



CRANKING

July
2007
Thirtieth year of
publication
www.wessex-sec.co.uk

The Wessex Stationary Engine Club's monthly newsletter

From the Sump

Out of sight is out of mind they say. Long suffering & surprisingly reliable, magneto points are often ignored. They live in a closed box, frequently damp and sealed from the outside air. The interruption of the current flow caused by the cam forcing the points open does not stop the current dead in its tracks & it will spike as high as 400 volts, causing a spark across the points. The condenser ameliorates this arcing to a degree, but some will still take place. This ionises the air trapped in the points chamber & produces Ozone. We are used to Oxygen and never really consider what a nasty, reactive & corrosive gas it is – Ozone is worse!

The cloud of Ozone cannot readily escape & promotes corrosion, particularly at the points themselves, so it is worthwhile making sure that there is a small hole in the points cover. Personally, I always take the cover off for a few moments before I put an engine away, especially if I'm not expecting to run it for some months.

If your engine will not now fire the plug and did so perfectly well when you put it away, it might well be that the tungsten alloy of the points faces has corroded and is now coated with a nice thick layer of resistive medium. Cleaning the points in situ might only polish the oxide!

Remove the points entirely & have a good peer at the faces in a strong light. If they look dull & grey & a crust seems to have crept down off the operating faces, it's time they had a good seeing to. Personally, I don't like magneto files & prefer to carefully face the points using a bit of 800 grit wet & dry, lubricated with Brasso on a hard, flat surface. Make sure you keep the things flat when you are rubbing them. The small surface area means a few passes will see the job done – don't overdo it & clean the residue off with meths on a non-fluffy rag.

Reassemble and regap. If you have no feeler gauges with you, a thin card (fag packet cardboard) is about right or visually about as thick as your thumbnail.

Many a knackered magneto I've brought to spectacular life by trying this first. Next, I'd look at dirt & oil on the pick up brushes, make sure the points base earthing brush is contacting the base

Moving the Metal

For sale

Briggs & Stratton ZXP generating set, restored. £150.

Ruston Hornsby PT on trolley, restored. £150.

Lister D on two wheeled trolley, restored. £150.

Wolseley WD 1.5hp on trolley, restored. £170.

Bamford EG1 1.5hp on trolley, restored. £180.

Lister D & Lister H1 pump on wheels, restored. £180.

Four heavy cast iron wheels 10.5" x 3.5" £30.

All above - phone Mr P. Newton. 01373 812461

Corrbet corn grinder. On wheels, ready to rally £65.

Ferguson two furl plough £50

All above - phone Mr. Sheppard, WSM. 01934 812921.

JAP 2A driving a small compressor. On a steel carrying frame, Unusual first exhibit. £95.

WW2 Lauson engine driving a small compressor. On a steel frame. Even more unusual first exhibit. £95.

Both restored & painted to a high standard.

Petter A1 on four-wheeled trolley. Still in its Admiralty grey paint. Frugal first time starter. £95.

Petter PU8, rare WW2 marine engine on wheeled carrying frame. Not run for a couple of years £95.

Small old fashioned box trailer. Needs some TLC. Has spare wheel, lights fitted to tailboard & 50mm hitch. Tow away for £25 – no offers.

WANTED - "Stationary Engine " Magazine. Now only missing 16,17,18,19,24-34,36. Have early copies to swap!

All above – phone Kim Siddorn 0117 964 6818

Amanco 3hp. Restored & ready to exhibit. £500.

Phone R. Savage, 0117 962 2028

Amanco 2.25hp. £650 ONO. Restored using many new items & mounted on 4-wheeled trolley. Was exhibited at Mells 2006. Getting too much for me now.

WANTED - Flywheel magneto for 1.5hp Ruston PB. Must be complete & with brass starting dog.

All above - phone Richard Gill – 01934 517322

Allan scythe/mower. Circa 1950. Spare engine.

Generator, needs attention. £30.00.

All above - Parsons, 01761 452565

Chaff cutter. Good condition - £20.

Grindstone, foot operated £25.

All above, phone Dennis Hudd 01225 754749

Drummond lathe. Good condition, bench mounted with 1/4hp motor. £80.00 - phone Gordon 07941 724625

Stuart Turner P55, Free to good home.

