CRANKING

The Wessex Stationary Engine Club's monthly newsletter

May 2009
Thirty second year of publication
www.wessex-sec.co.uk

From the Sump

I have been looking into waterslide transfers recently & as we all need this kind of thing from time to time, I thought I'd report what I found. I'm aware that many readers will not have access to a computer or, if they have, may not necessarily have the software to produce a transfer. However, I'm taking the view that if I put the information down here, no one will be very far from a friend or family member to whom the following WILL make sense!

It quickly transpired that an acquaintance had a good deal of experience as he'd been making transfers for many of his local club's engines for years. He has around a hundred on his computer.

He advises that if you want to make your own, the artwork is best done by scanning the image directly into the computer rather than with a camera. The latter does not give such well-defined edges to colours and it is more difficult to align the image properly. He uses Photoshop, but any good photo imaging software should be OK.

Process the image through the computer until you are happy with colour and density of image. Put multiple images on the one sheet as you are bound to muck it up to start with!

If you are using an inkjet printer, allow the sheet to dry after it comes off the printer. Printer ink is water-based, so give it at least three coats of acrylic lacquer that you can obtain from any car accessory shop.

A colour laser printer will theoretically require no topcoat of lacquer, but I'd be inclined to use it anyway to make the transfer more durable.

You will need a special paper to print on. The best decal paper is Lazertran that can be obtained from various sources but my friend gets his from Fred Aldous Ltd, 37, Lever Street, Manchester. M1 1LW. The price is very reasonable being around £15.00 (I think) for ten A4 sheets.

The transfers are not as strong colour wise as proper waterslide transfers since they use ink rather than proper waterslides which are screen printed using paint.

If you want proper waterslide transfers the man to go to is George Herbert, Ashley Farmhouse, Thorverton, Exeter Devon EX5 5LD. Phone 01392 860414. He supplies them for all the motor bike lads & his prices are very reasonable - and if you do the artwork for him then cheaper still. He is quite happy to talk on the telephone.

I hope this is of some help to our readers in search of this very limited service but so necessary to complete that top class restoration.

Moving the Metal

For sale

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

Vauxhall Vectra. 120K, top of the range, excellent order. New MOT.REDUCED PRICE MUST GO! £500 ono Phone Eric Gay - 01225 754374

Wanted. Braked trailer (750 kilo) to carry a 4hp Amanco. WHY?? Phone Richard on 01722 501017

Wanted. Starting handle for Bamford 9hp. Crank 2 5/8". Phone Ron on 01749 870756

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

Wanted. Triumph twin WW2 genny or parts.

"Vapourising" small stack of old 'uns - £1 each.

Wanted. "Stationary Engine" Magazine. Now only need number 27! Surely there is a spare one out there somewhere? All above, Phone Kim Siddorn 0117 964 6818

The 25th 1000 Engine Rally

26th, 27th and 28th of June at
Astle Park, Chelford, Cheshire.SK11 9AD

The organisers hope this year to get as close to the magical 1,000 engines as possible, if not exceed it. There will be more room for extra engines, but not be at the expense of the other exhibitors. There will still be a huge turn out of tractors, cars, bikes, miniature steam, commercials, military, Land Rovers as well as the crafts, traders & Friday auction.

On Sunday, they are aiming to set a world record for the largest gathering of stationary engines running in one place. They are hoping to get this record verified by The Guinness Book Of Records with local & national TV, radio & press alerted to the attempt.

As we go to press, there is still room available & an entry form can be download from
www.1000engines.co.uk

With the 1000 Engine Rally on the weekend after our own Gathering at Semington, you won't even need to unpack the engine!

