

# MEWP - Scissor

**Note:** It is recommended that you read the Supporting Information page before you read this factsheet.

## Preparation for work *(Preparation)*

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- Scissor-type mobile elevated work platforms, commonly known as MEWPs, have a vertically rising or elevating platform that allows persons to access areas at height. Some have an extending deck to provide further reach. MEWP scissors are commonly used in construction as well in maintenance activities, engineering etc.
- Most MEWP scissors are self-propelled and are predominately operated by workers of other trades, such as glaziers and painters, who may infrequently operate a variety of models. Incidents regularly occur with MEWP scissors and this factsheet aims to highlight some of those areas where good practice often has not been followed.
- Thorough pre-use checks must be undertaken that follow manufacturers' requirements. This information will be found in the operator's manual as well as on warning or information decals around the machine.
- The operator's manual, which contains vital information, must be kept with the machine, which should not be used unless the manual for that machine is available to the operator.
- As there are a variety of manufacturers with a range of model types, the operator (that is, anyone who is going to operate the MEWP) must first have undertaken familiarisation training. This is in addition to basic training on the class of MEWPs. Familiarisation training is specific to the type being operated, which may differ from previous models used.
- One of the key checks that must be undertaken before the machine is used is to the emergency lowering system. If the platform cannot be lowered from the platform's controls, for example because of an engine, hydraulic or electrical failure, lowering can be undertaken from ground level. It is vital that this function is checked according to the manufacturer's recommendations.
- All types of MEWP scissor should be fitted with one or more safety or emergency stop buttons. These should also be checked before work starts. The emergency stop button (or buttons) cuts working power, and this isolates or cuts off operating power to all hydraulics and travel functions.
- MEWPs are fitted with several safety systems, such as limit switches, which prevent the platform from exceeding safe limits. Although some of these safety systems are adjustable, they can only be adjusted by trained and qualified maintenance staff and not by the operator.

## Stability

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- MEWP scissors have a weighted chassis and are stable providing they are used within the safe parameters identified by the manufacturer. However, this does not prevent a MEWP from overturning when those safe parameters are exceeded. MEWP scissors are designed to be stable only on firm and level ground with, in most cases, the platform prevented from being raised if the chassis is not level.
- However, travelling on uneven ground with a raised platform causes the chassis to be unlevel which can cause an overturn and the higher the platform, the greater the instability on uneven ground.
- If a MEWP scissor is travelled on uneven ground and between two buildings with the platform at height, the tilt of the platform means it can strike a structure.
- When a MEWP scissor is working on soil-type ground, conditions such as heavy rain can turn what was firm ground into soft ground. Checks must be made before work starts after heavy rain to ensure that the ground can safely support the MEWP at all operating heights.
- Some models of MEWP are equipped with stabilisers that widen the footprint and provide some additional stability, and these tend to be used on less solid ground. However, the ground must still be checked by a suitable person to ensure it can support the bearing load through each stabiliser, with additional support pads used as required.

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- Where a MEWP scissor needs to work near to the edge of a slope or trench, guidance indicates that, in principle, to prevent slope or trench collapsing, at least twice the depth of the slope should be maintained from the edge. The minimum distance that needs to be kept should be properly and effectively planned before work starts.

## Working safely with others *(Working safely)*

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- Following pre-use checks but before travelling the MEWP to the work area, the machine must be configured for travel and the travel route checked for hazards, such as soft ground.
- As driving and steering is controlled from the platform, the operator needs to be aware of the direction of travel when the rear of the chassis is leading as the controls can be, in effect, reversed e.g. steering left means the machine turns to the right. This is particularly important if the platform is at height and the operator in many cases needs to look down from the platform.
- The majority of MEWPs scissors used in construction or allied sectors allow the chassis to be travelled and manoeuvred whilst the platform is at height. Incidents have occurred where operators have leant over the control panel, particularly where the controls on the control panel are exposed, and in doing so inadvertently activated other controls.
- All MEWP scissors are restricted in the weight that can be taken by the working platform and this weight limit should be clearly marked within or on the platform. The weight limit includes people, tools and any other equipment, such as components that need replacing at height.
- When calculating the load to be carried in the platform, if a component at height is to be removed and lowered, such as a lighting lamp, the weight must be taken into account before the platform is raised, to avoid overloading at height.
- Although components that need fitting or replacing can be carried within the platform, MEWPs are not lifting machines and loads that need to be suspended externally should not be lifted.
- Care must also be taken when working at height so that any tools are not placed on or near to the operating controls as tools, placed on the control panel, have been known to prevent a control operating when needed.
- As MEWP scissors can reach heights of 20 metres or more, so are exposed to weather conditions that may not be apparent at ground level, such as high wind speeds and changes to wind direction. The operator must know the maximum wind speed that the MEWP can be operated in and shut down operations when the wind speed exceeds the manufacturer's criteria.
- The operator must also take into account gusts of wind or wind funnelling caused, for example, by the MEWP being between two buildings.
- Where MEWP scissors are being used near or next to areas where vehicles are moving, the first course of action to segregate the MEWP's working area from any moving vehicles and be of sufficient area to include any extending part, such as an extending deck.
- No part of the platform must extend into the path of a moving vehicle, particularly when working on or alongside the public highway where collisions between moving vehicles and the platform could occur.
- Before the MEWP is used, all hazards that may be encountered must be identified and control measures applied. For example, minimum distances must be kept between the MEWP and overhead power lines. Guidance from the Health and Safety Executive indicates that a distance of at least 9 metres, plus the maximum height of the platform, must be kept from power lines mounted on wooden poles, whilst a distance of 15 metres plus the maximum height of the platform must be kept from power lines mounted on metal pylons.
- MEWPs are designed to allow people to access a structure or machine at height or reach. They are not designed to allow people to leave the platform at height and this should not be attempted except in emergency situations. Likewise, they should not be used to pick up people at height unless, again, there is an emergency, for which procedures should be properly planned.
- If the platform has to be lowered to ground level in an emergency using the ground-based controls, all obstructions need to be taken into account before the platform is lowered.

