

HEAD STUB BALL

Part Name: Head Stub Ball

Interchangeability with OEM Part: The Optimum Crush® Head Stub Ball replaces the OEM Head Ball AND Head Stub.

Equipment: XL1100

Optimum Crush® Optimized Design Part Number: 500599

Purpose: Reduce Safety Risk of Head Ball Dropping from Head and Eliminate Oil Loss Issues from Head Plate.

Background

Over time or in demanding crushing applications the Head Ball to Head interference fit can slowly reduce as the Head Bore enlarges. Once the interference fit is lost the torque holding capacity is transferred to the bolt connection between the Head and Head Ball. These bolts are not strong enough to carry this entire load on their own and will eventually fail. If the bolts fail and the interference fit is lost, there is nothing to hold the Head Ball into the Head.

This may not be noticed when in operation however there have been several instances where the Head Ball has dropped out of the head after the head was removed from the Crusher. This creates a major safety concern as it is necessary to lift the Head out of the crusher during liner changes. It is also common for people to work beneath the Head Ball when inspecting bushings.

There have also been several reported issues with oil loss out of the top of the Head assembly through the Head Plate that bolts to the top of the Head Stub. If this joint loosens, bolts break, etc. pressurized oil will leak under this plate.

Optimized Design

The Optimum Crush® Head Stub Ball combines both the Head Stub and Head Ball into one part. This transfers the load-carrying area from the small fit in the Head Ball to the large fit area of the Head Stub. If an anti-spin assembly is not being used, this Head Stub Ball can be made as a solid item which then eliminates the possibility of oil loss from the Head Plate.



OEM Head Ball after falling out of the Head



Optimum Crush®
Head Stub Ball