



# 1450, 850 Aluminium Scaffold Tower

Tested & Certified to EN 1004-1:2020

## Instruction Manual

These instruction and equipment described in according with  
EN:1298-IM-en  
EN:1004-1:2020 (Class 3),(8 metres outdoor / 12 metres indoor)



Type Approved  
Safety  
Regular Production  
Surveillance

[www.tuv.com](http://www.tuv.com)  
ID 1111247258

# Mobile Tower – 3T Method (Through The Trapdoor)

## INTRODUCTION

Please read this guide carefully.

Please note that diagrams are for illustrative purposes only.

**LOYAL** 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 strong working platform for a variety of heights.

This User Guide provides you with step by step instructions to ensure your system is assembled easily and safely. Using the 3T (Through The Trapdoor) method.

The law requires that personnel erecting, dismantling or altering towers must be competent and qualified to do so. Any person erecting a **LOYAL** mobile tower should have a copy of this guide.

If you need further information, or any other help with this products, please contact:

**LOYAL Scaffolding Ltd.** on +852 3488 3860 or email to [sales@aluminium-scaffoldtowers.co.uk](mailto:sales@aluminium-scaffoldtowers.co.uk)

## COMPLIANCES

These instructions and the equipment described in accordance with:

EN:1298-IM-en

EN:1004-1:2020 Class 3 (8 metres outdoor / 12 metres indoor)

## TOWER DESIGNATION



**EN 1004 3 8/12 XXXD H2**

Design Code

Load Class (3 = 204kg/m<sup>2</sup> UDL)

Maximum Platform Height Outdoors (m)

Maximum Platform Height Indoors (m)

### Access Method

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

Clear Height Class (H1 = 1.85m, H2 = 1.9m)

## PREPARATION AND INSPECTION

1. Inspect the equipment before use to ensure that it is not damaged and that it functions properly. Damaged or incorrect components shall not be used.
2. Check overhead that the area into which the structure is to be erected contains no obstruction, particularly electrical or radio radiation hazards. The structure is conductive.

# Safety First





## A. SAFETY NOTES

1. **Check that all components are on site, undamaged and that they are functioning correctly – (refer to Checklist & Quantity Schedule).** Damaged or incorrect components shall not be used.
2. Before erecting the tower, check that the location for the mobile access tower does not present any hazards during erecting, dismantling, moving and safe working with respect to :-  
  
Ground conditions, and must be capable of supporting the weight of the structure.  
Level and slope  
Obstructions (ground and overhead)  
Wind conditions (current and potential).
3. The mobile scaffold tower only be erected on a horizontal level surface.
4. Lock all castors by pushing down brake levers. The brake levers may only be released for moving the mobile scaffold tower.
5. Adjustable legs should only be used for levelling purpose and never to gain extra height.
6. Check if the ground on which the mobile access tower is to be erected and moved is capable of supporting the tower.
7. **The minimum of two competent persons are required to assemble and dismantle this mobile access tower.**
8. The safe working load is 275 kg (606 lbs), per platform level, uniformly distributed up to a maximum of 950 kg (2100 lbs), per tower (including self weight).
9. Towers **must** always be climbed from the inside using the built-in ladder during assembly and use.
10. **DO NOT** use boxes or ladders or others object on the platform to gain additional height.
11. Never bridge between a tower and a building unless specification and approved.
12. Do not brace yourself against the side guards when working.
13. Never jump onto platforms.
14. Towers greater than 8.2m platform height are for indoor use only.
15. Beware of the funneling effect of open ended and unclad building.
16. Debris netting or plastic sheeting should not be fixed to the tower without consulting your local supplier.
17. Raising and lowering components, tools, and/or materials by rope should be conducted within the tower base. Ensure that the safe working load of the supporting decks and the tower structure is not exceeded.
18. Tools and materials may only be handed up, always taking the weight of the tools and materials into consideration so as not to overload the working platform. The person handing the load up may only release the load when the recipient of the load is holding securely in his hand.
19. The assembled tower is a working platform and should not be used as a means of access to other structures.
20. The maximum wind condition for moving the tower are Beaufort Scale 0-4 as described table (Page 4 Wind Speed Safety Rules)
21. Beware of horizontal forces (lateral force) when using power tools, wash jet or other tools which could generate instability.  
  
**The Maximum horizontal force (lateral force) on a freestanding tower at platform level is 30kg.**
22. Mobile towers are not designed to be suspended-please refer to your local supplier for advice.
23. Do not extend the platform height of the tower by the use of ladders, boxes or other devices.
24. Always beware of live electrical apparatus, cables or moving parts of machine
25. Before each use or re-use of the mobile tower check the tower is vertical. Check with spirit level and adjust legs as needed, ensure the structure is still assembled correctly, and is complete. Also ensure no environmental change has affected the tower (snow, wind, ice etc.); if so, correct as necessary before use.
26. This tower must not be used as an anchor point for **Personal Fall Arrest Equipment**
27. Only has **One Working Platform** at a time

# Safety First

## B. WIND SPEED SAFETY RULES

1. Beware of high winds in exposed, gusty or medium breeze conditions. We recommend that in wind speeds over 20.0 km/h, cease working on the tower and do not attempt to move it. If the wind becomes a strong breeze, expected to reach 31.0 km/h, tie the tower to a rigid structure. If the wind is likely to reach gale force, over 52.0 km/h, the tower should be dismantled.
2. Wind force can be magnified by the tunneling effect of open ended and unclad building

Beaufort Scale	WIND DESCRIPTION	SPEED In km/h.	SPEED In m/s.	GENERAL EFFECT		ACTION
0-3	Light Breeze	<2-19`	<0.6-5.3`	Raises Dust		No action required
4	Moderate Breeze	20-30	5.6-8.3	Loose paper, Twigs snap off		Cease working on tower and do not attempt to move it
5-6	Strong Breeze	31-51	8.6-14.2	Large branches in motion move. Telephone wires whistle.		Tie the tower to a rigid structure
>6-8	Gale Force	52-75	14.4-20.8	Walking progress impeded		Dismantle tower if such conditions are expected

## C. LIFTING OF EQUIPMENT

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

## D. OUTRIGGERS

1. Outriggers of the size specified in the quantity schedule should be fitted at the earliest opportunity.
2. The Quantity Schedules show the recommended outrigger footprint. In circumstances where there is restricted ground clearance for outriggers, contact your supplier for advice.

## E. MOVEMENT

1. The tower should only be moved by manual effort, and only from the base.
2. No person or materials should be on the tower during movement.
3. When moving the tower, always beware of any live electrical apparatus, overhead cables or moving parts of machinery.
4. Ensure that the platforms are free of persons and equipment and that brake locks are off prior to movement.
5. Caution should be exercised when moving a tower over rough, uneven or sloping ground, taking care to unlock and lock the wheels. If outriggers are fitted, they should only be lifted sufficiently above the ground to clear ground obstructions.
6. The overall height of the tower when being moved, should not exceed 2.5 times the minimum base dimensions, or 4 metres overall height.
7. Before use, check the tower is still correct and complete.
8. After every movement of the tower use a spirit level to check that it is vertical and level and set the adjustable legs as required.
9. Do not move the tower in wind speeds over 20 km/hour.



# Safety First

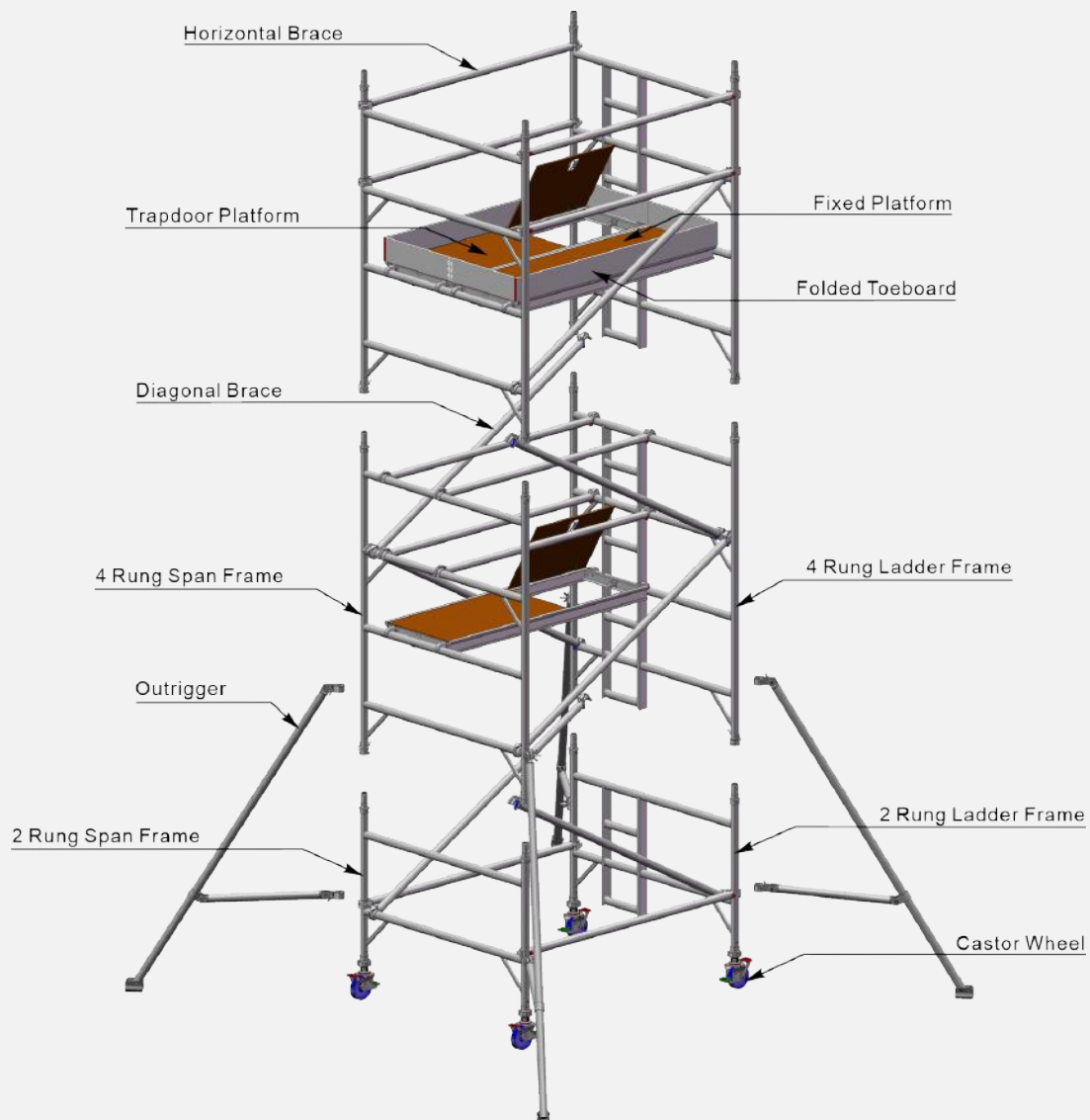
## F. TIES

1. This structure is designed to be self-supporting under the loading condition requirements of EN 1004-1:2020 and does not require tying in. Consideration should be given to potential wind conditions if the tower is left unattended.

