

Component Exchange Program



JOYGLOBAL
Service Leader



Delivering world-class mine performance

At the core of our commitment to customers is providing world-class solutions through our unique direct service network. This allows us to **collaborate with customers**, developing innovative parts, products, consumables and systems that lower their total cost of ownership while safely maximizing production.



Our commitment to quality and reliability is supported by our focus on Operational Excellence. We use Joy OpEx principles to eliminate waste, simplify the process, automate and remove people from harm's way.

Component Exchange Program: Remanufactured components for the long haul

Keep machines in operation leveraging the Joy Global CEP program

Production goals can only be achieved if machines remain in operation. Minimizing machine downtime during planned and unplanned outages is critical and if maintenance actions are not done quickly, production goals can be hindered. Avoid excessive downtime with the Component Exchange Program (CEP). Joy Global provides a ready supply of like-new, re-manufactured P&H and Joy components for surface and underground equipment from regional warehouses for same day or next day delivery. We also provide non-OE components for a variety of surface mining equipment.

Service products supported:

Surface equipment

- Drills
- Draglines
- Shovels
- Wheel loaders
- Haul trucks
- Conveyor products

Underground equipment

- Continuous miners
- Bolting solutions
- Entry development
- Conveyor products
- Longwall systems
- Feeder-breakers
- Haulage systems

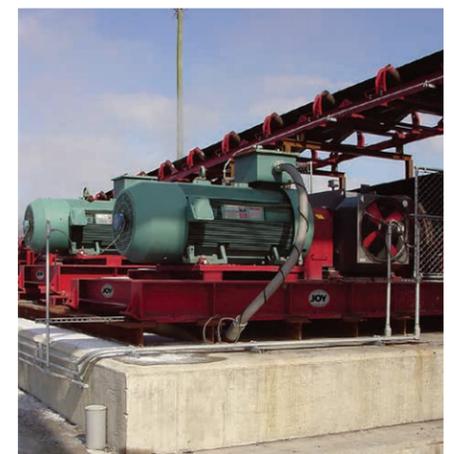
Hard Rock

- Loaders
- Trucks
- Utility vehicles
- Shaft sinking
- Drills
- Production
- Development



Reduce your operating costs

- A machine's costly downtime can be limited to the time required to replace a failed component with an on-hand component, as opposed to downtime for the full duration of a repair.
- The need to carry costly inventory is eliminated with the readily available component inventory maintained by Joy Global service centers. Regional warehousing facilities throughout the globe are available 24/7 to accommodate customers' needs.
- Significant cost savings are realized when utilizing the Component Exchange Program versus purchasing new.
- Assure OEM reliability with an OEM backed warranty that typically matches or exceeds that of new components. Contact your Joy Global account manager about warranty details for specific components.
- CEP is not your average rebuild or overhaul. Failed components are exchanged for totally re-manufactured units, rebuilt to original equipment specifications, following exacting Joy Global standards and incorporating the latest in design improvements.
- CEP for surface equipment is not limited to Joy Global manufactured products; it now extends to select components rebuilt for haul trucks and non-P&H shovels, wheel loaders, drills and draglines.



CEP is remanufacturing with confidence



Components are remanufactured to original equipment specifications, incorporating the latest in design improvements:

- Remanufacturing begins with complete disassembly of the component, followed by thorough steam cleaning and bead/sandblasting of transmission bases and motor frames
- A comprehensive inspection is carried out that may include failure/wear analysis, auditing of gears and splines and aligning of motor frames and gearboxes
- Motor coils manufactured by Joy Global are used to repair motors as part of the Component Exchange program
- All rebuilt motors are processed through VPI (Vacuum Pressure Impregnation) to insure reliable internal insulation
- Non-destructive testing is carried out on all load-bearing assemblies and working mechanical components by means of a magnetic-particle check, black light inspection and/or ultrasound inspection
- Components requiring repairs are brought back to original OEM specs, or simply replaced to restore the assembly to a like-new condition

