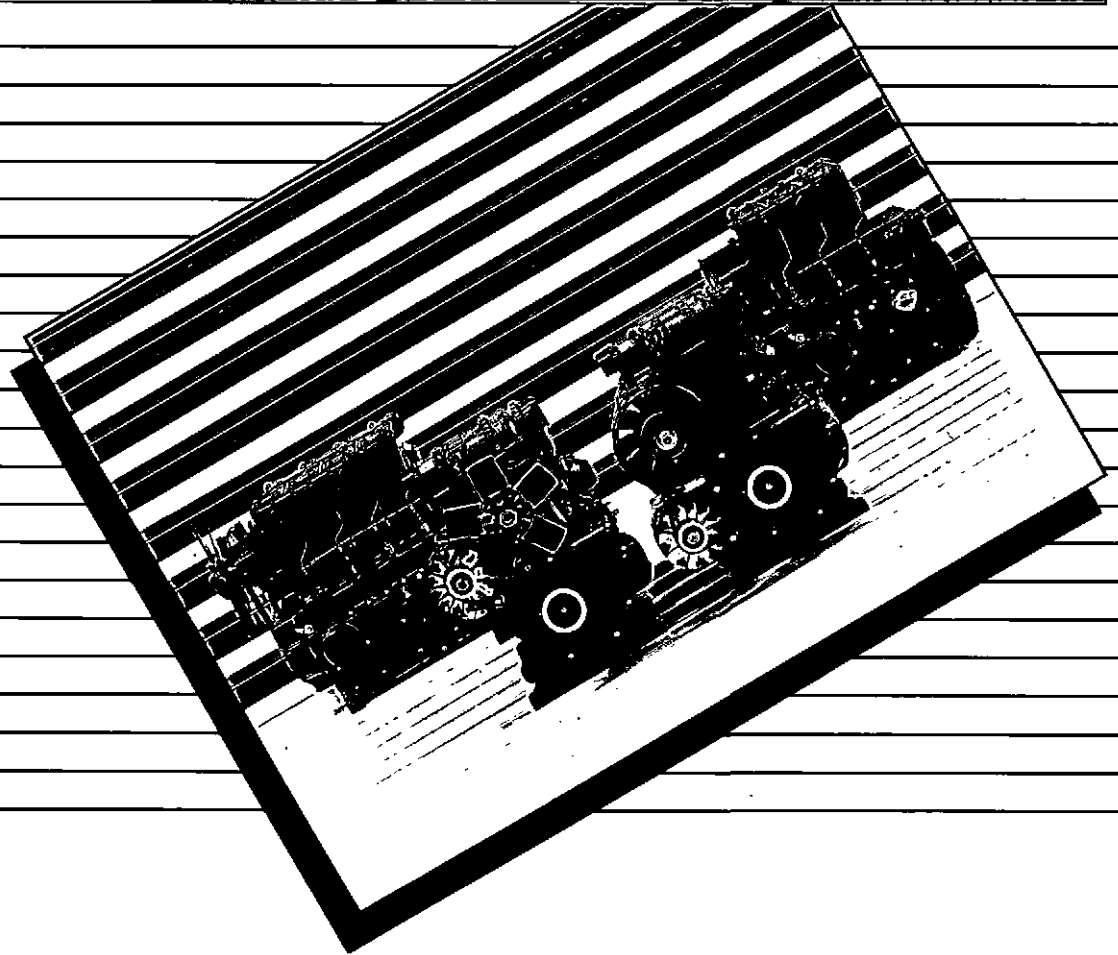


**ALPHA**  
**ALPHA SERIES**



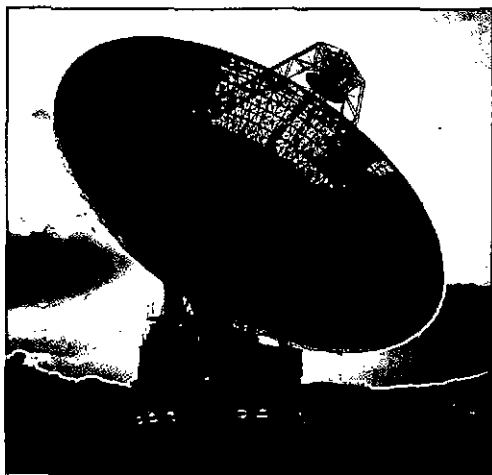
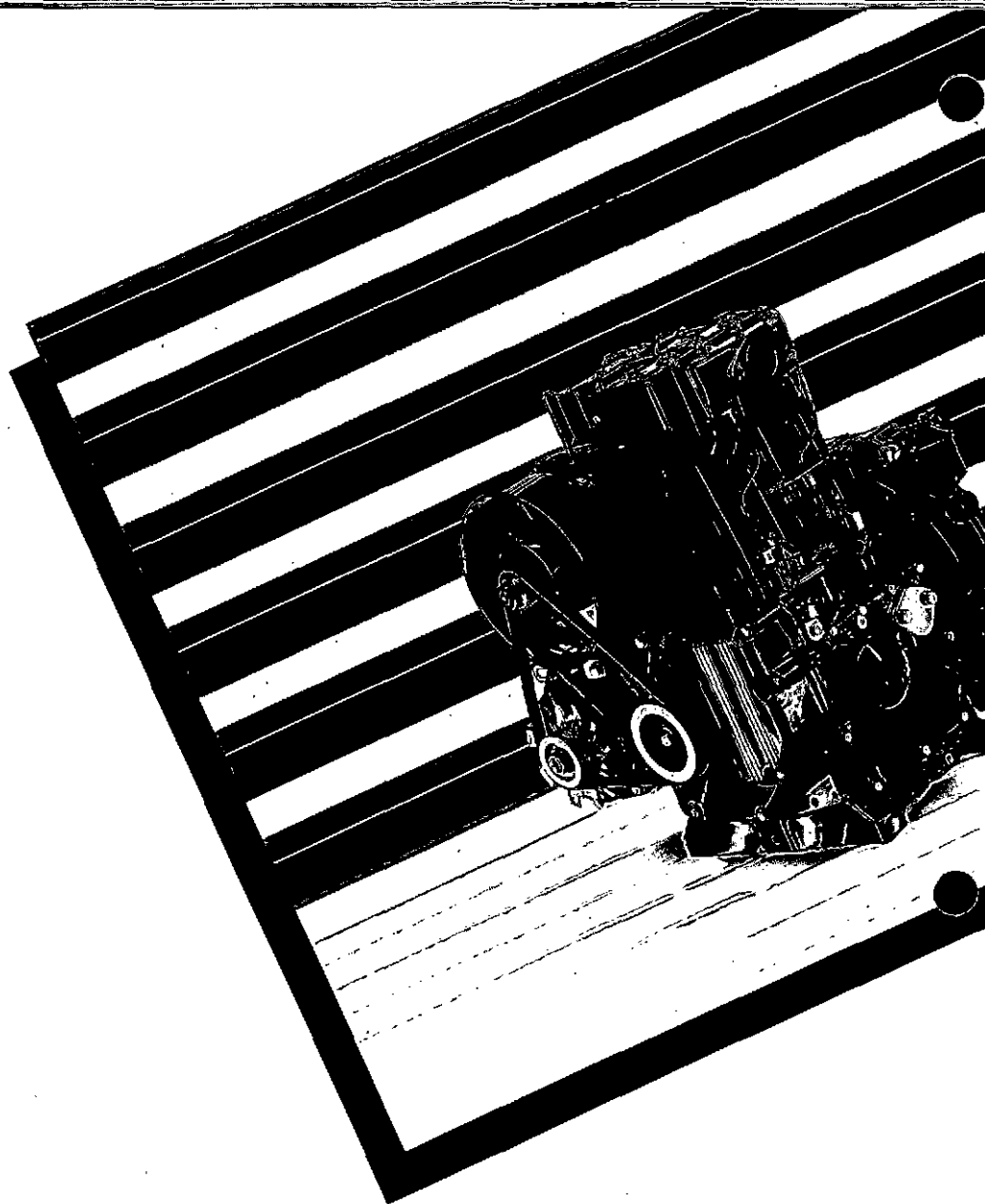
**FIRST**  
**TO PUT YOU FIRST**



**THE NEW DIESEL**

**SERIES YOU HELPED**

**TO DESIGN**



**RAPID CHANGE;  
CONSTANT QUALITY**

Change - fast and unrelenting - is the norm, both in today's commercial environment and in diesel technology.

*Not only have Lister-Petter kept pace, we've leapt forward dramatically.*

One thing hasn't changed: that's the design philosophy that has earned our engines an outstanding reputation for reliability and durability worldwide.

What the new Alpha Series therefore represents is a perfect blend of modern design and timeless quality - the breakthrough you've been waiting for.

