

CRANKING

The Wessex Stationary Engine Club's Monthly Newsletter

February

2013

Thirty sixth year
of publication

www.wessex

-sec.co.uk

From the Sump

Here is a cautionary tale. The names have been withheld to protect the guilty.

I recently purchased stationary engine on what they ubiquitously call "an on line auction site." It was a some sixty miles away from me, but I do a lot of miles in a year and was going that way anyway, so I paid a deposit on PayPal and went to fetch it a fortnight later, fresh drinking vouchers in the wallet. The engine was £155 and some pence and I gave him a £25 deposit. It was not on a trolley and was in scruffy but going condition. When the garage door swung up you can imagine my surprise to discover that it was now on a trolley and the now rare military magneto with the correct armoured leads and special plugs had been replaced with a civilian magneto with garish red leads. Not only this, but the price had risen by £100!

Now I'm a fairly easy going sort of a chap, but it was obvious from his smug leering smile that he confidently assumed I wouldn't notice the mag change and – having driven sixty miles – would swallow the trolley and the increased price.

Wrong on both counts. He started to argue the toss about the magneto, saying it was the one advertised until I waved a photocopy of the advert at him. I pressed home the attack saying that it was a very nice trolley but as I had the original ali bed plate for it at home, complete with dynamo and switch board, I had no use for it. I even offered to undo all four of the Posidrive screws that held the engine to the somewhat scarred softwood top of the trolley, but he rather grumpily gave in and removed it himself.

"And the magneto?"

"Oh, it went faulty, so I replaced it - fair's fair." Needless to say, I didn't believe him and insisted on it being swapped back. He would have had a better chance if it hadn't been perfectly visible on the shelf behind his head and had blobs of blue paint on it that matched the engine!

He even had the nerve to time it 180o out of phase (flat twin) right in front of me and then crank it vigorously. Unfortunately for him, as it was firing on the exhaust stroke, a flame a yard long shot out of the exhaust pie with a loud bang. I paid him what I owed him and went home. No names, no pack drill..

Moving the Metal For sale

"Model Engineering" magazines, about 200 odd, 1949 to 1952 - £20.00

Wolseley air cooled 1.5hp. On barrow trolley - £100
Jon Ivens. Phone 07812 385536

Petter AVI 5HP Diesel Ser No 618657. Restore or spares. Some frost damage £35

JAP 3A. Two air-cooled engines, 1 complete ,1 for spares. £20

Contact Brian Verral Cheddar 01934 743460 evenin

Lister 1948 28 DH, s/n 1/17438. Rocker gear dismantled but all parts available. Turns over with compression. Ex milking parlour, no trolley. Needs restoring but probably never been apart. Dry stored. With factory handbook. Frome area. Open to offers but £650ono as a starting point!

Phone John 07517 036026

Milk Bottle collection. One hundred and eleven 1980's bottles with adverts on Must sell as one lot. Photos, details – p.lovering@btinternet.com
Phone Paul Lovering, BoA Wilts. 01225 862 00

Lister Junior. Runner,nice condition,original trolley.
The David. Small belt driven Compressor.

Phone Mike Upton 07595 421409 £225 the pair
Farnborough

Award Night Star Caravan, Has all mod cons inc cooker, Fridge, Shower etc, Can be viewed at Chapmanslade Nr Frome, Asking price £700.

Contact Jeff on 07564818529.

WANTED

Wanted; Wiko or Lucas RS1 Magneto, counter-clockwise on cog drive end.

Phone Terry Williams 07845 137796

No. 52 Steel Detachable Chain as used on conveyors. Need 10 yards, but any quantity will do.

Phone Gerald Atherton - 01934 852670

Tilley lamps – WHY?

Phone John Ivens 07812 385536

Vincent industrial engine powered compressor.

Pultra lathe or parts. 1510 Or 1710 considered.

Phone Kim Siddorn 0117 964 6818

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

Phone - 0117 964 6818

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

Featured Engine 72 Two Strokes, part two

By Kim Siddorn

Most two stroke engines are piston ported and it is these we will look at first. We will start with the piston at top dead centre (TDC).

