GARDNER

Engine Forum

Summer 2003 Issue

No.4

Gardner Engine Forum Philosophy

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

Subscription

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Contents

Cover Picture

"The Very Last of the Line"

Confirmed by Gardner Parts that this is the last new build, partly installed in a new built narrow boat by Roger Fuller 2LW, 24 bhp @ 1200rpm

Chairman's Jottings

You, I hope, will be surprised to receive this newsletter!

We are desperately trying to keep our promise to you of producing two newsletters per year and to this end our issue dates from now will be March and September.

There have been some changes with regard to the ownership of Gardner Parts Limited since our last newsletter. These changes reflect the sale of the company and we hope that their future is now assured.

The Nottingham Rally 2003 plans are well underway with entries coming at a steady pace.

We will be selling copies of "L. Gardner & Sons Limited" an excellent publication and Graham Edge, the author, has been invited to join us for the rally weekend to sign copies of the book.

You may like to note that Russell Newbury is holding its own annual rally the weekend prior to the Gardner rally (14th/15th June 2003). I know that they would be very happy to see you there, and a similar invitation goes out to them to join us in Nottingham.

You may also be interested to note, that editorship of this issue of the newsletter has been passed over to our Secretary, Lucy Short. She was keen to improve the layout and overall look of the magazine, and I think for a "first stab" she's done well.

Changes in printer and editor will hopefully ensure that we keep to our issue deadlines in the future. If you have anything you would like to put into the newsletter or you have any comments/feedback, please let me have them by August, and I will ensure their inclusion.

Hopefully see you in Nottingham.

Regards

Colin Paillin

Chairman - Gardner Engine Forum

"IMMUNITY FROM DISORDER"

Elephant transport in Ceylon

To Gardner, exporting is ordinary trade, and always has been. They sold engines for shunting locomotives to North Borneo, the Congo and Eire ten years and more before the railways in Britain bought one. British Rail took delivery of the first, ordered just before nationalization, in 1948. Within a few years 99.6 per cent of the small diesel-mechanical locomotives on the system were to be Gardner-engined.

Gardner had sold abroad when a customer's only link with the outside world was a footbridge over a river, through which elephants had to drag an engine in its packing case at low water. They had photographs to prove it. They also sold engines that delivered themselves, like the New Zealand mission boat that was sailed across the Atlantic and Pacific Oceans, via the Panama Canal, to Auckland. So that when the first post-war national balance of payments crisis came, Gardner continued to sell abroad through forty-seven distributors.

And when the coalmines were re-equipped, the makers of the famous Hunslett locomotives would have accepted more than the hundred engines that were all Gardner could spare towards the order the Hunslett company had secured for locos to do the job of pit ponies. With their clean exhausts, Gardner engines had already won favour for this purpose before the war, in

the famous Limburg mines in Holland, and in France and Belgium, supplying engines that could be guaranteed not to shoot flame into possibly explosive atmospheres.

In 1947, the firm suffered more losses. Mr. Willie, youngest of the six sons of the founder, died, and within ten weeks his nephew Eric, the deputy chairman, died at fifty, the same age as his grandfather. Mr. Hugh became deputy chairman to his father, Mr. Joseph. Mr. Harold Hunter, who was to achieve the ripe old age of eighty-four after sixty-seven years with the company, was made works director with a seat on the board. Mr. F. G. Wilkinson and Mr. D. M. Denholm, already a director of Norris, Henty & Gardner were made directors at the same time. Mr. W. Bailey, who had been secretary of Norris, Henty and Gardner since 1934, was made a director of that Company.