**YOU TALKED; WE LISTENED**

A massive market research project, commissioned by Lister-Petter, was completed in late 1985.

It was the first of its scope and kind. We talked to original equipment manufacturers and end-users throughout the

**ALPHA**  
**ALPHA SERIES**

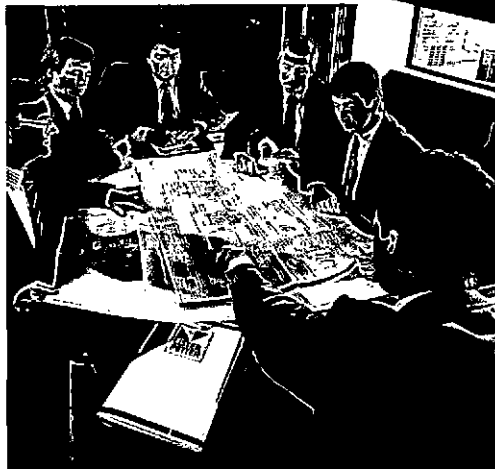


world. The results were conclusive:

You wanted a European-built range of small diesels: 2, 3 and 4 cylinder versions capable of continuous running at speeds to a maximum of 3600 r/min.

You asked for low noise and vibration. Low cost. Ease of maintenance. A choice of air or water cooling. Durability. Flexibility. A compact and lightweight design. A wide range of accessories.

In short, you asked for a lot.



Lister-Petter's response was immediate. We set out to meet all those requirements and to do it in record-breaking time.



## A NEW APPROACH FOR A NEW AGE

### COMPUTERS AND COMMITMENT

With one of Europe's largest, most advanced IBM CADAM systems already on-line, we now worked it twice as hard as anyone else.

Designers worked on a shift basis - 16 hours a day. Something previously unheard-of in European manufacturing industries. With CADAM they could optimise all design points quickly and accurately. New engineering techniques were introduced. Finite element analysis and flexible manufacturing systems meant pre-production engines were developed and produced in a very short time.

Testing was rigorous and non-stop. Using computers we ran the engines at full power, unattended, 24 hours a day. Performance measurements were recorded continuously. We simulated practically all applications and working conditions to gauge our engines' performance over wide-ranging requirements. Any modifications were quickly engineered.

With our advanced facilities, plus total commitment and sheer hard work, Lister-Petter responded to the market faster than ever before thought possible.

The result is a diesel engine range designed to meet the exact requirements of the market: ALPHA.

### GIVING HIGH PRIORITY TO LOW NOISE

Engine noise derives from two major sources - the explosive force of combustion and the resonance from the various components.

If you compare the difference between the explosive force in a typical diesel

engine, and the same in an Alpha Series diesel, you could liken it to the difference between hitting a piece of metal with an iron hammer and a rubber mallet: one is shattering to the ear; the other, gentle.

Lister-Petter have achieved low combustion noise on both direct and indirect injection versions of Alpha, investing huge capital sums and consulting Ricardo and AVL, two of the world's leading experts.

The result represents a revolutionary breakthrough in advanced combustion technology few other manufacturers would even attempt to match.

### A RESOUNDING ACHIEVEMENT

While one group of engineers dealt with combustion noise, another tackled noise caused by resonance. They put prototype engines onto sensitive test equipment. Decibel readings determined which components were causing resonance peaks. Having identified the causes, they developed the solutions: self-adjusting hydraulic tappets, a special indented and ribbed crankcase, helical gears and an isolated gear cover, to name just a few.

Gone were the disturbing resonance peaks. Noise levels were both reduced absolutely and smoothed to produce a sound far easier on the ears.

### SMOOTHING THE WAY FOR YOU

The noise level that really counts is that of the equipment in which the engine is installed. Lister-Petter can offer original equipment manufacturers a unique service: we can apply our experience in advanced sound source technology to your Alpha-powered product - in most cases, absolutely free.



