

Towers – Raising the Bar for Access

Ladders and mobile access towers are two of the most common types of equipment used for work at height. Peter Bennett, managing director of the access equipment industry's trade association PASMA, gives some tips on their safe use.



Mobile access towers provide a safe means of gaining access to work at height.

When it comes to selecting equipment for work at height, employers must follow the hierarchy set out in the Work at Height Regs 2005 (WAHR). This means avoiding the need to work at height wherever possible; using appropriate equipment and safeguards where working at height cannot be avoided and, where the possibility of a fall cannot be eliminated, using all means possible to minimise the distance and consequences of a fall.

Two of the most popular types of equipment used for work at height are the ubiquitous ladder, of which some two million are thought to be in daily use, and the mobile access tower.

Ladders

Despite the many myths, the HSE has not banned ladders and they remain a sensible, practical option for low-risk, short duration work. 'Short duration' is generally defined as a single task that takes no longer than 30 minutes in one position. You can undertake a series of tasks that take longer, but each individual task should not last more than 30 minutes.

Ladders can be used if, after assessing the risks, the use of more suitable work equipment is not justified because of the low risk and short duration and the task in question will not take longer than 15 – 30 minutes. They can also be used for low risk work where there are features on site that mean a ladder is the only realistic option. According to the Ladder Association, if it's right to use a ladder, use the right ladder and get trained to use it safely.

The WAHR stipulate that employers, dutyholders and staff need to know how to use ladders safely and how to assess and minimise the risks of a fall. It is therefore important to select the correct ladder for the task and to ensure that those using the equipment have received adequate training.

Mobile access towers

Mobile access towers are a familiar sight in construction, industrial and commercial maintenance and they provide an effective and safe means of gaining access to work at height. However, as with all types of access

equipment, you must be satisfied that a tower is the most suitable piece of equipment for the job – and it must be installed and used correctly.

There are a number of factors that must be taken into account when using mobile access towers. These include:

- the height to be reached;
- any access restrictions such as width and headroom;
- the type of work activity and its duration, including the time between equipment movements;
- the climatic conditions;
- the condition and evenness of the ground;
- the shape and weight of any objects to be carried; and
- the risk to people or vehicles in the immediate vicinity.

Many types of mobile access tower are available, but all manufacturers or suppliers have a duty to provide an instruction manual that explains how to assemble and dismantle the tower, including any bracing requirements. If the tower has been hired, the hirer has a duty to provide this information and this must be passed on to the person erecting the tower.

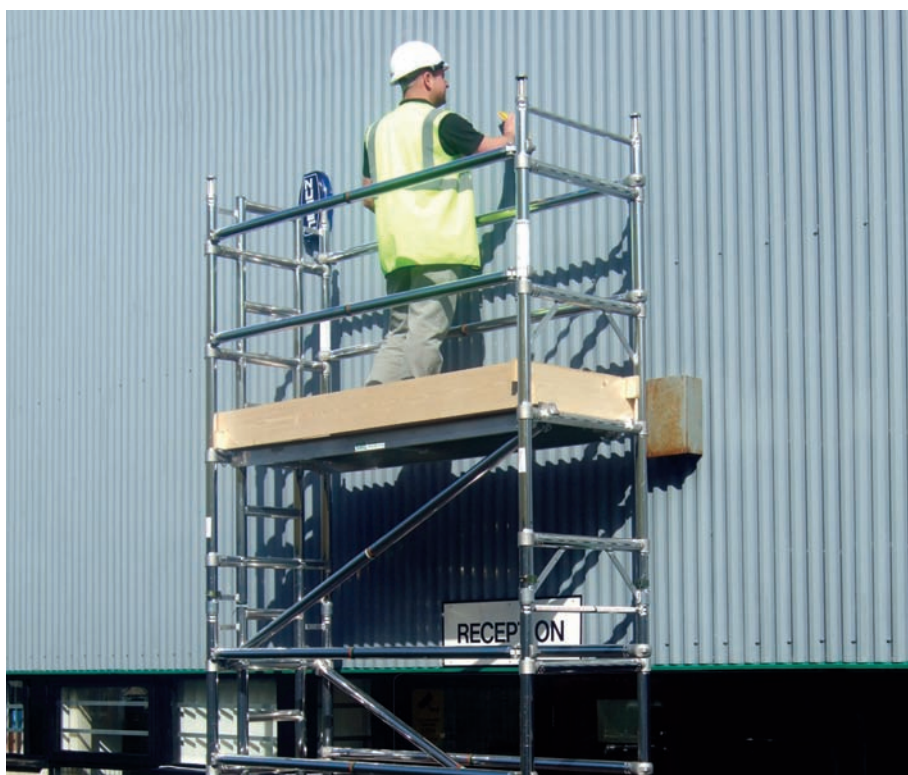
Historically, the biggest problem surrounding towers has been the risk of falls while erecting and dismantling the equipment. The inherent danger in traditional tower designs was that, during erection, the collective safety measure – the guardrail around the working platform – was the last item to be installed. This meant that users were standing on unprotected platforms, therefore placing themselves at risk.

