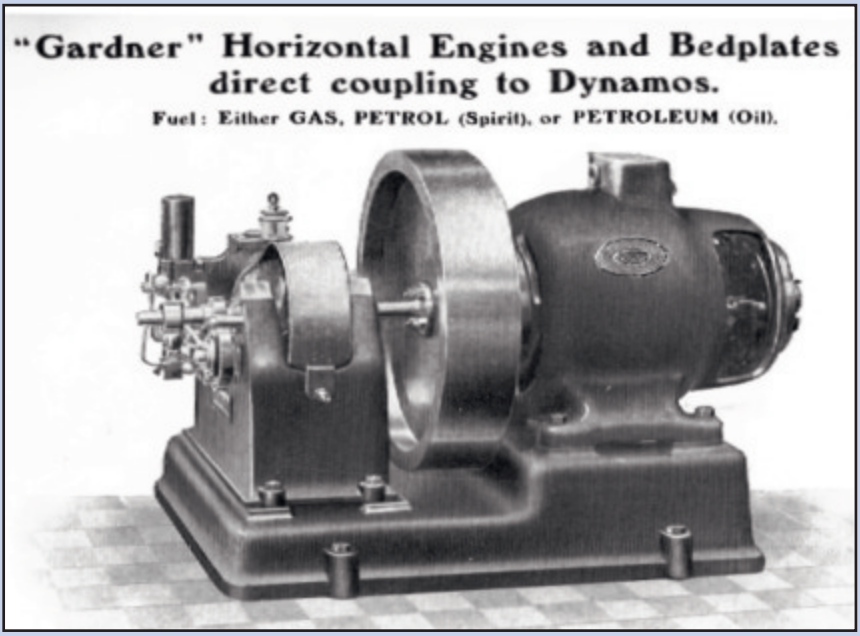
GARDNER

Engine Forum



Spring 2018

www.gardnerengineforum.co.uk

No. 33

GARDNER Engine Forum

Membership Application

Title	Mr / Mrs / Miss / Dr / Other		
Forename(s)			
Surname			
Address			
	Post Code		
Telephone Number		Ex Directory	Yes / No
Mobile			
Email Address			
Engine Model			
Engine Serial Number			
Engine Application	Stationary	Road	Marine
Year of Manufacture			
Name Vehicle /Vessel			
Signed		Dated	
Any Other Info			

This information will be held on a computer database

Membership fee £10.00 per annum
Renewable on the anniversary of joining,
Payable by cheque electronic funds transfer or standing order.
For electronic payment please tick the box ☐
The treasurer will contact you with the banking details
A complete application form can be downloaded from the website at www.gardnerengineforum.co.uk/subscribe
Please complete the above and send to

Mrs J Gray
29 Verity Walk
Wordsley
Stourbridge
DY8 4XS

Tele 01384 827745

Gardner Engine Forum Philosophy

The aims of the Forum are to promote and foster interest in all Gardner engines"

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Cover Picture

Advert page from a circa 1915 catalogue

Chairmans Notes

As I sit at my desk to write these notes and look out of my window, it is mid February and we have had a small amount of snow. Discussions about cold weather often prove much the same as those concerning an in growing toenail, where tough as it is, seemingly everybody has a story of a time when they have stoically had far worse.

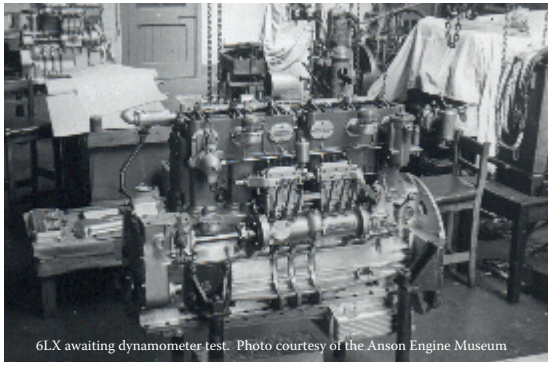
I noted from the press in early January, that this year is the "Year Of Engineering". How appropriate that we will be celebrating the one hundred and fiftieth anniversary of Gardeners. The campaign is to increase awareness and understanding of what engineers do among young people, their parents and teachers. It has been said Britain needs some 186,000 new recruits every year up to 2024. Prince Philip once put it "Everything that wasn't invented by God was invented by an engineer".

I read recently the obituary of the wartime American morale booster "Rosie the Riveter", we had our own in Ruby Loftus and her portrait by Dame Laura Knight, is now part of the Imperial War Museums collection, shows Ruby screwing a breech ring. This was all to encourage female recruitment to engineering factories. For those of you who are conversant with lathes, it is a Dean Smith and Grace machine, one of which I worked on when I was in the centre lathe department.

I wrote last autumn about my experiences in the Dolls House, drilling the sprayer bodies. The next department was the turret lathes. Albert Green was the foreman, the one thing I remember about Albert, was his ability to roll his cigarette in one hand and work the lathe with the other, that was when he was showing me something. Frank Atkinson was my tutor along with Margaret who was our Ruby Loftus.

For all our LX devotees and I am one of them, sixty years ago this iconic engine came to the market.