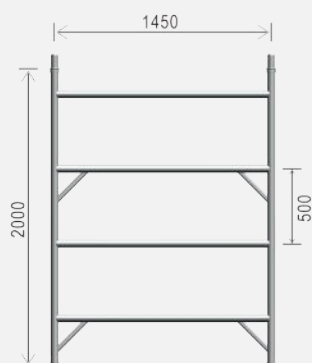
## G. MAINTENANCE – STORAGE - TRANSPORT

1. 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 indentations greater than 5mm should be put to one side for manufacturers repair. Adjustable leg threads should be cleaned and lightly lubricated to keep them free running.
2. Brace claws, frame interlock clips, trapdoor latches and platform locks should be regularly checked to ensure they lock correctly
3. Components should be stored with due care to prevent damage.
4. Ensure components are not damaged by excessive force when transported.

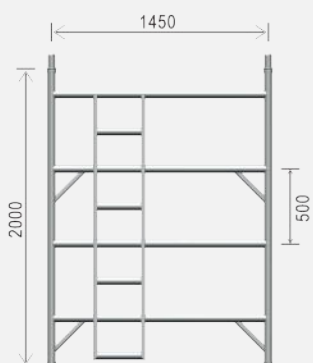
## Components



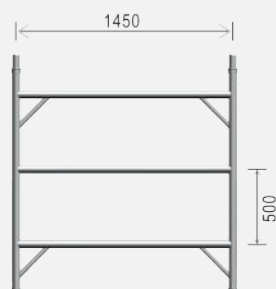
# LOYAL 1450/850 Components



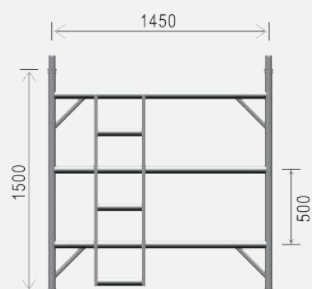
**1450 4 Rung Span Frame**  
1450mm x 2000mm  
Part No. 145-4-A



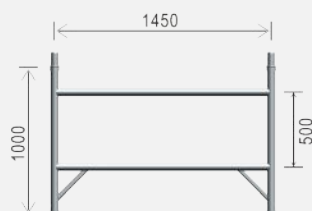
**1450 4 Rung Ladder Frame**  
1450mm x 2000mm  
Part No. 145-4-B



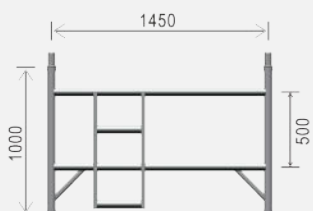
**1450 3 Rung Span Frame**  
1450mm x 1500mm  
Part No. 145-3-A



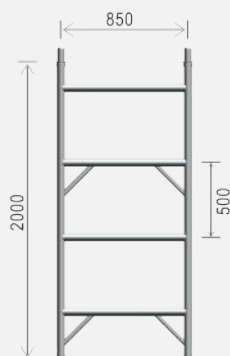
**1450 3 Rung Ladder Frame**  
1450mm x 1500mm  
Part No. 145-3-B



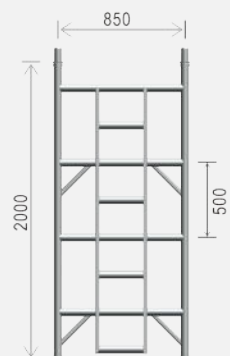
**1450 2 Rung Span Frame**  
1450mm x 1000mm  
Part No. 145-2-A



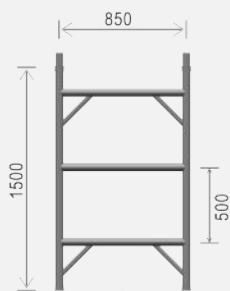
**1450 2 Rung Ladder Frame**  
1450mm x 2000mm  
Part No. 145-2-B



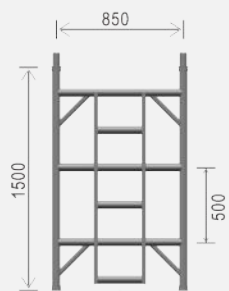
**850 4 Rung Span Frame**  
850mm x 2000mm  
Part No. 085-4-A



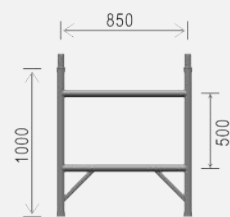
**850 4 Rung Ladder Frame**  
850mm x 2000mm  
Part No. 085-4-B



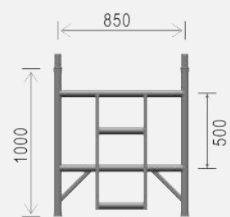
**850 3 Rung Span Frame**  
850mm x 1500mm  
Part No. 085-3-A



**850 3 Rung Ladder Frame**  
850mm x 1500mm  
Part No. 085-3-B



**850 2 Rung Span Frame**  
850mm x 1000mm  
Part No. 085-2-A



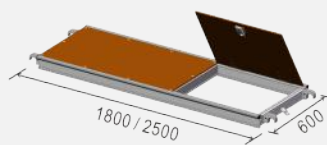
**850 2 Rung Ladder Frame**  
850mm x 1000mm  
Part No. 085-2-B



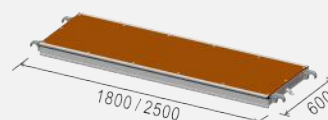
**Horizontal Brace**  
1800mm, 2100mm  
Part No. 1800-H-B, 2500-H-B



**Diagonal Brace**  
2100mm, 2700mm  
Part No. 2100-D-B, 2700-D-B

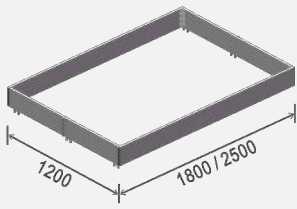


**Trapdoor Platform**  
600mm x 1800mm, 2500mm  
Part No. 1800-T-D, 2500-T-D

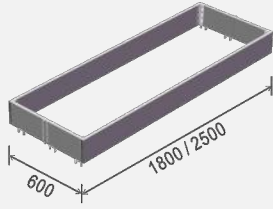


**Fixed Platform**  
600mm x 1800mm, 2500mm  
Part No. 1800-F-D, 2500-F-D

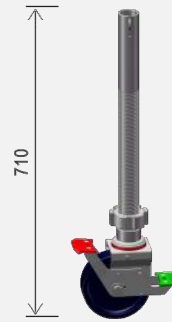
# LOYAL 1450/850 Components



**Folded Toeboard**  
1200mm x 1800mm, 2500mm  
Part No. FTB-1218, FTB-1225



**Folded Toeboard**  
600mm x 1800mm, 2500mm  
Part No. FTB-0618, FTB-0625



**Castor Wheel c/w Adjustable Leg**  
150mm Dia.  
Part No. 600-F-150



**Safety Snap Pin**  
9.2mm dia.  
Part No. SSP



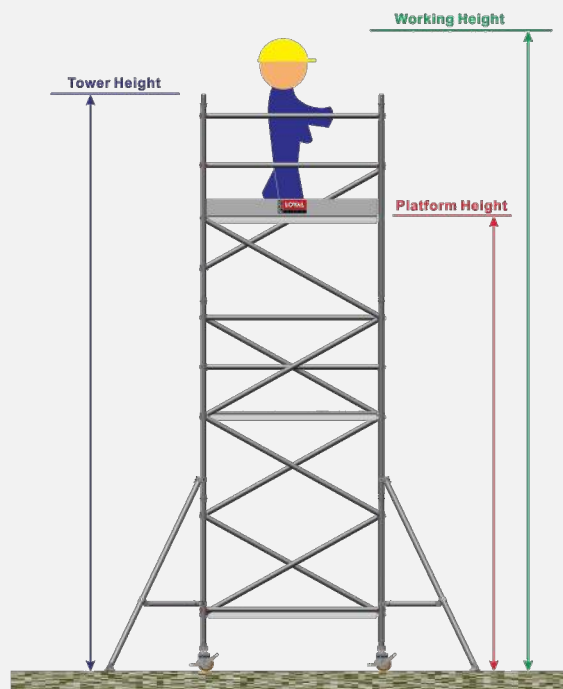
**Fixed Outrigger-Small**  
2350mm  
Part No. SP7



**Telescopic Outrigger-Medium**  
3180-3700mm  
Part No. SP10



**Telescopic Outrigger-Large**  
4350-5450mm  
Part No. SP15



# Quantity Schedule

## 1450 Double Width Towers

**LOYAL** 1450 Double Width *Ladderspan* to EN 1004-1:2020 : Available in 2 lengths – 1.8m and 2.5m

### Internal / External Use

Description	Working Height	3.2m	3.7m	4.2m	4.7m	5.2m	5.7m	6.2m	6.7m	7.2m	7.7m	8.2m	8.7m	9.2m	9.7m	10.2m
	Platform Height	1.2m	1.7m	2.2m	2.7m	3.2m	3.7m	4.2m	4.7m	5.2m	5.7m	6.2m	6.7m	7.2m	7.7m	8.2m
150mm Castor Wheel w/Adj. Leg		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
1450 2 Rung Ladder Frame			1	1			1	1			1	1			1	1
1450 2 Rung Span Frame			1	1			1	1			1	1			1	1
1450 3 Rung Ladder Frame			1		1		1		1		1		1		1	
1450 3 Rung Span Frame			1		1		1		1		1		1		1	
1450 4 Rung Ladder Frame	1			1	1	2	1	2	2	3	2	3	3	4	3	4
1450 4 Rung Span Frame	1			1	1	2	1	2	2	3	2	3	3	4	3	4
1.8m and 2.5m Fixed Deck	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1.8m and 2.5m Trap Door Deck	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4
1.8m & 2.5m Horizontal Brace(Red)	6	6	6	6	10	10	10	10	14	14	14	14	14	18	18	18
2.1m & 2.7m Diagonal Brace(Blue)	2	3	3	4	5	6	7	8	9	10	11	12	13	14	15	15
Folding Toeboard	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Fixed Outrigger					4	4	4	4	4							
Telescopic Outrigger-Medium											4	4	4	4	4	4
Telescopic Outrigger-Large #																
1.8m Tower Total Self-Weight (kgs)		83.7	91.0	95.2	130.0	143.8	151.0	157.4	176.8	190.7	205.6	212.0	231.4	245.2	252.5	258.8
2.5m Tower Total Self-Weight (kgs)		97.1	104.8	109.0	148.2	184.1	172.0	178.5	202.4	218.3	233.6	240.3	264.2	280.0	287.8	294.5

