

## TOOLBOX TALKS

# HOW TO REDUCE THE RISK OF A MOBILE ELEVATING WORK PLATFORM (MEWP) INCIDENT DUE TO POOR GROUND CONDITIONS



### WHY ARE GROUND CONDITIONS SO IMPORTANT TO MEWP STABILITY?

MEWPs rely on the condition of the surface/ground on which they stand for their stability. If they are travelling across, setting-up or operating on;

- ground that cannot fully support the weight of the machine or
- excessive inclines
- obstacles, debris, drop-offs, holes, depressions, ramps, and other hazards;

the centre of gravity of the machine may pass outside its tipping lines causing the MEWP to become unstable and possibly overturn.

### WHAT CONSTITUTES UNSAFE GROUND CONDITIONS?

MEWP overturn due to poor ground conditions may be caused by setting-up over or operating a machine on any or a combination of the following:

- Sloping or uneven ground – curbs, soft or unstable ground – e.g. proximity to excavations, un-compacted fill
- Weather conditions causing waterlogged or thawing ground
- Underground services e.g. manhole covers, drains, utility service access points
- Paved areas
- Suspended floors
- Voids e.g. cellars, basements, vaults, etc.
- Natural and manmade surface e.g. greenfield sites

#### USEFUL REFERENCES:

- IPAF information at: [www.ipaf.org/spreaders](http://www.ipaf.org/spreaders)
- IPAF F1/08/07 Familiarisation
- Manufacturer Operators Manual
- IPAF Guidance on the Assessment of Ground Conditions ([www.ipaf.com/fileadmin/user\\_upload/documents/us/AWPTGroundConditions.pdf](http://www.ipaf.com/fileadmin/user_upload/documents/us/AWPTGroundConditions.pdf))
- IPAF Spread the load video ([www.ipaf.com/publications/films/](http://www.ipaf.com/publications/films/))
- Andy Access Posters: [www.ipaf.org/andyaccess](http://www.ipaf.org/andyaccess)

## WHAT PLATFORMS ARE AFFECTED?

All types of MEWPs can be affected by unsafe ground conditions and are limited to the incline they can safely travel or be operated on. The force exerted at the point of contact (tyres or outriggers) with the surface/ground of vertical type machines (e.g. scissor lifts) may be reasonably constant. However due to the ability of boom type machines to rotate and extend, the pressures exerted by the machine at the points of contact with the surface/ground may vary significantly. The force exerted could be as much as 80% of the total machine weight on one point of contact e.g. tyre, outrigger etc.

## HOW DO I ASSESS GROUND CONDITIONS – WHAT DO I LOOK FOR?

A site and task specific risk assessment must be undertaken prior to work commencing. This will include consideration of the following:

- The gross weight and maximum point loads which may be exerted by the machine on the surface/ground at the points of contact
- A visual inspection of the route to identify any unsafe ground conditions where the MEWP will travel or be operated
- Load bearing capacity of the supporting surfaces/ground

It is essential that the surface/ground assessment is made by a person(s) with adequate knowledge and experience to know when further information or expert advice / assessment is required.

The MEWP operator must also conduct a daily worksite inspection and observe conditions during operation to identify any change in the ground condition (e.g. a recent excavation on site) that may impact safe ground conditions.

## HOW CAN I IMPROVE MEWP STABILITY WHEN CONSIDERING GROUND CONDITIONS?

When considering ground conditions, the correct machine selection is vital and should be determined during the risk assessment process, which may include advice from the MEWP supplier or manufacturer.

Where the risk assessment identifies ground conditions that have a potential to affect machine stability, these should be addressed before using the MEWP. This can be done by considering the following:

- Eliminate the hazard – do not set up on the surface/ground
- Minimize the risk by increasing the load-bearing capacity of the ground e.g. advanced preparation of the ground such as compaction
- Reducing the forces exerted by the MEWP at the point of contact with the surface/ground e.g. using spreader plates, temporary roads or other products

## SHOULD I BE TRAINED?

Operators must be trained in the safe use of each category of MEWP they wish to use and familiarised with the specific model they intend to operate.

People who supervise or manage the use of MEWPs must also be trained in the relevant risks and control measures.

This ensures all parties fully understand all the risks relating to ground conditions that they may encounter when using a MEWP and take necessary precautions to eliminate or mitigate the risk.

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