The piston descends and, in doing so, creates a partial vacuum in the cylinder above the piston. As it moves on downwards, it uncovers the transfer port, the other end of which is open to the crankcase. The moving piston displaces the gas in the crankcase – called primary compression –, forcing it upwards into the combustion chamber via the transfer port. Reaching bottom dead centre, the piston moves upwards, thus compressing the mixture in the cylinder – called secondary compression. Just before TDC, a spark occurs at the ignition point and ignites the explosive mixture of petrol and air in the combustion chamber. This propels the piston down again, uncovering the exhaust port somewhat in advance of the transfer port. The exhaust gas exits through the port, partly pushed out by the incoming charge of gas from the crankcase.

The rising piston causes a depression in the crankcase and the next explosive charge is drawn in through the inlet port, which opens directly into the crankcase. The carburettor mixes the petrol with the air in an approximate ratio of 16:1.

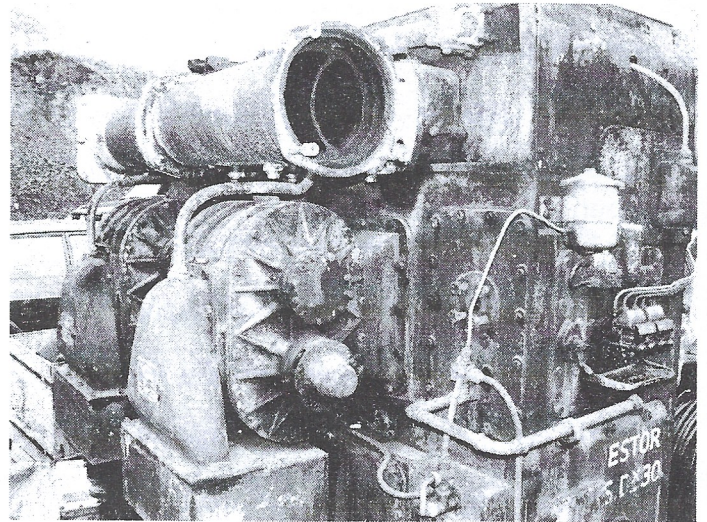
Very often, there will be a simple flap valve cutting off the carb from the crankcase (such as may be found on bottom tank Marvils etc) and this will be controlled by a light spring. Reed valves are simply flap valves made of spring steel.

Older two strokes frequently have a piston crown which is specially shaped to deflect the incoming charge away from the exhaust port and into the top of the cylinder. These are known as 'deflector pistons'.

In the 1930's, DKW engineers in Germany developed a special tuned exhaust system which made their racing motorcycles uncatchable by any other make or design. The exhaust features an expansion chamber with a sloping inner cone which reflects the shock wave back up the outgoing gas plug, bounces off the far wall of the cylinder and back out of the port, thus augmenting the speed of the outgoing gas pulse. The effect is usually referred to simply as 'extraction'. Obviously, it is critical that the shock wave arrives and departs at the exact moment needed to clear the cylinder. An error of a few millimetres in exhaust system length will result in a remarkable drop in power. All modern high performance two strokes have exhausts of this kind and the piston crown is slightly rounded in profile. There are practical limits to the compression ratios and cylinder capacity that can be employed in piston-port engines, but the two stroke is an easy way to get more power out of an engine of a given size.

The attraction of such engines was not lost on Rolls-Royce who made valiant attempts to develop a 'two stroke Merlin' during WW2. Named the 'Crecy', a right battle they had with it too! It was designed as a 'sprint' engine for the Spitfire to increase its rate of climb to get above the German bomber stream and their escorts. Fuel consumption didn't matter – which was just as well. It showed great promise, producing nearly twice the power of the Merlin. But twice the power means twice the heat energy and the problem of cooling the pistons defeated them. Although several engines were bench tested, it never flew. As an aside, such two strokes are inevitably very noisy and a

Crecy on full chat could be heard five miles away on a quiet night!



Many larger two stroke engines do not employ the crankcase in the compression cycle and the big Petter stationary engines (photo) were provided with a vane pump (seen on left of photo) to provide pressurised air. This design is called the 'Uniflow' principle. Although making for a more complex engine, this has advantages as the bottom end can be properly lubricated and the external compressor is free of the heating of the crankcase. Another example is the Vincent Lifeboat Engine. It is a twin crankshaft opposed six, the pistons moving inwards to form a common combustion space, thus, this six has three bores. The centre bore of the three provides compressed mixture for the outer two cylinders. The pumping cylinders have cross heads like a steam engine, allowing straight, round section connecting rods to be sealed from the crankcase with gland seals. The mixture is circulated both "above" and "below" the pumping pistons, transferring to one set of power pistons on the inward stroke and to the other set on the outward stroke, thus making best use of the capacity available.

