

CPCS renewal test factsheet



Introduction to the CPCS renewal test

The industry-led CPCS Management Committee has determined that key safety-related knowledge must be checked on each category prior to the renewal of a CPCS Competent Operator (blue) card. The CPCS renewal test is the means by which blue cardholders will be tested on topics that reflect safety issues identified through consultation, that occur regularly on site.

For each topic identified there is a set of questions, from which a number will be included in the test and for which supporting information is provided in this factsheet. Each test will ask a total of 15 questions selected randomly to ensure all topics are covered.

The test will cover all categories within the scheme through modules. Some modules have been devised to cover a range of similar CPCS categories.

The CPCS renewal test is available on the CITB-ConstructionSkills Testing Services platform alongside the Health, safety and environment test.

The questions and answers will not be published but factsheets are available for each module to cover the topics.

How to use this factsheet

Prior to taking the test, cardholders are advised to carefully study the factsheet, which will prepare them in deciding the correct answer or answers to each given question. Correct answers are based on legislation or good practice adopted, in the majority of cases, by the construction and allied sectors.

It is acknowledged that variations may occur depending on the nature of the operation or on how the machine is used. However the correct answer to each question is based on common practices or manufacturers' requirements for the majority of machine types within each module, and applies to this test irrespective of how a machine may be used within a particular activity or sector. It is important, therefore, that this factsheet is studied carefully.

The questions are selected randomly and will not appear in the order that topics appear in this factsheet.

If the card holder does not answer all the questions correctly, the score report issued after completing the test will indicate the topic areas in which the questions were answered incorrectly. The cardholder should, prior to retaking the test, re-study all topic areas.

Scoring the test

To be successful in this module, cardholders need to correctly answer a minimum of 12 out of the 15 questions presented. However, because many of the questions are safety-related, in the majority of cases, a minimum number of questions per topic need to be answered correctly. Failure to do so, even if the overall minimum number of correct answers has been reached, may mean that the cardholder is unsuccessful on the test.

The top of each topic states the number of questions that will be presented for each topic and the minimum number of questions that must be answered correctly in order to pass the test.

Concessions

To avoid duplication of questions where similar categories are held, booking concessions are provided. This means that, if several similar categories are held, only one module needs to be booked. The following chart indicates if there is a booking concession for this category.

Concessions are provided to holders of the category of MEWP – boom.

Other categories held:

MEWP - scissor

Needs only to book:

MEWP - boom

Note: *The above concessions are an outline of what tests you may have to book; please refer to Module matcher for details of full concessions where more than one category is held.*

This factsheet has been designed to highlight only topics that have been identified through industry consultation area with safety issues or where good practice is often not complied with. The questions within the CPCS renewal test for this category also reflect this.

It is not intended as a training tool and cannot list all essential knowledge and understanding for this category. Operators must always follow manufacturers' requirements, industry good practice and be aware of their own limitations with the machine, and seek further guidance and help where needed.

Further information about the CPCS renewal test can be found at www.cskills.org/cpcs

Preparation for work *(Preparation)*

Topic scoring information: 0 correct answers required out of 2 questions presented to pass

- Boom-type mobile elevated work platforms, commonly known as MEWPs or cherry pickers, are elevating platforms that allow persons to access areas both at height and reach and, in some cases, below the level of the MEWP chassis. MEWP booms are commonly used in construction as well in areas such as maintenance activities, engineering etc. The rotating upper structure and boom can be mounted on a trailer or vehicle chassis, such as a large van or truck, or on its own self-propelled chassis which is driven from the work platform. Self-propelled types are predominately operated by workers such as electricians or steel erectors, who may infrequently operate a variety of models. Incidents regularly occur with MEWP booms and this factsheet aims to highlight some of those areas where good practice has not been followed.
- As with all plant and equipment, thorough pre-use checks must be undertaken that follow the manufacturer's 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, so that each operator understands the particular requirements for that model, which may differ from previous models they have operated.
- One of the key checks that must be undertaken before the machine is used is the function of the emergency lowering system. If the boom cannot be lowered from the platform's controls, perhaps because of an engine, hydraulic or electrical failure, the boom can be lowered from ground level. It is vital that this function is checked according to the manufacturer's recommendations.
- All types of MEWP boom should be fitted with one or more safety or emergency stop buttons, which should also be checked before work starts. The emergency stop button (or buttons) cuts working power, which in turn isolates or cuts off the operating power to all boom functions and, where applicable, travel functions. MEWPS are fitted with a variety of safety systems, such as limit switches, which prevent the boom 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

Topic scoring information: 1 correct answer required out of 2 questions presented to pass

