BOSS®

CLIMA AGR

Mobile Aluminium Tower with Climbing Frames 1450/850 Camlock Advanced Guardrail

USER GUIDE

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Safety First

Introduction

Please read this user guide carefully.

Please note that diagrams are for illustrative purposes only. User guides are also available to download from our website at **bossaccesstowers.com.**

BoSS Mobile Aluminium Towers are light-weight scaffold towers used throughout the building and construction industry for both indoor and outdoor access solutions where a stable and secure platform is required. Ideal for maintenance and installation work or short-term access, the highly versatile towers provide a strong working platform for a variety of heights.

This user guide provides you with step by step instructions to ensure your system is erected easily and safely, using the AGR (Advance Guard Rail) method.

The law requires that personnel erecting, dismantling or altering towers must be competent. Any person erecting a BoSS Mobile Tower must have a copy of this user guide. For further information on the use of mobile access and working towers consult the PASMA operators' code of practice.

If you need further information, design advice, additional user guides or any other help with this product, please contact the manufacturer on **+44 (0)1621 745900 or email uk.customercare@wernerco.com.**

Compliances

Following examination by the SP Technical Research Institute of Sweden, this Mobile Access tower has been issued with a Type Examination Certificate No 249405 in accordance with the requirements of Ordinance AFS 2013:4 Stallningar, type examination rules SPCR 064 for temporary structures and SS-EN 1004:2005 including appurtenant standards. This tower is certified to EN1004:2004.

SP
Typkontrollerad
SPCR 064
enligt Arbetsmiljö-verkets krav
AFS 2013:4

Instruction Manual
EN 1298-IM-EN

Safety First

Preparation and inspection

Inspect the equipment before use to ensure that it is not damaged and that it functions properly. Damaged or incorrect components should not be used.

Safe use

- Check that all components are onsite, undamaged and that they are functioning correctly - (refer to Checklist and Quantity Schedules). Damaged or incorrect components should not be used.
- Check if the ground on which the mobile access tower is to be erected and moved is capable of supporting the tower.
- The safe working load is 275kgs (606lbs), per platform level, uniformly distributed up to a maximum of 950kgs (2100lbs), per tower (including self-weight).
- Towers must be climbed from the inside using the rungs directly below the trapdoor during assembly and use.
- It is recommended that towers should be tied to a solid structure when left unattended.
- Adjustable legs should only be used for levelling.

Lifting of equipment

- Tower components should be lifted using a reliable lifting material (e.g. strong rope) employing a reliable knot (e.g. clove hitch) to ensure safe fastening and always lift within the footprint of the tower.
- Assembled mobile towers should not be lifted with a crane or other lifting device.

Safety First

Stabilisers / Ballast

- Stabilisers or outriggers and ballast weights should always be fitted when specified.
- The Quantity Schedules show the recommended stabilisation. In circumstances where there is restricted ground clearance for stabilisers/outriggers, contact your supplier for advice. Ballast must be of solid materials (i.e. not water or loose sand) and should not be positioned to overload individual legs. Ballast should be secured against accidental removal where practicable, and be supported on the lowest rung of the bottom frame.

Movement

- The tower should only be moved by manual effort, and only from the base.
- When moving the tower, beware of live electrical apparatus, particularly overhead, plus wires or moving parts of machinery.
- No person or materials should be on the tower during movement.
- Caution should be exercised when wheeling a tower over rough, uneven or sloping ground, taking care to unlock and lock castors. If stabilisers are fitted, they should only be lifted a maximum of 25mm above the ground to clear ground obstructions.
- The overall height of the tower when being moved, should not exceed 2.5 times the minimum base dimensions, or 4 metres overall height.
- Before use, check the tower is still correct and complete.
- After every movement of the tower use a spirit level to check that it is vertical and level and set the adjustable legs as required.
- Do not move the tower in wind speeds over 7.7 metres per second (17mph).

Safety First

During use

- Beware of high winds in exposed, gusty or medium breeze conditions. We recommend that in wind speeds over 7.7 metres per second (17mph), cease working on the tower and do not attempt to move it. If the wind becomes a strong breeze, expected to reach 11.3 metres per second (25mph), tie the tower to a rigid structure. If the wind is likely to reach gale force, over 18 metres per second (40mph), the tower should be dismantled.