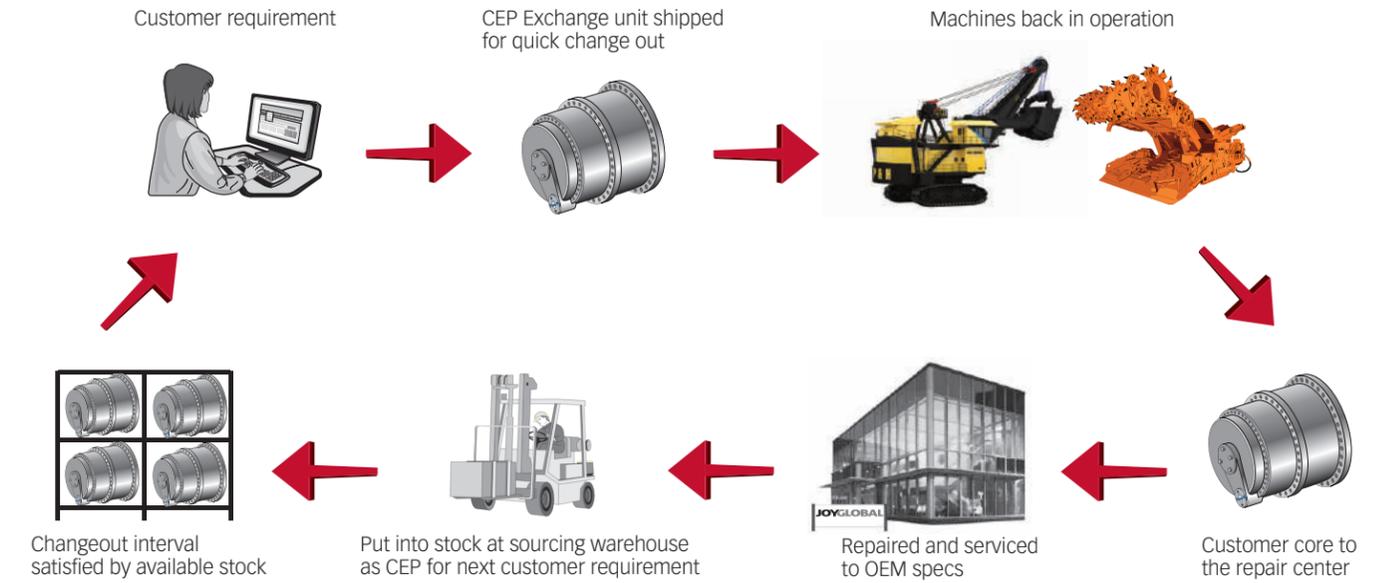
Electrical testing is every bit as rigorous as the mechanical checks and nondestructive testing:

- Electrical operation and integrity are evaluated on all circuit boards, logic circuits, armatures, rotors, interpoles, fields, brushes, commutators, coils, wiring, electrical connections and ground straps
- If any component or subassembly fails to meet OEM specs, it is replaced to ensure that it is restored to like-new condition
- Our state-of-the-art electronic components are repaired and warrantied by OE suppliers; this ensures the same high level performance as new components

After repairs and replacements, many components are tested to replicate real-world applications:

- Armatures, fans, dipper trips and other high RPM components are re-balanced and tested, while all motors are load tested and have vibration spectrums measured and analyzed
- Hydraulic components are tested at optimum speeds and pressures, brakes are cycled, and transmissions rotated to ensure optimal field performance

Component Exchange Life Cycle



Like-new performance with reduced environmental impact

The Joy Global Component Exchange Program is one of many sustainability initiatives.

Our world-class remanufacturing technologies and processes lead to:

- Reduced waste
- Less material being sent to landfills
- Diminished need for raw materials
- Lower greenhouse gas emissions
- Smaller carbon footprint





Joy Global service

Joy Global recognizes the diversity of our customers, allowing them to select from flexible service offerings that are designed to help maximize performance and productivity of P&H and Joy mining equipment. Customers are served directly by Joy Global service centers and distribution facilities that are regionally located and globally linked. The following service offerings are designed to help achieve each customer's unique objectives:

Service products and consumables

Our service products and consumables (SP&C) are engineered and specifically selected to meet exacting application and design standards. With dedicated regional warehousing and computerized inventory systems, we can assure timely and cost effective SP&C delivery to our customers anywhere in the world.

Machine assembly and rebuild

Our service teams are structured to be the preferred resource for every machine rebuild by applying new machine assembly factory best practices culminating with the Joy Global Flawless Start Up process. Our assembly and rebuild program is backed by a complete range of OE services including SP&C, Component Exchange Program (CEP), on-site project management, labor, shop services, as well as a wide range of technical support.

Component Exchange Program

Production goals will only be achieved if machines remain in operation. Minimizing machine downtime during planned and unplanned outages is critical to maintaining production goals. The Joy Global Component Exchange Program provides a ready supply of like-new, remanufactured components incorporating the latest design improvements, available from regional warehouses for same day or next day delivery.

