



Mines Safety Bulletin No. 98

Subject: Serious crush injuries from pedal-controlled skid steer equipment

Date: 23 March 2012

Amended: 15 May 2012

Summary of hazard

Recently, there have been two serious incidents involving pedal-controlled skid steer equipment where the operator's leg was crushed in a pinch point, resulting in serious fractures. The incidents occurred in a three-month period and the circumstances were the same. This safety bulletin is prompted by concern that many employers, supervisors, operators and contractors may not be sufficiently aware that cramped conditions and lack of guarding lead to a crushing hazard associated with this type of equipment.

In both incidents, the operator had stretched his right leg over the entrance step in front to relieve cramping. The resulting shift in weight had transferred pressure to the left foot, activating the boom control pedal and causing the boom to descend. The operator's right leg had been crushed between the entrance step and a cross member on the boom.

In both incidents, the operator was experienced in this style of equipment. The operator was wearing a seat belt, the safety lock-out bar was lowered and the boom was partially raised. The operator's cabin had meshed sides but no door at the front. Signage inside the skid steer unit indicated the pinch point. The equipment was new and all safety devices were found to be functioning correctly when tested following the incident.



Example of skid steer involved in both incidents showing line of pinch point between entrance step and cross member on boom.

Contributory factors

- The confined cabin space can restrict operator movement, leading to leg cramps.
- There is no physical barrier to prevent the extension of a limb into the area of the pinch point.
- Foot pedal controls can be inadvertently activated by a shift in the operator's weight.

Recommendations

Under regulation 4.4(3) of the Mines Safety and Inspection Regulations 1995, employers are required to "ensure that any moving machinery that creates a risk of injury to an employee through inadvertent contact is screened or guarded to prevent such contact." For skid steer equipment with confined cabin space and a pinch point hazard, this may be achieved by:

- installing a cabin door (e.g. meshed or fully enclosed tempered glass with a stone guard) that is interlocked to the operation of the machine
- ensuring doors, if provided by the supplier, are not removed when the unit is placed into service
- supervisors encouraging operators to take regular breaks and stretch.

There have been reports of operators remaining seated while releasing the quick release on the machine with the foot. This is bad practice and potentially very dangerous.

A handwritten signature in black ink, appearing to read 'S. Ridge'.

Simon Ridge

STATE MINING ENGINEER