Hugh Gardner had recognised in the mid 1950's the automotive market was changing and with assistance from his brother John, they developed the LX. Inappropriately on 1st April, 1958 the first production 6LX was tested. What happened to the research department prototype? Does anybody know, if so perhaps you could tell us.


6LX awaiting dynamometer test. Photo courtesy of the Anson Engine Museum

I would like to welcome new members:- Eddie Raynor, Chris Chambers, David Haighton, Paul Kelly, Paul Williams, Julian and Lynne Knapp, George Herringshaw, Michael Jones.

John Naylor

Annual General Meeting

Notice to all members of the Gardner Engine Forum
The Annual General Meeting of the Forum
Will be held at
THE ANSON ENGINE MUSEUM
ANSON ROAD, POYNTON, CHESHIRE, SK12 1TD
On
Sunday 15th of April at 2pm
Items for the Agenda to be with Mrs Linda Kemp
Korna Cottage, Barnstone, Notts , NG13 9JJ
Or by email to gardnerengineforum@blueyonder.co.uk

By April 7th

150 Years of Gardners Celebrations

With this edition of the newsletter you will find a Rally poster and entry form for our own rally, specially added out of our normal sequence to mark this historic occasion. As mentioned in the chairman's notes of the last newsletter this will be taking place at Etruria, Stoke on Trent. This is at the same time as the Etruria Industrial Museum and Heritage Centre's Heritage weekend, which also incorporates a Vintage Engine Rally on the Saturday and a Classic Car Rally on the Sunday. Over the weekend the Steam Engine that was used to power Jesse Shirley's Bone and Flint Mill will be in operation. The Heritage Centre will be open and features items of local history. More info on the Museum and Heritage centre can be found here http://www.etruriamuseum.org.uk/.

It would be appreciated that if you are interested in attending, that entry forms are returned as early as possible.

As has become traditional at our rallies we are looking to organise some food for the Saturday evening, At this moment we are looking at what it is possible to arrange. This is not restricted to Rally entrants so if you would like to join in the Noggin and Natter, then please fill in the appropriate section of the form and supply an email address if possible and once we have our options sorted, we can then let interested parties know.

Anson Engine Museum

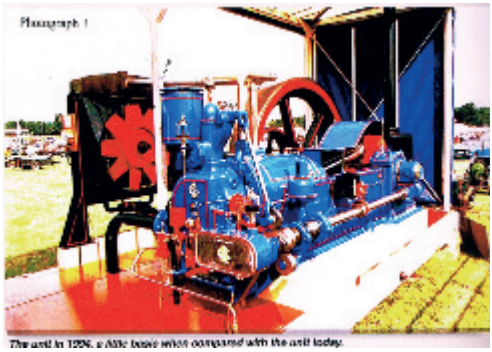
In celebration of 150 years since the formation of L Gardner and Sons, the Anson Engine Museum will be holding a special event weekend on the 23rd and 24th of June. In addition to the current items on display there will be additional items from the archives. At the time of writing, it is hoped that there will also be the 6LK on loan from Mr Paul Gardner. If you haven't been to the museum this would be a good time to visit.

Cliff Noble. R.I.P.

At the end of November last year, we received the news that after a short illness Cliff Noble had passed away. This was very sad news indeed.
Visitors to Gardner rallies will have seen the HF13 so superbly presented by Cliff, Tony and John.
The story of the saving and restoration of the HF13 by Cliff and his associates can be found in editions 20 and 21 of the newsletter. In 2014 Cliff complied a booklet charting 20 years of "doing the rounds" at rallies, and some some of the trials and tribulations along the way. Cliff presented me with a copy for future use in the newsletter. The HF 13 had been displayed at all but two of the Gardner Engine Rallies organised by the Forum and its founding Chairman Colin Paillin.
The following article is the core content from the booklet (Ed)

20 Years Exhibiting

Who would have thought, as we stood around the 13HF Gardner engine at its first outing at the Bromley Car Show in 1994 that 20 years later we would still be transporting 28 tons of engine and trailer to shows and exhibitions, but we are and thought you might like to share some of our experiences.
(Photo 1) shows the unit in the 1994 condition, with no walk-way for the public and no ancillary engines, all of which were acquired later. At this point we were dependent on loan and hire transport, which produced some very difficult attendances at rallies.



Photograph 1

The unit in 1994, a little basic when compared with the unit today.

The Bromley Car Show was not a large stationary engine show, but it had many interesting sections and was a catchment area that produced an excellent attendance and, therefore, a lot of interest from the public for us and the engine's history. Unfortunately, it now falls within the Greater London Emission Zone and we are no longer able to attend owing to the extra fee required by the London Assembly for entering the zone with a non-compliant unit, and we cannot comply with the 'Showmans conditions'.
The following year saw us attend the first Gardner Engine Rally at Nottingham. A wonderful site alongside the River Trent, allowing many Gardner-engined

boats and transport excellent access to the site This first rally, organised by Colin Pallin, was an eye-opener for the support and enthusiasm for Gardner engines as there was every form of transport on show, with many models of this excellent product.

Tatton 1000 Engine Rally

From Nottingham we were sponsored to Tatton Park 1000 Engine Rally (*photo2*) and transport was provided by Heanor Haulage to their yard for safe keeping. Arrangements had been made with a colleague from the Nottingham Rally who was still running a Gardner engined unit commercially to collect us from Heanor's yard on the Friday and take us to the rally site. We arrived at Heanor's yard at midday on the Friday only to be told that our booked transport had broken down due to a starter motor problem. Heanors kindly stepped into the brink, but due to 'driver's hours' could not do anything until the Saturday morning.