# To improve rigidity, large outriggers can be used at lower level than shown in the table

### Internal Use Only

Description	Working Height	10.7m	11.2m	11.7m	12.1m	12.7m	13.2m	13.7m	14.2m
	Platform Height	8.7m	9.2m	9.7m	10.2m	10.7m	11.2m	11.7m	12.2m
150mm Castor Wheel w/Adj. Leg		4	4	4	4	4	4	4	4
1450 2 Rung Ladder Frame				1	1			1	1
1450 2 Rung Span Frame				1	1			1	1
1450 3 Rung Ladder Frame	1			1		1			
1450 3 Rung Span Frame	1			1		1			
1450 4 Rung Ladder Frame	4	5	4	5	5	6	5	6	6
1450 4 Rung Span Frame	4	5	4	5	5	6	5	6	6
1.8m and 2.5m Fixed Deck	1	1	1	1	1	1	1	1	1
1.8m and 2.5m Trap Door Deck	5	5	5	5	6	6	6	6	6
1.8m & 2.5m Horizontal Brace(Red)	18	22	22	22	22	26	26	26	26
2.1m & 2.7m Diagonal Brace(Blue)	15	17	18	19	20	21	22	23	23
Folding Toeboard	1	1	1	1	1	1	1	1	1
Fixed Outrigger									
Telescopic Outrigger-Medium	4	4	4	4	4	4	4	4	4
Telescopic Outrigger-Large #	#	#	#	#	#	#	#	#	#
1.8m Tower Total Self-Weight (kgs)		278.3	292.2	299.4	305.7	325.2	339.0	346.7	352.6
2.5m Tower Total Self-Weight (kgs)		318.4	334.3	342.0	348.7	372.6	388.5	396.2	402.9

# To improve rigidity, large outriggers can be used at lower level than shown in the table

### NUMBER OF WORKING PLATFORMS ALLOWED

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

#### Example 1:

A 1450 tower built using 3T method with a 4.2m platform height and a platform length of 1.8m has a self weight of 157.4kg.

$$950.0\text{kg} - 157.4\text{kg} = \mathbf{792.6\text{kg maximum safe working load}}$$

total weight self weight (user, tools and materials)

#### Example 2:

A 1450 tower built using 3T method with a 11.7m platform height and a platform length of 2.5m has a self weight of 396.2kg.

$$950.0\text{kg} - 396.2\text{kg} = \mathbf{553.8\text{kg maximum safe working load}}$$

total weight self weight (user, tools and materials)

For greater heights and loads, consult **LOYAL Scaffolding Ltd.** for guidance.



## Quantity Schedule

### 1450 Double Width Towers

#### PLATFORMS LOADING

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

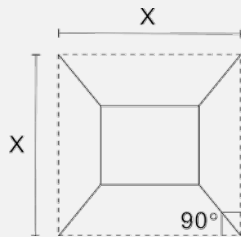
The quantities on page 8 will enable LOYAL towers to be built safely and therefore comply with the requirements of the Work at Height Regulations 2005. They include double guardrails to all platforms, and folding toeboard will need to be added if any levels are used as working platform and for storage of materials. EN 1004-1:2020 requires platforms at least every 2.25m, and these measures will exceed that requirement

#### BALLAST : Internal/External use

There is no requirement for ballast on 1450 tower if using outriggers as detailed in the table on **page 8**.

#### OUTRIGGERS

To improve rigidity, large outriggers can be used at lower level than shown in the table on **page 8**.



#### Double width 1450 Tower Dimension X

	Platform Length 1.8m	Platform Length 2.5m
SP7	X=3450	X=3680
SP10	X=4880	X=5180
SP15	X=5575	X=5925

Outrigger **feet** should form a square as shown in diagram and table above.

# Quantity Schedule

## 850 Single Width Towers

**LOYAL 850 Single Width Ladderspan** to EN 1004-1:2020 : Available in 2 lengths – 1.8m and 2.5m

### Internal / External Use

Description	Working Height	3.2m	3.7m	4.2m	4.7m	5.2m	5.7m	6.2m	6.7m	7.2m	7.7m	8.2m	8.7m	9.2m	9.7m	10.2m
	Platform Height	1.2m	1.7m	2.2m	2.7m	3.2m	3.7m	4.2m	4.7m	5.2m	5.7m	6.2m	6.7m	7.2m	7.7m	8.2m
150mm Castor Wheel w/Adj. Leg		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
850 2 Rung Ladder Frame			1	1			1	1			1	1			1	1
850 2 Rung Span Frame			1	1			1	1			1	1			1	1
850 3 Rung Ladder Frame			1		1		1		1		1		1		1	
850 3 Rung Span Frame			1		1		1		1		1		1		1	
850 4 Rung Ladder Frame	1			1	1	2	1	2	2	3	2	3	3	4	3	4
850 4 Rung Span Frame	1			1	1	2	1	2	2	3	2	3	3	4	3	4
1.8m and 2.5m Trap Door Deck	1	1	1	1	2	2	2	2	2	3	3	3	3	4	4	4
1.8m & 2.5m Horizontal Brace (Red)	6	6	6	6	10	10	10	10	10	14	14	14	14	18	18	18
2.1m & 2.7m Diagonal Brace (Blue)	2	3	3	4	5	6	7	8	9	10	11	12	13	14	15	15
Folding Toeboard	1	1	1*	1	1	1	1	1	1	1	1	1	1	1	1	1
Fixed Outtrigger				4	4	4	4	4	4	4						
Telescopic Outtrigger-Medium											4	4	4	4	4	4
Telescopic Outtrigger-Large #																
1.8m Tower Total Self-Weight (kgs)		66.3	72.8	91.4	110.0	123.0	129.6	134.8	153.6	166.5	180.7	186.0	204.8	217.6	224.0	229.5
2.5m Tower Total Self-Weight (kgs)		75.4	82.4	101.0	124.0	139.0	146.0	151.7	175.0	190.0	204.4	210.0	233.3	248.2	255.2	261.0

# To improve rigidity, large outriggers can be used at lower level than shown in the table

### Internal Use Only

Description	Working Height	10.7m	11.2m	11.7m	12.1m	12.7m	13.2m	13.7m	14.2m
	Platform Height	8.7m	9.2m	9.7m	10.2m	10.7m	11.2m	11.7m	12.2m
150mm Castor Wheel w/Adj. Leg		4	4	4	4	4	4	4	4
850 2 Rung Ladder Frame				1	1			1	1
850 2 Rung Span Frame				1	1			1	1
850 3 Rung Ladder Frame	1			1		1		1	
850 3 Rung Span Frame	1			1		1		1	
850 4 Rung Ladder Frame	4	5	4	5	5	6	5	6	6
850 4 Rung Span Frame	4	5	4	5	5	6	5	6	6
1.8m and 2.5m Trap Door Deck	5	5	5	5	6	6	6	6	6
1.8m & 2.5m Horizontal Brace (Red)	18	22	22	22	22	26	26	26	26
2.1m & 2.7m Diagonal Brace (Blue)	16	17	18	19	20	21	22	23	23
Folding Toeboard	1	1	1	1	1	1	1	1	1
Fixed Outtrigger									
Telescopic Outtrigger-Medium	4	4	4	4	4	4	4	4	4
Telescopic Outtrigger-Large #	#	#	#	#	#	#	#	#	#
1.8m Tower Total Self-Weight (kgs)		248.3	261.2	267.7	273.0	291.8	307.7	311.3	316.5
2.5m Tower Total Self-Weight (kgs)		284.0	299.0	306.0	311.7	335.0	349.8	356.8	362.5

# To improve rigidity, large outriggers can be used at lower level than shown in the table

## NUMBER OF WORKING PLATFORMS ALLOWED

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

### Example 1:

A 850 tower built using 3T method with a 4.2m platform height and a platform length of 1.8m has a self weight of 134.8kg.

$$950.0\text{kg} - 134.8\text{kg} = \mathbf{815.2\text{kg maximum safe working load}}$$

total weight self weight (user, tools and materials)

### Example 2:

A 850 tower built using 3T method with a 11.7m platform height and a platform length of 2.5m has a self weight of 356.8kg.

$$950.0\text{kg} - 356.8\text{kg} = \mathbf{593.2\text{kg maximum safe working load}}$$

total weight self weight (user, tools and materials)

For greater heights and loads, consult **LOYAL Scaffolding Ltd.** for guidance.

# Quantity Schedule

## 850 Single Width Towers

### PLATFORMS LOADING

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

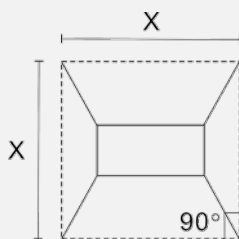
The quantities on page 10 will enable LOYAL towers to be built safely and therefore comply with the requirements of the Work at Height Regulations 2005. They include double guardrails to all platforms, and folding toeboard will need to be added if any levels are used as working platform and for storage of materials. EN 1004-1:2020 requires platforms at least every 2.25m, and these measures will exceed that requirement

### BALLAST : Internal/External use

There is no requirement for ballast on 850 tower if using outriggers as detailed in the table on **page 10**.

### OUTRIGGERS

To improve rigidity, large outriggers can be used at lower level than shown in the table on **page 10**.



### Single width 850 Tower Dimension X

	Platform Length 1.8m	Platform Length 2.5m
SP7	X= 3100	X= 3260
SP10	X= 4550	X= 4820
SP15	X= 5284	X= 5576

Outrigger **feet** should form a square as shown in diagram and table above.

# Assembly Procedure

## Mobile Towers - 3T Method

### ASSEMBLY AND DISMANTLING PROCEDURES



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

#### When building a **LOYAL** LadderspanTower

- ◆ To comply with the Work at Height Regulations we show assembly procedures with platforms every 2 metres in height, and, the locating of guardrails in advance of climbing onto a platform to reduce the risk of a fall.
- ◆ All platforms feature double guardrails on both faces of either individual platforms or fully decked levels.
- ◆ All guardrails should be 1 and 2 rungs (0.5m and 1.0m) above platforms.
- ◆ Never stand on an unguarded platform positioned above the first rung of a tower. If your risk assessment shows it necessary, you may also need to guardrail platform at this level.
- ◆ Always start building with the smallest height frames at the base of the tower.