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

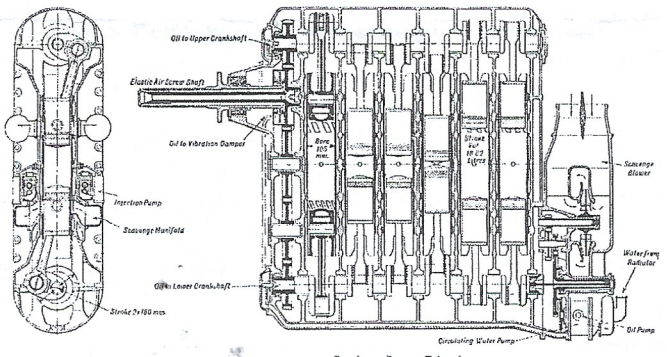
J. Kim Siddorn, 9, Durleigh Close, Bristol. BS13 7NQ or by e-mail to kim.siddorn@blueyonder.co .uk.

Featured Engine No. 28

The Junkers "Jumo" Diesel Aero Engine

By Kim Siddorn

The only high-speed oil engine which has been sufficiently developed for aircraft to get into operational services was the Junkers Jumo°, developed in the between wars period in Germany by Professor Junkers. The first of these engines, known as the "Jumo 204," was put into operation on a regular air service in 1932 by the Deutsche Lufthansa, and by 1936 Junkers Jumo engines were flying over 2,000 hours monthly on air services including North Atlantic crossings in both directions.The engines were developed with the long distance services in view, where, owing to the large amount of fuel to be carried, the low consumption of the Diesel more than counterbalanced the heavier weight of the engine, compared with petrol aero engines.



The engines worked on the opposed-piston two-stroke principle, but instead of the upper pistons being connected to the low crankshaft by long rods, as in another Junkers opposed piston engine, the Jumo aero engines had two crankshafts, one below the lower pistons and the other above the upper pistons. This arrangement reduced the inertia forces & thus permitted high speeds of operation and higher specific outputs, with corresponding reduction of weight.

The Jumo engines were progressively developed for higher speeds, and, with this object in view, the length of stroke was reduced to allow for increasing rotational speeds without increasing piston speeds, and so, by reducing the height and bulk of the engine, reduced its weight per horse-power.

By 1939, Jumo engines were developed to give up to 1,000 bhp at take-off rating, to run up to 3,000 rpm, with a piston speed of over 3,000 feet per minute.

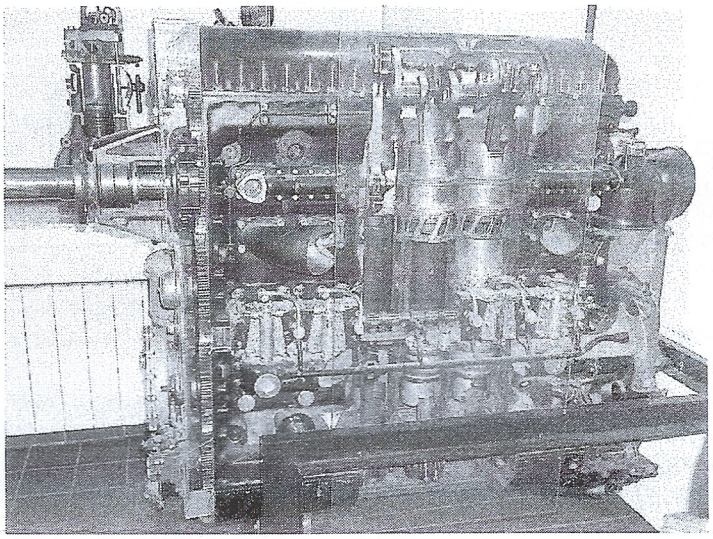
The cylinder bore was just over 4.10" and the combined stroke of the two pistons 12·6 in. There were six double-ended cylinders arranged in line in a very deep and rigid main frame of light alloy. In bearings mounted at the top and bottom of this framing were carried the two six-throw crankshafts, the upper shaft driven through short connecting rods by the upper (the exhaust) pistons, and the lower one by the lower (scavenge) pistons.

The two crankshafts were geared together by a train of gearwheels, and rotated in the same direction, so that the engine was like two six-cylinder engines, the one upside-down on top of the other. The airscrew shaft was driven from the gear below the upper crank, through a long, slender hollow torque shaft; the object of this was to isolate engine and propeller vibrations; a vibration damper for the engine itself was incorporated in the gearwheel driving this shaft.