There was no post-war rush to produce new engines. By now the Gardner policy of building improvements into an existing engine, improvements that could in almost all instances be applied to existing engines when the time came for their major overhaul, was established. It succeeded in two ways. Buyers were convinced that the engines they bought would not quickly be declared out of date, and they were encouraged to use more than one engine type. If a yachtsman was installing twin 8L3-engines in his vessel it paid him to have a 2LW-auxilliary, for many of the small spares would be interchangeable. The policy was also backed up by an after-sales service that, for example, allowed users to swap their sprayers for reconditioned units at small cost. Of course, barring accidents, the engines could last forever, for every part subject to wear could be renewed. No mere theoretical consideration this, as some of the old engines in the Gardner power-house, including the prototype L2, were proving – incidentally needing overhauls at lengthening intervals, thanks to advances in lubrication, and the materials and design of components.

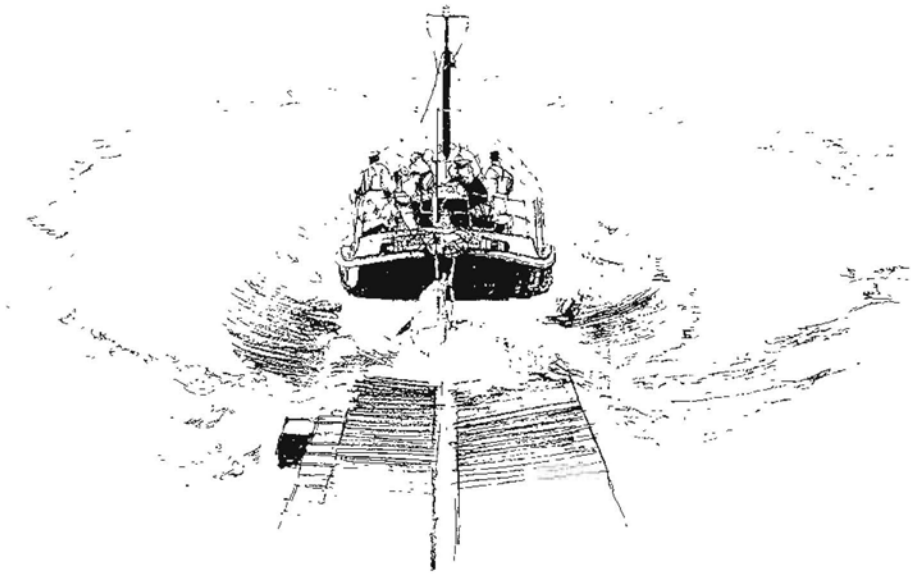
The first post-war change came in 1951 when, for the first time for nearly thirty years, Gardner introduced a horizontal engine. But this was no retrogression. The HLW would have fitted under the floorboards of the buildings that housed the old single-cylinder horizontal engines, with their huge fly-wheels and massive beds. And fit under the floor is what it was intended to do. Far from demanding an engine-house, the automotive HLW did not even need bonnet space. It was designed to be slung from the underside of the new coaches and railcars.

Engines for all purposes remained in short supply.

Lord Boothby, then a Member of Parliament, asked the Ministry of Supply to divert engines from the export trade to satisfy the Scottish fishermen. And, in the House of Commons, he publicly declared their favourite to be Gardner. The company promptly ordered a pile of copies of Hansard, the official record of Parliamentary proceedings, and sent this unsolicited testimonial from the Palace of Westminster to all their distributors overseas, to boost exports still further, and to their agents at home, to excuse delivery delays.

In 1954 there began a series of orders that were to bring more prestige to Gardner than bulk sales. The Royal National Lifeboat Institution bought twin LW engines for the new Coverack rescue vessel. Gardner engines were already familiar to Trinity House – there are now nearly three hundred in light-stacks and light-ships around the coast – but these were the first commercial diesel engines to be accepted for lifeboats.

The first, the 16.5-ton *William Taylor of Oldham*, cost £25,000, and its engines, in a double-bottomed compartment, drove it at 8.38 knots. From then on, almost all the larger size RNLI deep-sea rescue-boats were to be Gardner-powered and there are now more than eighty engines in this services.



