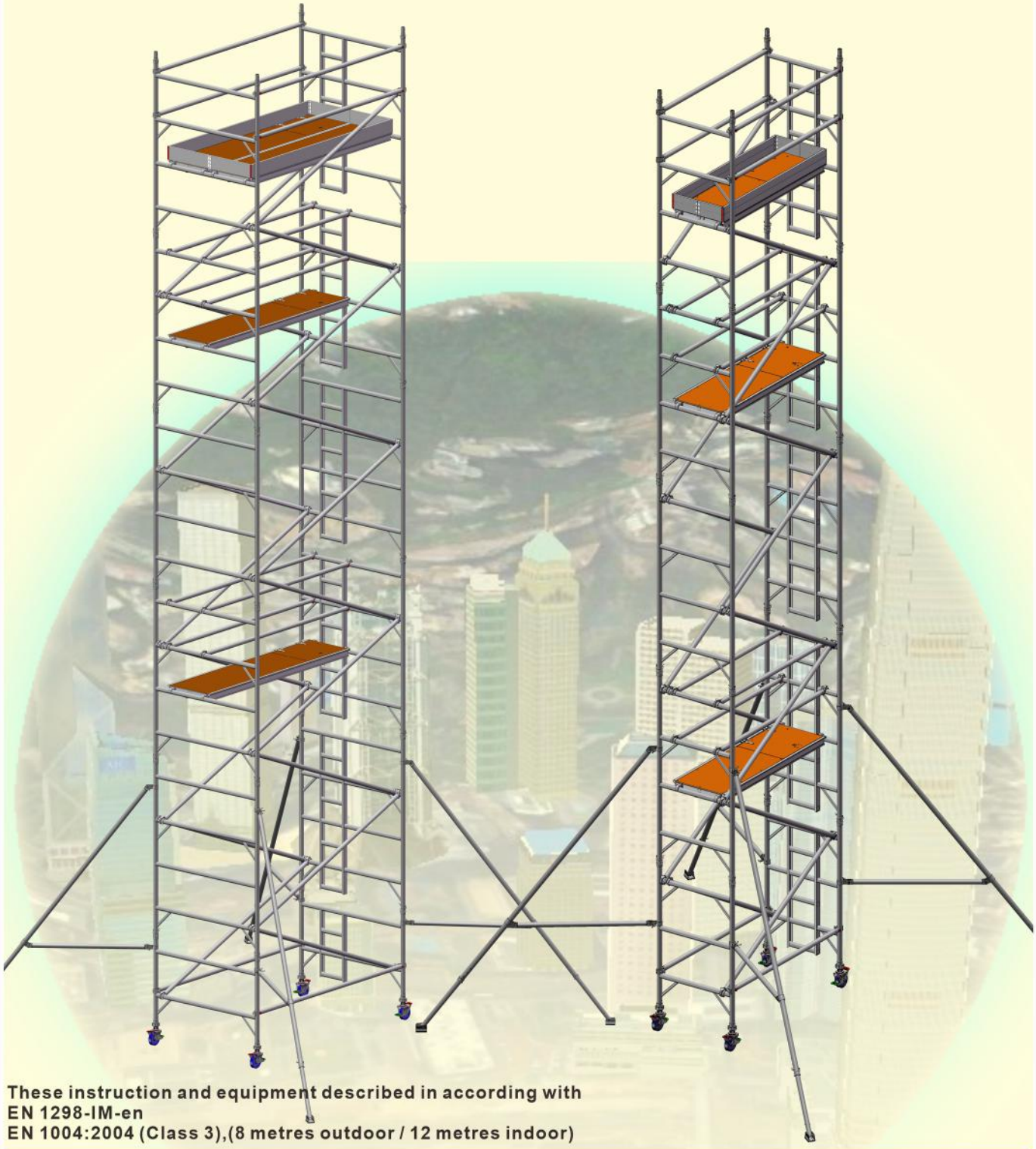
LOYAL®
SAFE WORKING

1450, 850
Aluminium Scaffold Tower

Instruction Manual



These instruction and equipment described in according with
EN 1298-IM-en
EN 1004:2004 (Class 3),(8 metres outdoor / 12 metres indoor)

LOYAL®
SAFE WORKING

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Mobile Tower – 3T Method (Through The Trapdoor)

INTRODUCTION

Please read this guide carefully.