# ALPHA SERIES

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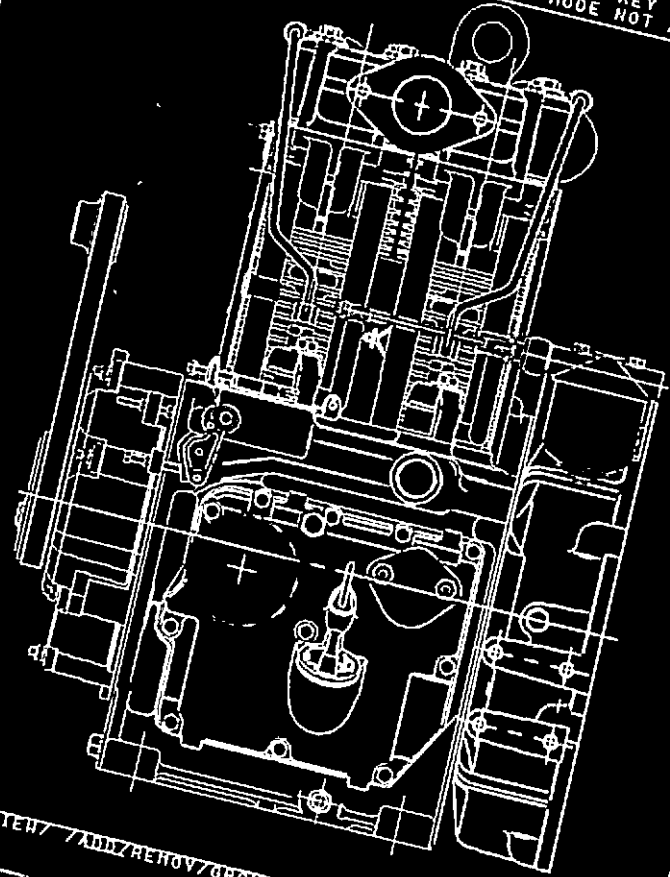
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## STREAMLINING

## OUR DESIGN TO

## MEET YOUR NEEDS

### LIGHT AND POWERFUL

The power-to-cube ratio achieved by the Alpha Series is unmatched by any other manufacturer.

Computer Aided Design again played an important part in this work, helping our designers to develop lightweight components and to optimise the ribbing and stiffening for accurate stressing.

Our foundry engineers accelerated the programme, developing new techniques for producing thin-walled, cast-iron crankcases, for example.

In fact, our technology is now so advanced that other engine manufacturers have their castings made by us in our foundry - a fine tribute to sheer excellence.

### MINIMUM MAINTENANCE

Alpha Series diesels have been designed with all service points on one side of the engine for easy maintenance.

Our philosophy, now as always, is to engineer for simplicity. This assures our engines will provide troublefree operation throughout the life of the equipment they power.

Because that, after all, is just what you asked for.

The cut away engine illustration on the opposite page graphically demonstrates some of the low maintenance features of the Alpha Series.

### MARRYING QUALITY WITH LOW COST

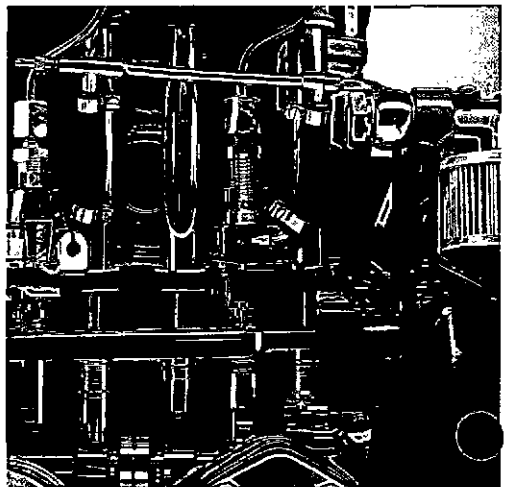
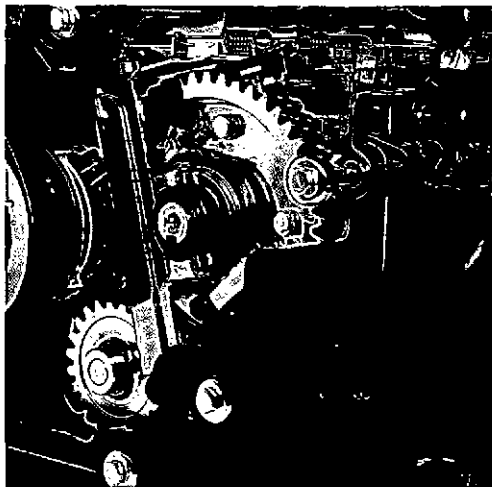
Lister-Petter found many cost-efficient features actually produced performance benefits as well. Commonality of component parts, for instance, helped keep costs down, but also contributed to ease of maintenance. So did our monobloc crankcase and streamlined cylinder head.

Oilways were cast in, eliminating the need for pipes. Fewer joints reduced the possibility of oil leaks. All were cost-efficiency measures for us that have performance benefits for you.

