

THE SARUM MODEL TRACTION ENGINE CLUB

Affiliated to the Southern Federation of Model Engineering Societies.

Newsletter number 47. March 2015

www.sarummodeltractionengineclub.co.uk

Welcome to the Sarum Model Traction Engine Club newsletter.

Your Committee members are:

Pete Parrish, Chairperson.
Sharon Staton, Treasurer
Charlie Warne, Committee member
Roger Melton, Committee member
John Findley, Committee/webmaster
Martyn Jones, Secretary/Newsletter editor

Forth Coming Events.

- 7th March Film Night, Porton and Idmiston Village Hall. 6.30pm for 7.00pm start. Open to members, friends and guests all welcome, small admission charge for non members. Tea and coffee.
- 21st - 22nd March. Model Engineering and Hobbies Exhibition. Michael Herbert Hall, South Street, Wilton. Details from Peter Parrish.
- 10th April AGM, Porton and Idmiston Village Hall. 7.00pm for 7.30pm start.
- 2nd - 3rd May. Annual Exhibition and Model Steam Rally at Woodgreen, Nr Fordingbridge. Coal and water supplied plus light refreshment. Camping will be available, details from Charlie Warne 01725 512805 (note two day event)
- 9th -10th May Breamore House Steam Working Weekend. The club has been invited to attend this event, club stand and engines static or in steam are welcome. Further details below. Pete Parrish.

Boiler Test Day

The club is holding a boiler test day on the 15th March 8.30hrs to 13.00hrs at the club house, Derek Marder's, Jubilee Farm, Ox Drove, Andover SP11 6ND

Can any member who requires a hydraulic test please have their boiler blanked off and filled ready to test on arrival.

Don't forget this months **Model Engineering and Hobbies Exhibition** Pete and Anne Parrish have organised their seventh Model Engineering and Hobbies Exhibition on the 21st and 22nd March 2015 (10am – 5pm) at the Michael Herbert Hall, South Street, Wilton. Wilts. This years theme is ploughing engines and among the many new exhibits this year are two large scale working model fairground rides that should be completed in time for the exhibition

Setting up is on Friday 20th March, exhibits must be in place by 8.00am 21st March at the very latest.

Latest news. If any club member who has not booked in with me for the Wilton Model and Hobbies Exhibition it's to late as we are completely booked up and that means outside as well so please do not turn up hoping to steam outside because there is no space available and unfortunately you will be turned away.

Pete Parrish.

Stanley Steam Cars-How they work

When taking our car to events, we always get asked a number of questions regarding its workings. Hence, I have decided to write this out, explaining each major part separately.

Boiler

The boiler is vertical 23 inches inside diameter by 18 inches high. Stanley boilers are always measured on their inside diameter. The boiler has 682 ½ inch copper tubes, with steel ferrules either end to retain strength in the tube ends. To save weight, the boiler uses a thin steel shell, with 3 layers of piano wire, at different tensions, to increase strength. The Stanley Twins came up with this idea in the 1890's, following, I believe, Canon practice of the time. The boiler weighs around 450 pounds, and works at 525 PSI, this pressure is controlled by a diaphragm valve controlling a fuel valve, shutting off the main fuel when pressure is up, and preventing excessive steam build up. A safety valve is fitted if this were to fail, or if priming occurred, to release excess pressure. This ingenious design allows light weight, strength and increased performance to result.

