

## BoSS<sup>®</sup> Lift Shaft 700

EN1004:2004 - 3 - 0/20 - XXXD

Aluminium tower  
700 Climbing Rung

3T - Through The Trapdoor

EN1004 +

TOWER APPROVED FOR	
INTERNAL USE	EXTERNAL USE
✓	✗

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## Introduction

Please read this guide carefully. Please note that diagrams are for illustrative purposes only. User guides are also available to download from our website at [www.youngmangroup.com](http://www.youngmangroup.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.

The law requires that personnel erecting, dismantling, altering or inspecting towers must be competent. Any person erecting the product described in this user guide must have a copy of this guide. For further information on the use of mobile access and working tower consult the PASMA operator's code of practice or visit our website at [www.youngmangroup.com](http://www.youngmangroup.com)

If you need further information, design advice, additional guides or any other help with this product, please contact Youngman on +44 (0)1621 745900 or email [sales@youngmangroup.com](mailto:sales@youngmangroup.com)

## Safe Use

- Check that all components are on site, undamaged and that they are functioning correctly (refer to Checklist & Quantity Schedules). Damaged or incorrect components must never be used.
- Ensure the ground on which the mobile access tower is to be erected is capable of supporting the tower.
- The tower has a single working level with a safe working load of 275 kg. All platforms may be used for working, but only one should be used at any one time.
- Adjustable legs should only be used for levelling.
- Do not use ladders, steps, boxes or similar, to gain additional working height.
- Mobile Access Towers are not designed to be lifted or suspended.
- Youngman Group strongly advises against the mixing of tower components because of the potential safety risks for users and their inability to rely upon the manufacturers Product Liability Insurance in the event of an accident occurring as a result of mixing components from different manufacturers. For more information visit [www.youngmangroup.com/about/mix-match-components](http://www.youngmangroup.com/about/mix-match-components)
- It is recommended that towers should be tied to a solid structure when left unattended.

## Lifting of Individual Tower Components

- Raising and lowering components, tools and/or materials by rope should be conducted within the tower base (i.e. within the area bounded by the stabilisers). Ensure that the safe working load of the supporting decks and the tower structure is not exceeded.

## Moving the Tower

- The Lift Shaft 700 tower system MUST NOT be moved once erected.
- Always dismantle it and rebuild at the new location.

## 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 repair by the manufacturer. Adjustable leg threads should be cleaned and lightly lubricated to keep them free running.
- Brace claws, frame interlock clips, trap door latches and platform windlocks should be regularly checked to ensure they lock correctly.
- Refer to the BoSS Inspection Manual for detailed inspection and maintenance advice:  
[www.youngmangroup.com/products/access-towers](http://www.youngmangroup.com/products/access-towers)
- Components should be stored in clean, dry conditions with due care to prevent damage.
- Ensure components are not damaged by excessive strapping forces when transported.

### SAFETY FIRST - TOWER BUILD

## Preparation and Inspection

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

## During Assembly, Use and Dismantling

- BoSS Lift Shaft 700 has been designed and calculated for *internal use* only. (i.e., with no effects of wind load considered).
- On site conditions must be considered before use.
- The points below should be taken into account as part of a Risk Assessment.
- The effect of on-site wind conditions must be considered prior to the assembly of a tower.
- Sheets, tarpaulins, cladding or similar, must not be attached to the tower as these will significantly increase any side loads from wind and will potentially make the tower unstable.
- Wind conditions from funnelling effects such as open ended buildings, hangars or unclad buildings, must also be considered prior to use as these wind effects can be much greater.
- Excessive side loads from working on the tower, i.e. through drilling or pulling, may also make a tower unstable. The maximum allowable side load on a tower is 20kg.
- Do not abuse equipment. Damaged, incorrect or incompatible components should not be used.

## Ties and Props

- You should tie or prop the BoSS Lift Shaft 700 tower (see page 6 for advice) where towers are left unattended or are to be located in particularly exposed conditions, where wind forces could affect stability. In these circumstances ensure that the tower is adequately tied in or restrained from blowing over and that platforms are securely fixed, or alternatively the tower dismantled.
- For further information on tying-in a tower consult the PASMA Technical/Safety Guidance Note: "*Tying Mobile Access Towers*" [www.youngmangroup.com/products/access-towers](http://www.youngmangroup.com/products/access-towers)

