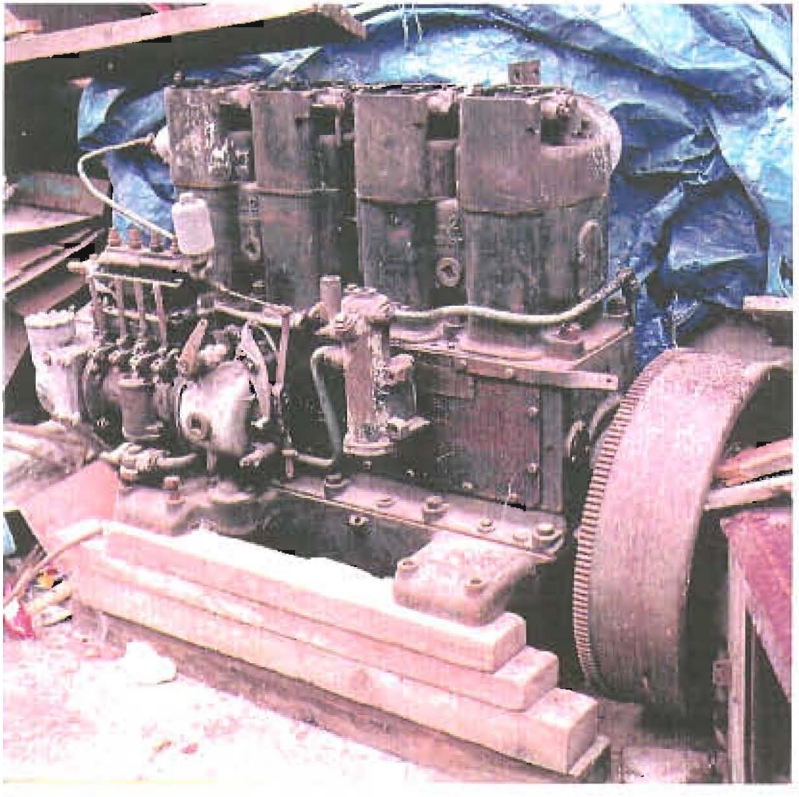
GARDNER

Engine Forum



Summer 2001 issue

Gardner Engine Forum
Philosophy

"The aims of the Forum are to foster the interest that exists between follow members in the appreciation of the Gardner Engine manufacturer"

Subscription

The annual subscription to the forum is £10.00 (this magazine will be published twice a year.).

Price of each issue to non-members £2.75.

Forum officers

CHAIRMAN: Colin Paillin (tel: 01949 869004)

Secretary: t.b.a

Treasurer: Tony Redshaw

Membership Secretary: John Humble

Editor: David Nash (Quad P.R.)

Contents

(Front cover photo: article 4L2 from "Sharpness")

Introduction

Few industrial products can have gathered such a strong and loyal following as the Gardner diesel engine. Just think about it - for most engines (even a Gardner engine) their existence is pretty anonymous, hidden from view and rarely credited.

Few passengers on the No 49 bus or the harbour ferry will give a second thought to the engine working away to get them to their destination. Yet the Gardner engine is known throughout the World - and not only by those 'in the trade'.

Gardner engines take us back to a time when truck and bus operators could actually choose the engine they wanted in their vehicle - and so many of them did choose - the Gardner. It was a product truly ahead of its time, of enduring quality and reliability.

OK, so they had to pay a little more, but these were also the days when operators considered 'whole life costs' rather than merely the up-front purchase price - they knew that the 'Rolls-Royce' of diesel engines would pay back the extra, time and time again during its life.

Maybe this is why the Gardner has *enthusiasts* rather than merely *owners* or *operators*.

For several years now I have been fortunate enough to have travelled the world supporting Gardner engines and have met many *enthusiasts*, all of whom rely on their engines for their livelihood and have their own story to tell about their times with their particular Gardner.

This is the first issue of the Gardner Enthusiasts Forum newsletter and I am pleased to offer my personal support and best wishes to Colin, Tony and John for taking the initiative to make the Forum fly.

Paul Crisp
Managing Director
Gardner Parts Limited"

Who's Who?

Chairman's Jottings

I have been asked the question many times (and thought there should be) is there a Gardner Club etc, but the task of setting one up is too much for me, but with a slight push from fellow enthusties I had an idea that there was a need.

I needed Gardner's support to use the name, and the location for this years rally was also becoming important, letters were exchanged and permission given though David Nash, P R Company Gardner parts.

I asked Tony Redshaw to join me, and to start the first commiftee meeting, they voted me Chairman (I do hope it will work). Tony Treasurer, John Humble joined us later as Membership Secretary.

David Nash as Editor of this magazine and is doing the hardest job; David had volunteered to help us at no cost except with printing, Thank you David.

You may well ask why call it the Gardner Engine Forum, we all wanted it to be special and newsletter was not an option.

My involvement with Gardner Engines stated in 1975, where a John Else showed me round the gensets at National IWA Rally in Nottingham, John went onto talk in great detail on these wonderful engines, little did I think at that time how they would change my outlook on engines and the company.

In 1988, I found a 30ft tug with a 6L2 almost a scrap boat but his boat was as built, and needed TLC and only then I did find such high quality engineering and a joy to run that all my following boats all have Gardner Engines.

Our current Vessel "Sharpness" built 1908 has a 4L2 on the front cover as found.

We are looking for one of you to join the committee, we don't have many meetings but do like to get on with the job.

Thank you joining the forum, we hope you enjoy reading this, but we also hope that you have your own input with those tales that we all long to read.

I would like to thank the Russell Newbury Register Ltd for their support and help during this difficult time.

Please let me have your impressions and hope that my mail box is full.

The next press date will not be for some time (November) yet, but do put your thoughts down, it does not matter you how write.

The first article is a reprint from the "Gardner's of Patricroft 1868-1968", which will follow on in the next four newsletters, I do hope you find this of interest.

