



STANDARD COURSE

ITEM NO: 2600-004

COURSE NOTES

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**ACCESS TOWER
INSPECTION REPORT**



Report of inspection of an Aluminium Tower as required by Section 29 and 30 of the Construction (Health, Safety & Welfare) Regulations 1996 (Schedules 7 and 8)

NB Section 30 (5 & 6a) states:-

- 5) No report is required to be prepared under paragraph (1) in respect of any working platform or alternative means of support from no part of which a person is liable to fall 2m or more
- 6) Nothing in this regulation shall require
 - (a) a report to be prepared in respect of any mobile tower scaffold unless it remains erected in the same place for a period of 7 days or more

Schedule 7 (1)
Timing of inspection:-

- i. Before being taken into use for the first time; and
- ii. after any substantial addition, dismantling or other alteration (max one per 24 hours); and
- iii. after any event likely to have affected its strength or stability; and
- iv. at regular intervals not exceeding 7 days since the last inspection

SCHEDULE 8

Regulation 30

PARTICULARS TO BE INCLUDED IN A REPORT OF INSPECTION

1. Name and address of the person on whose behalf the inspection was carried out

2. Location of the place of work inspection

3. Description of the place of work of that place inspected (including any plant and equipment and materials, if any)

4. Date and time of inspection

5. Details of any matter identified that could give rise to a risk to the health or safety of any person

6. Details of any action taken as a result of any matter identified in paragraph 5 above

7. Details of any further action considered necessary

8. Name and position of the person making the report

Signature

PASMA Certificate No.

One copy of the report to be retained by signatory. One copy to be given (within 24 hours of the inspection) to the person on whose behalf the inspection was carried out (and a signature for receipt obtained).



STANDARD COURSE

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THE HEALTH & SAFETY AT WORK ACT 1974

General Duties of the Employer:

Sect 2 (2)

Employers must provide: Safe Plant and Safe Systems of Work, Necessary Information, Instruction, Training and Supervision, a Safe Place of Work, with Safe Access and Egress, Safe Handling, Storage, Maintenance and Transport of Articles and Substances.

General Duties of the Employee:

Sect 7 + 8

Employees must take reasonable care of their own Health and Safety and that of others who may be affected by their Acts or Omissions.

Employees must co-operate with the Employer.

It is an offence for anyone to intentionally or recklessly interfere with or misuse anything provided in the interests of Health, Safety and Welfare.

General Duties of Manufacturers and Suppliers etc:

Section 6

Manufacturers, Suppliers and Hirers have Duties to provide:

Information for the Safe Use of the Equipment

Ensure equipment provided is safe to use when being used correctly

Adequate inspection of equipment.



The Construction (Health, Safety & Welfare) Regulations 1996, regulation 29 (1) requires that a mobile access tower be inspected and approved by a competent person and within 24 hours a report thereof provided to the person on whose behalf the inspection was carried out.

Whilst an inspection is still required, no report is required in respect of any mobile tower from no part of which a person is liable to fall 2m or more, and no report is required in respect of any mobile tower unless it remains erected in the same place for a period of 7 days or more.

The timing of the inspection is as follows:-

- i. Before being taken into use for the first time and
- ii. after any substantial addition, dismantling or other alteration and
- iii. after any event likely to have affected its strength or stability and
- iv. at regular intervals not exceeding 7 days since the last inspection

It must be remembered that before the tower was erected the components should have been checked for damage by the operative erecting the tower, despite this the inspector should check components for condition as he progressively climbs the tower with particular attention to cracked welds and obvious deformation.

Checklist

From the Ground:

1. Check that you have a copy of the manufacturers instructions manual (MIM) on site and that it has been read and understood.
2. Check the risk assessment document.
3. Check that no environmental changes have influenced the safe use of the tower.
4. Check that all the castors are locked and that castors or base plates are bearing their share of the weight of the tower and the surface they are on is firm and stable.
5. Check that all the pad feet of the stabilisers or the castors on the outriggers are bearing their share of the weight of the tower and the surface they are on is firm and stable.
6. Check that the wing nuts/lamb's tails on the stabilisers are fully tightened by gloved hand.
7. Check that the narrowest side of the footprint is sufficient to support the free standing part of the tower.
8. Check that the outriggers are correctly triangulated.
9. Check that the tower is vertical and level in both planes.
10. From the ground using the manufacturer's erection guide check that all the components are in their correct positions.

