



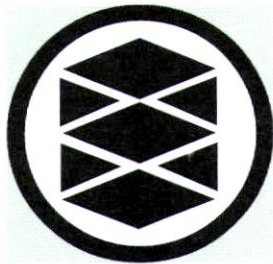
Eveready Training

a Division of Eveready Equipment Hire Limited

**Alloy Tower Systems
PASMA Training Course**

1 day Training Programme
Start 08.30am Close 4.00pm

- Introduction
- Legal requirements
- Tower examples
- Tower components
- Stability
- Hazards
- Written test
- Practical test



PASMA

PASMA

Prefabricated Aluminium Scaffolding
Manufacturers' Association
Major manufacturers
Code of Practice
Recognised by HSE
Certificate of Competency
ID Card

Course Objective

The delegate will be competent to erect, dismantle, inspect and report on BOSS Tower from WYoungman
In conjunction with the manufacturer's instruction manual, will be competent to erect, dismantle, inspect and report on **all** PASMA members' towers

Competence

As defined in Construction (Health, Safety & Welfare) Regulations

"Any person who carries out any activity... shall possess such training, technical knowledge or experience... as may be appropriate..."

ITEM NO : 90-032



Hasawa

Health & Safety at Work (etc.) Act (1974)
Employers' responsibilities
Information, instruction, training & supervision
Safe systems of work
Safe working environment
Safe transportation & storage
Ultimate responsibility for unsafe actions of employees

Hasawa

Health & Safety at Work (etc.) Act (1974)
Employees' responsibilities
Own safety
Safety of others affected by your work
Co-operate with employers
Must not disregard training, instruction
Must not interfere with or misuse safety devices

Regulations

Construction (Health, Safety & Welfare) Regulations (1996)
Management of Health & Safety at Work Regulations (1992)
Provision and Use of Work Equipment Regulations (1998)
Personal Protective Equipment at Work Regulations (1992)
Manual Handling Operations Regulations (1992)
Reporting of Injuries, Diseases & Dangerous Occurrences
Regulations (1995)

Need for Training

As explained in POWER 98, for users of work equipment

*must have adequate training for the
purposes of health & safety
in the use of work equipment
any risks involved in the use
precautions to be taken*

And for Managers and Supervisors

*must have adequate training for the
purposes of health & safety
in the use of work equipment
any risks involved in the use
precautions to be taken*

Guidance

HSE Guidance Note GS42 (1987)
Health & Safety in Construction
HS(G)150
PASMA Operator's Code of
Practice



Standards

BS1139, Part 3 (1994)
HD1004 (1992)
Scope of the Standard
European Harmonisation Document
Not compulsory
Regulations may not be more onerous
BS EN 1298



LICENCE NO 4408667

Tower Examples

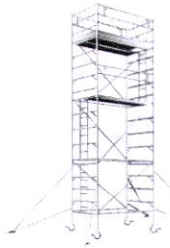
Stairladder Tower

Double width
1.3m wide
1.5m long
Platforms at 2m intervals
Inclined ladder access



Span Tower

Double width
1.3m wide
1.5m, 2.5m & 3.2m long
Platforms on any rung
Vertical ladder access



Narrow Span Tower

Single width
0.8m wide
1.5m, 2.5m & 3.2m long
Platforms on any rung
Trapdoor platforms
Vertical ladder access

Tower Components

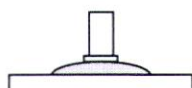
Castor Wheel

125mm, 150mm or
200mm diameter
Attach to adjustable leg
Prevent movement
Trail, no trail brake
Carries sum of all loadings
on tower



Base Plate

Attach to adjustable leg
Use if tower is static
Use if tower is on sloping ground



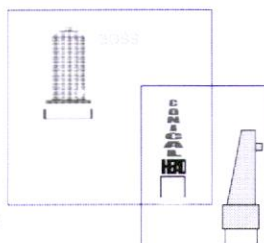
Adjustable Leg

Connects to castor or base plate
Fits into base frame
Allow 100mm adjustment



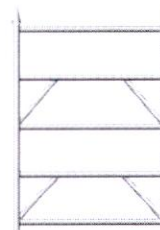
Frames - General

Floating spigot
Uses Spigot
Safer
Quicker
Easier
Damage resistant
(Conical head spigot
No need for circlips
Studs must face inside)