After an early start we met Heanors at the rally gates, but all their units were three-axle heavy haulage and could not get into the gate due to the narrow lane. This meant getting permission to go around to the main entrance to Tatton Park and going through the estate to the rally site, where despite our request for reasonably level hard standing, the site was on ridge and furrow land, which made setting up the Gardner somewhat difficult!!! We were now stuck at Tatton Park with the Rally Rules enforcing departure by 5pm Monday, and no transport available to get us back to Heanor's yard.

Photograph 2

We had a great many problems when attending the Tatton 1000 Engine Rally.

However, in the course of conversations on the Sunday afternoon, an interested spectator turned out to be the son of Dales Transport, a local contractor, provide transport on the Monday back to Heanor's yard, so another problem was overcome with half-an-hour to spare on the site closing time. Heanors finally brought the engine back to Surrey at the end of July, in time for us to visit Rushmoor Arena (Aldershot) and our first visit to Barleylands (Essex). That winter was spent completely servicing the trailer brakes and other problems that had been encountered during the year. 1996 saw us attending more local shows, being no further afield than the Lister Petter Rally in Gloucestershire, The Kent County Show and Barleylands in Essex In 1997 saw us at the second Gardner Rally at Astley Green Colliery,Manchester, the engine House of which is home to the largest horizontal steam engine I have ever seen, and was currently undergoing complete restoration

The site was not too good as they had been unable to cut the 18in high grass and the canal for the boats was out of sight, however, a most interesting rally.

Events further afield

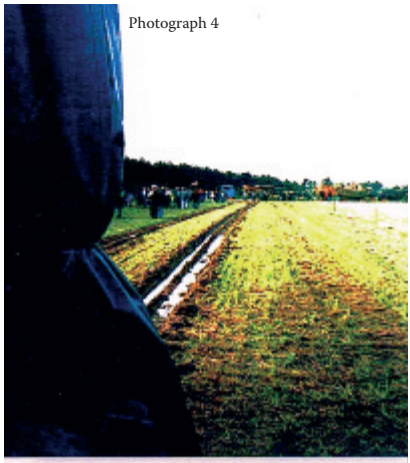
1998 saw us at our furthest northerly point so far, when we were invited to the North West Stationary Engine Association Rally at Melos Hall, Southport. To achieve this trip we had to hire-in a unit, and Tony our driver, had a long day as he had to collect the unit from South Mimms and drive down to North Nibley where the Gardner had been left from the previous weekend, and from there to Southport. Needless to say he did not arrive very early having had to contend with driver's hours' etc. This was another very interesting rally, with items from every section of the preservation hobby, including a superb model of the Queen Mary, on a car trailer, which was approximately 8ft long and had internal lighting for all of the portholes. Accommodation was not a problem here as my son lives in Southport.

Our own tractor unit

Due to the pressure of lorry utilisation, transport problems were becoming unmanageable, having to wait for units to come in and double driver's shifts ended later, so we decided to purchase our own unit. This was an ex-Fontains Transport ERFC32 unit with a Gardner 6 LXCT Turbo 1983 model, which had 430,000KS on the clock. This was overhauled, and after a few teething problems, had never let us down until the introduction of the new diesel fuel in 2011, when the unit failed 100 yds from the MOT station,due to a blockage of the fuel system with sludge. We could not clear this on site and had to be recovered from Lancing, getting back at 3am. It took two days of dismantling and cleaning to clear the system (this was before additives were available) modem progress?

This purchase overcame our transport problems and made life a lot easier, but we still had a few embarrassing moments, one of which occurred while attending the Power of the Past rally in 2001. Following a cloudburst on arrival we had to be towed in by a 300hp John Deere tractor *(Photo 4)*, as you can imagine from the photo, the job of jacking and levelling the trailer under these conditions was horrendous, as this was prior to the hydraulic jacking conversion of the trailer.

Photograph 4



The ground conditions were less than favourable at the Power of the Past event following a cloudburst.

In 2003 we were asked to take part in a Comparison Road test by "The Commercial Motor Magazine" at the Army Test Track at Chobam *(Photo 5)* and fully loaded at just under our gross weight, we came out with a very favourable report.

Beware low bridges

In 2005 we were invited to the 6th Gardner Engine Rally at Manchester in the Canal Basin adjacent to the Manchester Museum and

what a wonderful site this was,surrounded in all directions with canals, railways and buildings of very interesting heritage, plus the museum itself, to which we had free entry. There was only one problem; two weeks prior to the rally I had been staying with my son in Stockport and on the way home I decided to check the site entrance. I drove down the road under the bridges and onto the forecourt by the Basin and decided all was well.

Photograph 5

The tractor unit seen when taking part in the Comparison Road Test organised by "The Commercial Motor Magazine".

