

BOSS®



LiftShaft⁷⁰⁰

Camlock Guardrail
Aluminium Tower
3T - Through the Trapdoor

Instruction Manual
EN 1004-2 en

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1 Safety First

1.1 Introduction

Please read this instruction manual carefully.

This instruction manual shall be available at the location of use of this access tower. Instruction manuals are also available to download at www.bossaccesstowers.com.



This product shall only be used in accordance with this manual without any modification.



FAILURE TO FOLLOW THESE INSTRUCTIONS MAY LEAD TO DEATH OR SERIOUS INJURY.

Access towers must always be used in accordance with the national regulations. If any aspect of these instructions conflicts with local regulations, please contact Werner UK Sales & Distribution Ltd. for advice.

Please note that diagrams are for illustrative purposes only.

User training courses are available but must not be used as a substitute for familiarity with this manual.

BoSS 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.

Verification and assessment documentation is held by Werner UK Sales & Distribution Ltd.

Compliances



The BoSS Liftshaft⁷⁰⁰ Camlock Guardrail tower system has been designed, tested, approved and certified to BS 1139-6:2022 Metal Scaffolding.

This instruction manual is in compliance with EN 1004-2:2021.

1 Safety First

1.2 Tower Specification

3 0/20 XXXD H2

Load Class (2 = 153kg/m² UDL, 3 = 204kg/m² UDL*)

Max. Platform Height Outdoors (m)

Max. Platform Height Indoors (m)

Access Method

A = Stairway, B = Stair ladder, C = Inclined Ladder, D = Vertical Ladder

Clear Height Class (H1 = 1.85m, H2 = 1.90m)

*UDL = Uniformly distributed load

1.3 Maintenance - Storage - Transport

- The BoSS tower system is robust and requires little maintenance.
- All components and their parts should be regularly inspected to identify damage, particularly to joints.
- Refer to the BoSS Inspection Guidance for detailed inspection and maintenance advice, the guidance is available to download at: www.bossaccesstowers.com.
- Threads, hinges, and brace latches may be lubricated with light oil. Ensure oil does not contaminate climbing or walking surfaces.
- Safety labels should be kept legible. Replacement labels are available from Werner UK Sales & Distribution Ltd.
- Surfaces should be kept reasonably free of dried paint, plaster etc.
- Use of solvents on wooden platform surfaces and plastic components should be avoided.
- Components should be stored in clean, dry conditions with due care to prevent damage.
- During transportation ensure components are not damaged by excessive strapping forces.

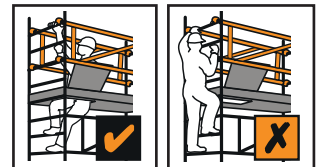
2 Building the Tower

2.1 Pre-Assembly Checks

- Check overhead that the area into which the structure is to be erected contains no obstructions, particularly electrical or radio radiation hazards. The structure is conductive.
- Ensure the ground on which the access tower is to be erected is capable of supporting the tower in use.
- Check the surface is level within the 210mm range of the adjustable legs.
- Only components specified in this manual shall be used with BoSS towers. Check all required components are onsite and in a suitable working condition.
- Damaged components shall not be used and must be put beyond use and disposed of according to local regulations.



- Adjustable legs should only be used for levelling purposes and never to gain extra height.
- Ensure distance from the ground to first climbing rung is less than 400mm.
- Only climb the tower from the inside using the access method provided.



- This tower provides a work platform. It must not be used to access other structures.