Phone Geoff on 0161 941 1167 (Near Astle Park)

plate, look at the leads in the dark & ensure they are not leaking your amps away through their cracked rubber surfaces. Finally, a NEW modern plug can work wonders!

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 can be handwritten, (if brief), typed or word-processed - it is the content we're after, not the grammar or spelling, so please don't feel your efforts will be ignored. Opinions expressed in this newsletter may or may not represent club policy

Post to the Editor

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

Electrolytic Cleaning

By Kim Siddorn & Tony Davis

In the context of this brief article, electrolysis is a process that passes an electric current through an electrolyte, causing the migration of the positively charged ions to the negative electrode (the cathode) and the negatively charged ions to the positive electrode, known as the anode.

It isn't magic & good old elbow grease will still be required as the electrolyte & the destabilised corrosion products will leave some staining. However, as a method of shifting old paint, rust, freeing off rusted components like pistons and gears etc, it is easy, cheap & reliable. It is really only useful on ferrous metals and cannot be used on light metals and aluminium, zinc etc **will start to vanish** in a few minutes – YOU HAVE BEEN WARNED!!

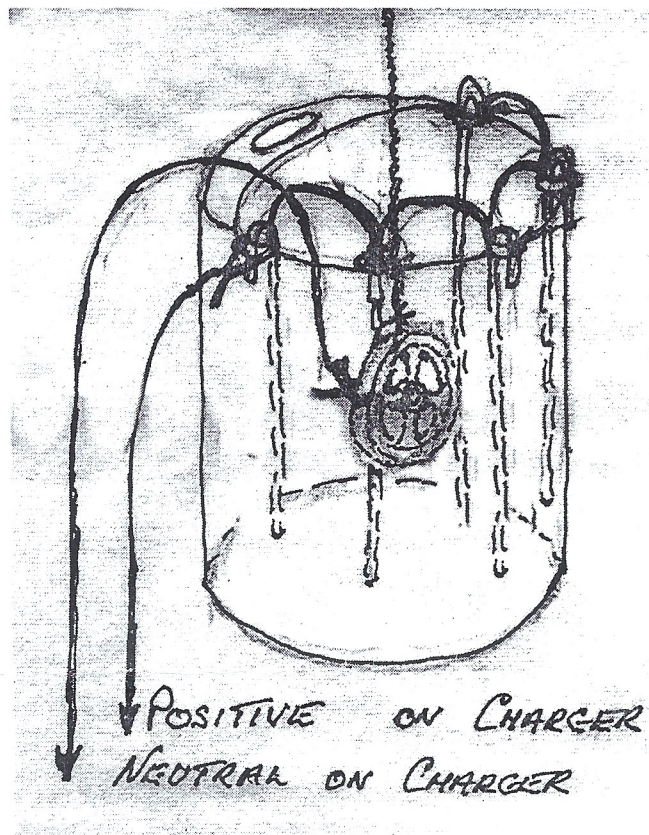
You will need:

- A plastic container big enough to completely immerse your object. A 45 gallon plastic drum will suffice to do most things, a smaller pot for smaller things.
- A decent 12 Volt battery charger – it might be on for weeks, so don't bother with a cheapo one, spend about £20. Don't be tempted to use a battery, the amps are far higher than you need & the risk of fire is dramatically increased if things move & you get a dead short in the tank.
- Say five kilos of washing soda NOT caustic soda.
- Some steel bars to hang down inside the tank – ribbed steel reinforcing rods are ideal. Don't use stainless, the chromium leeches out & generates a toxic gas (hexavalent chromium) that hovers close to the surface of the liquor. Plain (not plated) steel mesh formed into a cylinder can be used & gives good results.
- Some hefty electrical cable to connect together all the bars. Earth wire from three core cable is fine.
- Some strong crocodile clips to connect the power to the bar's terminal and the wire you will attach to your object.

Method

Assemble the device according to Tony Davis' drawing. Stir the washing soda into clean water - I use hot water to ensure a quick dissolve. Fill the container to within about six inches of the top. Attach a steel wire (coathanger is fine) to the object & hang it in the tank, making sure it is completely covered. **MAKE SURE IT DOES NOT TOUCH THE BARS OR MESH.** Connect the object's steel wire to the black lead and the tank bars or mesh to the red lead. Switch on. If the fuse blows, you've got something touching in the tank. If all is well, in a few moments, you will see bubbles rising from the tank. These are Hydrogen and Oxygen & the one will readily ignite in air, ably assisted by the other, so no smoking near the tank!