Unfortunately when we arrived on the Friday of the rally, one of the bridges I had sailed under in the Volvo only had lift headroom and as the trailer is 13ft 6ins, this was definitely a 'No Go'; what an error of judgement. The only other way in was down a very steep incline, with cars parked on both sides of the road, which was so narrow that we had to fold everybody's mirrors in, and Tony was able to drive down with approximately 3ins to spare on either side. At the bottom of this dip there was a sever road subsidence at the entrance to the rally site. After some assistance some timbers were acquired to fill this and we arrived safely.

However, when we came to leave on Sunday afternoon, and attempted to go back up the incline, having folded in all the mirrors again, what with the weight of the trailer and gradient, as soon as the unit's rear wheels bit the timber, they simply spat them out and we bottomed out! There was only one alternative and that was to reverse back up the incline, but with such a narrow road, it was not a decision I would have wanted to take. So having no alternative, we re-packed the subsidence and put some plywood sheets over the timbers to spread the weight, and this enabled us to get the unit and trailer over the dip. How Tony managed to reverse up the hill between the cars with such tight clearances I shall never know, but he did it. There were no more relieved people than Tony and I when he got to the top and backed it across the pavement between the lamp posts to get access back the main road. I certainly learnt my lesson about checking sites after that hair-raising episode.

We carried on with the same pattern of shows whilst they were running, and we were invited, having been to Henhan in Suffolk and in 2008 made our first appearance at Banbury. In 2011 we were at Welland, and what a wonderful show this is for the stationary engine enthusiast's, Peter Allen appears to have mastered the problem of repetition without losing numbers. On that and subsequent visits has presented the best display of station engines I have seen in this country .That year we were also invited to The West of England Rally, another excellent show with a very enthusiastic committee well laid-out exhibits and of general interest for the public and preservationists.

Nuenen Rally 2012

In 2012, as the date did not clash with Surrey County Show, we decided to go Nuenen, Holland and (Photo 8) shows us in the Dover Park awaiting the ferry. This rally is an absolute must for anyone interested in stationary engines, as there is nothing else there but engines, with a tremendous variation of International manufacture. We had a great weekend there; the hospitality was second-to-non and with Health & Safety treated with ' common sense.

The year 2013 was not a good year for us. It started off when the starting handle of the Gardner OVC compressor engine came off when being cranked and hit me on the right leg, just under the knee-cap. it caused a large swelling, which prevented me from walking and driving for many weeks,we therefore, missed that year's Gardner Rally.

At the Chertsey Show in August we had a seizure on the centre main bearing due to the serrations on the inside of the oil-ring having worn our, (see my Letter to the Editor in issue 484). This meant going through the procedure of jacking-up the crankshaft and flywheel (5 1/2 tons), removing the shells, cleaning and scraping, re -machining the oil rings, reassembling the bearings and checking clearance and alignment of the shaft; this was not completed until the end of the year.

Shows and Rallies attended with the Gardner 13HF 1994-2013

Surrey County Agricultural Show	2
Ardingly Vintage Rally	16
Knowl Hill	10
Barleylands	19
Lister Petter	12
Rushmoor Arena	3
Power of the Past	6
Kent County Show	2
Wroughtun	1
Heddington and Stockley	1
Banbury	3
Henham	2
Oxon	1
Welland	3
Gloucester Steam and Vintage	4
Southport	1
Chertsey Show	10
Egham Show	14
Royal Gunpower Mills	2
Stotford Autumn Show	3
West of England Rally	1
Bromley Pageant of Motoring	12
Gardner Forum	9
Tatton 1000 Engine Rally	1
Bedfordsghire Steam & Country Fair	1
Fawley Hill Open day	1
Nuenen - Holland	1

Air Start Valve Problems

We also had trouble with the air-start valve, as despite every method we tried we could not cut the seat in the head by normal means. I believe the seat had become 'heat-hardened' over the years as it is very close to the combustion chamber. In the end we made up a second flange where the air-valve fits with a countersink on a shaft and by putting an electric drill on the end of this and getting some leverage between that and one of the chassis uprights, we did, after many attempts obtain a seat into which we were able grind the valves with photos 9 and 10 showing these items. By the end of the 2013 season we had completed 26,200Kms with the ERF transporting the Gardner to the list of rallies seen on page 46.

Our ability to exhibit this unit over the years has been entirely due to the dedicated support of my two colleagues John and Tony, without whose enthusiasm it would not have been possible. However, we are all suffering from the 'getting older syndrome' and Tony is now on annual medical for his HVG Licence, so if there is anybody out there in reach of the Guildford, Surrey area, who would like to become involved with the future showing of this engine (the only Gardner 13HF known to exist) , you are very welcome to get in touch through the Editor.

Thank you.

Cliff Noble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PLEASE REPLY TO .....
OUR REF DGH/AS
January, 1974.

L Gardner and Sons Ltd

THE EARLY YEARS OF ENGINE PRODUCTION.

In the early 1880's L. Gardner & Sons was operating as a partnership under the direction of Mr. Thomas Gardner and Mr. Edward Gardner, other members of the Gardner family, Mr. Lawrence, Mr. Ernest and Mr, Joseph also being employed.

The firm were consulting engineers and manufacturers of special machinery and had modest premises known as "Gardners Engineering Works" at Hadfield Street, Cornbrook in Manchester.

They were making dynamos and general engineering products, which included a range of hot air engines designed by a Mr. Robinson, who was not connected with the firm.