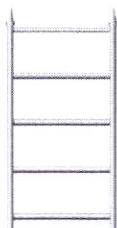
Span Frame

4 or 5 rung, 2m section
Platforms on any rung
Do not climb rungs
Use ladder on inside
1.5m & 1m frames available
Flexibility in height
1m frame can be used as guardrail



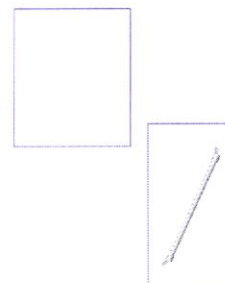
Narrow Frames

Similar to span frames
0.8m wide
Intended for confine applications
Platforms on any rung
Do not climb rungs
Use ladder on inside
2m, 1.5m and 1m sizes



Braces

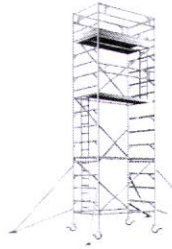
Horizontal & diagonal
Claws at each end
Fitted with spring loaded locking devices



"No prime" triggers
Rhino horn hook
Damage resistant
Longitudinal weld

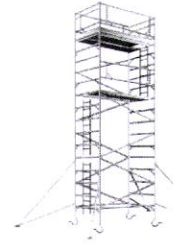
Bracing Patterns

Follow suppliers' instruction manual
Deep diagonal brace
Brace across joints
Base diagonals
Repeat pattern
Interchangeability



Bracing Patterns

Follow suppliers' instruction manual
Shallow diagonal brace
Brace across joints
No base diagonals
Repeat pattern
No interchangeability
Different patterns



Ladder Access

Need to provide a safe method of access to the working platform
Access must be from the inside of the tower
Ladder must not rest on the ground

Vertical Ladder

Clip in ladder (not BOSS)
Must be inside
150mm from frame
Consistent rung spacing
Must be continuous
Change sides at intermediate platforms

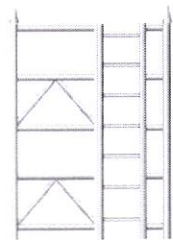


Inclined Ladder

Cannot rest on ground
Rest on platform
Specially adapted
Must be inside
Intermediate platform required at changeover

Integral Ladder

Part of frame structure
Must climb inside of tower
Requires 2 different kinds of frames
Ladders must be continuous
If not, intermediate platform
Change sides at intermediate levels (some)



Stairladder

45° incline
Bannister brace
2.0m intervals
Platforms every lift
Tools & equipment
can be carried
safely

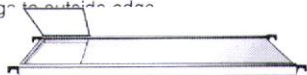
Fixed Platform

Minimum width 600mm
1.5m, 2.5m & 3.2m long
Single windlock device
Non-slip ply deck
Ply protected by stiles
Removable hooks
Use in double width towers



Hinged Platform

Width is 575mm
Use with fixed platform (on some) double width
towers
1.5m, 2.5m & 3.2m long
Allows access / egress
Single windlock device
Non-slip ply deck
Ply protected by stiles
Hinge to outside edge



Trap Platform

Minimum width 600mm
1.5m, 2.5m & 3.2m long
Trap allows entry / egress
Single windlock device
Non-slip ply deck
Ply protected by stiles
Use in narrow width towers



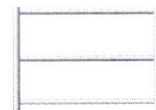
Toeboards

Purpose
Minimum 150mm high
Mandatory on working
platforms if liable to
fall more than 2.0m
Risk assessment may
indicate need on
intermediate platforms



Guardrails

Purpose
Minimum height 910mm
Bs1139 - 1.0m
Mid-guardrail with gaps of
470mm maximum
Mandatory on all platforms if
liable to fall more than
2.0m



Stabilisers

Increases base size
Increases stability
Can erect higher
Infrequently moved
Cruciform on plan
Must be used to maximum effect
Must sustain load



Outriggers

Increases base size
Increases stability
Can erect higher
Cruciform on plan
Frequently moved
Castors fitted
Plan bracing needed
Must sustain load