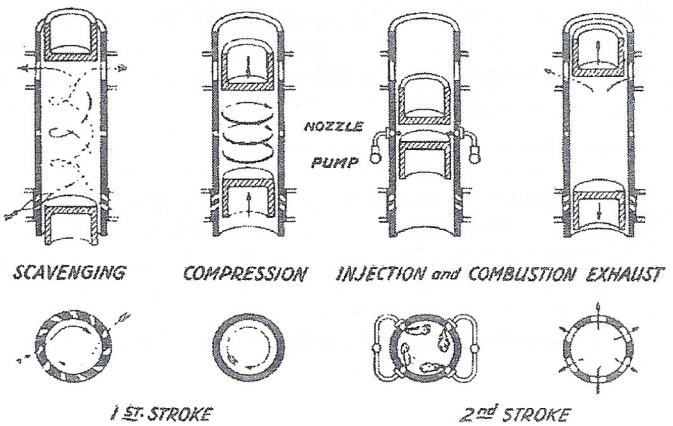
The cylinders were loose steel wet liners, cooled on the outside, and provided with tangential scavenge ports to give a swirl to the entering air, which was provided by a centrifugal scavenge blower driven by speed increasing gear from the lower crankshaft. It will be noted that this drive again incorporated a long flexible torque shaft to isolate crankshaft vibrations from the gearing and the fast running impeller of the scavenge blower; the latter ran at approximately eight times engine speed.

There were two fuel-injection pumps for each cylinder line; these were located one on either side of each cylinder, and delivered the fuel through short pipes to four injection nozzles spaced round each cylinder liner into the compression space between the two pistons.

A circulating-water pump was driven in tandem with the lubricating-oil pump by gearing from the blower drive, and lubricating oil was fed under pressure to the interior of the hollow crankshafts, whence it escaped to lubricate the bearings and pistons. For high-altitude work these engines were fitted with turbo chargers.



One of the main problems with high speed Diesels is to control and dissipate the heat entering the exhaust piston, and the liner round the combustion chamber and exhaust ports. The top of the piston in the Jumo was protected by a special heat-resisting plate, whilst a special type of " fire ring," without a split, is fitted beneath this plate and above the ordinary piston rings to protect the latter.



Calendar of Events for 2009

June 3rd .**Event**. 65th Anniversary D-Day Crank Up on Wednesday evening at the Old Down Inn. Please bring something War Dept if you have it, otherwise bring anything!
June 13th. **Event.** Collet Park, Shepton Mallet, Engines wanted. Contact Brian Baker. 01749 342671
June 20/21st. **Event** Wessex SEC Rally at Semington
June 27/28th **Event.** 1000 Engine Rally, Astle Park.
June 29th .Club night. Guest Speaker:- Kim Siddorn OCEAN STRIDING BISON illustrated talk about Viking ships & their uses.
July 27th . **Event** at club night. Evening Crank Up at the Court Hotel Chilcompton.
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. Evening Crank Up at The Old Down Inn. *(Please note that club night is a week early to avoid August Bank Holiday Monday)*
Sept 28th Club night. Guest Speaker:- Dennis Chedgey illustrated talk on 1930's RADSTOCK
Oct 4th .**Event.** Vintage & 4x4 Sort Out, A34/M4 junction, Newbury Showground *(Sunday only)*
Oct10th .**Event.** Skittles and supper evening at The Royal Oak Corsley
Oct17th **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)*

By Brian Baker

I would like to remind members that since the AGM we are still one member short of a full committee, if any member would like to come on the committee and do your bit in helping to run the club please give me a ring. Also we have had no response to the request for someone to replace Jackie as Treasurer when she retires from the post at next years AGM. It is really important we find a replacement before the allotted time.The meeting at the Old Down Inn on April 27th saw a good crowd entertained by club member Richard Harris giving an illustrated talk on BBC outside broadcast Part 2, the colourful years. This was a very interesting talk with plenty of vintage vans and lorries shown with the BBC cameras and equipment etc. I would like to thank Richard on behalf of the club for entertaining us. The next crank-up will be at the Old Down on Wednesday June 3rd, the theme will be "D-Day" so come dressed as "Dads Army" or a Battle of Britain pilot.