On 5th May 1894 the first internal combustion engine designed and made by Gardners was completed and tested. It was a horizontal type, designated a No.1 gas engine, developing 1 BHP at 350 RPM, and it was used to light the " small-room' at the Works.

The records show it to be Engine No. 81, and possibly the previous 80 engines were hot air types.

A second engine, No.82, was made with the cylinder bore increased by 1/8" to 3.3/8" and this was also used in the Works.

A batch of 6 of those No.1 engines with bores increased to 3.1/2", serial Nos. 83 to 88, were produced in July of that year for general sale.

The notebooks of Messrs. Tom and Edward still exist, giving rather sparse details of the first few engines made, but after the first batch of engines were built, the records improve,

The entry for engine No. 88 reads;-

"Was troublesome - had compression reduced by turning off piston - will only do 10 lights at 48 volts. To Bradford 22nd Sept."

Another batch of 6 was laid down in October, 1894, followed by a further 6 in December.

In December the first N0.3 engine, No.101, was produced, having a bore of 5.1/2" and developing 3.1/2 BHP at 250 RPM.

One month later the No.2 engine, 4.1/2" bore, developing 2 BlHP at 300 RPM was introduced, and a note in the records indicates that they obtained 2.7 BHP out of the prototype and that it was used to assist the Works' steam engine

The ignition of all these engines was by means of a hot tube connected to the combustion chamber, the tube being heated by a gas flame in a chimney round the tube. These tubes appear to have been temperamental and the performance of a reluctant engine could be improved by a change of tubei

Each engine had its own idiosyncrasies and the notes for No1 engine serial number 105 read:-
This engine was remarkably free from all defects. Started very well, chimney at top of post, although compression was the same as the others, viz 60 lbs. Piston was very clean."

Previous entries show that piston rusting was causing problems, and that pistons wouldn't run clean until the tinge had bedded in.

Typical gas consumption figures including the gas flame for the tube worked out at 30 cubic feet per hour per BHP for the Smaller engines and 27.5 cu.ft./BHP/HR for the larger.

On 25th May 1895 the first No. 0 engine, Serial No. 132, was built with a bore of 2.1/2" and developing 0.55 BHP at 450 RPM. Some months after the bore was standardised at 2.3/4" to give .75 BHP.

Later that same year, on 4th October, the first No. 4 engine, Serial No. 148 was started at tea-time, and it was allowed to run all right. This was 6” bore and developed 5.08 BHP at 250 RPM. A note reads:-

This engine is not running as nicely as the other sizes - it bucks and thumps."

They reduced the compression pressure to 45 lbs by cutting "the dead head completely off the piston (by pulling round the lathe by hand)" and it cured the problems. It was then tested by driving the Works for a month, after which it was painted blue and sold to a client in London.

27th November 1895 was the date on which the first No. lA engine, serial No. 164, was tested, having a bore of 4" and developing 1.5 BHP at 330 RPM.

Thus between May, 1894 and November, 1895 six basic engine types were introduced, and in the following year a No. 6 engine was designed and built with a bore of 8" to give 9.5 BHP at 200 RPM.

All these engines were sold to home clients, mainly in the Lancashire and London areas, and the first direct export was a No. 2 engine to Barcelona in 1896, to be followed shortly after by a further batch. France also became a good export market.

Up to this date towns gas had been the only fuel used and in September and October 1896 experiments were carried out on No.1 gas engine, serial No. 229, to make it run on paraffin oil, but tests were "dropped for want of time' until April, 1897, and in that year four oil engines of various sizes were sold.

In 1897 a No. 1 engine No. 338:-

'"was fitted up as a spirit engine on Wednesday, 14th April, and started at 830 p.m. Started without difficulty and ran very well at full load till 10.45 p.m. Engine appeared perfect. Next morning, in starting, the engine fired backwards right out of my hands and of course exhausted through the inlet valves."

They, therefore, made a non-return valve in the air inlet manifold so that back-fires wouldn't blow the petrol out of the carburetter.

Spirit (i.e. petroleum spirit) consumption worked out at

944 pints/BHP/HR excluding the lamp for the tube, or 1.075 Pints BHP/HR with the lamp,

Late in 1896 a two cylinder version of the No.6 engine was made with cylinders side by side, known as a 6/6, serial No. 279. It was started up on 19th December and delivered on 23rd December to a client in Colne after a six hour test, and the notes say"Singularly free from faults".

After engine No. 279 it was decided to give even numbers only to engines, commencing at No. 300. This continued up to No. 998, when they reverted to consecutive numbering.

It is not clear why the introduction of the No. 5 engine, 7" bore and 8.6 BHP'at 220 RPM was delayed until 7th August 1897, but this engine, No. 476 "ran very well" and was exported to France. A year later the No.7 gas engine was tested, developing 15.74 BHP at 200 RPM with a 9" bore and 15" stroke.

1898 was an eventful year, as not only was the first vertical engine made, a No. 1AV No. 1084, developing 1.8 BHP at 400 RPM, but the firm, now a limited company, moved to Barton Hall Engine Works at Patricroft, and a No. 7 engine was converted to a No. 8 to power the shafting, where it ran for 6 years until it was sold.

1898 also saw the first experiment with electrical ignition by coil and battery on a No. 1 spirit engine No. 1038, which was only the tenth petrol engine to be produced, the preference being for gas and oil types. This was possibly because gas and oil were readily available for lighting and heating, but petrol was not yet in general use.

