Safety Alert

Date: October 2024

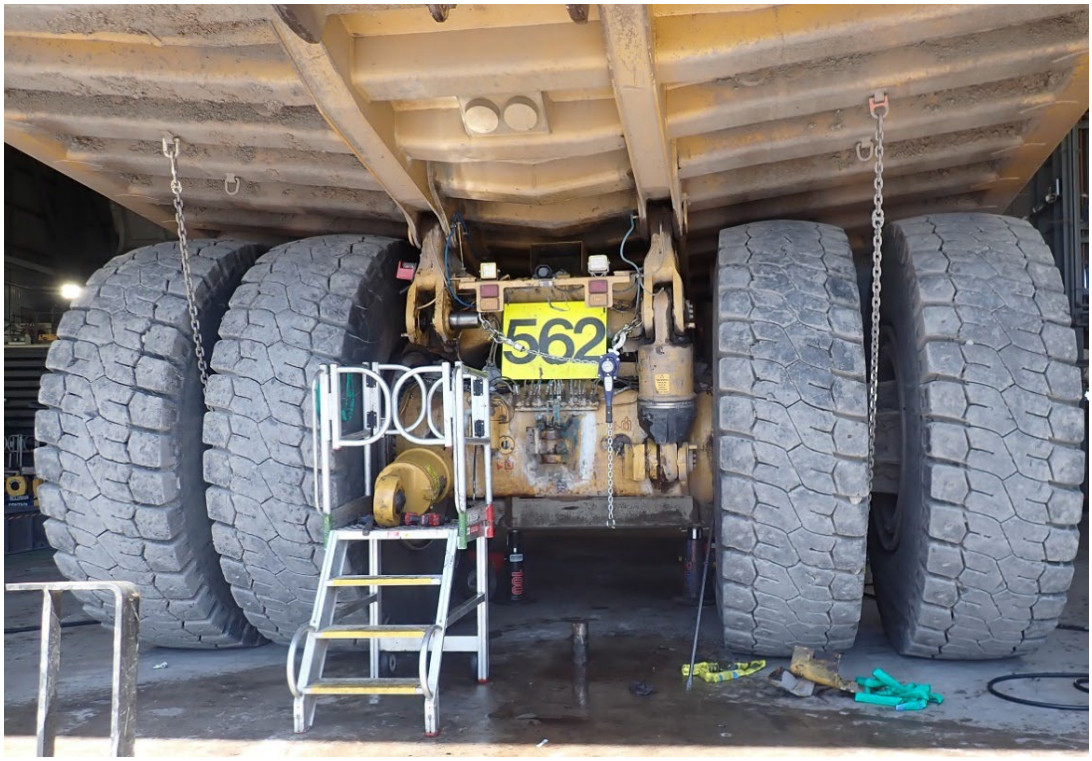
Haul truck rear strut injures worker

This safety alert provides safety advice for the NSW mining industry.

Issue

A swinging load hit a worker, resulting in injuries including a serious laceration to a leg. Other incidents of a similar nature where hydraulic cylinders, suspension or driveline components have not been appropriately restrained, and have fallen, swung or slid, have occurred recently resulting in serious injuries or placing workers at risk.

Figure 1: A suspension strut pivoted about a lower pin and landed on an access platform after hitting a worker