Go away for several days, returning from time to time to check on your object & turn it round or over to ensure good penetration.



Calendar of Events for 2007

Aug 5th SUNDAY ONLY. Event. Our Annual Rally at Haynes Motor Museum, Sparkford, Yeovil.

Aug 11/12th Event. Royal Berkshire Steam Rally. Engines wanted. Phone 01494 717071

Aug 18th Event. Writhlington Flower Show. Engines required. Phone Mrs H. Gulliford 01761 420417

Aug 20th Club night. No meeting this month.

Sept 1st Event. Evercreech Village Flower Show. Set up 11am + for 1pm. Phone Keith on 01749 831229.

Sept 9th Event. Crank up at Nunney Catch. *Please donate raffle prizes in aid of the BABE appeal.*

Sept 8/9th Event. UTVV Club Working Weekend at Stockbridge. Entry forms, Alan Vickery 01256 703169

Sept 15th Event. Vintage Jumble, Winchester Farm, Cheddar. Phone Colin Nicholson 01934 743411

Sept 24th Club night. A digital presentation on a Vintage Theme. Speaker:- Colin Baker,

Oct 6th Skittles and supper evening at Butler & Tanner, Frome.

Oct 20th Event. Vintage Jumble - Cranmore station.

Oct 21st Event. Robert's Open Day. Mid-Glos EPS, Manor Farm, Sevenhampton. Engines etc needed Phone 01242 820408 for details.

Oct 29th Club night. An illustrated talk on Narrow Gauge Railways in France and Austria. Speaker:- Roger F. Newman,

Nov 10th Event. Engine Jumble, Enstone Airfield, Oxfordshire. Off the B4022.

Nov 26th Club night. The Life of a Victorian Chimney Sweep. Speaker:- John Sanson

Dec 2nd Event. Crank Up at Nunney Catch

Dec 27th Event. Mince Pie crank up, Old Down Inn.

Out and About

By Robin Lambert

With this year's rally season now at the half way stage, its always nice to look back at how things went for us. I must say its been a most enjoyable year so far for me with only a few crank ups and one major event at Cornwall to go. On Thursday 7th June, at around 2pm, I arrived at West Bay for the 9th / 10th June rally. I was most surprised to see a huge collection of vans and caravans already in the holding field as many had arrived several hours earlier. To be fair to the organisers, they do need time and space to prepare the site. If they are good enough to let you have two extra days on this tranquil site for free, then the rules should be obeyed. This year there was a "strictly no awnings" rule as space was at a premium with over 200 stationary engines to fit in. We had four days of glorious sunshine and the visitor numbers were high, with lots of interested folk walking past the exhibits. The large stall area was kept very busy & the usual auction took place with several hundred lots which included quite a few stationary engines. As always, a most enjoyable show and a must on my event calendar.

Two weeks later we were on our way to Astle Park for the 1000 Engine Rally. It is probably the longest journey I make as an exhibitor, but I would not miss it for anything. We took Stuart along to give him an airing and his smoking habit has been reduced to ten a day instead of thirty, so things are improving! With almost 500 engines entered in the programme, I didn't get to look at them all, but there's always next year.

The usual Saturday evening trip took three coaches of cheerful enthusiasts the eighteen miles to the Anson Museum in Poynton where there is always something new to see. It is a pleasure to meet so many volunteers, including ex pat Wessex member Patrick Knight busy doing his bit by selling raffle tickets and helping to raise funds for this excellent venue. Geoff Challinor, the founder with Les Crawley some 21 years ago, is still the curator and the museum receives no government support, all the work being done by volunteers. The majority of the exhibits are not owned by the museum but are on permanent or long term loan. If you have Internet access, have a look at their website at www.enginemuseum.org.

Back to the rally site. The club tent was packed with items for sale and an auction took place on Friday. The stall area was huge and the whole field was alive with exhibits of all descriptions – steam traction, vintage tractors, cars & bikes – it is a big and exciting event and one not to miss. If you've never been before, I recommend you take a couple of days there. There are plenty of B&B's around & various Travelodge type places to stay where the costs are reasonable. This year, it more or less wound up mid Sunday afternoon after the heavens opened. By 3pm folk started to switch off and pack up and, of course, by 5pm the sun came out!