I must express thanks to my committee members, Tony & John for all their hard work that they have put in during the last six months, sorry for the late night phone calls etc.

On a lighter note the Gardner Engine Rally held at Walsall, weekend June 9/10 2001 was a great success again, with the car park FULL on the Sunday, In fact, I was turning engines away the three weeks before the rally with the smaller space this year.

The Four Winners at Walsall were.

Best Overall	No 77 J D Wantham 6LW	Scammell Lorry
Best Marine	No 12 E W Fasham 3LW	Boat
Best Stationary	No 22 Jef Ramsey 1L2	
Best Road	No 42 P Turland 6LW	

Colin Paillin

Tony Redshaw - Treasurer

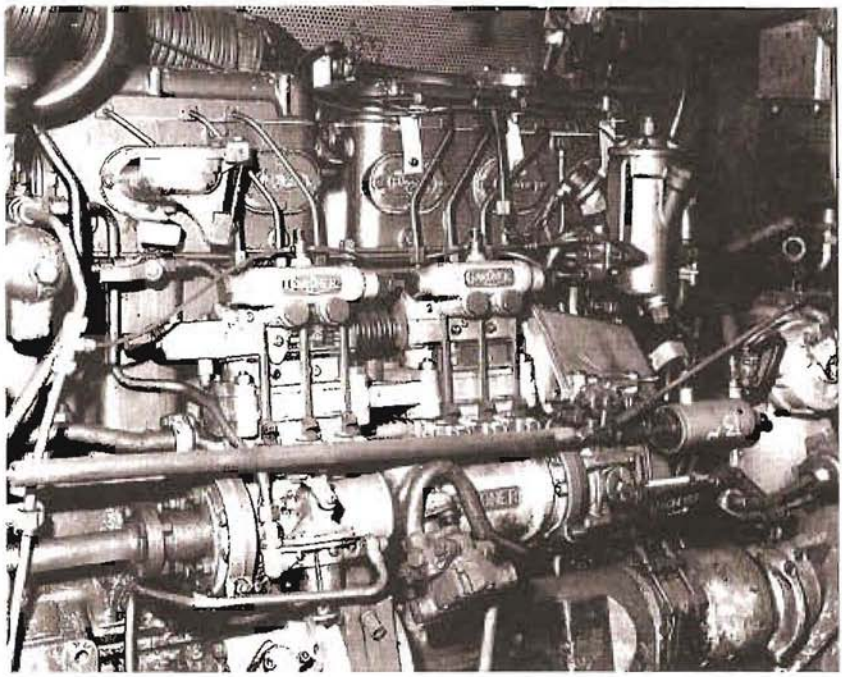
My name is Tony Redshaw and at present am Treasurer of the Gardner Engine Forum. I have been in business since 1960 so I am used to handling money and balancing books. For approximately the past 20 years I have operated a canal related business restoring, marinising and fitting Vintage Diesel engines to narrowboats and barges. My son Paul now operates the business with me taking a back seat. Since 1993 I have been officially Gardner appointed and have Technical and Parts backup from the Patricroft factory. I have several Gardner engines dating from the early 1900's up to 1966 including 3 Kromhout variations built in Holland. In 1999 I won the best Marine engine award at the Gloucester Rally with our 1942 2L2 fitted in our own narrowboat, Percy.

Providing we have funds in the "Kitty" all bills due will be paid promptly and I will produce an annual balance sheet to show the state of financial affairs of the GARDNER ENGINE FORUM.

John Humble – Membership Secretary

I am a normal family man with the usual mortgage, wife, two children and a dog (I also have 2 chickens) My main interest is in the canal system in the UK, and have hired or owned boats since 1968. I've always been interested in all things mechanical but have a particular leaning toward the older traditional diesel engines as found in various forms of transport and stationary applications.

My first real involvement with Gardner was in 1976 when I worked for MCW in Birmingham, firstly on the design of buses and latterly as the Technical Service Manager. We fitted thousands of Gardner engines ranging from the 6LXB to the 6LYT in the big 3 axle double deck coaches. As a direct result, I had a close relationship with Patricroft for a number of years. Unfortunately MCW was closed down by their parent group and that was that - on the dole !
I am now the new owner of the 3LW powered tug Governor that was owned by Bob May for a number of years, my previous boat Horseley is also Gardner powered a 4 LK ex Bristol SC coach with a PRM box attached.



EXTRACT FROM:
"GARDNER OF PATRICROFT 1868 - 1968"
(permission granted by Gardner Parts Ltd)

FOREWORD

In writing this history we have been handicapped by incomplete records particularly of the very early days. It is easy to imagine that La wrence Gardner had more to think about in solving day-to-day problems than in producing records for posterity.

As grandchildren of Lawrence Gardner, we both well remember his wife, Anne, who survived him by many years. She was a most kindly lady who remained a centre of family affairs until her death. Knowing this, we are sure Anne must have been a great source of encouragement and comfort to Lawrence when he took the great step of starting in business on his own account a hundred years ago.

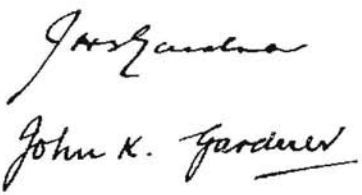
The first workshop, in the house at Duke Street, was at that time on the outskirts of Manchester and not far from green fields. Today this area has been completely engulfed by the growth of the city and general redevelopment. Little, if anything, remains to be seen of any of those early sites in that area.

After Lawrence died one of the most farseeing decisions in the Company's history was that taken by the three elder sons, Thomas, Edward and Lawrence, in moving the factory out from Manchester to Patricroft, at the end of the last century. Here a plot of land was acquired and on it what was by subsequent standards a small building erected. This plot of land was selected adjacent to the site of Barton Hall, in open country where there would be ample room for future extensions. As more and more space has been required this has proved a great asset.

In this first building at Patricroft engine parts were made, assembled and the complete engines tested. This original building remains part of the Works today. It is still known as No. 1 and now houses part of our precision grinding plant.