## Safety Checklist

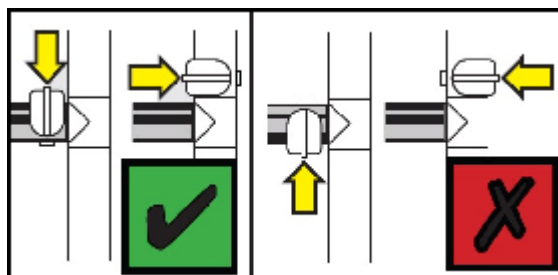
### Mobile Towers - 3T Method

#### PRE-ASSEMBLY CHECKLIST

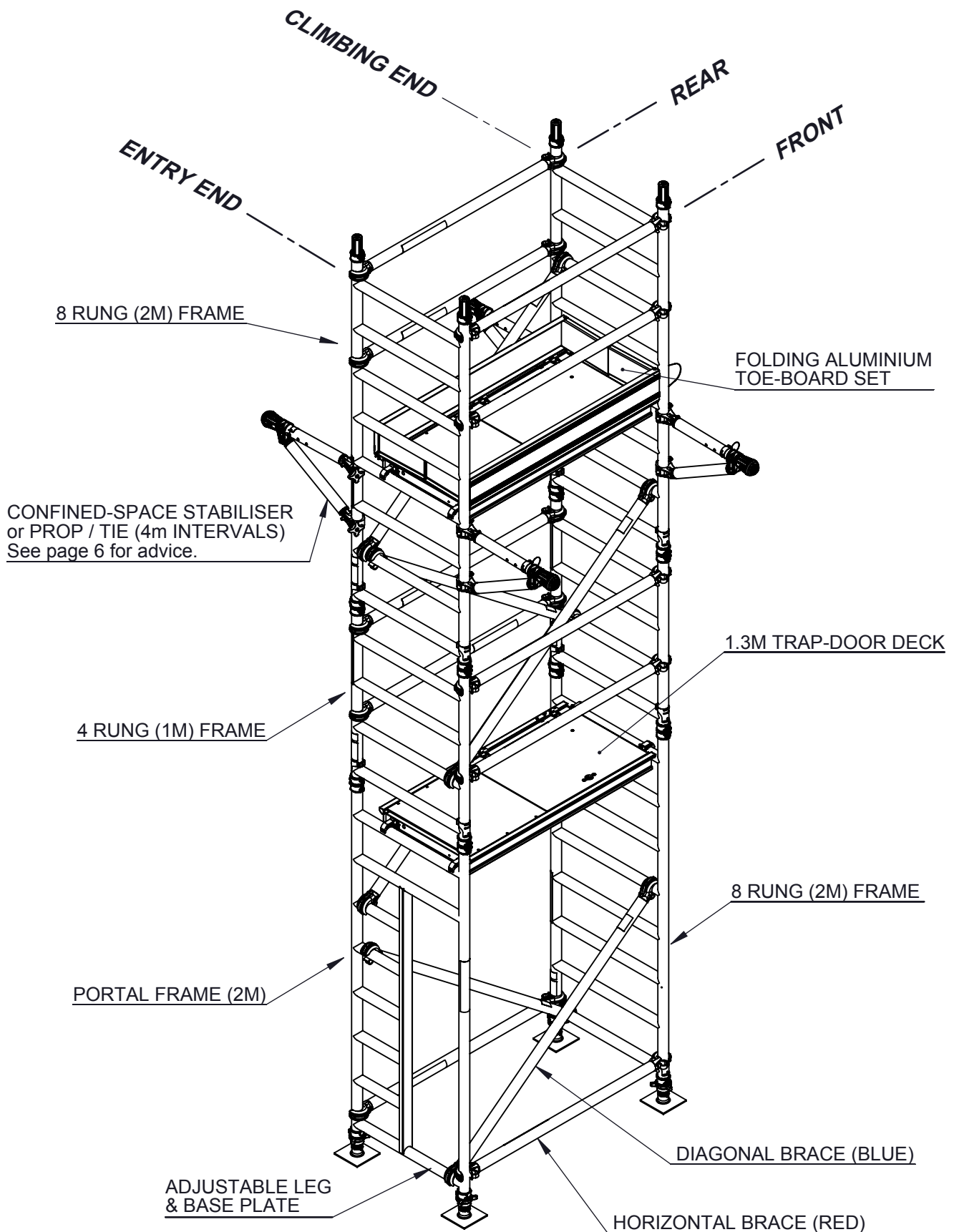
- Ensure all components are present (see quantity schedule on page 5).
- Inspect components prior to assembly.
- Ensure all brace claws and adjustable legs operate correctly.
- Ensure base plates swivel freely and are undamaged.
- Full inspection guidance can be found here at [www.youngmangroup.com/products/access-towers](http://www.youngmangroup.com/products/access-towers)

#### PRE-USE CHECKLIST

- Inspect tower prior to use.
- Tower is vertical and level, using a spirit level, and adjust legs if necessary.
- Props, ties or Confined-space stabilisers must be fitted on towers of 4m platform height and greater. They must be positioned at 4m regular intervals thereafter.
- Platforms are fitted correctly and windlocks engaged.
- Toe boards are fitted correctly.
- Guardrails are fitted correctly, see illustrations below.
- Reinspect the tower every 7 days or less.



### COMPONENT DIAGRAM



### QUANTITY SCHEDULE

BoSS Lift Shaft 700 - 1.3 x 0.7m												
3T Method			Internal only									
Code	Component & weight (Kg)	Working Height (m) >	4.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0
		Platform Height (m) >	2.0	4.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0
330413	Base plate	1.7 Kg	4	4	4	4	4	4	4	4	4	4
335513	Adjustable leg	1.1 Kg	4	4	4	4	4	4	4	4	4	4
330516	Portal frame (2.0m high x 0.70m wide)	6.2 Kg	1	1	1	1	1	1	1	1	1	1
670120	8 rung clima frame (2.0m high x 0.70m wide)	7.0 Kg	1	3	5	7	9	11	13	15	17	19
670110	4 rung clima frame (1.0m high x 0.70m wide)	3.9 Kg	2	2	2	2	2	2	2	2	2	2
323511	1.3m trap door deck	7.8 Kg	1	2	3	4	5	6	7	8	9	10
356513	1.3m horizontal brace (Red)	1.6 Kg	6	10	14	18	22	26	30	34	38	42
357513	1.64m diagonal brace (Blue)	1.9 Kg	3	6	9	12	15	18	21	24	27	30
670501	Aluminium folding toe-board	4.4 Kg	1	1	1	1	1	1	1	1	1	1
316514	Confined space stabiliser	2.3 Kg	0	4	4	8	8	12	12	16	16	20
<b>TOTAL SELF-WEIGHT OF TOWER (Kg)</b>			<b>61</b>	<b>104</b>	<b>138</b>	<b>181</b>	<b>215</b>	<b>258</b>	<b>292</b>	<b>335</b>	<b>369</b>	<b>412</b>

#### Build Aid:

For every 2m lift required, add an additional two 8 rung frames, one trap door deck, four horizontal braces and three diagonal braces. Use of confined-space stabilisers or props must be used at every 4m interval (see page 6 for advice)

### Working Platforms and Platform Loading

The MAXIMUM DECK HEIGHT allowed is 20m. This must NOT be exceeded under any circumstances.

The tower has a single working level with a safe working load of 275 kg. All platforms may be used for working, but only one should be used at any one time.

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 the whole platform level.

The quantity schedules shown in this user guide will enable the tower to be built safely and therefore comply with the requirements of the 'Work at Height Regulations'. Folding toe boards will need to be added if any levels are used as working platform or for storage of materials.

