

NWE Bulletin 86 – Hydraulic Hose Failure



Significant Near Miss

This Alert describes the background of an event that occurred at a Keller work site, and outlines corrective actions and recommendations that should be taken to prevent similar occurrences elsewhere.

Event Details

The incident happened on an excavator chassis mounted mast machine.

Whilst lifting the mast from the anchor position to allow the rig to reposition a hydraulic hose failed on the dipper ram.



This allowed the mast and dipper arm to swing inwards. The mast came to rest on the scaffold edge protection.



Corrective actions

- Operation of both rigs was immediately stopped
- All flexible hydraulic hoses were replaced
- Burst protection was retrofitted to dipper and bucket ram hoses



Burst protection repair to dipper ram

Root cause assessment of the incident

Causal factors

- Age of hydraulic hoses
- Lack of, now standard, burst protection on older rigs
- Lack of burst protection on the dipper ram

Root cause

- Based on the Keller root cause selector - root cause has been identified as
 - I. Work Environment, Tools and Equipment, Missing guard (no burst protection on hydraulic system that failed)
 - II. Work Environment, Tools and Equipment, Maintenance of equipment inadequate (limited preventative maintenance programme in place)

Recommendations

- Toolbox talk to be delivered to site teams to highlight safe working practices around machines
- A Work instruction has been drafted covering the specification of excavator machines procured or hired for the mounting of mast drilling and anchoring equipment. The WI covers the retrofitting of burst protection valves on older equipment with load carrying hydraulic systems.

For further information about this event, please do not hesitate to contact: [Simon Jones, HSEQ Manager \(NWE\)](#)