

Aluminium Tower 700 Climbing Rung

3T - Through the Trap Door

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EXTERNAL USE

INTERNAL USE

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Instruction manual EN 1298 - IM - en



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SAFETY FIRST

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.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.

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 visit our website at www.bossaccesstowers.com or consult the PASMA website at www.pasma.co.uk.

Verification and assessment documentation is held by Youngman Group Ltd.

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 uk.customercare@wernerco.com

Safe Use

- Check overhead that the area into which the structure is to be erected contains no obstructions, particularly electrical or radio radiation hazards.

- 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 275kg. All platforms may be used for working, but only one should be used at any one time.
- Before each use:
- Check that each prefabricated tower scaffold is complete and correctly assembled. Check that the prefabricated tower scaffold is vertical and make any adjustments as required.
- Check that no environment changes will affect the safe use of the structure.
- Adjustable legs should only be used for levelling.
 Do not use ladders, steps, boxes or similar, to gain additional working height.
- Only climb the tower from the inside using the access method provided.
 Tower scaffolds are not designed to be lifted or suspended.
- Beware of horizontal forces (e.g. power tools) which could generate instability.
- Maximum horizontal force per working bay = 30kg

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.
Safe working loads, normally expressed in kN/m², are expressed below in kg per defined working area.

DEFINED WORKING AREA	MAX. SAFE WORKING LOAD (UNIFORMLY DISTRIBUTED INCLUDING PERSONS)	LOAD CLASS	MAX NO. OF PERSONS *	
А	275kg	3	1	

* Persons are assumed to be 122kg (Reference to HSE - Revision of body size criteria in standards Protecting people who work at height - Research report 342)

Access Classes

The Access Class provided for climbing this tower is: Access Class 'D' (Vertical Ladder).



Boyy²⁰⁰

BoSS StairMAX 700 Mk2 (Cam-Lock Guardrail)

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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.

Movement of the assembled prefabricated tower scaffold

- The BoSS StairMAX 700 Mk2 tower system MUST NOT be moved once erected.

- Always dismantle it and rebuild at the new location.
- The pre-use checklist on the final page shall be used to determine tower integrity.

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 shall be replaced. Adjustable leg threads should be cleaned and lightly lubricated to keep them free running.

- Brace claws, frame interlock clips, trap door latches, Cam-Locks and platform wind locks should be regularly checked to ensure they lock correctly.

- Refer to the BoSS Inspection Manual for detailed inspection and maintenance advice:

www.bossaccesstowers.com

- 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.

During Assembly, Use and Dismantling

- As part of the risk assessment, wind conditions must be taken into account and reviewed regularly, depending on the duration the structure is on site.

- The structure has been assessed for wind loads equating to 27 mph (43 kph, 12 m/s).

- The effect of on-site wind conditions must be considered prior to the assembly of a tower. The tower must not be used in wind speeds above this. If greater wind speeds are forecast, the tower must be dismantled while it is still safe to do so.

- 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.

- Beware of wind turbulance and funnelling effects around buildings.

- 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 30kg.

- Do not abuse equipment. Damaged, incorrect or incompatible components should not be used.

- CAUTION: Always ensure the portal ladder is in closed position when descending the tower. If the portal ladder is in open position, from the protected position of the trap door deck (i.e. seated), close the portal ladder ensuring the locking claw has been fully engaged.

Wind Description	Beaufort Scale	Beaufort No.	Speed in m.p.h	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

<u>Ties</u>

This structure is designed to be self-supporting under the loading condition requirements of BS 1139-6:2014 and does not require tying in. Consideration should be given to potential wind conditions if the tower is left unattended - see 'During Assembly, Use and Dismantling' section above.





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Stabilisers

Stabilisers shall always be fitted when specified.

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

Telescopic stabilisers must always be fully extended.

Position the lower clamp so that the lower arm is as close to horizontal as possible. Adjust the position of the upper clamp to ensure the stabiliser foot is in contact with the ground. Ensure clamps are secure.





Props

The BoSS StairMAX 700 Mk2 tower shall be adequately propped or tied to prevent lateral movement. They must be fitted at regular 4.0m 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.



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 Youngman on +44 (0) 1621 745900.



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Assembly Procedure

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

A minimum of two persons are recommend for assembly and disassembly of this prefabricated tower structure. The maximum number of persons for assembly is stated in the safe loading table.

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

The maximum number of people on a working platform level permitted to simultaneously exert a horizontal load of 30kg is: - 1 person per bay for bays less than 4m long and

- 2 persons per bay for bays greater than 4m in length

Check that all components, tools and safety equipment are on site (refer to quantity schedule), undamaged and that they are functioning correctly, particularly the brace claw locking mechanism.

Full inspection guidance can be found at www.bossaccesstowers.com.

PLUS

Damaged or incorrect components shall not be used.

Component weights can be found in the quantity schedule and on the corresponding BoSS Product Datasheets.

Check that the ground on which the tower structure is to be erected and moved is capable of supporting the tower and within the levelling limits of the tower system.

Check overhead that the area into which the tower structure is to be built contains no obstructions, particularly electrical or radio radiation hazards.

Never stand on an unguarded platform positioned above the first rung of a tower structure. If your risk assessment shows it necessary, you may also need to guardrail platforms at this level.

Tower components 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 tower structure.



Ensure horizontal braces and guardrails are fitted correctly.



