

**HOFMANN
ENGINEERING**

MINING TRUCK PARTS

MECHANICAL
&
ELECTRIC
FINAL DRIVE
TRANSMISSIONS

Since 1969 Hofmann Engineering has provided specialist engineering services to Australia's industry leaders.

Quality Assurance accreditation by Bureau Veritas complements our total quality culture.

Our commitment to continuous quality improvement touches every aspect of our products, services and customer support.

HOFMANN ENGINEERING PTY LTD

3 ALICE STREET,
BASSENDEAN, PERTH,
WESTERN AUSTRALIA 6054

Telephone: +61 8 9279 5522

Facsimile: +61 8 9279 9386

Internet: www.hofmannengineering.com

Email: mail@hofmannengineering.com



Designed to meet your requirements, Hofmann Engineering Pty Ltd Mining truck transmissions are manufactured from your drawings or reproduced from your samples. Hofmann Engineering Pty Ltd has complete design, manufacturing, assembly and testing facilities to produce your mining truck parts. The process involves strip and assessment, product improve, assembly and testing of all components and meets all internationally recognised gearing standards and quality assurance standards. Hofmann Engineering Pty Ltd also provides site inspection, consultancy, machining and installation services.

PRODUCT RANGE

Our product range incorporates both Mechanical and Electric final drive transmissions and associated components for the following mining trucks:

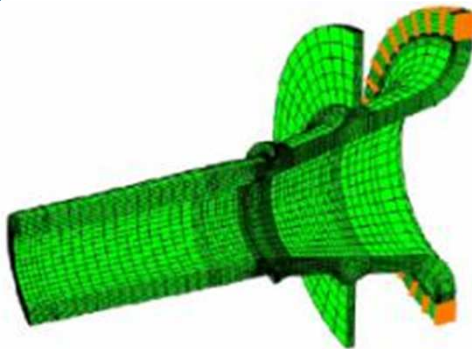
CATERPILLAR: 797, 793, 789, 785, 777, 772, 771 series.

KOMATSU: 930E, 830E, 730E & 630E series.

GE WHEEL MOTORS: 772, 776, 787 & 788 series.

HITACHI: Via OEM only.

LIEBHERR: T282, T262 & T252 series.



SPINDLE RE-MANUFACTURING PROBLEMS

- Finite Element Analysis of the spindle showing the structural integrity.
- Stress analysis through tensional loading and vertical loading.
- Cracking at the bearing area and spline was due to high stress.

REFURBISHMENT SOLUTION

- Crack detection and defect assessment.
- Metallurgical and heat treatment analysis of the parent material.
- Machine away cracked area and submerge arc build up and remachine to as new condition.
- Heat treatment and controlled induction hardening of spline area 52-56HRc to prevent fatigue cracking.



Cracks





GE MOTORIZED WHEEL KOMATSU TRUCK

- Complete strip and assessment.
- Worn gearing can be re-ground on our precision gear grinders.
- Badly worn and pitted gears will be replaced with new improved high performance gears meeting DIN, AGMA and Australian Standards.
- Full assembly and test run.



RING GEARS

- **Induction hardened** full contour tooth by tooth to 52-56RC and then precision ground to AGMA 12 minimum quality.
- New or weld repaired as per customer requirement.



RING GEAR INDUCTION HARDENED

- Computerized Induction hardening facilities.
- Full contour tooth by tooth induction hardening of ring gear ensures both root and flank is hardened.
- Capable of achieving a case hardness up to a depth of 10mm and tough impact resistant core hardness.



CNC FORM GRINDER FOR HIGH PRECISION GROUND GEARING

Hofmann Engineering has a high precision Hofler rapid 2000 form grinder which can grind both internal & external gearing, worms and form cutters. This new machine has set a new benchmark of AGMA 13 or up as high as an impressive AGMA 14 for these gears.



PLANET GEARS AND PINION SHAFTS

- Precision ground and timed gear set assemblies.
- Multiple assemblies matched for gearbox installation (Load Sharing).
- DIN Or AGMA QA inspection.



PRODUCT IMPROVEMENT CATERPILLAR PLANET GEARS

- **Heat treatment** Case carburising in action.
- Chromium carbide precipitation reduces coefficient of friction between working components, increases residual compression and wear resistance.
- Increase in fatigue resistance in the roots of gears.
- Shot peened root.



GEAR GRINDING

- Fully CNC controlled gear grinding facilities capable of achieving DIN 3 specification.
- Complete climate controlled area.
- Profile and lead modification facilities.



GEAR INSPECTION

- On Klingelnberg PSFU for authentication of lead, involute & pitch.
- Gear inspection to International standards.
- Ultraviolet crack detection.



FINAL DESPATCH

- Finish gear coated with Molybdenum disulphide C220.
- Corrosion protected.
- Fully protected in fumigated timber crate for air freight & sea freight.