“Barrel Mate” - Pump Barrel Rebuild Station

Mt Rawdon Operation – Evolution Mining

The problem

The site slurry pumps have a bearing barrel drive that fails and requires rebuilding in the workshop. For some time, the barrels were held by a pipe chain clamp that was identified as unsafe as the single point fixing chain is under rated and inadequate for holding the barrels. The barrels need to be rotated several times during a rebuild process and are manually handled several times during this process. The existing holder is also cumbersome and takes up valuable workspace in the work shop. Several consultations with other sites and the OEM it did not provide a solution.

The Solution

The fixed plant maintenance team designed and manufactured a twin clamp 360-degree rotating holder from site materials. Three versions were created until the most efficient design was implemented. This allowed an assembly to be rebuilt without leaving the holder as would have with the other method hence eliminating additional lifts. The twin clamps are more robust and secure than the original design. Further to this the clamp was relocated to the rear of the workshop and attached the pump rebuild station for rebuilding wet ends meaning all pump rebuild work was in one location.

Benefits effects

The “barrel mate “rebuild station has greatly reduced the exposure to lifting the equipment, halved the amount of manual handling activities. The footprint of the rebuild area is now halved and specific tooling for pump rebuilds can be left in one location. The man hours have also been reduced given the elimination of additional crane activities and manual handling activities.

Transferability

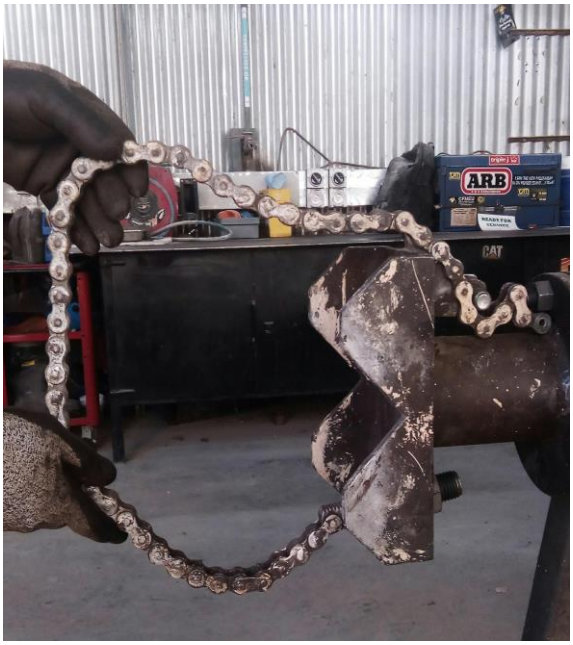
This item could be applied to any fixed plant workshop that undertakes work on slurry pump barrels. The fact that the OEM could not supply this item gives an opportunity for further development. This concept is to be shared across the evolution group.

Innovation

Given the OEM could not supply this it makes it original in design. In the past clamping systems have been developed but none that cover all the aspects of the total job as the “barrel mate” does.

Approximate Cost

$2500 using site materials and man hours. Additional costs of $1000 will be incurred for drafting, final testing and certification for entry to our lifting register.



Original clamp arrangement single point

New clamp original location

Above - New pump rebuild station – Below vertical and horizontal position