After lengthy discussions with both manufacturers and the HSE, only two methods for assembling, dismantling and altering towers are currently recommended – 3T (through the trap) and advance guardrail.

3T – through the trap

This method involves the operative working partially through the open trap of a platform to position guardrails at appropriate distances above the platform. They then stand on the platform to continue the assembly process.

Dismantling involves unlocking the guardrails furthest away from the trap, then partially climbing through the trap before completing the removal of the guardrails. The operative then descends to the next level to continue the process.



Advance guardrail

The advance guardrail method involves the use of advance guardrails which are positioned ahead of the platform. The idea is that when the operative gains access to the platform, the 'advance guardrail' is in position. The operative then installs the permanent guardrails and the advance unit is repositioned ahead of the next platform.

Dismantling involves positioning the advance guardrail units so the operative can remove the permanent guardrails and then descend to the next level. They then reposition the advance guardrail unit at that level and the process is repeated until dismantling is complete.

The two methods are shown in a DVD produced by PASMA, in co-operation with the HSE, aptly entitled 'Don't Fall for It!'. This can be ordered at a small charge from the PASMA website, www.pasma.co.uk

The methods are also illustrated in the HSE Information Sheet 'Tower Scaffolds', CIS10, which can also be downloaded from the PASMA website.

If the risk assessment shows that a mobile access tower is the appropriate equipment for the work at height task in hand, there are a number of additional steps that should be followed to ensure it is used safely. These include ensuring that those using it have been properly trained.

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'The biggest problem has been the risk of falls while erecting and dismantling the equipment'

However, before you start to assemble a tower, there are three things you should do:

1. Because this is going to be a live site where equipment and tools are being handed up and down and therefore there is a risk, however small, that something could fall, you should set up a danger or exclusion zone using physical barriers to keep unsuspecting passers-by out of harm's way.
2. Consult and follow the instruction manual. If you do not have a copy of the instruction manual, you can download latest editions of all PASMA manufacturers' instruction manuals from the association's website.
3. Lay out all of the components and make sure that you have all the parts you need and that none of them are damaged. If any are damaged, contact your supplier for a replacement.

In an ideal world, the ground conditions should be flat, level and solid – concrete or tarmac would be perfect. But since there are few of us who live in an ideal world, there are additional steps you can take in less than ideal conditions.

If the ground is not level, you can use the adjustable legs to level the tower – you should check it vertically and horizontally using a spirit level. If the ground is not solid, you can use sole boards or spreader plates to spread the load. Make sure you lock the castors and ensure that castors or base plates are centred on any sole boards.

Assembly methods

Having assembled the tower's first module, (following the instruction manual carefully to check the correct positioning, sequence and pattern of braces), you would now usually install stabilisers or outriggers before building the tower any further, (but check the instruction manual for your tower to be certain).

At this point you would then continue by using either the 3T or advanced guardrail assembly method.

Going back to the assembly, you need to ensure that the frames are locked together and the access and egress to the working platform are continuous. It is also very important that the access and egress are inside the tower. Make sure the platform windlock devices are secured; your guardrails are in position and toe-

boards installed so that neither you nor any tools or equipment can fall from the platform. And... you're ready to go!

Or are you? The Work at Height Regulations require that any tower must be inspected:

- after assembly and before use in any position;
- after any event likely to have affected its strength and stability; and
- at intervals not exceeding seven days.

In addition, a written report of the inspection must be completed by a competent person. To help with this, PASMA publishes guidance explaining exactly what needs to be inspected and how to correctly complete a tower inspection record.

However, as you would expect with any safety equipment, mobile access towers are often misused. For example, a common abuse is the failure to lock all the castors at the base of the tower.

Outriggers and stabilisers

Another area of misunderstanding is the use of outriggers and stabilisers. Stabilisers have fixed bases and outriggers usually have a castor and adjustable leg. However, a lot of users fail to use the stabilisers and outriggers properly: they don't make sure the weight is properly supported or that the stabilisers and outriggers are deployed to their full extent.

In addition, different towers have different bracing designs, and each is carefully calculated to give the optimum strength and rigidity. Unfortunately, it's quite common for users to make up their own bracing patterns and ignore the manufacturers' instructions.

If you think there is a lot to take in, PASMA produces pocket cards listing the important points to remember when assembling, dismantling, moving and inspecting towers. Alternatively, if you want a more in-depth explanation, the PASMA Code of Practice is ideal.

PASMA (Prefabricated Access Suppliers' and Manufacturers' Association) describes itself as the definitive source of information, training and best practice on the safe use of mobile access towers. For more information see: www.pasma.co.uk

The Ladder Association is the only trade body providing information, products and training for ladders. Publications include the LadderBook. See www.ladderassociation.org.uk



Stabilisers or outriggers must be deployed to their full extent and the weight needs to be properly supported.