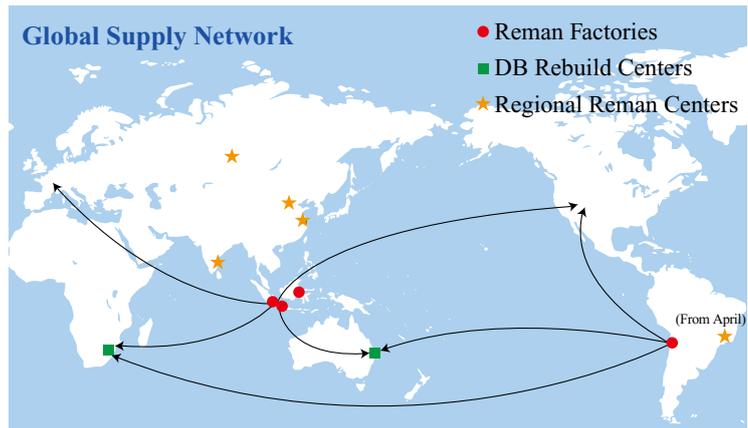




Reman Business

High-Quality Components of Komatsu's Reman Business

Komatsu's Reman business contributes to reducing machine downtime, improving machine availability and lowering machine lifecycle maintenance costs by providing highly reliable components at a more reasonable cost than brand new ones and in a timely manner from the perspective of customer satisfaction. Remanufacturing (Reman) components that are as good as new condition are developed and produced in-house by Komatsu to ensure top quality across the board.



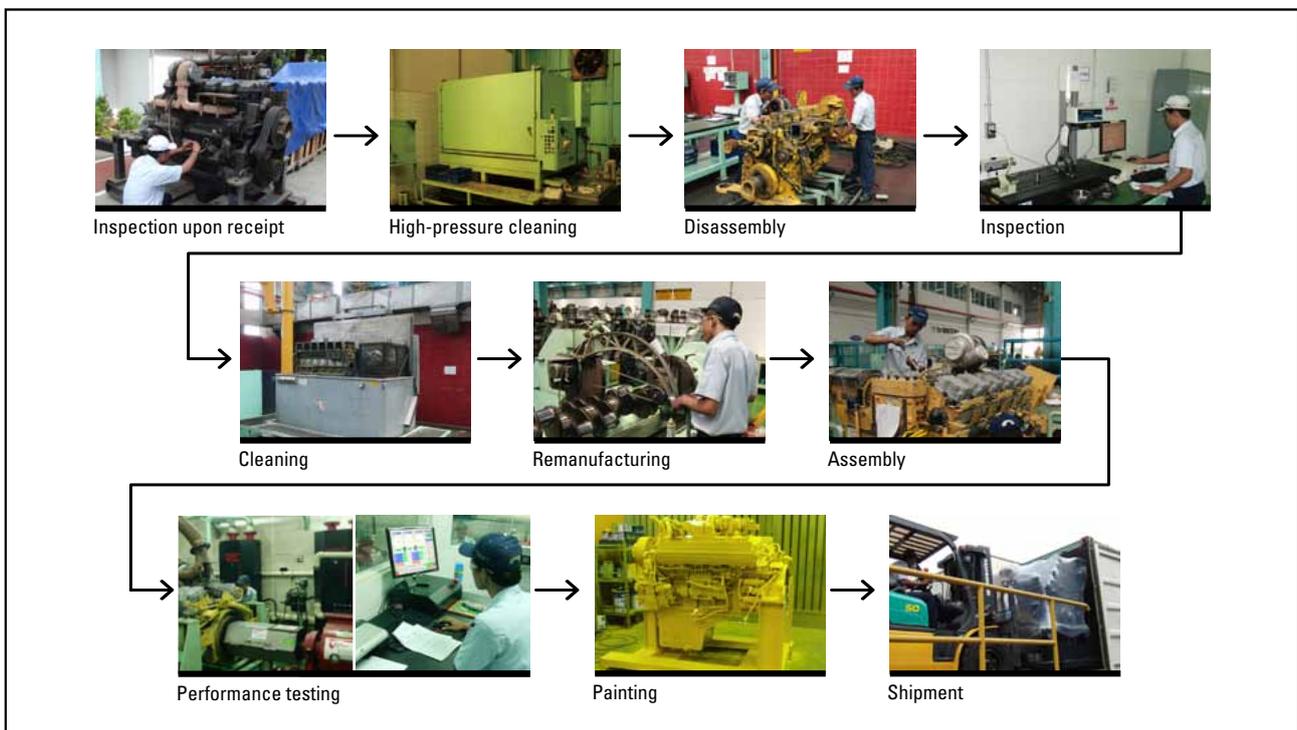
Global Supply Network for Reman Components

Currently, the global supply of Reman components is handled at a total of 11 operation sites, including Reman factories and regional Reman centers. Komatsu remakes and globally supplies large engines, large transmissions and hydraulic cylinders at its Reman factory in Indonesia and electric drive wheel motors and hydraulic cylinders at its Reman factory in Chile. In certain regions where the global supply chain is not accessible, such as China,

Russia, India and Brazil, Komatsu has set up regional Reman centers to meet local demand.

How Are Reman Components Remanufactured?

Let's take engines as an example. An engine core overhauled from mining equipment undergoes inspection upon receipt, high-pressure cleaning, disassembly, component inspection, component cleaning, component remanufacturing, assembly, component remanufacturing, assembly, component cleaning, component remanufacturing, assembly,





PT Komatsu Reman Indonesia (KRI)

performance testing and painting before being shipped. Reman components consist of reused parts and brand new parts. In many cases, reused parts require modifications, and if such parts do not meet specifications as a result of abrasion after long use, they are restored back to standard specifications through a combination of such processes as metal spraying and polishing.

The following introduces Komatsu's three major Reman factories.

Reman Factory for Large Engines

Remanufacturing of large engines is handled at the global Reman factory located within the premises of PT Komatsu Reman Indonesia (KRI), which was established in Jakarta, Indonesia, in 2007. The factory also remanufactures large transmissions and large hydraulic devices.

To remanufacture many types of engines, planning for early collection of engine cores and realizing efficient production are essential. Technical data of parts longevity saved in the engine core is fed back to development departments and factories so that Komatsu can utilize this information for further quality improvement and optimum design.

KRI is also equipped with performance testing equipment similar to that installed at factories to assure the quality of final products prior to shipment.

Reman Factory for Electric Drive Dump Truck Components

Established in 1992 in Antofagasta, Chile, Komatsu Reman Center Chile S.A. (KRCC) remanufactures

wheel motors, alternators, hydraulic cylinders and other components as Komatsu's global Reman factory for electric drive dump truck components. KRCC also engages in the development of software to control Reman component manufacturing processes in order to provide services closely matched to local customers' needs.



Coil winder at Komatsu Reman Center Chile S.A. (KRCC)

Reman Factory for Hydraulic Cylinders

Komatsu established a Reman factory for hydraulic cylinders in 2009 within the premises of PT Komatsu Indonesia (KI) in Jakarta. The factory currently engages in the remanufacturing of hydraulic cylinders (hoist cylinders, front suspensions and rear suspensions) for mining equipment. When re-coating rods, which is one of the most important processes in Reman components, layers of coating are first removed by applying reverse current. The rods then undergo the processes of buffing, etching, coating, baking and re-buffing to ensure KI provides high-quality Reman hydraulic cylinders.

Remanufactured hydraulic cylinders at PT Komatsu Indonesia (KI)



Piston rod



Flange



Housing

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