

RA



POWER SOLUTIONS

FORTY FOUR YEARS OF EXPERIENCE - DIESEL ENGINE



In-Situ Machining, Refurbishment & Repairs of  
Diesel Engine Components for  
the Marine & Industries Worldwide



## WORLDWIDE SERVICE ROUND THE CLOCK



The services of RA Power Solutions Pvt. Ltd. are available 24 hours a day seven days a week. Engineers with portable tool and equipment can travel at short notice to undertake work in many areas and under varied conditions to marine or land based sites, any where in the world.

RA Power Solutions Pvt. Ltd. can adapt themselves to working environments like a Diesel Generating Set of a power station, supertanker's engine room or a large compressor house at chemical works. This makes us one of the world's leading on-site engineering companies specializing in in-situ machining and repairs for industrial and marine plants.

The company's experience has been gained over a period of 26 years and was born from a need among industries and ship operation, for fast, economic and reliable solutions to problems associated with machinery maintenance and repair.

RA Power Solutions expertise has been rigorously guarded and built upon, as necessitated by the increasing complexity of tasks, working specifications and technological advances in the industry. There is also requirement for continuous in-house development of skills & tooling equipment to meet the most evolved industry demands.

At RA Power Solutions Pvt. Ltd., our priority has been QUALITY. This achievement reflects our unwavering commitment & efficiency, which enables us to consistently deliver quality products and services to our esteemed clients. All work carried out complies with the requirements of major international classification authorities, including Llyod's and other inspecting agencies.

As an Engineering Company, providing a wide range of services, we realized that it is important to keep abreast of technological advancements so as to serve our clients better, bearing in mind that our company's slogan is SINCERITY.

At Ra Power Solutions Pvt. Ltd. , we believe in providing solutions to our customer's problem, pertaining to service or supply of spares. It is our principle that it should be a long term solution aimed at total customer satisfaction.

### ON SITE CRANKSHAFT GRINDING

RA Power Solution Pvt. Ltd. provides on-site Crankshaft repairs. After and experience of more than two decades in this field, we have introduced a new range of Crankshaft Repair On-site Machine, which is capable of reducing the Crankshaft repair time by almost 40%. For any industry, the repair time is a major factor. By introducing this new generation equipment, the down time of the engine is reduced considerably.





#### Fast Repairs

- The new generation equipment can machine and polish in one setting itself as there is no need of separate tools for grinding and machining.
- The machine drastically reduces the setup time & minimizes the possibility of misalignment of the Crank Pin & avoiding the need to set it up 2 or 3 times
- Only one tool is needed for grinding and polishing.
- Tried & tested, the new generation tool reduces the repair time.

- Able to undertake In-situ Grinding of Crank Pin, having diameter ranging from 60 mm to 500 mm.
- Specially designed In-situ Crankshaft Grinding Machine for repair of parts, without dismantling the equipment
- Tools and drawing for most of the Engines are readily available.
- Trained engineers and mechanics, skilled in the art of in-situ grinding of Crankshafts
- RA Power Solutions Pvt. Ltd. takes pride in accomplishing repairs of over 10,000 shafts in India & Abroad

### LINE BORING AND REPAIR

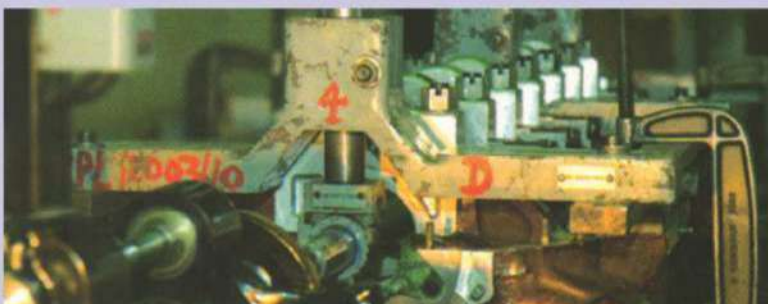
#### Engine Blocks on-site

- In-situ line boring of large Engine Blocks, Compressors, Gear Boxes etc. is undertaken by us. RA Power Solutions Pvt. Ltd. has specially designed and developed the insitu line boring equipment supported with skilled personnel for executing the line boring repairs, strictly as per the manufacturer's specifications and tolerances.
- We are capable to machine two or more bores in line upto the length of 10 meters within close tolerances of 30 microns.

- The equipment is light weight and portable. Our technicians travel to reach you, to undertake precision line boring of damaged or misaligned bores.

The equipments are latest in design and pneumatically operated with the motors imported from Europe.

We cater for the diameters ranging from 50 mm to 1000 mm





- Both the upper and lower liner landing area can also be machined to remove the damage of the face and the bore.
- Our Engineering experts are familiar with different engine makes and their individual design features.