Wind description	Beaufort scale	Beaufort no.	Speed in mph	Speed in m/sec
Medium breeze	Raises dust and loose paper, twigs snap off	4	8 - 12	4 - 6
Strong breeze	Large branches in motion, telegraph wires whistle	6	25 - 31	11 - 14
Gale force	Walking is difficult	8	39 - 46	17 - 21

- Beware of open-ended buildings, which can cause a funnelling effect.
- Do not abuse equipment. Damaged or incorrect components should not be used.
- Raising and lowering components, tools, and/or materials by rope should be conducted within the lower base. Ensure that the safe working load of the supporting decks and the tower structure is not exceeded.
- The assembled tower is a working platform and should not be used as a means of access or egress to other structures.
- Beware of horizontal forces (e.g. power tools) which could generate instability. Maximum horizontal force 30kg.
- The stairway towers, featuring an inclined staircase access, are for frequent use by personnel carrying tools and/or materials.
- Mobile towers are not designed to be suspended - please refer to your supplier for advice.
- Do not use boxes or stepladders or other objects on the platform to gain extra height.

Safety First

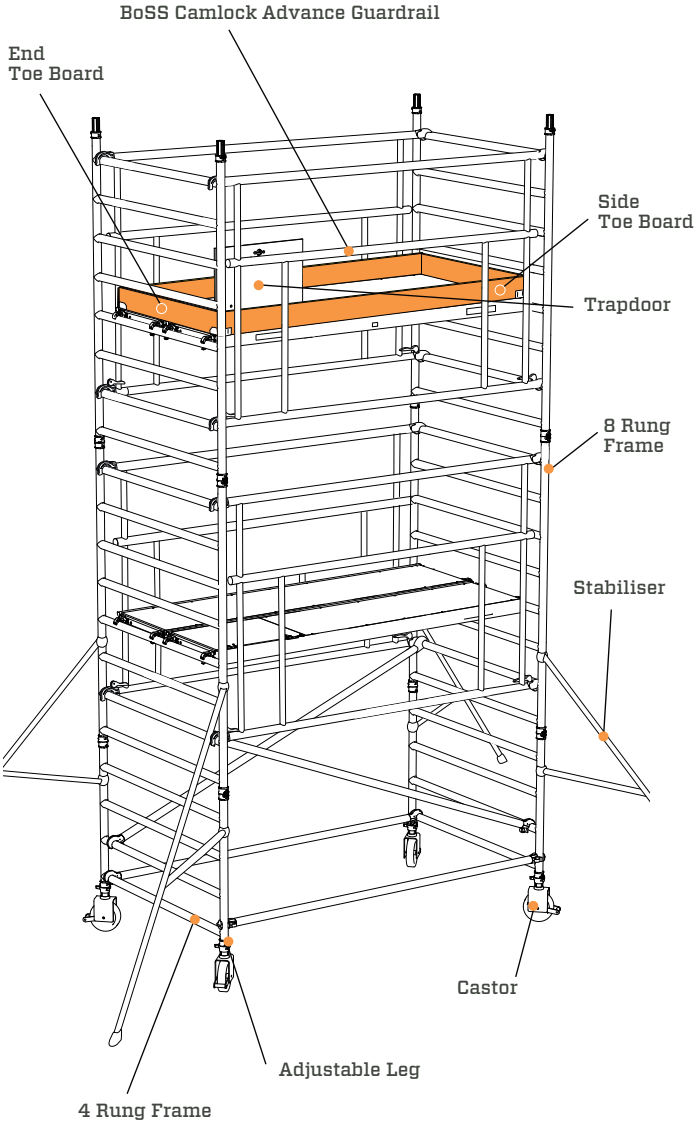
Ties

- Ties should be used when the tower goes beyond its safe height, beyond the limits of the stabilisers/outriggers, or if there is a danger of instability. They should be rigid, two way ties fastened to both uprights of the frame with load-bearing right angled or swivel couplers. Only couplers suitable for the 50.8mm diameter tube of the tower should be used. Ideally, ties should be secured to both faces of a solid structure by means of anchorages.
- The tie frequency may vary depending on the application, but they should (at a minimum) be every 4 metres height.
- For further information on tying-in a tower please contact your supplier or uk.customercare@wernerco.com.

Maintenance - storage - transport

- All components and their parts should be regularly inspected to identify damage, particularly to joints. Lost or broken parts should be replaced, and any tubing with indentation greater than 5mm should not be used and put to one side for manufacture repair. Adjustable leg threads should be cleaned and lightly lubricated to keep them free running.
- Brace claws, frame interlock clips, trapdoor latches and platform wind-locks should be regularly checked to ensure they lock correctly.
- Refer to the BoSS User Guide for detailed inspection and maintenance advice.
- Components should be stored with due care to prevent damage.
- Ensure components are not damaged by excessive strapping forces when transported.

