

❖ Controlling crush risks when using mobile elevating work platforms (MEWPs)

Edition 1 – March 2018

Information about controlling risks when using MEWPs and specific risk control measures when using boom-type or scissor-type MEWPs.

Background

Fatal incidents and serious injuries commonly happen when operators and/or passengers are crushed against fixed overhead or adjacent structures while using self-propelled **boom** and **scissor** type MEWPs.

Control of risk

Employers and self-employed persons must, so far as is reasonably practicable, **identify** all hazards and **eliminate** any risks associated with the use of plant, such as MEWPs, in a workplace. If it is not reasonably practicable to eliminate a risk, that risk must be reduced, so far as is reasonably practicable. MEWP crush risks can be **eliminated** by completing a task or part of a task on the ground or from a solid surface to eliminate the need to use an MEWP. For example, paint steel beams on the ground so only touch-ups are needed from a MEWP.

The range of motion available on some modern MEWPs increases the likelihood of a crush incident occurring. For example, some MEWPs now have a greater ability to move into and between structures. Before operating a MEWP in, around or near fixed structures, duty holders must eliminate crush risks, so far as is reasonably practicable. If it is not reasonably practicable to eliminate the risk, it must be reduced, so far as is reasonably practicable by:

- **substituting** the plant with plant that has a lower level of risk
 - for example, can the task be done from a fixed or mobile scaffold instead of a MEWP?
- using **engineering controls**
 - for example, can a MEWP with an operator protective device/secondary guarding such as a physical barrier or pressure sensing device, be used for the task? Note: if hiring a MEWP this may require advance notice to the hirer.
- a **combination** of control measures.

If a risk still remains after implementing higher order control measures (above), administrative controls must be used to further reduce the risk, so far as is reasonably practicable. Administrative controls may include:

- familiarising operators with specific MEWP model controls
- MEWP inspection and maintenance regimes consistent with manufacturer's instructions
- altered work procedures
- additional operator supervision
- MEWP specific emergency procedures
- assigning a safety observer who is trained to use the MEWPs ground-based controls.

Note: Administrative controls will also be required to support substitution and engineering controls.

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Identifying risks associated with MEWP crushing

There will be an increased risk of persons, such as operators or passengers, being crushed while using an MEWP where, for example:

- overhead/adjacent fixed structures are present
 - where the nature of the task being carried out requires the MEWP basket to be used near overhead/adjacent fixed structures, the likelihood of a crushing incident occurring increases in direct proportion to the number and proximity of fixed structures (eg roofs, cable trays, pipework) near the MEWP basket
- the basket moves unexpectedly
 - this may be due to unstable ground conditions, an operator's lack of familiarity with the MEWP's model specific controls, or malfunction of controls
- there are ground-based obstacles in close proximity to the MEWP
 - obstacles on the ground may divert an operator's attention from overhead or adjacent structures (or their passenger's safety) while traveling or manoeuvring the MEWP.

Note: The more time spent in an MEWP close to fixed structures the more likely a crush incident will occur.



Figure 1. Example of physical barrier

Recommended risk control measures specific to boom-type MEWPs

Boom-type MEWPs operating in workplaces where there is an increased risk of workers being crushed against a fixed structure (see figure 4) should be fitted with an effective operator protective device, commonly known as 'secondary guarding'. Such devices may include, but are not limited to:

- **physical barriers** attached to the basket which reduce the likelihood of employees being crushed against structures (figure 1)
- **pressure sensing devices** positioned over the control panel which detect pending crush incidents and prevent further hazardous movements (figure 2)
- **proximity sensing devices** which prevent an MEWP's basket from manoeuvring into crushing proximity of fixed structures.

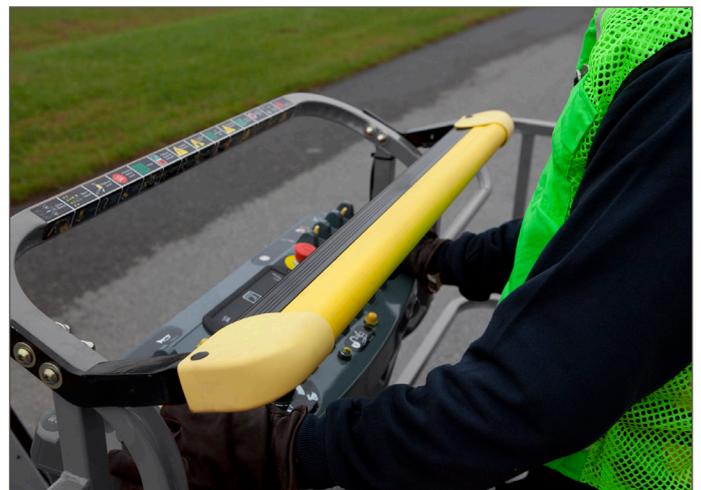


Figure 2. Example of pressure sensing device

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Lower risk – secondary guarding not required



Increased risk - secondary guarding required

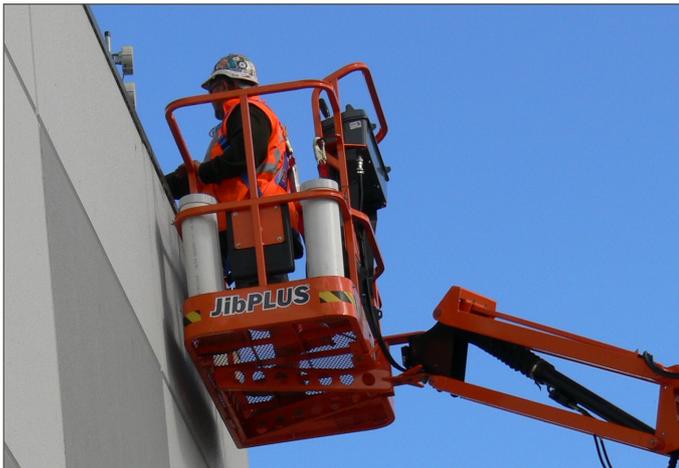


Figure 3. Minimal overhead structure in proximity



Figure 4. Multiple overhead structures in proximity

Recommended risk control measures specific to scissor-type MEWPs

Duty holders should consider a range of potential risk control measures for scissor-type MEWPs applicable to their operational environments. Risk control measures may include:

- a 'lower-before-travel' policy, where workers are instructed that they must lower scissor-type MEWPs to be completely clear of any overhead structures before driving/travelling in the unit

- driving scissor-type MEWPs via the external 'umbilical' control when traversing through doorways or on internal ramps. **Note:** Observer(s) should be used to monitor blind-spots for pedestrians when being driven by external 'umbilical' control.

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Safe work method statement (SWMS)

When operating powered mobile plant, such as MEWPs, to undertake construction work, a SWMS must be developed and followed if there is a risk to the health or safety of any person, including persons in the MEWP, from the movement of the plant.

Note: As a minimum, the SWMS must also:

- address all associated work that is high risk construction work (eg risk of falls more than 2 metres or demolition work)
- state the hazards and risks to health and safety from that work
- clearly detail the measures selected to control those risks
- describe how the risk control measures will be implemented.

Further information

WorkSafe publications:

Working Safely in General Construction
Information about Safe Work Method Statements

Australian standards:

AS 2550.10-2006 *Cranes, hoists and winches*
- Safe use – Mobile elevating work platforms

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