



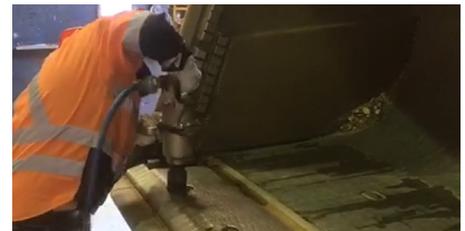
CHALLENGE

There has been a number of serious lost time injuries (LTI's) while carrying out the task of changing out cutting edges on front-end loader buckets. These LTI's have been hand lacerations that have occurred during the removal of cutting-edge fasteners.

This injury occurs because the bolts fall out of the square key recess which prevents rotation of the bolt, requiring the bolt to be pushed back up into the recess to continue undoing the nut. Unfortunately if this is done by hand, the impact wrench (capable of 2000 Nm of torque and 5000 rpm) can turn the unevenly worn head of the plow bolt into a fast spinning blade.



LOCATION	Para Hills, SA
YEAR	2019
INDUSTRY	Mining, Quarry
COMPANY	Boral Australia
EQUIPMENT	Caterpillar 972H Wheel Loader



SOLUTION

The smart design of the Segnut eliminates this hazard: Segnut removal can be achieved by rotating the release sleeve in the TIGHTENING direction, and the plow bolt is always retained in its square key.

A comprehensive three month trial was conducted May to August of 2019. This trial involved installing 12 x 1-1/4" S9 Segnuts onto the cutting-edge of a 972 Loader. The quarry at Para Hills has the most aggressive wearing aggregates within the Boral network. Part of the trial has been in their 600/900 area (rocks are 600-900 mm), testing the Segnuts with hard, abrasive, oversized material.

The Segnuts outlasted the wear of the cutting edge. They were removed

efficiently, safely, and most importantly, without the risk of hand injury. Boral Para Hills has reinstalled Segnuts and will be using them on an ongoing basis.

"The SEG NUT provides an innovative solution to remove the necessity for the use of high-risk nut removal equipment and techniques, such as hydraulic nut splitter or oxy cutting"

- Boral Australia

Boral use of the Segnut in this application was announced as the winner of the 2019 Cement Concrete and Aggregates Australia, South Australian Innovation Award.

AWARD WINNERS 2019 CCAA

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