From this original plot of land at Patricroft has grown the factory as it now is, employing nearly 3,000 people, many of whom have spent the whole of their working lives in the Company and in some cases have sons and daughters who are also employed here. It is also pleasing to record that many families have more than one of their members amongst the personnel.

Today there remain only four direct descendants of Lawrence Gardner within the Company, but with them they have a band of loyal colleagues supported by an equally loyal and hard-working staff who have great interest and pride in the product. We can look forward with confidence to the start of our next hundred years.



Lawrence Gardner

When Lawrence Gardner decided to go into business on his own account and he put up a plate with the designation 'L. Gardner, Machinist' it was no more than a description of the principal service he intended to offer . There was none of the self-conscious modesty that led Sir Henry Royce, after his partnership with the Hon. C. S. Rolls had prospered, to describe himself as 'Henry Royce, Mechanic'.

Yet the two businesses have more in common than brevity of style in their founders (both of whom were the sons of millers, the mechanics of agrarian England). Both concerns were begun off Manchester's Stretford Road, and both were turned from the manufacture of electrical dynamos by cheap imports from America towards the products for which they are famous. And both were to dominate the quality end of their markets.

Lawrence Gardner was much the earlier. His brass plate was screwed to the wall of four houses in Upper Duke Street in 1868. Henry Royce did not become established in Cooke Street until 1884, six years before Gardner died. The year the business began was also the year that the Chair of Civil Engineering was established at the Manchester Victoria University. But Gardner's concern was hot with putting technical education on to a proper footing (although his elder sons Thomas and Edward were each to take up one of the thirty scholarships established there by Sir Joseph Whitworth, of screw-thread fame). His Duke Street situation was not ideal. The workshop was in the common cellar of the properties. Equipping it meant lowering a 101-in. lathe, and an 8-ft

The Gardners knew that the future lay in the internal combustion engine, not in one with a firebox. They had studied the series of key inventions relating to the gas engine since the 1820s. They were familiar with Rerr Otto's four-stroke cycle, enunciated in 1876. And Priestman of R ull had developed the first successful oil engine in 1885, the year after the Gardners moved from Duke Street.

The first Gardner oil engine, produced in 1894, lay in this line of development. In it, a measured quantity of paraffin oil was fed into a vaporizer heated by a pressure lamp and was vaporized. The descending piston drew this in mixed with air and the charge was compressed on the next stroke, and fired by a hot tube heated by the same lamp. The principle of the gas version, which Gardners had on the market a year earlier, was the same except, of course, that the fuel was already in combustible form and did not require a vaporizer, only a gas flame to keep the ignition tube hot. This 1893 engine sold for £12 105, and was profitable.

For the oil engine, the Gardners had to design a pump that would deliver precisely the amount of fuel required for one charge - it was the volume of such charges that determined how much power was developed by the engine - to produce an engine that would run smoothly withoVt a rapid build-up of deposits. Gas engines were simple, and less liable to ignition troubles, but they required a piped supply and were much more expensive to run.

A range of engines delivering between 1/2 and 25 hp was developed and it sold well. Items in a range of products at first, they came quickly to dominate it, a change helped by the weakening of the dynamo market and the sale by the Dental Manufacturing Company of their rights in the dentists' chair to an American company for £6,000, a sum in which Gardners shared.

Lawrence, Ernest and Joseph joined the firm, as would William, but all the Gardners proved to be engine designers and engine makers; there was not a salesman among the six. Agents were appointed, and an association was beguh in London that was to grow in importance. A partnership between Edward Rester Norris and Captain Charles Gerald Renty, a son of George Alfred Renty who had been thrilling Victorian

Dental chairs were an early Gardner product. Two are known to be still in use locally.

schoolboys with his adventure stories for the previous twenty-five years, had been formed in that key year, 1891. The Norris and Henty agency was to become the principal sales arm of the burgeoning Gardner concern. Burgeoning it was, and it became clear that quantity engine production of the kind the market promised would not be achieved at Lund Street. Thomas and Edward looked for another site, and they looked further than the length of the Stretford Road. In a move that was to prove far-sighted enough to accommodate every future expansion, they bought three acres of land on the edge of Chat Moss, between Manchester and Warrington, and put up workshops to cover about half an acre. The move came in 1898.

The land was part of the estate of Barton Old Hall, once the seat of an old family which had fallen on hard times. This had not been recently, not even in Queen Victoria's reign, but all of 600 years earlier. Gilbert de Barton, the last of the line, had been forced to sell the patronage of Eccles Church in 1235. He died in 1292. The manor was inherited by the Booth family, John de Booth having married Gilbert de Barton's grand-daughter, but after producing two archbishops and losing ahead of the family at the Battle of Flodden Field, the Booths, too, dwindled into the female line, another John having four daughters. The second of these, Anne, married George Leigh about 1578, and the Barton property was still in the hands of the Leigh family, of Leigh Hall, when Gardners bought the land in 1896. Barton Old Hall, itself, a brick building with mullioned windows and two gables facing the front, had become a farmhouse before it was demolished twenty years earlier. It seems extraordinary that the Barton name should have survived without any Bartons for 606 years, only to become more widely known in the name of The Barton Hall Engine Works' than the family ever was in its 12th-century heyday.

Workshops were built over half an acre and, three years after the move in 1898, as the 20th century began, the firm was changed from a partnership into a limited liability company, so as to raise more capital to finance the expansion. The authorized capital of £50,000 in £1 shares was half in six per cent preference shares and half in ordinary shares. Of the ordinary shares, 12,000 were issued to members of the Gardner family, and of the preference shares, 12,000 were sold. Lawrence, Ernest and Joseph joined Thomas and Edward on the board of directors, leaving only William to become of an age to take his share in the business. The company was set for the astonishing years of growth that were to carry the share value to £200,000 and to cover eight acres of the Barton land with workshops in the fifteen years of peace that remained. But the real val ue of the company lay, not in the balance sheets of the accountants, not in the rapid accretion of

bricks, mortar, and machine tools, but in the fertility of Gardner ideas which followed one another on to the drawing board to produce a range of engines, built to a standard of quality imposed by no one but themselves, that were to provide the world with power. They had the confidence of the Victorians, but their outlook was twentieth century. In an account of the Barton Hall works, written a few years after the move to Patricroft, they claimed. 'The immediate future holds within its palm developments in power production dreamt of by only a few, but which will exert an enormous modifying influence upon all grades of human life and energy.'