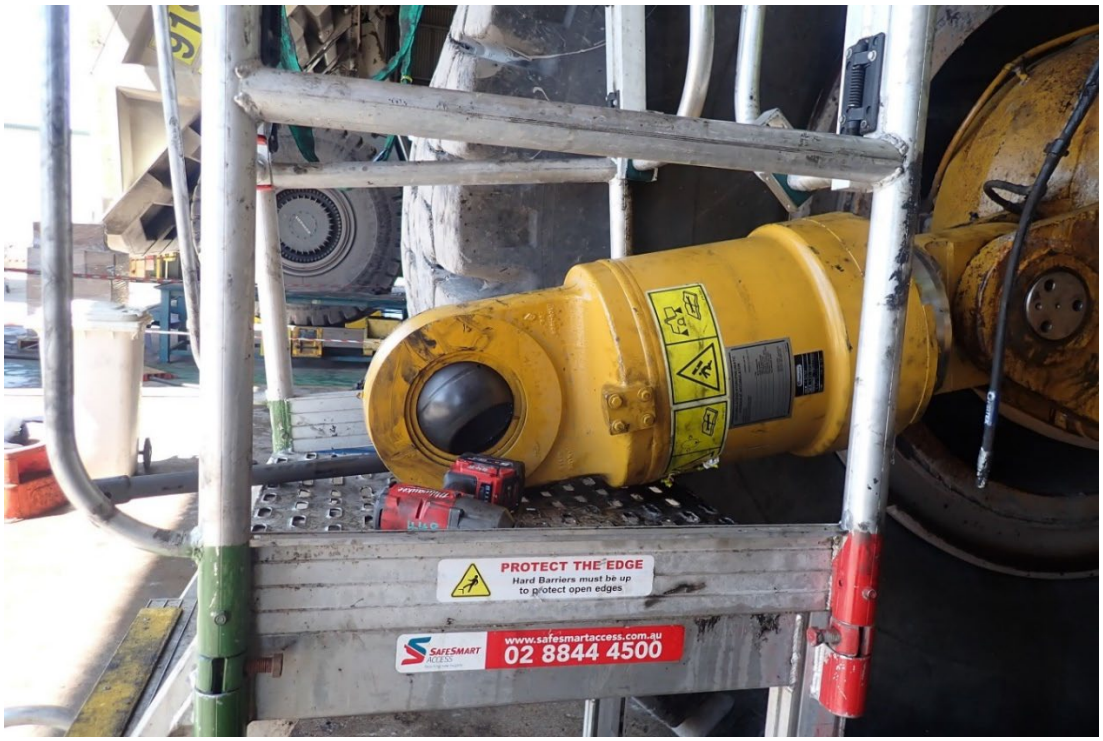
Circumstances

On 23 September 2024, workers at an open-cut coal mine were replacing a rear suspension strut on a haul truck. The strut was secured by a lower pin, and pivoted back onto a worker in the access platform resulting in a serious laceration to his upper leg.

Workers were initially supporting the strut with a sling attached to a forklift jib while the lower pin was installed, and then the cylinder was lifted to allow the top pin to be inserted. When the partially inserted top pin fouled on the outer chassis, workers removed the sling and forklift, and brought a work platform behind the strut to allow access to manipulate the outer chassis bush and pin. Workers tried to partially withdraw the pin using a lever hoist to return the outer bush to the correct position, and realign the cylinder by jacking the truck chassis. The upper pin then slid far enough out as to no longer capture the strut cylinder allowing it to pivot and hit the worker.

After rendering first aid, the other workers tried to make the area safe, and secured the pin from escaping the inner chassis bush by fitting the retaining plate.