The 4A engine, developing 9.1/2 BHP at 270 RPM was introduced with Engine No. 1152 on 5th December 1898. Gardner engines were then well established with 12 types available, and production figures for the early years were as follows:-

Date	No 0	I	1A	1AV	2	3	4	4A	5	6	6/6	7	TOTAL
1894		20			1								21
1895	7	36	7		12	4	2						68
1896	12	44	24		12		9	2			1	1	105
1897	31	71	36		27	12	13		4	3			197
1898	10	107	61	1	54	16	18	7	13	5	1	2	295

These were the early years of engine production that was to continue for many years with the manufacture of horizontal industrial engines up to powers of 224 BHP.

The future lay in the development of the vertical engine and a 1912 sales catalogue shows that whilst l+ sizes of horizontal engine were available, no less than 49 different sites of vertical engine were on offer. The majority of these 63 engines were available to run on spirit, gas or oil, so well over 100 different engines were being produced.

The present Gardner family members have concentrated on the diesel engine to the exclusion of other types, achieving a performance of which their forbears would have been justly proud, but that is another story.

Reproduced from an original document in the Dion Houghton collection, at the Anson Engine Museum

L2 & LW Production Dates

L. Gardner & Sons had been building compression ignition engines for marine and industrial duty since 1911, and in 1928 the Gardner family designed the L2 series of "high speed" oil engines to run at 1000 R.P.M., for marine and generating applications.

The basic design was a direct injection diesel engine having a cylinder bore of 4.25" and a stroke of 6". Cast iron construction was used, and the main bearings were in the lower half of the crankcase, so that the engine could be completely dismantled from above, leaving the crankshaft in the crankcase in situ in the vessel.

The prototype unit built was a 4 cylinder 4L2 engine No. 28203 in June, 1929. It was exhibited at the Shipping and Engineering Exhibition at Olympia in August, 1929. Three orders were received, engine Nos. 28421/2 being supplied for marine generating sets, and the third engine 2823 was supplied on 28th February, 1930 to Bartons Transport at Nottingham for incorporation in a Lancia single deck bus, the engine speed being raised to 1300 to develop 50 B.H.P. This engine was returned to the Works for overhaul after completing 50,000 miles, and on 26th February, 1931 it was sold to Northern Motor Utilities for incorporation into a goods vehicle.

Further orders for marine propulsion and generating engines followed and on 2nd June, 1930 the fifteenth 412 to be produced was sold to Dutson of Leeds for installation in a goods vehicle.

Meanwhile a 5 cylinder 5L2 engine had been produced on 29th April, 1930, the first engine No. 28506 being installed in a yacht for generating duties. The third 5L2 was purchased by Bartons on 10th June, 1930. This unit developed 62 B.H.P, at 1300 R.P.M. The seventh 5L2 was installed in an A.E.C. goods vehicle by Eastern Roadways on 6th December, 1930.

6L2 engine No. 28463 first appeared on 31st March, 1930 and was installed as the main engine in a yacht. The ninth engine No. 28686 was purchased by Leeds Corporation on 21st August, 1930 for installation in a Leyland Double Decker.

The twelfth engine 28704 was supplied to Karrier Motors on 8th September, 1930 for a goods vehicle; the thirteenth engine 28722 went to Sheffield Corporation on 12th September, 1930 for a Crossley bus, and the eighteenth engine No. 28778 went to Manchester Corporation on 17th October, 1930, also for a Crossley bus.

The first 3L2 No, 28414 was produced on 21st March, 1930 and was incorporated in a Wallis Stevens road roller.

The first 2L2 was No. 28451 supplied on 20th March, 1930 for a generating set on a yacht, and was still in service 40 years later.

The single cylinder 1L2 No 28762 was first produced in 1930 and was used for industrial and generating duty only.

The prototype 4L2 built in June, 1929 is still in use in Gardners powerhouse. (Now at the Anson Engine Museum)

Automotive duty was never envisaged for the 12 series, so design work started on the LW series, to be made in light alloy construction with a removable sump for access from below,

The prototype unit, 6LW engine No. 29150 was completed in June 1931 and was used for experimental work for some years, finally finishing up as an exhibit in London Office showroom,

The first production 6LW No, 292140 was supplied to Karriers on 26th October, 1931, the second, third and fourth going to Scammells, Guys and T.S, Motors for goods vehicles.

The fifth 6LW engine No, 29261 went to Leeds Corporation on 20th October, 1931 for a double decker bus and the sixth to Fodens, all rated at 102 B.H.P, at 1700 R.P.M.

The first 5LW engine No, 292699 developing 85 B.H.P. at 1700 R.P,M,, was dispatched on 5th November, 1931 to London General Omnibus Company for incorporation in a Leyland 'CC' chassis, and after prolonged tests was returned to Patricroft for incorporation into one of the Works trucks.

The second and third 5LWs were dispatched to Walker Brothers of Wigan for Pagefield vehicles.

Daimlers took the fortieth 5LW engine No, 29885, produced on 4th October, 1932, and it was fitted to a single deck bus for use in Las Palmas.