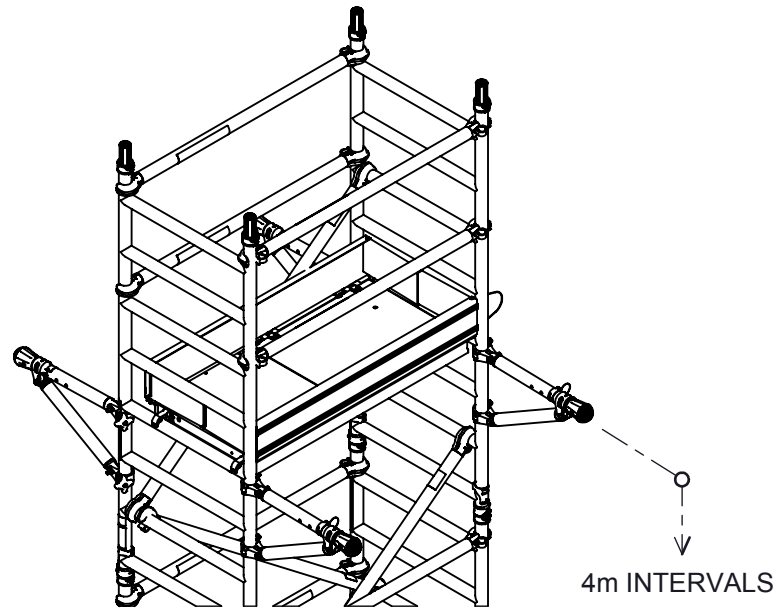
## QUANTITY SCHEDULE

### Props and Ties

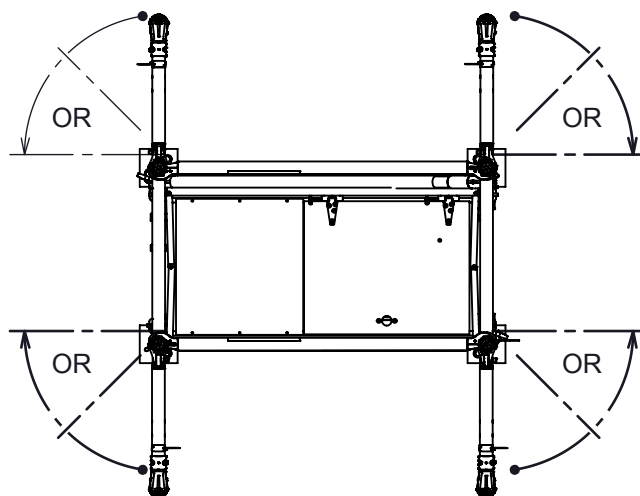
The BoSS Lift Shaft 700 tower shall be adequately propped or tied to prevent lateral movement.

They must be fitted at regular 4m intervals. To improve stability, additional props or ties can also be fitted at lower levels.

The method shown below illustrates the use of BoSS Confined-Space Stabilisers, for speed and compatability. Other methods are available. For further information on tying-in a tower, consult the PASMA Technical/Safety Guidance Note: "Tying Mobile Access Towers" at [www.youngmangroup.com/products/access-towers](http://www.youngmangroup.com/products/access-towers).



Attach one confined-space stabiliser to each corner of the tower as shown (see also step 12). Ensure stabiliser feet are touching the walls - adjust confined space stabilisers as necessary to achieve.



If you require further advice, please contact Youngman on +44 (0) 1621 745900.

### BUILD METHOD

#### When building a BoSS tower:

- To comply with 'Work at Height Regulations' we show assembly procedures with platforms every 2 meters in height and the locating of guardrails in advance of climbing onto a platform to increase safety and reduce the risk of a fall.
- 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.

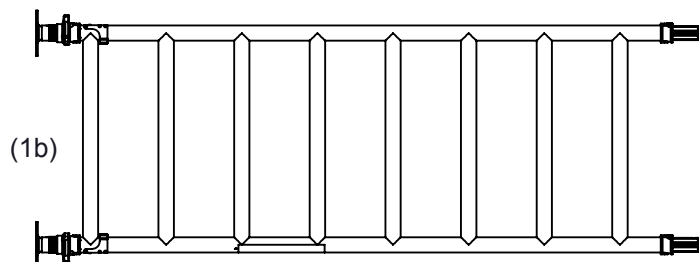
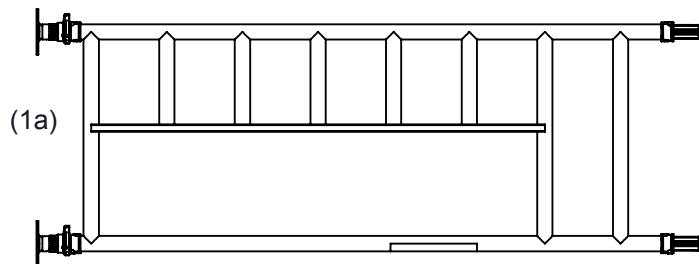
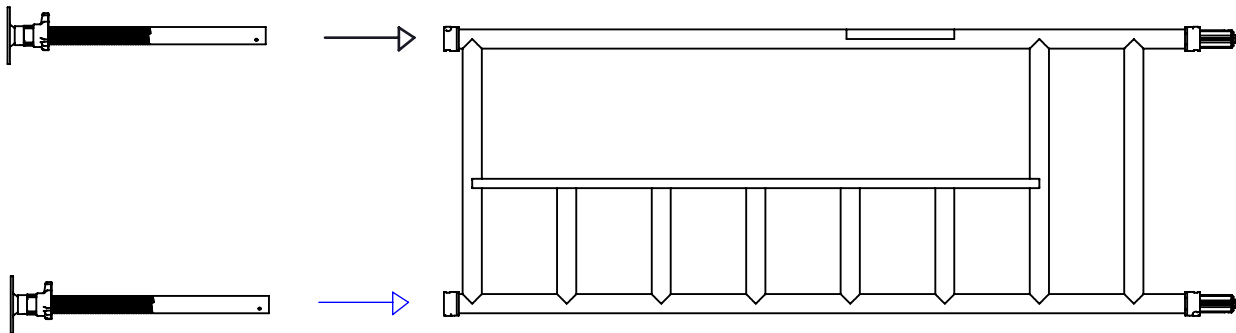
*The procedure illustrated shows a 6m working height tower.*

Youngman 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.

