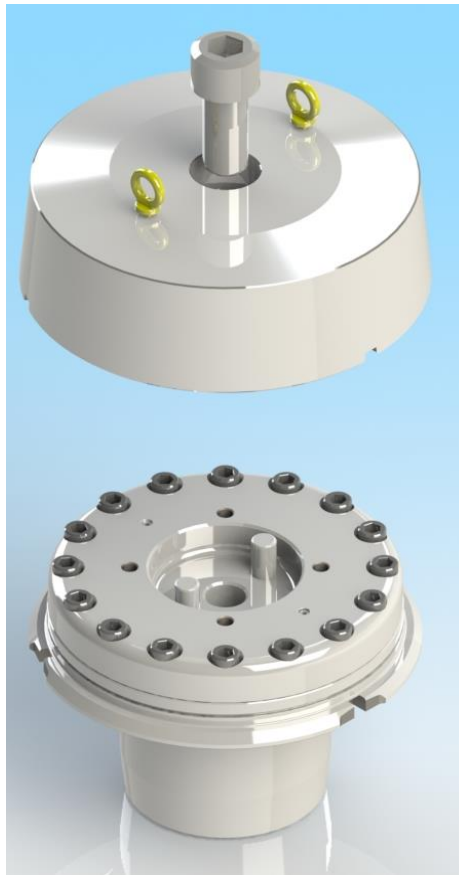




**technofast**  
precision engineered solutions



**Installation Report for SARI500x30-320-002  
To suit Cedarapids Classic LJay54" Crusher**

**Prepared for: Terex Jaques**

**Date: 21/09/2016**

**Compiled by: Gemmy Varghese (Design Engineer)**

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## Back Ground

The standard mantle nut supplied with Crusher Terex Jaques Ljay 54” Crusher which was tightened with large flogging spanner and removal by oxy cutting the burn ring below the nut to release the pressure. The following issues experienced during the removal and installation of the nuts:

- No control of Bolt Load
- Use large hammers and flogging spanners-dangerous
- Cutting of burn ring is hazardous and required replacement after each use
- Physically demanding

Technofast designed new head nut which operated hydraulically to tighten and release the mantle by minimising the effort, the risk of injury and change-over time.

## Installation

The new Ezitite Head Nut is manufactured and supplied to Hanson Quarry in Glasshouse Mountains Queensland for the trial run. The EziTite headnut was installed on the crusher on 01/07/2016 by Technofast personnel. The EziTite headnut was installed at 400 Bar as requested by the Site supervisor which stroked approx. 6mm at this pressure. Although there is a key slot on the piston to lock the piston to the mantle, it was not installed as per the site confirmation.

## Mantle Change Over

At the end of the cycle run of the mantle on 16/09/2016, Technofast was informed to remove the nut to inspect and assess the performance.

During the change over the following things are noted:

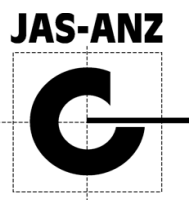
- After removing the sacrificial cover, it is noted that the nut is in clean condition. The o-rings prevented the nut from contaminations. The sacrificial cover is damaged from rock at the edges.
- The sacrificial cover is worn out approx. 1.5mm
- The EziTite headnut is pressurised to 600 Bar to release the lock screws, then undo all lock screws and removed the head nut from the mantle.
- The EziTite headnut is installed at 400 Bar after replacing the mantle.

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**AFTER REMOVING THE SACRIFICIAL COVER HEAD NUT NOTED TO BE IN GOOD CLEANED CONDITION**

**EziTite Nut**



**DAMAGE ON THE SACRIFICIAL COVER**

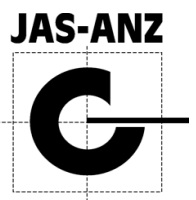
**Sacrificial Cover**



**Connect the Pump for Release**



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**PRESSURISED TO 600Bar  
TO RELEASE THE LOCK  
SCREWS**

**Pump Gauge**



**EziTite HEADNUT  
REMOVED FOR  
REPLACING THE  
MANTLE**

**EziTite Headnut -Removed**



**HEADNUT IS INSTALLED  
AT 400BAR AFTER  
REPLACING THE MANTLE**

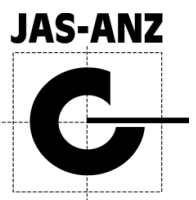
**EziTite Headnut -Installed**

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## Recommendation

The sacrificial cover is damaged due to less material on the edge. The existing sacrificial cover has the old design which is modified. The new design has completed with more material on the corners to avoid the dents.

The site operators decided to not to install the key on the trial run and there was no independent rotation happened during the run. Technofast recommend to remove the key slots from the design as it will reduce the number of operations and thus can be manufactured at reduced price.

## Conclusion

The use of the EziTite Headnut has made the job much faster and simpler and also eliminated many OH&S concerns with previous method. The following advantages have been notified in use of the new EziTite head nuts:

- Easy installation and handling.
- Removed the need of flogging spanner.
- Burn Ring need not to be replaced in the change-over as it eliminated the use of cutting the burn ring.
- Minimal physical efforts required.

Installation Time:

- Old Method= 2-3 hours (2-3 personnel)
- New Method = 1 hour (2 personnel)
- Time saved = 2 hours with less personnel



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