## Working at height and in restricted areas *(Working at height)*

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- Before any type of MEWP is specified during the planning of the work, the first consideration should be whether the work can be carried out at ground level, so that work at height is not necessary.
- If work is to be undertaken at height, a procedure needs to be put into place so that the operator of the MEWP can summon assistance in the case of an emergency, particularly if they are working in a segregated area away from other work. Furthermore, the operating key needs to be located in the ground level control panel, so that the ground controls can be operated in an emergency.
- In general, although MEWP scissors are used for working at height, the need to use fall arrest equipment is usually not recommended as the momentum of a falling body that is attached to the platform can cause instability and possibly overturn certain types. In all cases, the requirement for working at height and safety measures to be applied must be established before work starts.
- If the use of fall arrest equipment is specified, the operating height of the platform needs to be taken into account, as fall arrest equipment only works above a certain height. Fall arrest equipment must only be secured to the approved securing points in the platform, and not to any other part of the platform or machine, as the momentum of a fall could cause component failure.
- Fall arrest equipment must also not be secured to a structure external to the platform. If fall arrest equipment is used, a retrieval procedure must also be planned before work starts that determines the recovery time needed if there is a fall from the platform.
- The trapping of operators between the platform and parts of a structure has occurred and caused both injury and death. In some cases, the operator has become trapped and crushed between the control panel and the structure, causing other controls to be inadvertently operated, and the operator or other passengers have been unable to return the control to neutral.
- Amongst the various requirements for minimising these incidents is that the platform's vertical path is established before work starts so that sufficient clearance between a structure and the platform is maintained. Good lighting up to and within the working area can further reduce trapping incidents.
- If the platform needs to work in a restricted or tight area, machines equipped with a shielded control panel should be specified at the planning stage.

## Sample questions

The following questions are based on the text within this factsheet and indicate how the questions and answers are structured. Based on the factsheet, there is only one correct answer. The correct answer to each question is indicated at the end of this factsheet.

**Q1. What should happen if the operator's manual for the MEWP scissor is not supplied by the hirer?**



Checks need to start from the front of the machine and undertaken in a clockwise direction



Information from the handbook of another machine from the same manufacturer can be used as an alternative



The MEWP can only be used by trained operators



The MEWP cannot be used until the specific information is received

**Q2. If working at height on a construction site which is stopped because of heavy rain, what should be checked before starting work again?**



That visibility is clear at height



That all steering controls function correctly



That the ground where the machine is located is still firm



That the key platform is clear of rainwater

## Study checklist

This checklist aims to act as a study aid to ensure that the reader has identified and understood the relevant parts of this factsheet.

### Do you know?

1. Where the information for carrying out pre-use checks is found.
2. Why familiarisation training is different to basic training.
3. The reasons why the emergency lowering system must be checked before use.
4. What happens to the MEWP when the emergency stop button is depressed or activated.
5. What can cause a MEWP to overturn.
6. What checks must be made before using the stabilisers on machines fitted with them.
7. What distance must the MEWP be kept from the edge of a slope or trench.
8. Why the travel route of the MEWP must be checked before travelling.
9. What factors determine the weight limit of the machine's platform.
10. Why tools and equipment must be kept clear of the operating controls.
11. The effect that wind can have on the machine.
12. What the dangers are of using a MEWP in close proximity to other moving plant and vehicles.
13. When people are allowed to enter and exit the platform at height.
14. What should be considered when planning a work at height operation.
15. What emergency procedures should be in place when working at height.
16. What the procedures are if the use of fall arrest or harnesses is required.
17. What the causes and effects are of a MEWP operator being trapped between a structure and the control panel.
18. Why good lighting is important when operating the platform at height.

**Answers to sample questions: Q1: D and Q2: C**