Climbing the tower progressively:

11. Check that the hooks on both ends of horizontal braces, diagonals and platform boards (with wind clips if fitted) are correctly positioned in their opposing positions.
12. Check that the mechanisms of the hooks have operated correctly.
13. Check that hatches open towards the outboard side of the tower and that the positioning of the guard rail prevents it being left open.
14. Check that the interlocking mechanisms joining spigots to sockets (interlock clips etc.) are in position and are effective.
15. If the MIM indicates that the tower should be tied in, check the method of tying in to ensure that it is adequate and at the correct height.
16. If any of the platform boards are to be used for storing items or as a working platform check that they are fitted with toeboards and that the hatch still opens easily.

Site Location: Description of Tower:

Time/date: Name: Signature:

PASMA Certificate No.



INSPECTION OF A TOWER

Whilst a tower should be inspected prior to each use (see in italics below), there is no requirement to issue a report unless the tower remains in the same place for 7 days or more, and then only if it is possible to fall more than 2 metres.

An inspection report should be made on mobile/static access towers from which there is a possibility of injury if it remains in the same place 7 days or longer, plus:

Before being taken into use for the first time, or

After any substantial addition, dismantling or other alteration, or

After any event likely to have affected its strength or stability, or

At regular intervals not exceeding 7 days since the last inspection.

A sample Check Sheet and Inspection Form can be seen on the following pages.

THE MANAGEMENT OF HEALTH & SAFETY AT WORK REGULATIONS 1999

Regulation 3:

Every employer shall make suitable and sufficient assessment of Health and Safety risks to employees and others who may be affected by their works.

Put in place appropriate control measures arising from these assessments (Independent Method Statements).

Regulation 13:

Every employer shall take into account the capabilities of employees with regards to Health and Safety.

Every employer shall ensure employees are provided with adequate Health and Safety training.

THE PROVISION AND USE OF WORK EQUIPMENT REGULATIONS 1998

General Requirements:

Suitability of the work equipment

Maintenance and Inspection of work equipment

Training Requirements, Information and Instruction for the use of work equipment

Stability of the work equipment.

THE CONSTRUCTION (Health, Safety and Welfare) REGULATIONS 1996

Provision of safe access and egress.
 Provision of a safe place to work.
 Protection from falls.
 Protection from falls 2 meters or above.
 Provision of Information, Instruction and Training.

Inspection of working platforms

- * Before first use
 - * After substantial addition, dismantling or alteration
 - * After any event likely to affect it's strength and/or stability
 - * At regular intervals not exceeding 7 days.
- * Please refer to *Page 57 regarding the reporting of towers.*

MANUAL HANDLING OPERATIONS REGULATIONS

Avoid the need to undertake Manual Handling Operations.

Where Manual Handling Operations cannot be avoided, assess the Health and Safety risks associated with the task.

PERSONAL PROTECTIVE EQUIPMENT OF WORK REGULATIONS 1992

Personal Protective Equipment of Work Regulations.

1992 PPE is to be used as last resort. PPE must be suitable for the task. PPE shall be maintained.

INSPECTION OF A TOWER

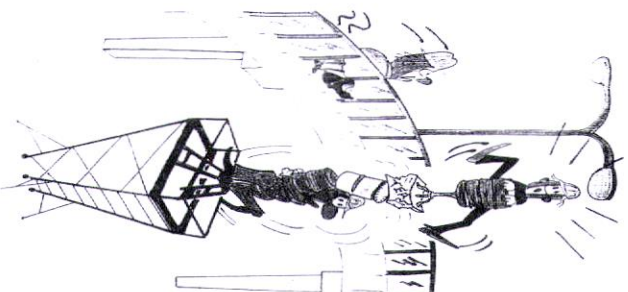
HAZARDS

ADDITIONAL HEIGHT

Avoid the temptation to use ladders, steps or boxes to gain additional height.

Don't s - t - r - e - t - c - h.
If you need more height you need more components.

Decide what you require from the Instruction Manual Chart.