Areas of Application :  
 Compressor Bearing Housings, Propeller Shaft Journal Housing, Gas Turbines & Diesel Engines -  
 (i) Cam Shaft Housing,  
 (ii) Main Bearing Housings,  
 (iii) Liner Landing Area Bores

## CONNECTING RODS

Problems Observed Frequently

- Wear causing ovality
- Crack formation on serrations
- Damages due to collapsed bearings or loose/broken bolts.

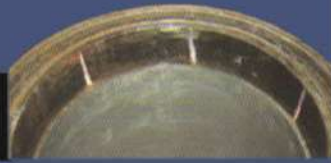
Rehabilitation - Connecting Rod

- Ultra-sonic testing to determine invisible damages
- Grinding and restoration of damaged serration

- Internal grinding of big end and small end bores to remove ovality
- Face grinding to maintain the trueness
- Determination of invisible damages eliminates the risk of failure during future operations
- Fine surface finish achieved during grinding and tested with digital surface roughness gauge
- Accuracy and finish achieved as per OEM specifications.



## CYLINDER LINER



**CYLINDER LINER REHABILITATION :** The Cylinder Liner boring and honing machine is imported from a world leading company based in Sweden, which masters the art of manufacturing Cylinder Liner boring/honing equipments. Following are the main advantages of getting the Cylinder Liners boring/honing done:-

- a) Rectifies ovality, scuffing and micro seizure.
- b) Maintains a normal lub-oil consumption.
- c) Increases life of cylinder liners & piston rings.
- d) Removes wear edges safely.
- e) Very fine surface finish is achieved.
- f) Liner seating area grinding in Engine Block.



## METAL STITCHING



Cracked parts need only be dismantled in exceptional cases. As the repairs are carried in cold process, no distortion or thermal stress is induced. Metal Stitching "locks", master-locks" and "plugs" are imported from U.K.

### Advantages Of Metal Stitching

- No heat stresses are induced
- No distortion occurs
- At many instances machining is not required
- Reduces downtime
- Gas / Liquid proof repair



## REBUILDING OF CRANKSHAFTS

The rebuilding of Crankshafts (and many other components) can result in considerable savings over the replacement cost. Saving of 50% are common and on large components, as much as 90% may be saved.

The need for reclamation may be to correct manufacturing errors, to repair an obsolete part or excessively worn out part.

The key to success in this application is giving scrupulous attention to all details of : Cleaning, Surface preparation, Spraying and Finishing.



## REBABBITTING

Rebabbitting of large and small size bearings is undertaken on centrifugal babbitting machine, which is special designed to ensure uniform layer of white metal and high quality of babbitting.

### PARTS THAT NEED REDABBITTING

Crankshaft Bearings, Pump Bearings, Crosshead Bearings, Intermediate Bearings, Turbine Bearings, Main Gear Bearings, Stern Tube Bearings, Thrust Pads for Main Shafts, Turbines, Crankshafts

### REASONS FOR FAILURE OF BABBITTING

- Lack of Lubrication
- Overloading
- Misalignment
- Bearing Meltdown
- Wear and Tear
- Loss of Bonding
- Contaminated Oil

### SPARE PARTS

Our principles in U.K and Singapore are connected by an on-line computer system which guarantees the efficient handling of all orders. Expertise in arranging air and sea freight along with customer-oriented services ensure that your requirement is met in shortest possible time and at competitive prices too.

#### WE OFFER

- A large stock of parts according to original specifications and, if necessary, with class certificates.
- Computerised processing of orders
- Round-the-clock service for urgent deliveries
- Expertise in freight and customs formalities
- Competitive landed prices



### QUALITY SYSTEM

- Recognising the importance of Quality, RA Power Solutions Pvt. Ltd. follows the service procedures, which are accredited by the Manufacturers, as well as those accepted by various international classification associates.
- Representing a major investment in quality assurance the Company is committed for providing the best possible level of services.
- Our vision is to be recognized as an International Leader in providing timely, cost effective and guaranteed reconditioning services.



### EXCHANGE PROGRAMME

RA Power Solutions Pvt. Ltd. Worldwide Exchange Programme is an arrangement whereby you can exchange your damaged component with our fully reconditioned one at no extra cost.

Our reconditioned parts are guaranteed for six (6) months or 2500 normal operating hours, whichever is earlier, against faulty workmanship on our part.

With reconditioned parts that are fully guaranteed, and cost saving. RA Power Solutions Pvt. Ltd. offers the best option in today's highly competitive market.

### WE ALSO OFFER THE FOLLOWING IN-SITU FACILITIES

- Straightening, grinding and complete repair of Crankshafts
- Metal stitching of damaged Castings
- Alignment inspection of Engine Blocks
- On site line boring operation
- Boring/Honing of Cylinder Liners up to 800 mm diameter
- Repair of Connecting Rods, Cylinder heads etc.
- Overhauling of Engines.
- All non-destructive tests at site
- Renal of D.G. Sets

**RA**



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