Platform Heights in Metres	Frame at base
1.7, 2.2, 3.7, 4.2, 5.7, 6.2, 7.7, 8.2, 9.7, 10.2, 11.7, 12.2	2 Rung
2.7, 4.7, 6.7, 8.7, 10.7	3 Rung
1.2, 3.2, 5.2, 7.2, 9.2, 11.2	4 Rung

#### TO DISMANTLING A **LOYAL** LADDERSPAN TOWER

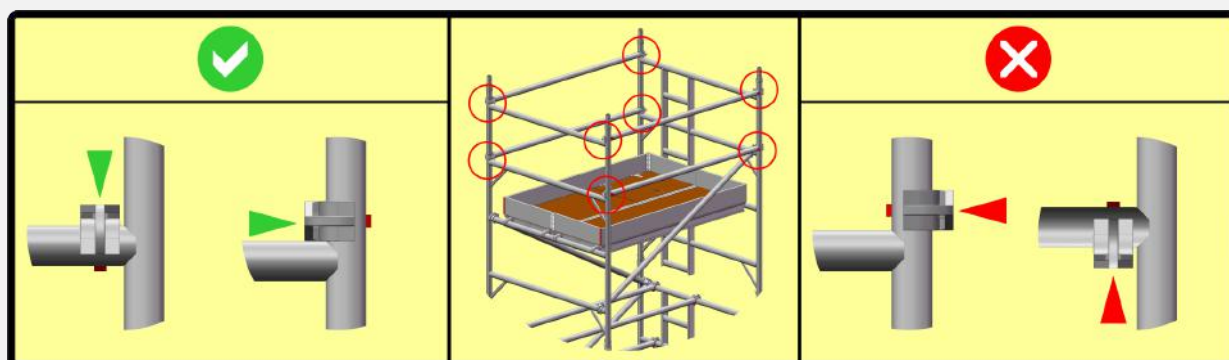
- ◆ Remove folding toeboard, and pass down the tower.
- ◆ Unclip farthest end of braces and immediately go to protected trapdoor position on ladder to complete removal.
- ◆ Remove upper platforms from protected levels below.
- ◆ Pass removed components out of the tower to a colleague.

# Safety Checklist

## Mobile Towers - 3T Method

### CHECKLIST

- |  |                          |
|--|--------------------------|
| 1. Ensure all brace claws operate and lock correctly prior to erection | <input type="checkbox"/> |
| 2. Inspect components prior to erection                                | <input type="checkbox"/> |
| 3. Inspection tower prior to use                                       | <input type="checkbox"/> |
| 4. Tower upright and level   | <input type="checkbox"/> |
| 5. Castors locked and legs correctly adjusted                          | <input type="checkbox"/> |
| 6. Diagonal braces fitted  | <input type="checkbox"/> |
| 7. Outriggers fitted as specified                                      | <input type="checkbox"/> |
| 8. Platforms located and wind-locks on                                 | <input type="checkbox"/> |
| 9. Folding Toeboard located  | <input type="checkbox"/> |
| 10. Check guardrails are fitted correctly, See illustration below      | <input type="checkbox"/> |



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

**Refer to this checklist before using each time.**



# Assembly Procedure

## Mobile Towers – 3T Method

### ASSEMBLY FOR 1450 DOUBLE WIDTH TOWERS

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

Platform Heights in Metres	Frame at base
1.7, 2.2, 3.7, 4.2, 5.7, 6.2, 7.7, 8.2, 9.7, 10.2, 11.7, 12.2	2 Rung
2.7, 4.7, 6.7, 8.7, 10.7	3 Rung
1.2, 3.2, 5.2, 7.2, 9.2, 11.2	4 Rung

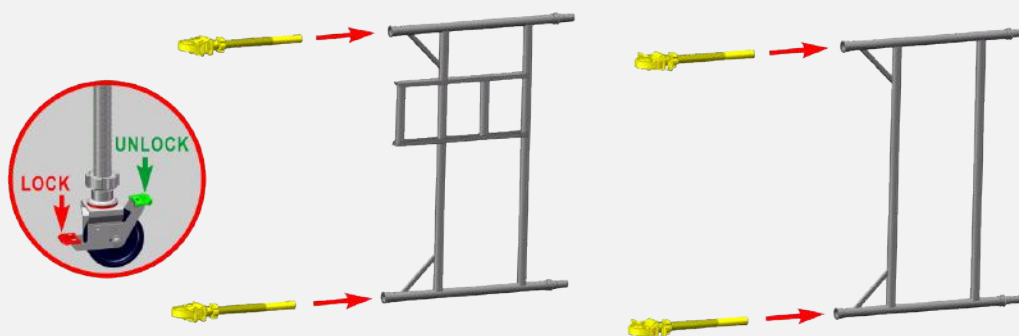
Where 3 frame heights are used in a tower, start with 2 rung frames at the base, with the 3 rung frames next and the 4 rung frames on the top. Refer to the Quantity Schedules for detail.

The procedure illustrated shows 4.2m platform height tower starting with a 2 rung frame.

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

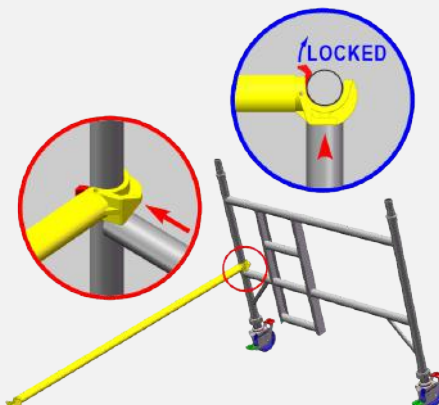
1. Push wheel into adjustable wheel shaft (this may have been done prior to your tower being delivered). Push wheel / adjustable wheel shaft assembly into the base on the 2 lower frame sections (size of lower frame sections will vary depending on size of tower being built – please see table above). Lock all 4 wheels as shown in diagram as below.

We recommend that, for ease of levelling, a gap of 50mm is left between the bottom of the adjustable leg and the adjustment nut. The adjustable legs are to be used for levelling purposes only and must not be used to gain extra height on the tower.



2. Fit one horizontal brace (RED) onto the vertical of the span frame and just above the bottom rung. Ensure that the claw of this horizontal brace is facing outwards and the frame will now be self supporting.

Please note – all locking claws must be opened before fitting.

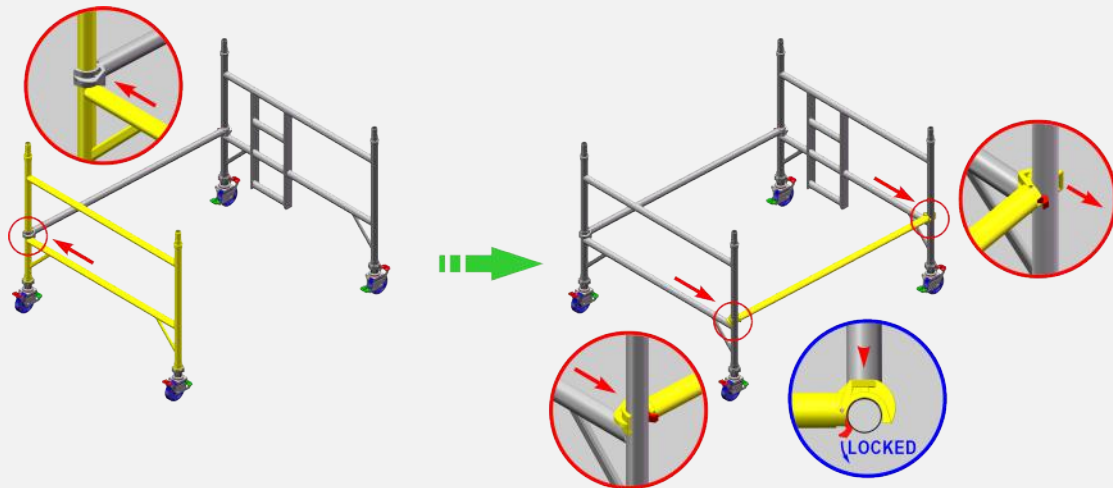


# Assembly Procedure

## Mobile Towers – 3T Method

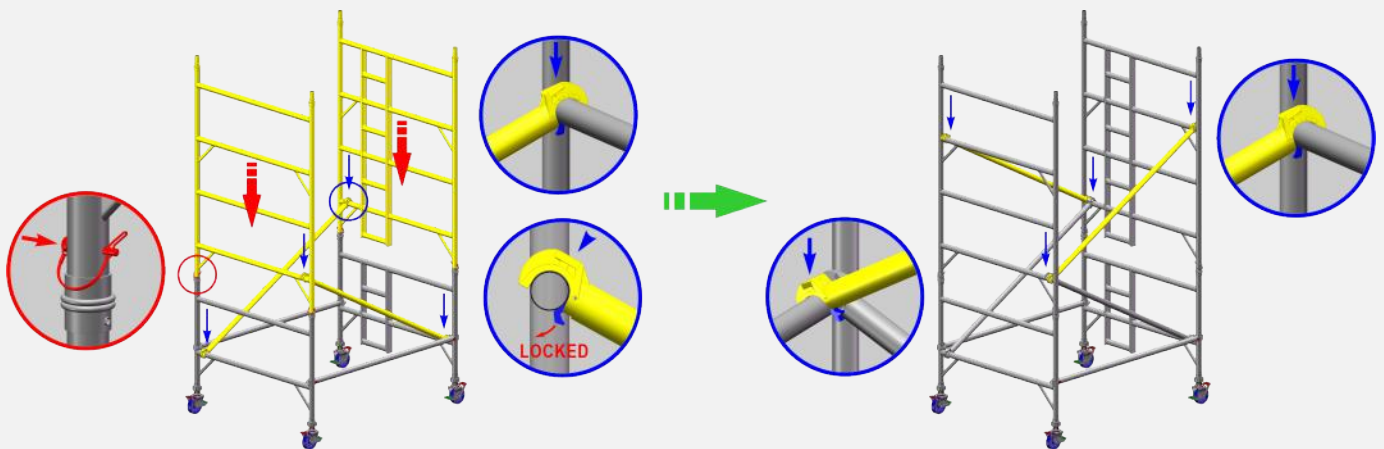
### ASSEMBLY FOR 1450 DOUBLE WIDTH TOWERS

3. Position the ladder frame as shown below and fit the other end of the horizontal brace onto the vertical of the ladder frame just above the bottom rung. Fit a second horizontal brace to the other side of the frames, just above the bottom rungs and with the claws facing outwards to square the tower.

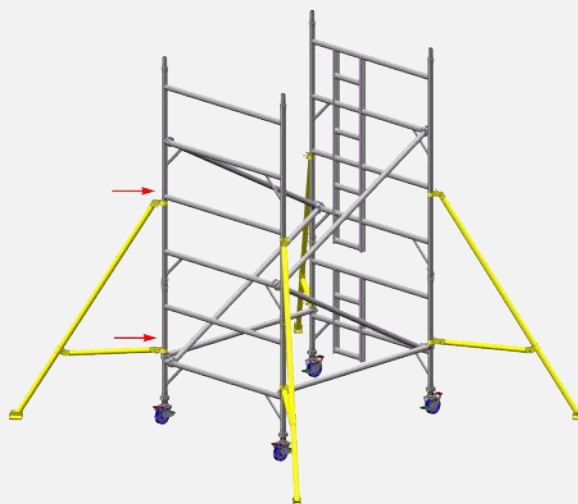


4. Fit 2 additional frames (span and ladder) and ensure that the interlock clips are engaged on all 4 joins (see below). Fit 2 diagonal braces (blue) in opposing directions, between the 1st and 3rd rungs of the tower assembly. And fit the next pair of diagonal braces in opposing directions between the 3<sup>rd</sup> and 5<sup>th</sup> rungs of the tower assembly. Ensure that the frames are vertical and level by checking with a spirit level and setting the adjustable legs as required.