INCOMPLETE TOWERS

If your tower is incomplete or is in a dangerous condition you **MUST** let other people know.

Fix a 'SCAFFOLD INCOMPLETE' or 'DANGER' sign, placed in a prominent position or adjacent to access point.

Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995

General Duties:

Requirement to report all notifiable Injuries, Diseases and Dangerous Occurrences
 Partial or total collapse of more than 5 metres of scaffold
 Contact with overhead cables
 Injury to member of public
 Risk of drowning, working adjacent to water
 3-day absence from normal duties
 Major Injuries
 Fatalities
 Guidance

Health and Safety in Construction (HSG 150) Health and Safety, Protecting the Public (your next move) HSG151

Copies of the above are available from HSE books suppliers

Standards

BS 1139, Part 3 (1994)

HD 1004: 1992

BS EN 1298

Copies of standards can be obtained from:

British Standards Institution
 389 Chiswick High Road
 London W4 4AC

THE HEALTH & SAFETY EXECUTIVE

Is a government appointed body to act as an enforcing authority and is responsible for enforcing the law and the regulations.

They produce guidance notes to elaborate on the interpretation and implementation of the regulations.

They are responsible for appointing health and safety inspectors to ensure compliance.

Let us have a look at some of the powers of these inspectors.

HAZARDS

WORKING IN PUBLIC PLACES

If working in a public place, you have a statutory obligation to ensure you take precautions to prevent children or unauthorised persons from gaining access to the tower.

You also have an important obligation to protect the public from danger.

Use cones, barriers or even traffic diversions (with permission) to ensure no vehicle(s) can come into contact with the tower structure.

You may need to obtain a special licence to erect a tower in a public place (*sometimes referred to as a 'Pavement Permit'*).

HAZARDS

LIFTING LOADS

Do not lift excessive loads (lifting excessive loads can lead to the tower overturning).

Do not lift outside the base area of the tower.

Always lift loads within the footprint of the tower.

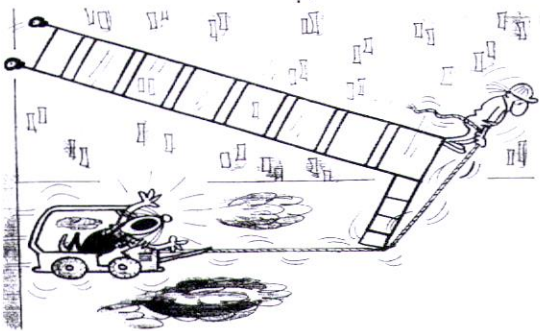
Always avoid any form of shock loading.

GUARD RAILS

Fit double guard rails to all platforms to prevent people falling (remember the maximum gap is 470mm).

Fit toe boards to prevent materials falling from working or storage platforms.