## 1

Insert base-plates into adjustable legs. Fit the leg and base-plate assemblies into a 2m portal frame (1a) and an 8 rung frame (1b).

Adjustable legs should only be used for levelling.



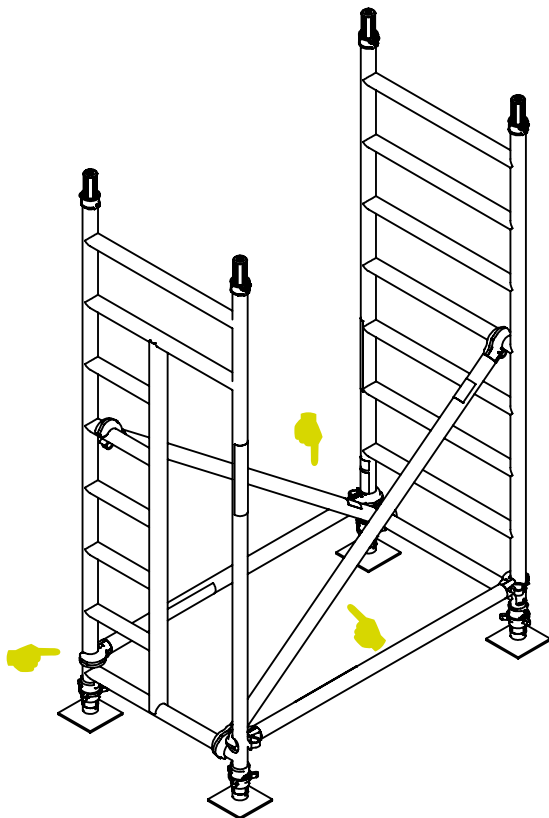
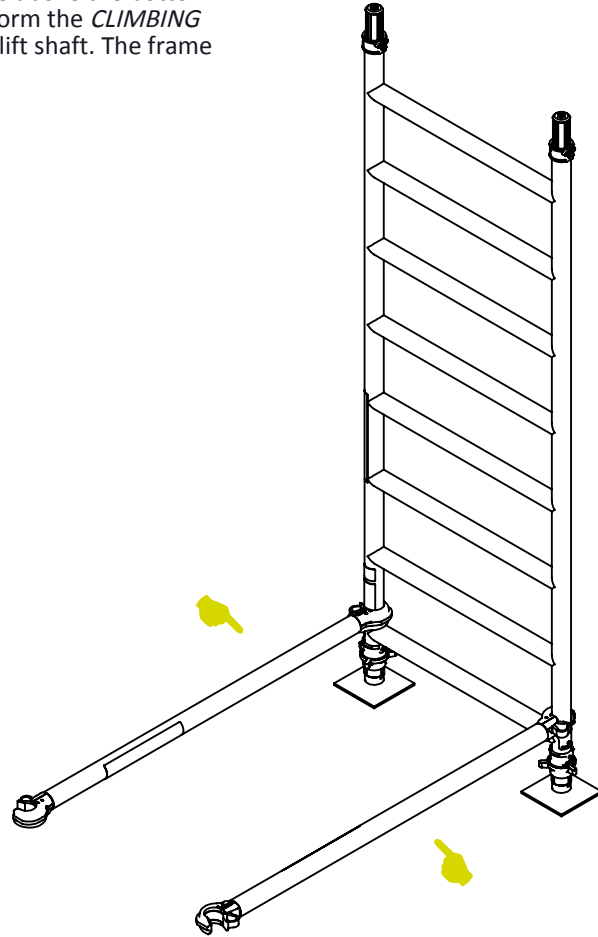
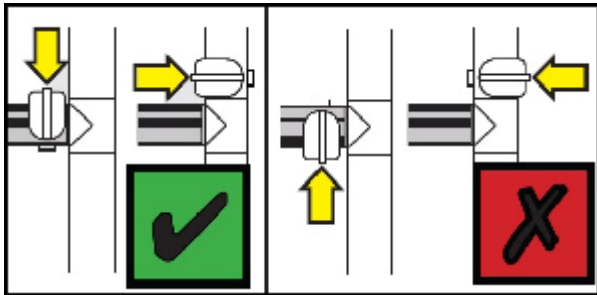


### BUILD METHOD

## 2C

Fit two horizontal braces (red) onto verticals of 8 rung end frame above the bottom rung as shown, with the claws facing outwards. This frame will form the *CLIMBING* end of the tower and should be positioned at the far end of the lift shaft. The frame will now be self-supporting.

**NOTE: All locking claws must be opened before fitting.**



## 3C

Position portal frame at *ENTRY* end of tower and fit other end of horizontal braces just above the bottom rung.

Fit a diagonal brace (blue) from the bottom rung of the 8 rung frame to the 5th rung of the portal frame on the *REAR* of the tower as shown.

Fit a second diagonal brace from the bottom rung of the portal frame to the 5th rung of the 8 rung frame on the *FRONT* of the tower.

All claws must face downwards.