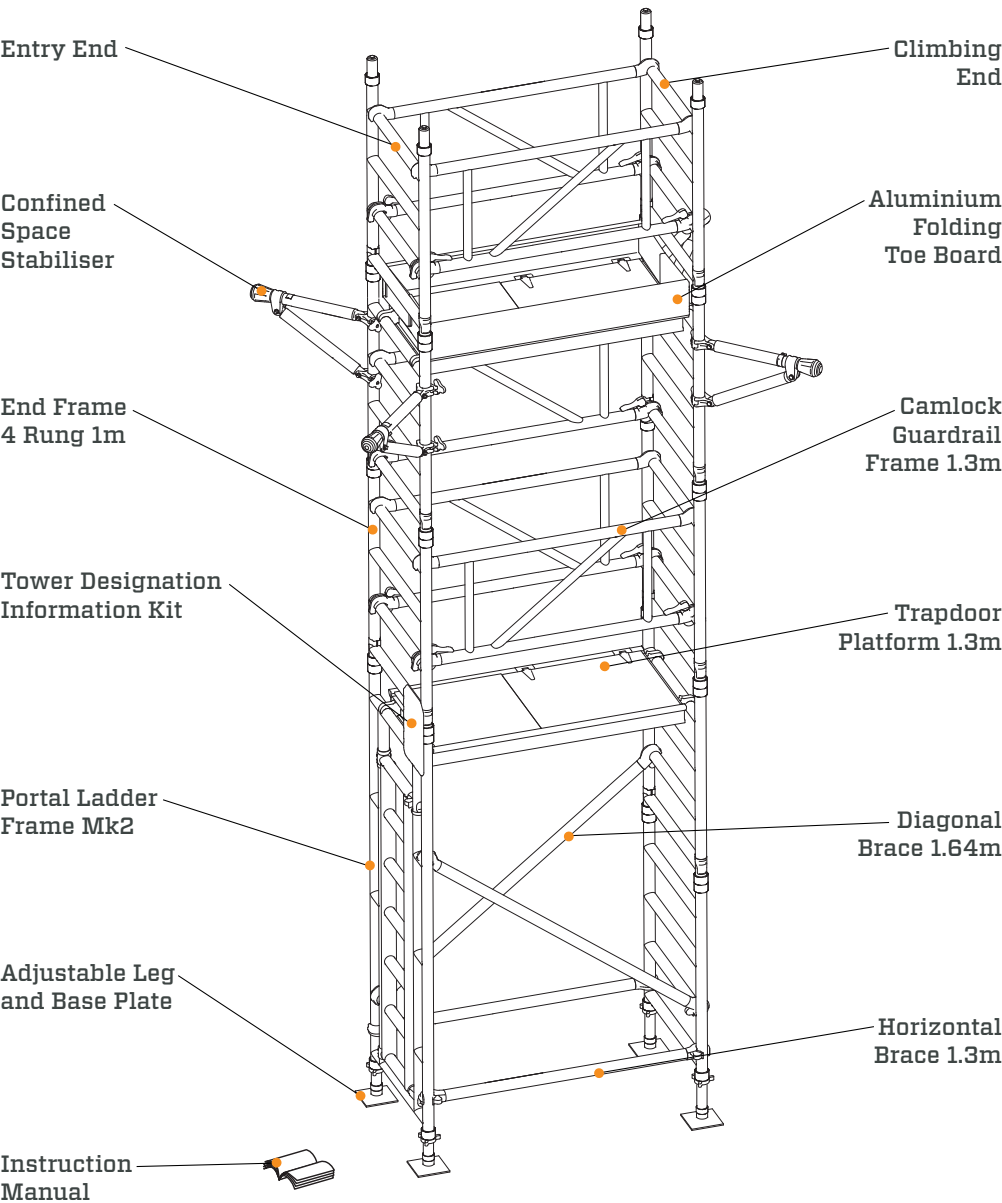
- Tower scaffolds are not designed to be lifted or suspended.
- Ensure the safe working load on the structure is not exceeded.
- Tools and materials should be lifted using a reliable lifting material (e.g. a strong rope) employing a reliable knot (e.g. clove hitch) to ensure safe fastening and always lift within the footprint of the prefabricated tower scaffold (i.e. within the area bounded by the stabilisers).

2 Building the Tower

- Check this manual is available and its contents familiar to all those involved.
- This tower is for indoor use only
- The tower has a single working level with a safe working load of 275kg. All platforms may be used for working, but only one should be used at any time.
Maximum horizontal force = 30kg

2 Building the Tower

2.2 Component Diagram



2 Building the Tower

Component Weights

Component		
Code	Name	Weight (kgs)
33041300	Base Plate	1.7
33551300	Adjustable Leg	1.1
67011000	End Frame 4 Rung 1m	3.9
33052600	Portal Ladder Frame Mk 2	12.8
35651300	Horizontal Brace 1.3m (red)	1.6
35751300	Diagonal Brace 1.64m (blue)	1.9
67030100	Camlock Guardrail Frame 1.3m	5.0
67070100	Trapdoor Platform 1.3m	9.8
31651400	Confined Space Stabiliser	2.9
67050100	Aluminium Folding Toe Board	4.4

