

CASE STUDY

MAINTENANCE FREE BEARINGS PROVIDE SUPERIOR LOAD CAPACITIES

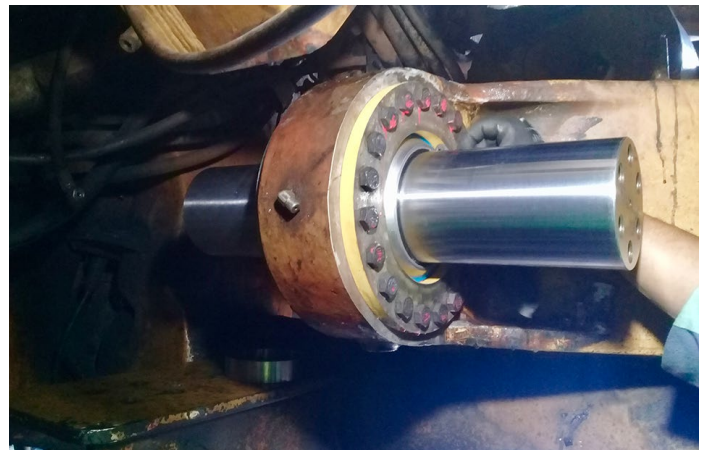
H-E PARTS INTERNATIONAL MINING SOLUTIONS (H-E PARTS) PROVIDES PARTS AND COMPONENT SOLUTIONS FOR OFF ROAD HEAVY EQUIPMENT AND SPECIALIZES IN THE REDESIGN AND REMANUFACTURE OF MINING AND QUARRY PRODUCTS. OUR SOLUTIONS PROVIDE THE END-USERS WITH EXTENDED LIFE, EASE OF MAINTENANCE, AND SUPERIOR PERFORMANCE.

NEW SOLUTIONS FOR SPHERICAL BEARINGS

Spherical bearings play a pivotal role in mining equipment. They operate in demanding environments with dust, water, mud, limited lubrication, over lubrication, severe impact, and a limited range of motion. Over time these issues result in metal-on-metal contact, damage to mating components, and seized pins, a widely recognizable issue occurring in haul trucks. To address such issues, the H-E Parts engineering team partnered with a bearing company to develop the maintenance free bearing for haul truck applications, an alternative to conventional lubricated spherical bearings. The resulting bearing provides customers with an easier to use product, extended life, and lower total cost of ownership. These benefits gained the attention of a Brazilian iron ore mine.

H-E Parts partnered with the customer to test the maintenance free bearings as an alternative to the conventional bearing. The maintenance free bearings were tested on CAT 793D haul trucks at the hitch pin location. The results showed that the maintenance free bearing lasted twice as long as the conventional bearing. Further tests concluded it could have lasted as long as three times the life of the conventional. With results like these, the customer plans to adopt the maintenance free bearings across all of the applicable equipment.

CUSTOMER	Iron Ore Mine
LOCATION	Brazil
APPLICATION	CAT 793D Haul Trucks
PRODUCT	Maintenance Free Bearing



Maintenance Free Bearing Being Installed

CRITICAL PERFORMANCE MEASURES	CONVENTIONAL BEARING	H-E PARTS MAINTENANCE FREE BEARING	PERCENT IMPROVEMENT
STATIC RADIAL LOAD LIMIT	5,600 kN	9,994 kN	+78%
DYNAMIC RADIAL LOAD LIMIT	1,120 kN	7,495 kN	+569%

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MINING SOLUTIONS

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