.....(to be continued in the next issue)

Gardner 4L2

"A tale of how we turned a pile of rust into an engine that is synonymous with its builders name"

My passion for a Gardner started in the 1980s when I rebuilt a 6L2 in a 30 foot Tug and came to appreciate the quality of the workmanship, not only on the outside but also the bits that no-one sees, surely they must be the finest engines ever built.

We have been restoring an Icebreaker/Tunnel Tug built in 1908, called "SHARPNESS". Built for work originally on the Worcester and Birmingham Canal, but when purchased in 1995 she needed a hull replate and was completely stripped of engine or fittings. So when a fellow Gardner enthusiast found a 4L2 as scrap for the price of £500, I jumped at the thought of this engine in "Sharpness."

We have our own small workshop at home in Waltham so the movement of the 4L2 was arranged and the strip down started. The engine had been outside for many years, with water seizing the pistons in the liners, despite leaving oil to soak in liners, they would not free up.

The pistons were drilled to allow the con-rods to be withdrawn which allowed me to replace the two blocks (which had been frost damaged) with new liners as well. A check on the crank revealed that the main bearing top caps had been filed to refit the crank because of wear on the bearing, also one of the big ends had been ground down to remove damage caused one of the valves hitting the piston crown.

At this stage, the cheque writing department was becoming concerned, but there is no point in only half doing the engine. Some telephone calls were made to ask the date of manufacture and the type of location. This engine was built in 1932 for installation in a lorry but it has marine feet and water pump, and I have often asked myself what did it do after it was removed from the lorry.

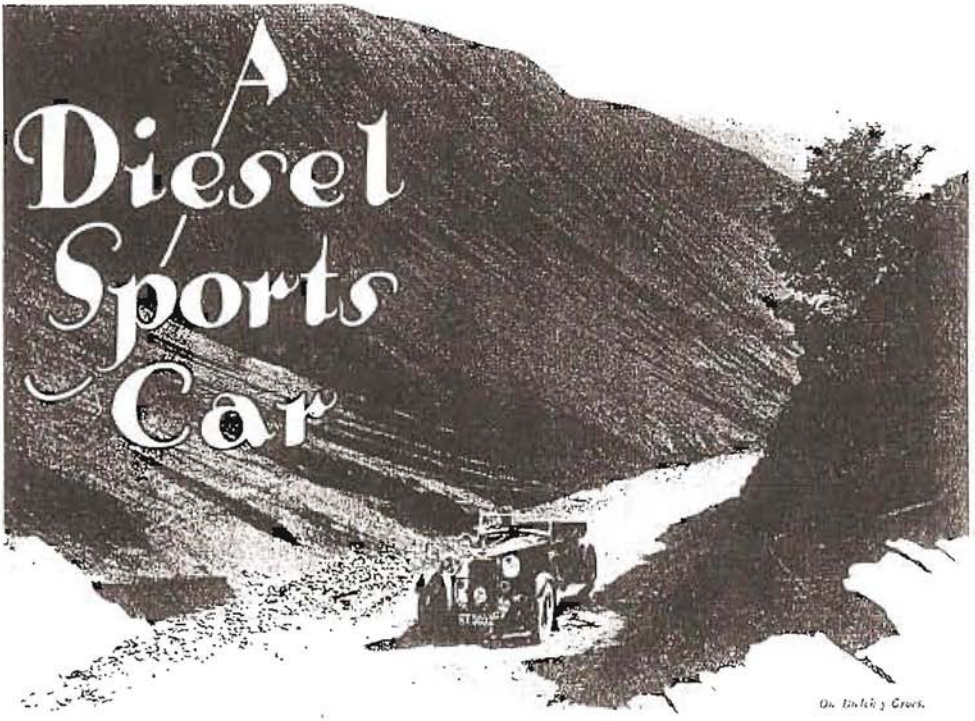
" L Gardner & Son achieved in 1928 what no other firm in the world had succeeded in ....making, a small high speed open-chamber engine with a multiple-orifice injector which was consistently reliable. The Gardner engine has stood in a class by itself thanks to the meticulous skill and care in its design and to superlative workmanship."

This was a quote from Sir Harry Ricardo given to a meeting of the British Association in 1935. It was quite clear that this engine was going to be very special and also it was going to drive a unique boat as well. So arrangements were made to have the crank reground with new main and big end shells with a local engineering company in Leicester "Welham Motors" whom have lineboring and whitemetal bearing expertise.

Whilst the crank was with them, new liners and pistons were obtained from Gardner with smaller items like the rotary water pump, starter motor, thermostat, oil pipes and a marine air inlet made from the stationary type by Tony Redshaw. The crank was then refitted with the new bearings and slowly built back up, the engine has cost us much more than I would have liked to spend, but I know that it will now see me out, so to speak.

The engine went with us to the Gardner Rally in Manchester in June 1997 on the back of a pick- up truck, and we took the engine to Gloucester Gardner Rally by water in 1999, The 4L2 liked the River Severn. With a clear exhaust, but as always, hint of blue smoke on the cut, we cruised down the Severn with two 2L2 boats, keeping pace with them but then slowly opened her up to leave them thinking that they had picked up a blade full.

Colin & Rita Paillin



To Wales with a 1932 Lagonda Powered by the latest 3.8-litre Gardner Diesel: Bwlch-y-Groes Climbed at 30 m.p.h. Average: 42 m.p.g. for 182 Miles!