THESE ARE MANDATORY REQUIREMENTS

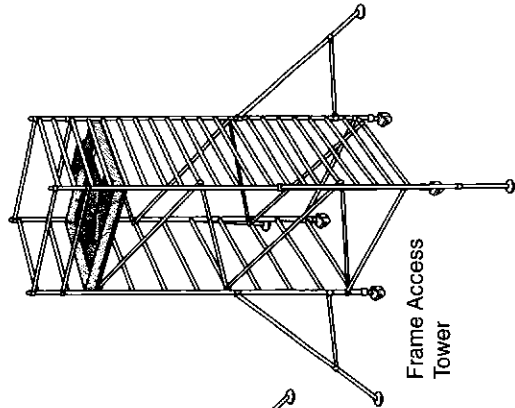
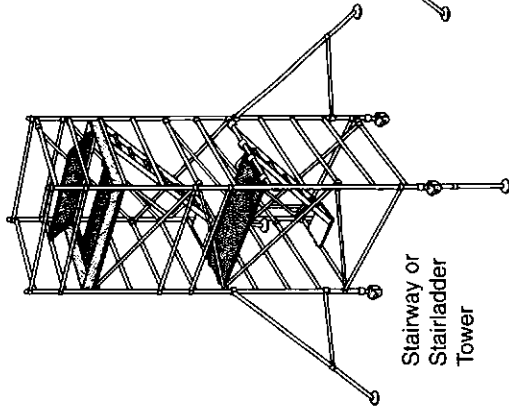
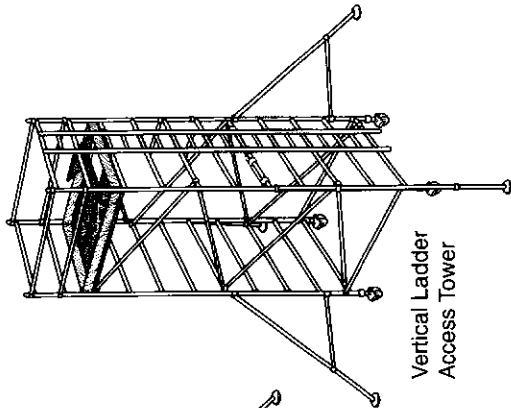
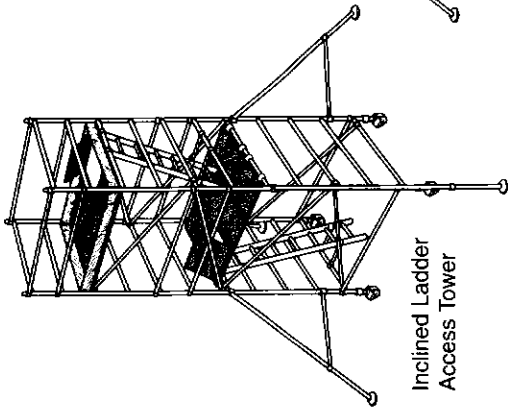


POWERS OF THE INSPECTOR

- Right of entry without appointment
- Right to investigate and examine
- Right to take photographs or samples or equipment
- Right to see documents and take copies
- Right to dismantle or take away substances
- Right to assistance
- Right to ask questions
- Right to seize articles or substances

TYPICAL TYPES OF TOWERS

Towers are usually 1.8m, 2m or 3m long, with a width of 0.6m or 1.4m



HAZARDS

WINDY CONDITIONS

Under normal conditions the self weight of the tower and the stabilisers counteract the horizontal pressures.

Wind increases the horizontal pressures on the tower.

If the wind reaches **17 mph** cease work on the tower. If the wind speed is expected to reach **25 mph** tie the tower in. If the wind speed is likely to reach **40 mph** the tower should be dismantled as quickly as possible.

Towers erected in accordance with the manufacturer's instructions are safe to be used in winds up to **17 mph**.

Be cautious about the use of towers in open ended buildings such as hangers or unclad buildings, as the wind forces in such locations can often be greater than if the towers are used outside the building, due to the funnelling effect of the wind.

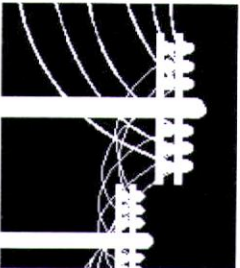
Hand tools, shot blasting or water jetting the horizontal pressure must not exceed 20kgs on a free standing tower.

NEVER SHEET IN A FREE STANDING TOWER

Beaufort Scale 4 is classed as 'moderate breeze'. One would expect wind to raise dust and loose paper; small branches move.

SPEED
13-18 mph

HAZARDS - ELECTRICITY CABLES



The Health & Safety Executive have issued a Guidance Note called 'GS 6(Rev)'
Avoidance of Danger from Overhead Electric Lines.

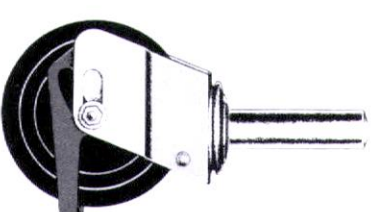
**SAFE
RECOMMENDED
CLEARANCES**
Your tower &
Electricity Pylons
15 Metres

**SAFE
RECOMMENDED
CLEARANCES**
Your tower &
wooden poles
carrying cables
9 Metres

Preferred course of action - refer to the local
Electricity Authority.

**ELECTRICITY IS A SERIOUS HAZARD
IN ALL ASPECTS.**

CASTOR WHEELS



125mm, 150mm or 200mm Diameter.

The Castor Wheel is a separate component, although you normally see them attached to the adjustable leg.

The Castor Wheel is attached to the adjustable leg by a spigot which has a spring loaded retention device.

