

ELECTRIC ROPE SHOVEL PARTS & SERVICES

- CATERPILLAR/BUCYRUS/MARION
- KOMATSU/P&H

Hofmann Engineering offers a wide range of replacement parts for Electric Rope Shovels which are interchangeable with parts from Caterpillar (Bucyrus/Marion) & Komatsu (P&H). Major components include: dipper handles, all transmission (hoist, crowd, swing & propel), complete undercarriages, swing racks, swing shafts, propel shafts, boom sheaves, rope drums & padlocks.



CATERPILLAR/BUCYRUS PLANETARY GEARBOXES

- Product improved Hoist, Swing, Crowd and Propel for 495BI/BII/HR/HF/HD.
- New, overhauled or service exchange gearboxes.
- Like for like replacement internal gearing, or upgraded to latest technology of case hardening by carburising or induction hardening & precision form grinding to AGMA 12 (min).
- Full gear quality inspection to AGMA or ISO of all gearing using the latest gear testing technology.
- Test run prior to despatch.



KOMATSU/P&H PLANETARY GEARBOXES

- Product improved Swing and Propel gearboxes to suit all 2800 XPB/XPC and 4100 A/C/XPB/ XPC machines.
- New, overhauled or service exchange.
- Upgraded, carburised and precision ground internal gearing complying to AGMA 12 (min).
- Full gear quality inspection to AGMA or ISO of all gearing using the latest gear testing technology.
- Test run prior to despatch.

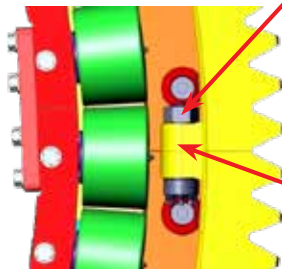
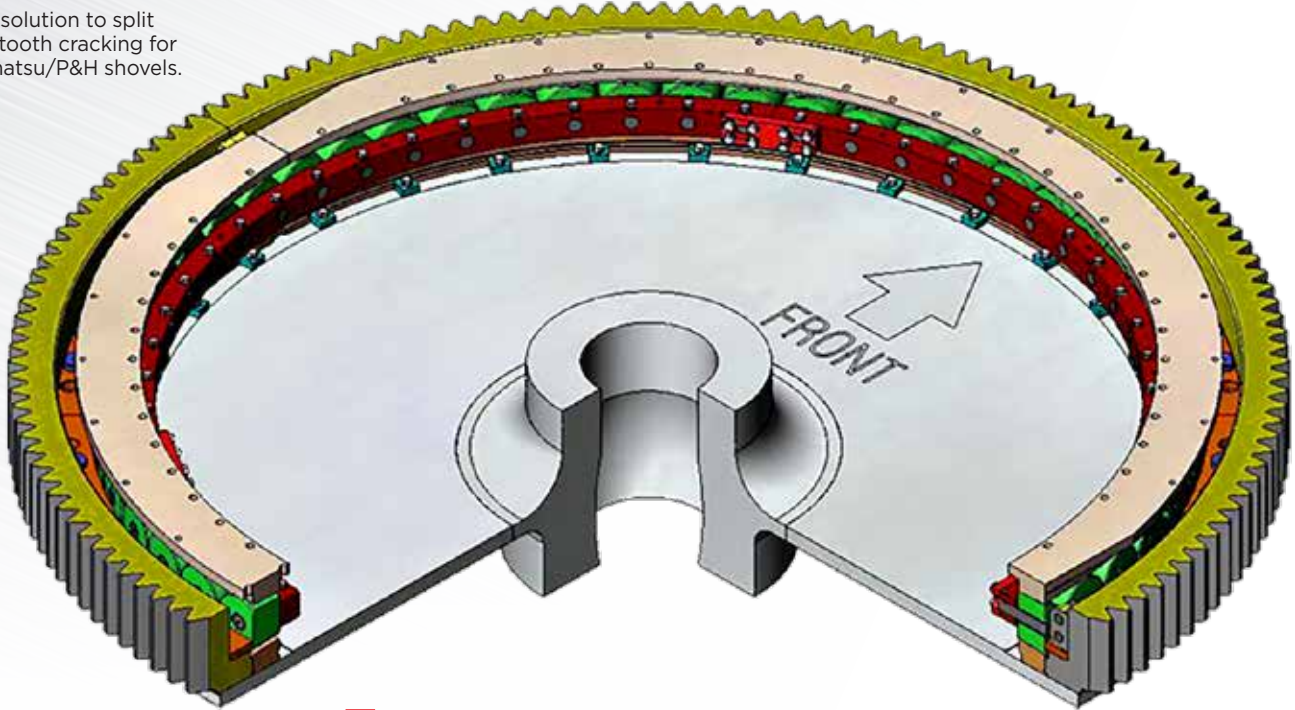


ROPE DRUMS & GEARS

- Forged alloy steel rope drums
- Full contour induction hardened rope grooves.
- New, refurbished or service exchange.
- Forged alloy steel drum gears.
- Induction hardened precision ground or hard cut gear teeth.