**Note: All locking claws must be opened before fitting.**

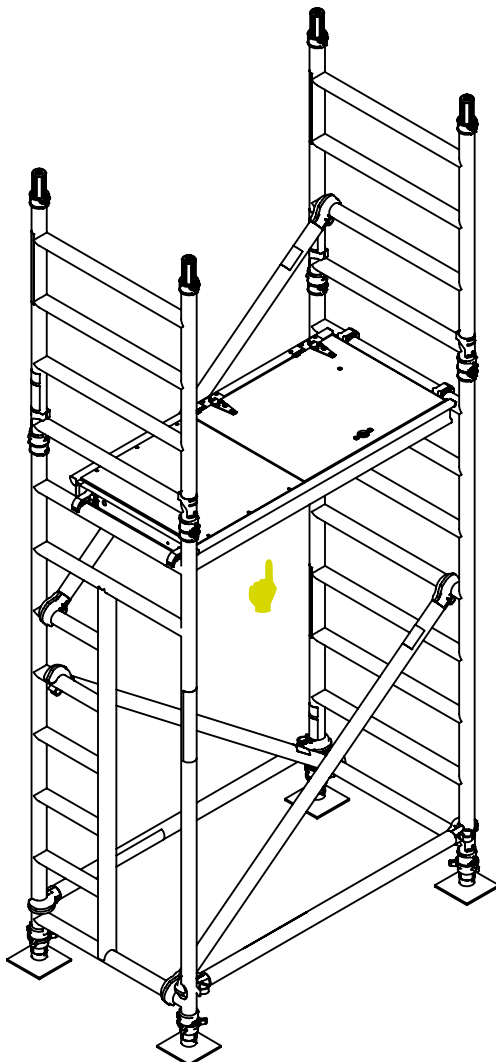
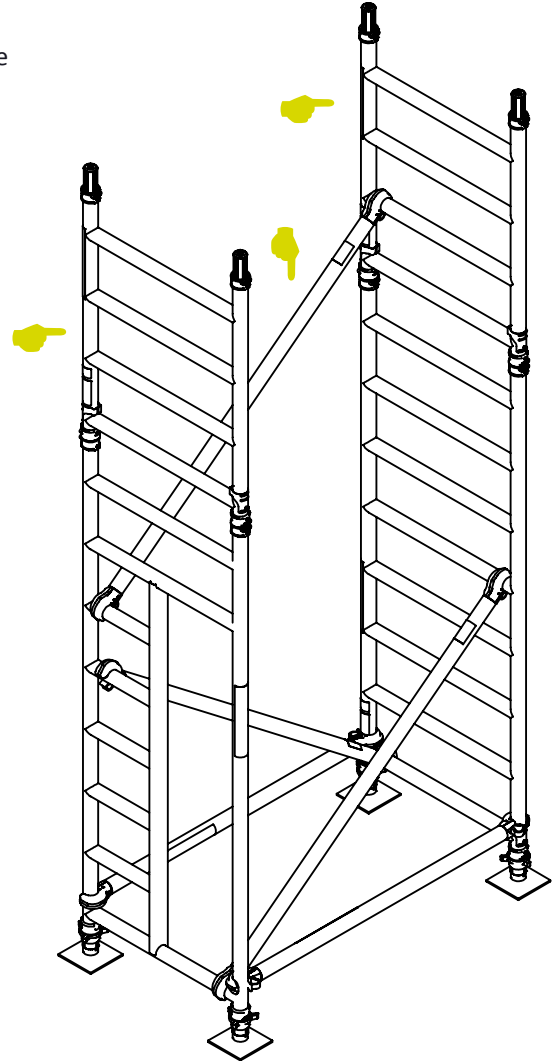
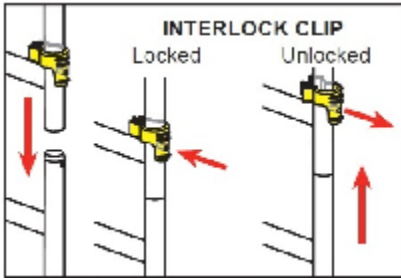


### BUILD METHOD

#### 4

Fit a 4 rung frame onto both the portal frame and the 8 rung frame as shown. Ensure interlock clips are engaged.

Fit a diagonal brace (blue) between the 6th rung of the portal frame and the 10th rung of the *CLIMBING* end frame on the *REAR* of the tower as shown.



#### 5

Fit a 1.3m trap-door deck onto the 8th rungs of both frames as shown. Make sure the trap-door is located at the *CLIMBING* end of the tower. Ensure the lock is in place.

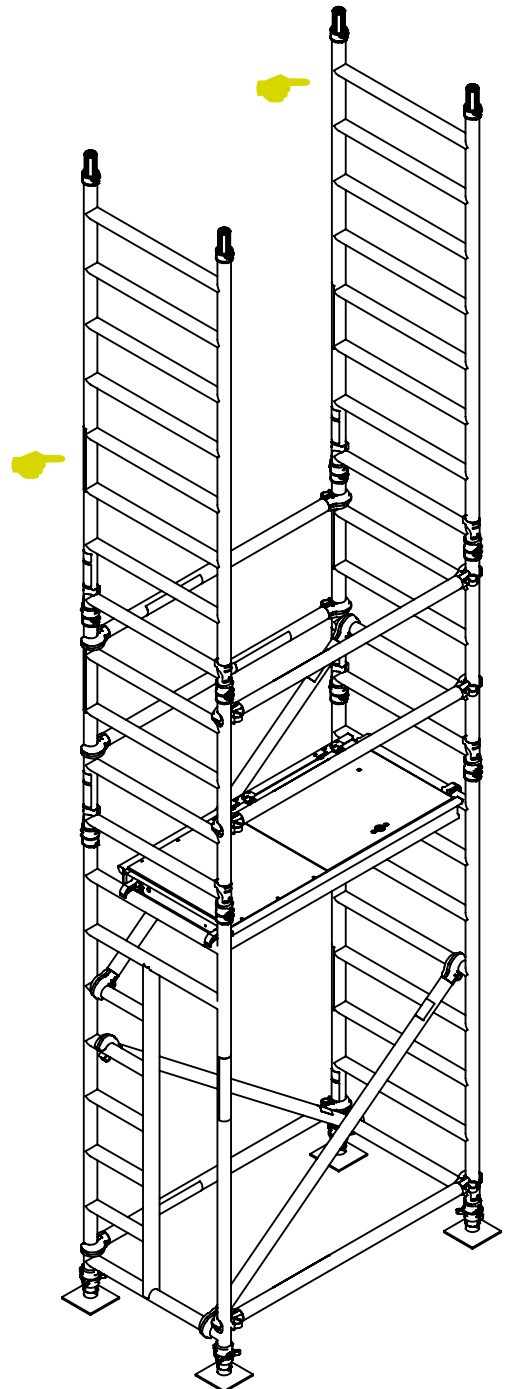
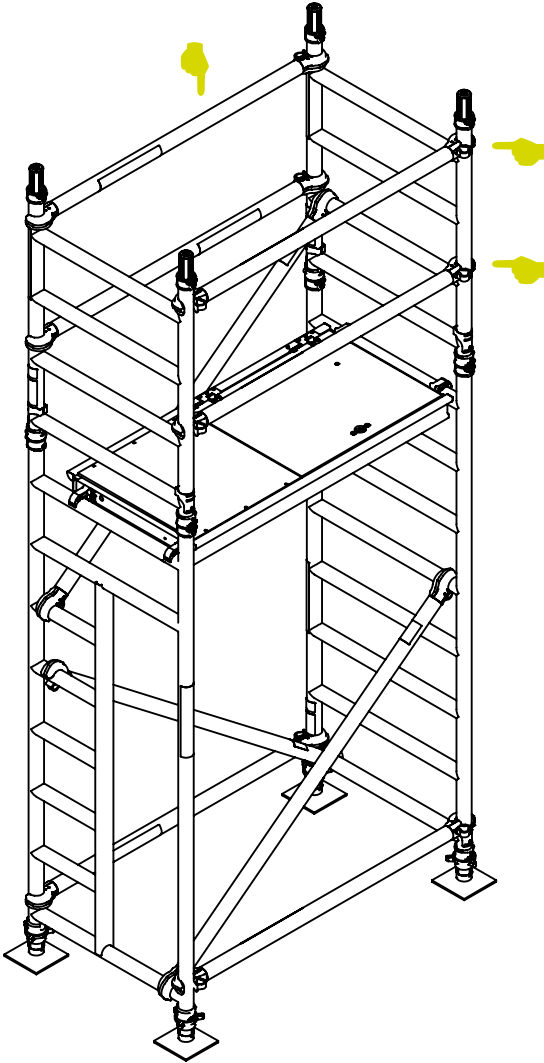
### BUILD METHOD

