

FASET Bulletin GEN03 (Revision 3)

Ground Conditions

All MEWPs rely on the condition of the ground on which they stand for their stability. Poor ground may well settle when subjected to the loads of MEWP wheels or outriggers and this in turn will result in the machine being out of level and becoming unstable. Consequently, it is essential that an assessment of the ground conditions is made by the person in control of the works / site, before allowing a MEWP to be set up and used.

An assessment of the ground condition is particularly important for self-propelled MEWPs, such as booms and scissor lifts, which may be driven along the ground with the platform raised.

During use it is important that operators use the level indicators provided on platforms and take notice of any warnings provided.

Moving from hard to soft ground may well cause the machine to go out of level and overturn. If the level indicator shows that the operating limits are exceeded the operator should lower the platform and retract and lower the boom and reposition the machine where it can be levelled and operated safely before proceeding.

Ground Assessment

In the case of MEWPs a visual inspection of the ground is often adequate, however, it is essential that the assessment is made by persons with adequate knowledge and experience to know when further expert advice and assessment is required.

Ground Condition Hazards

Some typical ground condition hazards that may be encountered are:

Un-compacted Fill: Soil or other fill material might be into the backfilled trench without being compacted. Cracking of the ground along the line of the edges of the trench is an indication of un-compacted fill.

Proximity to Excavations: MEWPs should not be positioned near to the edge of trenches and other excavations as the sides are likely to collapse without warning.

If the machine needs to be used close to the edge of a slope or excavation, with the outriggers or wheels in the “danger area”, an engineering assessment must be made by a competent geotechnical engineer before the MEWP is set up and operated.



Figure 1. As an indication, a typical MEWP tyre or outrigger exerts a pressure of approximately 5 times that of a car tyre

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Underground Services: Sewers, drains, manholes, gas and water mains, etc. might be damaged by the weight of a MEWP or could even collapse and cause the MEWP to become unstable or overturn. Avoid placing MEWPs over them.

Weather Conditions: Heavy or prolonged rain can alter ground conditions and cause sinking of outriggers or wheels.

If it is suspected that the ground supporting a MEWP is getting softer regular checks should be made on machine level. Regular checks should be carried out when frozen ground is thawing out since frozen ground can appear to be much firmer than it actually is.

The photographs below illustrate the importance of ensuring the ground is capable of sustaining the imposed loads.



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