

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The questions and answers will not be published but factsheets are available for each module to cover the topics.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

Other categories held:

Masted forklift truck

Forklift side-loader

Industrial forklift truck

Reach truck

Needs only to book:

Telescopic handler

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 and fitting attachments *(Preparation)*

Topic scoring information: 1 correct answer required out of 3 questions presented to pass

- Telescopic handlers (known as telehandlers) are one of the commonest machines to be used within the construction and allied sectors, as well as within other sectors such as agriculture. All come equipped with an extended telescopic boom that allows loads to be lifted, carried and placed at height and reach. As with all plant and equipment, thorough pre-use checks must be undertaken, following manufacturers' requirements. This information is usually found within the operator's manual, which should be kept with the machine.
- Checks on the forks are one of the many checks that should be undertaken. The forks are prone to wear, particularly through misuse. Wear mainly occurs at the heel or back end of the forks. This is a potential weak area and one or both forks may eventually bend or break, so wear must be measured against manufacturer's specifications.
- Where the operator notices a fault or is unsure whether the machine is safe to use, any fault or defect must be reported immediately with the telehandler placed out of service in the meantime. Using a machine with a defect, such as a leaking hydraulic ram on the carriage tilt mechanism, could become rapidly worse during use and, although an operator may decide that the fault is minor and the telehandler can be used, they may not be sufficiently qualified or experienced to make that judgement.
- Incidents have occurred with telehandlers where the tyres, particularly the front set, are of different sizes or of different load-bearing capacities. This is usually because the tyres have been changed due to wear or damage, but they have not been replaced with the correct types. Different sized front tyres mean the telehandler may not be level when picking and placing loads and at height, the risk of instability can increase.
- Telehandlers can use a wide variety of attachments, including lifting hooks, sweeper brushes and buckets. Before any attachment is fitted, especially where the load centre of the machine is increased such as the fitting of a lifting jib, the load chart that is relevant to the attachment must be available for the operator to use. Where a specific load chart does not exist, such as the fitting of a bucket, then the weight of the attachment must be known and deducted from the lifting capacity for the working reach and height.
- The majority of telehandlers come equipped with a quick release-type carriage which allows attachments to be easily attached and removed. The operator must have been trained on both fitting and using the attachment type, as well as on the particular coupler type. After the attachment is fitted and before it is used, the operator must exit the cab to visually and physically check that all the locking pins are correctly fitted and secure.

Working safely and with others *(Working safely)*

Topic scoring information: 1 correct answer required out of 3 questions presented to pass

- Telehandler operations do occur within congested and confined areas where other machines, vehicles and people are moving. The operator must be aware of their movements when operating the machine. Statistics show that collisions with pedestrians form a large part of forklift-related incidents. Where pedestrians need to share the same route as telehandlers, or any plant or vehicle, then a segregated walkway for pedestrians needs to be provided.
- Reversing a telehandler is hazardous, particularly as the cab is offset, and a partially raised boom can hinder side and rear vision. The operator must ensure that the route they intend to take is clear of people and vehicles before they move. Operators should check all mirrors, and then look over both shoulders before moving and maintain all-round vision, looking particularly in the direction of travel. Good vision is essential when placing loads at height but rain or even very bright, sunny conditions can greatly reduce visibility for which assistance should be used as necessary.
- When a telescopic handler is travelling in the workplace, it must go at an appropriate speed for the conditions and environment, to allow the operator time to react to situations, such as slowing down if a pedestrian crosses the path of the telehandler. If the operator brakes sharply, there is the additional danger apart, from possible collision, in that any load could slide from the forks.

TELESCOPIC HANDLER

- Telehandlers operate in a variety of places which can contain overhead hazards such as power lines. Guidance from the Health and Safety Executive indicates that the machine must be a minimum distance of 9 metres, plus the full operating height of the boom, from any power lines mounted on wooden poles.
- Operators do regularly need to leave the operating seat to, for example, make adjustments to the forks for different types of loads. In all cases, the telehandler's handbrake must be applied and the engine switched off before the operator leaves their seat. It has been known for a transmission lever to be inadvertently knocked into drive when the operator exits their seat, causing unintended machine movement.