A great advantage of this layout is that the port timings of the pistons on one crankshaft can be varied in relation to those on the other crankshaft. One pair of pistons control the transfer ports and the other the inlet ports and as the gas moves in only one direction, it is called a Uniflow engine. In a conventional two-stroke, the same piston has to control both transfer and exhaust. This system may be simple, but port timings will always be a poor compromise compared to that on a two crank system and very wasteful of fuel, especially at full load or idle, ask any Petter M type owner! The Lifeboat Engine progressed to a stage where the fuel consumption became extremely good even by four-stroke standards. Conceived in good time but born too late, only 50 were ever built.

It is difficult to lubricate piston ported two strokes and most are oiled by simply dissolving oil in the petrol. However, this reduces volumetric efficiency as of course it lowers the available amount of fuel in the incoming gas charge. Suzuki motorcycles in particular made great efforts to provide pressurised oil to the mains, cylinder wall and by splash to the big ends in their 1970's motorcycles. They were very successful too and reduced by half the amount of oil they used in comparison with petrol lubricated engines. Ultimately, however, the two stroke engine is too polluting for today's world and it is now only in things like chainsaws and leaf blowers where they still hold sway.

Calendar of Events

Key. CN = Club Night. E = Event

March 2th (Sat) E. Wessex Spring Sortout At Cranmore Railway Station.**March 9/10th E. West Country Game Fair** at Bath and West Showground. Phone 01392 421500
lisa@contour.co.net**March 25th CN. "Sammy Miller's Motor Cycle Museum"** Slide show by Brian & Oliver Baker**April 1st E. Easter Monday at Mells.** Contact Robin Lambert 01373 463526**April 6th E. Oakham Treasures Museum, Portbury.** Drive yourself club visit – (Saturday)**April 20th (Sat). Enstone Spring Sale.** info: Mrs. Anne Harris 01367 810415**April 21st (Sun) E. Crank Up** at Nunney Catch.**April 27/28th. E. Westbury Transport Gathering,** Bratton BA134TT. Contact Bill on 01373-864166**April 29th CN. "Cheese Making"** By Pauline Alvis. Cheese for sale after the talk.**May 20th CN. Early Because Of Bank Holiday.**
Alternative Hobbies Night.**May 25-27th E. Selwood Rally.** Southwick Nr Trowbridge.

Forms from Mrs Pearl Francis, 45, Stonebridge Drive, Frome, BA11 2TW.

<http://www.selwoodvintage.co.uk/page6.html>**June 15/16th E. Wessex Midsummer Vintage Gathering.** Our club rally at Semington.**June 8/9th. E. West Bay Rally.** Phone Matt Scadding 07948 579841**June 22/23rd. E. 28th 1000 Engine Rally, Astle Park.****June 24th CN. In House Member's Quiz.****July 20/21st E. West Oxen Steam & Vintage Show.**

Ducklington, Whitney, OX29 7TY (off junction of A40/A415) Info: Mrs. Anne Harris 01367 810415

July 21/22nd. E. Much Marcle Steam Rally. Rye Meadows near Ledbury. HR8 2LX Phone, Dot Pullen, 01531 633664**July 28th (Sun) Crank Up** at Frank Nash's cider farm at West Pennard. Phone Brian for details**July 29th CN. Crank Up** At The Court Hotel**Aug 19th CN. Early Because Of Bank Holiday.****First Aid Resuscitation** by Paul Martin**Sept 30th CN. "Engines at the 1000 Engine Rally"** by Kim Siddorn.**Oct 5th (Sat) Skittle Match** At South Parade Frome**Oct 12th (Sat) E. Wessex Autumn Sortout** At Cranmore Railway Station.**Oct 28th. CN. Dorset & Somt Air Ambulance** by Colin Thomas.**Nov 12th. (Sat). Enstone Autumn Sale.** info: Mrs. Anne Harris 01367 810415**Nov 25th CN. Photo Night.** Bring 10 Photos, hard copy or USB stick or CD rom.**Dec 1st. (Sun) Anti-Freeze Crank Up.** Nunney Catch**Dec 27th (Fri) Mince Pie Crank Up** At The Court Hotel

This Calendar of Events is composed by the editor based first upon a list supplied by our Chairman. I've added to it things I think will interest the membership, but it is not cast in stone! You should always make sure an event is still on by contacting the organiser in advance. The responsibility is yours!