**IMPORTANT – Only use the adjustable legs to level the tower and not to gain additional height**



5. Fit outriggers (see notes on page 25).



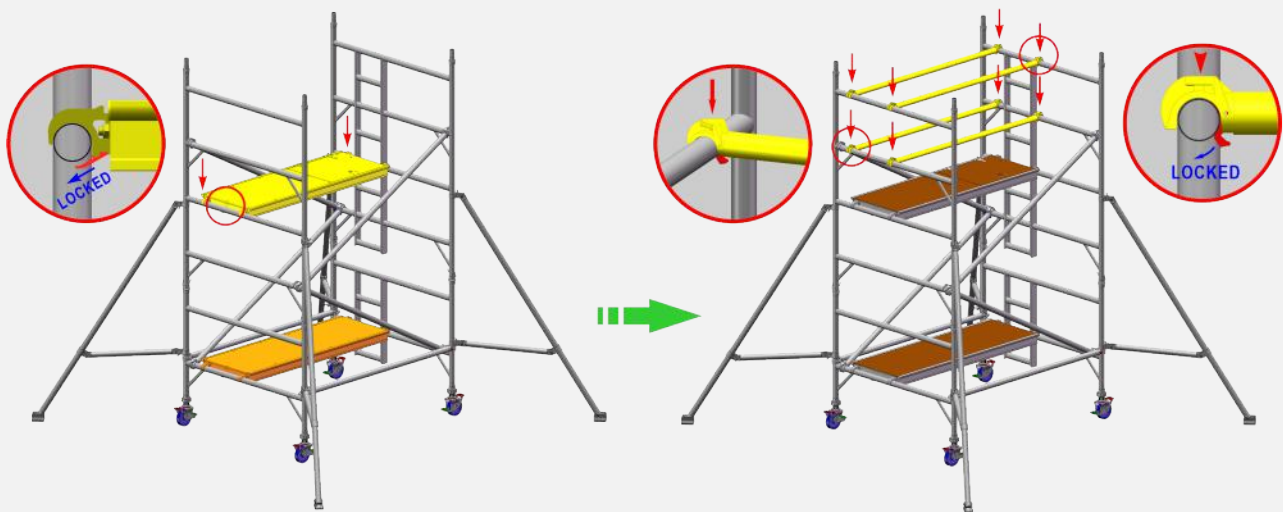
# Assembly Procedure

## Mobile Towers – 3T Method

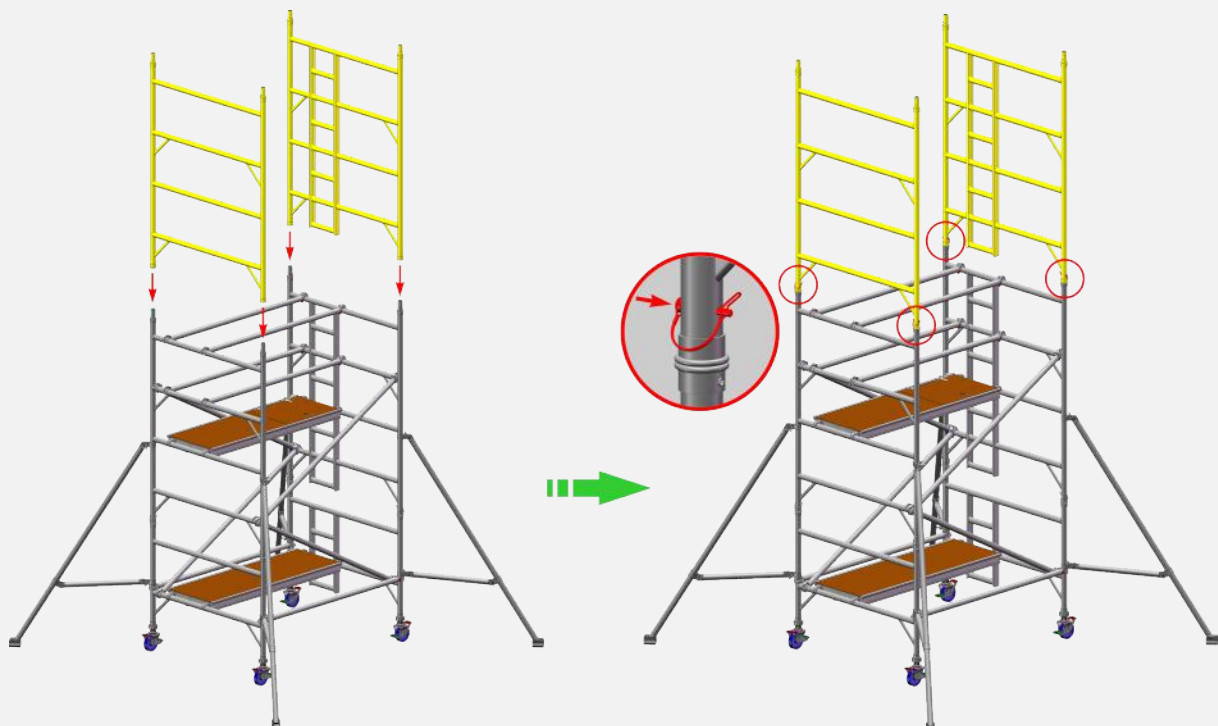
### ASSEMBLY FOR 1450 DOUBLE WIDTH TOWERS

6. Fit a temporary fixed platform onto the lowest rungs of the ladder and span frames. Fit a trapdoor platform on the 4<sup>th</sup> rungs with the trapdoor next to the ladder frame. Ensure that the trapdoor is positioned with the hinges towards the outside of the tower. Climb the ladder, through the open trapdoor in the platform and, whilst seated in the trapdoor opening, fit horizontal braces to the 5<sup>th</sup> and 6<sup>th</sup> rungs in that order. The horizontal braces on the outside of the tower should be positioned with the claws facing outwards. The horizontal braces in the centre of the tower should be positioned with the claws facing downwards and directly above the edge of the trapdoor platform. Remove the temporary fixed platform fitted earlier.

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



7. Add 2 additional frames (ladder and span), and ensure that the interlocking clips are engaged.



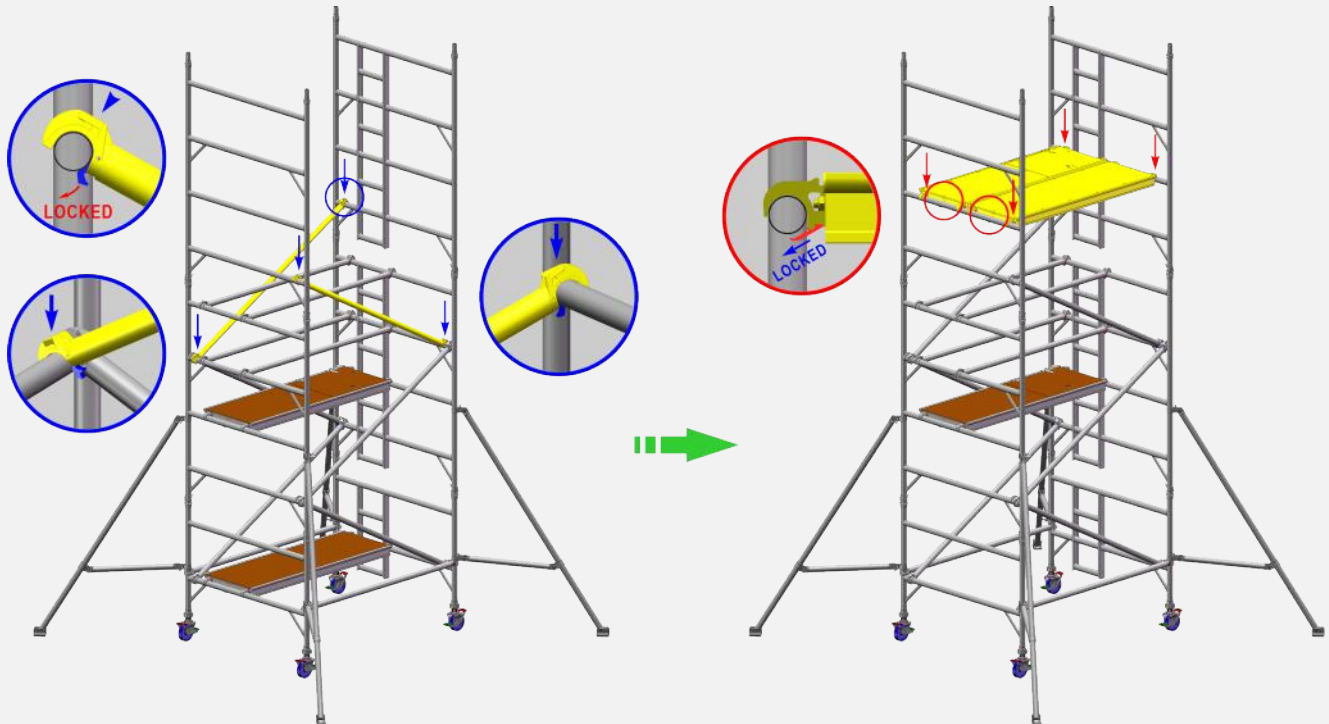
# Assembly Procedure

## Mobile Towers – 3T Method

### ASSEMBLY FOR 1450 DOUBLE WIDTH TOWERS

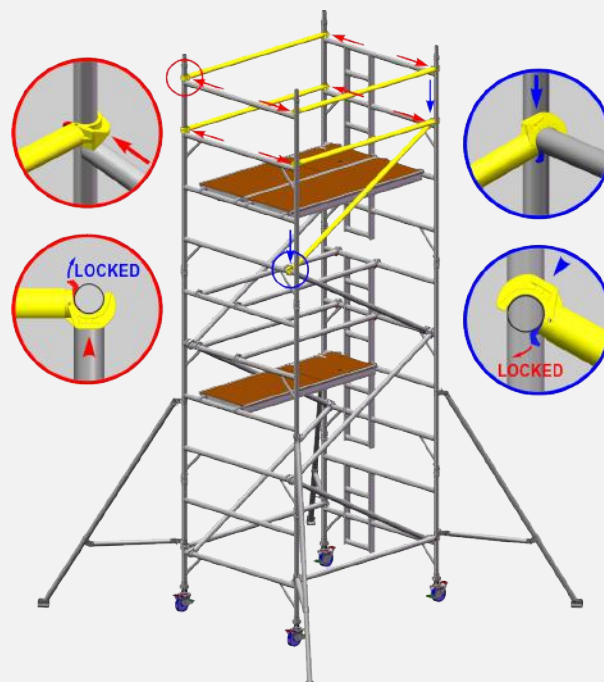
8. Add 2 more diagonal braces, in opposing directions, between the 5<sup>th</sup> and 7<sup>th</sup> rungs of the tower assembly. If finishing at this height (4.2m platform height), position the fixed platform to the 8<sup>th</sup> rungs of the tower. Position a trapdoor platform next to this, and directly above the existing trapdoor platform. Ensure that the trapdoor is next to the ladder frame with the hinges towards the outside of the tower.