The first 4LW engine was No. 29259, dispatched to Peerless Lorries Ltd. on 6th October, 1931. The next few engines were supplied to operators for automotive conversions, but the eighth engine No, 29313 was supplied to Walsall Corporation on 5th January, 1932, being set to 68 B.H.P. at 1700 R.P.M.

The 3LW engine followed after a considerable period, engine No, 30449 being installed in the Works Vulcan 30 cwt lorry on 30th May, 1933. This engine developed 51 B.H.P. at 1700 R.P.M.

Design work on a lighter, higher speed series of engines, to be known as the LK series, commenced. Early in 1934 the first unit a 6LK No, 31891 was built for experimental purposes, but only the 4 cylinder units developing 52 B.H.P. at 2000 R.P.M. were manufactured, the first being engine No, 34405 on 10th October, 1935, and it was dispatched to Latil in France for a forestry tractor exhibited at the Paris Show, Subsequent engines went to Fodens and E.R.F, on 11th October and 14th October, 1935. Atkinson and Albion also installed 4LK's in 5 ton trucks

From the Dion Houghton Records Anson Engine Museum

Recycling

As an “engineer” I’m writing about how various and unusual types of discarded old fire extinguishers maybe ideally suitable for another purpose and therefore a new lease of life.The most common type could have contained water, powder, foam, or even CO2 for fighting for differing kinds of fire and would be in different capacity cylinder sizes. The “shelf life” and date of testing must be stated. After the appropriate period it could very well become scrap and tossed away. Others may be damaged in some way, thus rendering them unfit for purpose. Consequently they have to be disposed of.

When undertaking engine restoration projects, so often it is found that one or more component parts are missing or severely corroded to the extent that they are beyond economical sense to attempt a repair, the part in question being scrap, however thinking!, “One persons scrap is another persons need”applying another motto “need is the mother of invention” it may well be a cylinder could become prime material by adapting and modifying for another use. Here’s another motto which comes to mind, “waste not want not”, Well think about it!.

The question now arises where do I find an old extinguisher? Word of mouth very much helps with enquiries, keep looking around skips. The tat man, scrap metal yards, vandalised and dumped ones, even look in the canal. Kids love to see if they will go like a torpedo (misspent youth) (ed) . They float so one never knows when one might come your way. Don’t stop at one if the opportunity offers more they can be extremely useful. Fire extinguishers are usually made of steel or aluminium and being pretty strong one can transform them for instance to make a replica silencer, header tank for cooling water, air inlet cartridge holder or perhaps a slave fuel tank. These are just a few examples suggested, the beauty is the cylindrical shape may be easily cut welded, riveted, bolted or even clamped at the desired length and shaped. Try to replicate as far as possible the original by using square headed nuts, round head or cheese head rivets, but certainly not metric hexagonal nuts or pop rivets, Carefully dress off welds so as to look presentable (you know what I mean)and finally finish by painting or -.- whatever is suitably sympathetic. Remember one’s finished replica must serve is purpose and importantly “look the part”. If it does then one will no doubt feel pleased and proud of the work, you may even imagine that it is the real genuine article, however if it doesn't, think again. Knowledge will have been gained from difficulties and mistakes, but personal satisfaction really is most rewarding.
P.J Freakley

Fuel Pump Timing Marks

The following is reproduced from a somewhat faded copy of a document found in the Gardner Archive at the Anson Engine Museum, as such there was nothing to illustrate its original purpose, presumably there was a need to further explain the extra marks to the users in the early days

The C.A.V pumps were originally set by C.A.V so that, when the timing mark on the pump window and the plunger coincided, injection was just commencing, that is to say after the delivery valve has commenced to lift and the anti-dribbling piston on this valve was just clear of the valve seat. As you can imagine it is not readily possible to exactly ascertain when this condition applies so we adopt a different method of setting which is positive and can be readily ascertained. When the mark on the Gardners pump coincide the fuel pump plunger has just closed the suction port. Therefore if you find a pump with two sets of marks on the window then, ours is always the lower one and we add a centre punch mark to distinguish it from the C.A.V setting. The instant the plunger has closed the suction port is easily found by removing the fuel pump delivery valve and turning the engine in its running direction until fuel ceases to flow from the delivery valve union.

This is commonly referred to as spill timing

Gardner's advised against using this method when setting the on engine pump timing, as removing the delivery valve could lead to the pump delivery setting being affected by movement of the fuel element body. No doubt this method was used to ascertain the position of the additional timing mark on each pump prior to final calibration of the pump (ed)

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YOUR REF.
OUR REF. WB/APF/GA

October 19 57

Dear Sir(s),

Instruction Books Nos. 43·1, 56 (Modified), 56·1 and 56·2
Liquid Fuels and Lubricating etc. Oil Additions thereto.

Referring to paragraphs numbered:

32 and 32.1	in	Instruction	Book	No.	43·1
27 and 27.2	"	"	"	"	56 (Modified)
26 and 26.2	"	"	"	"	56·1
26 and 26.2	"	"	"	"	56·2

We have been requested by the Customs and Excise Department to draw attention to the fact that it is an offence to use as fuel, hydro carbon oils that have been rebated. Such rebated oils include lubricating oil, spindle oil and paraffin. Where any such use is contemplated, payment of full duty will be required and if in any doubt the Local Customs and Excise Officer should be contacted.