2.3 Quantity Schedule

BoSS LiftShaft⁷⁰⁰ Camlock Guardrail: 0.7m (W) x 1.3m (L)

Component		Composite Code		Internal Use Only									
		Working Height (m)	Platform Height (m)	67113022	67113042	67113062	67113082	67113102	67113122	67113142	67113162	67113182	67113202
Code	Name			4.2	6.2	8.2	10.2	12.2	14.2	16.2	18.2	20.2	22.2
		2.2		4.2	6.2	8.2	10.2	12.2	14.2	16.2	18.2	20.2	22.2
33041300	Base Plate		4	4	4	4	4	4	4	4	4	4	4
33551300	Adjustable Leg		4	4	4	4	4	4	4	4	4	4	4
67011000	End Frame 4 Rung 1m		4	8	12	16	20	24	28	32	36	40	40
33052600	Portal Ladder Frame Mk2		1	1	1	1	1	1	1	1	1	1	1
35651300	Horizontal Brace 1.3m (red)		2	2	2	2	2	2	2	2	2	2	2
35751300	Diagonal Brace 1.64m (blue)		2	2	2	2	2	2	2	2	2	2	2
67030100	Camlock Guardrail Frame 1.3m		2	5	8	11	14	17	20	23	26	29	29
67070100	Trapdoor Platform 1.3m		1	2	3	4	5	6	7	8	9	10	10
31651400	Confined Space Stabiliser		0	4	4	8	8	12	12	16	16	20	20
67050100	Aluminium Folding Toe Board		1	1	1	1	1	1	1	1	1	1	1
30001900	Tower Designation Information Kit		1	1	1	1	1	1	1	1	1	1	1
Total Self-weight of Tower (kgs)			71	123	163	215	256	308	348	400	440	492	492
Max. Exerted Leg Load (kgs)			143	156	166	179	189	202	212	225	235	248	248
Max. Exerted Prop Load (kgs)			-	16	16	16	16	16	16	16	16	16	16
Max. No. of Persons Permitted on the Tower at Any Time			1	1	1	1	1	1	1	1	1	1	1
Max. No. of Simultaneous Working Platforms Permitted			1	1	1	1	1	1	1	1	1	1	1

2 Building the Tower

Max. Safe Working Load on Any Platform (kg u.d.l.)	275	275	275	275	275	275	275	275	275	275	275	275	275
Max. Safe Working Load on the Tower (kg u.d.l.)	275	275	275	275	275	275	275	275	275	275	275	275	275
Max. Working Platform Height for Internal Use (m)	2.2	4.2	6.2	8.2	10.2	12.2	14.2	16.2	18.2	20.2			
Max. Horizontal Force at Working Platform (kg)	30	30	30	30	30	30	30	30	30	30	30	30	30
Max. Tower Wind Limit (mph)	0 (Internal Use Only)												
Design Standard	BS1139-6	BS1139-6	BS1139-6	BS1139-6	BS1139-6	BS1139-6	BS1139-6	BS1139-6	BS1139-6	BS1139-6	BS1139-6	BS1139-6	BS1139-6
Load Class	3	3	3	3	3	3	3	3	3	3	3	3	3
Access Class	D	D	D	D	D	D	D	D	D	D	D	D	D
Clear Height Class	H2	H2	H2	H2	H2	H2	H2	H2	H2	H2	H2	H2	H2

Working and Platform heights are measured from underside of lowest base plate.

Build Aid: For every 2.0m lift required, add an additional four 4 rung frames, one trapdoor platform and three camlock guardrail frames. Confined space stabilisers or props must be used at every 4.0m interval (see page 10 for advice).

Platform heights above 2.2m

Platform heights above 2.2m can be achieved with the use of props. Please refer to page 10 for advice.