Burner

The burner is made of two separate parts. The first is a 23 inches diameter cast iron grate, in an insulated stainless steel casing. The grate has around 6000 25 thou slots in which vapourised kerosene at 140 PSI passes through and is ignited, providing the required 350,000 BTU's to heat the 10 gallons of water in the boiler. In order to vapourise the fuel, a 6ft 6 inches stainless steel pipe runs across the top of the burner, in which a steel wire is inserted, to insure that fuel contacts the sides of the pipe. Following this, the fuel goes down two pipes, known as the branch forks, and the fuel exits through two jets of around 42 thou diameter, into two venturis where air is sucked into the burner, and, following a variety of baffles, the vapourised fuel through the before mentioned slots. In order to provide ignition and initial vaporisation, a pilot light consisting of around 12 slots, with its own vapouriser, jet, etc. is used. This burns petrol at 15-20 PSI, and is ignited from cold with a standard blowlamp. After 5 minutes of this being alight, the main burner fuel valve can be turned on, and hence ignited. Fuel pressure is achieved by being hand pumped into a 0.8 gallon pressure tank half full of air from the main tank for the main burner, and the pilot tank is fully pressurised in its entirety, with an airline. The air eliminates any fuel pulsing and the small 0.8 tank reduces chance of disaster through large quantities of pressurised fuel being stored and the tank bursting, as less fuel is under pressure. Once under way, a fuel pump driven at 1/3rd engine speed off of the right hand side half-shaft keeps fuel pressure on the main fuel; the pilot fuel pressure is able to be kept up on it's own for a few days, due to the large quantity of air within it. Main fuel pressure is controlled to be kept at the constant 140 PSI pressure, by a diaphragm valve that is adjustable returning excess fuel to the main fuel tank.

Engine

The engine is directly geared to the differential, at a ratio of 40:60. It has twin high pressure cylinders, with slide valves actuated by Stephenson's link motion. The bottom half of the engine is enclosed in a copper crank case with about 1" of oil in it. The fly-cranks throw oil around and all over the engine surfaces. Aluminium baffle plates with rubber seals ensure no oil is lost. The cylinder block is insulated and covered in another copper case. Steam cylinder oil is pumped into the steam line at the bulkhead using a Madison Kipp traction engine type lubricator at two U.S pints per 100 miles. The long distance between oil injection and it reaching the engine ensures that the oil atomises in the 650-750 degrees Fahrenheit superheated steam. The super-heater is 12ft 6 inches in length and passes between the burner and boiler to dry out the steam.

Condenser

The condenser looks similar to the radiator of a contemporary I.C car radiator of the period (1923). Steam from the engine passes first through a feed water heater, before entering the condenser, the breeze from the car moving forward turning the steam back to water. Originally, water would then return to the 17 gallon water tank and be reused. However, due to oil from the steam finding its way back to the boiler and shortening it's life we dump the water at this point onto the road. Hence, water stops, originally a once every 100 mile chore, are now a once every 17 mile chore. Although, for the price of the boiler, we would rather have it this way! We have fitted an auxiliary tank, now extending water range to 30 miles approx., we hope, but have yet to try this out. A water lifter is fitted so, as in traction engine parlance, water can be sucked out of a stream.

Cont..

Water feed

Water is fed into the boiler by a double acting water pump, through a standard by-pass valve. All pumps are driven off the right hand side half shaft at 1/3rd engine speed. A hand pump is also fitted, but requires excessive strength to be used during steaming. However, the mechanical pump usually keeps water up to the required level when driving along the road. If water gets excessively low, the right hand wheel is jacked up and the engine run to regain the required level, shown on a Klinger type gauge (originally a kidney, magnetic-float dial gauge, which can be very temperamental, causing obvious disastrous results if it false reads). Water level is maintained by either the hand bypass, or originally, an automatic device. This is a simple bronze expansion tube the length of the boiler, attached to the boiler by a pipe at either end, so water and steam can flow through it. The tube is placed about 4 inches from the top of the boiler, when the water falls below this level, it becomes filled with steam, expands, and closes the bypass valve. Once the level rises, the tube fills with water, contracts and the bypass opened. A similar device operates a fuel valve, if for some reason the water level continued to drop, it would shut off the main burner, preventing the boiler from scorching and overheating the boiler tube as there is no fusible plug to do the job as per a traction engine. However, these are yet to be re-commissioned.

So there it is in a nutshell! Simple isn't it? Most of the rest of the car is as per an I.C car of the period, and of course, clack valves are used throughout the pressure system. The car continues to give us pleasure, despite the steam car philosophy of "9 hours spannering to 1 hours driving!"

By George Hounslow.

