

# GENERATION

# MAST 250

## Erection Guide

LW/05.19



GENERATION  
HIRE & SALE  
SCAFFOLDING  
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GROUNDWORKS

Generation UK Ltd  
Trinity Street, Off Tat Bank Road,  
Oldbury, West Midlands, B69 4LA  
Tel: 0800 779 7113  
Email: [enquiries@generationuk.co.uk](mailto:enquiries@generationuk.co.uk)  
[www.generationuk.co.uk](http://www.generationuk.co.uk)

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## INTRODUCTION

This instruction manual contains all the information required to correctly assemble the MAST 250 shallow brace mobile access tower using the 3T method as endorsed by the Health and Safety Executive.

This Manual should be used in conjunction with a suitable Risk Assessment and Method Statement (by user) relative to the project to be undertaken, Work at Height Regulations 2005, Regulation 6(1). It must be noted that all employers have a responsibility to ensure that work methods (practices) and adequate facilities / resources (including work equipment) are provided to eliminate or minimise risks, Work at Height Regulations 2005, Regulations 6, 7, 8 and Schedule 3 Part 2.

Please ensure you read and fully understand the manual. Follow the content during assembly and ensure that the tower is complete prior to use.

This manual must be made available to the user / assembler at all times.

Sufficient training, combined with necessary experience, must also be considered and be appropriate to achieve competency to undertake basic mobile access tower assembly.

Only competent (and qualified) personnel should undertake erection, dismantling and alteration (and organisation, planning and supervision) of basic mobile access towers, Regulation 5, the Work at Height Regulations 2005 and consideration should be given to providing additional (minimum) training beforehand, if required (Regulation 6 (5)(b)).

## GENERAL SAFETY NOTES

1. Ensure that all necessary components and safety equipment are available and operational.
2. Inspect the tower and components for signs of damage or incorrect functioning prior to use. Damaged or incorrect components must not be used. Castors and adjustable legs should be periodically lubricated to keep them free running.
3. Erect Exclusion zone and fit Warning Signs to comply with Schedule 3 Part 2 (11), Work at Height Regulations 2005.
4. Ensure the scaffolding is to be erected on suitable foundations capable of withstanding the loads imposed by the scaffolding (Schedule 3 Part 1(2) of Work at Height Regulations 2005) and, where appropriate, adequate sole boards to be provided.
5. It is recommended that at least two people assemble the tower.
6. MAST 250 towers **MUST ALWAYS** be climbed from the inside, climbing the frames only.
7. When lifting components or materials, always use reliable lifting equipment and tying methods to ensure there is no possibility of the tower overturning. Always lift from within the tower base.
8. Mobile access towers must only be moved manually, by pushing at the base.

Ensure that the platforms are free of persons and equipment and that brake locks are off prior to movement. Beware of soft or uneven ground and overhead obstructions.

The tower height must be reduced to 4m high and stabilisers raised approx 25mm clear of the ground. On completing the move apply all brakes and check adjustment and stability prior to completion of tower to full assembled height.

Note: Tower height must be reduced to 2m high prior to any moves if less than 4 stabilisers are used.

9. Always inspect the tower after moving and before use.
10. Always beware of live electrical apparatus, cables or moving parts of machinery.
11. Care should be taken when using power tools, wash jets or other tools that cause lateral force.
12. The maximum lateral force on a freestanding tower at platform level is 20kg.
13. DO NOT use boxes, ladders or other such means to gain additional height.
14. Never bridge between a tower and a building unless specification and approved.
15. Never jump onto platforms.
16. Do not use hoisting arrangements on a mobile access tower.
17. Fit toeboards on all working platforms and platforms used for storage
18. Fit toeboards on all working platforms.
19. Fit intermediate rest platforms at 4m intervals (maximum).
20. Mobile access towers are not designed to allow them to be lifted or suspended.
21. In accordance with regulations any tower that has been erected must be inspected every 7 days (minimum) to ensure that the tower continues to comply with the regulations.

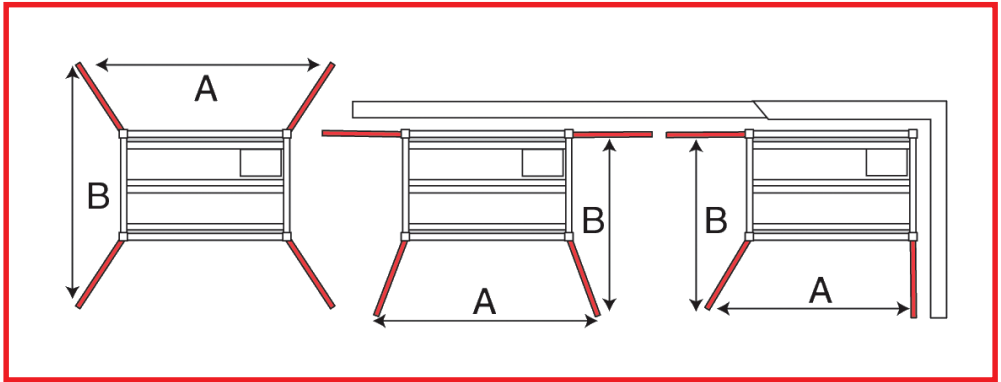
## WIND SPEED SAFETY RULES

Where possible, tie in the tower to a rigid structure when working outdoors or in exposed conditions. Beware of the funnelling effect of open ended and uncladded buildings.

Beaufort Scale	Description	Air Speed	Action
0-4	Moderate Breeze Small branches move	13-16mph 17mph	No action required Cease work
5-6	Strong Breeze Large branches bend	20-25mph	Tie tower to a rigid structure
>6	Walking progress impeded	30-40mph	Dismantle tower if such conditions are expected

# STABILISERS

Stabilisers should be attached at about 45° as shown, so that A is roughly equal to B, and forms the largest possible square. If this is not possible, e.g. facade work, use the alternative methods illustrated.

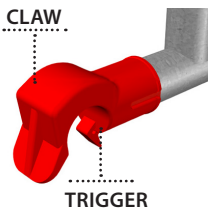


# MAXIMUM LOAD

The maximum platform load is 225 Kg / platform evenly distributed, 625 Kg for total tower.

A maximum of 3 platforms may be loaded.

# BRACES



**Recommendation:**

All braces are fitted with self-priming triggers that automatically lock when attached to the tower.

Attach braces square to the tower and remove by releasing the trigger.

When attaching diagonal braces and handrails the braces face down.

## NARROW WIDTH TOWERS

Narrow width towers are assembled following the same steps as explained for span towers, except that all platforms are trapdoor platforms ensuring that successive trapdoors are at opposing ends of tower.

## DAILY CHECKS

The tower must be checked on a daily basis and after any significant weather changes e.g. high winds, snow and frost.

Use the checklist below prior to use.

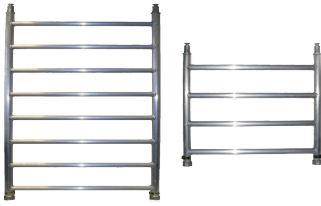
- Tower is vertical, level and square.
- Braces are correctly fitted and secure.
- Castors locked / legs correctly adjusted.
- All castors, base plates and stabilisers are in contact with the ground.
- Toeboards located.
- Correct stabilisers fitted, adjusted and secure.
- Hand rails fitted and secure.
- Check for any visible signs of component damage.

If a box has not been ticked, do not use the tower until the fault is rectified.

Where fault is found, access to the tower must be stopped.



# COMPONENTS



**105080**

8R Span Frame

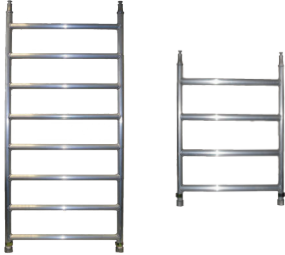
1.5m		2.5m		3.2m	
m	kg	m	kg	m	kg

2.0 13.2 2.0 13.2 2.0 13.2

**105081**

4R Span Frame

1.0 9.1 1.0 9.1 1.0 9.1



**105079**

8R Narrow Frame

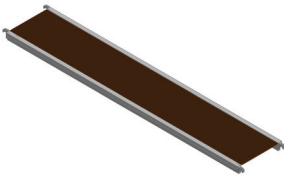
1.5m		2.5m		3.2m	
m	kg	m	kg	m	kg

2.0 9.8 2.0 9.8 2.0 9.8

**105108**

4R Narrow Frame

1.0 6.7 1.0 6.7 1.0 6.7



**105030**

1.5m Fixed Platform

m	kg
---	----

1.5 11.8

**105031**

2.5m Fixed Platform

2.5 18.2

**105032**

3.2m Fixed Platform

3.2 21.9



**105018**

1.5m Horizontal Brace

m	kg
---	----

1.5 1.59

**105019**

2.5m Horizontal Brace

2.5 2.03

**105020**

3.2m Horizontal Brace

3.2 3.01

**105025**

1.5m Diagonal Brace

m	kg
---	----

1.5 1.92

**105026**

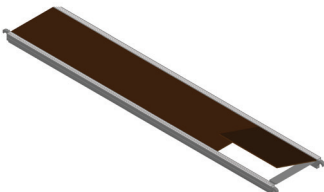
2.5m Diagonal Brace

2.5 2.81

**105027**

3.2m Diagonal Brace

3.2 3.12



**105033**

1.5m Trapdoor Platform

m	kg
---	----

1.5 12.0

**105034**

2.5m Trapdoor Platform

2.5 18.6

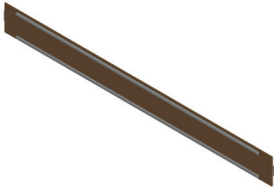
**105035**

3.2m Trapdoor Platform

3.2 22.6



# COMPONENTS



		1.5m	
		m	kg
<b>105051</b>	Toeboard (end)	1.45	0.7
<b>105052</b>	Toeboard (side)	1.5	11
<b>105050</b>	Toeboard (end)	0.85	0.5
<b>105053</b>	Toeboard (side)	2.5	3.3
<b>105054</b>	Toeboard (side)	3.2	4.3