2 Building the Tower

2.4 Props

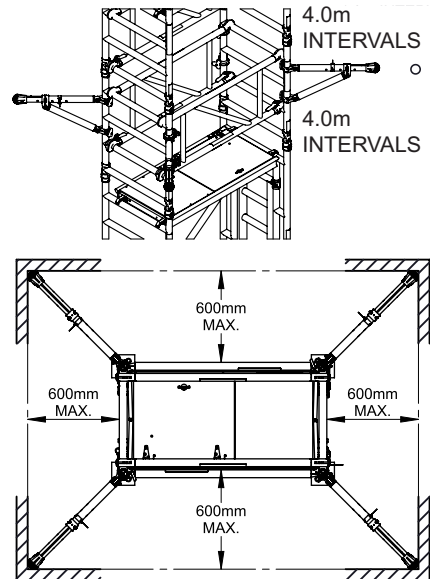
Towers shall be adequately propped or tied to prevent all movement in the horizontal plane. They must be fitted at a minimum of 4.0m vertical intervals. To improve stability, additional props or ties can also be fitted at lower levels.

Props and ties should conform to the guidance in NASC TG20.

The method shown to the right illustrates the use of BoSS Confined Space Stabilisers.

Attach one confined space stabiliser to each corner of the tower as shown (see page 16). Ensure stabiliser feet are touching the lift shaft walls - adjust confined space stabilisers as necessary to achieve this.

If you require further advice, please contact us.



2 Building the Tower

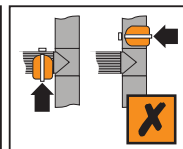
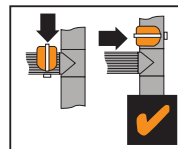
2.5 Assembly

This tower structure must be assembled, and components oriented, in accordance with this instruction manual. Deviation from this instruction manual is not permitted.



THIS TOWER MUST NOT BE USED AS AN ANCHOR POINT FOR PERSONAL FALL PROTECTION EQUIPMENT.

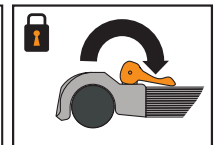
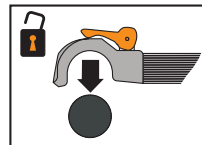
- No tools are required for assembly.
- An inclinometer, such as a spirit level, will be required to level the base.
- The assembly uses the 3T (Through the Trapdoor) method that provides collective fall protection.
 - From the sitting position in the trapdoor opening fit all guardrails before standing on the platform.
 - Fit braces in the locations described and ensure the claws are locked.



- DO NOT stand on an unprotected platform.



- Fit camlock guardrails in the locations described and ensure that the camlocks are engaged.



- The tower may be assembled by a single person, but it is recommended that two or more are used to pass up components on the taller assemblies.
- Components must be lifted within the footprint of the tower using a reliable method such as a strong rope with a clove hitch knot.
- The tower base should be levelled to within 0.6° before continuing the assembly.
- The adjustable legs are for levelling the tower only and not to be used to gain extra height.
- Ensure when the base is levelled the distance from the ground to the first climbing rung is less than 400mm.

2 Building the Tower

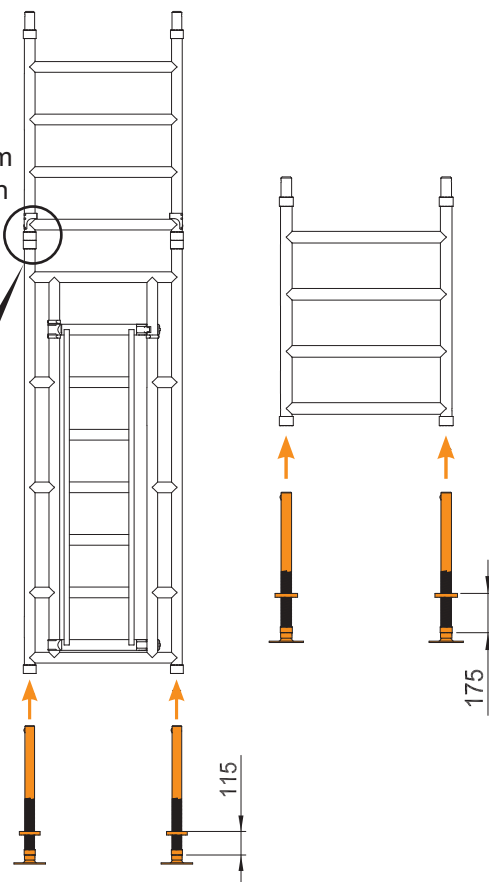
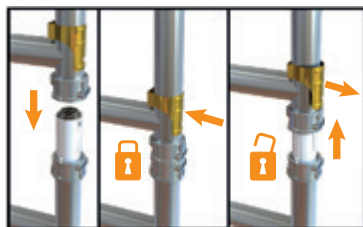
To comply with 'Work at Height Regulations', we show assembly procedures with platforms every 2m in height and the locating of guardrails in advance of climbing onto a platform to increase safety and reduce the risk of a fall. Never stand on an unguarded platform positioned above the 1st rung of a tower. If your risk assessment shows it necessary, you may also need to guardrail the platforms at this level.