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



9. Fit horizontal braces to the 9<sup>th</sup> and 10<sup>th</sup> rungs in that order. All horizontal braces should be positioned with the claws facing outwards. Add a single diagonal brace between the 7<sup>th</sup> and 9<sup>th</sup> rungs of the tower assembly as shown below. Climb the ladder through the open trapdoor in the platform, and whilst seated in the trapdoor opening,

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



# Assembly Procedure

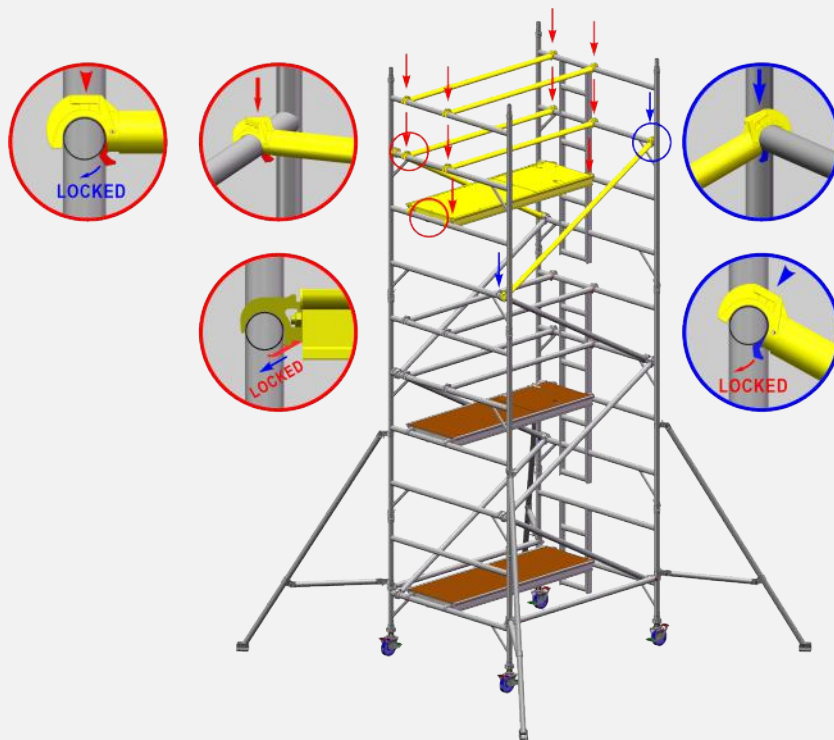
## Mobile Towers – 3T Method

### ASSEMBLY FOR 1450 DOUBLE WIDTH TOWERS

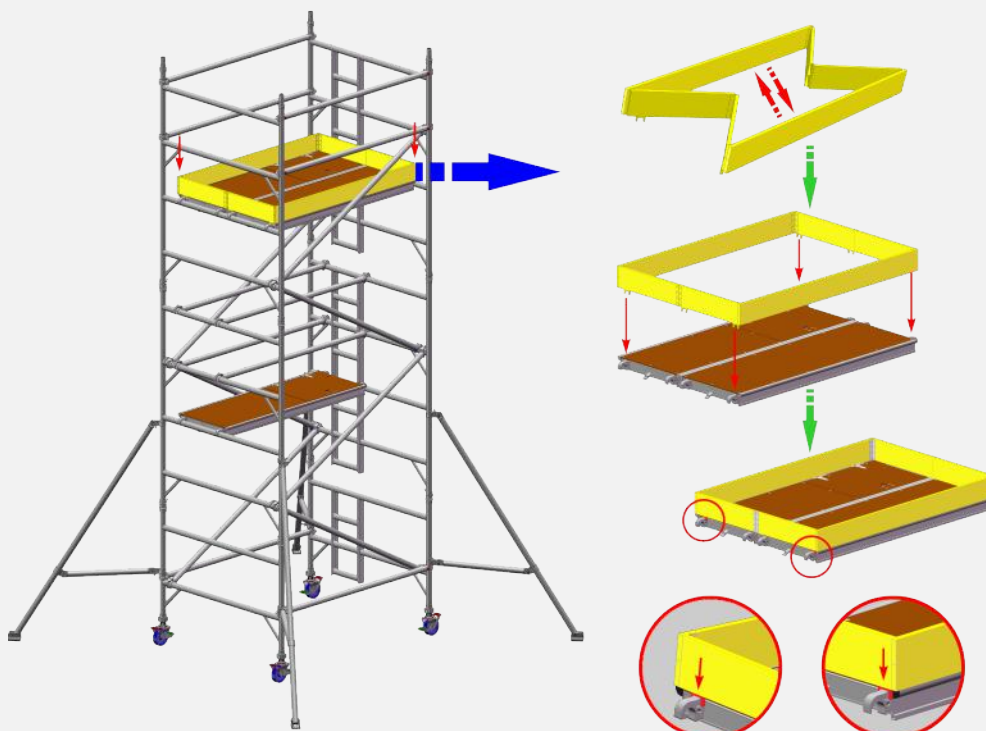
When building above a 4.2m platform height.

- Continue to add additional frames (ladder and span), interlock clips, diagonal braces, trapdoor platforms and horizontal braces in the sequence detailed above. When the required height is reached, position the fixed platform followed by the trapdoor platform alongside. Fit a single diagonal brace as shown in step 9 and the horizontal braces as before.

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



- Fit the folding toeboard

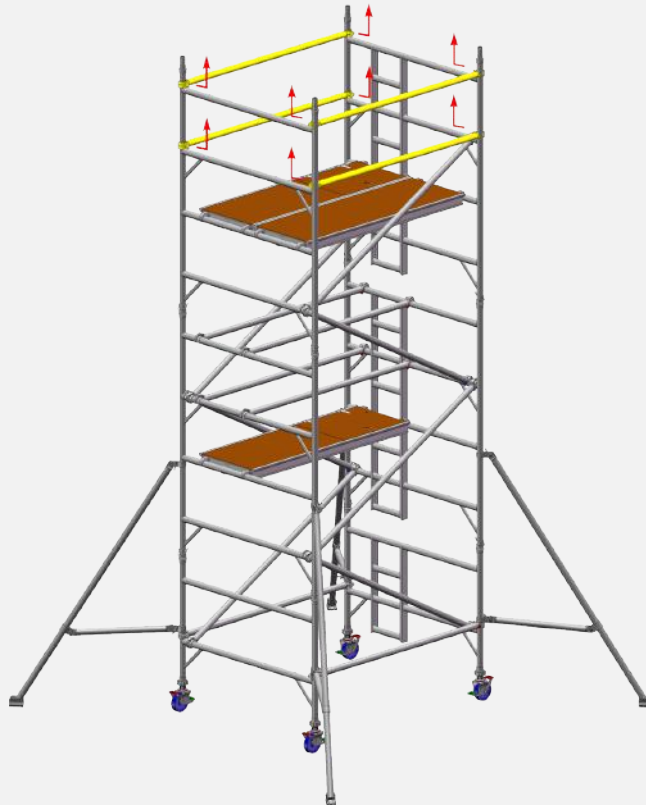


**THE TOWER IS NOW COMPLETE**



## Dismantling Procedure

12. To take down the tower reverse the building sequence. When removing guardrail braces, unlock the four claws furthest from the trapdoor and then return immediately to the protected position within the trapdoor. You may then unlock the claws at the other ends of the guardrails to remove them from the tower.



## Outriggers

### OUTRIGGERS

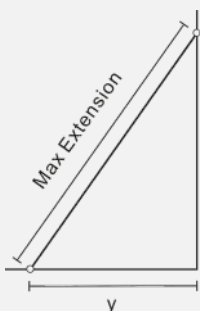
Attach one outrigger to each corner of the tower as shown. Ensure outrigger feet are equally spaced to form a square.

SP10 and SP15 telescopic outriggers must always be fully extended.

Position the lower clamp so that the lower arm is as closed to the horizontal as possible. Adjust the position of the top clamp to ensure the outrigger foot is in firm contact with the ground. Ensure clamps are secure.

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

### OUTRIGGER DIMENSIONS



	y
SP7	1227
SP10	2241
SP15	2757

# Assembly Procedure

## Mobile Towers – 3T Method

### ASSEMBLY FOR 850 SINGLE WIDTH TOWERS

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

Platform Heights in Metres	Frame at base
1.7, 2.2, 3.7, 4.2, 5.7, 6.2, 7.7, 8.2, 9.7, 10.2, 11.7, 12.2	2 Rung
2.7, 4.7, 6.7, 8.7, 10.7	3 Rung
1.2, 3.2, 5.2, 7.2, 9.2, 11.2	4 Rung

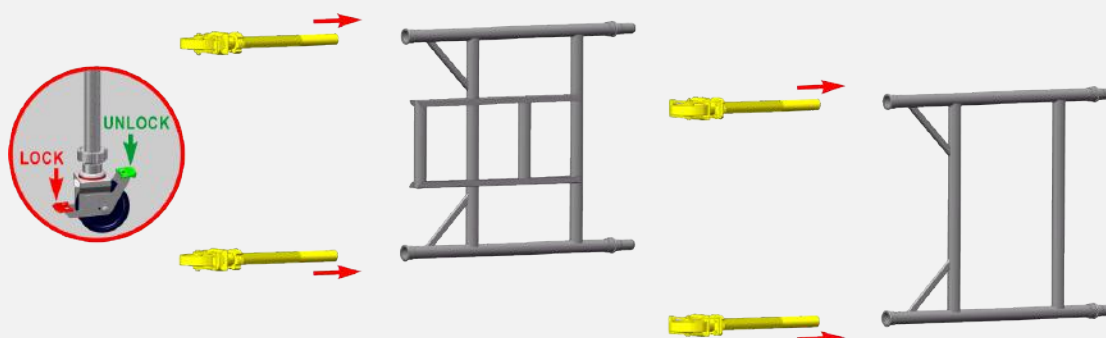
Where 3 frame heights are used in a tower, start with 2 rung frames at the base, with the 3 rung frames next and the 4 rung frames on the top. Refer to the Quantity Schedules for detail.

The procedure illustrated shows 4.2m platform height tower starting with a 2 rung frame.

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

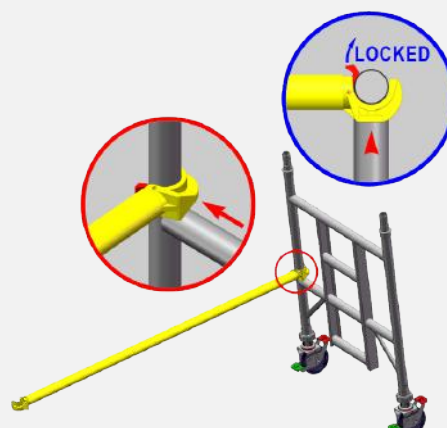
1. Push wheel into adjustable wheel shaft (this may have been done prior to your tower being delivered). Push wheel / adjustable wheel shaft assembly into the base on the 2 lower frame sections (size of lower frame sections will vary depending on size of tower being built – please see table above). Lock all 4 wheels as shown in diagram as below.