In 1955, an era came to an end for Gardner with the death of the chairman, Mr. Joseph the last of the founder's six sons. He was 81 and, like his elder brother, he had continued to put in time at the works until his last illness. His eldest son, Hugh, succeeded him and his second son, John, who had been a Gardner director since 1939, became deputy chairman of the parent company and deputy chairman and joint managing director, with his brother, of Norris, Henty & Gardner Ltd. The firm, which had once included eight Gardners at the same time, had shrunk to two. This was to be until 1965 when Paul Gardner, Mr. John's son, would become the first great-grandson of the founder to take a seat on the board. Also in 1955 three long-serving managers, Mr. W. E. Bradshaw, Mr. W. G. Thompstone and Mr. E. A. Todd became directors. They were followed by Mr. D. G. Houghton, whose father had been a director of Norris, Henty & Gardner from 1926 until his death in 1954.

Gradually, the need to offer an engine series, extending from a single-cylinder version to one with anything up to eight cylinders diminished. Demands for more power grew, however, so research and development were concentrated on six and eight cylinder types.

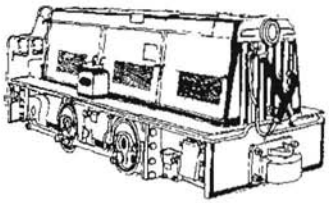
In the LW-series, this led, in 1958, to The introduction of the six-cylinder LX-engine. (Some of the development work enabled the L3-range to be up rated at the same time). But the 6LX offered no marginal improvement on the 6LW

Designed by Hugh Gardner, developed and perfected with John Gardner, this was to prove the engine of the third generation; like those of their father the yardstick by which others are judged. As a younger man, Hugh had been associated with his father in the design of the L2-engine and to the inherited engineering flair he added thirty years of working with vehicle manufacturers and operators, learning about their needs. As the result, eight different chassis manufacturers, Atkinson, ERF, Foden, Guy, Seddon, Daimler, Bristol and Scammell, fit the Gardner engine. Developing 150bhp at 1,700 rpm, the 6LX was 34% more powerful than its equivalent in the earlier range. Power that bigger lorries, city buses, coaches, railcars, compressor sets and earth moving equipment needed. The engine operated at a thermal efficiency of 39.75% – a remarkable achievement for an engine of this size.

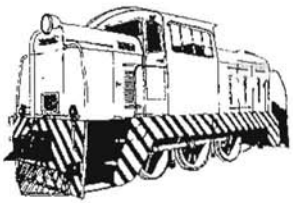
To prove that it could power the articulated haulage vehicles with a total weight of thirty tons that were coming into use, Gardner went back to Parbold Hill, thirty-four years after the first test there, and showed that

on a 1-in-7 gradient such vehicles had power in hand.

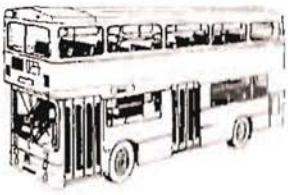
The 6LX was turned onto its side to produce the horizontal version two years later, and a marine propulsion version was produced at about the same time. As well as into fishing boats, and a few fine pleasure vessels, the new engine went into the new RNLI self-righting lifeboats.

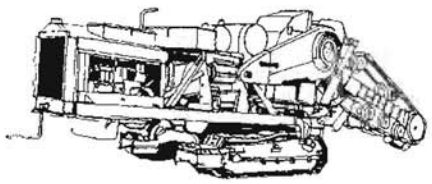


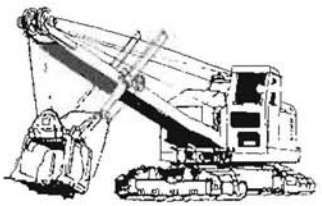
Hire purchase, which had made ownership of Gardner automotive engines possible in the early thirties by capitalizing fuel savings, occurs again in the story. Guaranteed by their richer relatives, traders in the Arabian Gulf began to buy Gardner engines for their locally built boats, depositing a third of the purchase price and promising to pay the rest *after* (not *over* but *after*) eighteen months. For this is how long it takes them to trade from Bahrain to Mombassa and Zanzibar and back. Gardner engines have changed their lives. Driven by sail, their boats were at the mercy of wind and weather. With diesel power their livelihood is increased by over one hundred per cent.