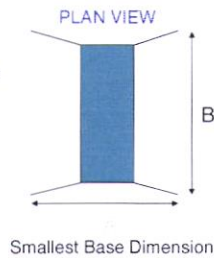
Stability

Stabilisers or outriggers

Increase stability
Increase base area
Increase SBD (smallest base dimension)

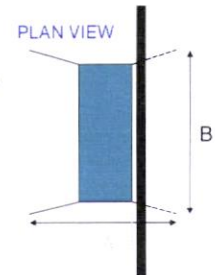
Important

For towers not complying to HD1004
3:1 external (3 x SBD)
3.5:1 internal (3.5 x SBD)



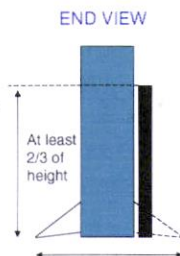
Stability

Use next to a wall or building
Use stabilisers / outriggers to best advantage
Parallel to wall
But, calculate as though stabilisers were in normal position
Provided.....



Stability

Wall or building must extend to at least 2/3 height of tower
Centre of gravity of tower is very high
About 2/3 height



Assembly Instructions

Tower Hazards

Moving a Tower

- Remove men and materials
- Reduce height to 2.5 times smallest base dimension (SBD)
- Lift stabilisers no more than 12mm (1/2") from ground

12mm max



Moving a Tower

- Ensure men and materials are clear of the tower before moving
- Do not move with men or materials on the tower structure



Moving a Tower

- Ensure path is free of obstructions
- Ensure ground is capable of supporting the tower
- Avoid pot-holes, ducts, drainsand manholes



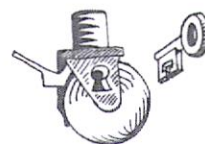
Moving a Tower

- Don't be careless
- Do not move from platform level
- Do not pull tower along at platform level
- Push at base only



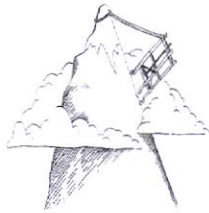
Moving a Tower

- Unlock castors only to move tower
- Ensure all castors are locked before using again
- Check vertical alignment



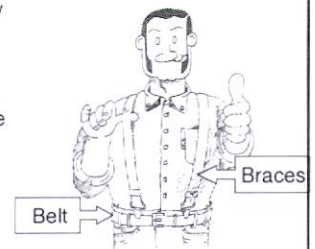
Inclines

Maintain vertical alignment
Avoid using on incline if possible
Use base plates preferably
Do not use a tower which is not vertical



Ties

Be safe, not sorry
Tower may be capable of free-standing
If a tie is available then USE IT
Apply "belt and braces" principle



Getting Started

Ensure instruction manual is on site
Ensure all components are on site
Free of damage and working properly
Inspect before each use



Getting Started

Ensure components are compatible
And of the same manufacture



Instruction Manuals

Ensure instruction manual is on site
Ensure it has been read
Ensure it has been understood



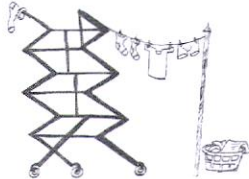
Instruction Manuals

Do not build to a height higher than the manufacturer states is safe
Ensure castors or base plates are not "floating"
Leave levitation to magicians



Instruction Manuals

Always ensure braces are fitted according to the manufacturer's instructions



Overhead Obstructions

Take care to avoid overhead obstructions
Particularly overhead cables
Towers are not insulated



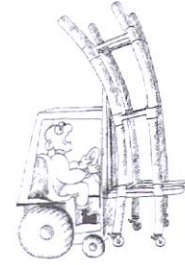
Adverse Weather

Do not use in snow or in frost
Do not use in wind speeds in excess of beaufort force 4
17 mph
Causes dust to blow
Leaves in trees to rustle



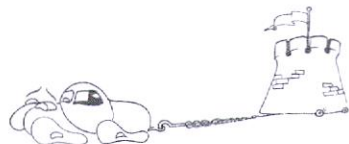
Moving a Tower

Don't move by forklift or any other mechanical means such as ...