The procedure illustrated shows a 4.2m platform height tower build.

It is recommended that the 'Tower Designation & Safety Data' is recorded within the 'Tower Designation Information Assembly' before proceeding with the tower assembly. Refer to Safety Data Schedule for content.

- 1 Connect the 4 rung frame together with the portal ladder frame. Ensure interlock clips are engaged. Insert base plates into adjustable legs and fit them into the frame subassembly. Insert two more base plates into adjustable legs and fit them into the 4 rung frame. Note the difference in gaps between the bottom of the leg and the adjustable nut.

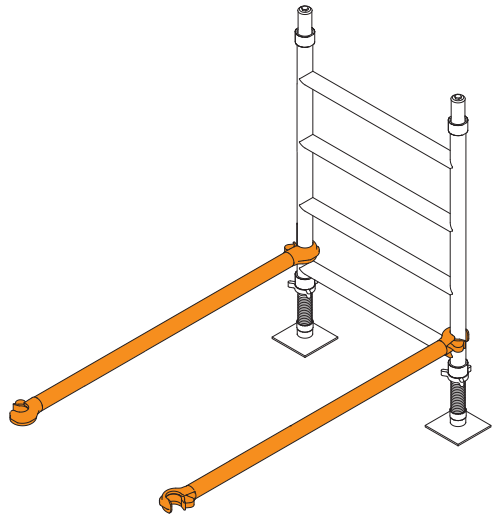
Only use the adjustment on the legs to level the tower and not to gain extra height.



2 Building the Tower

2 Fit two horizontal braces (red) onto verticals of the 4 rung frame above the bottom rung as shown. These frames will form the climbing end of the tower and should be positioned at the far end of the LiftShaft⁷⁰⁰.

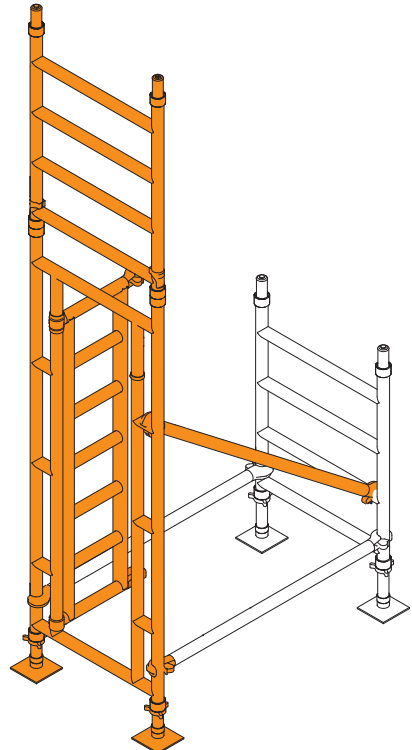
All locking claws must be opened before fitting and positively locked into position.



3 Position portal ladder frame sub-assembly at entry end of tower and fit other end of horizontal braces just above the bottom rung. The structure will now be self-supporting.

Fit one diagonal brace (blue) from the bottom rung of the portal ladder frame to the fourth rung of the end frame on the front of the tower as shown.

The structure must be vertical to within 1cm per metre. Ensure the frames are vertical and level by checking with a spirit level and setting the adjustable legs as required.

