

## Small Roller Overturn- Potential Operator Containment Risk

A small narrow 1.7 tonne roller recently overturned onto its side due to being driven on uneven ground close to a 200 mm drop-off. The operator was not wearing the provided seat belt and jumped clear. In the process of jumping clear the operator was struck in the back by the roll-over protection structure (ROPs) and injured his left knee when landing on the ground.

### CONTRIBUTING FACTORS

The incident was thoroughly investigated and a number of significant contributing factors identified including:

- Failure to identify risk of potential overturn on uneven ground;
- Operator drove roller across a 200mm drop in height causing the roller to tip on its side. The operator was trouble shooting perceived vibration control issues and not concentrating on ground conditions;
- Operator was not wearing their seat belt at the time of the incident. They believed it was safer not to wear a seat belt on this small roller so they could jump free during an overturn. This was not communicated to their supervisor prior to the incident, or company policy;
- There were a number of other organisational factors identified.

However, during the investigation it was identified / demonstrated that if the operator did wear their seat belt during an overturn they could:

- Strike their head on the ROPs or ground when the roller overturns;
- Their torso and limbs could extend outside the protected area provided by the ROPs particularly if the machine were to roll completely over such as could be possible on high batters.

The OHS Regulations 2007, Regulation 3.5.34 (1) (c), require that an employer must ensure that the risk of the operator being ejected from the plant is eliminated so far as reasonably practicable or, if it is not reasonably practicable to eliminate the risk, reduced so far as is reasonably practicable.

With this small machine the risk has been reduced but not eliminated. Larger mobile plant with cabins better confines the operator within the cabin but with cabin doors open and seat belt not worn they can be ejected from the plant during full roll-overs and potential to be seriously injured by their machine, as demonstrated in reported incidents.

The photographs on the following pages illustrate the potential for the head to strike the ROPs / ground, and torso / limbs to protrude outside the confines of the roller. Larger machines better constrain the operator within the cabin particularly if they are wearing their seat belt.

# Safety Alert

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## POSSIBLE CONTROLS

Prevention of overturns in the first instance must be the objective. Refer VicRoads Guidelines for the Prevention of Mobile Plant Overturns in Road Works.

Rollers which confine operators within the machine so their body cannot protrude outside the frame of the machine during an overturn should better protect operators. This is particularly important during road works near high batters where a machine could roll a number of times. Larger machines with cabins are usually used on larger size road works and better confine operators, but with open doors operators can and have been ejected during overturns involving full roll-overs when they were not wearing their seat belt.

Seat belts must be worn to prevent the operator being ejected from the machine as per the OHS Regulations.



**Potential for operator to strike head on ROPs.**



**Head, torso and arm well outside of roller with seatbelt worn.**



**Arms and legs could protrude outside roller.**