THREE years ago the first description of a Gardner Diesel-engined touring car appeared in *The Autocar*. The car was a 1925 Bentley fabric saloon, to which a somewhat lightened version of the Gardner four-cylinder transport engine had been fitted. Enthusiasm for the car's performance on a run into the Lake District on that occasion, was subsequently fully borne out by the results achieved with the same car by Lord de Clifford in the Monte Carlo Rally of 1933, when the car put up the best performance by a British entry and only, perhaps, failed to gain the highest possible award because, after all, it was a 1925 chassis with 1925 brakes.

The engine then used was definitely a transport vehicle engine, and it was fitted in a car chassis primarily to prove to transport operators that it was sufficiently smooth and quiet to be used in a private car; it was not put forward, however, as a car unit.

New Sports Engine

Since that time a new engine has been developed, and is in every way suitable for the larger type of sports car. It is a four-cylinder, of 3,800 c.c. capacity, rated at 22.5 h.p. and develops 83 b.h.p. at 3,000 r.p.m., while it has the remarkable power-weight ratio of 1 8 in short, for each 8 lb. of the complete power unit, 1 b.h.p. is developed.

Once again it was the writer's good fortune on behalf of *The Autocar* to have the first run for Press purposes on the 1932 Lagonda, which has been used for testing this engine, and which has already done 12,000 miles under Diesel power.

The journey undertaken was from the Gardner works at Patricroft, Manchester, to Bala, then on to Bwlch-y-Groes, and back to Manchester again.

48 m.p.g. for Over Seventy Miles

No attempt was made to travel at excessive speeds, or to make a good average, and the 30 m.p.h. limits were rigorously observed. In short, the car was driven in an ordinary way at its natural touring speeds, the route, of course, being by no means of the arterial road variety. Bala (72.5 miles) was reached in 2 hr. 21 min., or 30.56 m.p.h. average. The fuel used, was then carefully measured, and the tank contents were exactly 11/2 gallons less than when we started or 48.32 m.p.g. for a total weight of just over 1 1/2 tons!

Bwlch-y-Groes, was the next objective, and the winding, narrow lane along the shore of Lake Bala and the climb to the summit were necessarily taken sedately. But the remarkable thing about the engine, in spite of the 3 to 1 gear ratio that it pulled, was the effortless way in which top gear was held. Diesel engines are usually governed both for maximum and for minimum revolutions. In the case of the Gardner there is no maximum governor when fitted to cars, but the minimum governor is essential for maintaining the correct idling speed. This speed gives a car pace on the level on top gear.

of rather under 8 m.p h., and it is possible to open up from this pace with absolute certainty, thus top gear can be used in traffic or round blind corners without any fear of a stalled engine True, it is pleasanter to use third, but there is no actual need to do so

Before descending Bwlch-y-Groes it was noticed that the radiator temperature had risen to 85 deg. C , so at the foot the blanking plate was taken out of the radiator before making the climb. This blanking plate, by the way, had cut out all the standard Lagonda radiator except the top three inches, so that for ordinary running (when the thermometer never went above 70 deg. C.) a radiator about the size of a cigar box would be ample

Up Bwlch-y-Groes at 30 m.p.h. Average

Bwlch-y-Groes was climbed from a standing start in 21/2 minutes (equalling 30 m.p h), the distance being 11/4 miles and the average gradient 1 in 7 Third gear (4 22 to 1) was just a little high, and second (6.92 to 1) just too low for the best results, for instance, on the 1 in 41/2 gradient near the top the revolutions were at 3,200, while the road speed was 29 m p h At the same revolutions an appreciably higher speed could have been held had the second gear ratio been higher, since the engine had pulled third gear on the first part of the final steep section

With the unblanked radiator (no fan), a strong following wind and brilliant sunshine, the water temperature at the end of the climb was 85 deg. C

After descending again, several stops were made for photographs on the next ascent; and restarts were made on 1 in 41/2 with the greatest of ease, using first gear (11 07 to 1) The fuel was checked again at Bala, and one gallon had gone in 29 miles of hill-climbing and frequent restarting. The homeward trip of 80 7 miles gave an average of 34 9 m p h and a fuel consumption of 45.7 m.p.g. During this run acceleration tests were made and the excellent figure of 242/5% sec. was obtained for the acceleration from rest to 60 m p h using first, second and third gears.

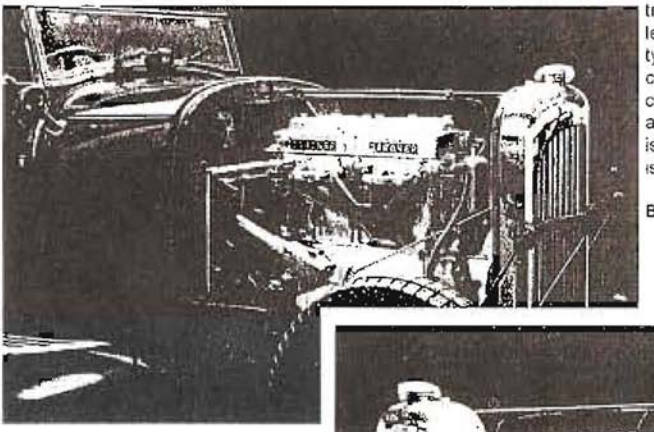
From 20 to 50 m p h on top gear took 221/5 sec , while on third gear the time for the same range was 131/5 sec A maximum speed of 83 m.p.h (by tested speedometer) was reached.

