

## Motor Brushes Genuine Service Products



Optimized motor performance  
for P&H shovels and drills  
in all mining applications.

### Benefits at a glance

#### Increased productivity

- Designed and engineered to meet the unique demands of P&H mining duty motors
- Performance-matched to specific mining operating and environmental conditions

#### Lower total cost of ownership

- Stable film formation prevents premature commutator and brush wear
- Optimized performance means longer service life and reduced maintenance for both brushes and motors

#### Enhanced safety

- Stable film formation prevents harmful electrical sparking
- Special insertion/tamping process assures secure electrical connections

The genuine P&H seal stands for quality and performance. For surface mining operations looking to enhance safety and improve shovel and drill productivity, genuine P&H motor brushes are the only option.

As the only mining equipment manufacturer that designs and builds its own extra heavy duty electric motors, we have specifically developed P&H motor brushes for mining-duty applications and extreme climate conditions.

P&H service products are engineered to meet our exacting application and design standards, ensuring optimal system performance. Genuine P&H parts, for P&H machines from Komatsu. They're a perfect fit.



# Continuous improvement

If conditions warrant an alternative brush grade or configuration to match the motor's particular operating conditions, Komatsu can develop a solution to meet the specific need. That process typically consists of:

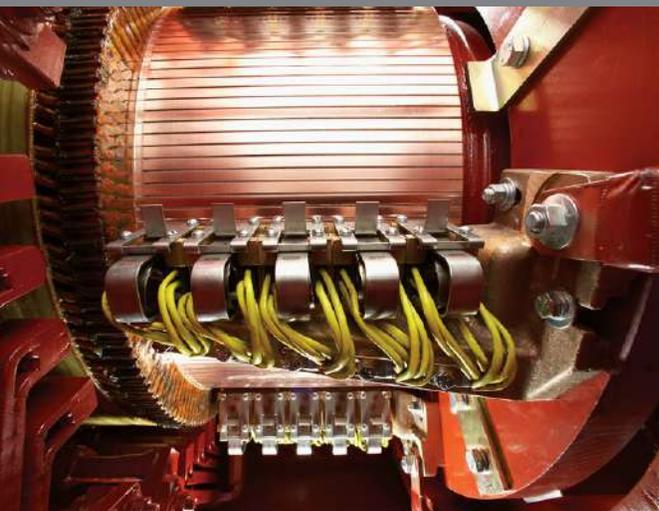
## Monitoring

- Auditing of motor and brush performance
- Comprehensive inspections of the commutator and the commutator compartment on operating equipment

## Documentation

- Reporting of the physical condition of the commutator bar face and ends: indications of mine dust, oil, grease or other contamination exposure
- Evaluation and recording of the condition of the commutator's surface finish and polish, film color and uniformity, bar markings and the presence of copper-drag or flashover damage
- Calculation and graphing of brush wear rates, providing a quick visual reference and benchmark for future evaluations
- Photographic documentation

Komatsu will employ all problem solving strategies as appropriate to cause minimal disruption to equipment operation while seeking optimal solutions to your challenges.



## A genuine P&H motor brush is designed to withstand...

- ...Extreme climate conditions
- ...Continuous motor operation with sudden changes between low-speed/high-torque and high-speed/low-torque
- ...Rapid direction changes between forward and reverse
- ...Variations in current densities
- ...High shock loads
- ...Machine vibration and more

## Komatsu Mining Corp. Group

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