ENGINES WANTED at Collett Park Shepton Mallet on June 13th. No need to book, just turn up. Collett Park day is an annual event that attracts a vast crowd to the most beautiful park in the Mendip area; the engines are situated around the perimeter of a large lake so there is no need to bring water. If anyone requires more details give me a ring on 01749 342671. *Brian Baker*

Mells Daffodil Rally

Easter Monday 13th April - By Robin Lambert

This is probably the only event of the year where I watch all the TV weather reports for the whole week prior to the event, will it or won't it rain? Well by now those of you of that attended the show may have come home with a little suntan how lucky we were.

I believe we had the most exhibits ever. According to Tony who had a count up, there were around 80 engines in the line up - what an excellent turnout. Exhibitors came from as far afield as Devon, Hampshire, Gloucester and South Wales brought a fine selection of engines most of which were doing a job of work. We had a rare Wilton engine and two nice small hot air engines at the top of the field and most makes were represented around the enclosures. Here and there & mixed in with the with the engines were other eye catching exhibits like Joe Davies and his huge collection of fuel cans - all different. Joe told me he is still looking for more.

Steve Baker had a display of vintage cycles while Alan Rogers had a nice collection of horticultural machinery. I'm sorry you could not find a space in the line Alan, but you looked very comfortable where you set up. John & Ed Thorne brought along a beautifully restored two cylinder John Deer Tractor. John showed the "as found" photos – quite remarkable as all their projects.

Quite a few visitors remarked on the nice vintage BMC camper that was parked among the exhibits, a fine restoration by club Member Alan Lewis all the way from Monmouth, Well done Alan!

Diana did a grand job with the club shop and almost ran out of sweat shirts, she will be buying more soon.

I never had a chance to get around for a chat as we were powering Gerald & Hazel's Dutch Organ and I had to keep an eye on 'Stuart' and his smoking habit!!! But I know Jackie met up with you all as she and Carol did there annual insurance check. So I had plenty of feedback from them, including a few new jokes that I cannot mention here!!

I know there was plenty to see, vintage cars bikes and lorries etc. a small fairground , several food vans which must have done a roaring trade as they all had huge queues. I could hear some great bands in. the beer tent doing their stuff from Chuck Berry to The Beatles.

Our Local paper reckons 15,000 people visited the event and if any of your photo's appear in the local rag we will sent them to you. The events at Mells actually started on Saturday with a drive in

movie shown on a 60 ft screen and around 300 cars congregated to watch the. 1979 classic, "Grease". On Sunday local bands & singers were invited along to the beer tent for an open mic session & I would imagine some performed again on Monday.

So to sum up I hope you all had a good day out. Thanks for supporting the Wessex SEC and for bringing the sunshine with you AND *a* special thanks to everyone who helped to set up on Sunday and pack up on Monday, we could not have done it without you.

A Short History Of The Model 'T'

By Albert Crittell

The late A. Hitler's K.D.F. Project in 1936, (which stood for Strength, Through Joy) is generally reckoned to be the first people's car, i.e. it was specially designed to suit the average pocket. However, the German people got their car twenty years later, owing to a slight local difficulty in Europe. The Volkswagon 'Beatle' can certainly be rated as one of the world's most successful cars and it lasted for many years; even today the Beatle still gives good service.

It's impact on the world however, was nothing compared to that of the first people's car, which came up into existence in 1908. An impact so great, that even today there are still arguments as to what had the greatest effect on the lives of ordinary people. The first railways in the middle of the 19th Century, or Henry Ford's famous Model 'T' of which 15,007,033 were built between 1908-1927.