#### 6

From the protected position of the trap-door deck (i.e., seated), fit four horizontal braces on both sides of the tower above the 2nd and 4th rungs above the deck as shown.

All claws must face outwards.

**Do not climb onto the deck until it is fully guardrailed.**



#### 7

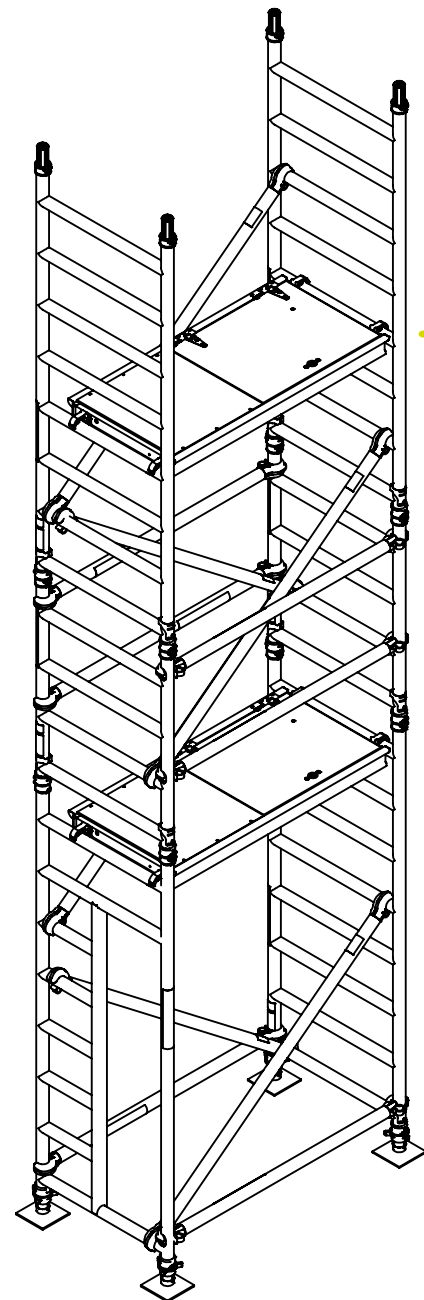
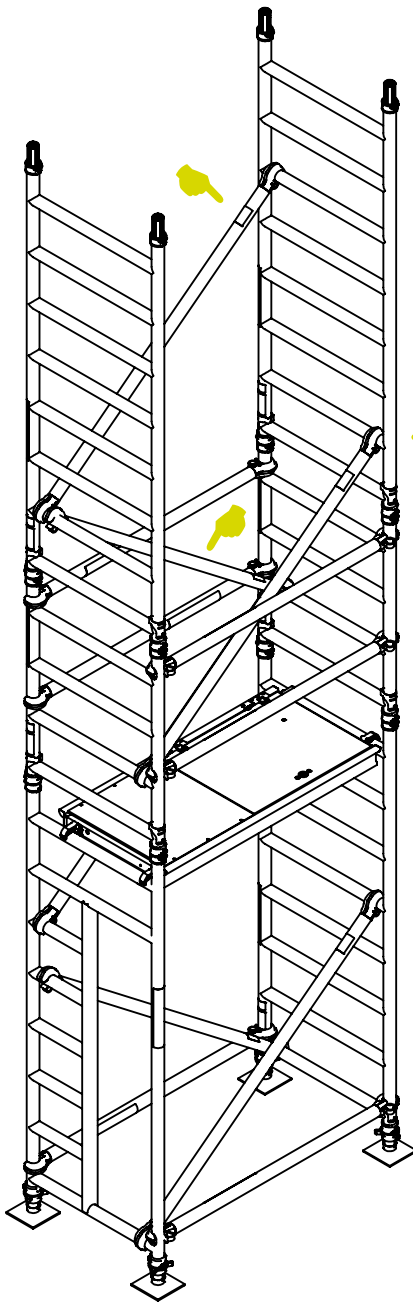
Whilst standing on the protected platform deck, fit two 8 rung frames as shown. Ensure interlock clips are engaged.

