

Reman Business



POWERLINE AND PPM

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Komatsu's Top Quality and Reliable Reman Components

Komatsu undertakes its Reman (remanufacturing) business that involves various processes to remanufacture such used components as engines and transmissions and restore these to the same high quality as newly manufactured components. These components are then put back onto the market.

Mining equipment operates from between 5,000 to 6,000 hours annually. That means the total operating time of mining machines exceeds 50,000 hours over an operating life of approximately 10 years from the start of operation until disposal. During this period, engines and other main components require several overhauls. Komatsu provides highly reliable Reman components on a timely basis mainly for overhauls of mining machines.

The Role of Mother Plants That Provide High Quality and Reliable Components

The Mother Plants in Japan (components production plants) manage each Reman process (disassembly, parts assessment, parts salvage, assembly and final inspection), carry out horizontal application

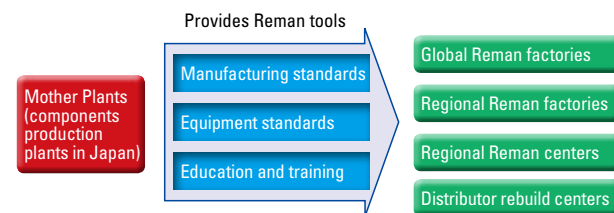
of these processes at each Reman component production



A KRA mechanic working on the remanufacture of an engine

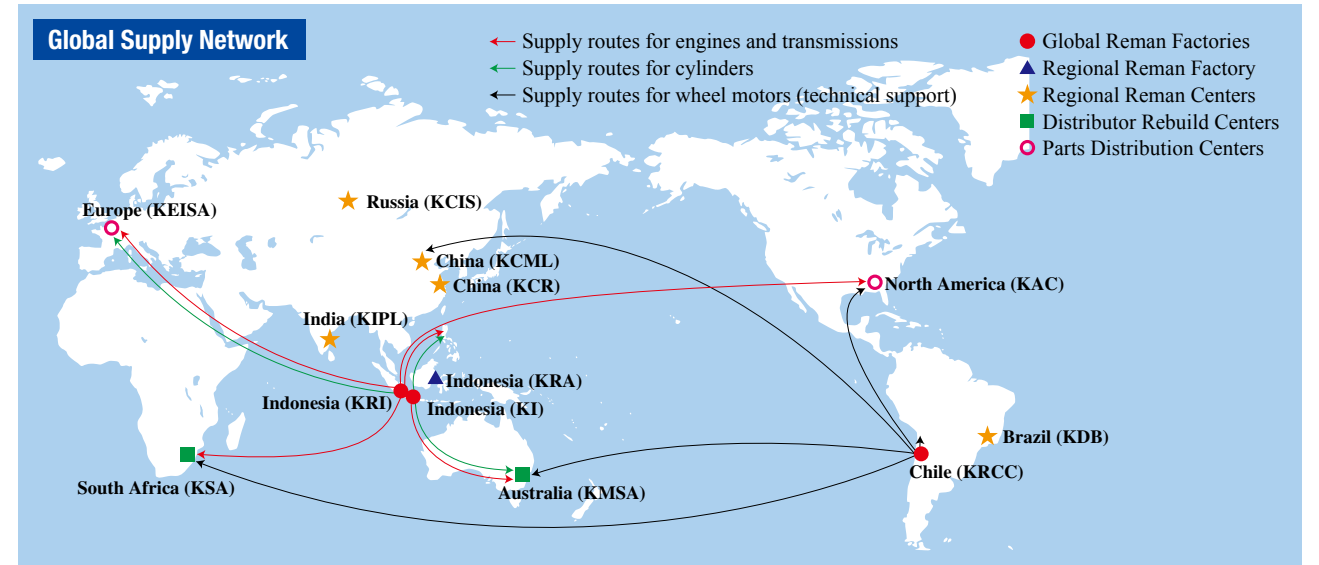
base and maintain quality assurance for these components. Additionally, Mother Plants carry out cost improvement activities utilizing Reman components to reduce component life cycle cost.