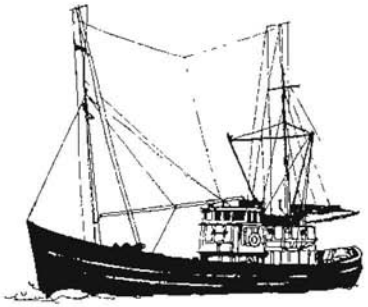


In contrast to these modern engines in traditional boats, a 6LX scored another Gardner first in 1962. It was installed in the first survey vessel built for the united Kingdom Atomic Energy Commission to use in detecting the effect of radio-active effluent on fish.









At the same time, fishing fleets and railcar operators were beginning to fit another new Gardner engine, the L3B, introduced the year before. Developed from six-and-eight-cylinder L3-engines, these achieved a 27.5% increase in horsepower; this eight-cylinder engine going up from 204bhp at 1,200rpm to 260bhp at 1,300rpm. Two new 71-foot RNLI ocean patrol boats were each equipped with a pair.

The sales company assumed its modern form in 1962, but substituting the title Gardner Engine (Sales) Ltd., for the old Norris, Henty & Gardner style. Further expansion of the manufacturing plant meant that of the twenty-four acres, which the foresight of the founder's elder sons had made it possible to acquire, 48,000 square yards were covered with workshops and foundries. A need to meet death duties had brought the ordinary shares of the parent company onto the market and the concern now has an authorised capital of £1,300,000 of which £1,080,833 is issued and fully paid, a large amount of which still remains in family hands.

With the latest engine, introduced in 1966, the company broke through a barrier. The 6LXB fuel consumption of 0.328 lb/bhp/hr represents an operating thermal efficiency of 40%, a figure not previously attained in a commercial engine of this size. Bore and stroke of this re-designed 6LXB-

engine remain 4 ¾ inch by 6 inch, and the weight stays at 1,560 lb, but the brake horsepower is increased by 20% to 180.The centenary year engine range has more at the top, less at the bottom; the LK-engines and the two-and-three-cylinder marine propulsion LW-engines, have been dropped. The automotive range produces between 75-180 bhp, with the 260bhp 8L3B-engine for rail traction. Marine propulsion engines produced between 56 and 260 bhp and today, a third of all British registered fishing vessels with this range are fitted with Gardner engines.

- When designers consider a new application of diesel power, history often repeats itself and they choose Gardner first. The 'firsts' of the early fishing vessels and of the road and rail vehicles, continue today with the new Oakley-designed self-righting life boats, the two new Portsmouth to Gosport passenger ferries, *Portsmouth Queen* and *Gosport Queen* and the new passenger catamaran on the Thames.

Not for more than thirty of their hundred years have Gardner had engines to put into stock. Delivery has never been in less than six months, except for engines freed by a cancelled order. Yet Gardner have resisted pressure to step up production at the cost of quality; production-line methods would mean a widening of tolerances to ensure an adequate fit between unmatched parts. This does not mean their production methods are old-fashioned. Full advantage is always taken of new techniques, new materials, new methods, special purpose machine tools and additional buildings to improve production efficiency, but always only if quality can be maintained and improved.

Quality is not an old fashioned virtue in an era which has invented planned obsolescence; this is the lesson of the latest technology of all. Computers are changing at the rate the diesel engine changed in the twenties and thirties, and the manufacturers have already found that progress can only be achieved by grafting new development onto old, not by making expensive equipment rapidly obsolete.

The Gardner family learned this lesson years ago. That is why there will be a place for their engines for many years to come. Just so long as the design stays ahead, and the engines continue to enjoy the "immunity from disorder" that was the boast of the very first.

This is the last extract from "Gardner of Patricroft 1868-1968" and we would once again like to thank Gardner Parts for allowing its reproduction.

