

8 December 2015

To all Tyre Fitters, Supervisors, Maintenance and Production Managers, SSEs, and Contractors.

Friday the 18th of December marks the 5 year anniversary of Wayne McDonald's death at a Queensland mine.

He was a contractor truck operator and was killed while performing a tyre change on his truck.

I want to take this opportunity to alert you all to the very real dangers about working with tyres and rims, and ensure that the hard lessons learnt are not forgotten.

Tyre and rim assemblies are 'pressure vessels' operating in a punishing work environment.

While all tyre and rim assemblies must be treated with utmost respect, truck and earthmover tyres can be particularly hazardous; inflation pressures are often much higher than passenger car tyres, and combined with the very large volume of compressed air, this creates an enormous concentration of potentially harmful energy.

Adverse mine site conditions, and poor operating and maintenance practises will also affect the safety of tyres and rims, and those that work with or around tyres and rims. For instance, careless selection of tyres, operating tyres outside their design performance envelope through excessive speed, overloading or sharp cornering, combined with less than adequate tyre and rim maintenance and incorrect road construction and upkeep have been the main contributing factors to many tyre and rim related incidents and accidents in the past.

These factors, if not controlled, create many hazards and unsafe conditions and can put both tyre fitters and operators at risk of serious, even fatal injury.

Tyre and rim removal, replacement and inflation, ongoing tyre maintenance and even operator vehicle prestart inspections are all examples where people have been harmed.

There are many effective and known 'critical controls' to mitigate the underlying hazards and resultant risks. Some controls are:

- Make sure the person working on any tyre assembly is not just trained, but competent to do so and familiar with the task he or she is about to undertake. Appropriate well-written and communicated procedures will assist.
- Frequently inspect your tyres and rims once installed, and report anything that looks or feels 'amiss'.
- Check the vehicles tyre pressures, record them and look for any unusual readings as they may indicate an underlying issue.
- Always operate your equipment within the tyre and rim design operating envelope.
- Minimise tyre damage by looking after your haul, dump and stockpile roads.

- Before removing any tyre, always inspect the assembly and adjacent dual assembly for damage or other hazardous tyre and rim conditions.
- Once inspected and found safe, deflate the tyre and any adjacent dual before undoing any wheel nuts/studs. This ensures the damaging energy (inflation pressure) is released in a controlled manner and cannot hurt the person working on the assembly.
- Use fit for purpose tyre maintenance equipment at all times.
- When using multiple piece rims, ensure all components match, are not damaged, and are fitted in such a manner that they cannot disintegrate during inflation.
- Where possible use inflation cages to inflate the tyre.
- Never stand in front of a tyre while being inflated; use a long inflation hose with remote pressure gauge and shutoff /dump valve to inflate the assembly, at a safe distance.
- Make sure your site has a set of procedures covering all aspects of tyre maintenance including separate procedures and processes addressing tyre hazardous conditions and emergency response to events like tyre fires.

The mining industry is no longer in the buoyant mode it was in a few years ago, and financial and production pressures will undoubtedly affect people's attitude and behaviour towards safety.

Also, the approaching Christmas season may take people's minds away from the task at hand and affect their awareness of well-known tyre and rim hazards, and how to control them.

I am therefore challenging you to use this anniversary as a trigger to raise everyone's awareness and to review the effectiveness of your sites tyre and rim management system.

Particularly I would like you to identify those critical controls which must be in place to prevent a repeat of the accident 5 years ago, and ensure they are used without exception.

To help you getting started, I have copied the Coroners Recommendations relating to Wayne McDonald's death below.

Please do not take your eye off the many tyres and rims you are working with.

Not now, not ever.

I wish you and all your families a Merry Christmas, a Happy New Year, and safe and prosperous 2016.

Yours sincerely



Dr Tilman Rasche
Senior Inspector of Mines
(for the A/Commissioner of Mine Safety and Health)

In consideration of the evidence of this case, and for the reasons I have set out above, I recommend the following:-.

- That management of mine sites, and their engaged contractors, review all tyre management practices to ensure that tyres on their mine sites are being operated within their specific design parameters applicable for their use. This review needs to occur within three months, and then annually the mine site needs to ensure that compliance is being maintained.
- That any jack used by an operator has a handle of sufficient length to allow the operator to safely use the jack without the operator being in, or under, the truck or trailer, or within close proximity of the vehicle's tyres whilst jacking occurs.
- That the industry investigate, and implement within two years, remote, or wireless, tyre pressure sensing equipment to allow operators to monitor tyre pressures from within the cabin of the truck;
- That until remote or wireless tyre pressure sensing equipment is introduced for these mine site tyres that the practice of tyre tapping should not be continued, and that accurate, calibrated, pressure gauge should be used to check correct tyre inflation whenever operational requirements dictate that pressures are to be checked;
- That an Australian Standard for up to 24 inch diameter truck tyres be investigated, created, and, if considered appropriate, implemented into law by regulation within a period of two years, and if no Australian Standard is created within two years then a Recognised Standard under Part 5 of the Coal Mining Safety and Health Act 1999 be implemented within one year;
- That whenever a tyre supplier grants a dispensation from the designed operating parameters of a tyre, that the tyre supplier provide, and receive written acknowledgement of from the customer, an appropriate and formal information package which clearly specifies the approved conditions of operation of that dispensation;
- That whenever a tyre supplier grants a dispensation which a mine site operator uses, that the equipment's owners and operators incorporate into their written training and operating procedures the specific details of those dispensations;
- That whenever a tyre manufacturer grants a dispensation from the designed operating parameters of a tyre, that the variations be permanently embossed (alternatively termed 'tyre stamping') on the sidewall of the tyre, and that the embossing be completed in a method which is not readily removable, and remains legible, throughout the tyre's serviceable life;
- That every tyre, whether new or repaired, undergo integrity testing by its inflation in a suitable tyre inflation cage, to a pressure of 120% of the tyre's recommended minimum cold operational inflation pressure, and then left for 20 minutes to test its integrity, before its pressure is then reduced to its recommended minimum operating pressure before the tyre is then fitted for use.

¹ A full version of the Coroner's report can be downloaded at: http://www.courts.qld.gov.au/data/assets/pdf_file/0011/282863/cif-macdonald-w-20140909.pdf