		1.5m		2.5m		3.2m	
		m	kg	m	kg	m	kg
<b>105001</b>	Adjustable Leg	a*	1.3	a*	1.3	a*	1.3

\*Adjustable over a distance of 500mm



		m	kg
<b>105088</b>	1.5m Span Folding Toeboard	1.5	6.30
<b>105089</b>	2.5m Span Folding Toeboard	2.5	9.09
<b>105090</b>	3.2m Span Folding Toeboard	3.2	11.90



		m	kg
<b>105085</b>	1.5m Narrow Folding Toeboard	1.5	6.05
<b>105086</b>	2.5m Narrow Folding Toeboard	2.5	8.84
<b>105087</b>	3.2m Narrow Folding Toeboard	3.2	11.65



		1.5m	2.5m	3.2m
		kg	kg	kg
<b>105040</b>	Stabiliser Standard	5.0	5.0	5.0
<b>105041</b>	Stabiliser Large	7.7	7.7	7.7



**105000** Castor 150mm

# COMPONENT BREAKDOWN (3T Method Span)

Components	Platform Height in Metres										
	2	3	4	5	6	7	8	9	10	11	12
MAST 250 SPAN	2	3	4	5	6	7	8	9	10	11	12
8R Span Frame	2	4	4	6	6	8	8	10	10	12	12
4R Span Frame	2	0	2	0	2	0	2	0	2	0	2
Horizontal Brace	6	6	6	10	10	10	10	14	14	14	14
Diagonal Brace	4	6	8	10	12	14	16	18	20	22	24
Toeboard (End)* <sup>c</sup>	2	2	2	2	2	2	2	2	2	2	2
Toeboard (Side)* <sup>c</sup>	2	2	2	2	2	2	2	2	2	2	2
Adjustable Leg	4	4	4	4	4	4	4	4	4	4	4
Castor	4	4	4	4	4	4	4	4	4	4	4
Fixed Platform	1	1	1	1	1	1	1	1	1	1	1
Trapdoor Platform	1	1	1	2	2	2	2	3	3	3	3
Stabiliser Std. (Indoor use)	4	4	4	4	4	4	4	0	0	0	0
Stabiliser Std. (Outdoor use)	4	4	4	4	4	0	0	•	•	•	•
Stabiliser Large (Indoor use)	0	0	0	0	0	0	0	4	4	4	4
Stabiliser Large (Outdoor use)	0	0	0	0	0	4	4	•	•	•	•
Total tower self weight (Kg) - 1.5m	124	136	159	189	211	223	245	286	308	320	342
Total tower self weight (Kg) - 2.5m	148	162	186	226	250	264	288	339	363	377	400
Total tower self weight (Kg) - 3.2m	165	179	204	253	277	292	316	376	400	415	439

• Do not use tower unless tied in

\* For one working platform only (additional platforms to be factored accordingly)

c For folding toeboards: 1 per working platform

## Additional kit required during Assembly and Dismantle operations (Span)

Components	Platform Height in Metres										
	2	3	4	5	6	7	8	9	10	11	12
MAST 250 Span	2	3	4	5	6	7	8	9	10	11	12
Horizontal Brace	0	0	4	0	0	4	4	4	4	8	8
Trapdoor Platform	0	1	1	0	0	1	1	1	1	2	2
Weight of Additional kit (Kg) - 1.5m	0	12	19	0	0	19	19	19	19	37	37
Weight of Additional kit (Kg) - 2.5m	0	19	27	0	0	27	27	27	27	54	54
Weight of Additional kit (Kg) - 3.2m	0	23	35	0	0	35	35	35	35	69	69

Note: Weight of Additional kit required during assembly and dismantle operations has not been factored into total tower self weight calculations.

# COMPONENTS

Components	Platform Height in Metres										
	2	3	4	5	6	7	8	9	10	11	12
MAST 250 N/W	2	3	4	5	6	7	8	9	10	11	12
8R N/W Frame	2	4	4	6	6	8	8	10	10	12	12
4R N/W Frame	2	0	2	0	2	0	2	0	2	0	2
Horizontal Brace	6	6	6	10	10	10	10	14	14	14	14
Diagonal Brace	4	6	8	10	12	14	16	18	20	22	24
Toeboard (End)* <sup>c</sup>	2	2	2	2	2	2	2	2	2	2	2
Toeboard (Side)* <sup>c</sup>	2	2	2	2	2	2	2	2	2	2	2
Adjustable Leg	4	4	4	4	4	4	4	4	4	4	4
Castor	4	4	4	4	4	4	4	4	4	4	4
Trapdoor Platform	1	1	1	2	2	2	2	3	3	3	3
Stabiliser Std. (Indoor use)	4	4	4	4	4	4	4	0	0	0	0
Stabiliser Std. (Outdoor use)	4	4	4	4	4	0	0	•	•	•	•
Stabiliser Large (Indoor use)	0	0	0	0	0	0	0	4	4	4	4
Stabiliser Large (Outdoor use)	0	0	0	0	0	4	4	•	•	•	•
Total tower self weight (Kg) - 1.5m	101	111	128	156	174	184	201	240	257	267	285
Total tower self weight (Kg) - 2.5m	118	130	149	187	206	218	237	286	305	317	336
Total tower self weight (Kg) - 3.2m	131	143	163	210	230	242	262	320	339	352	371

• Do not use tower unless tied in

\* For one working platform only (additional platforms to be factored accordingly)

c For folding toeboards: 1 per working platform

## Additional kit required during Assembly and Dismantle operations (N/W)

Components	Platform Height in Metres										
	2	3	4	5	6	7	8	9	10	11	12
MAST 250 N/W	2	3	4	5	6	7	8	9	10	11	12
Horizontal Brace	0	0	4	0	0	4	4	4	4	8	8
Trapdoor Platform	0	1	1	0	0	1	1	1	1	2	2
Weight of Additional kit (Kg) - 1.5m	0	12	19	0	0	19	19	19	19	37	37
Weight of Additional kit (Kg) - 2.5m	0	19	27	0	0	27	27	27	27	54	54
Weight of Additional kit (Kg) - 3.2m	0	23	35	0	0	35	35	35	35	69	69

**Note:** Weight of Additional kit required during assembly and dismantle operations has not been factored into total tower self weight calculations.

# ASSEMBLY PROCEDURE

## THE BASE SELECTION

1. Fit four legs and castors (or base plates) to two 4 rung span frames (see illustration). Turn the height adjustment collar on each leg until approximately 100mm from the lower end. Insert each leg until the collar is in contact with the frame's tubing.

2. Set each castor brake on by moving the brake lever fully down.

3. With each frame's spigot facing inward, attach two horizontals to the upright of each frame, above the first rung and square the two frames to each other.

Note: It may be advantageous to place a platform at low level to assist in "squaring" tower.

4. With the aid of a spirit level, you should now make any necessary adjustments to level the tower by turning the adjustment collar.

5. Attach two temporary horizontal braces to 3rd rung of frame.

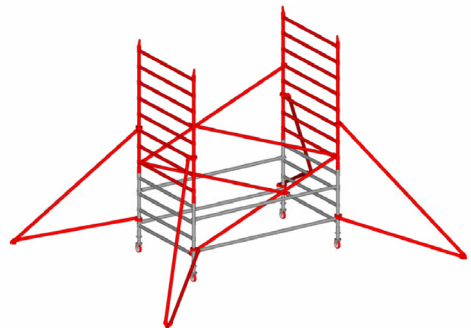
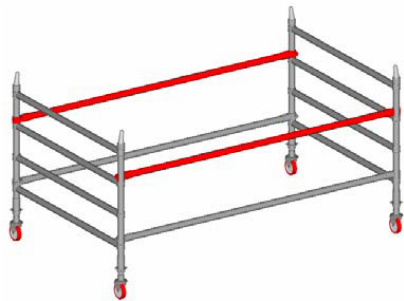
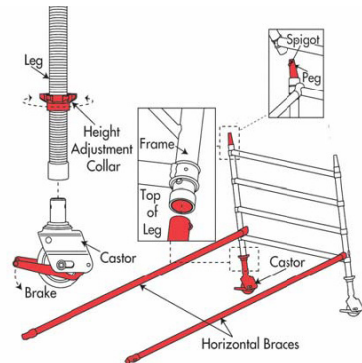
6. Add two 2m frames on top of base (1m) frames.

7. Attach two diagonal braces to the bottom rung of each base frame, with one brace being placed so the brace hook is as far to the outer edge as possible, the other brace hook should be placed at least 50mm (one tube width) from outer edge. Then attach the other end of both braces to the bottom rung on the opposing 2m frame.