The Brake **MUST** always be applied, except when the tower is being moved.

The Castor Wheel carries the sum of all the loadings including the self weight of the tower.

DO NOT USE ON UNFIRM GROUND

SPAN FRAME (Double Width)

This is a 4 Rung Double Width Span Frame, usually 2 metres high and is not intended to be climbed.

Double Width is approximately 1.5 metres wide but will vary slightly from manufacturer to manufacturer.

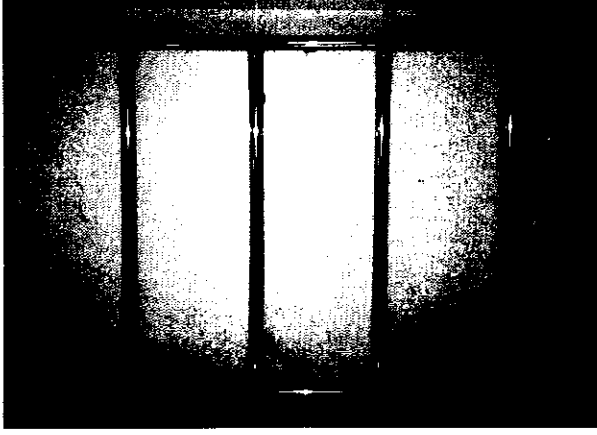
Various rung versions are available depending on the manufacturer.

This Frame takes TWO Platforms side by side, one of which must be a Trapdoor version.

DO NOT CLIMB UP OR DOWN THE RUNGS

YOU MUST USE A LADDER AND IT MUST BE ON THE INSIDE OF THE TOWER

REFER TO MANUFACTURER'S INSTRUCTION MANUAL FOR SUITABLE LADDER ACCESS



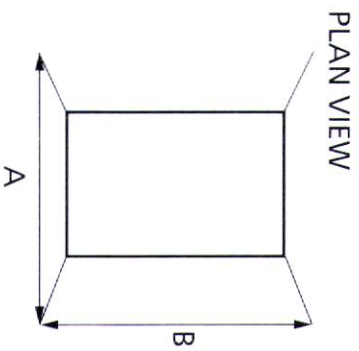
HAZARDS

THIS LIST SHOULD NOT BE REGARDED AS EXHAUSTIVE

STABILITY

The height of the tower affects its stability.

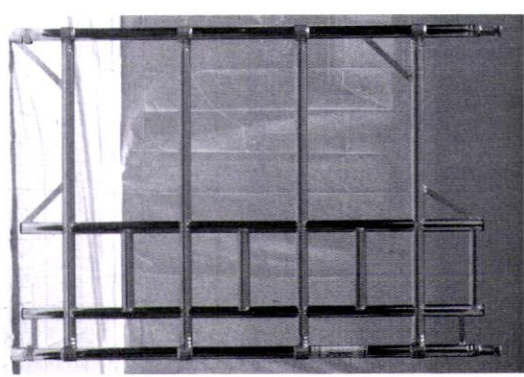
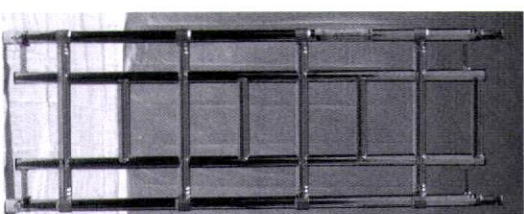
The effective base dimension of the tower is the smaller of the base dimensions of the tower when no stabilisers are fitted.



The effect of using stabilisers or outriggers is to increase the effective base dimension of the tower, therefore increasing the stability.

When fitted, stabilisers should form a perfect square to provide optimum stability.

LADDER FRAME



With this Frame the Ladder is an integral part of the Frame.

A Tower will normally have a Span Frame on the opposite side of the Tower.

YOU MUST ONLY CLIMB UP OR DOWN THE TOWER ON THE INSIDE

INCLINED LADDER

Variations include:

single length and extending type.

Whatever type is used, it must not rest on the ground.

Ladders must be on the inside of the tower.

STAIR LADDER

45° Inclined Ladder.

Tower components include banister braces (2 per ladder).

Rest platforms at every lift (usually 2 metre intervals).