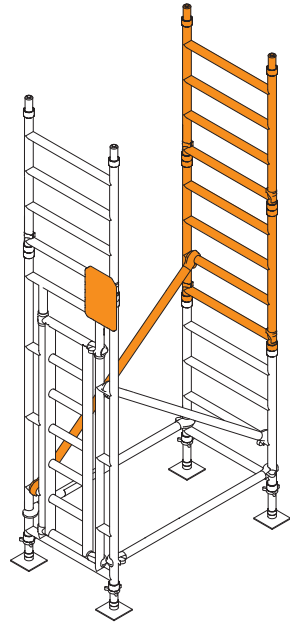


2 Building the Tower

- 4** Connect two more 4 rung frames and fit them onto the climbing end of the tower. Ensure interlock clips are engaged. Fit one more diagonal brace as shown.

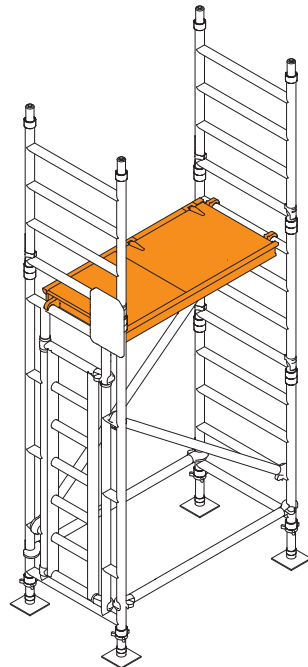
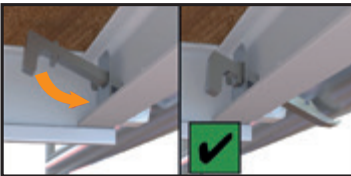
Record "tower designation and safety data" within the "tower designation information kit" and attach to the tower in the position shown. Refer to safety data schedule for content.

Ensure the frames are vertical and level, to within 0.6° , by checking with a spirit level and setting the adjustable legs as required.



- 5** Fit one 1.3m trapdoor platform onto the top rung of the portal ladder frame as shown. Ensure the trapdoor opens towards the rear of the tower.

Ensure all wind-locks are engaged.



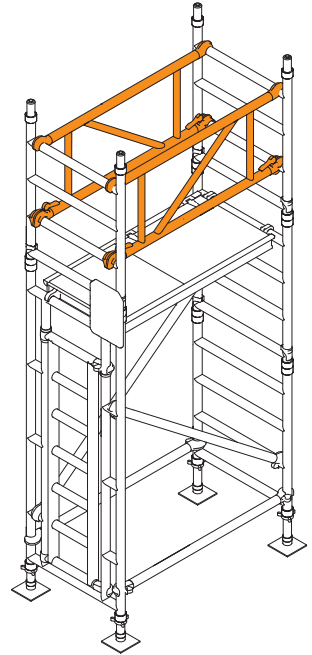
2 Building the Tower

- 6** From the protected position of the trapdoor platform (i.e. seated), fit a camlock guardrail frame on the rear of the tower, with the upper claws located on the 4th rungs above the platform.

Repeat with a second camlock guardrail frame on the front of the tower.

Engage camlocks to lock guardrail units in position.

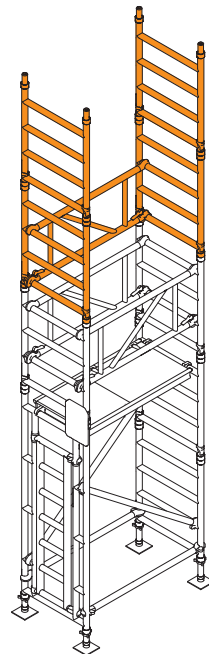
Do not climb onto the platform until all guardrails are in place. Ensure the gate is fully engaged before climbing.



- 7** Connect two 4 rung frames together to create two sub-assemblies. Engage interlock clips. Whilst standing on the protected platform, fit one sub-assembly onto the entry end of the tower. Again, engage interlock clips. Repeat for the climbing end of the tower.

Fit a camlock guardrail frame to the rear of the tower, with the upper claws located on the 7th rung above the platform.