Figure 2: The strut where it came to rest after hitting the worker



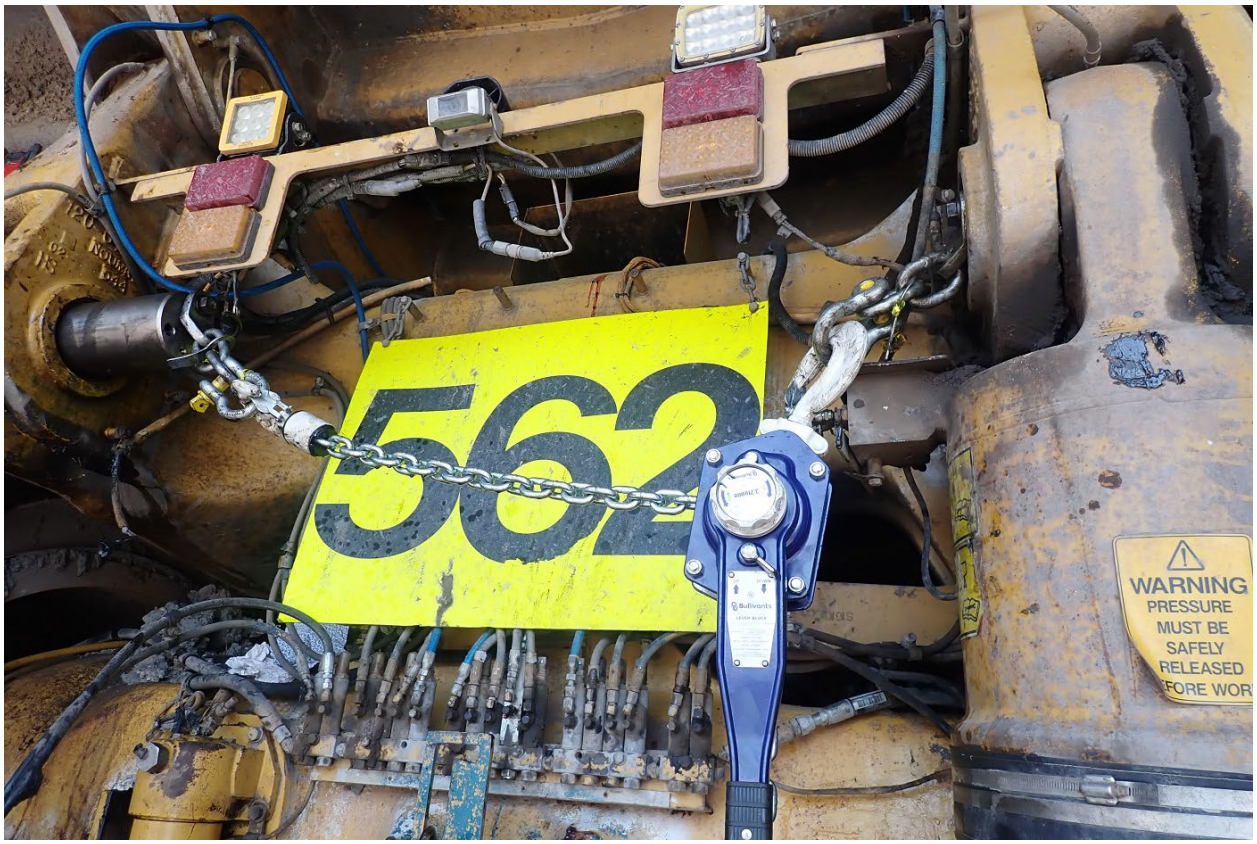
Investigation

Initial investigations revealed:

- workers were using a job hazard analysis in combination with an original equipment manufacturer (OEM) procedure for the task. Although the OEM procedure nominated component weights, it did not detail specific means for lifting and controlling component loads during removal and replacement
- the task was being conducted with the dump body on the truck so that the overhead workshop crane could not be used for the task
- the forklift lifting jib initially used to lift the strut with a sling to install the lower pin was not successful to install the upper pin, and was removed after the outer body clevis bush was fouled
- the site had a rear strut cylinder lifting jig that was compatible with the strut cylinder, however, not all workers were familiar with it, or were sure about compatibility with different class haul trucks, and its use for this task was not documented in a procedure

- a work access platform was used to allow greater access to the top pin area, however, additional restraint(s) for the strut were not implemented.

Figure 3: Lever block used to draw back the top pin



Recommendations

Mine operators should consider the following when managing maintenance activities for heavy plant:

- Identify potential falling, pivoting, swinging and sliding load hazards when removing and replacing linkages, cylinders, suspension and driveline components.
- Fit-for-purpose tooling, lifting jigs, or restraint devices should be labelled appropriately.
- Workers must be trained in using lifting jigs or task-specific tooling, and hold appropriate high risk work licences for activities to be undertaken.
- Ensure procedures are available for routine tasks that clearly identify specific task methodology and controls, such as independent means of restraint for components being removed and replaced, if task-specific lifting jigs are not available.
- Use stop/hold points in procedures to ensure hazard controls have been appropriately implemented and checked by workers or supervisors, preferably independent of the task where possible.

Safety Alert SA24-04

Note: Please ensure all relevant people in your organisation receive a copy of this safety alert and are informed of its content and recommendations. This safety alert should be processed in a systematic manner through the mine's information and communication process. It should also be placed on the mine's common area, such as your notice board where appropriate.

Visit our website to:

- find more safety alerts and bulletins
- use our searchable safety database

Document control	
CM10 reference	RDOC24/191315
Mine safety reference	SA24-04
Date published	17 October 2024
Authorised by	Chief Inspector Office of the Chief Inspector