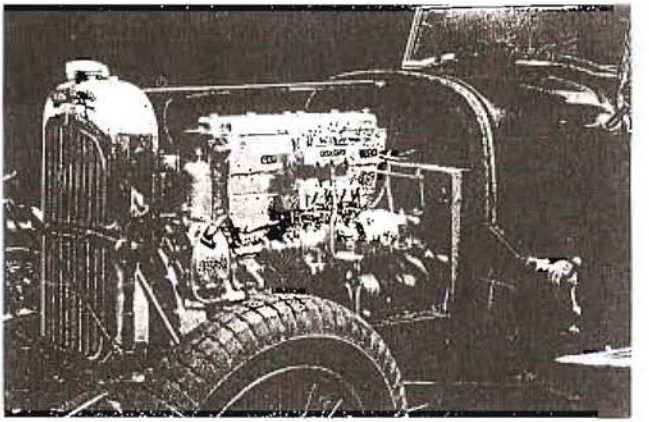
For the whole run of 181 8 miles the fuel oil used was 41/4 gallons, or 42 7 m p g What are the general impressions of the engine? It is mechanically quiet, starts instantly (the starter battery is only a 70 amp 12-volt type), and pulls in a most effortless way. It is certainly noticeable when idling, but no more so than a four-cylinder petrol engine of equivalent size The exhaust note is neither unpleasant nor loud, and tyre swish on a newly top-dressed road completely drowns this and all other noises

No Undesirable Traits

For those who appreciate the big-engined sports car there seems to be no reason which would make the Gardner engine undesirable-indeed, anyone being driven by it and not told what it was would never realise there was anything unusual about the power unit except that it has an exceptional amount of what can only be described by the word "guts " It really does pull!

And, of course, there is that little matter of consumption. Over 40 m.p.g at over 30 m.p h averages is really to be in pocket on one's motoring, and, as the Lagonda has a 20-gallon tank, one could go from London to Edinburgh and back without a filling stop The engine, known as the Gardner 4LK, is based on previous Gardner engines, which have been developed to a very high pitch in the marine and heavy transport worlds, wherein they are the leading example of the direct-injection type, fuel being injected directly into the cylinder and not into an ante- or pre-combustion chamber . Bore and stroke are 95 25 by 135 35 mm , the capacity is 3 800 c.c and the compression ratio is in the region of 14 to 1 At 800 r p.m

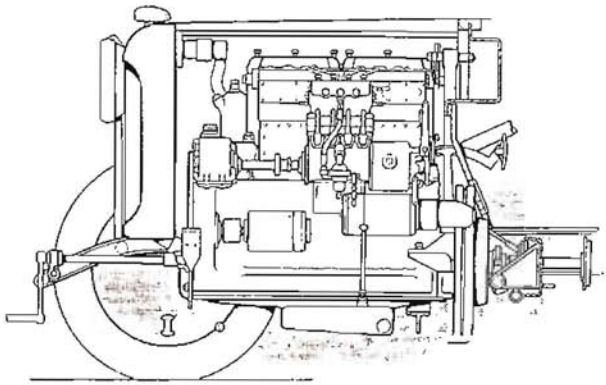




Both sides of the Gardner Diesel engine in a Lagonda chassis.

the output is about 27 b h p . rising to 63 b.h.p at 2.000 r.p m., and reaching 83 b.h p. at 3,000 r.p m. The weight of the engine is 684 lb. (with starter) and this figure is secured by extensive use of light alloys

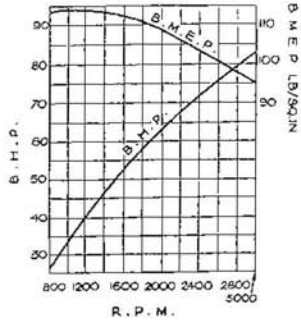
The cylinder block, for example, is of aluminium with inserted hardened iron liners, while the cylinder heads (cast in pairs) are of the same material with a bronze plate in which the valve and injector seatings are formed. By this arrangement the parts liable to wear

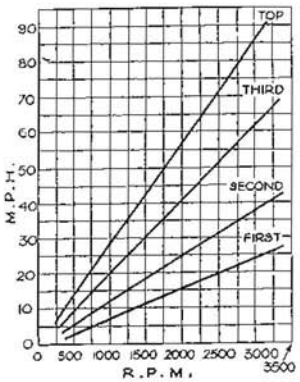


are all renewable independently of the main castings

Chambers cast on the heads enclose the valve gear (operated by tubular push rods). Specially light alloy is used for the crank case, and this carries the crankshaft in five bearings, while the camshaft runs in six bearings. To withstand the high pressures used in a Diesel engine a very massive crankshaft has to be used, and it is of 3in diameter, machined from the solid bar, and fitted with balance weights.

The connecting rods are equally robust, and the long pistons are likely to give almost endless wear. Lubrication is fully forced throughout, for not only is oil forced into the hollow crankshaft for the main and big-end bearings, but it passes up drilled ways in the connecting rods to the small ends





Fuel is inserted by a Gardner-Bosch fuel pump, supplied from the tank by an Amal mechanically driven feed pump. The actual injection into the cylinders is by means of Gardner nozzles, and the efficiency of the engine depends, of course, upon the correct mixing of air and oil spray in the cylinder, this is effected by masked inlet valves and a piston with a cupped top. to secure the necessary turbulence at full compression

Letters and stories from abroad

601 Indian Cedar Drive,
Chesapeake,
Virginia,
23320 U S A

March 9, 2001

Dear John,

How wonderful that you have started off a Gardner Diesel club, I was hoping someone would do it. They are a most unique engine, used all over the world, even in Chinese junks! What stories they could tell, hopefully your members will come up with some. I think it's great that you are drawing attention to them, I can't think of any other engine that has been used so extensively all over the world and been so highly praised, loved by all who used them.

I met my wife in Australia, she comes from London and was travelling around Australia when I met her I came to England some months after where we got married, a couple of children later we returned to Australia, my wife and children on the ten pound scheme, I had to pay my fare so I purchased a Gardner 4LW used with my last £60 and took it as personal luggage! I sold it there and it paid for my fare

We were over in England last year for a month and in the distance I heard an old Gardner thumping away, I got a bit emotional but succeeded in controlling myself, you never forget the sound of them I hope you get lots of response , I'm sure you will world-wide.

