

4-Stroke Engine Parts Overhaul & Reconditioning



One-Stop Workshop Services

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With over 40 years of experience in 4-Srtoke engines, KIMI has developed an advanced production line tailored to meet the most stringent OEM specifications for components from multiple Manufacturers such as MTU, WARTSILA, YANMAR, DAIHATSU and MAN.

Our all-in-one overhaul service for 4-Stroke components extends their service life, ensuring optimal engine performance.

Key Benefits

- Full range of service capabilities under one roof, from complete units overhaul to special recondition of spares with laser cladding
- Guaranteed quality through our expertise and cuttingedge equipment
- Reduced downtime and maintenance cost through our streamlined production process
- Enhanced performance efficiency and durability



Bringing in-depth knowledge and cutting edge technology, KIMI's overhaul and reconditioning process is designed to optimize cylinder head reliability and prolong operational life.

Our overhaul process for 4-Stroke cylinder heads includes:

- Specialized cleaning technique powered by the latest technology, ensuring superior cleanliness of hard-to-reach areas on cylinder heads
- Inspection measurements by certified personnel, including thorough spring elongation check

- Machining of seat pockets to an oversize dimension through high precision grinding CNC machine, if required
- Renewal of cylinder cover seats, valves, guides, injector sleeve
- High precision grinding of seats and valves
- Grinding of cover in the way of the liner landing surface
- Pressure testing
- Coating

In the event of excessively corroded seat pockets or cooling grooves of marine heads, KIMI also provides the option of reconditioning by laser cladding, achieving a full metallurgical bond of filler powder with the base material. Both seat pockets and cooling grooves of marine heads are fully restored back to nominal size.

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4-Stroke Cylinder Head





Our next generation grinding CNC machine sets new quality standards in 4-Stroke cylinder heads reconditioning.

Advantages include:

- Grinding capability in seat diameter ranging from 13–250mm
- Guaranteed grinding seat circularity < 0.003mm even on seats as large as 200mm in diameter
- Superior surface finishes compared to traditional methods, offers:
- i. Surface roughness ≤ 0.4 Ra.
- ii. No chatter marks on undulations even for the most complex shapes of valves' seats
- Perfect seal between valve and seat, resulting in significantly increased cylinder cover performance

4-Stroke Connecting Rod and Liner





The reconditioning process for connecting rods and liners differs among vendors. Our quality excellence is guaranteed by our latest technology machines and thorough metallurgical examinations before, during and after spares reconditioning.



Our standard repair process for 4-Stroke connecting rods includes:

- Dimensional inspection, reporting
- Magnetic particle testing by Level II PCN certified personnel
- Restoration of the big end bore by CNC grinding machine
- Assembly and tightening following OEM instructions

Our standard repair process for 4-Stroke liners include

- Specialized cleaning technique powered by the latest technology, ensuring superior cleanliness
- NDT inspection by Level II PCN certified personnel
- High precision honing of any cylinder liner bore up to 600mm with fully automatic honing machine

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4-Stroke Piston





The most common damage occurred on pistons is wear on piston ring grooves. KIMI offers the laser cladding repair option as a cost saving, sustainable solution that not only restores but also prolongs pistons' service life by improving grooves resistance to erosion and corrosion. The benefits of piston laser cladding repair are the following:

- The method is applicable to steel, cast iron and aluminum pistons
- Piston grooves are restored back to their original size
- It is a cost effective solution instead of replacing the spare
- Piston obtains higher resistance to erosion than before, due to the high mean hardness and very low coefficient of friction achieved by the process

Quality assurance throughout the repair process and final quality control are indispensable part of all of our services.

Our in-house quality control laboratory has been accredited by Hellenic Accreditation System (ESYD) under the terms of the standard ELOT EN ISO/IEC 17025. Our services excellence is also supported by our commitment to meeting ISO9001 and ISO14001 standards.



SCAN ME



KIMI is an independent service organization that offers premium repair solutions for marine and power equipment. The company was established in 1984 and has since then evolved to a one-stop shop with a wide service portfolio.



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