Technically we achieved an unrivalled standard of excellence.

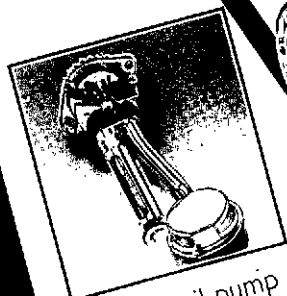
Commercially we achieved a remarkably competitive price.

The combination is unbeatable.



# ALPHA SERIES

V-ribbed belts are used across the range to provide a long, troublefree life.

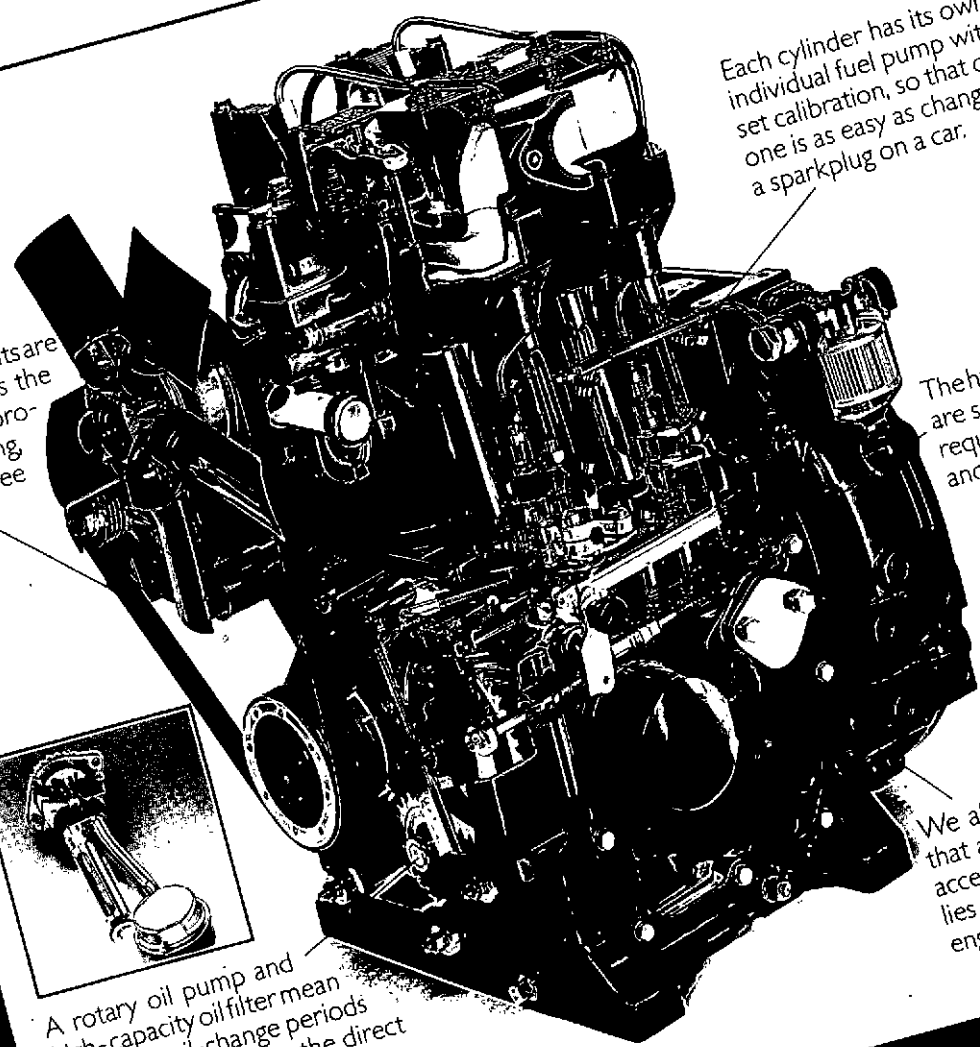


A rotary oil pump and high-capacity oil filter mean extended oil-change periods - up to 250 hours on the direct injection engines, for example.

Each cylinder has its own individual fuel pump with pre-set calibration, so that changing one is as easy as changing a sparkplug on a car.

The hydraulic tappets are self-adjusting and require no maintenance at all.

We also provide a side door that allows inspection and access to the bearing assemblies without taking out the engine from the equipment.