A Lifetime Passion For Steam by Mike Penny

Well after a years break I am back with more memories of my life playing with steam and other vehicles. Those of you who have been following the instalments will probably remember I finished in February 2014, newsletter number 35, with the re-tubing of the Prince of Wales in early September 1959 and then walked away from steam for a while. During the years 1955 to 1959 I got interested in vintage motorcycling this started just after I left school in mid 1955, my mate who lived next door had got hold of an old Francis Barnett two stroke, a 150cc I think dating from about 1935, we used to ride this in the field behind where we lived, of course he used to drive I rode behind which was alright at first but then I wanted to be in control so I decided I had to get a bike of my own. I had known for sometime of a bike standing in a shed not very far from my home, I went and talked to a few people and found the owner had died but his widow was still living in the next village. On approaching the lady I was quite surprised when she said "If you think you can make something of it you can have it" and gave it to me. With help I fetched it the next evening and brought it back to my home, as soon as my dad saw it he recognised it and told me how he and the original owners son used to ride it in the early 1920's and at that time neither were old enough or had a driving licence, he went on to tell how they were up in the next village one day and could not get it to start, the local Policeman came along on his bicycle stopped and helped them get it going with no questions asked. The next evening after getting the bike home I got to work on it, the engine would not turn so realising the oil had congealed over the years of standing I poured a small amount of petrol and paraffin mixed on top of the piston and after a while I got the engine turning. I then put in a small amount of lubricating oil, cleaned the plug and points in the magneto kicked it over and found I had a spark, after checking the carburettor I filled the float chamber with petrol and after a few kicks it started. To be continued next month.....



Mike's 1915 Triumph, pictures about 1955.

Breamore Steam Rally May 9th & 10th We are invited as a club . All club members wishing to CAMP must go into the rally field in front of the Main House NOT around the walled garden as all the other exhibitors are. Also we would like all trailers etc, unloaded there as well .There is drinking water and a Elson tip on this site, it would be nice to see the club well represented at this event , no entry forms are needed but all club members wishing to attend **must contact** me to confirm their booking 01980 610346 Please do not just turn up! Engines must be in steam by 10-30am and taken into Museum ground. Campers may arrive on Friday 8th but Must move out by Sunday evening, also please take all rubbish home and leave site as you find it, then we may be ask another year!
From Your Chairman.

Don't forget the AGM. Next month **10th April Club AGM**, venue Idmiston and Porton Village Hall, 7 pm for 7.30pm start. A chance to have your say, bring any new ideas or volunteer for any of the committee positions, and of course to pay your subscriptions.

For Sale.

Books.

Building and Running of Steam Traction Engine and Roller Models. By H R Plastow. Reprint £1.00
Steam in the Village by R A Whitehead. £10.00
Fairground Engines in Focus by John Crawley. £15.00
The Steam Engine Builders of Norfolk by Ronald Clark. (with dust jacket) £20.00
Burrell Showman's Road Locomotives by Michael Lane. No dust jacket. £25.00
Please contact the editor (Martyn Jones) for further details on the above.

Lathe

Myford ML7 lathe, complete with Burnard 3 and 4 jaw chucks, face plate, Myford vertical slide and vice, 4 way tool post, change gears, drill chuck, drip tray, assorted tools, electrics and wooden bench. £450.00 please contact John Gardner 02380 783079

Bandsaw

Clarke Bandsaw. "360mm Woodworker" (14") throat, 3 wheel type, very little use, tilt table, fence, Safety key switch, 240volt, including 10 new assorted unused blades. Cuts sheet metal also. £70.00
Contact Martyn Jones (editor)

Trailer

Trailer for sale, ideal for a 4" scale engine, good tyres, floor and frame, as seen at last years Woodgreen and Berwick events. £250. please call Bill Geddes on 0789 9965966.

Wanted

Old motorcycles or just parts, anything considered, realistic prices paid. Contact the editor.

Items for the news letter, short write up and a picture will do fine. Please send details to the editor.

"Just The Ticket Engineering Supplies", Roger Melton (club member) can supply from stock tools and materials for the model engineer and the light engineering industry. Typical stock includes drills, reamers, taps and dies, various lathe and milling cutters, BA nuts, bolts and washers, rivets, paints, steel/brass stock and much more. Catalogues are available so please give him a call on 01980 610058.

Please send/email/ phone your adverts to the editor.

End.