The following is the
"Foreword by the Editor"

taken from

"Diesel Maintenance by T. H. Parkinson, A.M.I.A.E"

Not quite twelve years ago I had the good fortune to take part on behalf of *Motor Transport* in a demonstration run arranged by Messrs. Frank H. Dutson Ltd., of Leeds, of an RAF type Leyland lorry to which a Gardner four-cylinder (4L2 type) light marine diesel engine had been fitted. The practical work of conversion had been carried out by Mr. T. H. Parkinson, then the Works Manager of the concern, and it was he who took the wheel on that memorable trip.

So rapid and complete has been the acceptance of the compression-ignition oil engine in the heavy vehicle field within these few intervening years that I do not think we, on that day, had any good reason to foresee the great changeover that was to take place.

The machine then demonstrated was the first entirely British oil-engined lorry, even though it was a hybrid consisting of a new engine in a second-hand chassis. But the vision of Mr. Frank H. Dutson in sponsoring it has, perhaps, never been fully acknowledged. For remember, it was not a conversion put together experimentally in the interests of an engine maker to acquire performance data; it was a commercial venture by a motor trader, the vehicle being prepared for sale in the ordinary way.

Shortly afterwards a Gardner 6L2 engine was installed in a Crossley double-decker belonging to the Leeds Corporation - the first entirely British double-decker bus with diesel power. With that conversion began the connection with municipal operation that led to Mr. Parkinson's appointment as Motor Vehicle Rolling Stock Superintendent of the Leeds City Transport Department. His experience, therefore, from the earliest stages of diesel engine usage in road vehicles, is unique.

From those first days my acquaintance with the Author of this book has continued and I have been in a position to observe how he has assisted in the advancement of the transport diesel engine in the most practical way, not on the design or production side, but in the equally important sphere of the development of maintenance technique.

At the start the operating engineer had, perforce, to devise his own methods, because the rapid acceptance of the engine outpaced the manufacturers' own service knowledge. There was a time when faults in design puzzled the producers no less than the users. Those days have gone by, but it can be said of Mr. Parkinson that he never waited for other people to solve the operational problems if cause could be traced back from effect.

This book was inspired and developed from certain articles in *Bus & Coach* in which I was able to co-operate, and in seeing it take shape I have realised, not only from the valuable and original contribution it makes to the knowledge of diesel engine maintenance, particularly in connection with fuel pump repairs, but also from the background of the author's association with his subject, that it contains information that the engineer or mechanic would scarcely acquire in several years of ordinary workshop experience.

Donald H. Smith
Assoc. Inst. T.
(of ***Motor Transport*** and ***Bus & Coach***) **May 1942**

21 Queen's Road,
Blaby,
Leics. LE8 4EH

Dear Colin,

I enclose a cheque for my membership.

Now something about myself. I am 54 and work at Ford and Slaters, Leicester in the PDI department. I served an apprenticeship in Whitehaven, Cumbria for the local PSV operator.

In our central workshop we used to overhaul all our own engines (mostly Gardner). So in all I have had about 35 years Gardner experience.

Yours sincerely,
Ken Robinson

01477 532498

10 Brooklands Drive,
Goostrey,
Crewe,
Cheshire. CW4 8JB

6th March 2003

Dear Sir,

I wonder if I could make corrections to pages 14 and 15 (of the Winter/Spring 2002/2003 newsletter) which will make more sense of what was printed.

In the poem, the second sentence should begin, "Now smelly **Albions** crawl,..."
Line 2 should be, "....or ancient **Thornycrofts**..."
Line 7 should be, "....wartime **Guys**"

On page 15 the third line in the second sentence should be - "I subsequently become the Sales Manager of the **Dennis Loline**, so I have had a lot of dealings with Gardner engines."

Incidentally, if any readers are interested in the chassis into which Gardner power units were fitted, the P.S.V. Circle will be publishing the first of three books on Guy chassis later this year. It will list the 'heavy' chassis built from 1926 to 1949 giving the engine type, registration number, body fitted, original owner and date into service. These are compiled from members' observations over the years.

