



Mines Safety Bulletin No. 175

Subject: Integrity of equaliser cables on vehicle hoists

Date: 25 May 2020

Background

The Department has received numerous reports of failed and damaged equaliser cables on vehicle hoists, including those types with two or four posts.

The equaliser cables are typically made using steel wire rope and are used to keep the hoist level during raising and lowering. Over time, equaliser cables can stretch, fray, corrode, crack or break and therefore should be regarded as a wearing component.

Inspection and testing on equaliser cables should be carried out by competent persons, such as the appointed classified plant inspector.

An understanding of the specific vehicle hoist requirements is imperative, especially when inspecting these in situ as cables pass around sheaves and behind guards and guides, limiting visibility.

Vehicle hoists are registrable classified plant and are subject to periodic statutory inspections.

Summary of hazard

Failure of the equaliser cable on a vehicle hoist has a high potential for serious or fatal injuries as a result of:

- a worker being crushed
- a worker being impacted by an uncontrolled release of energy.



(L) Example showing a four-post hoist with failed equaliser cable. (R) Example of a failed equaliser cable.

Contributory factors

- Inspection of equaliser cables being carried out by workers who are not:
 - competent to inspect cables
 - familiar with the original equipment manufacturer's (OEM's) procedures to ensure the entire cable is inspected.
- Equaliser cables being subjected to corrosive environments, solvents and/or frequent washing. The cable material can be incompatible with these conditions, particularly if inadequately lubricated.
- Secondary hoist safety catch systems failing to fully engage under sudden cable failure.

Actions required

- Appoint competent person(s) to conduct vehicle hoist selection, inspection, maintenance and testing as per manufacturer recommendations and the requirements of AS/NZS 2550.9 *Cranes - Safe use; part 9: Vehicle hoists*.
- Ensure the entire length of the equaliser cable is inspected and maintained, including the ends, around sheaves and behind guards and guides. Where it is not possible to inspect the cable in situ, arrangements should be made to remove the cable at regular intervals based on the OEM's schedule for the conditions encountered on site.
- Ensure steel wire ropes used as equaliser cables are inspected and maintained in accordance with AS 2759 *Steel wire rope – Use, operation and maintenance* or BS 6570 – *Code of practice for the selection, care and maintenance of steel wire ropes* as appropriate.
- If the integrity of the cable is in doubt, either replace the cable or refrain from using the relevant hoist functions.
- Ensure equaliser cables installed on vehicle hoists comply with manufacturer recommendations. The cable manufacturer's certificate is to be recorded in the vehicle hoist equipment file.
- Avoid exposure of vehicle hoist components to solvents or saline water.
- Ensure storage and handling of wire rope is in accordance with Section 3 of AS 2759.
- Ensure secondary hoist safety catch systems are similarly inspected and maintained.

Further information

- Standards Australia
 - AS 1418.1 *Cranes, hoists and winches, Part 1: General requirements*
 - AS/NZS 1418.9 *Cranes (including hoists and winches), Part 9: Vehicle hoists*
 - AS 2550.1 *Cranes, hoists and winches - Safe use, Part 1: General requirements*
 - AS/NZS 2550.9 *Cranes - Safe use, Part 9: Vehicle hoists*
 - AS 2759 *Steel wire rope - Use, operation and maintenance*
- SafeWork Australia
 - Code of Practice - Managing the risks of plant in the workplace (Sections 3.5 and 3.6)

www.safeworkaustralia.gov.au/doc/model-code-practice-managing-risks-plant-workplace

- Worksafe WA
 - Safety alert 07/2013 – Safe use of two-post vehicle hoists
<https://www.commerce.wa.gov.au/publications/safety-alert-072013-safe-use-two-post-vehicle-hoists>
 - Safety alert 02/2018 – Vehicle hoist service and maintenance
<https://www.commerce.wa.gov.au/publications/safety-alert-022018-vehicle-hoist-service-and-maintenance>
- Worksafe NT
 - Safety alert 29 November 2019 – Vehicle hoist fatality
<https://worksafe.nt.gov.au/forms-and-resources/safety-alerts/vehicle-hoist-fatality>
- Worksafe Victoria
 - Safety alert 21 November 2018 – Locking mechanisms on two-post vehicle hoists
<https://www.worksafe.vic.gov.au/safety-alerts/locking-mechanisms-two-post-vehicle-hoists>

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