**PROVIDING THE  
FLEXIBILITY TO SUIT  
EVERY APPLICATION**

**TAILORING OUR DESIGN FOR  
YOUR APPLICATION**

Designed with base and side mounting, we know of no application requirements new Alpha diesels cannot fulfill.

Whatever your own needs may be, we'd like to discuss them with you.

We can recommend the engine and its accessories, and provide a prototype for your evaluation, fully-installed.

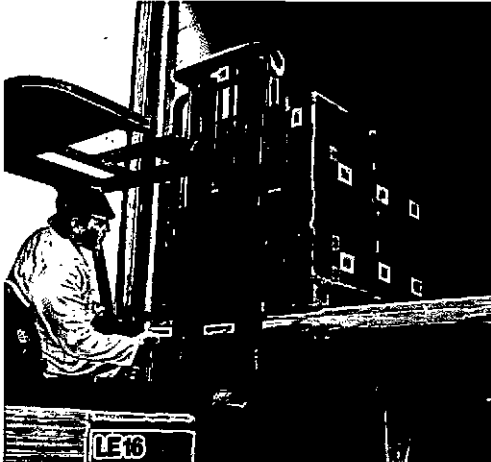
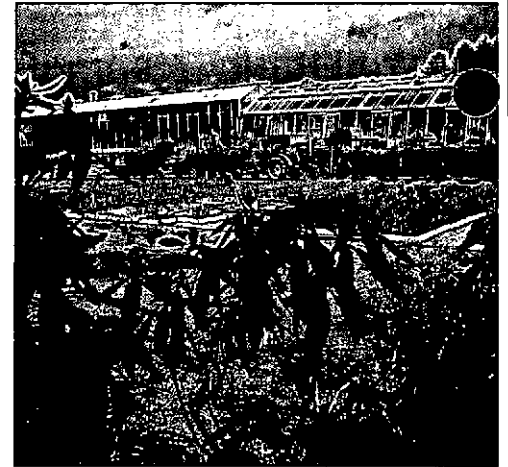
We will be pleased to offer expert help and advice on maintenance, accessibility, cooling and noise levels, too.

You need only ask to share the applications engineering skills and the sophisticated technology developed

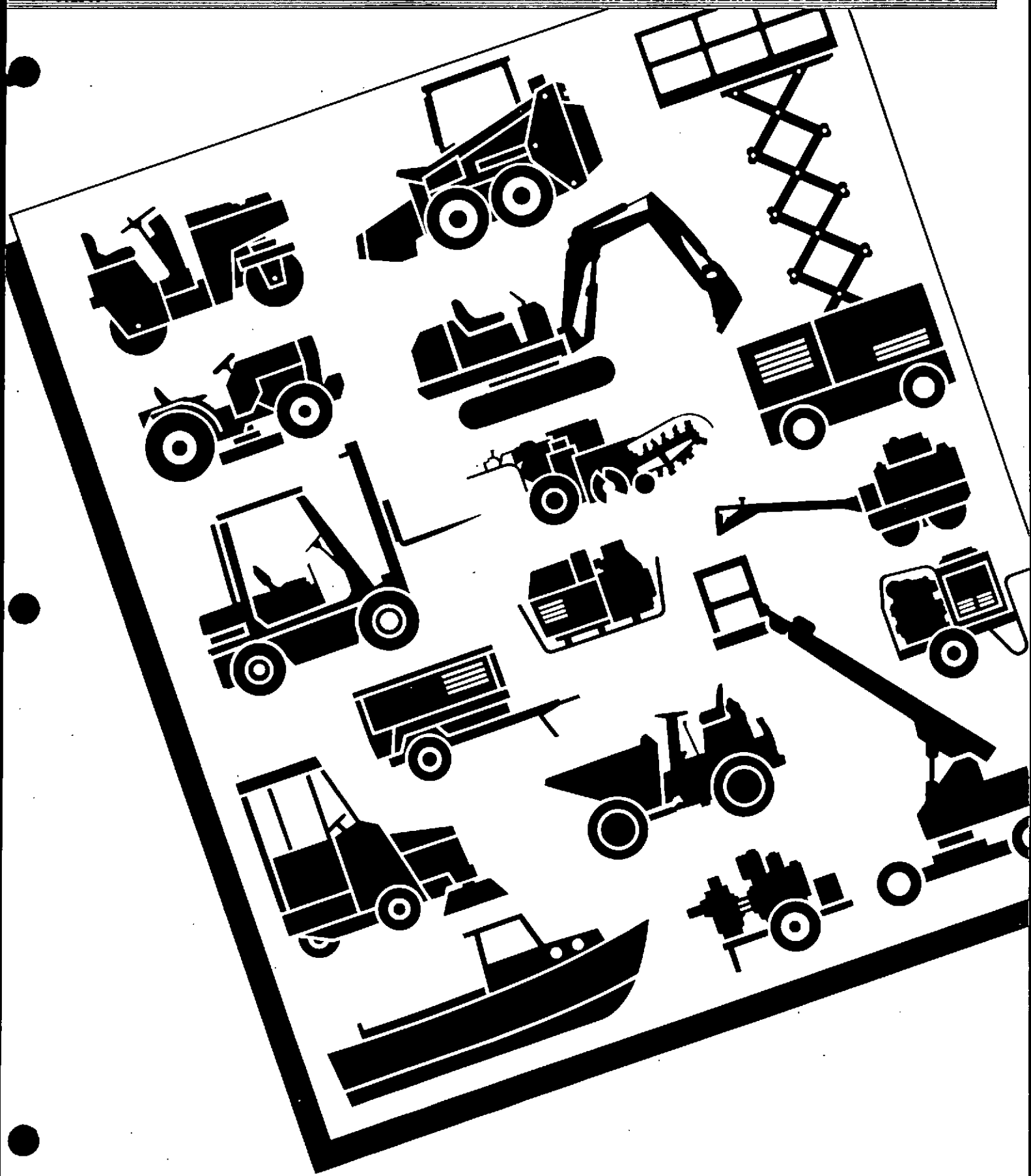
for the design of Alpha Series in a programme of joint development. The result will save you time and associated costs, and ensure that your equipment is more than equal to the sum of its parts.