8. Attach two more diagonal braces (in accordance with brace pattern) from 1st rung to 5th rung of upper frame.

9. Remove temporary horizontal braces.

The base is complete.



# STABILISERS

When specified, the correct stabilisers or outriggers must always be used.  
See component checklist on Pages 7/8.

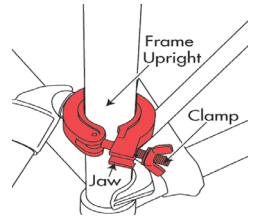
When using standard stabilisers, fit them now.

To attach the stabiliser, fit the upper screw clamp to frame upright, approx. 50mm above the seventh rung (from ground) as shown above, then fit the lower screw clamp as low as possible to the frame upright.

Set each stabiliser at 45° creating as large a footprint as possible and ensure that they are in firm contact with the ground.

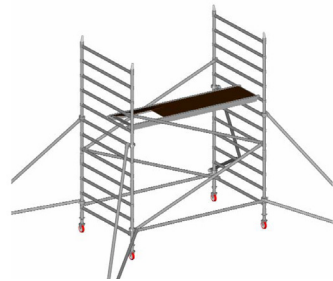
Note: It may be advantageous to ensure that stabilisers are fitted from frame side as shown.

Large Stabilisers can only be fitted after upper the frame has been placed. If repositioning stabilisers when in position then screw clamps MUST be loosened prior to movement then re-fixed.

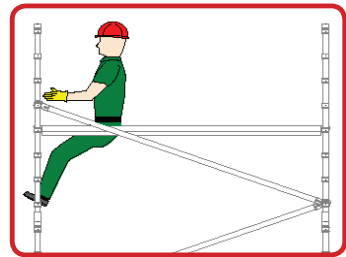


10. Place a trapdoor platform at 2m level (8 rungs from ground) and set to one side of tower.

**Note:** The trapdoor platform hinge to be set to inside of tower (temporary only to assist in assembling tower).

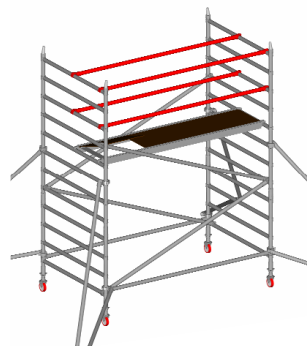


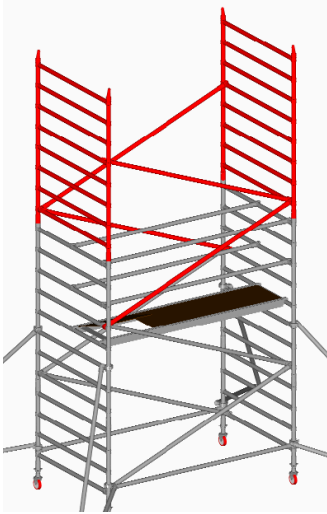
11. Operative should then climb through the trap and rest against the platform (just below base of back) with feet firmly placed on frame rungs (as shown).



12. Fit horizontal braces to both sides of platform at 2nd and 4th rungs above platform level to form guardrail protection to single platform only.

It is safe to use the platform when horizontal braces have been locked and secured in place.

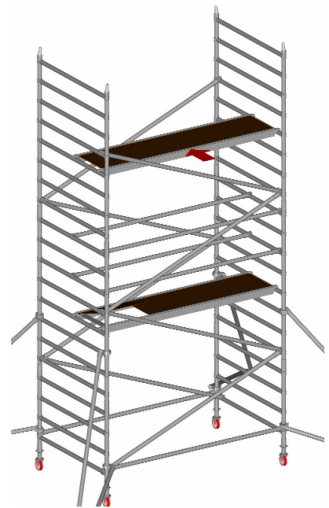




13. Add two more 8 rung frames on top of the existing frames.
14. Attach two diagonal braces from lower frame to upper frame in accordance with bracing pattern.
15. Attach two more diagonal braces from 1st rung to 5th rung of upper frames.

16. Place fixed platform initially at 4m level and slide across to opposite side of tower (as shown) from where operative is standing below then place trapdoor platform ensuring that trap is placed at opposing side to trap on platform below.

**Note:** Ensure that the trapdoor hinge is to the outside edge.



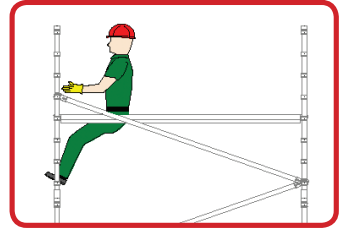
17. Repeat step 11 and climb through the trap.
18. Fit horizontal braces to both sides of platform at 2nd and 4th rungs above platform level to form permanent handrail.  
It is safe to use the platform once horizontal braces are locked and secured in place.

Repeat steps 10 to 18 until desired height has been reached (max. height 8m outdoors and 12m indoors).

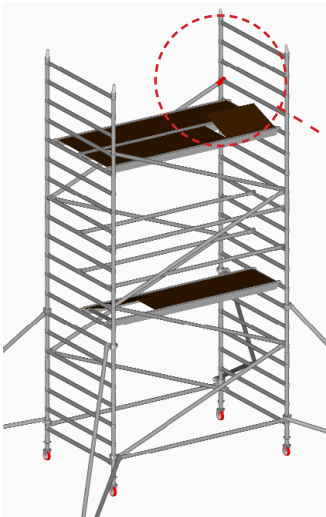
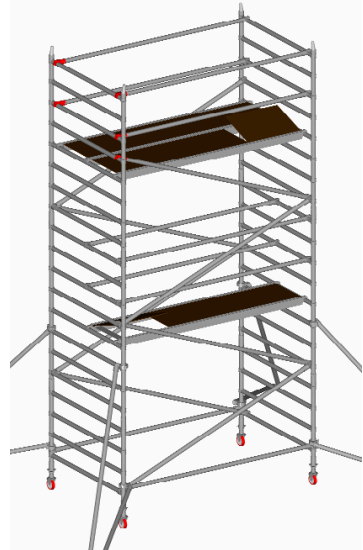
# DISMANTLING THE TOWER

The following instructions describe the steps necessary to dismantle the MAST 250 tower utilising the 3T method.

For your safety and that of others, take particular care not to allow components to fall to the ground since this will not only result in damage but may cause serious injury.



1. At top platform level unlock horizontal braces and diagonal brace at furthest positions from the trap before descending through the trap. As before, rest against the platform (just below base of back) with feet firmly placed on frame rungs.
2. Remove horizontal braces and pass down to operatives below.

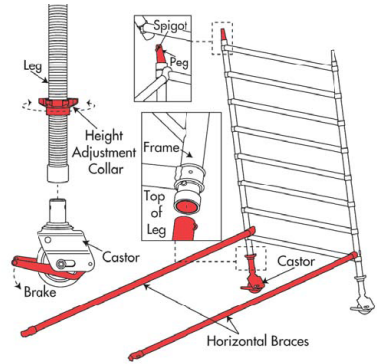


3. Unlock diagonal brace at top platform level.
4. Descend to platform level below and remove top platform.
5. Standing on platform, unlock diagonal braces fixed at upper frames then remove diagonal braces completely.
6. Remove upper frames.

Repeat steps 1 to 6 until dismantle process is complete.

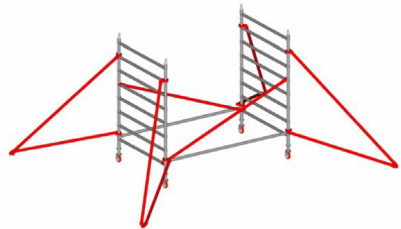
# ODD HEIGHT TOWERS 3T Method

1. Fit four legs and castors (or base plates) to two 8 rung span frames (see illustration). Turn the height adjustment collar on each leg until approximately 100mm from the lower end. Insert each leg until the collar is in contact with the frame's tubing.
2. Set each castor brake on by moving the brake lever fully down.
3. With each frame's spigot facing inward, attach two horizontals to the upright of each frame, above the first rung and square the two frames to each other.

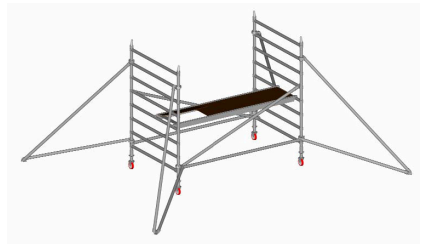


**Note:** It may be advantageous to place a platform at low level to assist in "squaring" tower.

4. With the aid of a spirit level, you should now make any necessary adjustments to level the tower by turning the adjustment collar.
5. Attach two diagonal braces to the bottom rung of each base frame, with one brace being placed so the brace hook is as far to the outer edge as possible, the other brace hook should be placed at least 50mm (one tube width) from outer edge.
6. Then attach the other end of both braces to the fifth rung on the opposing 2m frame.
7. Fit stabilisers (see Stabilisers section; page 12).
8. Place a trapdoor platform at 1m level (4 rungs from ground) and set to one side of tower.