Lots of events have been cancelled this year owing to wet conditions, but there was no stopping them at the Bristol & South Glos Club Rally at Coalpit Heath near Bristol. There were plenty of tractors on hand to pull you into the site at Frog Lane Farm. It was actually quite a fine day, but all the rain to prior to the event made the field spongy. There were some nice exhibits and two WSEC members went home with trophies, John Thorne for Best Visitor's Exhibit and Phil Jones for Best Bristol & South Glos Member's Exhibit, Phil also being a WSEC member.

I'm told an entertaining Saturday evening took place and that Mr Punch Alias professor Joe Munt was on hand with his Punch and Judy booth. If it was anything like the show he did on one of our club nights, the crowd would have had a good time. At the end of the day, the tractors were on hand again to pull everyone out of the field and despite the sticky conditions, I had a nice day so thanks to the B.S.G club for laying it on.

The next couple of days out were at Ferndown near Wimborne at the Stape Hill rally I've only been going there for 3 or 4 years as it is by invitation, but if I didn't have an invite, I would still go as a visitor. Most of us knew the Abbey was up for sale and the large museum that was full of vintage exhibits went under the hammer six months ago. Things are still ticking over there with the restaurant up and running and there are beautifully kept gardens to stroll around and amongst the gardens were many craft stalls dotted here and there.

This year, the main event field could not be used owing to the weather, so the exhibitor's area was relocated near the main entrance where huge pens housed eighty or more engines with this year's theme engine being Amanco. Last year, it was Ruston Hornsby and the year before Victoria. Amanco engines of most sizes and types were here, including two vertical engines of the marine type. However, the twin cylinder model was a non-runner having succumbed to rust problems induced by seawater during its working life. Several WSEC members exhibited here some with Amancos and Phill Marshall took his Benz which always looks nice in its original condition. Several full size traction engines and rollers were in attendance as were around twenty miniatures that were constantly steaming around the site. The tractor section was very well represented with the machines ploughing and cultivating in a lower field. Another grand two days out.

Chairman's Report

By Brian Baker

Club night at the Old Down Inn on June 25th was a bit different than usual with twenty working engines on the table! When he arrived at 7.30, Julian Wood requested a dish of hot water from the bar & over this dish he placed one of his engines. It promptly burst into life, and was still running 2 1/2 hours later from the heat generated by that one dish of water. Julian had come all the way from Chepstow

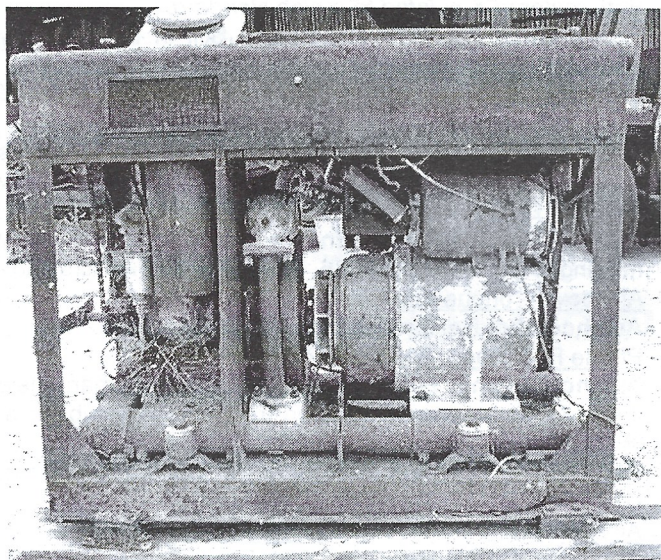
Featured Engine No.7

Kerrison Predictor generators

By Kim Siddorn

During World War Two, the problem of shooting down Mr Hitler's airborne products was a difficult & thorny issue. The 40mm Bofors gun had become the ground-to-air method of choice and as early as September 1939 power control for this gun had been developed. There were three elements to the set up, the gun itself, an early computer called a Kerrison Predictor and the generator unit. It was actually a great success & the destruction rate of the Kerrison directed guns was a considerable improvement upon those laid manually.

