

SAFETY ALERT

Park-brake malfunction leads to crush injuries

INCIDENT

A telehandler operating in an underground mine was parked in a decline drive, facing downwards. As the driver stepped from the cabin the park brake disengaged and the telehandler rolled down the decline drive. The driver was caught between the telehandler and the wall of the drive, suffering serious injuries.

CIRCUMSTANCES

The driver was competent having had extensive training and almost two years experience driving telehandler's.

The drive is five metres wide and six metres high with a 1:6.5 (15.4%) decline. The floor of the drive was wet but otherwise appeared to be in good condition.

The telehandler had been operating with an elevated work platform (EWP) attached to the boom and with an operator in the EWP undertaking work on overhead services. The boom had been retracted and the EWP placed on the ground when the telehandler was parked prior to the incident.

The driver had almost completely left the cabin of the telehandler when he realised that it had started to roll down the drive. He attempted to re-enter the cabin to apply the park brake. The telehandler travelled 15 metres down the drive before hitting the wall.

The driver was caught between the telehandler and the drive wall. The telehandler's back wheel rolled over the driver's foot. He suffered a compound fracture of the lower right leg and bruising to the chest.

The telehandler rolled 32 metres down the drive before stopping. The operator remained in the EWP and was not injured.

INVESTIGATION

The telehandler had not been subject to a safety inspection before being introduced into service.

A prestart inspection had been undertaken on the telehandler but it did not require an examination of the park brake mechanism.

The telehandler had not been parked facing into the drive wall to prevent it from rolling down the drive.

The telehandler park brake is applied by a lever located to the left of the driver's seat. The park brake is applied when the lever is raised and a tee bar locks the park brake on. A trigger on the lever is used to disengage the tee bar and release the park brake. The park brake assembly is contained within a protective rubber boot (Refer Photo 1).

The investigation determined that the tee bar had worn a hole in the rubber boot (refer Photo 2) and was projecting through the hole when the park brake was applied. The tee bar was prevented from engaging correctly by the torn rubber and while the park brake appeared to be applied it would release if the lever was knocked.

The park brake released when the lever was struck by the driver's self rescuer as he stepped from the cabin of the telehandler.



Photo 1.

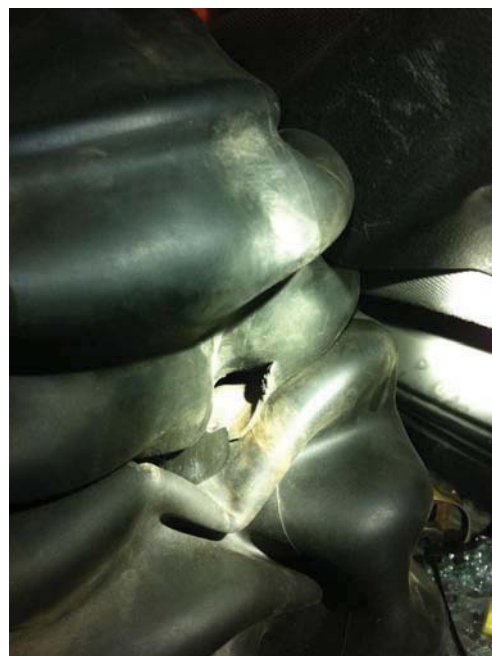


Photo 2.

RECOMMENDATIONS

All mines should have a system of inspecting mobile plant before the plant is introduced into service to ensure the mobile plant is fit for purpose, safety critical systems are functional and the mobile plant is safe to operate in the particular mine environment.

The park brake is a safety critical system and as such should be subject to;

- prestart checks rigorously carried out by competent operators,
- periodic safety inspection and functionality tests performed by competent tradespeople, and
- comprehensive inspection, maintenance and testing by competent tradespeople at regular services.

Safe parking procedures and emergency response procedures should be developed for the use of mobile plant. Drivers should be trained, assessed and periodically audited to ensure compliance with the procedures.

Mines operating telehandlers or any other mobile plant with park brake mechanisms similar to that described above should immediately inspect and test the park brake for correct operation. If faults are discovered they should be reported to the original equipment manufacturer and should be repaired in accordance with the original equipment manufacturer's recommendations.

REFERENCES

MDG 15 Guideline for Mobile and Transportable Equipment for Use in Mines should be considered when managing mobile equipment at mines.

The document is available for free download at:

www.dpi.nsw.gov.au/minerals/safety/publications/mdg

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



Rob Regan
DIRECTOR
MINE SAFETY OPERATIONS BRANCH
TRADE & INVESTMENT