Three Reman Tools



Manufacturing Standards

Manufacturing standards (Reman Manual) consist of disassembly, assembly procedure standards, parts reuse assessment standards, parts salvage standards and final inspection standards. Mother Plants prepare these standards, which are shared at Reman factories throughout the world. The Reman Manual is provided as the contents of the production support system being utilized at the Oyama Plant engine line. Through this system, documented work instructions, work standards and check sheets are provided in an integrated manner. By linking these with production plants and networks, production information at production plants



KEISA: Komatsu Europe International N.V.
KSA: Komatsu South Africa (Pty) Ltd.
KCIS: Komatsu CIS, LLC
KCML: Komatsu China Mining Limited
KCR: Komatsu (Changzhou) Rebuild Co., Ltd

KIPL: Komatsu India Pvt. Ltd
KRI: PT Komatsu Reman Indonesia
KRA: PT Komatsu Remanufacturing Asia
KI: PT Komatsu Indonesia
KMSA: Komatsu Marketing Support Australia Pty Ltd.

KAC: Komatsu America Corp.
KDB: Komatsu do Brasil Ltda.
KRCC: Komatsu Reman Center Chile

can be provided on a timely basis and production lead times reduced.

Equipment Standards

Equipment consists of bench test machinery, jigs and tools and other equipment. Standardizing and installing this equipment at overseas Reman factories enables checks to verify whether Reman components produced at each Reman factory are of the same quality as newly manufactured components at manufacturing plants.

Education and Training

The Global Reman Training Center was established in April 2014 at the Oyama Plant to provide training for Reman engineers. Komatsu also offers an education course for Reman mechanics from overseas as well as the trainer course aimed at nurturing training instructors to be dispatched to overseas Reman factories. Upon completion of this course, participants are dispatched to each Reman factory as instructors.

Reman Component Cost Improvement Activities

The Mother Plants gather information on the state of component damage from Reman centers and factories around the world. By analyzing this information, the Mother Plants make recommendations to local factories for appropriate parts replacements and promote cost reductions through salvage process improvement activities. Additionally, in collaboration with the



Display screen of the production support system

Manufacturing Engineering Development Center within the Osaka Plant, the Mother Plants develop new salvage methods and improve products through information feedback to design functions.

Reman Business That Satisfies Customers

Global Supply Network

There are currently 11 Reman factories and regional Reman centers that supply Reman components throughout the world. Besides Reman factories that supply components globally, we have established regional Reman centers in order to supply components more quickly in regions where providing components is difficult. We plan to establish a Reman center in Myanmar in the second half of 2014.



Giving instructions at the Global Reman Training Center in the Oyama Plant



Exterior of PT Komatsu Reman Indonesia (KRI)



Salvaging components at KRI

Expanding Reman Component Product Lineup

In 2014, PT Komatsu Reman Indonesia (KRI) also began supplying sub-components to meet diverse customer needs during overhauls. Such sub-components include injectors, fuel injection pumps, turbochargers, starting motors and alternators.

Reducing Life Cycle Cost

Because Komatsu's advanced technologies give Reman components the same high quality as newly manufactured products, Reman components have longer lives than conventional repaired products and contribute to the reduction of the frequency of overhauls. Reman components are manufactured at global Reman factories and regional Reman centers, enabling these components to be sold at reasonable prices through cost reductions under the supervision of Komatsu's Mother Plants.

Through the Reman business, Komatsu contributes to reducing component life cycle cost; reducing machine downtime through proper inventory management and the supply network; and conserving resources and reducing waste through component reuse and recycling.

In this and many other ways, Komatsu will continue to develop the Reman business to ensure even greater customer satisfaction.

KRI's Sub-Component Lineup



Remanufactured turbocharger



Remanufactured alternator



Remanufactured starting motor

KOMATSU

2-3-6, Akasaka, Minato-ku, Tokyo 107-8414, Japan
<http://www.komatsu.com>

We welcome any comments from readers via email:
views@komatsu.co.jp

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