Like many wartime projects, the whole thing was developed piecemeal & little thought had been given to the generator. Three main power units were rapidly tried out as war loomed. As the set was originally intended to be mobile, size and weight limits were specified and tenders were obtained in January 1940. A four-cylinder water cooled four-stroke "in great demand for fire pumps", a single cylinder air cooled two-stroke made by either Scott (the PAB - below) or Jowett and a curious air cooled, two stroke flat twin, produced by Enfields.



None of the sets met the size and weight requirements, but despite being the largest and heaviest the four-stroke set was by far the most satisfactory. Portability became unimportant as it became pretty obvious where the assets were located and from which direction the aircraft were likely to come.

The two-stroke powered units had separate oil & fuel tanks. The operator was required to drain off an amount of oil and add it to the petrol separately then fill the fuel tank with the petrol mix. Inevitably (and I quote from a contemporary report) "Perhaps the biggest trouble was that troops were not accustomed to petrol lubrication and, in spite of warning notices, persistently failed to add oil to the petrol". It might seem obvious enough to us that pumped lubrication was the way to go – the Velocette GTP two stroke had this system in the 1920's – but the War Department was notoriously conservative in

its views. Personally, I suspect it was sheer bloody mindedness as a seized engine would mean it being returned to REME for fixing whilst the crew sat on their bottoms awaiting a replacement. Further, it was well known at the time that the gunners felt sidelined by the Kerrison Predictors & consistently thought they were better at aiming the Bofors, despite mounting evidence to the contrary.

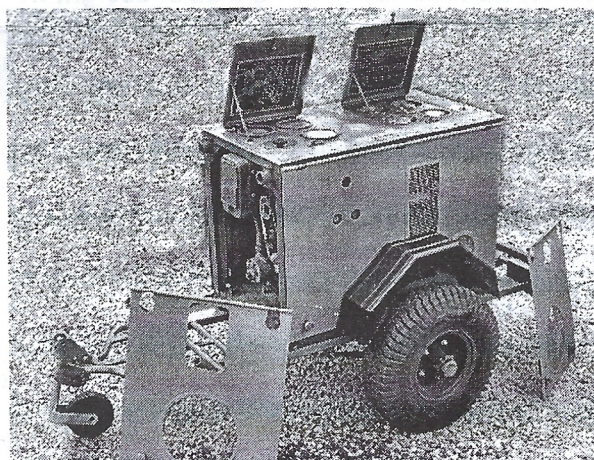
Other generating sets were considered such as the Douglas T35 that later gave rise to the overhead valve post-war motorcycle engine in the Mk 4, 5 & Dragonfly. One of these latter units drove a mobile early warning Radar set, an example of which was "mounted on the Great Pyramid at Giza during Mr Churchill's conference with President Roosevelt near Cairo in 1943". They must have found it easier to start than examples surviving today!

Other similar units looked at were the Coventry Victor MA3 & the Norman T300, The latter was considered to be "a most excellent design which gave very good service, but was complicated to manufacture and slow in production". Although the report I've read does not say so, I'd think that the uncowed and lightly built T300 would not have stood the pace long term, as it would be running flat out all the time to keep up with demand.

Kerrison Predictors are very unusual now, perhaps three or four surviving. Their generating sets have fared little better & probably no more than a dozen are left worldwide, most in a very poor state, like the one on the left. The engines have done better though, occasional Scott PAB's are to be seen on the rally field and there are still quite a few Enfield two stroke flat twins about as they were also used to drive a modular system of generating and pumping equipment as well as the Bofors application.

In these rather paranoid days, perhaps it would not be a good idea to set up the whole shebang at an event. One might expect the military to get twitchy as the Bofors automatically tracked anything that flew overhead, muttering "taka-taka-taka" to itself!

At least no-one would ask you what it did



The editor's Enfield powered unit mounted on a contemporary bomb trolley (for sale)

to entertain us with a talk about Stirling Hot Air engines and this he did admirably. His explanation of how Stirling cycle engines work was clear & concise & I bet a few members even understood it!

Julian has a large collection of engines, all of which he has made himself. They are either meths or gas fired and at one time most of them were running. He stated that he had made over 500 of one particular engine and had sold the lot. *(Kim went over to see him the following week & bought one for himself! - Ed)*

He had radio-controlled models of a veteran car and a three-wheeler, both powered by Stirling engines. We cleared a space for him & he manoeuvred these around the floor guided by the remote control. All in all, a very interesting evening.