Work is now starting on the second book which will cover chassis built from 1949 to the end of the production of the Arab chassis in 1971. The chassis number range is from D70001 to 77150. Included in this series were the Goliath and Invincible lorry chassis. Whilst many people record full details of buses, not many seem to be interested in recording the chassis and registration numbers of lorry chassis. Whilst I do have details of all the chassis and original owner, or in some cases only the supplying Distributor, if any readers have additional information on any of the Goliath or Invincible, I would be pleased to hear from them, even if it concerns the registration number of only one vehicle.

Yours faithfully,

R.N. Hannay (215)

Editors note – we apologise for the typographical errors and would like to thank Robin Hannay for putting things right.

Gardner & Steam

The following pictures show three different models of Gardner Serpollet Steam cars from around the turn of the century. The pictures were discovered whilst researching another related project.

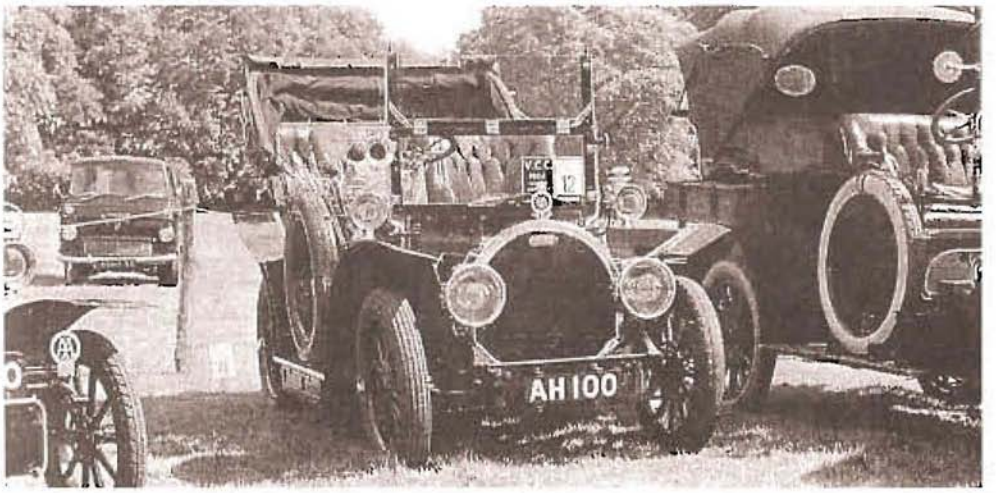
Did Lawrence Gardner get involved in steam?

We know he was involved in Hot Air engines and many other engineering projects around the time of 1900.

Did he collaborate with Leon Serpollet on steam cars?

I am hoping that some of our more learned members, with longer association with Gardner than myself, could throw some light on the subject.

Tony Redshaw



A 1905 model Gardner Serpollet at a Veteran Car rally in the 1960s. With its rounded condenser it is indistinguishable from contemporary petrol cars.

The Shah of Persia occupies the rear seat of his newly acquired 1901 Gardner Serpollet

A Touring Gardner Serpollet at the 1904 Arras speed trials. Le Blon, the most successful of the Gardner Serpollet racing drivers, occupies the front passenger seat.

An Insider's View

2003 has so far been a momentous year for us at Gardner Parts – and here we are not yet half way through the year!

The good news for us, and all who care about Gardner, is that Gardner Parts is still very much in business – and the Gardner product remains at the heart of the company I am proud to lead. This might not be what you expected to hear – so let's get the record straight, beginning with a short resume of the past few years of the Gardner story.

'Gardner' had been part of the L. Gardner Group plc since the mid-1990s – a Group that grew rapidly to over twenty subsidiary companies across the UK, as well as Poland and Japan.

It became clear that following the inevitable (yes, inevitable) decision to cease new engine manufacture, Gardner had to change in a very fundamental way. I wanted to retain the independence of the core Gardner engine parts business, whilst recognising that we too had to change, continuing our diversification into transmission and underchassis parts.