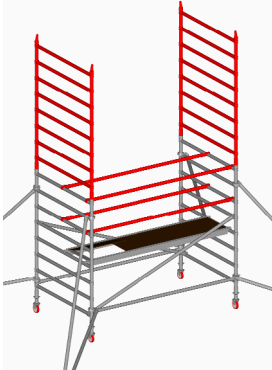
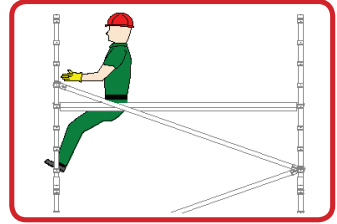
**Note:** The trapdoor platform hinge to be set to inside of tower (temporary only to assist in assembling tower).



This platform may be used temporarily to assist in the erection of the tower.



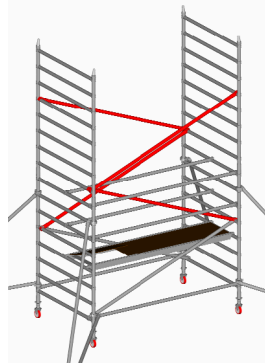
9. Operative should then climb through the trap and rest against the platform (just below base of back) with feet firmly placed on frame rungs (as shown).



10. Fit horizontal braces to both sides of platform at 2nd and 4th rungs above platform level to form guardrail protection to single platform only.  
It is safe to use the platform when horizontal braces have been locked and secured in place.

11. Add two more 8 rung frames on top of the existing frames.

12. Attach two diagonal braces from lower frame to upper frame in accordance with bracing pattern.
13. Attach two more diagonal braces from 1st rung to 5th rung of upper frames.

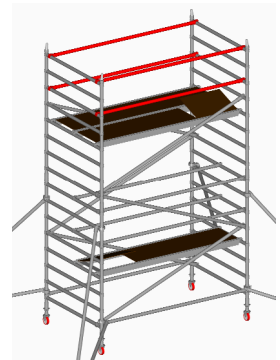


14. Place fixed platform initially at 3m level and slide across to opposite side of tower (as shown) from where operative is standing below then place trapdoor platform ensuring that trap is placed at opposing side to trap on platform below.

**Note:** Ensure that the trapdoor hinge is to the outside edge.

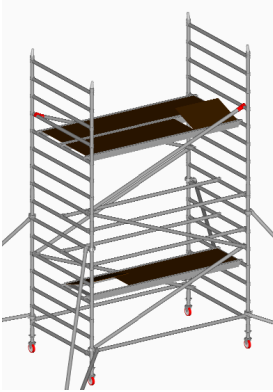
15. Repeat step 9 above and climb through the trap.
16. Fit horizontal braces to both sides of platform at 2nd and 4th rungs above platform level to form permanent handrail.  
It is safe to use the platform once horizontal braces are locked and secured in place.

Repeat steps 11 to 16 until desired height has been reached (max. height 8m outdoors and 12 m indoors).



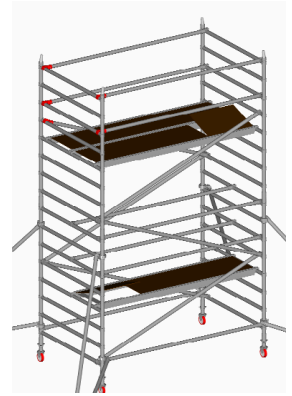
# DISMANTLING THE TOWER

1. At top platform level unlock horizontal braces and diagonal brace at furthest positions from the trap before descending through the trap. As before, rest against the platform (just below base of back) with feet firmly placed on frame rungs.



2. Remove horizontal braces and pass down to operatives below.
3. Descend to platform level below and remove top platform
4. Remove diagonal braces fixed to upper frames.
5. Remove upper frames.

Repeat steps 1 to 5 until dismantle process is complete.



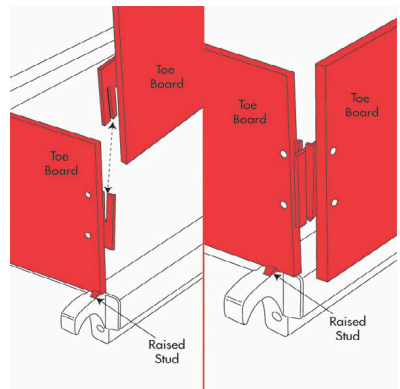
# TOEBOARDS

Whichever position the working platform is assembled toeboards must be fitted.

Slot the toeboard set together and position on the outer edge of the platform.

The toeboards are designed so that the side boards overhang the platform and the end boards are retained by raised studs on the platform hooks (see illustration).

**Note:** If using one piece folding toeboards then select correct toeboard for the desired tower, unfold and fit in place, retained by raised studs on the platform hooks.



# MAST 250 TOWER WITH BETAGUARD

Please read this guide carefully.

The MAST 250 Tower is a Load Class 3 tower as specified in BS EN 1004:2004.

This instruction manual contains all the information required to correctly assemble the MAST 250 Tower incorporating the primary method of safe assembly of using advanced guardrail protection (BetaGuard®) to provide collective measures enabling full compliance with the Work at Height Regulations 2005.

The provision and utilisation of advanced guardrail protection is recommended for all operatives erecting the MAST 250 Tower.

This manual should be used in conjunction with a suitable Risk Assessment and Method Statement (by user) relative to the project to be undertaken, Work at Height Regulations 2005, Regulation 6(1). It must be noted that all employers have a responsibility to ensure that work methods (practices) and adequate facilities / resources (including work equipment) are provided to eliminate or minimise risks, Work at Height Regulations 2005, Regulations 6, 7, 8 and Schedule 3 Part 2.

Please ensure you read and fully understand the manual. Follow the content during assembly and ensure that the tower is correct and complete prior to use.

This manual must be made available to the user/ assembler at all times.

Sufficient training, combined with necessary experience, must also be considered and be appropriate to achieve competency to undertake basic mobile access tower assembly.

Only competent (and qualified) personnel should undertake erection, dismantling and alteration (and organisation, planning and supervision) of basic mobile access towers, Regulation 5, the Work at Height Regulations 2005 and consideration should be given to providing additional (minimum) training beforehand, if required (Regulation 6 (5)(b)).

## INSPECTION, CARE AND MAINTENANCE

Handle tower components with care to avoid damage to either the person handling the equipment or the equipment itself. Components need to be firmly secured and properly supported, when being transported, to prevent damage. In long term storage, towers should be protected from the weather. Prior to use, inspect all tower components for signs of damage or defects. Damaged, defective or incorrect components must be marked as unfit for use, withdrawn from use and either repaired or destroyed. Castors and adjustable legs should be periodically lubricated to keep them free running.

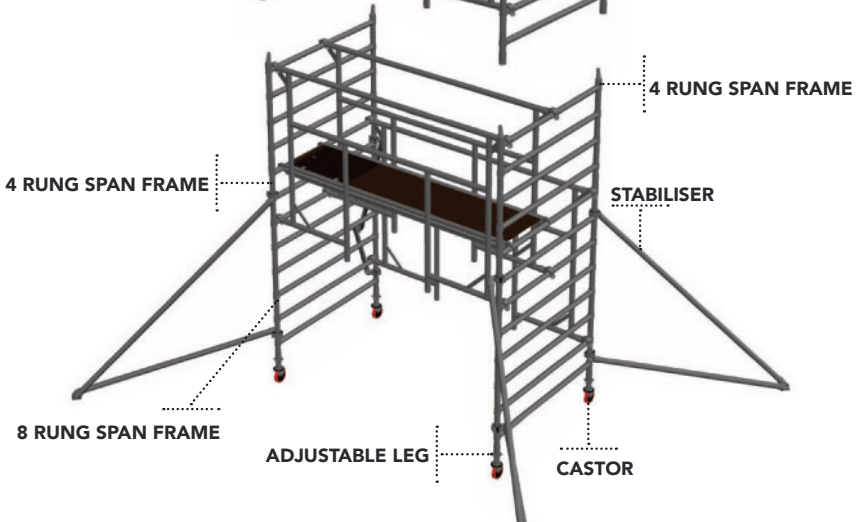
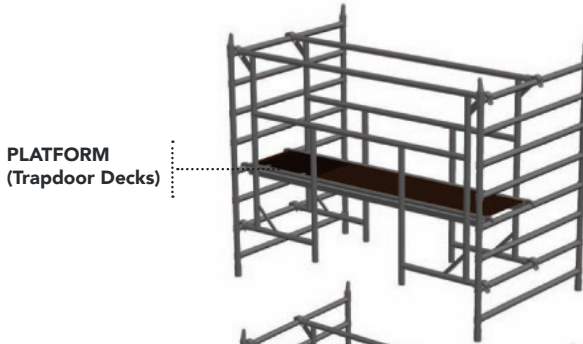
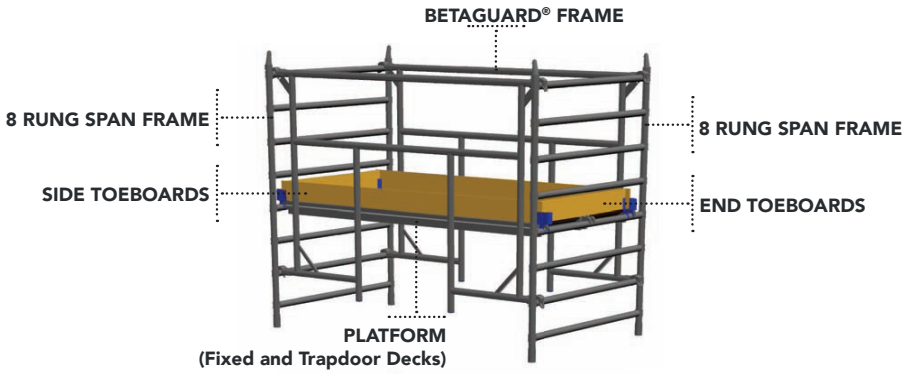
## SAFETY

Refer to General Safety Notes and Advice for Users.