HOFMANN BOLTED SPLIT LINE DESIGN

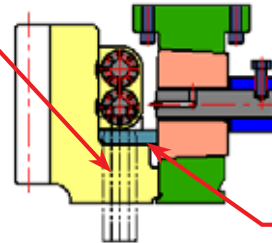
The solution to split line tooth cracking for Komatsu/P&H shovels.



2 Fitted Dowel Bolts with Hofnuts secure the split line with 190T of clamping force.

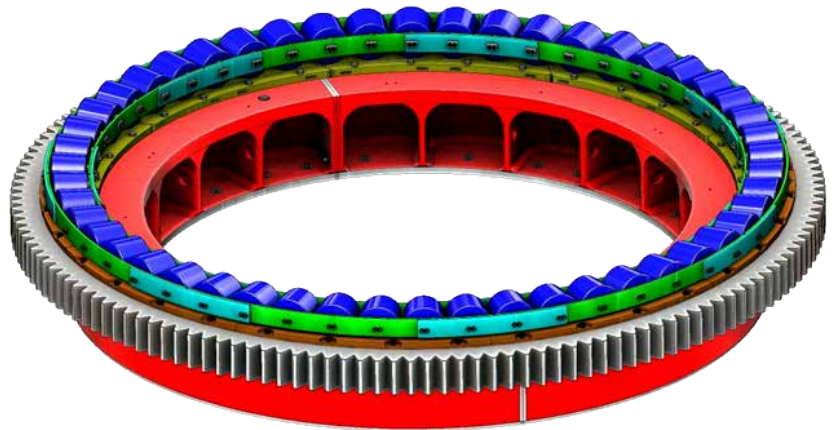
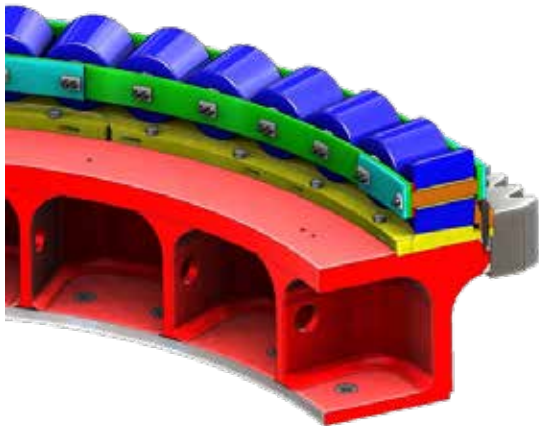
Tapered joint face and Hofnuts prevent tangential separation force and hence fatigue cracking.

Fitted bolting sleeve also helps retain the split joint.

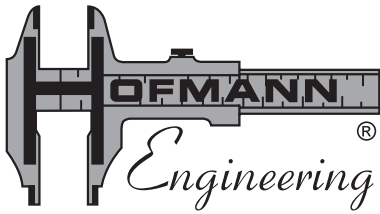


Replaceable thrust rail.

NEW IMPROVED SWING RACK FOR 7495 SHOVELS



- AS1444 forged alloy steel ring rolled rack quench & tempered to 345-375 BHN.
- Ring rolled forging offers superior mechanical properties, more homogenous grain flow in the direction of the applied principal stresses, and increased forging reduction ratio.
- Vertical tool mark striations are removed by polishing the roots to improve the fatigue life of the gear.
- Shot-peened roots to -600Mpa residual compression to improve the fatigue life of the swing gear.
- Improved cast segmented high strength alloy hub welded to the rack. Optional improvement: mechanically attached rack.



ELECTRIC ROPE SHOVEL PARTS & SERVICES

• SWING • PROPEL • HOIST & CROWD

SWING



- Hofmann swing shaft assemblies can be upgraded with HofCarb pinions.

PROPEL

- Hofmann improved propel shaft and assemblies.
- As an additional product improvement, splines can be induction hardened to increase the fatigue strength and wear resistance.



HOFMANN UPGRADED PLANETARY TRANSMISSIONS

New or service exchange.

- To suit Komatsu/P&H shovels 2800XPB, 2800XPC, 4100, 4100A, 4100C, 4100XPB & 4100 XPC.
- To suit Caterpillar/Bucyrus shovels 495, 495B, 495HR, 495HD, 495HF & 7495.
- Upgraded materials for improved service life.
- Upgraded HofCarb heat treatment for increased service life on case hardened components.
- Completely re-engineered.
- Fully interchangeable.
- To maximise service life, only high quality bearings are used.
- Precision form ground planet sets to AGMA 12 minimum quality.
- Accurately cut internal ring gears to AGMA 10 minimum quality.
- Fully tested prior to despatch.
- Fully supplied complete with transport frame and anti-brinelling devices fitted.

