



**Century Mining Alliance**



# CLEAT REMOVAL TOOL

**Zinifex Century Mine**

(Date)

**Presented By:** Scott Petrie and Troy Kumsing

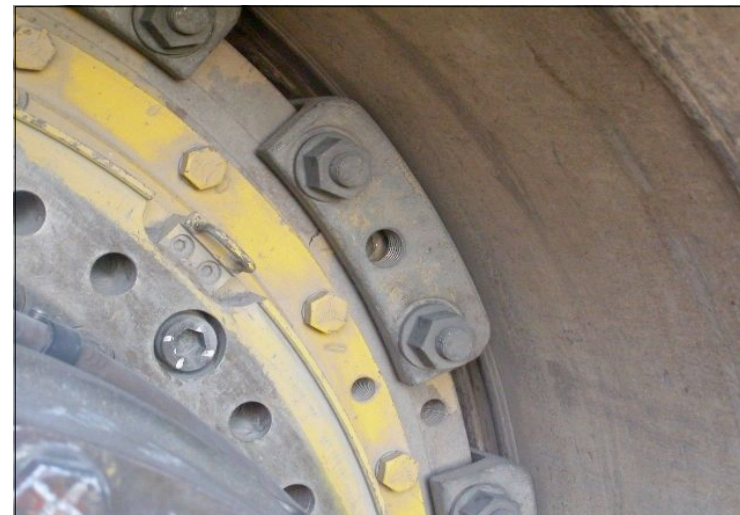




## HISTORY

A tyre fitter at Century Mine Site sustained a significant shoulder injury that prevented him from returning back to his normal duties.

A contributing factor was the repetitive strain of removing cleats from wheel rim assemblies over a number of years.



## PAST PRACTICES

Cleats were required to be removed by hand.

These practices required the tyre fitter to reach from shoulder height at almost full arm extension to remove a 8.4 kilogram cleat (630 Cleats are 11.4 kilograms)



## EXPOSURE

To remove a rim assembly from a Komatsu 830 / 630 or Hitachi EH1700 haul truck requires the tyre fitter has to remove twelve of these cleats per tyre

Currently we change out around 1000 tyres a year with expand to around 1500 tyres changes within the next twelve months in line with the current expansion

## INNOVATION ONE

The first idea tried was to use a tyre lever to support the weight of the cleat, however the tyre lever would often slip resulting in grazes and bruising to hands and forearms

## INNOVATION TWO

Troy Kumsing a tyre fitter took the idea of the tyre lever and proposed an idea for a tool that would not slip and would remove the need to over extend the arm to pull out the cleat

## INNOVATION TWO

Once he had a design in mind, Troy worked with boiler makers on site, who did an outstanding job in manufacturing Troy's vision.



## THE SOLUTION



## OUTCOME

The new tool has allowed for the safe removal of these cleats from wheel rim assembly without the need to over extend or hold 8.4kg / 11.4kg at shoulder height.

## WHAT'S NEXT

Troy's innovation has encouraged other team members to look at current practices. We have several new innovations in the pipeline and looking at newer technologies that we can apply to our work practices

## UPSIDE

As the Team Leader for the tyre fitters this small change has had an ongoing effect with the culture and belief of the team that they can make a difference to safety in the workplace