### BUILD METHOD

#### 8

Fit a diagonal brace between the 10th rung of the *ENTRY* end frame and the 14th rung of the *CLIMBING* end frame on the *FRONT* of the tower as shown. Fit an opposing diagonal brace between the 10th rung of the *CLIMBING* end frame and the 14th rung of the *ENTRY* end frame on the *REAR* of the tower as shown.

Fit a further diagonal brace between the 14th rung of the *ENTRY* end frame and the 18th rung of the *CLIMBING* frame at the *REAR* of the tower as shown.



#### 9

Fit a 1.3m trap-door deck onto the 16th rungs of both frames as shown. Make sure the trap-door is located at the *CLIMBING* end of the tower. Ensure the lock is in place.

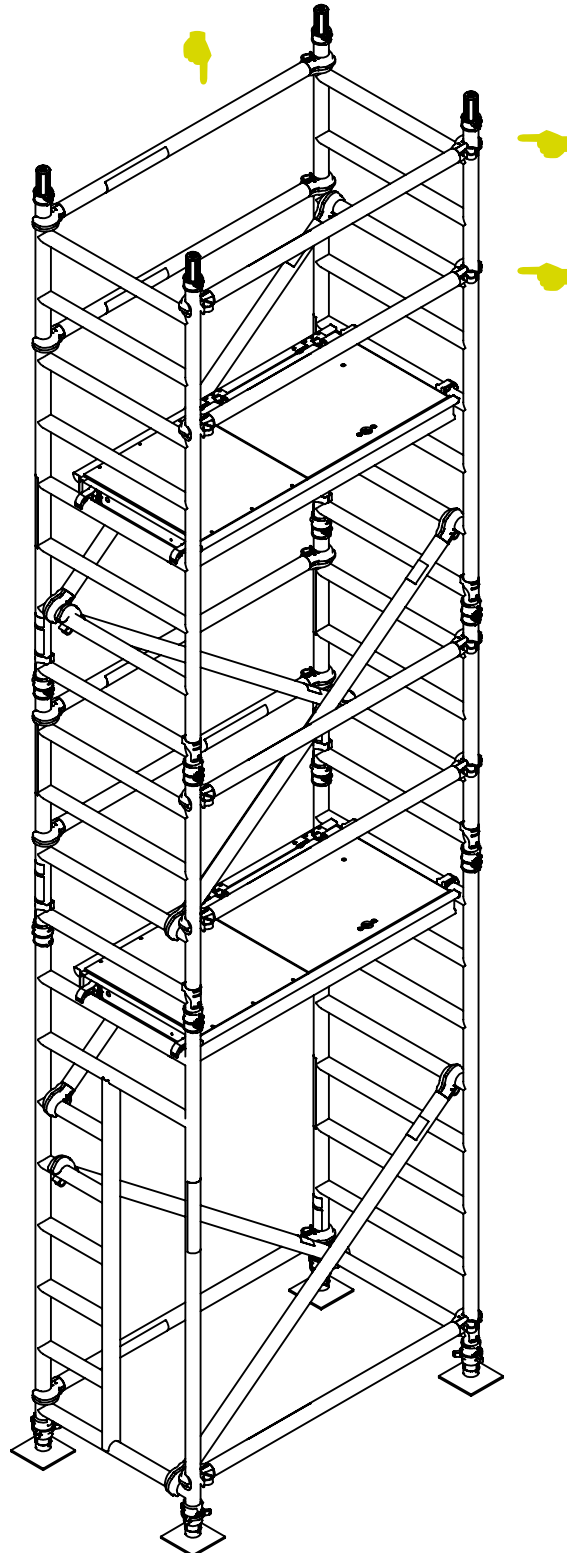
### BUILD METHOD

## 10

From the protected position of the trap-door deck (i.e., seated), fit four horizontal braces on both sides of the tower above the 2nd and 4th rungs above the deck as shown.

All claws must face outwards.

**Do not climb onto the deck until it is fully guardrailed.**

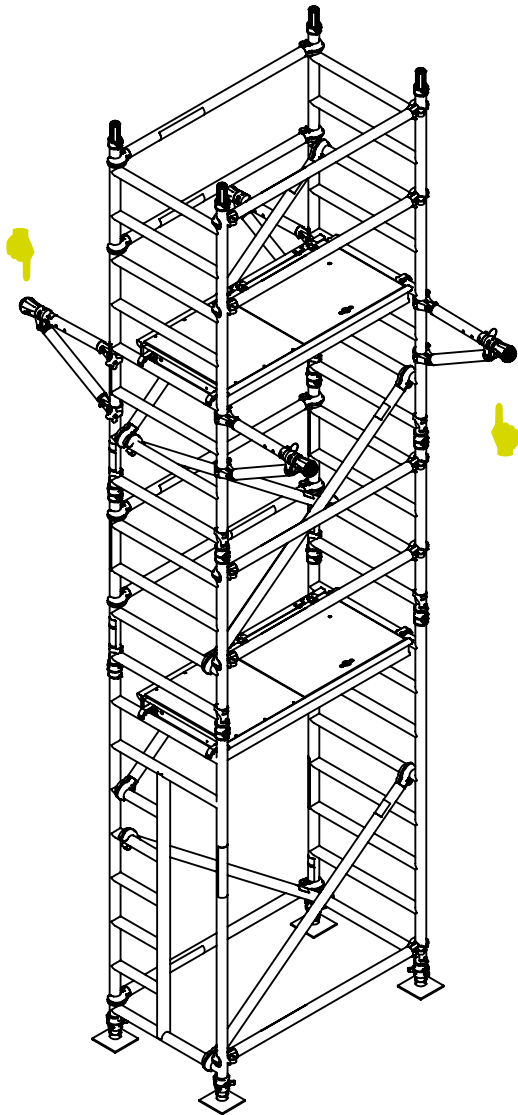


### BUILD METHOD

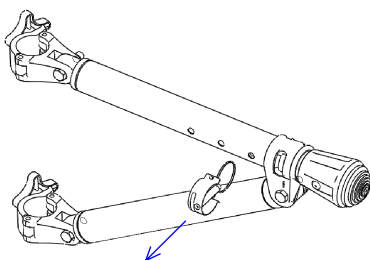
## 11

Fit a confined-space stabiliser (or prop/tie) to all four corners of the tower as shown, with the upper clamp above the 15th rungs as shown. Secure the lower clamp between the 14th and 15th rungs so that the stabiliser arm is horizontal.