For training assistance please contact on

**0800 587 5224**



## GENERAL SAFETY NOTES

- 1 Ensure that all necessary components and safety equipment (BetaGuard®) are available and operational.
- 2 Inspect the tower components for signs of damage or incorrect functioning prior to use. Damaged or incorrect components shall not be used. Castors and adjustable legs should be periodically lubricated to keep them free running.
- 3 Erect Exclusion zone and fit Warning Signs to comply with Schedule 3 Part 2 (11), Work at Height Regulations 2005.
- 4 Before erecting the tower, check that the location for the mobile access tower does not present any hazards during erection, dismantling, moving and safe working with respect to ground conditions, level and slope and obstructions.
- 5 Ensure the scaffolding is to be erected on suitable foundations capable of withstanding the loads imposed by the scaffolding (Schedule 3 Part 1(2) of Work at Height Regulations 2005) and, where appropriate, adequate sole boards to be provided.
- 6 It is recommended that at least two people erect and dismantle the tower.
- 7 MAST 250 tower MUST ALWAYS be climbed from the inside.
- 8 When lifting components or materials, always use reliable materials for lifting and tying methods to ensure there is no possibility of the tower overturning. Always lift from within the tower base. Ensure that the total weight of components or materials is within the maximum load per platform (300kg) and the maximum load for the overall tower (600kg).
- 9 Do not use hoisting arrangements on a mobile access tower.
- 10 The maximum wind condition for moving the mobile access tower are Beaufort Scale 0 - 4 as described in Table (Page 21).
- 11 Mobile access towers must only be moved manually, by pushing at the base. Ensure that the platforms are free of persons and equipment and that brake locks are off prior to movement. Beware of soft or uneven ground and overhead obstructions. The tower height must be reduced to 4m high and stabilisers raised approx. 25mm clear of the ground. On completing the move apply all brakes and check adjustment and stability prior to completion of tower to full assembled height.  
**Note:** Tower height must be reduced to 2m high prior to any moves if less than 4 stabilisers are used.
- 12 Always inspect the tower after moving and before use.
- 13 Always beware of live electrical apparatus, cables or moving parts of machinery.
- 14 Care should be taken when using power tools, wash jets or other tools that cause lateral force. The maximum lateral force on a freestanding tower at platform level is 20kg.
- 15 DO NOT use boxes, ladders or other such means to gain additional height.
- 16 Never bridge between a tower and a building unless designed to a specification and approved.
- 17 Never jump onto platforms.
- 18 Fit guardrails at all platforms.
- 19 Fit toeboards on all working platforms.
- 20 Fit intermediate rest platforms at 4m intervals (maximum).
- 21 DO NOT affix sheeting of any type to the tower.
- 22 Mobile access towers are not designed to allow them to be lifted or suspended.
- 23 In accordance with regulations, any tower that has been erected must be inspected every 7 days (minimum) to ensure that the tower continues to comply with the regulations.

# WIND SPEED SAFETY RULES

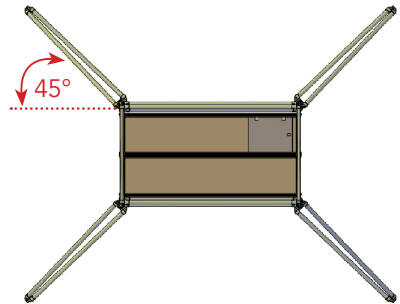
When locating the tower, check the wind conditions before erection, against the table, and beware of hazards during erection, dismantling and moving with respect to wind conditions and the funnelling effect of open ended, uncladded buildings and on building corners. Towers left unattended should be tied in to a rigid structure, especially when working outdoors or in exposed conditions. The maximum wind condition for moving the mobile access tower are Beaufort Scale 0 - 4 as described in table below.

Beaufort Scale	Description	Air Speed	Action
0-4	Moderate Breeze Small Branches move	13-16 mph 17 mph	No action required Cease Work
5-6	Strong Breeze Large branches bend	20-25 mph	Tie tower to a rigid structure
>6	Walking progress impeded	30-40 mph	Dismantle tower if such conditions are expected

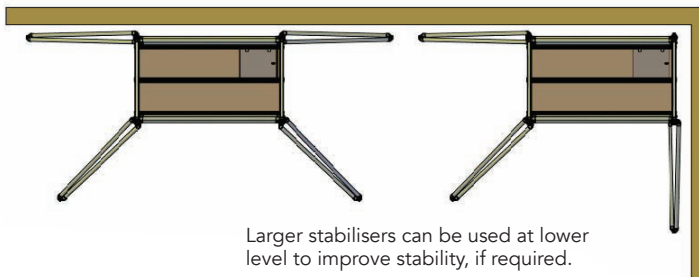
## STABILISERS

Set each stabiliser at 45° (approx.) for mobile access towers creating as large a footprint as possible and ensure that they are in firm contact with the ground.

**Note:** When moving a tower the stabilisers must be raised 25mm (approx.) clear of the ground prior to the movement ensuring that on completion of the move the stabilisers are left in firm contact with the ground with all clamps fully tightened; the brakes locked and the tower stability is checked.



Should the tower require to be erected against a solid structure and it is not possible to set stabilisers at 45° then use either of the following alternatives.



Larger stabilisers can be used at lower level to improve stability, if required.

# TIES

If the safe tower height exceeds that as detailed in the quantity schedule or the optimum base dimension cannot be constructed or other such factors that may affect the tower stability then, it will be necessary to rigidly tie the tower into an adjacent structure, using tubes and couplers suitable for coupling to the tower that has tube diameter of 50.8mm.

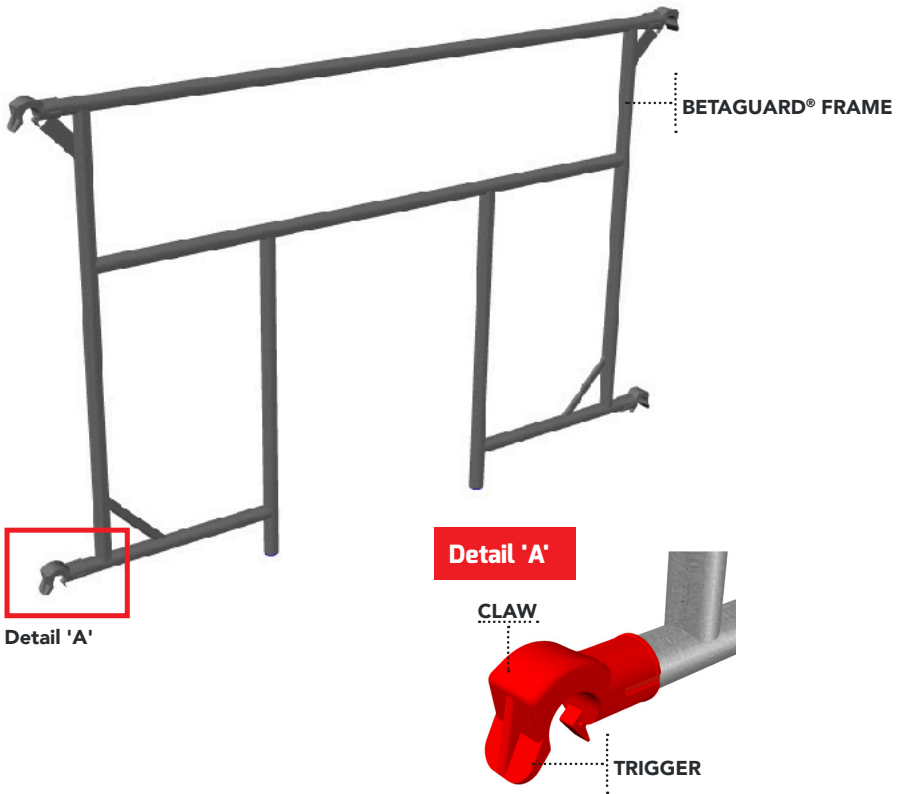
## BETAGUARD<sup>®</sup> FRAME

All BetaGuard<sup>®</sup> frames are fitted with self-priming triggers that automatically lock when attached to the tower.

Attach BetaGuard<sup>®</sup> frames square to the tower and remove by releasing the lower trigger.

When attaching BetaGuard<sup>®</sup> frames the claws always face down.

When dismantling the BetaGuard<sup>®</sup> frames, it is only necessary to release the lower triggers to remove the frame from the tower.



