

SAFETY ALERT

Driver found under load haul dump

INCIDENT

A load haul dump (LHD) operator was found under the vehicle cabin caught by the driver's side (left) rear wheel.

CIRCUMSTANCES

An experienced LHD operator was transporting material from the coal face to the surface of the mine using an LHD. During the trip out of the mine he stopped at the section tag board and alighted from the LHD. The LHD reportedly moved forward (inbye) trapping the operator. The ground conditions were a hard flat surface with slight gradient in forward direction.

INVESTIGATION

The investigation identified some defects with the LHD:

- The roller on the door interlock valve was worn and broken causing the valve to malfunction. It also prevented the second door interlock valve from functioning by blocking the control air flow.
- The park brake valve shaft had free play in the shaft movement.
- There was a delay in brake activation when the operator's door was opened before the brakes would apply.
- The brake systems were functional when tested dynamically.

It appears the operator's cap lamp cord was caught around the control levers in the cabin as he alighted.

RECOMMENDATIONS

PCBUs who design, manufacture and supply (OEMs) LHDs should:

1. Review and assess the relationship between the design of the door interlock and the park/emergency brake.
2. Assess the reliability of this system and provide lifecycle information on maintenance, inspection, tests, and discard criteria. (e.g. replace park brake valves every two years/4000 hours).
3. Review the brake system maintenance information and include procedures and training instructions to test all automatic brake controls

that activate the park brake individually (e.g. door interlocks, QDS interlocks).

4. Review operator training information to specifically instruct, test and assess the shutdown procedures on machines.
5. Review tradesman training packages to include maintenance competencies to inspect, test and maintain TBS brake systems. The training should consider [MDG39 Handbook for approval assessment of transport braking systems on free-steered vehicles in underground mines](#) and any relevant brake training competencies that will be machine specific.

Mine management should:

1. Review maintenance checklists on the mobile plant braking system against OEM recommendations.
2. Include procedures in the maintenance system for inspecting and testing all automatic valves that operate the braking systems. Note: particular care to be taken in the visual/physical inspection of valves/components.
3. Verify the competency of personnel who carry out inspection, tests and maintenance on braking systems. The training should consider MDG39 and any relevant machine-specific brake requirements.
4. Review operator training to specifically instruct, test and assess the shutdown procedures on vehicles. This should include;
 - a) stopping the machine by applying the service brake.
 - b) steering the wheels towards the rib.
 - c) applying the warning to not use the park/emergency brake to stop a moving machine unless it is a real EMERGENCY.
 - d) applying the park brake when stationary and checking the brake pressure gauge decays to zero, see photos below.
 - e) checking that the park brake indicator changes state to indicate the park brake is applied (if fitted).
 - f) ensuring the brake pressure is zero before opening the operator's door.
 - g) not using the door interlocks to apply the park brake.



Pressure brakes released.



Zero pressure brakes applied.

- Operational training should include a hazard WARNING that loose clothing and the cap lamp cord may become caught on the control levers in the operator's cabin.

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 notice board.

Signed

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MINE SAFETY OPERATIONS BRANCH
NSW TRADE & INVESTMENT

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