Yours faithfully,

NORRIS, HENTY & GARDNERS, LIMITED.

GD728

Events

Sunday May 13th

Road run charity event in aid of the Royal British Legion and tribute to Vince Cook. From S Jones at Aldridge to the Hollies (Road King)Truck Stop on the A5 at Cannock Departing at 9am details from Mark Wilkes :- mwilkes14@yahoo.co.uk

5th 6th & 7th May 2018,

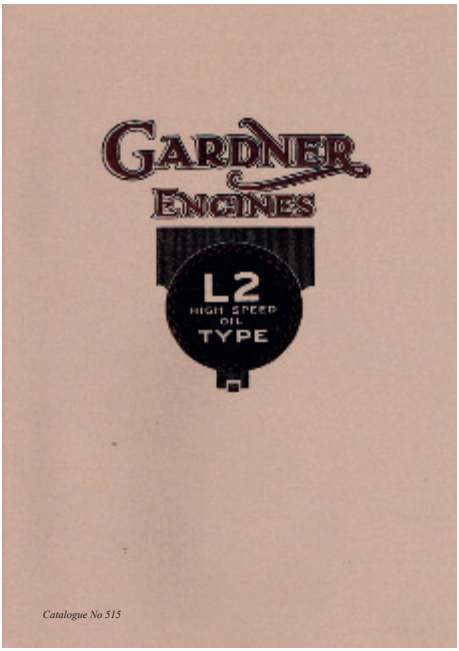
Bodafon Fields, Llandudno,Conwy County, North Wales,LL30 3BW.
Held in conjunction with the Llandudno Victorian Extravaganza.www.llantransfest.co.uk
Exhibit Entry, Trade stand & Autojumble details send SAE & writing under the sealing flap your enquiry, to: LlandudnoTransport Festival Office, 4 Ffordd Celyn, Colwyn Bay , Conwy County, LL29 8RN, 01492 517004 before 9pm.

Electronic Magazine

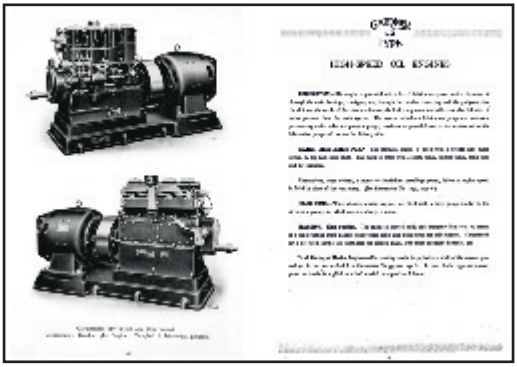
Copies of each newsletter can be emailed to members who wish to receive it by this method, either with or without a paper copy as well. Any email address used for this purpose will not be made available to any third party. If you would like to receive your newsletter this way please email the editor at gardnerengineforum@blueyonder.co.uk with your request and preferred email address.

The file will be in PDF format (usually around 2 Mb) so is universally readable

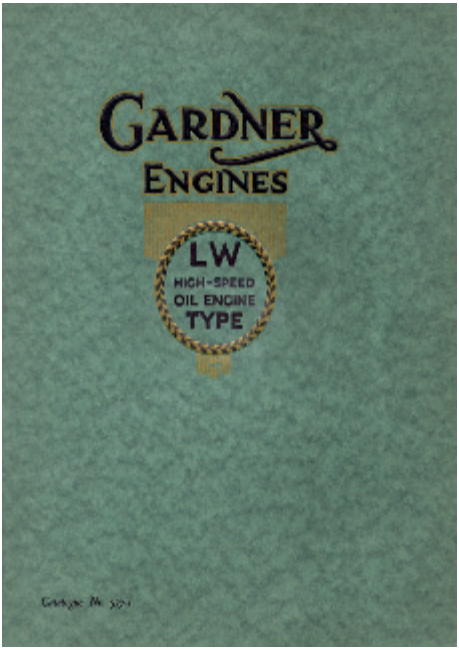
Merchandise



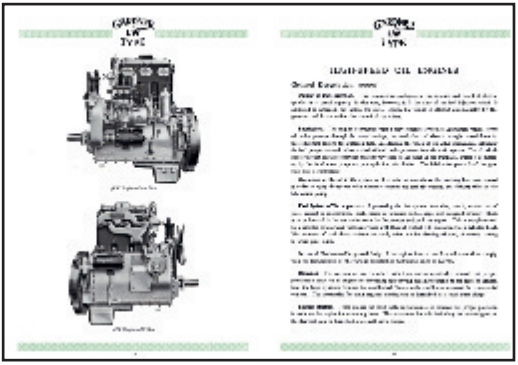
Reprint of sales catalogue 515, scanned and cleaned up from an original circa 1930 edition.
24 pages detailing the available range of 1-6 cyl engines with installation and outline drawings.
Printed on good quality paper and slightly enlarged to A4



Both publications are available at £10.00 each plus £1.50 for P&P



Reprint of sales catalogue 527.1, scanned and cleaned up from an original circa 1935 edition.
32 pages detailing the available range of 3-6 cyl engines highlighting the qualities and advantages of the engine.
Printed on good quality paper and slightly enlarged to A4
Original copy provided by the Anson Engine Museum



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