**INTEGRATING ACCESSORIES  
INTO THE DESIGN**

We integrated Alpha accessories into the overall design from day one. Not only are they custom-designed to fit, they're readily available. Unlike most companies, we can supply you with diesels in a one-off package with a wide range of options, ready for use at a pre-determined, all-in-one price.



# ALPHA SERIES



## GIVING THE SERVICE AND SUPPORT YOU WANT

### FAST AND FLEXIBLE DELIVERY

Alpha Series diesels are designed and built in the UK and components are sourced in Europe. With wholly-owned subsidiaries throughout the world, you can be sure that, wherever you are located, stocks of Alpha diesels will be close to hand; our production schedules are fully-g geared to meet demand.

We can also operate the 'just in time' concept of delivery, so you need never become over-committed on stockholding costs. What's more, we've built a wide margin of flexibility into our production programme, and can normally accommodate as much as a 20% increase in an order if needed.

### WE DON'T COMPETE WITH YOU

Lister-Petter are diesel specialists. We don't make tractors or construction equipment. We are simply in the business of making business better for you.

### BACKING OUR CUSTOMERS

### WORLDWIDE

Wherever you are, Lister-Petter are there, too. Talk to us for technical advice, for service, for training or specialist

support: we speak your language.

We have subsidiary companies in Germany, France, U.S.A., Canada, Mexico, Australia and New Zealand, plus associate companies, local manufacturing licencees and a distributor/dealer network spanning five continents. It numbers over 1000. Your customers are guaranteed ready support and servicing advice for their Alpha series diesels - just like you.