Technical and field services

Joy Global offer factory-trained service technicians and skilled tradesmen



to maintain and repair customers' equipment 24/7, 365 days/year. These regional service teams are regularly trained and recertified to maintain high proficiency standards.

Service center repair

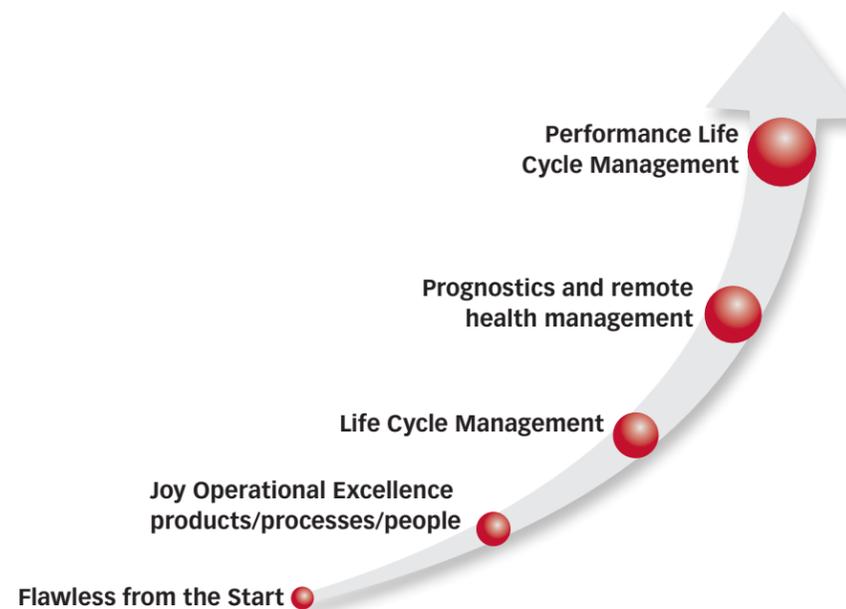
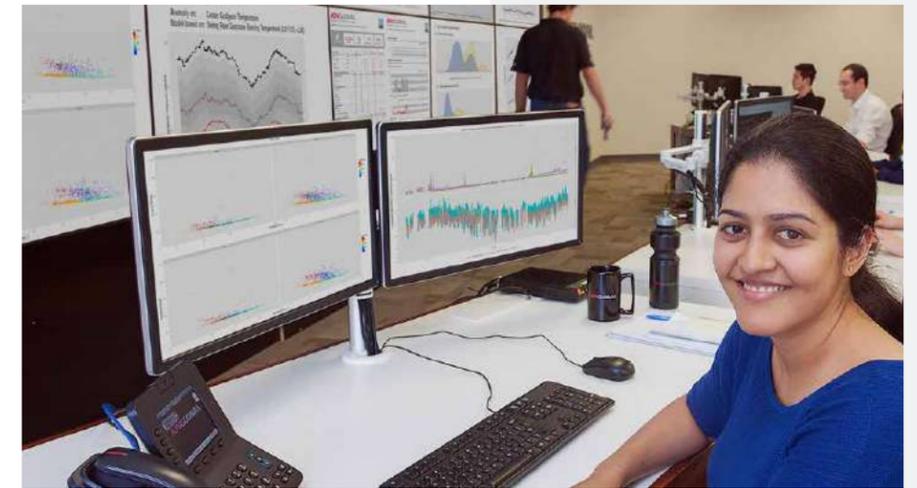
Our unique direct service business model enables customers to deal directly with Joy Global service centers offering expedient turnaround time and high-quality service repairs based on OEM specifications. Each service center is staffed with experienced and well-trained technicians committed to delivering quality and reliability.

Life Cycle Management

Through collaboration, operational excellence and integrated technology solutions, Joy Global partners with our customers to provide the asset management strategy needed to achieve desired results. Customers can select from LCM options that complement their support structure to reduce costly downtime, optimize equipment performance and take the uncertainty out of maintenance, repair and rebuild management.

Prognostics and remote health management

Leverage predictive, prescriptive and real-time operational analytics to transform that data and information into actionable knowledge for production and maintenance teams. Integrated services and technologies enable customers to achieve increased production, higher availability, better utilization and improved profitability.



The Component Exchange Program supports a growing line of electrical, mechanical, structural and hydraulic assemblies and more.

Contact your Joy Global service representative for the full line of exchange components available in your area, or visit www.joyglobal.com



Joy Global worldwide locations

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