

APPLICATION FOCUS

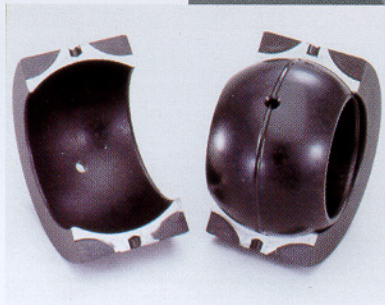
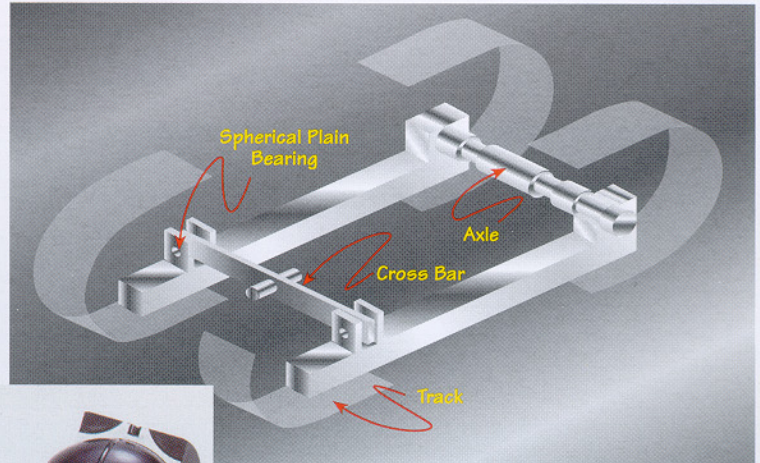
Bearing Solutions for the Off-Highway Equipment Industry

RBC's patented ImpactTuff® technology eliminates spherical plain bearing breakage caused by severe impact and shock loads.

The Situation

Bulldozer suspensions often utilize a cross bar that pivots to compensate for track frame misalignment as the bulldozer travels across uneven ground. The cross bar is supported by large spherical plain bearings that facilitate cross bar misalignment. This creates a compliant structure that ensures proper suspension of critical components and smooth bulldozer operation on rough terrain.

Standard through-hardened spherical plain bearings are somewhat brittle and subject to fracture when exposed to high-impact loads. The frequency of bearing breakage was creating a real problem for mine operators and others who depend on 24/7 reliability from all of their equipment. In response, RBC has developed a patented solution that dramatically increases bulldozer uptime in some of the most difficult working environments on earth.



The Solution

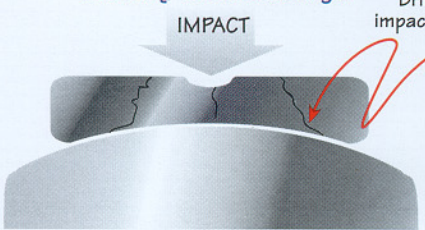
RBC's ImpactTuff spherical plain bearing technology incorporates unique layers of Rc60 outer and inner wear surfaces. These extremely hard surfaces are combined with a ductile inner core to deliver a combination of excellent wear resistance and forgiveness to severe shock loads.

The truly unique aspect of this design is RBC's ability to provide a "soft" inner core and still utilize fracture technology to assemble the inner sphere into the outer ring. Expensive warranty repair claims were virtually eliminated after cross bars were assembled with ImpactTuff spherical plain bearings.

RBC ImpactTuff Advantages

The hard surfaces of ImpactTuff spherical plain bearings ensure the same long service life and resistance to abrasion that have been a hallmark of all other RBC spherical plain bearings. The ductile inner core provides a high degree of protection against the devastating effects of impact and shock loads. ImpactTuff technology can be incorporated into almost any traditional RBC spherical plain bearing configuration.

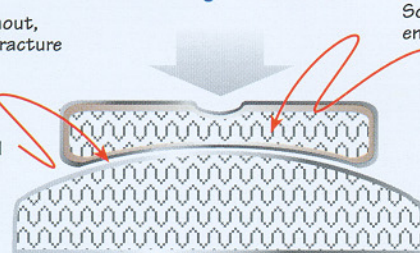
Outside force on "through hardened" continues through entire bearing causing total breakage.



Brittle throughout, impact grows to fracture

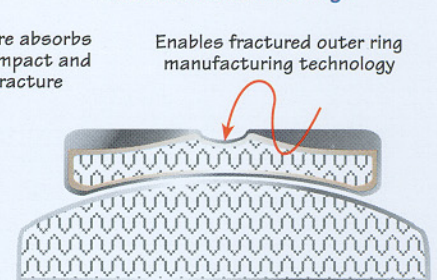
Hardened outer shell

ImpactTuff SPB with shock absorbing inner core.



Soft inner core absorbs energy from impact and prevents fracture

Patented notch design



Enables fractured outer ring manufacturing technology



400 Sullivan Way
West Trenton, NJ 08628-7430
Toll-Free (800) 390-3300
Phone (609) 882-5050
Fax (609) 882-5533

www.rbcbearings.com