I found an article on Gardner in a copy of "Classic Commercials" in Australia a couple of years ago so took out a years subscription when I got back here (a very interesting magazine) I sent them a bunch of original photo's but never heard from them. I'm enclosing some photocopies of some of the Gardner engines we used in the Northern Territory of Australia during the late '40's and early 50's We used 4LK's in the old buses we had, cool running and SO economical, I picked up 5x 44gallon drums of fuel one day only to discover they had given me Lighting kerosene used for lamps Still having about 700 odd miles to go, I poured a gallon of engine oil into each drum and the old 6LW ran like a bird! It didn't hurt the injection system at all.

Anyway, good luck in your endeavour, hope it's a great success

Yours sincerely,

Ron Dingwall

PO Box 52
Pakenham Upper
Victoria 3810
Australia

Dear John,

How good to see a Gardner club formed. I am an addict with quite a few and I often drive my Australian designed Atkinson with its 8LXB and a 15 speed Fuller range-changing gearbox

Here is my first year's subscription, which is listed in the March issue of Classic and Vintage Commercial Magazine. I have a 4LK in a small Foden, a new 4LW and a used one, two 5LW's, a 6LW, a 6LXB in another Atkinson and several 8LXB's I am an acquaintance of Paul Garner and Eddie Raynor – they allowed me to roam through the factory in July 1993 with a camera – I think I photographed every corner

I will try to find a few more members here in Australia, one friend is restoring a 4LK for everyday use in a small truck, and he has a 4cylinder open crankshaft, large 2 stroke Gardner with hot bulb starting, mounted on a cast iron bed with large generator

With best wishes

Gregor Rusden

6L2 in New Zealand

One of the very first Gardner enthusiasts to join the Forum earlier this year was our member No 6 Geoffrey Butcher who left the UK with his wife Catherine to live in the warmer climes of North Island, New Zealand Each year they fly back to the UK to cruise the canals and rivers during the summer aboard on their 58 foot tug-style narrow boat AMOS, powered by a Gardner 3LW.

While exploring the North Island recently they came across a passenger riverboat which, although it had been restored only seventeen years before, was now lying derelict But further inspection inside revealed SURPRISE! SURPRISE! a 1934 Gardner 6L2. This is the story of the Alexander Hatrick & Company's riverboat service, and in particular the M V. ONGARUE with its once-splendid engine

"The Wanganui River in New Zealand's North Island rises on the slopes of Mt Tongariro and on its long route to the Tasman Sea at Wanganui drains close to 3,000 square miles of alpine terrain, hill farming country, native forest and lowland pastures

The river and its many tributaries were used as a transport route to the interior of the region for generations by Maori and later by European settlers although their development of the Wanganui River as a highway to the interior was a slow process as the Maori tribes of the area were for a long time hostile to European incursion.

Earlier expeditions were made upriver but it was not until December 1891 that Alexander Hatrick & Company's new paddle steamer Wairere (95ft x 14ft) made its first voyage from Wanganui 55 miles upstream to Pipiriki Mr Hatrick's riverboat service would eventually operate twelve vessels and develop into a major tourist industry, provide an essential tourist link for settlers opening up the dense bush, and as the missing link between the then incomplete rail route from Auckland and Wellington

The Wanganui River was eventually made navigable for 130 miles between Wanganui and Taumarunui with boats having to negotiate 239 rapids en route. This journey was made in three sections with boats specially designed for each section Boats using the upper reaches were similar in size to English narrow boats varying between 40 to 90 feet long and 6ft 10in wide with a shallow draught of only 11 to 13 inches Propellers were set into a tunnel to reduce the risk of damage - a system later developed to become the famous Hamilton water jet

Although initially steam powered these smaller boats were later converted to oil engines of various types, often different engines being juggled between boats In 1934 the WAKAPAI (75ft x 10ft) was fitted with a new Gardner 6L2 In 1938 this engine was replaced with a 1926 Thorneycroft and installed in the ONGARUE (60ft x 8ft 4in) replacing its Thorneycroft engine but retaining the Thorneycroft gearbox. This 6L2 engine/Thorneycroft gearbox combination remains in the ONGARUE today, albeit sadly neglected.

The ONGARUE was the last riverboat in operation and ran a reduced service for the Company until 1959 when it was laid up It was restored and used by the MV ONGARUE Riverboat Club in 1963 but in 1971 it sank at its moorings, and although it was raised was unfit for further service

Restored as a static display ashore at Pipiriki in 1984 MV ONGARUE in 2001 is now only a sad remainder of a hard working and exciting past I believe a total of three engines were supplied by L Gardner & Sons to A. Hatrick & Co in around 1935.

M V ONGARUE was prefabricated in London at YARROWS yard, then assembled at Hatricks yard Wanganui and registered in 1903 It was 60 foot in length with an eight foot beam and had a maximum draught of only 12 inches. It had a hold 3ft 6 in deep to carry 4 1/2 tons of mixed freight - livestock, wool, timber etc It was registered to carry 65 passengers at a speed of 8 5 knots "

Geoff Butcher

(Photo Jeoff Butcher)

(Photo Bob May)

R.S. Simpson

Ongarue, ably restored by the Department of Lands and Survey and resplendent in the Hatrick colours of red, green and white, was "re-launched" on her new career on dry land, opposite the site of Pipiriki House, in January 1984

Gardner Quiz

In each issue, we will attempt to produce this quiz, with the idea that you the readers will provide the answers for publication in the following magazine. I do know all the answers or the questions will not be printed. You too can submit questions for inclusion in this article provided you also submit the answers. Five questions per magazine are required, all relating to GARDNER.

The five questions for this issue are as follows:

1. In what year did Lawrence Gardner start in business?
2. What was his First recorded business address?
3. What was his trading title?
4. What year did Lawrence Gardner die?
5. What happened in 1891?