## DAILY CHECKS

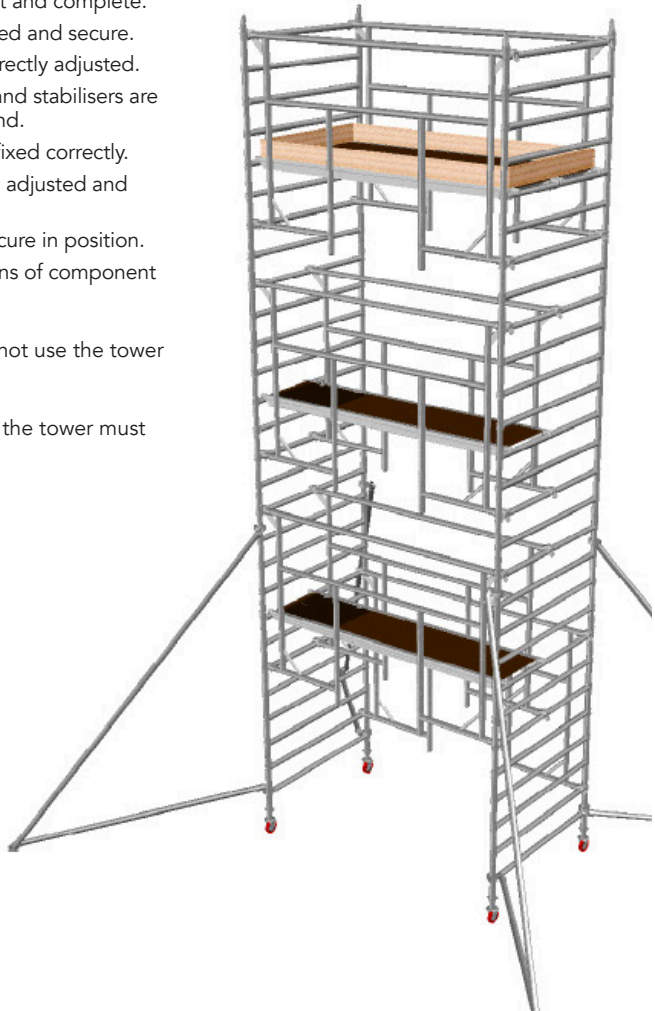
The tower must be checked on a daily basis and after any significant weather changes e.g. high winds, snow and frost.

Use the checklist below prior to use.

- Tower is vertical, level and square.
- Tower structure is correct and complete.
- Betaguard® correctly fitted and secure.
- Castors locked/ legs correctly adjusted.
- All castors, base plates and stabilisers are in contact with the ground.
- Toeboards located and fixed correctly.
- Correct stabilisers fitted, adjusted and secure.
- Platforms locked and secure in position.
- Check for any visible signs of component damage.

If a box has not been ticked, do not use the tower until the fault is rectified.

Where a fault is found, access to the tower must be stopped.





# 1450 SPAN TOWER - 1.5M AND 2.5M

(COMPLIES WITH BS EN 1004:2004)

Internal/External Use

Description	Working Height (m)	3.2	4.2	5.2	6.2	7.2	8.2	9.2	10.2	11.2	12.2	13.2	14.2
	Platform Height (m)	1.2	2.2	3.2	4.2	5.2	6.2	7.2	8.2	9.2	10.2	11.2	12.2
125/150/200mm Castor		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
1450 4 Rung Span Frame			2		2		2		2		2		2
1450 8 Rung Span Frame		2	2	4	4	6	6	8	8	10	10	12	12
1.5m and 2.5m Fixed Deck		1	1	1	1	1	1	1	1	1	1	1	1
1.5m and 2.5m Trap Door Deck		1	1	2	2	2	2	3	3	4	4	5	5
1.5m and 2.5m Betaguard® Frame		2	3	4	5	6	7	8	9	10	11	12	13
1.5m and 2.5m Side Toeboard		2	2	2	2	2	2	2	2	2	2	2	2
1.45m End Toeboard		2	2	2	2	2	2	2	2	2	2	2	2
Standard Stabiliser			4	4	4	4	4						
Large Stabiliser								4	4	4	4	4	4

Maximum Safe Working Loads (S.W.L.).

300kg per platform evenly distributed.

600kg per tower evenly distributed.

The platform can consist of either one deck or two decks (placed side by side).

The load MUST be evenly distributed over entire platform area (whether one deck or two decks).

A maximum of 2 platform levels may be loaded.

The self weight of the tower components is not part of the 600kg S.W.L. per tower and has already been taken into account.

**Note:** You may increase the allowable Safe Working Load to 900kg by ensuring that all even height towers have two BetaGuard® frames in the base. Please contact Generation Access if you require further information.

The Quantity Schedule provides for double handrails to all platforms. Toeboards have been included to one working platform only, therefore additional toeboards will have to be added to any other levels that are used as working platforms and/or for storage of materials.

Furthermore, product standards require that towers have platforms placed at least every 4m. The Schedule exceeds this requirement.

The MAST 250 Tower will be built safely and therefore compliance with the requirements of the Work at Height Regulations 2005 will also be met, if the schedule is followed.

Ballast: Internal/ External Use.

Ballast is not required on MAST 250 Tower if using stabilisers as detailed on Quantity Schedule.

## 850 NARROW WIDTH TOWER - 1.5M AND 2.5M

(COMPLIES WITH BS EN 1004:2004)

Internal/External Use

Description	Working Height (m)	3.2	4.2	5.2	6.2	7.2	8.2	9.2	10.2	11.2	12.2	13.2	14.2
	Platform Height (m)	1.2	2.2	3.2	4.2	5.2	6.2	7.2	8.2	9.2	10.2	11.2	12.2
125/150/200mm Castor		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
850 4 Rung Span Frame			2		2		2		2		2		2
850 8 Rung Span Frame		2	2	4	4	6	6	8	8	10	10	12	12
1.5m and 2.5m Trap Door Deck		1	1	2	2	2	2	3	3	4	4	5	5
1.5m and 2.5m Betaguard® Frame		2	3	4	5	6	7	8	9	10	11	12	13
1.5m and 2.5m Side Toeboard		2	2	2	2	2	2	2	2	2	2	2	2
0.85m End Toeboard		2	2	2	2	2	2	2	2	2	2	2	2
Standard Stabiliser			4	4	4	4	4						
Large Stabiliser							4	4		4	4	4	4

Maximum Safe Working Loads (S.W.L.)

300kg per platform evenly distributed.

600kg per tower evenly distributed.

The load MUST be evenly distributed over entire platform area.

A maximum of 2 platform levels may be loaded.

The self weight of the tower components is not part of the 600kg S.W.L. per tower and has already been taken into account.

**Note:** You may increase the allowable Safe Working Load to 900kg by ensuring that all even height towers have two BetaGuard® frames in the base. Please contact Generation Access if you require further information.

The Quantity Schedule provides for double handrails to all platforms. Toeboards have been included to one working platform only therefore additional toeboards will have to be added to any other levels that are used as working platforms and/ or for storage of materials.

Furthermore, product standards require that towers have platforms placed at least every 4m. The Schedule exceeds this requirement.

The MAST 250 Tower will be built safely and therefore compliance with the requirements of the Work at Height Regulations 2005 will also be met, if the schedule is followed.

Ballast: Internal/ External Use.

Ballast is not required on MAST 250 Tower if using stabilisers as detailed on Quantity Schedule.

# ASSEMBLY PROCEDURE 1450 TOWER

Our recommended method of assembly to fully comply with the Work at Height Regulations 2005, is by using Collective Protection which has been approved and endorsed by both PASMA and the HSE. The following assembly procedure uses BetaGuard® (Integral Advanced Guardrail).

## NARROW WIDTH TOWERS

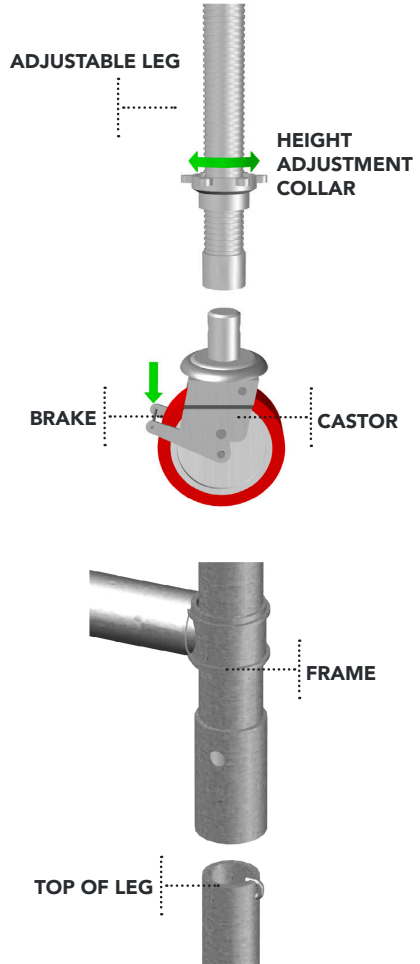
Narrow width towers are assembled following the same steps as explained for span towers, except that all platforms are trapdoor platforms.

## THE BASE SECTION

- 1 Fit four legs to four castors (or base plates) and then turn the height adjustment collar on each leg until approximately 100mm from the lower end.
- 2 Set each castor brake on by moving the brake lever fully down.
- 3 Fit leg assemblies to two 8 rung span frames. Insert each leg until the collar is in contact with the frame's tubing.

Steps 1 to 3 above require to be carried out for any mobile MAST Tower using BetaGuard®.

