

CAT[®] REPAIR OPTIONS.

MORE CHOICE TO KEEP
YOUR BUSINESS MOVING.



ENGINES



LET'S DO THE WORK.™

ZEPPELIN[™]
Power Systems



YOUR ADVANTAGES

- ✓ Protects and extends the life of major components by replacing relevant wear parts
- ✓ Restores fuel efficiency to its optimal level, reducing your fuel costs
- ✓ Prevents leaks through timely replacement of seals and shaft seals
- ✓ Reduces the oil consumption by timely replacement of the affected components such as seals, piston rings, etc.
- ✓ Ensures ongoing operation through repair before an unplanned major outage occurs



GUARANTEED TO LAST.

Genuine Cat new and Reman parts are backed by our 12-month warranty.

Additionally, if one of the genuine Cat new or Reman parts used in your repair is proven to be defective and goes on to cause damage, not only will the Cat new or Reman part be replaced, but any resultant damage to other Cat parts will also be covered.



CAT REPAIR OPTIONS

MORE HOURS.

Cat® engine parts are built tough to provide maximum durability and extended life – and many are designed for multiple overhaul. Properly maintained engine components can help to prevent more severe and expensive damage which has a direct impact on your productivity and operating costs.

The timely observance of data from inspections, condition monitoring, results of the Z.O.D. Fluid analysis and other repair indicators is key to the durable and efficient operation of your engines.

ZEPPELIN POWER SYSTEMS OFFERS A RANGE OF REPAIR SOLUTIONS TAILORED TO THE SPECIFIC OPERATING CONDITIONS:



LEVEL 1

HIGHEST FLEXIBILITY. LOWER COSTS.

Overhauls for engines with a manageable deployment profile that contain only the minimum parts required for engine inspection (seals, bearings, piston rings – highlighted in blue in illustration). For optimal costs overhauls can be extended to exactly suit the operating profile of the engine and your requirements.



LEVEL 2

HIGHER RELIABILITY. FULL COST CONTROL.

Overhauls for engines with higher operating time requirements until the next overhaul including all corresponding components. Level 2 can also be adapted to your needs and gives you the full cost control.



LEVEL 3

HIGHEST RELIABILITY. HIGHEST AVAILABILITY.

Overhauls for engines in demanding operation including all the components. Level 3 stands for the highest level of reliability and availability, avoiding costly downtime.



LEVEL 4

SHORT DOWNTIME.

Overhauls with available Cat Reman Short and Long Blocks are optimal when a short downtime for overhaul is economical. In addition, your engine offers you the highest level of reliability and availability and avoids expensive downtime.

HIGHER PRODUCTIVITY.

LOWER COSTS.

THE LEVELS IN DETAIL – OVERVIEW

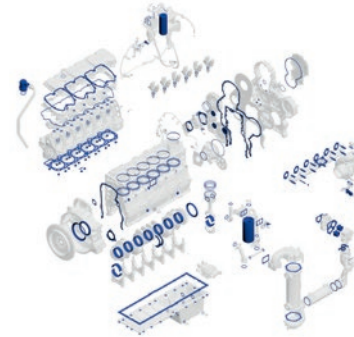
All levels include engine-dismantling as necessary for the particular repair, as well as cleaning and testing of essential components (such as cylinder heads, pistons, liners, camshafts, injectors, intercoolers, control and payment wheels, filters). Further options at fixed prices are available on request.



LEVEL 1

LEVEL 1 – REPLACEMENT / EXCHANGE

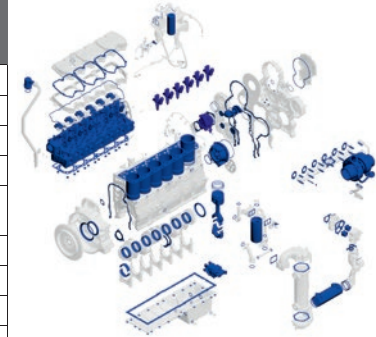
Piston rings
Journal bearings for connecting rod
Crankshaft main bearings & seals
Oil, fuel crankcase filter
Assembly of the engine with new seals
Test run in the machine



LEVEL 3

LEVEL 3 – REPLACEMENT / EXCHANGE

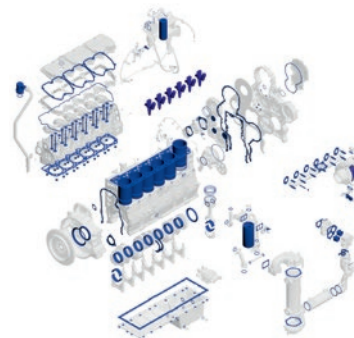
Cylinder heads
Injectors
Fuel pump
Pistons & bushings pack
Crankshaft main and connecting rod bearings, sealing rings
Water, oil cooler and oil pump
Turbocharger
Oil, fuel, crankcase filter
Insulation of the exhaust system
Assembly of the engine with new seals
Test run on test bench



LEVEL 2

LEVEL 2 – REPLACEMENT / EXCHANGE

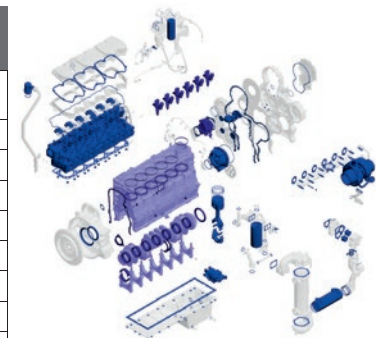
Cylinder head valves, valve rotors & guides
Injectors
Piston rings
Replace the liners
Journal bearings for connecting rod
Crankshaft main bearings & seals
Turbocharger Cartridge
Oil, fuel, crankcase filter
Assembly of the engine with new seals
Test run on test bench



LEVEL 4

LEVEL 4 – REPLACEMENT / EXCHANGE

Replacement of the basic engine with Cat Short or Longblock
Cylinder heads
Injectors
Fuel pump
Crankshaft vibration dampers
Water, oil cooler and oil pump
Turbocharger
Oil, fuel, crankcase filter
Insulations of the exhaust system
Completing the engine with new seals
Test run on test bench



CAT REPAIR OPTIONS.



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