This type of ladder usually has flat steps and not rungs.

A tower c/w stair ladder and banister braces provides a safer access when carrying tools or equipment.

MOVING THE TOWER

When moving, check that the floor or surface is suitable.

Check the tower is clear of over-head obstructions before moving, particularly electric cables.

Never move towers with men or materials on any platform.

Towers should only be moved by pushing manually at the base.

Never use powered vehicles to move the tower.

Never move towers in high winds.

Ensure any holes, ducts, pits or grates are avoided or securely covered.

Clearance on the stabiliser should not be more than 25mm (1").

CEASE WORK ON TOWERS IF EXPOSED TO WINDS IN EXCESS OF 17 mph

17 mph - a moderate breeze or where the wind raises dust, loose paper, and moves small branches on trees.

In industrial areas, housing estates, public places, etc. take all necessary precautions, like fencing the base of the tower to prevent children or vandals from climbing the tower and vehicles colliding with the tower.

Ensure that platforms are tied down using the wind-locking device in windy or severe weather conditions.

FIXED OR STANDARD PLATFORM

Platform lengths are usually 2, 2.5 or 3 metres with a **MINIMUM** width of 600mm.

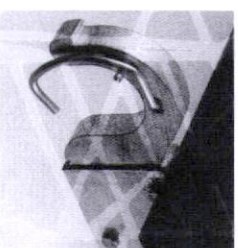
Usually fitted with a wind lock device.

The platform has a non-slip ply deck supported by a platform frame.

Never paint the deck as this can conceal any defects and negate a non-slip surface.

These platforms are for use in double width towers in conjunction with trap platforms.

NEVER USE A FIXED OR STANDARD PLATFORM IN A SINGLE WIDTH OR NARROW WIDTH TOWER. THERE IS NO TRAPDOOR & THEREFORE NO ACCESS ON TO THE PLATFORM



TRAPDOOR OR HINGED PLATFORM

Same platform lengths and width as the standard platform.

Usually fitted with a wind lock device.

The platform has a non-slip ply deck supported by a platform frame.

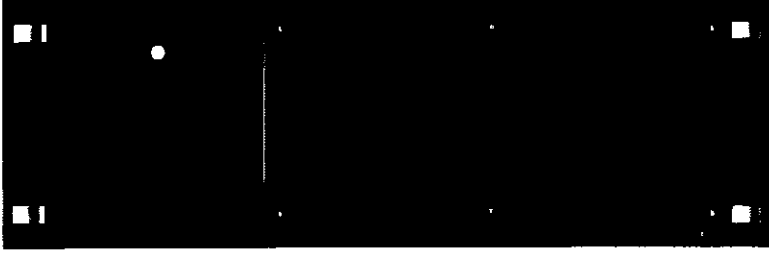
Never paint the deck as this can conceal any defects and negate a non-slip surface.

The trapdoor or hinged platform is the **ONLY** type of platform to be used in a single or narrow width tower.

The trap allows access and egress to the platform.

There is a full hinged platform available, and is normally used with a stairladder type tower.

Hinges should be on the outboard of the tower.



DURING USE OF THE TOWER

Ensure safe working load of the tower is not exceeded.

Inspect the tower before each use. An inspection report may have to be made.

Ensure that no parts have been removed or altered from the correct configuration or have been vandalised.

Ensure that outriggers or stabilisers are correctly positioned and secured.

Check that ties, ballast weights or guy ropes are in order if fitted.

Check the tower is vertical and horizontal.

Check that the castors and brakes are operating and are in the locked position.

Ensure the recommended means of access is in place.

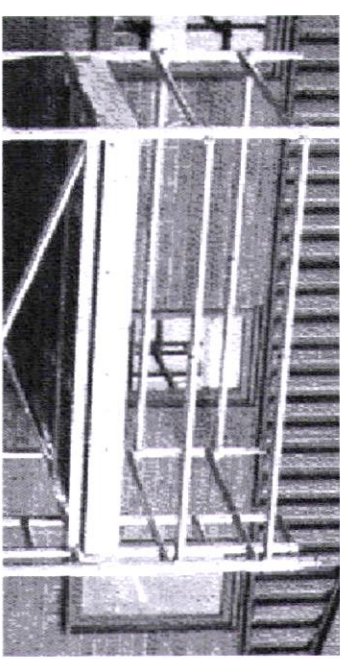
Limit horizontal forces at the platform as much as possible - 20kg (44lb) maximum.