Safety First

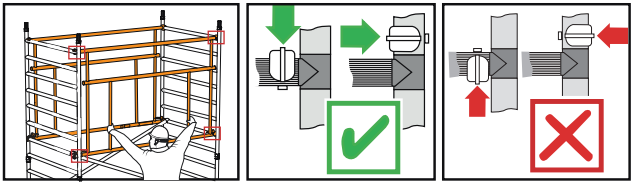


Safety Checklist

Mobile towers - AGR method

Checklist

Ensure all brace claws & camlocks operate and lock correctly prior to erection	✔
Inspect components prior to erection	✔
Inspect tower prior to use	✔
Tower upright and level	✔
Castors locked and legs correctly adjusted	✔
Diagonal braces fitted	✔
Stabilisers/outriggers fitted as specified	✔
Platforms located and wind-locks on	✔
Toe boards located	✔
Check guardrails are fitted correctly- See illustration below.	✔



Ensure horizontal braces and guardrails are fitted correctly. Always fit as shown.

Refer to this checklist before using each time.

Quantity Schedule - 1450

BoSS Camlock AGR using Clima - 1450mm wide x 1.8 & 2.5m long

BoSS Clima 1450 to EN 1004: Available in 2 lengths - 1.8m and 2.5m

	Internal or external use - towers under 2.5m are outside of the scope of EN 1004										Internal use only					
Working height (m) Platform height (m)	**4.2 2.2**	**4.7 2.7**	**5.7 3.7**	**6.2 4.2**	**6.7 4.7**	**7.7 5.7**	**8.2 6.2**	**8.7 6.7**	**9.7 7.7**	**10.2 8.2**	**10.7 8.7**	**11.7 9.7**	**12.2 10.2**	**12.7 10.7**	**13.7 11.7**	**14.2 12.2**
125/150/200mm Castor	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
250mm Adjustable Leg	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
1450 4 Rung Frame	2		2	2		2	2		2	2		2	2		2	2
1450 6 Rung Frame		2	2		2	2		2	2		2	2		2	2	
1450 8 Rung Frame	2	2	2	4	4	4	6	6	6	8	8	8	10	10	10	12
1.8m / 2.5m Fixed Deck	1	1	2	2	2	3	3	3	4	4	4	5	5	5	6	6
1.8m / 2.5m Trap Deck	1	2	2	2	3	3	3	4	4	4	5	5	5	6	6	6
1.8m / 2.5m Horizontal Brace (Red)	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
2.1m / 2.7m Diagonal Brace	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
1.8m / 2.5m Side Toe Board	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
1.2m End Toe Board	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Toe Board Holder	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
1.8m / 2.5m Camlock AGR	2	2	4	4	4	6	6	6	8	8	8	10	10	10	12	12
SP7 Fixed Stabiliser	4	4	4	4	4											
SP10 Telescopic Stabiliser						4	4	4	4	4	4	4	4	4	4	4
Total Self-Weight of Tower (Kg) - 1.8m	**136**	**155**	**196**	**201**	**220**	**261**	**279**	**297**	**338**	**343**	**362**	**403**	**408**	**427**	**468**	**473**
Total Self-Weight of Tower (Kg) - 2.5m	**153**	**177**	**226**	**231**	**255**	**303**	**321**	**345**	**393**	**398**	**422**	**471**	**475**	**499**	**548**	**553**

Quantity Schedule

1450 width towers

Number of working platforms allowed

The MAXIMUM SAFE WORKING LOAD (the combined weight of the users, tools and materials) that may be placed on the tower is the total weight less the self-weight of the tower. The total weight for the towers shown in the schedule is 950kg.

Example 1:
A 1450 Clima tower built using the AGR method with a 4.2m platform height and a platform length of 1.8m has a self-weight of 201kg.

950kg Total Weight − **201kg** Self-weight = **749kg** maximum safe working load (users, tools and materials)

Example 2:
A 1450 Clima tower built using the AGR method with a 11.7m platform height and a platform length of 2.5m has a self-weight of 548kg.

950kg Total Weight − **548kg** Self-weight = **402kg** maximum safe working load (users, tools and materials)

For greater heights and loads, contact us for guidance.