Ensure wind locks are engaged before moving onto the deck levels.



Ensure interlock clips on frame memebrs are in the 'locked' position.



Ensure Cam-Locks are engaged.





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COMPONENT DIAGRAM



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BoSS StairMAX 700 Mk2 (Cam-Lock Guardrail)

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QUANTITY SCHEDULE

BoSS StairMAX 700 Mk2 - 1.3 x 0.7m (Cam-Lock Guardrail)							
3T METHOD		INTERNAL OR EXTERNAL USE		INTERNAL USE ONLY			
	Com	posite Code >	61430300	61430500	61430700	61430900	61431100
Component	Working	g Height (m) >	5.0	7.0	9.0	11.0	13.0
Code	Component Description & Weight Platform	n Height (m) >	3.0	5.0	7.0	9.0	11.0
330413	BASE PLATE	1.7 kg	4	4	4	4	4
335513	ADJUSTABLE LEG	1.1 kg	4	4	4	4	4
670110	1.0m 4 RUNG 700 BoSS SOLO FRAME	3.9 kg	3	7	11	15	19
330516	PORTAL LADDER FRAME Mk2	12.8 kg	2	2	2	2	2
356513	1.3m HORIZONTAL BRACE	1.6 kg	2	2	2	2	2
357517	1.64m DIAGONAL BRACE	1.9 kg	4	4	4	4	4
670301	1.3m CAM-LOCK GUARDRAIL FRAME	5.0 kg	2	5	8	11	14
323511	1.3m TRAP DOOR DECK	9.8 kg	1	2	3	4	5
670401	SP4 STABILISER	4.4 kg	4	0	0	0	0
318513	SP10 STABILISER	8.8 kg	0	4	4	4	4
316514	CONFINED SPACE STABILISER	2.9 kg	0	0	8	8	12
670501	ALUMINIUM FOLDING TOE BOARD KIT	4.4 kg	1	1	1	1	1
108791	INSTRUCTION MANUAL		1	1	1	1	1
	TOTAL SELF WEIGHT OF TOWER (kg) >		101	159	223	263	315
	MAX. EXERTED LEG LOAD (kg) >		140	155	180	190	205
	MAX. EXERTED PROP LOAD (kg) >		-	-	16	16	16

[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 trap door deck and three Cam-Lock guardrail frames. Confined Space Stabilisers or props must be used at every 4.0m interval (see page 5 for advice).

Platform Heights Above 5.0m (INTERNAL USE ONLY)

When used internally, platform heights up to 11.0m can be achieved with the use of props. Please refer to page 5 for guidance.



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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 7.0m working height tower build.

Youngman recommend two persons are used to build BoSS Towers. Above 4.0m height, it is essential that at least two persons are used. Only climb the tower from the inside.

1

Insert two Base Plates into Adjustable Legs and fit the leg and base plate assemblies into one of the two Portal Ladder Frames. Repeat with the remaining legs and base plates. It is recommended, for ease of levelling, that a gap of 50mm is left between the bottom of the leg and the adjustable nut.

Note: Adjustable Legs are for levelling only. They are not to be used to gain extra height at the working level.







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BUILD METHOD



C2

Fit one Horizontal Brace (red catch) onto the vertical of end frame on the climbing side above 5th rung, with the claw facing outwards.

Ensure the gate opens as shown.

Note: All locking claws must be opened before fitting.





3⊃

Position a second Portal Ladder Frame higher on stairs as shown and fit other end of Horizontal Brace just above the bottom rung. Fit another Horizontal Brace as shown. This will become the higher 'upstair' end of the tower.

Ensure both gates open the same direction as shown.





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BUILD METHOD

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Fit two Diagonal Braces (blue catch) between bottom rungs of both Portal Ladder Frames, one on each side of the tower. Claws must face downwards.

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.



c5

Connect two 4 Rung Frames together and fit onto Portal Ladder Frame as shown. Engage interlock clips. Fit one Diagonal Brace in position shown.



Ensure interlock clips on frame members are in the 'locked' position





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BUILD METHOD



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BUILD METHOD

When building beyond 5.0m platform height:

Continue to add two pairs of assembled 4 Rung Frames, Cam-Lock Guardrail Frames, one Trap Door Deck and four Confined Space Stabilisers as shown in previous steps. At every platform level add guardrails between 2nd and 4th rungs above the platform.

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

Continue until the required height is reached.

At platform heights above 5.0m, Confined Space Stabilisers must be fitted at 4.0m intervals as instructed below and on page 5.

Fit a Confined Space Stabiliser to all four corners of the tower as shown, with the upper clamp above the 24th rungs as shown. Secure the lower clamp between the 23rd and 24th rungs so that the stabiliser arm is horizontal.



Ensure the end of the stabiliser arm contacts the walls. 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

To dismantle a BoSS tower:

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





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PRE-USE SAFETY INSPECTION CHECKLIST

Pre-use Safety Inspection Checklist

- Tower structure upright & level
- Castors locked & legs correctly adjusted
- Diagonal braces fitted
- Stabilisers fitted as specified
- Platforms located & wind locks engaged
- Interlock clips engaged
- Toe boards located
- Guardrails fitted correctly & positively locked

Head Office and Customer Services The Causeway, Maldon, Essex. CM9 4LJ. United Kingdom

INSTRUCTION MANUAL PART NO. 108791

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