Stability

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

- The overturning of telehandlers is a regular occurrence and is a result of the machine becoming unstable due to a wide range of reasons. Operators need to understand the conditions that can cause instability, both longitudinally (front and rear) and laterally (sideways). Before any load is carried, the operator must check the manufacturer's maximum rated capacity, the lifting capacity relative to height and reach, the load centre that applies and where any de-rating must be undertaken. Where a large load is to be carried and the centre of gravity of that load exceeds the machine's load centre, then the carrying capacity must be reduced.
- Longitudinal stability of a telehandler is maintained by the counterbalance effect of the weight of the machine towards the rear overcoming the weight of the load on the forks. Increasing the weight on the forks or extending the boom reduces the counterbalance effect, making the machine less stable. If a load is placed where the telehandler is facing downhill on a slope, the counterbalance effect is also reduced due to a forward movement of the telehandler's centre of gravity and this could cause longitudinal instability.
- Raising a load can further affect stability. If a load is raised to full height, the machine's centre of gravity moves both rearwards and upwards. If a load is lifted when the telehandler is leaning sideways, the machine is less stable and the higher the load is lifted, the greater the risk of the telehandler turning over sideways. No loads should be lifted unless the telehandler is level and the ground firm, able to support the weight of the telehandler and load. When stabilisers are fitted and used, they can sink into soft ground, further causing instability.
- Carrying a suspended load can be hazardous and the effect of any load swing can cause the telehandler to exceed safe limits which can be caused by travelling and turning too quickly. External factors such as the effects of the wind on loads having a large surface area can also cause load swing and instability. Travelling with suspended loads can further restrict forward vision, for which measures must be taken such as travelling in reverse and with suitable assistance.
- Even if the telescopic handler is unladen or travelling with light loads, it can roll over if the operator turns too sharply, with instability increasing as speeds increase. Travelling with a raised load greatly increases instability, particularly on uneven ground but also when turning, even if a turn is undertaken gently and on level ground. Where a load needs to be placed at height, the telehandler must be on firm, level ground and facing the placing point prior to raising the load.
- Travelling up and down slopes requires care and certain requirements need to be followed. In the first instance, the operator needs to know the maximum gradient of the slope the telehandler can be travelled on and the direction of travel, which can differ depending on whether it is carrying a load or is unladen. In principle, if the telehandler is carrying a load up an incline then it would normally be driven forward up the slope and reversed down the slope. If it is unladen, the opposite applies – the telehandler is reversed up the slope and driven down the slope. When driving up a slope with a load, the carriage needs to be slightly tilted back and the forks and load kept just clear of the ground but as low as possible.

Lifting loads and using attachments *(Working tasks)*

Topic scoring information: 2 correct answers required out of 4 questions presented to pass

- Before any load is lifted, the operators need to know the weight of the load and to what height and reach the load can be safely lifted, which is provided by the load capacity chart. Regularly reaching the telehandler's maximum lifting capacity for the desired reach and height increases the risk of overloading and making it unstable. The weight of any load is determined by its size and density – for example, a pack of house bricks will be heavier than a same-sized pack of aerated breeze type blocks – meaning that operators can't estimate the weight of a load by size, height, width and length alone.
- The operator must also be able to judge the load centre (the point where the load is in balance), and compare to the telehandler's load centre as indicated in the load charts. In most cases, the load centre of a telehandler is usually 500mm from the face of the forks, although some are rated at 600mm. If the centre of gravity of the load is more than the machine's load centre, the carrying capacity must be reduced for the reach and height.
- Telehandlers with a higher lifting capacity and/or operating reach come equipped with a set of front-mounted stabilisers. These provide additional stability by increasing the effect of the counterbalance by moving the point of balance towards the front of the machine. Load charts indicating the maximum load that can be lifted to a given height and reach differ for stabiliser use and non-stabiliser use, and operators need to ensure the correct chart is used and read. When the stabilisers are used, the ground must be firm enough to support the weight of the machine and load as one or both stabilisers sinking can cause instability.
- All telehandlers are fitted, as a minimum, with a load moment indicator which indicates the machine's stability, and informs the operator when the machine is becoming longitudinally unstable by providing a visual and audible warning when the machine is both approaching and exceeds safe pre-set limits. The majority of load moment indicators do not indicate that it is safe to pick up and place any load or how much a load weighs.
- Before a load is lifted, the telehandler and load need to be level to prevent damage to the load or supporting pallet where the forks are not level. Forks should be spaced so that they are equidistant, or of equal width, from the telehandler's centre line and spaced so that a load is fully supported, particularly if it is on a wooden pallet. Fork spacings that are too wide or narrow can mean an unsupported or unstable load.
- When placing loads at height, loading out towers should be used instead of placing loads directly onto a scaffold. This is in order to minimise any shock loading, which can overload the scaffold structure. During all lifting and placing operations, the handbrake must be applied each time the machine is stopped and when the hydraulic functions are used. Where operators have relied on holding the machine using the footbrake, especially when raising or lowering the boom, machine movement has occurred when their foot has slipped off the footbrake.