As with most car makers of that period, Henry Ford built many different types of cars at his Dearborn factory in Michigan. Models A, C and F were flat twin models. B,N,R and S were four cylinder models and K was a six cylinder luxury model, and they were all built with a variety of bodies. These cars were well. built, gave good service and sold well, but Ford wasn't satisfied with them, often complaining about the multiplicity of parts that were needed to produce all those different models. When he brought out the Model 'T' to supplement Models R and S. he built into it all the ideas and all the lessons he had learnt about his previous models.

It was an instant success and in the first year of production he sold 10,607 and it was due to the success of the 'T' that he decided on a course that was to alter the lives of millions of people all over the world.

He immediately scrapped all the other models and sold off all the spares, only retaining those parts that could be used. to build the 'T'. The factory was gutted, new production lines erected and every thing was geared up to the production of a single model. Only one type of chassis was to be made and it was designed to take the fewest types of bodies and of course, you could have any colour you liked, provided it was black!

Up until that time all cars were looked upon as luxuries and were only owned by people with money. Ford decided he would change all that and he would build a car that could be owned by anyone on a modest income.

He said, "I will build a car for the multitudes; it will be big enough for a family but small enough for an individual to run and care for. It will be made from the best materials, and the design will be the simplest that modern engineering can devise and it will be built by the best men that can be hired. But it will be low in price, so that any man on a good salary will be able to own one and enjoy, with his family, the blessing of hours of pleasure in God's great open spaces."

All the other car makers were very sceptical and said that such a policy would ruin Ford within six months, or at the most a couple of years. However, Ford. pressed ahead and in 1909 he built an even bigger factory at Highland Park. It was built solely to produce the Model 'T' and in the first year of operation he produced and sold 18,664 Model 'T's. The second year saw sales up by 34,528 and by this time Ford had brought the price down from $950 to $780.

The Model 'T' had fewer parts and it was less complicated in it's construction, than any other make being made at that time. After watching overhead trollies being used to transport meat in the Chicago Meat Yards, he brought in moving assembly lines. Parts & the chassis were brought to the men, not vice versa.

He was always inventing ways of reducing the time in assembling parts and, by careful planning, he cut the time of chassis assembly from twelve & a half hours to under five. Engine assembly dropped from nine hours fifty four minutes to five hours fifty six minutes and magnetos from twenty minutes to five. It was hard and boring work for the work force, but the Ford pay rate was the highest in the car industry and he was never short of labour. He also pioneered the eight hour day and had a guaranteed minimum wage in 1914.

Production of the Model 'T' went up by leaps and bounds - by 1913 it was 168,220. by 1916 it was 533,921 and by 1921 it had reached the amazing total of 1,250,000. All these cars were giving good service and, in many cases, were replacing the horse as the accepted form of transport. They were giving a new sense of independence to ordinary people, who would otherwise have been confined to their own locality.

The 'T' was a rugged machine with no refinements, its high axles and spidery wheels coping very well with the rough roads and farm tracks of rural America. Springing was by means of transverse leaf springs, fore and aft. Although the Model 'T' was a very reliable car, starting could be difficult at times, and was an art that could only be learnt by experience.

The two-speed planetary gear box was a remarkable invention for 1908, noisy but ingenious. The driving bands were very sturdy and should the rear wheel or transmission brakes fail, the driver just threw the car into reverse and slowed down that way. The reverse gear had a very low ratio and provided an option for ascending steeper slopes than first gear could manage! The engine was a 2.9 litre side valve four cylinder of very sturdy construction and it coped well with the extremes of weather. Repairs were quite straightforward, spares were very cheap and stocked by ironmongers in towns and farming communities throughout America.

In spite of all the jokes and ribald songs about the 'T', (it *was* called all sorts of names, and the word 'Bitza' was derived from the rhyme "Bitza tin, bitza board, Put together make a Ford") it continued to be very popular and sold well.

The squarish shape, two-wheeled brakes and two speed epicyclic gear box was basically unchanged since 1908. It wasn't until 1927 that Ford decided to cease production of the Model 'T' and by that time 15 million "Tin Lizzies" had rolled off the production lines. Two generations loved it, abused it, kicked it and swore at it, but couldn't do without it and the old "Tin Lizzie" will live in memory as the real first peoples car.