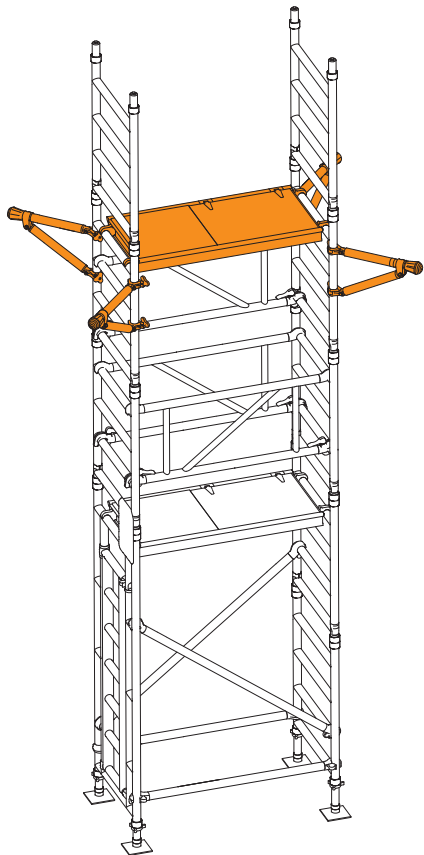
Engage camlocks to lock the guardrail unit in position.



2 Building the Tower

- 8** Fit one 1.3m trapdoor platform onto the 8th rung above the platform as shown. Ensure wind-locks are engaged.

Fit a confined space stabiliser (or prop/tie) to all four corners of the tower as shown. See instructions below and on page 10.



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



Unclip & extract pin



Extend/retract adjustable arm



Reinsert pin and engage clip

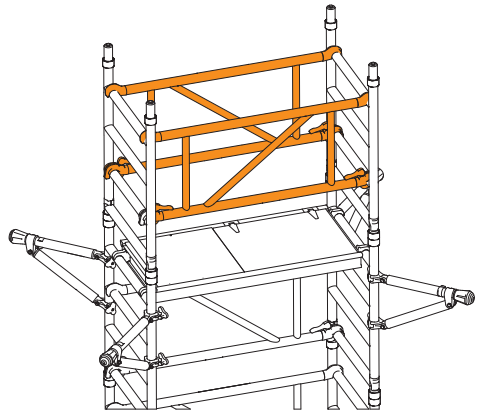
2 Building the Tower

- 9** From the protected position of the trapdoor platform (i.e. seated), fit a camlock guardrail frame on the rear of the tower, with the upper claws located on the 4th rungs above the platform.

Repeat with a second camlock guardrail frame on the front of the tower.

Engage camlocks to lock guardrail units in position.

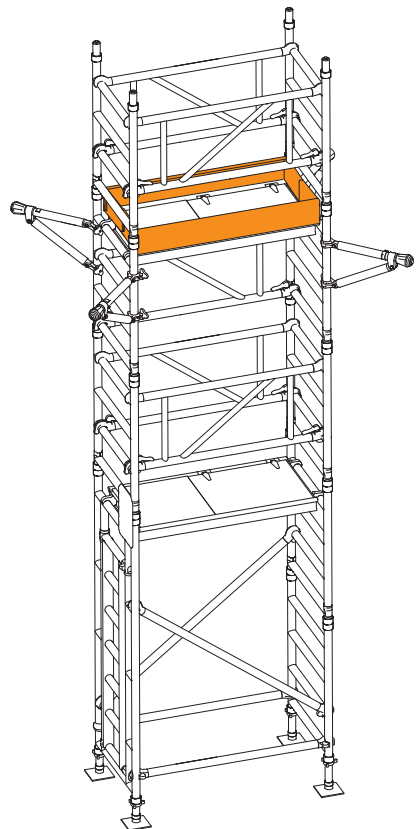
Do not climb onto the platform until all guardrails are in place.



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

Ensure it sits squarely around platform and does not impede the opening of the trapdoor in the platform.

The tower is now complete.



2 Building the Tower

When building beyond 4.2m platform height

Continue to add two pairs of assembled 4 rung frames, three camlock guardrail frames, one trapdoor platform and four confined space stabilisers as shown in previous steps. At every platform level add guardrails between 2nd and 4th rungs above the platform. Confined space stabilisers (or props/ties) must be added at 4.0m intervals.

Fit these guardrail frames from the protected trapdoor position. Do not climb onto the platform until all guardrails are in place. Continue until the required height is reached.

When building 2.2m platform height only

Erect by following steps 1 - 6 & 10 only.

2.6 Dismantling

To dismantle the tower, reverse the assembly procedure, ensuring that the 3T method is followed.

3 Using the Tower

3.1 Safety Checklist

This inspection must be carried out before initial use, if any environmental condition change that may affect the tower and at regular intervals determined by local regulations.