- MEWP booms work on the counterbalanced principle in that the weight of the chassis and upper structure overcomes the weight exerted by the boom and the platform plus any contents up to full extension. On many self-propelled types, the upper structure has a counterweight on the opposite side of the platform and is sufficiently weighted to prevent instability in normal and specified operating conditions. On vehicle-mounted types, the vehicle's chassis provides the effective counterweight and stabilisers are further added to the chassis to aid stability. However, this does not prevent MEWPs from overturning, and exceeding safe parameters, such as overloading the platform, increases the risk of instability.
- The MEWP can be unstable in a number of directions, for example, as a forward or rear tip in line with the boom, or as an overturn which is sideways to the boom. MEWP booms are designed to be stable only on firm and level ground and, in most cases, the boom prevented from being raised if the chassis is not level. However, travelling on uneven ground with a raised boom means that an unlevel chassis can cause a tip or overturn and the higher the platform, the greater the instability on uneven ground. Where a MEWP boom has been travelled on uneven ground and between two buildings with the boom raised, the platform has been known to strike one of the structures.
- Where a MEWP boom 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 and reaches.

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

Working safely and with others *(Working safely)*

Topic scoring information: 3 correct answers required out of 6 questions presented to pass

- The majority of MEWPs used in construction or allied sectors are the self-propelled type in which the driving and steering is controlled from the platform. In many cases, the chassis can be travelled and manoeuvred whilst the platform is at height so the operator needs to be aware of the direction of travel because, for example, when the rear of the chassis is leading the travel controls can be reversed. This is particularly important if the platform is at height as the operator often needs to look down from the platform to check the path of the machine. Incidents have shown that 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. Before the machine is moved, the turntable or upper structure should be positioned and, where relevant, locked in the correct travel position.
- As previously described, MEWP booms become less stable as the platform reach increases. Therefore, there is a restriction on the weight that can be taken by the working platform and this 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.
- Where the platform is being used to remove a component at height, such as a lighting lamp, the weight must be taken into account before the platform is raised, otherwise overloading can occur 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 tools being used should not be placed on or near to the operating controls as tools, placed on the control panel, have been known to prevent controls operating when needed.
- As MEWP booms can reach height of 40 metres or more, they 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.
- Before the MEWP is used, all hazards that may be encountered must be identified and control measures applied. Working near to overhead power lines means that minimum distances must be kept from the MEWP. Guidance from the Health and Safety Executive indicates that a distance of at least 9 metres plus the length of the boom must be kept from power lines mounted on wooden poles, whilst a distance of 15 metres plus the length of the boom must be kept from power lines mounted on metal pylons.
- Where MEWP booms are being used near or next to areas involving vehicle movements, the MEWP's working area should be segregated from any moving vehicles and be of sufficient area to include the radius of the boom. Any part of the boom or platform must not extend into the path of a moving vehicle, particularly when working on or alongside the public highway. Collisions between moving vehicles and the boom of a MEWP have occurred with serious consequences.
- 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. As MEWPs are used to access intricate areas within a structure, if ground-based controls are used to lower the platform to ground level in an emergency, all obstructions need to be taken into account before the platform is lowered.

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

Topic scoring information: 3 correct answers required out of 5 questions presented to pass

- Before any type of MEWP is specified during the planning of the work, consideration should be given as to whether the work can be carried out at ground level, so that work at height is not necessary. If any 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 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 the majority of cases of where people in the platform are working at height, the use of fall arrest or fall restraint equipment will be required by all those in the platform and a suitable type should be established during the work planning stage. The MEWP manufacturer's data must be checked first to determine whether fall arrest equipment can be used with that particular type of machine. When the fall arrest equipment is specified, the operating height of the platform needs to be taken into account, as fall arrest equipment needs a minimum height to work effectively. For MEWP boom operations, a short-restraint type of fall arrest harness is usually specified, which minimises the shock loading to the machine from the momentum of a fall. A retrieval procedure must also be planned before work starts, determining the recovery time needed if there is a fall from the platform.
- Fall arrest equipment must only be secured to the approved securing points in the platform, and not on any other part of the platform or machine as the momentum of a fall could cause component failure. Fall arrest equipment must not be secured to a structure external to the platform.
- The trapping of operators between the platform and parts of a structure has occurred causing 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 the neutral position. Amongst the various requirements for minimising these incidents is that the path which the platform needs to take 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.
- To maintain sufficient stability, the normal sequence of positioning a platform at height, particularly in a restricted area, is that the platform must be elevated first, then slewed into position and finally telescoping the boom to the desired point using fine control.