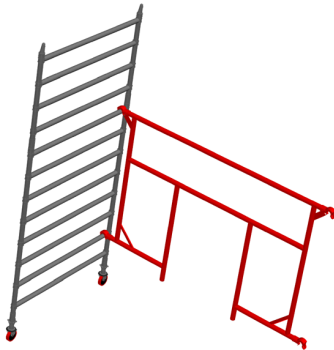
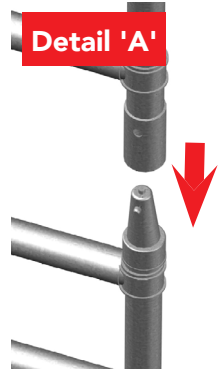
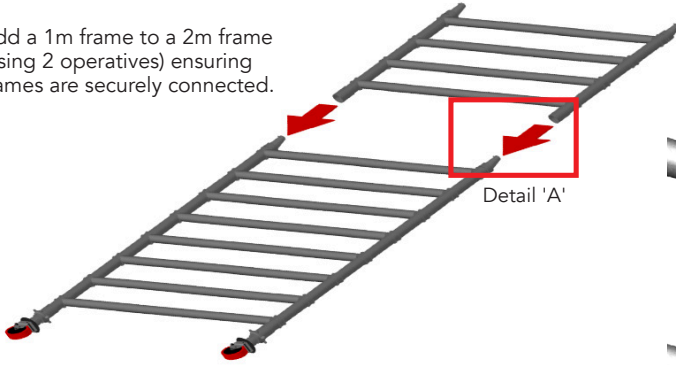
The following sections detail the steps required to complete either the base section of an EVEN or ODD height tower.



# THE BASE SECTION - EVEN HEIGHT TOWERS

Following on from steps 1 to 3 on previous page this section details the steps required to complete the base section of an EVEN height mobile MAST 250 Tower using BetaGuard®.

- 1 Add a 1m frame to a 2m frame (using 2 operatives) ensuring frames are securely connected.



- 2 Raise combined frames (ensuring that castors are locked) and attach the BetaGuard® frame at 2nd and 8th rungs of lower tower frame.

**Note:** It is recommended that 2 operatives carry out this step.



- 3 Attach the BetaGuard® frame to the opposing tower frame and square the two frames to each other.

**Note:** It may be advantageous to place a platform at low level to assist in “squaring” tower.

- 4 With the aid of a spirit level, you should now make any necessary adjustments to level the tower by turning the adjustment collars.

- 5 Add another BetaGuard® frame to the centre of the tower (approx.) at 6th rung of lower tower frame and top rung of upper tower frame, at a suitable distance apart to allow for the placing of a trapdoor platform.



- 6 Attach a BetaGuard® frame to outside edge (opposite existing BetaGuard® frame) at the same level as previous BetaGuard® frame.

When specified, the correct stabilisers or outriggers must always be used. See Quantity Schedule. When using standard stabilisers, fit them now (see Stabilisers section, page 21).

Place a trapdoor platform at 2m level (8 rungs from ground). **Note:** Trap door platform hinge to outside of the tower.

# THE BASE SECTION - ODD HEIGHT TOWERS

Following on from steps 1 to 3 on page 11, this section details the steps required to complete the base section of an ODD height mobile MAST 250 Tower using BetaGuard®.

- 1 Raise frame (ensuring that castors are locked) and attach the BetaGuard® frame at 2nd and 8th rungs of tower frame.

**Note:** It is recommended that 2 operatives carry out this step.



- 2 Attach the BetaGuard® frame to the opposing tower frame and square the two frames to each other.

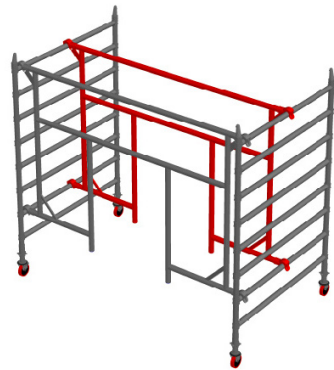
**Note:** It may be advantageous to place a platform at low level to assist in "squaring" tower.

- 3 With the aid of a spirit level, you should now make any necessary adjustments to level the tower by turning the adjustment collars.

- 4 Add another BetaGuard® frame to the centre of the tower (approx.) at the same level asw previous BetaGuard® frame, at a suitable distance apart to allow for the placing of a trapdoor platform.

When specified, the correct stabilisers or outriggers must always be used. See Quantity Schedule.

When using standard stabilisers, fit them now.



# STABILISERS

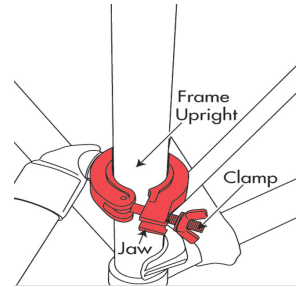
To attach the stabiliser, fit the upper screw clamp to frame upright, approx. 50mm above the seventh rung (from ground), then fit the lower screw clamp as low as possible to the frame upright.

Stabilisers should be attached so that the footprint of the tower, including stabilisers, is in accordance with the Stabilisers section shown on page 21.

Ensure that the stabilisers are in firm contact with the ground.

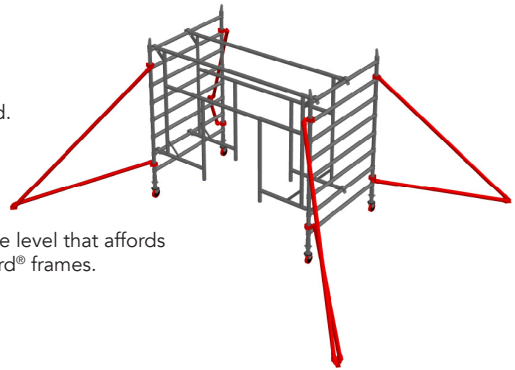
**Note:** It may only be possible to fit large stabilisers after upper frame has been placed.

If repositioning stabilisers when in position then screw clamps **MUST** be loosened prior to movement then re-fixed.



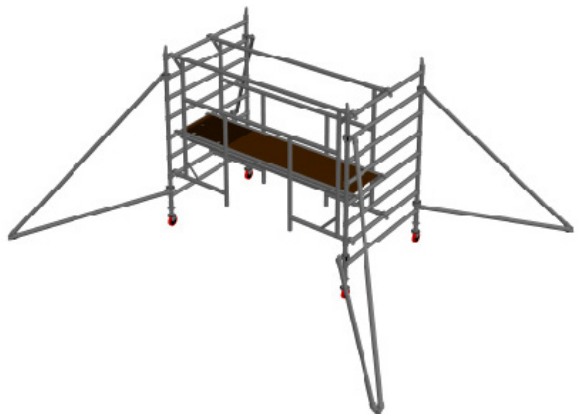
**Note:** Base section of Odd height tower illustrated.

- 5 Place a trapdoor platform at the appropriate level that affords operative protection between the BetaGuard® frames.



The Base Section for either an EVEN or ODD height tower is now complete.

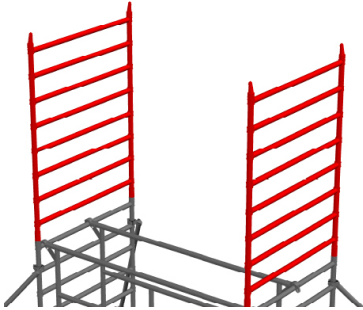
**Note:** Base section of Odd height tower illustrated.



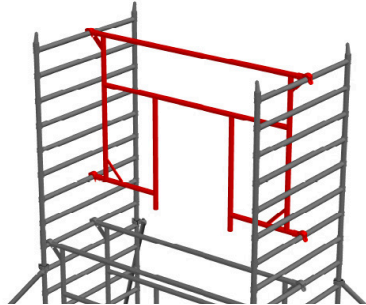
## ASSEMBLING UPPER FRAMES - INTERMEDIATE SECTIONS

When the base section is complete then assembly of the upper frames can commence.

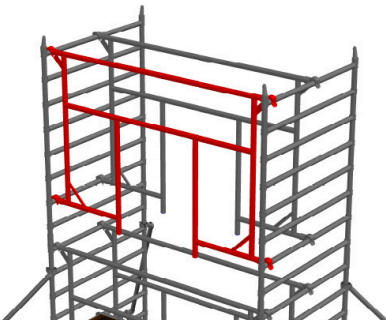
Every 2m section (intermediate section) between the base section and working platform (whether ODD or EVEN height tower) is assembled using the same components and steps that follow.



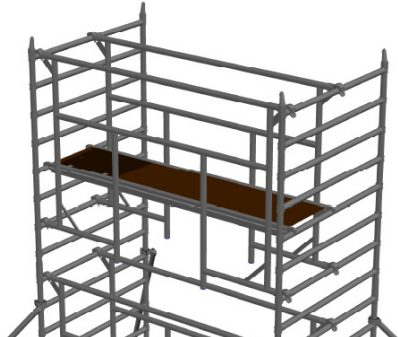
- 1 Add two 8 rung frames on top of the existing frames.



- 2 Attach one BetaGuard® frame to centre of tower at 2nd and 8th rungs.



- 3 Attach another BetaGuard® frame to outside edge of tower at 2nd and 8th rungs.



- 4 Place a trapdoor platform at the appropriate level between the BetaGuard® frames.

Repeat steps 1 to 4 until desired height has been reached (max. height 8m outdoors and 12 m indoors) and top platform is to be installed.