Platform loading

On a 1450 tower a platform may comprise of a single deck or two decks placed side by side. The maximum safe working load (the combined weight of the users, tools and materials) that may be placed on a platform is 275kg. This must be evenly distributed over either one deck, or two decks placed side by side.

The quantities on page 9 will enable BoSS towers to be built safely and therefore comply with the requirements of the Work at Height Regulations. They include double guardrails to all platforms, and toe boards will need to be added if any levels are used as working platforms and for storage of materials.

EN 1004 requires platforms at least every 4.2m, and these measures will exceed that requirement.

Quantity Schedule

1450 width towers

Ballast: Internal/external use

There is no requirement for ballast on 1450 towers if using stabilisers as detailed in the table on page 9.

Mobile Outriggers

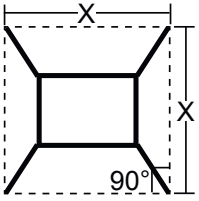
MP16 outriggers can be used instead of SP15 stabilisers, as detailed below. Mobile outrigger kits comprise:

Mobile outrigger kit	
MP16 Mobile Outrigger	4
125/150/200mm Castor (Use same diameter castors as on tower)	4
250mm Adjustable leg	4
Plan Braces	4
The above components replace:	
SP15 Stabiliser	4

Stabilisers

To improve rigidity, larger stabilisers can be used at a lower level than shown in the table on page 9.

Angle of Stabiliser 1450 Tower



Double width 1450 Towers Dimension X

	Platform length 1.8m	Platform length 2.5m
SP7	X= 3351	X= 3629
SP10	X= 4789	X= 5100
SP15	X= 5520	X= 5838

Quantity Schedule - 850

BoSS Camlock AGR using Clima - 850mm wide x 1.8 & 2.5m long

BoSS Clima 850 to EN 1004: Available in 2 lengths - 1.8m and 2.5m

	Internal or external use - towers under 2.5m are outside of the scope of EN 1004										Internal use only					
Working height (m) **Platform height (m)**	4.2 2.2	4.7 2.7	5.7 3.7	6.2 4.2	6.7 4.7	7.7 5.7	8.2 6.2	8.7 6.7	9.7 7.7	10.2 8.2	10.7 8.7	11.7 9.7	12.2 10.2	12.7 10.7	13.7 11.7	14.2 12.2
125/150/200mm Castor	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
250mm Adjustable leg	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
850 4 Rung Frame	2		2	2		2	2		2	2		2	2		2	2
850 6 Rung Frame		2	2		2	2		2	2		2	2		2	2	
850 8 Rung Frame	2	2	2	4	4	4	6	6	6	8	8	8	10	10	10	12
1.8m / 2.5m Trap Deck	1	2	2	2	3	3	3	4	4	4	5	5	5	6	6	6
1.8m / 2.5m Horizontal Brace (Red)	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
2.1m / 2.7m Diagonal Brace	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
1.8m / 2.5m Side Toe board	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
0.6m End Toe board	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Toe board Holder	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
1.8m / 2.5m Camlock AGR	2	2	4	4	4	6	6	6	8	8	8	10	10	10	12	12
SP7 Fixed Stabiliser	4	4	4	4	4											
SP10 Telescopic Stabiliser						4	4	4	4		4	4	4	4	4	4
Sp15 Telescopic Stabiliser										4						
Total Self-Weight of Tower (Kg) - 1.8m	**112**	**130**	**154**	**158**	**176**	**212**	**216**	**234**	**258**	**276**	**279**	**303**	**307**	**325**	**349**	**353**
Total Self-Weight of Tower (Kg) - 2.5m	**124**	**147**	**173**	**177**	**200**	**239**	**242**	**265**	**292**	**310**	**318**	**345**	**348**	**371**	**398**	**401**

Quantity Schedule

850 width towers

Number of working platforms allowed

The MAXIMUM SAFE WORKING LOAD (the combined weight of the users, tools and materials) that may be placed on the tower is the total weight less the self-weight of the tower. The total weight for the towers shown in the schedule is 950kg.

Example 1:

An 850 Clima tower built using the AGR method with a 4.2m platform height and a platform length of 1.8m has a self-weight of 158kg.

950kg Total Weight − **158kg** Self-weight = **792kg** maximum safe working load (users, tools and materials)

Example 2:

An 850 Clima tower built using the AGR method with a 10.2m platform height and a platform length of 2.5m has a self-weight of 348kg.

