel for the supply of a PA system and marquee for crafts and models.

Now I have learned in life that if you don't ask you don't get, so it was as a beggar that I set out to get a few raffle prizes donated for the raffle. Letters were written and fingers crossed. Our best response was from H.J. Knee of Fore Street Trowbridge, with a Ten Pound Gift voucher so I then went on to buy another £100 worth of prizes from this company and a little more help was forthcoming. Wilts Wholesale donated a Bath Rugby Club's shirt with all the players names on it (a collectors item of the future?). Prospect Auto Spares donated a socket set valued at sixteen pounds, The Alms House of Church Street Trowbridge, two painting by numbers sets. Tesco Stores a bottle of wine, Asda stores Ltd., Leeks of Melksham also contributed. From club members came more raffle prizes, and I thank you one and all for your kindness. The Childress Hospice Southwest gave a 18 volt power drill on Saturday evening and this raised £40 00. A

kind donation of £90 from a club member was made direct to the Charity through the rally.

Now it takes more than raffle prizes to run a rally, without the wonderful support given by you, the club members, it would not have been the success it truly was. With seventy one engines entries from the WESC and more entering other classes, models, tractors, cars, and motorcycles this brought the total to over eighty. Other engine exhibitors made a total of 103 engines on Saturday and 92 on Sunday.

Thank you all for your loyal support and I can confirm that the rally will take place in 2010 on the same weekend, 19th & 20th June.

I will just give a mention to all those willing hands that turned up on Tuesday before the Rally and gave we poor old 'uns a hand you are not forgotten thank you one and all.

A Wiltshire Find - Summer 1978

By
Robin Lambert

For the many years that I had been travelling this winding Wiltshire back lane, I never really took a lot of notice of the rather dark-looking lump of ironwork that protruded over a high bank. Then, one day in the summer of 1978, curiosity really got the better of me and I just had to stop and take a look. After scrambling up the high bank and legging it over a barbed-wire fence (cursing as the barbs hooked into my trousers), there it was. "I reckon it's an old winch," I thought, pushing away the nettles that were growing over it. "No! It's not. There's no wire rope on it." After walking around it a few times, scratching the nettle stings on my legs, a good clue to this heap of rust came into view, a water pipe with a large brass top, not two yards away. "It's a well pump," I decided, and started to pull away the nettles. A small brass plate attached to the base read, "Fairbanks Morse. Made in Chicago." The stings on my hands did not seem to matter any more and I thought, "What a find: I wonder who owns it?"

It took me about half an hour to find the owner and after chatting to him for ten minutes or so, it turned out that he, too was a stationary engine collector, "That's put the mockers on it," I thought, "He's sure to want to restore it himself." But no! He said "If you can do anything with that old thing, you're welcome to it, in fact I'll give you a hand to lift it off the well. I've got enough to do with an old Blackstone I found three miles away, in a briar patch!" "Crikey," I thought, "Wiltshire must be a collectors paradise!"

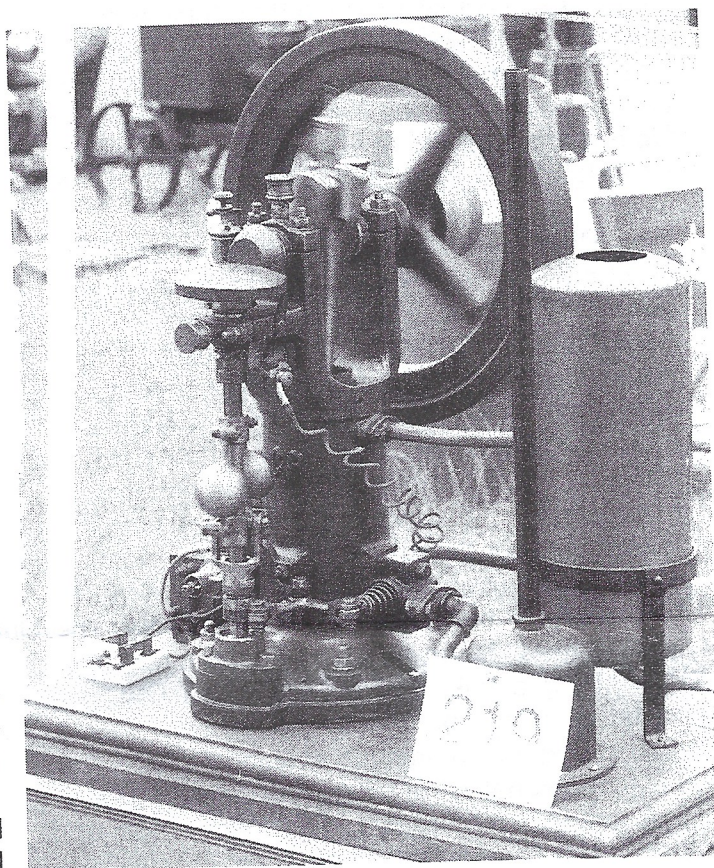
One weekend a few weeks later, he rang me and said "How about giving me a hand to lift that pump so I can cap the well with concrete?" So, armed with tools and rope, I was there inside half an hour. We dug around the base to find the pump bolted to two

large sleepers. We then tied a rope around the pump and lashed it to the fore-end bucket on his tractor.

Slowly we lifted it about two feet and then tied another rope around the two-inch steel pipe underneath. With a hacksaw I cut through the pipe, releasing the machine. A look at the pipe end down the well revealed a smaller pipe within the two-inch pipe. It turned out that this smaller pipe went up and down with the well head machine and operated a three-foot brass pump that was twenty-two feet down the well. Below the brass pump was a further twenty-two feet of two-inch steel pipe with a large brass filter on the bottom.

The well head machine was in quite good condition. All the castings were O.K. but two steel cogs needed to be made and the two wooden upright con-rods renewed. To exhibit the engine & gears would be one thing, but to attach the pump & working would mean an exhibit seven feet high!

So, if you are ever down Wiltshire way, keep your eyes open for pumps and Blackstones, there are still a few about!



Seen at the Astle Park Rally this year. I spent quite some time talking to R. Lemmens from Holland who was exhibiting this quite splendid "Compaynae Paricienne" engine. Dating from the 1890's when Toulouse-Lautrec was advancing the art of colour lithography, this little engine was thudding away keeping the mixers going in a Parisian bakery.