



Significant Incident Report No. 242

Subject: Tyre fitter's fingers crushed while operating hydraulic bead breaker

Date: 14 June 2016

Summary of incident

In April 2016, a tyre fitter was positioning a hydraulic bead breaker in preparation for breaking an inner tyre bead on a water cart. The worker was holding the bead breaker in his right hand and the remote control pendant for the hydraulic power pack in his left hand. He attempted to gain extra length in the pendant control cable by flicking it over the power pack. This action activated the hydraulic power pack, by either knocking the pump toggle switch to the 'on' position or depressing the pump 'on' button of the pendant. The sliding section of the bead breaker was set in motion and crushed three fingers on his right hand, resulting in partial amputations.



Re-enactments showing approximate hand grip on the bead breaker and position of power cable under the toggle switch

Direct causes

- The hydraulic power pack was energised with the control valve lever in the 'advance' position while the equipment was being positioned for operation.
- The tyre fitter inserted his fingers into the sliding section of the hydraulic bead breaker, exposing them to moving parts when it activated.

Contributory causes

- The equipment design does not encourage the correct positioning of hands nor restrict access to moving parts.
- There is no guarding to prevent inadvertent contact with moving parts nor labelling on the equipment to warn of the nip or crush point.
- Work instructions did not outline the controls for all hazards associated with the task.

Actions required

The following actions are recommended to reduce the potential for injury while working with hydraulic equipment.

- Identify hazards associated with the operation of equipment in conjunction with the recommendations of the original equipment manufacturer (OEM). Assess the risk of workers being exposed to those hazards and implement appropriate controls.
- Document all practical measures to reduce the exposure to an acceptable level in a standard work procedure.
- Confirm that the OEM's instructions for the safe use of equipment are available and followed.
- Assess workers as competent for the task before they operate plant and equipment.
- Ensure hydraulic equipment is not energised while being positioned for the task.
- Identify if more than one person is required to carry out the task safely.

Further information

- Resources Safety publications, www.dmp.wa.gov.au/Safety/Guidelines-16146.aspx
Tyre safety for earth-moving machinery on Western Australian mining operations – guideline

This Significant Incident Report was approved for release by the State Mining Engineer on 14 June 2016