Local regulations may also specify other information to be supplied to the user or attached to the structure. These regulations must be followed.

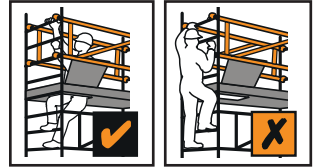
3.2 Pre-Use Checklist

Tower upright and level to within 0.6°	✓
All base plates in ground contact	✓
All interlock clips engaged	✓
Braces/Guardrails correctly positioned	✓
All claws latched and camlocks engaged	✓
All platform wind-locks engaged	✓
Props fitted as specified	✓
Toe boards fitted to working platform	✓
Instruction manual available to user	✓
No environment changes affecting safe use have occurred or are likely	✓
Tower is the correct height for intended use	✓
Tower designation information kit fitted and complete	✓

3 Using the Tower

3.3 Use

- This tower must not be used as an anchor point for personal fall arrest equipment.
- The tower must only be climbed on the inside, using the access method specified.



- This tower provides a work platform. It must not be used to access other structures or as a means of edge protection for other structures.



- Raising and lowering tools and materials must only be conducted within the tower footprint.
- Only one platform at a time can be used as a working platform. Toe boards must be fitted to that platform.
- Ensure the safe working load on the structure is not exceeded. The number of people permitted on the tower at any time is limited by the safe working load.
 - 1.3m platform rated at 275kg UDL
- The adjustable legs are for levelling the tower only. They must not be used to gain extra height.
- Do not use boxes, stepladders or other objects to gain extra height.



- Beware of horizontal forces that might cause instability. Maximum horizontal force = 30kg.



3 Using the Tower

3.4 Movement of the Assembled Prefabricated Tower Scaffold



MOVING A FULLY ASSEMBLED TOWER CAN BE EXTREMELY HAZARDOUS.

- The BoSS LiftShaft⁷⁰⁰ tower system must not be moved once erected.
- The tower is not designed to be lifted or suspended.
- The tower must be dismantled and reassembled in the new location.

4 Addendum



Werner UK Sales and Distribution Ltd. believes that some of the following may cause confusion or misunderstanding. This should be considered before acting on this information.

Mandatory wording, required to gain certification to BS 1139-6:2022.

This information shall be available at the location of use of the prefabricated tower scaffold.

This prefabricated tower scaffold shall only be used according to this information.

When working outdoors, the weather forecast shall be taken into account before assembly, use and dismantling.

Platforms shall be installed with vertical distances between them not exceeding 2.1m when assembling and dismantling.

Alterations to the prefabricated tower are only permitted where they are shown in these instructions.

User training courses cannot be a substitute for instruction manuals and assembly, use and dismantling plans but can only complement them.

Only the components specified in this information shall be used.

Damaged or incorrect components shall not be used.

Prefabricated tower scaffolds designed in accordance with this standard are not anchor points for personal fall arrest equipment.

Working is only permitted on a platform with a complete side protection including guardrails and toeboards.

In the event that an alteration to the prefabricated tower scaffold design is required, approval from the supplier and/or designer shall be obtained and a revised instruction manual or assembly, user and dismantling plan created.

After assembly or alteration, the following minimum information should be displayed on the prefabricated tower scaffold and be clearly visible from the ground (e.g. on a tag).

- a) The name and contact details of the responsible person.
- b) If the tower is ready for application or not.
- c) The load class and uniformly distributed load.
- d) If the prefabricated scaffold is intended for internal use only.

4 Addendum

- e) The date of assembly.
- f) The maximum number of simultaneous working platforms permitted.
- g) The maximum number of persons permitted on the working platform(s) during use.
- h) The maximum number of persons permitted on the tower during assembly and dismantling.
- i) The maximum number of persons permitted on any one platform.
- j) The maximum safe working load on the working platform.
- k) The maximum safe working load on the prefabricated tower scaffold.
- l) The load class of the prefabricated tower scaffold.
- m) The maximum horizontal force permitted at the working platform(s).
- n) The maximum wind limits for working on the prefabricated tower scaffold.
- o) The maximum wind limits for the prefabricated tower scaffold.



For further information and support for the
LiftShaft⁷⁰⁰ or any other products, design
advice and services, please contact:

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