Extra event!

The Committee have planned another visit to the Oakham Treasures Museum at Portbury on Saturday 6th April. If members will meet up at approx 10-30 am we will get a group discount on admission price. This is a drive yourself visit to what is probably the best museum in the West Country There is an excellent cafe on site. Ring Brian on 01749 342671. Oakham Farm, Portbury Lane, Portbury. BS20 7SP. *They have an excellent websit, so to whet your appetite, you can see more about them on line. Editor. <http://www.oakhamtreasures.co.uk/>*

Chairman's Monthly Report

by Brian Baker (*printed as received*)

The first meeting of the year took place at the Court Hotel on Monday January 28th. We were entertained by Robin with a slide show of club events and other rallies that took place in the early years of the club. It was strange to see members such as Don Rogers with a black beard instead of his now familiar grey one, and members with hair, now long gone. Robin can always be relied on to put on an excellent presentation as he has accumulated a large collection of slides and photographs over the last thirty years. I'm sure the good crowd of members who attended will agree it was a very good night's entertainment put on by a very popular member of our club. A very good raffle followed the slide show with lots of prizes on offer with a large number of them given by the members present. Many thanks to Carol for selling so many tickets. The evening was marred by a member who was leaving, coming back in and telling Robin, who was packing up his kit, that his caravanette had been damaged in the car park. On going out to the car park we discovered that the large nearside door on Robins van had been badly damaged. As no one had come in to report this we started to do some detective work to establish how it had happened. It was apparent that the damage had been caused by a large Transit van parked up by Robin's vehicle. From my experience dealing with bodywork repairs and insurance claims it was obvious to me that the pieces of red rear light lens from the Transit was now embedded in the door moulding on Robins van. We found out from Sue the landlady that the owner of the van, and his mate were residents and were in their room. Despite informing they were wanted to discuss the damage they refused to leave their room, on hearing this Robin decided to ring the Police. When confronted by the police they denied all knowledge of the incident which resulted in one of them being arrested and taken off to the Police Station. I don't know the upshot of this; perhaps Robin can enlighten us at a later date. Robin, Jackie, Tony and Di eventually got home to Frome at lam. This was a really sad end to the evening with all the hassle for Robin & Jackie after entertaining us.

I rang Robin and he told me that his van is now repaired and the miscreant was in court on 6th Feb. Robin's insurance company were very good and had paid up within three days! Editor.

Social news

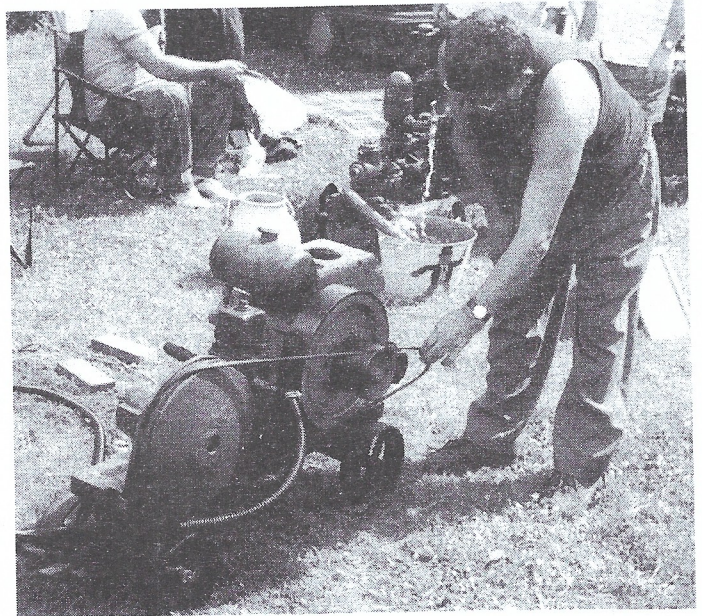
By Robin Lambert

Long serving member Tony Davis has been in the wars and had to have an operation on his shoulder this month. He is home now and is feeling much better but has to keep his arm in a sling for six weeks. This in itself would be bad enough, but his wife Di was scheduled for hip surgery and had to turn it down so she could look after Tony

I'm sure you'll join me in sending out very best wishes to them both and get well sooner!