Advertisement Corner

Member No	*Item/Items*
N/A	5LW driving a 50KW 415 volts 3 phase gen set on trailer and roofed. Stored under cover Tel: 01749 880611
140 Roy Wakefield	Two engines for sale – 5LW genset and a180bhp 6LX? Tel: 0191 526 2781
177 Ian Millward	Wanted – 1L2 engine
N/A	Spares for Gardner 180 6LX – injection pump complete Contact: Gareth Griffiths, Hafodunos, Hermon, Glogue, Pembrokeshire, SA36 0DX
N/A	Gaskets, valves, big end shells, fan belts, injectors, - no reasonable offer refused. Also, a compressor, mostly 240 parts. Contact:Chris Mitton 0836 694657 (daytime), 0154242 61809 (evenings and weekends)
N/A	6LXC compressors - new - £50.00 8LXB cylinder head - factory reconditioned - £150.00 150 silencers - front mounted – new – tba Gardner oil pump -new – unknown model £50.00 Various LW and LXB model manuals available (secondhand) - £10.00 each Contact: Mrs Jill Honeybun, Classic Atkinson Club, Ivy Cottage, Sway Road, Pennington, Lymington, Hants. 50418LP tel: 01590 675701, fax 01590 670437, email: jillhoneybun@fsbdial.co.uk

Gardner Queries

From the applications received to date, we have the following queries. Any reply should be to John Humble on 01922 454800.

Member number	Query
7	Engine age. 2L2 - 57354
42	Engine age 6LW - 94613, 6LX - 134733, 6LX - 437202
15	Engine age 1L2 - 152320
17	Engine age 2LW 135207
91	Engine age 8LXB 198743
95	Engine age 4LK 40490
32	Whereabouts of 6LW 113039
51	Who has the original Gardner maintenance sheets 1930 to 1965.
124	For sale for 4LK – 2 recon heads (1 alum, 1 iron), 4 head gaskets.
88	For sale for 6LXB – inj pump OK as seen, 2 x 180 cyl heads
116	Greatest number of engines owned by one member – 2 x4LK, 1 x 3LW , 1x 5LW, 2 x 6LW, 1 x 6LX, 2 x 6LXB, 2 x4LK – last two in ERF's

STOP PRESS.....STOP PRESS.....

We are pleased to offer for sale Direct from Gardner Parts the Gardner Marine Pennents at a price of £15.00 plus post and packing. Please send your cheque, made payable to "Gardner Engine Forum", direct to Colin Paillin.

STOP PRESS.....STOP PRESS.....

Engine Dating Service

Mr Geoff Challinor, Chief Trustee of the Anson Engine Museum, Poynton, Cheshire, is offering to date Gardner engines when they left the works and to whom the customer was. Please enclose £10.00 with the engine number to: G Challinor, 1 Somerford View, Holmes Chapel Road, Somerford, Congleton, Cheshire CW12 4SP

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GARDNER

DIESEL OIL ENGINES

for

PASSENGER & GOODS ROAD VEHICLES
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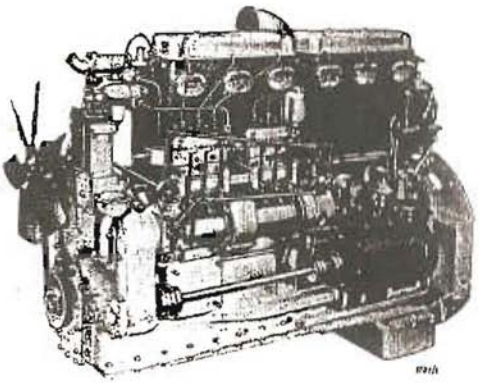
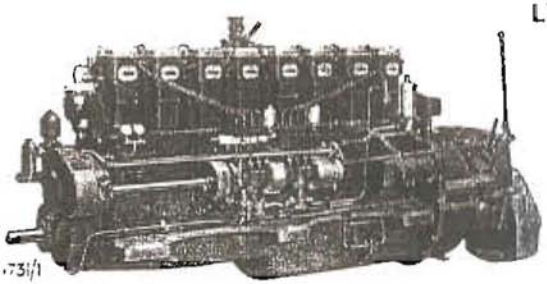


LW Automotive Series 35½ to 150 b.h.p

Introduced **1931**

Gardner Engines, Replacement Parts and Service are inexpensive, their use makes available minimum operating and maintenance charges



L3 Marine Series 57 to 152 b.h.p.

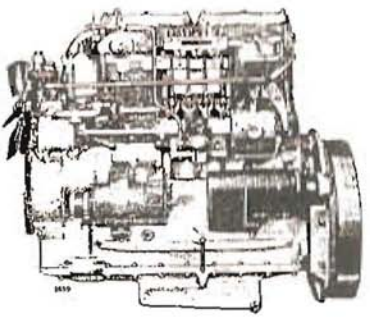
L3 Roil Traction Series 102 to 204 b.h.p.

Introduced **1932**

Gardner Oil Engines are the product of specialised development and offer

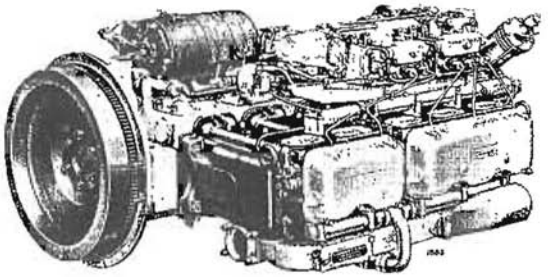
Efficiency, Durability and Refinement

of the highest order.



4LK Engine 57 b.h.p.

Introduced **1934**



HLW Horizontal Automotive Series 75 to 112 b.h.p.

Introduced **1950**

NORRIS, HENTY & GARDNERS, LTD.
(Proprietors: L. Gardner & Sons Ltd.)
BARTON HALL ENGINE WORKS
PATRICROFT — MANCHESTER

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Glasgow:
124 St. Vincent Street, C2.