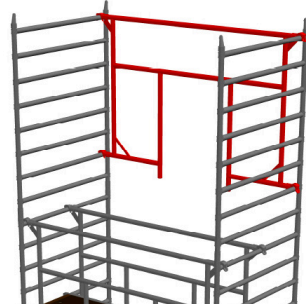
# ASSEMBLING UPPER FRAMES - TOP (WORKING) PLATFORM SECTIONS

When the base section is complete then assembly of the upper frames can commence.

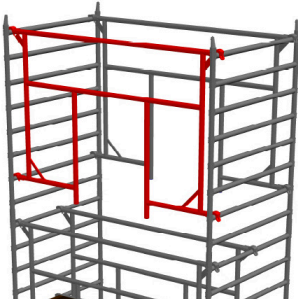
Every working platform, whether it is situated at the top or between intermediate sections (ODD or EVEN height tower) is assembled using the same components and steps that follow.



- 1 Add two 8 rung frames on top of the existing frames.



- 2 Attach one BetaGuard® frame at outside edge between tower frames at 2nd and 8th rungs.



- 3 Attach the other BetaGuard® frame at opposing outside edge between tower frames at 2nd and 8th rungs.

Place fixed platform initially at platform level and slide across to opposite side of tower, from where operative is standing below, then place trapdoor platform ensuring that trap is placed at same side to trap on platform below.

**Note:** Ensure that the trapdoor hinge is to the outside edge.

Fit toeboards to all working platforms.

Scaffold is complete.

Ensure that intermediate platforms (trapdoor) are placed between BetaGuard® frames at required levels (at least every 4m).

# DISMANTLING THE TOWER

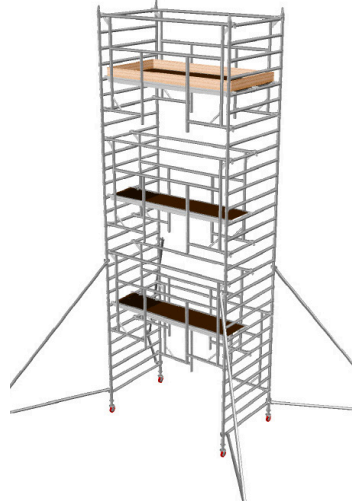
The dismantling procedure is simply a reversal of the steps explained for the assembly.

For your safety and that of others, take particular care not to allow components to fall to the ground since this will not only result in damage but may cause serious injury.

When dismantling the BetaGuard® frames, it is only necessary to release the lower triggers to remove the frame from the tower.

## TRAINING

These instructions do not take the place of proper training. Contact Generation Training Services for details of specific training courses for users of mobile access towers.



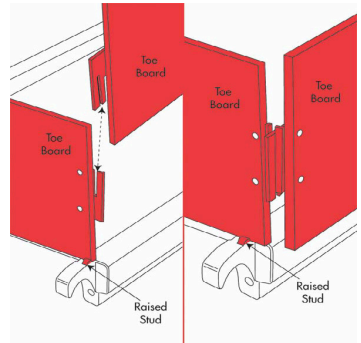
## TOEBOARDS

Whichever position the working platform is assembled, toeboards must be fitted.

Slot the toe board set together and position on the outer edge of the platform.

The toeboards are designed so that the side boards overhang the platform and the end boards are retained by raised studs on the platform hooks (see illustration).

**Note:** If using one piece folding toeboards then select correct toeboard for the desired tower, unfold and fit in place, retained by raised studs on the platform hooks.



# GENERATION TRAINING

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Generation Access, a division of Generation UK Ltd from its specialist branches in London provide solutions for all access requirements with a full range of modular tower systems.

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 T: 0121 544 3355 F: 0121 544 3131  
 E: [birmingham@generationuk.co.uk](mailto:birmingham@generationuk.co.uk)

### **Birmingham (East) G**

87-93 Amington Road, Birmingham,  
 West Midlands, B25 8ET  
 T: 0121 706 0000 F: 0121 706 9832  
 E: [birminghameast@generationuk.co.uk](mailto:birminghameast@generationuk.co.uk)

### **Bristol**

Unit 7, 12-16 Foundry Lane, Fishponds,  
 Bristol, B55 7UE  
 T: 0117 972 4550 F: 0117 972 4502  
 E: [bristol@generationuk.co.uk](mailto:bristol@generationuk.co.uk)

### **Cardiff**

Martin Road, Tremorfa Industrial Estate  
 Cardiff, CF24 5SD  
 T: 029 2046 3835 F: 029 2046 3246  
 E: [cardiff@generationuk.co.uk](mailto:cardiff@generationuk.co.uk)

### **Edinburgh**

4 Westerton Road,  
 East Mains Industrial Estate, Broxburn,  
 West Lothian, EH52 5AU  
 T: 01506 863 864 F: 01506 863 916  
 E: [edinburgh@generationuk.co.uk](mailto:edinburgh@generationuk.co.uk)

### **Frimley (West London)**

22-30 Sturt Road, Frimley Green  
 Camberley, GU16 6HY  
 T: 01252 838 696 F: 01252 837 614  
 E: [frimley@generationuk.co.uk](mailto:frimley@generationuk.co.uk)

### **Gateshead G**

Stonegate Lane, Abbotsford Road,  
 Felling, Gateshead, NE10 0EX  
 T: 0191 469 7504 F: 0191 469 8237  
 E: [gateshead@generationuk.co.uk](mailto:gateshead@generationuk.co.uk)

### **Glasgow**

Duchess Road, Rutherglen  
 Glasgow, G73 1AU  
 T: 0141 647 6969 F: 0141 647 5851  
 E: [glasgow@generationuk.co.uk](mailto:glasgow@generationuk.co.uk)

### **Grays G**

Europa Business Park, Magnet Road,  
 Grays, Essex, RM20 4DB  
 T: 01375 312 120 F: 01375 386 844  
 E: [grays@generationuk.co.uk](mailto:grays@generationuk.co.uk)

### **Leeds**

Unit 2 Ledger Park, Haigh Park Road,  
 Stourton, Leeds LS10 1RT  
 T: 0113 277 8822 F: 0113 277 7545  
 E: [leeds@generationuk.co.uk](mailto:leeds@generationuk.co.uk)

### **London (East)**

Unit H, Hangman's Wood Ind Park,  
 Stifford Road, South Ockendon,  
 Essex, RM15 6RL  
 T: 020 7473 6056 F: 01708 858 493  
 E: [london@generationuk.co.uk](mailto:london@generationuk.co.uk)

### **Newcastle**

Forward House, Portobello Road  
 Portobello Industrial Estate, Birtley,  
 Tyne and Wear, DH3 2SN  
 T: 0191 492 1190 F: 0191 411 1148  
 E: [newcastle@generationuk.co.uk](mailto:newcastle@generationuk.co.uk)

### **Northampton**

Kingsfield Way, Dallington,  
 Northampton, NN5 7QN  
 T: 01604 580 444 F: 01604 580 487  
 E: [northampton@generationuk.co.uk](mailto:northampton@generationuk.co.uk)

### **Salsburgh G**

Duntilland Road, Shotts, Salsburgh,  
 North Lanarkshire, ML7 4NZ  
 T: 01698 870 200 F: 01698 870 159  
 E: [salsburgh@generationuk.co.uk](mailto:salsburgh@generationuk.co.uk)

### **Stockport**

Unit 4 Vauxhall Industrial Estate,  
 Greg Street, Reddish,  
 Stockport, SK5 7BR  
 T: 0161 477 0131 F: 0161 477 7618  
 E: [stockport@generationuk.co.uk](mailto:stockport@generationuk.co.uk)

### **West Thurrock (East London)**

4 Riverside Ind. Park, Oliver Road,  
 West Thurrock, RM20 3ED  
 T: 020 7476 4760 F: 020 7476 3157  
 E: [westthurrock@generationuk.co.uk](mailto:westthurrock@generationuk.co.uk)

### **Widnes G**

Pitt Street, West Bank, Widnes,  
 Cheshire, WA8 0TG  
 T: 0151 420 3331 F: 0151 495 2298  
 E: [widnes@generationuk.co.uk](mailto:widnes@generationuk.co.uk)

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### **Altrad Training Services**

Unit 20B Greens Industrial Park,  
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 T: 01924 370 640 F: 01924 377 530  
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 E: [training@altraduk.co.uk](mailto:training@altraduk.co.uk)

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### **Generation Export**

Trinity Street, Off Tat Bank Road  
 Oldbury, West Midlands, B69 4LA  
 T: +44 (0) 121 543 2964  
 E: [export@generationuk.co.uk](mailto:export@generationuk.co.uk)

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### **Generation UK Head Office**

Trinity Street, Off Tat Bank Road  
 Oldbury, West Midlands, B69 4LA  
 T: 0121 543 2950 F: 0121 543 2953  
 E: [enquiries@generationuk.co.uk](mailto:enquiries@generationuk.co.uk)

**G** GROUNDWORKS



GENERATION UK Ltd  
 Generation Head Office, Trinity Street, Off Tat Bank Road, Oldbury, West Midlands, B69 4LA - United Kingdom  
 Tel. 0121 543 2950 - Fax. 0121 543 2953 - [enquiries@generationuk.co.uk](mailto:enquiries@generationuk.co.uk)  
[www.generationuk.co.uk](http://www.generationuk.co.uk)