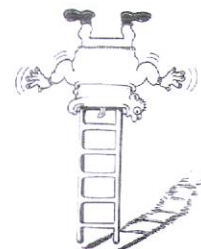
Moving a Tower

Towing with a vehicle
It may seem quicker, but could result in an expensive bill at the repair shop



Access to Platforms

Always use internal ladders
Do not climb frame rungs (unless they are specifically designed for this)



Maximum Design Load

Do not overload the tower
Don't exceed the maximum design load stated by the manufacturer



Adjustable Legs

Intended to level the tower only
Do NOT use adjustable legs to gain additional height



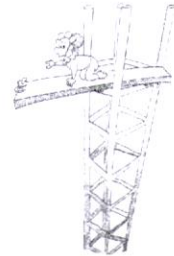
Lifting Loads

Do not lift excessive loads
Do not lift outside the base area of the tower
Where possible lift loads inside the tower



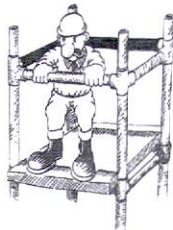
Working in Public Places

Prevent children from climbing the tower
Take precautions to avoid vehicles colliding
May need a license from the local authority



Guardrails

Prevent people from falling by fitting guardrails at all platforms
Fit toeboards to prevent materials falling from working or storage platforms



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



Incomplete Towers

Do fix a warning notice if the structure is to be left incomplete

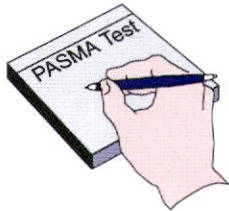


Scaffold Incomplete
Do Not Use

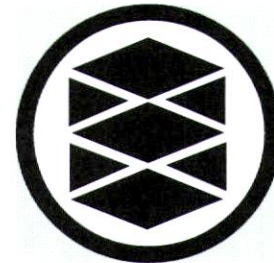


"Dead Simple"
7 Steps to Safety

Test Paper



30 questions
Generally multiple choice
Everything has been covered today
88% Pass Mark
If you are not sure - ASK



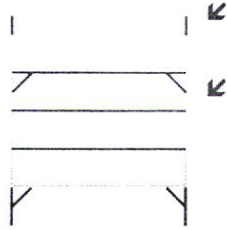
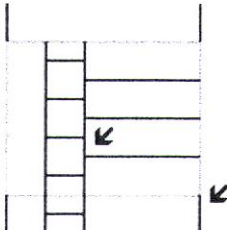
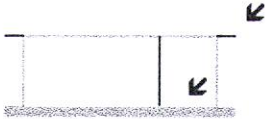


PASMA

Course Objective

The delegate will be competent to erect, dismantle, inspect and report on the BOSS Tower from WYoungmans

In conjunction with the manufacturer's instruction manual, will be competent to erect, dismantle, inspect and report on **all** PASMA members' towers

Happy sheets

	DESCRIPTION & CHECK	QTY		IN	OUT
 <p>END FRAME</p>	Rungs <input type="checkbox"/> Casting <input type="checkbox"/> Weld <input type="checkbox"/> Uprights/Tubes* <input type="checkbox"/> Spigots <input type="checkbox"/> Reinforcement <input type="checkbox"/> Interlock Clips <input type="checkbox"/> *indentation no more than 5mm				
 <p>LADDER END FRAME</p>	Rungs <input type="checkbox"/> Castings <input type="checkbox"/> Weld <input type="checkbox"/> Uprights/Tubes* <input type="checkbox"/> Spigots <input type="checkbox"/> Reinforcement <input type="checkbox"/> Ladder/Stiles/Rungs <input type="checkbox"/> *indentation no more than 5mm				
<p><u>DAMAGE REPORT</u></p>					
 <p>PLATFORMS</p>	Hooks <input type="checkbox"/> Supports <input type="checkbox"/> Welds <input type="checkbox"/> Deck Fixing Rivets <input type="checkbox"/> Deck Damage <input type="checkbox"/> Hinges <input type="checkbox"/> Labels <input type="checkbox"/>				
 <p>BRACES</p>	Hooks <input type="checkbox"/> Tube* <input type="checkbox"/> Welds <input type="checkbox"/> Straightness <input type="checkbox"/> Labels <input type="checkbox"/> *indentation no more than 5mm				
 <p>ADJUSTABLE LEG</p>	Adjuster <input type="checkbox"/> Thread <input type="checkbox"/> End Collar <input type="checkbox"/> Straightness <input type="checkbox"/>				

TWRLIST.96RW