We recommend that, for ease of levelling, a gap of 50mm is left between the bottom of the adjustable leg and the adjustment nut. The adjustable legs are to be used for levelling purposes only and must not be used to gain extra height on the tower.



2. Fit one horizontal brace (RED) onto the vertical of the span frame and just above the bottom rung. Ensure that the claw of this horizontal brace is facing outwards and the frame will now be self supporting.

Please note – all locking claws must be opened before fitting

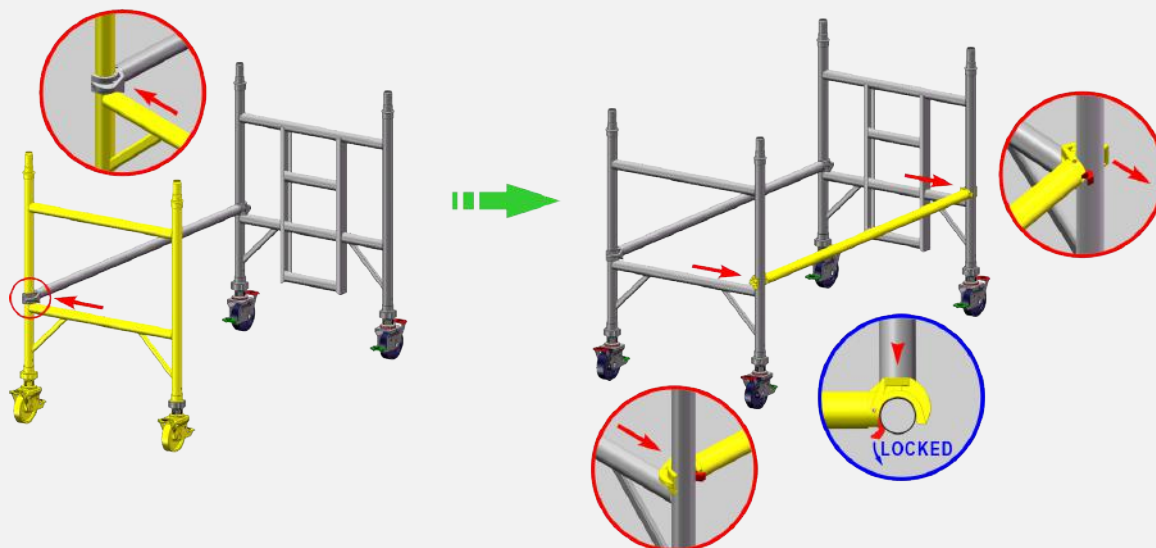


# Assembly Procedure

## Mobile Towers – 850 3T Method

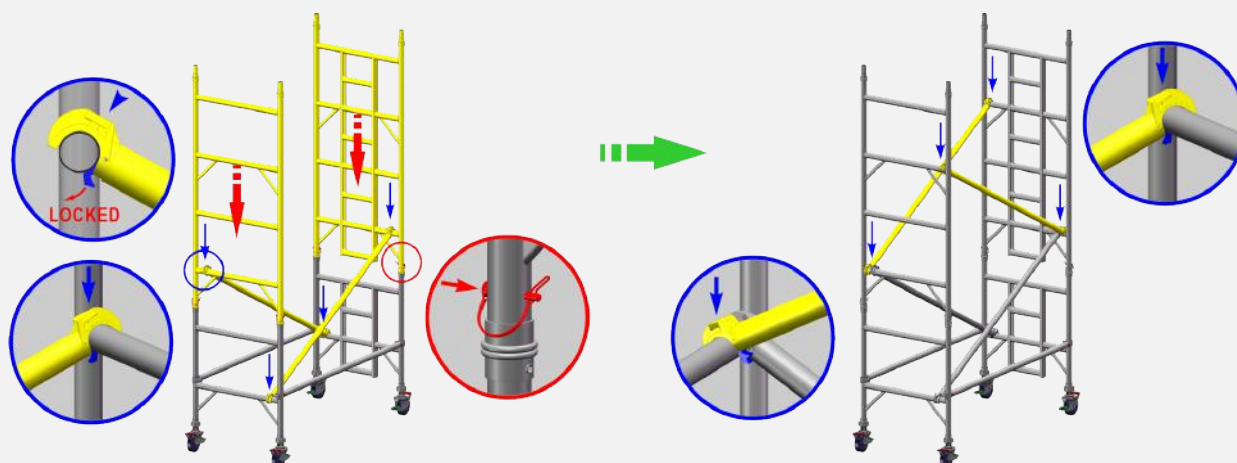
### ASSEMBLY FOR 850 TOWERS

3. Position the ladder frame as shown below and fit the other end of the horizontal brace onto the vertical of the ladder frame just above the bottom rung. Fit a second horizontal brace to the other side of the frames, just above the bottom rungs and with the claws facing downwards to square the tower.



4. Fit 2 additional frames (span and ladder) and ensure that the interlock clips are engaged on all 4 joins (see below). Fit 2 diagonal braces (blue) in opposing directions, between the 1st and 3rd rungs of the tower assembly. And fit the next pair of diagonal braces in opposing directions between the 3<sup>rd</sup> and 5<sup>th</sup> rungs of the tower assembly. Ensure that the frames are vertical and level by checking with a spirit level and setting the adjustable legs as required.

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

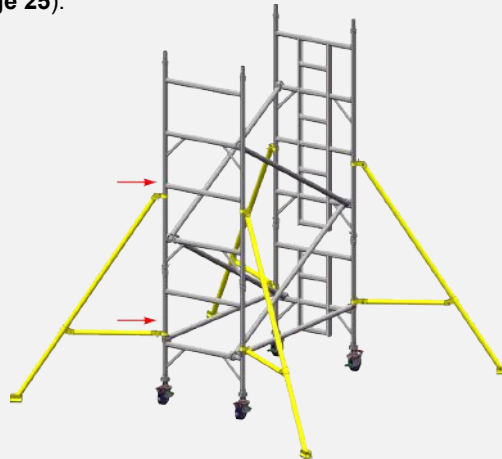


# Assembly Procedure

## Mobile Towers – 3T Method

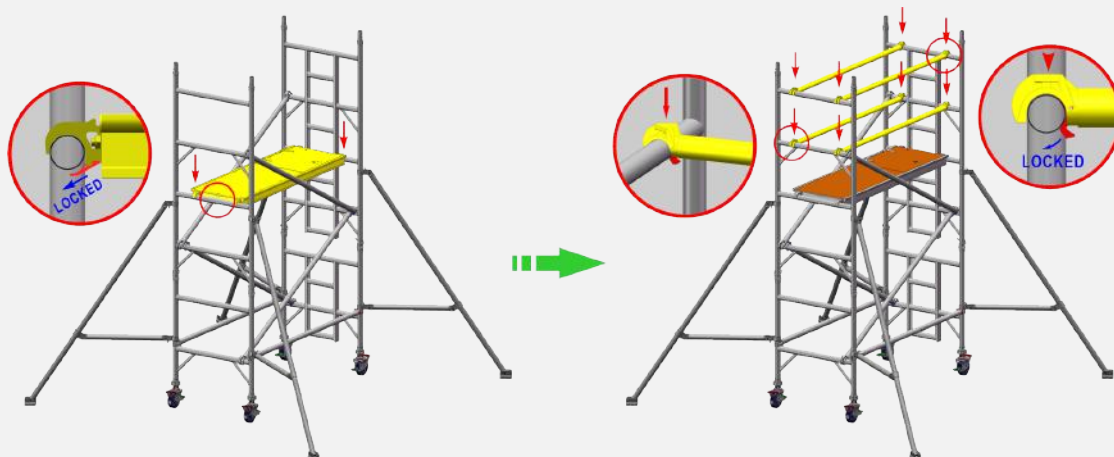
### ASSEMBLY FOR 850 SINGLE WIDTH TOWERS

5. Fit outriggers (see notes on page 25).

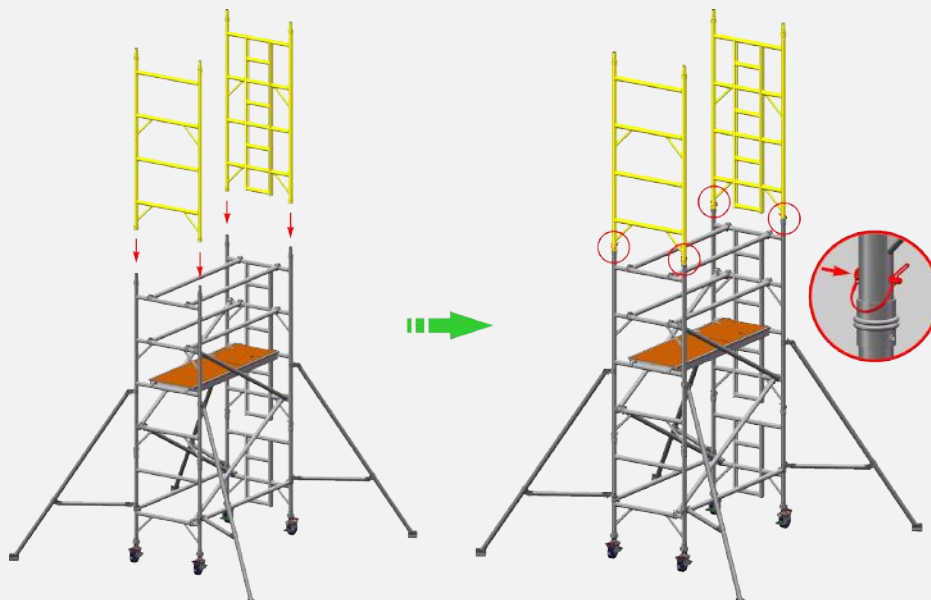


6. Fit a trapdoor platform on the 4<sup>th</sup> rungs with the trapdoor next to the ladder frame. Ensure that the trapdoor is positioned with the hinges towards the outside of the tower. Climb the ladder, through the open trapdoor in the platform, and whilst seated in the trapdoor opening, fit horizontal braces to the 5<sup>th</sup> and 6<sup>th</sup> rungs in that order. The horizontal braces should be positioned with the claws facing outwards.