950kg Total Weight − **348kg** Self-weight = **602kg** maximum safe working load (users, tools and materials)

For greater heights and loads, contact us for guidance.

Platform loading

On an 850 tower a platform comprises of a single deck only. The maximum safe working load (the combined weight of the users, tools and materials) that may be placed on a platform is 275kg, evenly distributed over the deck.

The quantities on page 12, will enable BoSS towers to be built safely and therefore comply with the requirements of the Work at Height Regulations. They include double guardrails to all platforms, and toe boards will need to be added if any levels are used as working platforms and for storage of materials.

EN 1004 requires platforms at least every 4.2m, and these measures will exceed that requirement.

Quantity Schedule
850 width towers

Ballast: Internal/external use

There is no requirement for ballast on 850 towers if using stabilisers as detailed in the table on page 12.

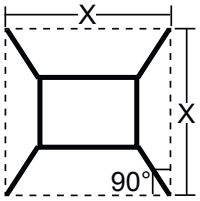
Mobile outriggers

MP16 mobile outriggers can be used instead of SP15 telescopic stabilisers respectively, as detailed below.
Mobile outrigger kits comprise:

Mobile outrigger kit	
MP16 Mobile Outrigger	4
125/150/200mm Castor (Use same diameter castors as on tower)	4
250mm Adjustable Leg	4
Plan Braces	4
The above components replace:	
SP15 Stabiliser	4

Stabilisers

To improve rigidity, larger stabilisers can be used at a lower level than shown in the table on page 12.



Single Width 850 Towers Dimension X

	Platform length 1.8m	Platform length 2.5m
SP7	X= 2994	X= 3201
SP10	X= 4458	X= 4734
SP15	X= 5195	X= 5485

Assembly Procedure

AGR method

Assembly and dismantling procedures

When building a BoSS Tower:

- To comply with the Work at Height Regulations we show assembly procedures with platforms every 2 metres in height, and the locating of guardrails in advance of climbing onto a platform to reduce the risk of a fall.
- All platforms feature double guardrails on both faces of either individual platforms or fully decked levels.
- All guardrails should be 2 and 4 rungs (0.5m and 1.0m) above platforms.
- Never stand on an unguarded platform positioned above the first rung of a tower. If your risk assessment shows it necessary, you may also need to guardrail platforms at this level.
- **Always start building with the smallest height frames at the base of the tower:**

Platform heights in metres	Frame at base	1st Deck	1st AGR
2.2, 4.2, 6.2, 8.2, 10.2, 12.2	4 rung	8th rung	6th rung
2.7, 4.7, 6.7, 8.7, 10.7	6 rung	2nd rung	3rd rung
3.7, 5.7, 7.7, 9.7, 11.7	4 + 6 rung	6th rung	2nd rung

Where all three frame heights are used in a tower, start with a 4 rung frames at the base, with the 6 rung frames next and the 8 rung frames on the top. Refer to the Quantity Schedules for detail.

Assembly Procedure

AGR method

Assembly for 850 & 1450 towers

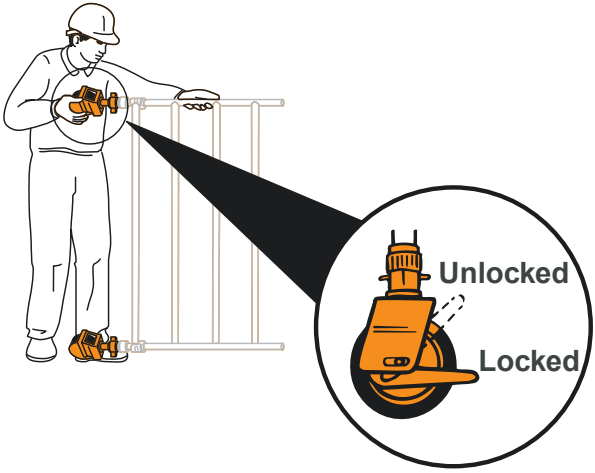
BoSS recommend two persons are used to build BoSS Towers. Above 4m height, it is essential that at least two persons are used. Only climb the tower from the inside.

