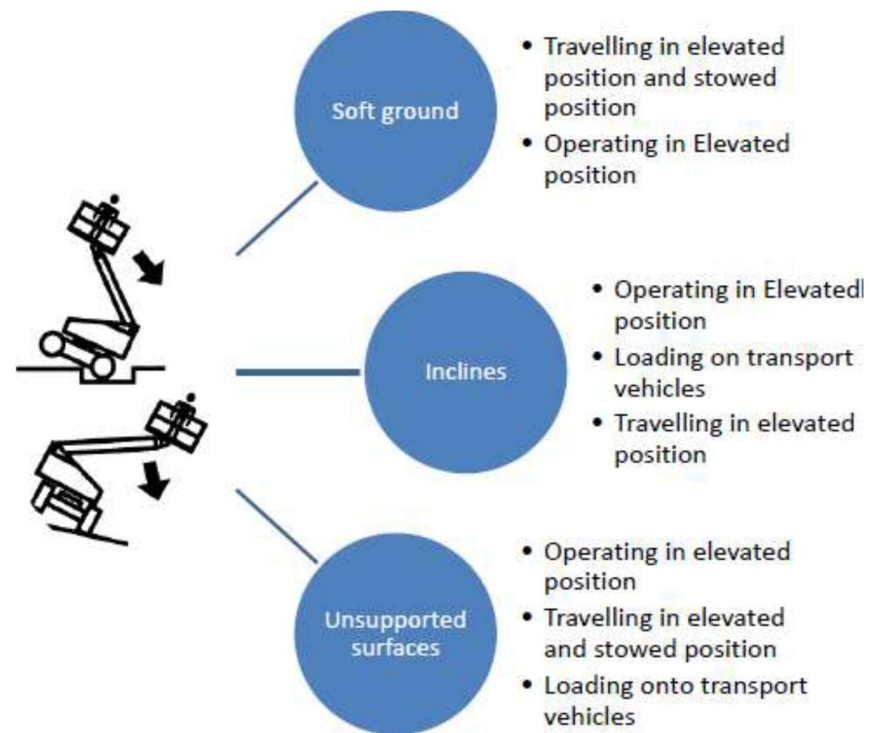


Consequences of Operating MEWPs on Inclines, Soft Ground and Unsupported Surfaces



The consequences of a MEWP overturning or becoming unstable can be severe, including the operator becoming trapped in the platform, sustaining life-threatening injuries, or even fatalities for both the operator and those nearby.

Manufacturers design MEWP systems to indicate, alarm, limit, and/or prevent operation on inclines. However, they cannot control site conditions or the transport procedures for the various types of MEWPs

Assessing site conditions and the support surface's capacity to bear the MEWP's wheel loading is a crucial responsibility of the site controller. This process may necessitate establishing exclusion zones and engaging a structural engineer to evaluate and report on the surface's ability to support the load on tyres and, where applicable, outriggers.

Each MEWP has a wheel loading identification label near each wheel. If these labels are not visible, contact the manufacturer with the model and serial number to obtain the correct wheel loading. Do NOT make assumptions, as the load on the wheel or outrigger increases when the boom extends beyond the wheel or outrigger tipping line.

Transport procedures, including loading onto tilt trucks and low-loader ramps, introduce additional risks that must be managed by following the manufacturer's transport instructions

WorkSafe NZ and manufacturers prioritise the safety of MEWP users, aiming for everyone to return home safely at the end of each workday. WorkSafe NZ recommends following the manufacturer's instructions.

Your organisation can use the enclosed information—sourced from publicly available data—as a reference to understand potential risks.

A list of web links to the Vertikal.net site is provided on the last page of this presentation.



- Soft ground - one side of the MEWP began to sink causing it to overturn, the operator remained in the platform and was crushed when it hit the ground.
- Fatality
- Spain

<http://www.vertikal.net/en/news/story/14808/>



- Unsupported surface – one of the front wheels punched through the block surface and into a large void, the operator was not wearing a harness and had a ‘lucky’ escape in the way the machine fell and himself falling into branches of the tree.
- Rescued operator
- Netherlands

<http://www.vertikal.net/en/news/story/15844/>



- Broke through underground void – possibly a large drain under the grass surface the MEWP was travelling on, the MEWP was unstable and emergency lowering could not be used to bring the surviving operator down. One operator was wearing a harness attached to an anchor point and was rescued by a crane. It is assumed that the other operator was wearing a harness which was not attached to an anchor point.
- One fatality from catapult effect, the other operator rescued.
- Australia.

<http://www.vertikal.net/en/news/story/11356/>



- Soft ground - the boom's wheels sank into the soft ground, causing the machine to overturn and the platform to be submerged in water. While this provided a softer landing, it also posed the risk of trapping the operators due to their lanyards.
- The operators disregarded key safety advice and training, which instructed them not to use a harness and lanyard over water and to wear a life vest. Fortunately, they were able to unclip themselves and swim to safety.
- Rescued operators
- Australia

<http://www.vertikal.net/en/news/story/14971/>



- Slope and steep incline - excessive backward incline. MEWP tipped over backwards and rolled over side-ways into driveway.
- One fatality
- Australia

<http://www.vertikal.net/en/news/story/11561/>



- Floor load exceeded causing the structural collapse of a carpark. Luckily there was no-one on the ground floor of the carpark.
- Rescued operator
- USA

<http://www.vertikal.net/en/news/story/10406>



- Soft ground – the wheels on the one side of the MEWP sank as the ground gave way. The operator who was not wearing a harness was catapulted from the basket.
- Fatality
- USA