We had the usual raffle for club funds after the talk, and I would like to thank the members who regularly contribute prizes for the raffle. Also, many thanks to Diana who sells the tickets and assists with the draw.

Our club rally at Haynes Museum at Sparkford is very close now, so let's have a good selection of engines on display from the membership to make this event successful.

Matches, Hatches, Despatches

Many congratulations to Pam & Mike Adlam, who celebrated their 42nd wedding anniversary on 17th July.

New members

We'd like to welcome the following new members & hope they will find much fun and friendship in the club in the coming years.

Mrs J. Adams & James Adams (Jnr), Shaftsbury, Mr C. Newport - Locking, Mr & Mrs R. Pitman & jnr - Rodney Stoke, Mr R. Proctor - Nether Stowey.

Plugs or Igniters?

By Jim Dunmeyer

Lenoir's gas engine of 1866 had high-tension ignition with a spark plug, but early spark plugs were not very reliable as the mica stack would erode away or the porcelain crack with repeated heat cycles. Rubber & cloth insulation had a short life & was easily degraded by petrol products. Low-tension systems persisted in use in marine engines long after most other applications had switched to spark plugs.

The Europeans came to favour spark plugs early, while the Americans used low-tension systems more. I'm not quite sure why the difference in fashion, but Europe was always ahead on HT insulation due to aero engine development in the First World War.

Diesel had Bosch build a special spark plug and ignition for his 1892 experimental Diesel engine, which ran on direct-injected gasoline. He knew it would pre-ignite if the fuel were injected before the

time of ignition, but apparently didn't believe it would be a reliable ignition source. He quickly found the spark plug unnecessary and dropped it.

From contemporary literature, many thought that spark plugs were not as good as an igniter, as HT plugs needed replacement but igniters could be repaired. My 1906 4hp Baker Monitor has sparkplug ignition as well, so it was used early on by some manufacturers. My Monkey Wards research shows that they offered a choice between hot tube and igniter/coil in the early 1900's, the first spark plug engines offered by them came about 1907. I'm sure they were in line with others in offering this "new" ignition, but many didn't take to it right away. By 1916, the Ward catalogue shows all four cylinder marine engines using spark plugs. It looks like Ottawa stayed with the Webster mag/bracket until they went to the Wico and spark plug, but my much older manual for the 4HP hit & miss footed base Ottawa farm engine shows three options;

1. Low tension coil and igniter with batteries.
2. High-tension coil with adapter plate for spark plug and batteries.
3. The new Webster mag complete ignition system that of course doesn't need batteries.

The automobile must have hastened the move to spark plugs as an increasingly complex multi cylinder engine with igniters and coils would become a nightmare to maintain. The auto industry probably gave more innovation than any other, especially following the wartime technical developments in HT insulation.

Until dependable high-tension mags came along the low-tension magnetos were better because you didn't need to mess with the batteries. Low-tension ignition was a very practical system for boat engines, as water did not cause instant failure at the worst possible time. It was also a very simple and less prone to electrical failure on low speed constant revs engines. Conversely, the spark plug was an easy thing to change, as opposed to stripping, fixing and replacing an igniter - there was for and against in both systems. Farm engines rarely run fast at this time, but as revs rose & cylinder capacity dropped, the need for a high speed ignition system that was reliable, damp proof & easily maintained obviously favoured the HT magneto.

What I do know is that when running a hit & miss engine at low speed, especially on modern petrol, it's much better to have an igniter than a sparkplug. A sparkplug gets sooted and dirty before you know, but with my hit & miss engines, I only need to clean the igniter every couple of years as it is much more tolerant of debris and oil in the cylinder and is of its nature self-cleaning.

All my HT engines - Witte headless and Monitor - run on propane and are thereby not subject to the wetting action that incompletely burned rich petrol mixtures can bring.

Wessex Stationary Engine Club Annual Rally

**At the Haynes Motor Museum, Sparkford, Somerset — BA22 7LH
On Sunday 5th August ONLY!**

Our first visit to this venue. The museum is a world-class site with more than 350 exhibits going back to the 19th Century.

It is a living and working museum & there are other exciting events going on at the museum this day. The public all have to walk past our engines on their way from the car park, so we are assured of an audience of interested and mobile people.

We need YOU to support the club in this new venture and hope you'll be able to attend with an exhibit.

Contact Eric Gay on 01225 754374