Always start building with the smallest height frames at the base of the tower:

Platform heights in metres	Frame at base	1st deck	1st AGR
2.2, 4.2, 6.2, 8.2, 10.2, 12.2	4 rung	8th rung	6th rung
2.7, 4.7, 6.7, 8.7, 10.7	6 rung	2nd rung	8th rung
3.7, 5.7, 7.7, 9.7, 11.7	4 + 6 rung	6th rung	2nd rung

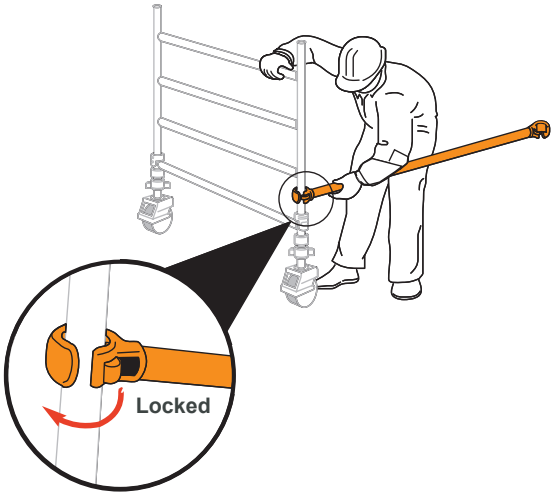
Where all three frame heights are used in a tower, start with a 4 rung frames at the base, with the 6 rung frames next and the 8 rung frames on the top. Refer to the Quantity Schedules for detail. The procedure illustrated shows a 1450 tower starting with a 4 rung frame and a platform height of 4.2m. If building an 850 tower, the following method can be used with single decks at all levels.

1 Push four castors onto four adjustable legs. Insert adjustable legs into two end frames as shown. Lock castor brakes. Base plates can be fitted to adjustable legs if it is not necessary to move the tower.

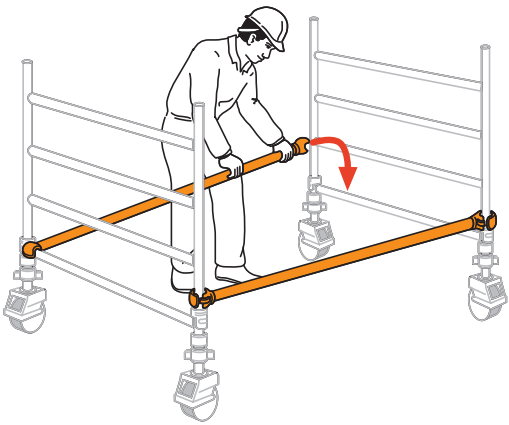


Assembly Procedure

2 Fit one horizontal brace (red) onto the vertical of an end frame, just above the bottom rung, with the claw facing outwards.
Note: All locking claws must be opened before fitting.



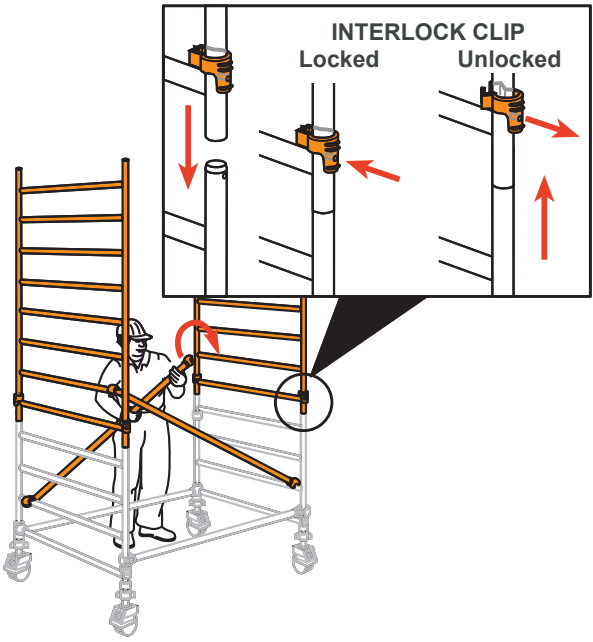
3 Position the second end frame as shown and fit the other end of the horizontal brace on to the vertical, just above the bottom rung. Fit a second horizontal brace on the bottom rungs on the other side of the frames to square the tower.