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



7. Add 2 additional frames (ladder and span), and ensure that the interlocking clips are engaged

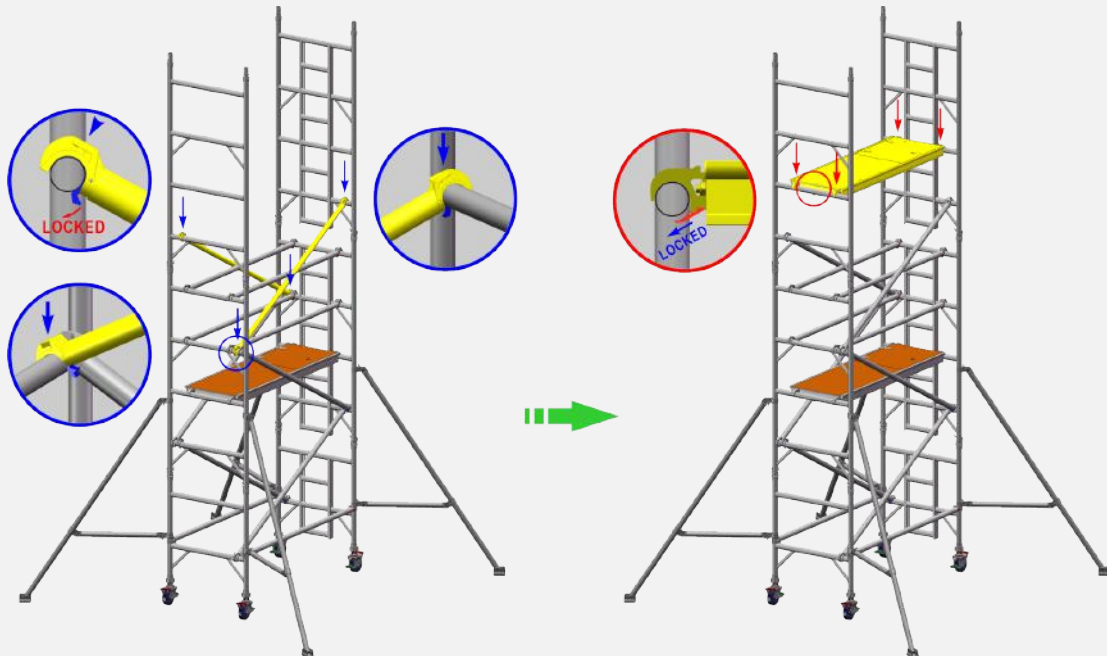


## Assembly Procedure

### Mobile Towers – 3T Method

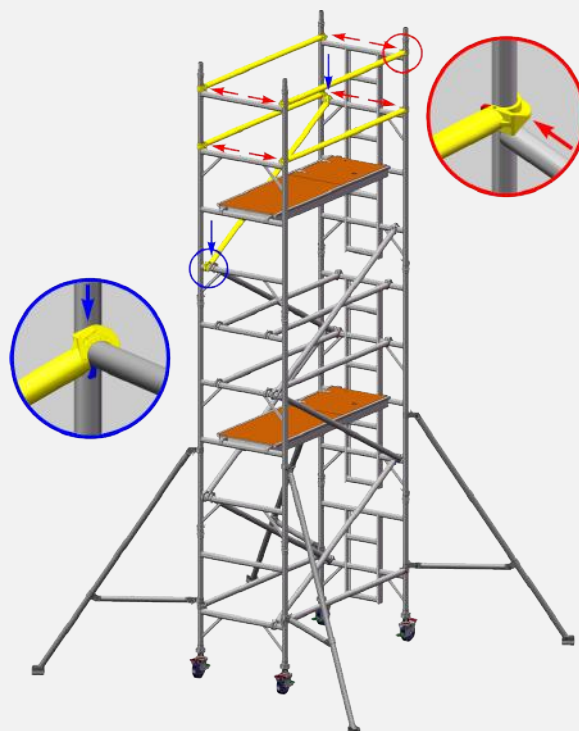
#### ASSEMBLY FOR 850 SINGLE WIDTH TOWERS

8. Add 2 more diagonal braces, in opposing directions, between the 5<sup>th</sup> and 7<sup>th</sup> rungs of the tower assembly. Position a trapdoor platform on the 8<sup>th</sup> rungs ensuring that the trapdoor is next to the ladder frame with the hinges towards the outside of the tower.



9. Add a single diagonal brace between the 7<sup>th</sup> and 9<sup>th</sup> rungs of the tower assembly as shown below. Climb the ladder through the open trapdoor in the platform, and whilst seated in the trapdoor opening, fit horizontal braces to the 9<sup>th</sup> and 10<sup>th</sup> rungs in that order. The horizontal braces should be positioned with the claws facing outwards.

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





# Assembly Procedure

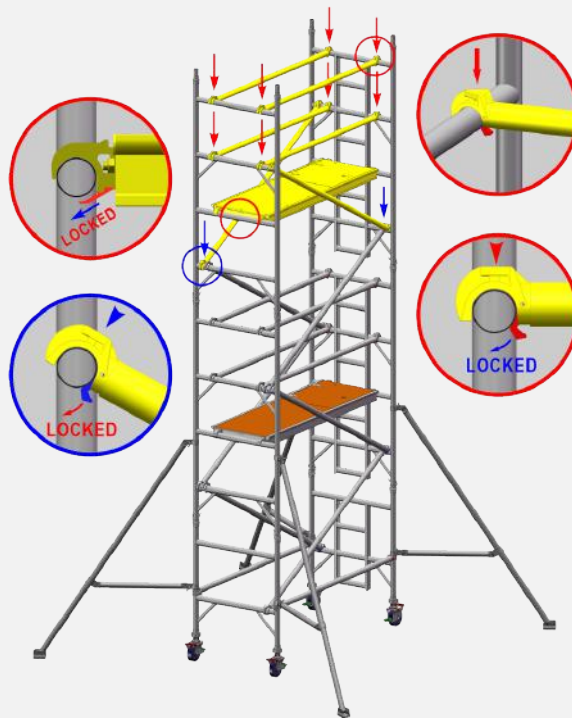
## Mobile Towers – 3T Method

### ASSEMBLY FOR 850 SINGLE WIDTH TOWERS

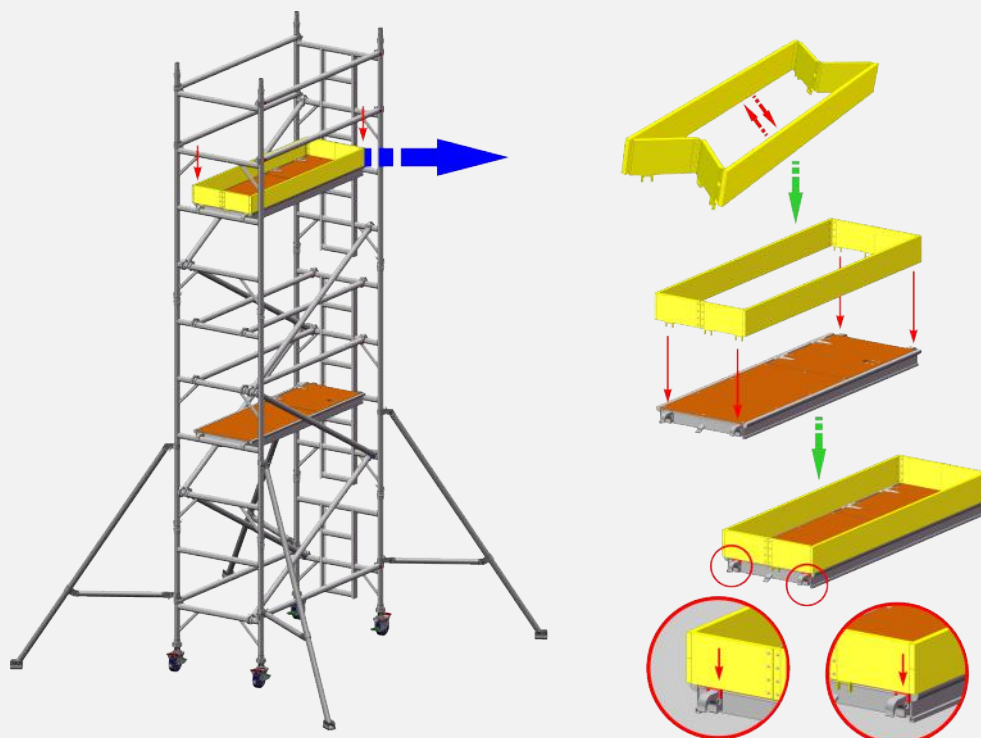
**When building above a 4.2m platform height.**

10. Continue to add additional frames (ladder and span), interlock clips, diagonal braces, trapdoor platforms and horizontal braces in the sequence detailed above. When the required height is reached, position the trapdoor platform and fit a single diagonal brace as shown in step 7 and the horizontal braces as before.

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



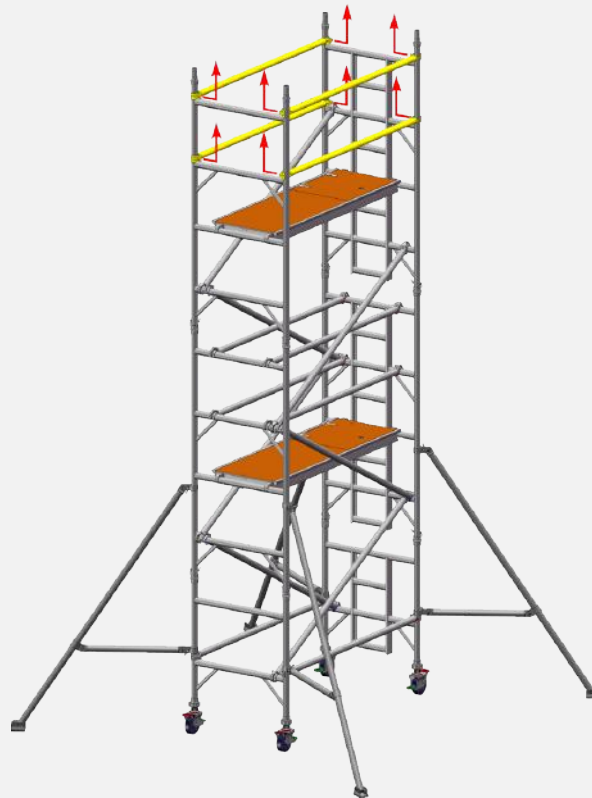
11. Fit the folding toeboard



**THE TOWER IS NOW COMPLETE**

## Dismantling Procedure

12. To take down the tower reverse the building sequence. When removing guardrail braces, unlock the four claws furthest from the trapdoor and then return immediately to the protected position within the trapdoor. You may then unlock the claws at the other ends of the guardrails to remove them from the tower



## Outriggers

### OUTRIGGERS

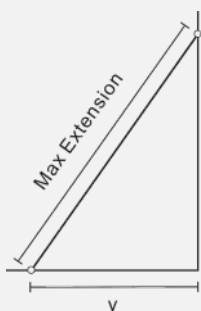
Attach one outrigger to each corner of the tower as shown. Ensure outrigger feet are equally spaced to form a square.

SP10 and SP15 telescopic outriggers must always be fully extended.

Position the lower clamp so that the lower arm is as closed to the horizontal as possible. Adjust the position of the top clamp to ensure the outrigger foot is in firm contact with the ground. Ensure clamps are secure.

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

### OUTRIGGER DIMENSIONS



	y
SP7	1227
SP10	2241
SP15	2757

Notes :



# Loyal Scaffolding Limited

LOT 1029-B, DD 124, Shek Po Road, Hung Shui Kiu, Yuen Long, N.T., Hong Kong.



+852 3488 3860



[sales@aluminium-scaffoldtowers.co.uk](mailto:sales@aluminium-scaffoldtowers.co.uk)



[www.loyal-scaffolding.com](http://www.loyal-scaffolding.com)