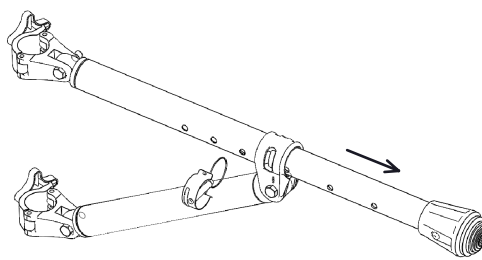
These confined-space stabilisers must be used at platform heights from 4m and shall be fitted every 4m thereafter.



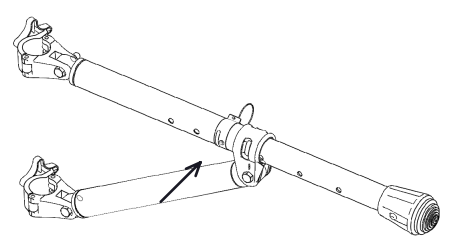
Ensure the end of the stabiliser arm contacts the lift shaft wall. If it does not, adjust by unclipping and extracting the locking pin, sliding the arm until correct length and hole alignment is achieved. Re-insert the locking pin, ensuring clip is engaged. See images below.



Unclip & extract pin



Extend /retract adjustable arm



Re-insert pin and engage clip

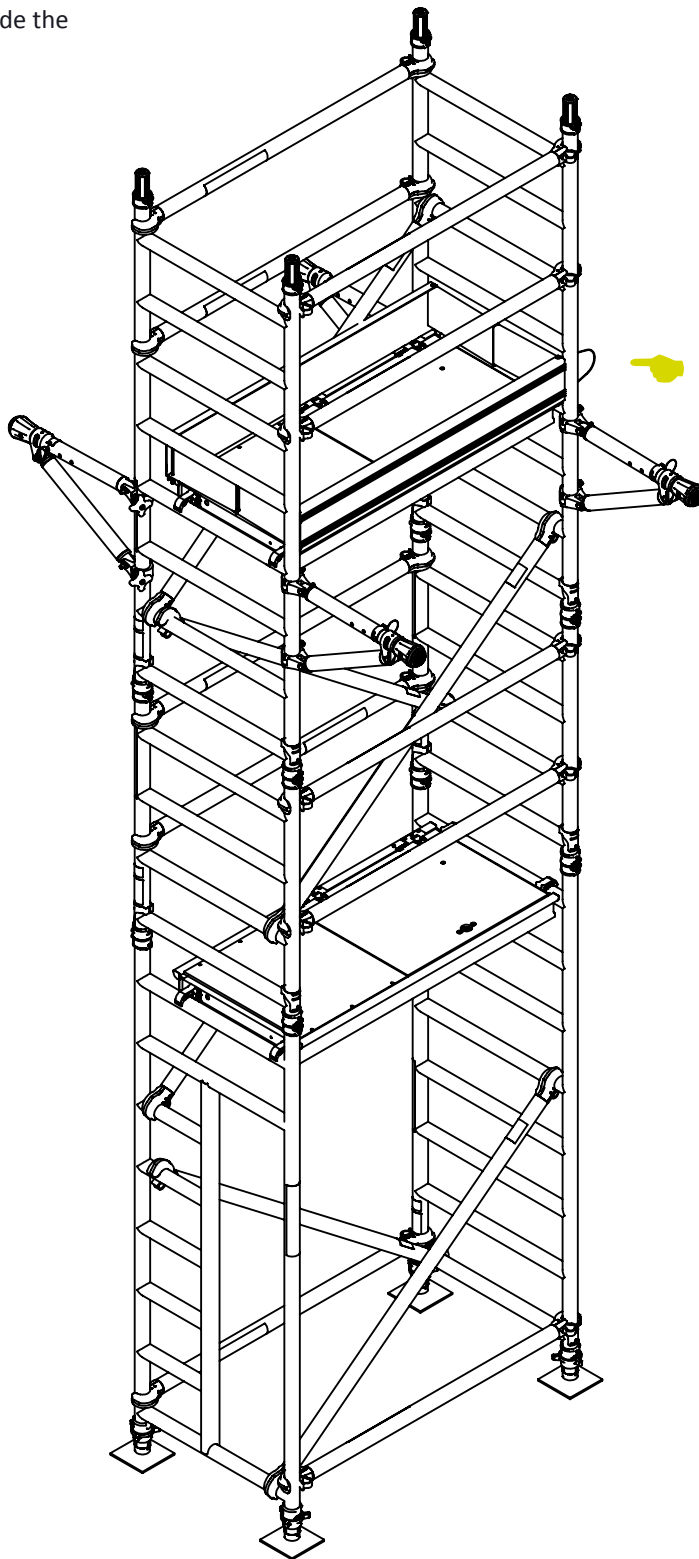
### BUILD METHOD

## 12

Unclip storage strap from aluminium folding toe-board set, unfold and fit into position on working platform.

Ensure it sits squarely around deck and does not impede the opening of the trap-door in the deck.

**THE TOWER IS NOW COMPLETE.**



### BUILD METHOD

#### When building beyond 4m platform height:

Continue to add 8 rung frames, 4 rung frames (at top most working platform level), horizontal braces, diagonal braces, trap door decks and confined-space stabilisers as shown in previous steps. At every platform level add horizontal braces as guardrails on 2nd and 4th rungs above the platform. At every 4m interval, add the confined-space stabilisers (see pages 6 and 13).

**Fit the guardrail braces from the protected trap door position. Do not climb onto the platform until it is fully guardrailed.**

Continue until the required height is reached.

#### When building 2m platform height only:

Erect by following steps 1-6 only. At step 4, replace the 8 rung frames with 4 rung frames.

#### To dismantle a BoSS tower:

Simply follow the assembly steps in reverse, ensuring the 3T method is followed.



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