Assembly Procedure

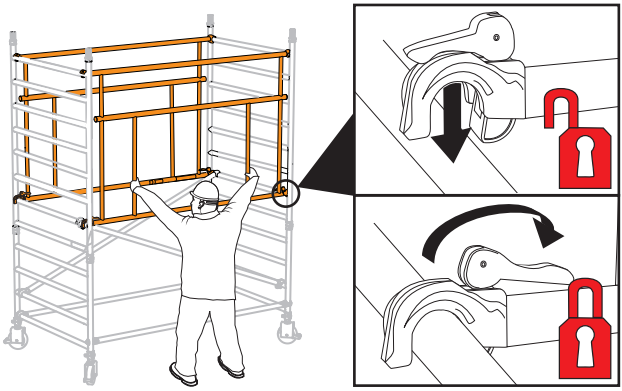
4 Fit two additional end frames and check the frame interlock clips are engaged. Fit two diagonal braces (blue) in opposing directions, from the 2nd rung to the 6th rung on the opposing side. Ensure the frames are vertical and level by checking with a spirit level and setting the adjustable legs as required.

IMPORTANT – Only use the adjustable legs to level the tower and not to gain extra height.



Assembly Procedure

5 Fit an AGR on both sides of the tower. The bottom of the AGR must be fitted to the 6th rung of the tower, as shown. The AGR should be placed up against the end frame verticals.



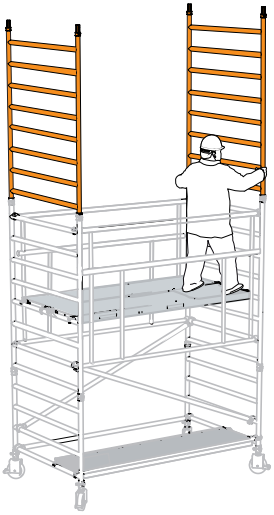
6 Fit the stabilisers (See notes on page 28). If required, fit a temporary deck on the lowest rungs of the tower. Fit a trapdoor deck on the 8th rung on one side of the tower. Ensure the trapdoor is positioned with the hinges towards the outside of the tower as shown. Fit a fixed deck next to the trapdoor deck on the 8th rung. The platform is now complete. Climb the end frame below the trapdoor on the inside of the tower.

If fitted remove the temporary deck from the lowest rungs.

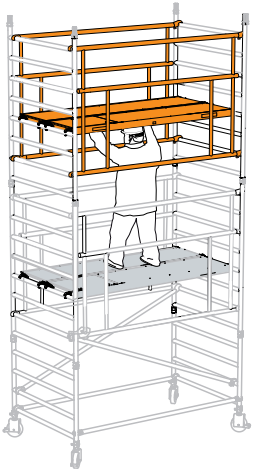
Assembly Procedure

NOTE: The following diagrams show the tower without stabilisers to improve clarity of views.