HOIST

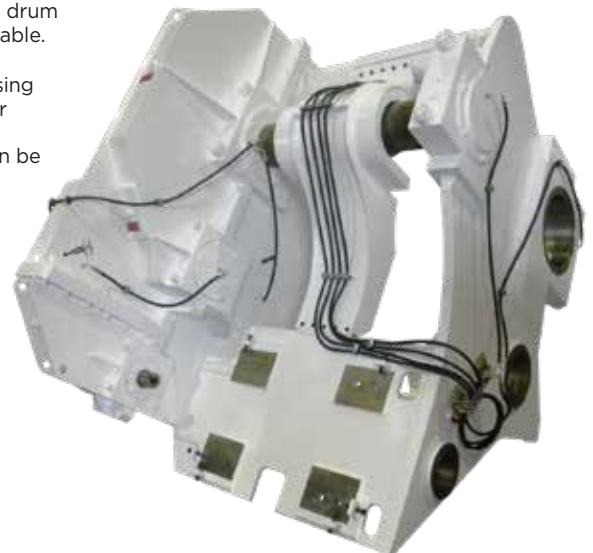


- Improved hoist drums and drum gears available.
- Upgraded input coupling using cardan shaft arrangement available.



CROWD

- Hofmann improved crowd drums and drum gears available.
- Both drum designs: using bearings or Toughmet bushes, can be offered.



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SWING PINIONS

Product improvement:

- Original pinion was induction hardened and failed due to excessive wear and case cracking.
- Upgraded 18CrNiMo7-6 pinion material, case hardened to 60 – 62 HRC and precision form ground to AGMA 12 minimum quality.



SWING GEAR & SHAFT ASSEMBLIES

- Swing gear assemblies in one or two piece designs for P&H, Bucyrus and Marion shovels.
- Replaceable thrust rails for increased life
- Improved swing shaft assemblies in induction hardened pinion or one piece carburised designs.



LOAD ROLLERS, REAR & FRONT IDLERS

- **Load rollers:** forged from high alloy steel with quench and tempered core and surface hardened to 52 HRC (min) providing up to 25-30% increase in life.
- **Rear idler rollers:** forged high alloy steel quench and tempered with increase of up to 20% life.
- **Front idler:** standard or upgraded with external gearing providing up to 30% life increase.



TRACK PADS

- Manganese steel up to 18% Mn.
- Alloy steel quench and tempered.
- Induction hardened alloy steel, quench and tempered, followed by deep case induction hardening in the pin bores. Optional induction hardening on the interfacing drive and running surfaces.



DRIVE TUMBLERS

- **New:** cast alloy steel quench and tempered
- **Refurbished:** by weld repairing splines and drive lugs.
- Over pitched drive tumblers available to allow for stretching of the tracks.
- Optional induction hardening on the interfacing drive or running surfaces
- Thrust washers and seals.



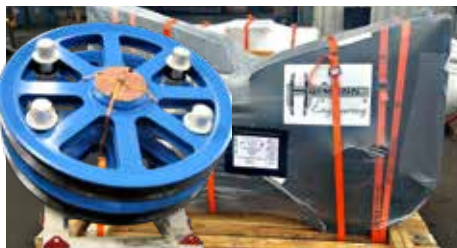
CROWD PINIONS & RACKS

- Forged alloy steel dipper racks with finish machined tooth profile.
- Full range for all makes and models.
- Forged steel dipper racks alloy steel full finish machined tooth profile.
- Standard cast racks can also be supplied.



BOOMS, DIPPERS & DIPPER HANDLES

- Fabricated new to internationally recognised standards.
- Full or partial rebuilds.
- NDT inspection on repairs.
- On-site boring & welding repairs with Hofmann line boring machine.
- Pins, bushes & link replacements.
- Machined alloy racks can be offered as a product improvement.



ATTACHMENTS: ROPE SHEAVES & PADLOCKS

- New forged steel fabricated rope sheaves
- Full contour induction hardened rope grooves.
- Repaired and re-profiled.
- New or repaired padlock assemblies are available.
- All welding to internationally recognised standards followed by full thermal stress relieving.



UPGRADED SWING PINIONS

- Pinion shaft quenched and tempered.
- Induction hardened gear teeth and spline before finally shot peening the stressed shaft area. The F.E.A. performed on this re-design confirms a 50 x life improvement.
- Pinion can also be supplied fully assembled with bearing and cartridge ready to install.

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