



Tower scaffolds

Construction Information Sheet No 10 (Revision 4)

Introduction

This information sheet is aimed at users of mobile access towers (also known as tower scaffolds or towers). It will also help those who select and specify such equipment.

The Work at Height Regulations 2005 require an assessment to be undertaken before starting any work at height. If the assessment confirms that there is no alternative to working at height, then suitable work equipment should be selected, taking into account the nature of the work.

Mobile access towers are widely used and can provide an effective and safe means of gaining access to work at height. However, inappropriate erection and misuse of towers are the cause of numerous accidents each year. Aluminium and thin-wall steel towers are light and can easily overturn if used incorrectly. Towers rely on all parts being in place to ensure adequate strength. They can collapse if sections are left out.

Before selecting or specifying a tower, you must be satisfied that it is the most suitable item of equipment for the job.

Erecting a tower

Many types of mobile access towers are available. The manufacturer or supplier has a duty to provide an instruction manual which explains the erection sequence, including any bracing requirements. If the tower has been hired, the hirer has a duty to provide this information. This information must be passed on to the person erecting the tower.

Towers should be erected following a safe method of work. There are two approved methods recommended by the Prefabricated Access Suppliers' and Manufacturers' Association (PASMA), which have been developed in co-operation with the Health and Safety Executive.

The first method, an advance guard rail system, makes use of specially designed temporary guard rail units, which are locked in place from the level below and moved up to the platform level. The temporary guard rail units provide collective fall prevention and are in place before the operator accesses the platform to fit the permanent guard rails. The progressive erection of guard rails from a protected area at a lower level ensures the operator is never exposed to the risk of falling from an unguarded platform.

Figures 1 and 2 Advance guard rail



The second method of erection is the 'through-the-trap' (3T). This allows the person erecting the tower to position themselves at minimum risk during the installation of guard rails to the next level. It involves the operator taking up a working position in the trap door of the platform, from where they can add or remove the components which act as the guard rails on the level

above the platform. It is designed to ensure that the operator does not stand on an unguarded platform, but installs the components to a particular level while positioned within the trap door of that same level.

The 3T method makes use of standard tower components.

Figures 3 and 4 'Through the trap' (3T)



Towers should only be erected by trained and competent people. There are a number of organisations that provide training for the safe erection and use of tower scaffolds following the methods described above.

Stability

Make sure the tower is resting on firm, level ground with the locked castors or base plates properly supported. Never use bricks or building blocks to take the weight of any part of the tower.

Always check the safe working height by referring to the instruction manual. Towers should never be erected to heights above those recommended by the manufacturer.

Always install stabilisers or outriggers when advised to do so in the instruction manual.

Remember, the stability of any tower is easily affected. Unless the tower has been specifically designed for such use, activities such as those listed below should never be carried out:

- sheeting or exposure to strong winds;
- loading with heavy equipment; and
- using the tower to hoist materials or support rubbish chutes.

Using the tower

There must be a safe way to get to and from the work platform. This must be on the inside of the tower by an appropriately designed built-in ladder. It is not safe to climb up the rungs on the end frames unless the rungs have been specifically designed for the purpose of getting to and from the working platform – these have rung spacings of between 230 and 300 mm and an anti-slip surface. If you are in doubt, consult the instruction manual.

Falls must be prevented where there is a risk that a fall could result in personal injury. The working platform must be provided with suitable edge protection and toe boards. Guard rails should be at least 950 mm high and an intermediate guard rail should be provided so the unprotected gap does not exceed 470 mm.

Never use a tower:

- as a support for ladders, trestles or other access equipment;
- in weather conditions which are likely to make it unstable;
- with broken or missing parts;
- with incompatible components.

Moving the tower

When moving a tower:

- reduce the height to a maximum of 4 m;
- check that there are no power lines or other obstructions overhead;

- check that the ground is firm, level and free from potholes;
- push or pull using manual effort from the base only – never use powered vehicles;
- never move it while there are people or materials on the tower;
- never move it in windy conditions.

Inspection and reports

To prevent the use of incorrectly erected or damaged mobile access towers, they must be inspected by a competent person. This is someone with the experience, knowledge and appropriate qualifications to enable them to identify any risks that are present and decide upon the measures required to control the risks. The requirement for inspection is different for small towers under 2 m, and for towers of 2 m and above.

If the working platform is less than 2 m in height, the tower must be inspected:

- after assembly in any position;
- after any event liable to have affected its stability; and
- at suitable intervals depending on frequency and conditions of use.

If the working platform is 2 m or more in height, it must be inspected:

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

A new inspection and report is not required every time a mobile access tower is moved to a new location on the same site. However, if guard rails or other components have to be removed to enable the tower to be moved past an obstruction, then a pre-use check should be undertaken by a trained and competent user to make sure the tower has been reinstated correctly.

Stop work if the inspection shows it is not safe to continue, and put right any faults.

The result of an inspection should be recorded and kept until the next inspection is recorded. The use of a visible tag system (which can be updated each time a check is carried out) to supplement inspection records is acceptable.

However, if the tower is 2 m or more in height and the inspection is undertaken after installation or assembly, or to comply with the seven-day inspection regime:

- the competent person must:
 - complete the inspection report before the end of the working period;

- provide a copy of the report to the person the inspection was carried out for, within 24 hours;

- the person receiving the report must:
 - keep it at the site where the inspection was carried out, until construction work is completed;
 - thereafter, keep it at an office for three months.

Protecting the public

When towers are used in public places, extra precautions are required:

- erect barriers at ground level to prevent people from walking into the tower or work area;
- minimise the storage of materials and equipment on the working platform;
- remove or board over access ladders to prevent unauthorised access if it is to remain in position unattended.

Dismantling a tower

To dismantle a tower using the advance guard rail method, the operator starts from the top and reinstates the advance guard rail unit before removing the permanent guard rails and toe boards and descending to the lower level. The advance guard rail units are then relocated to the level below and the process is repeated, with collective fall prevention measures being maintained throughout.

To dismantle a tower using the 3T method, after removing the toe boards, the operator disengages the guard rail hooks furthest from the trap. Guard rail components are then removed with the operator positioned through the trap before descending to the lower level, from where the upper platform and end frames are removed.

Further information

Further details, and the DVD *Don't Fall For It!* (giving advice on current best practice for assembling, dismantling and altering mobile access towers, approved and recommended by PASMA in co-operation with the HSE) can be obtained from PASMA, Tel: 0845 2304041, website: www.pasma.co.uk.

HSE priced and free publications are available by mail order from HSE Books, PO Box 1999, Sudbury, Suffolk CO10 2WA Tel: 01787 881165 Fax: 01787 313995 Website: www.hsebooks.co.uk (HSE priced publications are also available from bookshops and free leaflets can be downloaded from HSE's website: www.hse.gov.uk.)

For information about health and safety ring HSE's Infoline Tel: 0845 345 0055 Fax: 0845 408 9566 Textphone: 0845 408 9577 e-mail: hse.infoline@natbrit.com or write to HSE Information Services, Caerphilly Business Park, Caerphilly CF83 3GG.

This leaflet contains notes on good practice which are not compulsory but which you may find helpful in considering what you need to do.

© *Crown copyright* This publication may be freely reproduced, except for advertising, endorsement or commercial purposes. First published 10/05. Please acknowledge the source as HSE. Illustrations courtesy of PASMA.