7 Fit two additional end frames.

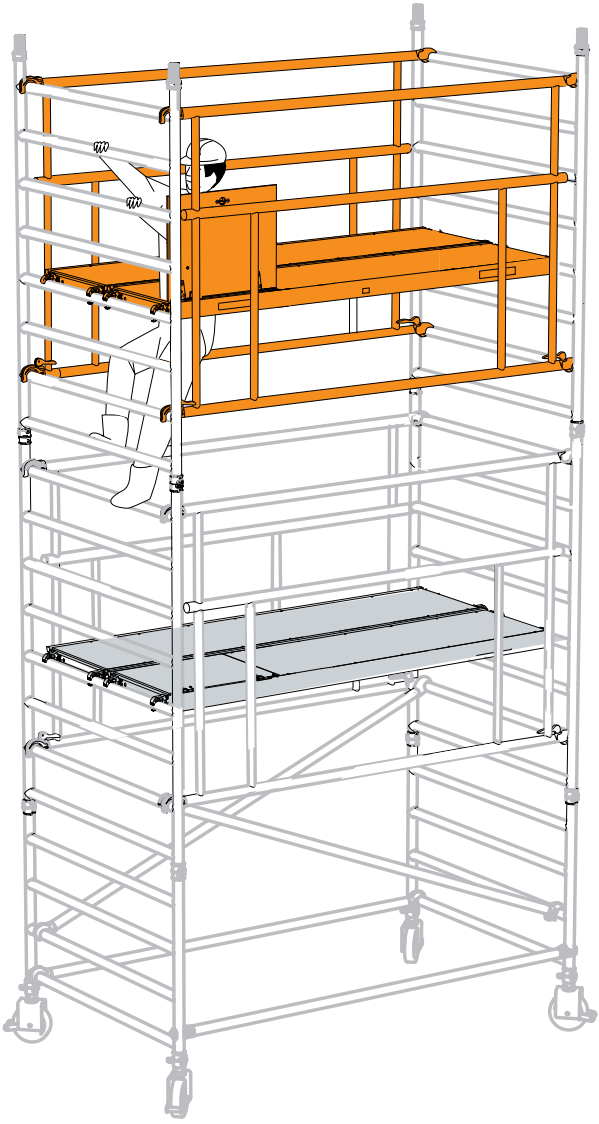


8 Fit two more AGRs to the end frames, with the top claws on the 20th rungs. Fit a trapdoor deck on the 16th rung, with the trapdoor in line with the one below. Place a fixed deck on the 16th rung next to the trapdoor deck.
The tower now has a platform height of 4.2m. If finishing at this height, move on to step 10. If greater platform heights are required, move on to step 9.



Assembly Procedure

9 Continue to add pairs of end frames, AGRs and fit decks as shown in the previous steps.
Continue until the required height is reached.

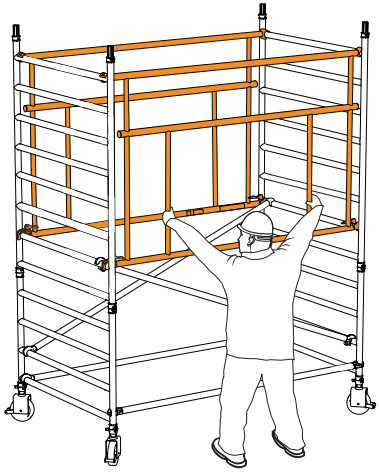


Assembly Procedure

10 Fit toe boards (see Instructions on page 27).
The tower is now complete.

Dismantling Procedure

11 To take down the tower reverse the building sequence. Unlock the camlocks at the bottom of the AGR frame, then lift off the AGR from the end frames.

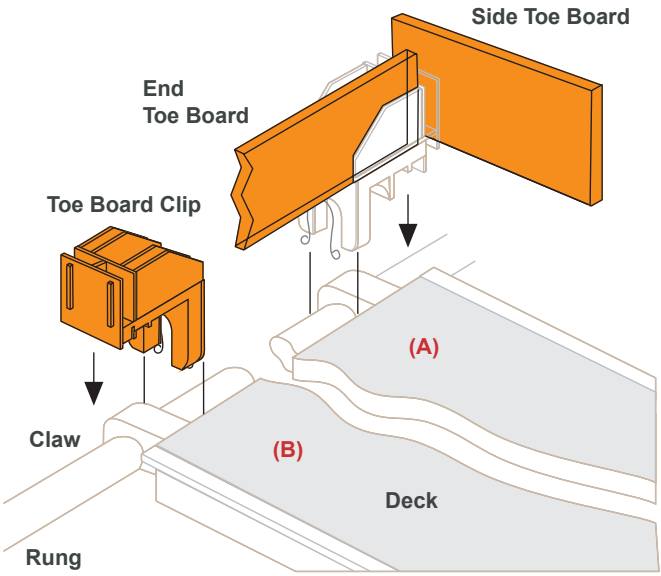


Toe Boards

Mobile towers - AGR method

Fitting toe boards

Lock yellow plastic toe board clips over rung and deck claw as shown. Position as (A) on right hand deck claw. On other side of the working platform, position the clip as (B). Place 25mm thick toe board into slots in toe board clips as shown.



Stabilisers and Outriggers

Mobile towers - AGR method

Stabilisers

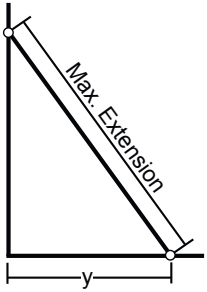
Attach one stabiliser to each corner of the tower as shown. Ensure stabiliser feet are equally spaced to form a square.

SP10 and SP15 telescopic stabilisers must always be fully extended. Position the lower clamp so that the lower arm is as close to the horizontal as possible. Adjust the position of the top clamp to ensure the stabiliser foot is in firm contact with the ground. Ensure clamps are secure.

Stabilisers are used when the tower is to be moved occasionally, frequent movement will require mobile outriggers.

When moving the tower, adjust the top clamps to lift the four stabiliser feet a maximum of 25mm off the ground and then unlock the castor brakes. After moving ensure all four stabiliser feet are repositioned in firm contact with the ground.

Stabiliser dimensions



	y
SP7	1227
SP10	2241
SP15	2757

Outriggers

For information on mobile outriggers please consult your supplier.

Notes

Notes

For further information about this product or any other products and services, please contact:

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