

SECONDARY GUARDING INFORMATION SHEET

AVAILABLE DEVICES TO ASSIST IN THE PREVENTION OF CRUSHING OR TRAPPING INJURIES ON MOBILE ELEVATING WORK PLATFORMS

1.1 Protective Structures

- a) **Description:** A device fixed to the existing guardrails designed to provide a protective mechanical barrier around the operator.



Figure 1 Operator Protective System over the controls.

- b) **Application:** Applied to Boom Lifts (it is not practicable to apply to scissor lifts because of the size of the work platform and that the controls can be relocated to enable operators to move the scissor lift into or close up to objects). The device also causes the overall height to increase which is not desirable or practical on scissor lifts. Suited to work under flat uniform ceilings or other structures without variations in height.
- c) **Advantages:** A passive structure not requiring any intervention in the control system.
- d) **Disadvantages:** The structure itself increases the probability of entanglement with overhead or adjacent structures. It may have a detrimental effect on the platform and associated structure – because the application of forces may be higher than for the original platform. Restricts access to the work site.

1.2 Presence sensing device

- a) **Description:** A device that when activated by the application of a force or pressure acting on it, emits an alarm and stops further motion of the work platform or reverses the last motion. The most likely situation that the device addresses is when the operator is pushed onto the controls, causing motion to continue.

- b) **Application:** Applied to Boom Lifts. (No device is available for scissor lifts at present because of the size of the work platform and that the controls can be relocated to enable operators to move the scissor lift into or close up to objects). During travelling motions (which could cause the operator to be pushed onto the controls) the direction of travel is usually reversed, causing the scissor lift to move away from the obstacle.
- c) **Advantages:** Reduces injury to operators in the event that they are pushed onto the controls.
- d) **Disadvantages:** The device requires pressure to trigger it and does not prevent injury to the operator. The device will not prevent crushing between obstructions and other parts of the MEWP. The device does not prevent crushing due to catapult effects (travelling over rough terrain, causing the boom to move upwards into overhead structures).



Figure 2 Pressure Sensing Device (Arrowed)



Figure 3 A combination pressure sensing device and protective cage.

1.3 Proximity Systems.

- a) **Description:** A system that has recently been developed and operates on the same principle as parking sensor on cars. When the platform approaches a structure the system alarms and reduces the speed of movement. Multiple sensors are required.
- b) **Application:** Could be applied to scissor lifts or boom lifts.
- c) **Advantages:** The system is contactless and acts before crushing occurs.
- d) **Disadvantages:** It may not be suitable in all workplaces, such as construction sites, due to the prospect of materials interfering with the operation of the sensors. The alarm could prove a hindrance or annoyance to operators who are required to approach structures in order to perform their work.

2. OTHER CONTROL MEASURES

Over the past few years, much greater emphasis has been placed on the protection of the controls including interlocking systems and improved mechanical protection.

The effectiveness of these measures cannot be determined because very little information about particular crushing incidents is available in the public domain.

3. OPERATOR TRAINING AND AWARENESS

The Association is of the view that improved operator training and awareness will also assist in the prevention of crushing injuries. The Association has incorporated crushing as a topic in its training programs.

This topic should also be covered in the WP High Risk Work Licence assessment instrument.

4. SUMMARY

A range of devices designed to reduce the extent of injury from crushing incidents is gradually coming into the market. However the effectiveness of these devices must be evaluated having regard to the work environment, the type of MEWP and the work procedure.

No single device will be 100% effective in eliminating the probability of crushing. Some devices are not suitable for certain MEWPs. In certain environments some devices have the potential to increase the possibility of impact and crushing, structural deterioration and/or instability.

Operator training and awareness is considered to be the most effective method for reducing crushing incidents.

About the EWPA

The purpose of the EWPA is to ensure safety as well as support and promote the Elevating Work Platform industry. The EWPA is dedicated to ensuring members are kept up to date with the latest safety information relating to the operation and regulations regarding the use of elevated work platforms. This is done through the wide range of services and benefits made available to members of the EWPA. These services include access to the EWPA Operator License Training Program (Yellow Card), industry advice lines, master agreements and specialised stationary available to order.

Should you wish to find out more about the EWPA please visit www.ewpa.com.au or call 02 9998 2222