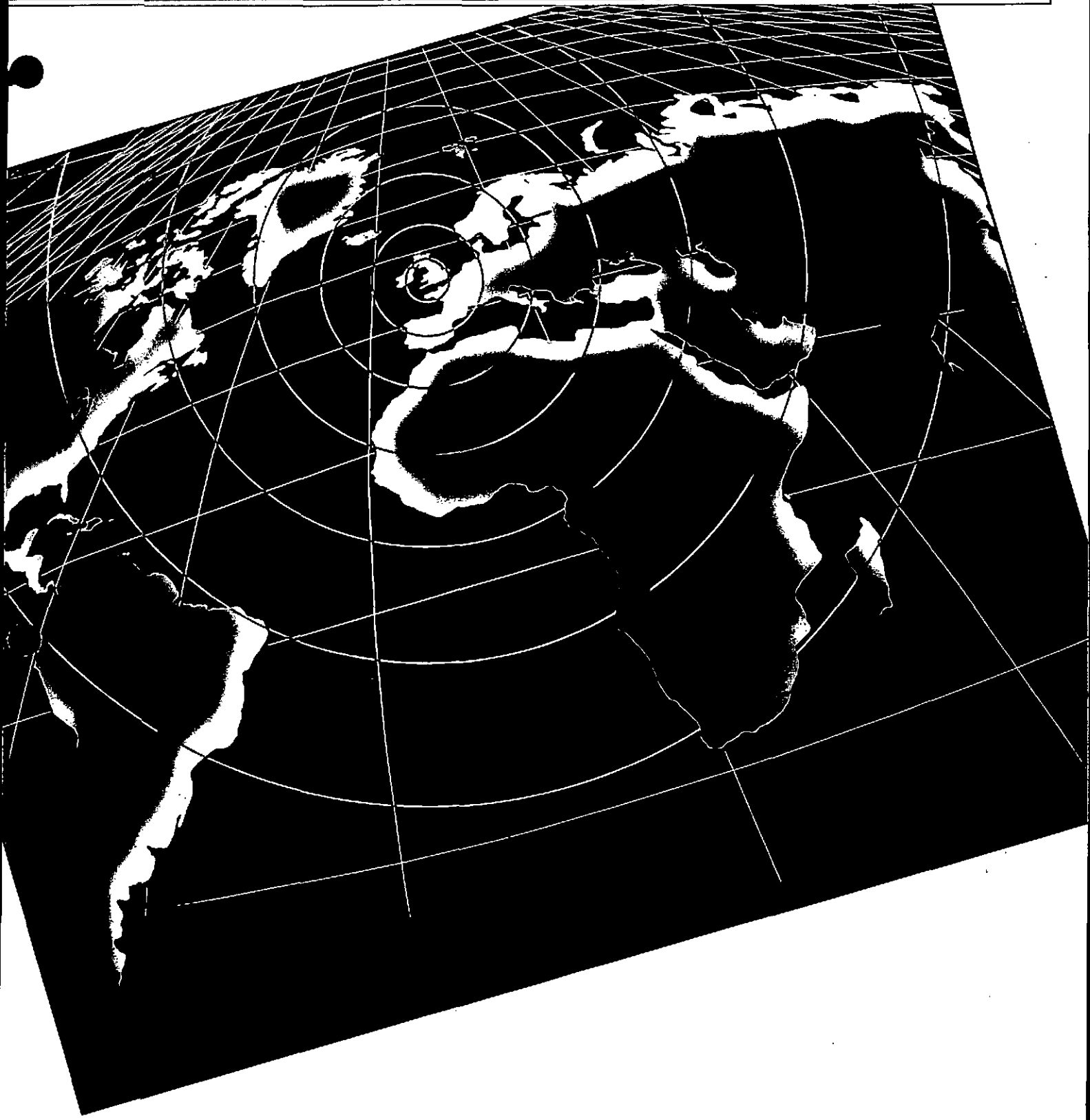
Nor are spare parts a problem. Our computer-controlled parts distribution centre coordinates and sends out well over 10 million individual components every year, providing a rapid response to customers throughout the world.

Our full training facilities and expertise are available, for you and for your customers, either at our factory or on site.

The back-up you get from Lister-Petter is unrivalled. We're on your doorstep - no matter where you are.



**ALPHA**  
**ALPHA SERIES**



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**POWERING A DIESEL  
REVOLUTION**

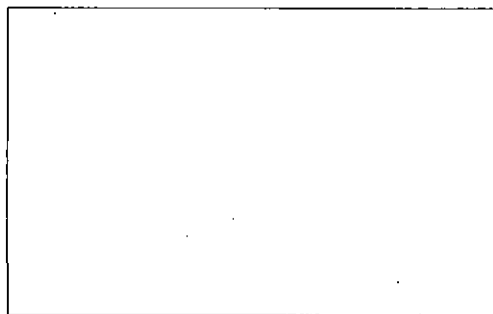
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We have built the diesel engine range you wanted, the most technologically exciting new range to emerge from Europe in decades:

Air and water-cooled. Direct or indirect injection. Two, three and four cylinders. Up to 31kW (41bhp). Quiet. Light. Compact. Low cost. And trouble-free. A combination of power, economy, reliability and quietness that is unrivalled anywhere.

To add all these benefits to your equipment you have only to say the word:

**ALPHA. The first ever European Series of air and water-cooled diesels – and the best.**



**FIRST TO PUT YOU FIRST**



Lister-Petter Inc. 555 East 56 Highway, PO Box 1160, Olathe, Kansas 66061.  
Telephone (913) 764-3512. Telex 42-6262 LISTERPETTER OLA. Telefax (913) 764-5495.