Our members often like to go to the Shillingstone Rally, this year on the 18/19th May. Anyone wishing to attend should phone Mr Burden on 01747-822834.

Club member Jim Miller will be running his Annual Vintage Event in the usual field under the Wesbury White Horse. Phone Bill on 01373 864166 for a form and further info if you'd like to go.



Car Quiz – Answers next Month!

By Bob Hallam Complete the following

Example - A wild cat from Riley Lynx

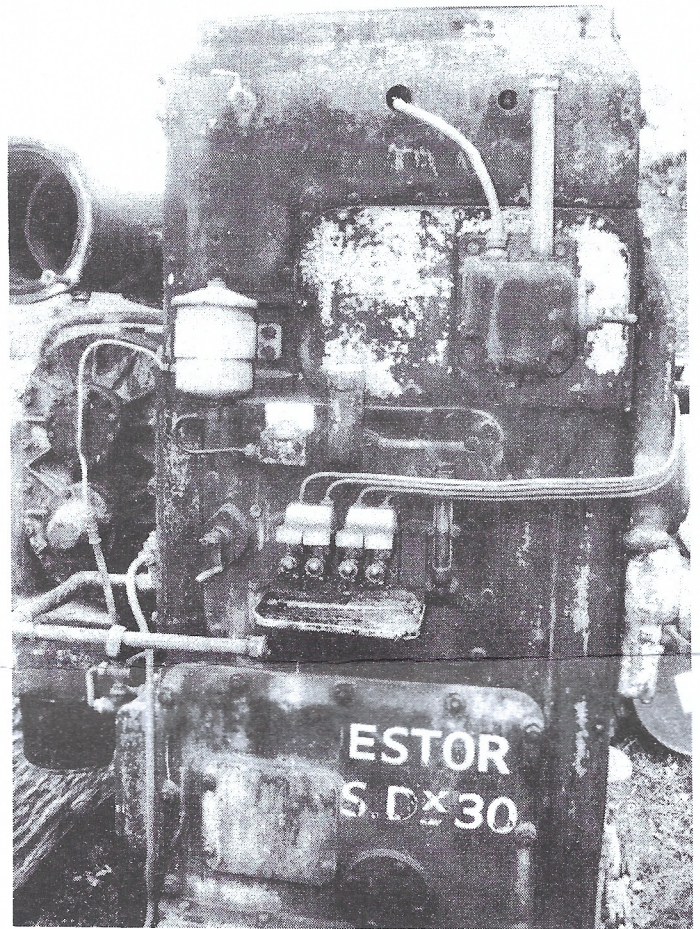
1. A small barrel maker from Austin or Morris
2. A pirate ship from Ford
3. A bottle of bubbly from Vauxhall
4. A sledge dog from Hillman
5. A bridge in Venice from Reliant
6. A Chaperone from Ford
7. An Oxfordshire river from Morris
8. A Civil war soldier from Vauxhall
9. A West Coast American from Hillman
10. A sword from Sunbeam
11. A straight at Le Mans from Bentley
12. A snake from AC
13. A sword from Reliant
14. A bird from Riley
15. An Arrow from Daimler
16. An island in Italy from Ford
17. A small person from MG
18. A fairy from Austin Healey
19. A mint from Volkswagen
20. An insect from Volkswagen
21. The Greek Alphabet's second letter from Lancia
22. A ruler from Daimler
23. An ocean from Austin
24. A motor racing circuit from Healey

It was late, and an elderly gentleman was driving home from a WSEC club night when he was stopped by the police for erratic driving. They asked him where he was going, and he told them he was on his way to a lecture on the dangers arising from mixing with the wrong company, the futility of wasting hard-earned savings, the evils of smoking and the effects of alcohol abuse on the human body.

"Indeed, sir" said the policeman, "And who would be giving such a lecture at this time of night?"

"My wife, officer. Obviously you are not a married man."

Where is the Health and Safety man when you need him?



Another view of the big cross flow two stroke Petter referred to in the "Featured engine" article. You can see the end of one of the two eccentric vane compressors on the left. The picture was taken at the Anson Museum – to my surprise – seven years ago. I wonder if they got it going?