<https://vertikal.net/en/news/story/14894/no-harness-results-in-fatality>



- Soft ground – the MEWP became stuck in soft ground on the edge of an excavation. The operator was trying to get the machine ‘unstuck’ and slewed the platform over the side with the counterweight pointing in the direction of the excavation, the left side slipped and dropped causing a massive catapult effect.
- Operators injured
- Norway

<http://www.vertikal.net/en/news/story/14857/>



- While the exact cause of the machine overturning is unknown, the fact that it was operating in deep snow, which can conceal ground conditions such as slopes and voids, provides a possible clue.
- Operator rescued from dangling in harness
- USA

<http://www.vertikal.net/en/news/story/22003/>



- Unsupported surface - the electric culvert cover collapsed under the weight of the MEWP causing it to suddenly tip to one side. As the lower boom struck the ground it helped the MEWP from completely overturning. The operator was wearing a harness.
- Operator rescued
- Australia

<http://www.vertikal.net/en/news/story/17163>



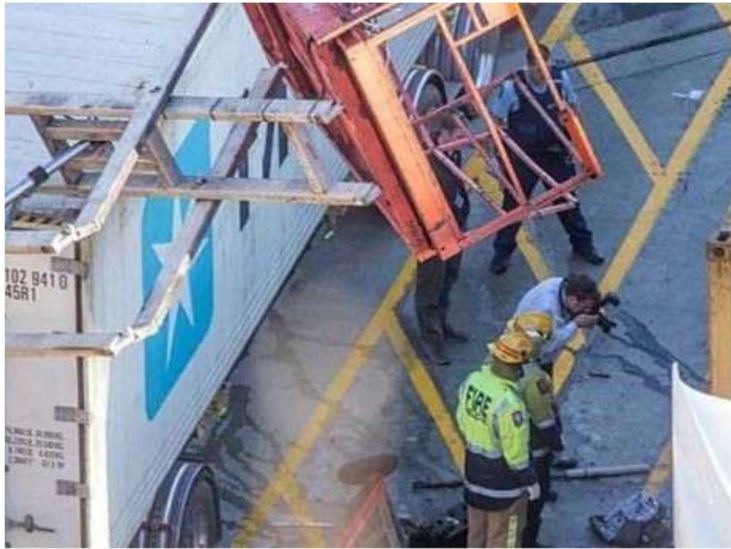
- A boom lift overturned when the ground gave way under one of its wheels. With wheel loadings on a boom of this size easily exceeding 4 tons, concentrated by the unyielding poly filled tyres, it can prove to be too much for the interlocking blocks to support.
- One injured operator
- Netherlands

<http://www.vertikal.net/en/news/story/22034/>



- A golf tournament was being broadcast at the time and the boom was being used to raise a communication antenna to get a clear signal over the nearby cliffs. The antennae were located on the platform and the boom was fully raised and fully extended with the superstructure slewed over the side. A freak gust of wind (over 70 knots) a category 1 hurricane, 129kph / 81mph/ Beaufort scale 12 , caught the machine head on, which combined with the lack of weight in the platform and the fully raised boom caused it to go over backwards.
- Property damaged, no injuries
- New Zealand

<http://www.vertikal.net/en/news/story/6927/>



- A man has died at Lyttelton Port, Christchurch, after the scissor lift he was using overturned and landed on a tractor trailer loaded with a container.
- Property damaged, fatality
- New Zealand

<http://www.vertikal.net/en/news/story/20895/>



- A truck mounted platform over- turned as it took a bend in the road in Island Bay just south of Wellington.
- Property damaged, no injuries
- New Zealand

<http://www.vertikal.net/en/news/story/17384/>



- Two men were working from a platform around 10 meters up when the lift ‘ran away’ and/or overturned. The men were properly harnessed and tied in, but the overturning caused fatal injuries to one man, while the other has been airlifted to hospital.
- One Fatality and one injured operator
- New Zealand.

<http://www.vertikal.net/en/news/story/13700/>

Samples of symbols used in operators manuals to indicate instability on soft ground and on inclines.



These are the included reference links from Vertikal.net

<http://www.vertikal.net/en/news/story/10406/>
<http://www.vertikal.net/en/news/story/17174/>
<http://www.vertikal.net/en/news/story/16418/>
<http://www.vertikal.net/en/news/story/17163/>
<http://www.vertikal.net/en/news/story/15844/>
<http://www.vertikal.net/en/news/story/11561/>
<http://www.vertikal.net/en/news/story/14894/>
<http://www.vertikal.net/en/news/story/17510/>
<http://www.vertikal.net/en/news/story/11356/>
<http://www.vertikal.net/en/news/story/14971/>
<http://www.vertikal.net/en/news/story/14857/>
<http://www.vertikal.net/en/news/story/14808/>
<http://www.vertikal.net/en/news/story/16921/>
<http://www.vertikal.net/en/news/story/10828/>
<http://www.vertikal.net/en/news/story/15695/>
<http://www.vertikal.net/en/news/story/17510/>
<http://www.vertikal.net/en/news/story/9384/>
<http://www.vertikal.net/en/news/story/22034/>
<http://www.vertikal.net/en/news/story/6927/>
<http://www.vertikal.net/en/news/story/20895/>
<http://tvnz.co.nz/national-news/worker-killed-in-lyttelton-port-accident-6066652>
<http://www.vertikal.net/en/news/story/17384/>
<http://www.vertikal.net/en/news/story/13700/>