Avoid using the tower in windy or severe weather conditions.

WHEN ERECTING THE TOWER

- Keep to the instructions in the erection manual.
- Keep to the recommended height.
- Check that the castor brakes are on.
- Check adjustable legs are secure.
- Check that the scaffold is vertical and horizontal.
- Fit the manufacturer's recommended bracing pattern as the erection proceeds.
- Fit outriggers or stabilisers, as soon as the base lift has been erected.
- Secure interlocking pins on all spigot and socket joints.
- Fit guardrails and toe boards to all working platforms.
- Fit rest platforms, complete with handrails every 4 metres in height.
- Tie into a structure wherever possible, or arrange for other methods of stability.
- Incomplete towers should have recommended Warning Signs displayed in a prominent position, ie. close to all access points.

TOE BOARDS



- Toe boards are to be fitted in accordance with manufacturer's instructions.
- Minimum height of toeboard is 150mm.
- Toe boards are mandatory on working platforms to prevent materials from falling.
- Toe boards are required if materials or equipment are stored on a platform.
- Toe boards are not required on rest or access platforms, providing nothing is stored on them.

STORAGE & MAINTENANCE

The life of access towers will be increased if proper care is taken during transportation or storage.

Before storage, components should be cleaned to remove corrosive or concrete substances.

During transportation, avoid loading heavy equipment on top of components, space can be saved by placing braces, platforms and stairways in available space within vertically stacked frames.

DISMANTLING A TOWER

Remember:

The Dismantling procedure

Never drop components to the ground, pass them down or use a rope

Never force components on or off

Keep braces in line when one end has been removed

If the tower was tied in, remove the ties progressively as you dismantle the tower until the tower becomes freestanding

Only remove the stabilisers/outriggers when you have to; leave them in place as long as possible

Dismantling is often the reverse of the erection procedure, however be aware that site conditions can change

If you have difficulty - GET HELP!

MOVING A TOWER

When moving a tower avoid pot holes, ducts, drains, manholes and overhead hazards.

After moving the tower, check the alignment (vertical and both planes).

Ensure that frame interlocking clips are still engaged, re-position stabilisers/outriggers as necessary and ensure that they are still fully in contact with the ground.

Tighten clamps/fittings on the stabilisers; when using outriggers check hooks.

Remember to tie in again if the tower was tied in before and if it wasn't it may now need to be.

Do not be careless.

Do not try to move the tower by pulling along from the platform level.

Once again remember to apply 'Belt & Braces' principles when moving the tower.

IF IN DOUBT SEEK ADVICE

ERECTION PROCEDURES

ASSEMBLING A TOWER

Remember to:

- Ensure that you have the appropriate Manufacturer's instruction Manual in your possession and that you follow them at all times
- Read the Instruction Manual and follow the step by step instructions
- Order the correct tower for the job, i.e. dimensions, height, mobile/static, loading capacity etc.
- Check the components check list; identify components, noting the quality and condition
- Check the suitability of the site
- Check the suitability of the route if the tower is to be moved
- Ensure the correct positioning of braces having first checked the brace hooks
- Level the tower, and the importance of the assembly process
- Apply the correct procedure when lifting or lowering components.

MOVING A TOWER

- Moving an aluminium tower is a serious business.
- Ensure sufficient people are available to complete the move.
- Check the intended route for hazards (typical hazards will be covered later). You may find you need more people than you thought.
- Remove all materials from, and ensure no personnel are on the tower, reduce the height of the tower to 4 metres before moving.
- If the tower is tied in, remove the ties progressively as you dismantle the tower to a point where it becomes free standing (refer to Manufacturer's Instruction Manual).
- When moving the tower lift stabilisers 25mm only off the ground.
- Unlock the castors, this is the only time that the brakes should be released; the brakes must be put back on at the earliest opportunity.
- The tower should only be moved by manually pushing at the base. Never use mechanical means, e.g. towed by a fork lift or dumper truck.
- Never re-position a tower by lifting with a crane.