And so *Gardner Parts* was born when the parts division of the then Gardner Avon Ltd., (L. Gardner & Sons Ltd., was renamed when the parent Group acquired Avon Transmission Services in late 1997) took over the original company registration to become a limited company in its own right within the L. Gardner Group plc.

It was soon evident that the L. Gardner Group plc, our parent, was in severe financial trouble dating back to the acquisition of the Cirqual Group when the previous directors of the Group were replaced. The share price started to slide, at times alarmingly, then came September 11th and provided more excuses for faltering fortunes, lots went on (within the Group) that I will not go into here except to say that none of it helped Gardner Parts.

Through all of this, we remained focussed and Gardner Parts continued to be profitable and produce cash.

In May 2002, the Group announced that as part of an agreement to restructure its (£50m) debts a number of non-core companies (including Gardner Parts) would be sold. There was interest from a number of parties, including a syndicate that I led – but the talks failed at the end of November.

Ultimately in January 2003, Gardner Parts and four other 'non-core' companies were placed into administrative receivership, followed within weeks by the remaining parts of the Group.

The only reason Gardner Parts was part of the initial receivership was that it held the lease for the Barton Hall site occupied by Gardner Parts and Gardner Avon – we could comfortably afford to pay our own rent, but not that for Gardner Avon as well (ten times our own!). I am firmly of the opinion that had the will been there, there were things that the Group could have done to extricate Gardner Parts from this onerous position – but it did not. The result was the receivership of a good company.

The troubles of the Gardner Group have been fairly well documented by the financial press and I am sorry to say that for all but the directors, who picked up the assets for a fraction of their real value, it ended in tears.

Not for Gardner Parts though – after an unpleasant few weeks at the hands of the receivers, Leyland Exports Limited, acquired the company in February and we are making good progress putting the business back on track. It will be some time before we can see what happened in a good light, for there must have been another way, but we are now in a better, a much better, place.

I have been with Gardner now for almost twenty years and throughout this time the doom merchants have been predicting the end – that's just the 'British disease' – the product is too good for that, the people are too good for that – we're survivors.

We have had countless calls giving encouragement and on behalf of myself and the rest of the Gardner team I would like to take this opportunity to thank our customers, suppliers and everyone else for your continued support.

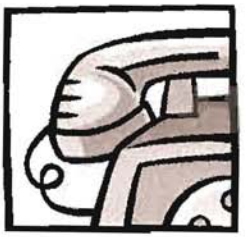
The fifth Gardner Rally is almost with us, and this year it returns to the site of the first rally, on the Trent Embankment in Nottingham – we look forward to meeting some old friends and enjoying a very pleasurable weekend.

Paul Crisp
Managing Director
Gardner Parts

PLEASE NOTE

OUR NEW CONTACT DETAILS
(FROM 7TH APRIL 2003)

TELEPHONE:



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www.gardnerparts.co.uk

Peter Christy,
43 Bollard Prospect,
Clitheroe,
Lancs. BB7 1JU

Peter is interested to find out if anybody has any Gardner lapel badges or a Gardner 120 badge for a truck grill. Please either write to him direct or contact our Chairman, Colin Paillin. (01949 869004)

WANTED: 2L2 CAMBOX

CASH WAITING

GILL 01788 571355

Vintage & Collectible Commercial Vehicle Auction

To be held Saturday 6th September 2003
Viewing Friday 5th Sept & morning of sale
At
Lineside Farm
Amber Hill
Near Boston
Linc,s
PE20 3RA

1 mile from A17
at Swineshead Bridge
on the A1121 road

Provisional List

for further details contact Terry
Tel:01205 820377
Mob:07774 799600
Fax:01205 821084

ENGINE RALLY

21/22 JUNE 2003

NOTTINGHAM TRENT EMBANKMENT

Road Vehicles, Stationary and Marine Engines on display