Please note that diagrams are for illustrative purposes only.

Ideal for maintenance and installation work, or short-term access, the highly versatile towers provide a strong working platform for a variety of heights.
This User Guide provides you with step-by-step instructions to ensure your system is erected easily and safely using the **3T (Through the Trapdoor) method**.

COMPLIANCES

These instructions and the equipment described are in accordance with:

EN:1298-IM-en

EN:1004:2004 Class 3 (8 metres outdoor / 12 metres indoor)

PREPARATION AND INSPECTION

Inspect the equipment before use to ensure that it is not damaged and that it functions properly.

Damaged or incorrect components must not be used.

Safety First

A. SAFETY NOTES

1. Check that all components are on site, undamaged, and functioning correctly – (refer to Checklist & Quantity Schedule). Damaged or incorrect components must 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 (must be capable of supporting the weight of the structure)
   Level and slope
   Obstructions (ground and overhead)
   Wind conditions (current and potential).

3. Check if the ground on which the mobile access tower is to be erected and moved is capable of supporting the tower.

4. **The minimum of two competent persons are required to assemble and dismantle this mobile access tower.**

5. 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).

6. The tower must always be climbed from the inside using the built in ladder during assembly and use.

7. It is recommended that towers be tied to a solid structure when left unattended.

8. Adjustable legs should only be used for levelling.

9. **Do not** use boxes, ladders or other objects on the platform to gain additional height.

10. Never bridge between a tower and a building unless specified and approved.

11. Never jump onto platforms.

12. When possible, tie in the tower to a rigid structure when working outdoors or in exposed conditions.

13. Beware of the funnelling effect of open-ended and unclad building.

14. Debris netting or plastic sheeting should not be fixed to the tower without consulting your local supplier.

15. 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.

16. The assembled tower is a working platform and must not be used as a means of access to other structures.

17. The maximum wind condition for moving the tower is Beaufort Scale 0-4 (see Wind Speed Safety Rules, page 4).

18. Beware of horizontal forces (lateral force) when using power tools, jet washers or other equipment which could cause instability.

    The maximum horizontal force (lateral force) on a freestanding tower at platform level is 20kg.

19. Mobile towers are not designed to be suspended-please refer to your local supplier for advice.

20. Do not extend the platform height of the tower by using ladders, boxes or other devices.

21. Always beware of live electrical apparatus, cables, or moving parts of machinery.

22. Before each use or re-use of the mobile tower:

    - Check the tower is vertical (using spirit level, adjusting legs as needed).
    - Ensure the structure is still assembled correctly and complete.
    - Ensure no environmental changes (snow, wind, ice etc.) have affected the tower; if so, correct as necessary before use.

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 km/h**, cease working on the tower and do not attempt to move it.
2. If wind speeds expected to reach a **strong breeze (31 km/h)**, tie the tower to a rigid structure.
3. If wind speeds are likely to reach **gale force (over 52 km/h)**, the tower should be dismantled.
4. Wind force can be magnified by the tunnelling effect of open-ended and unclad buildings.

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. 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 / BALLAST

1. Outriggers and ballast weights shall always be fitted when specified.
2. The Quantity Schedules show the recommended outrigger footprint. In circumstanced 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. When moving the tower, always beware of any live electrical apparatus, overhead cables, or moving parts of machinery.
3. Ensure that the platforms are free of persons and equipment, and that brake locks are off prior to movement.
4. 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 obstructions.
5. The overall height of the tower when being moved, should not exceed **2.5 times the minimum base dimensions,** or **4 metres overall height**.
6. Before use, check the tower is still correct and complete.
7. 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.
8. Do not move the tower in wind speeds over **20 km/h**

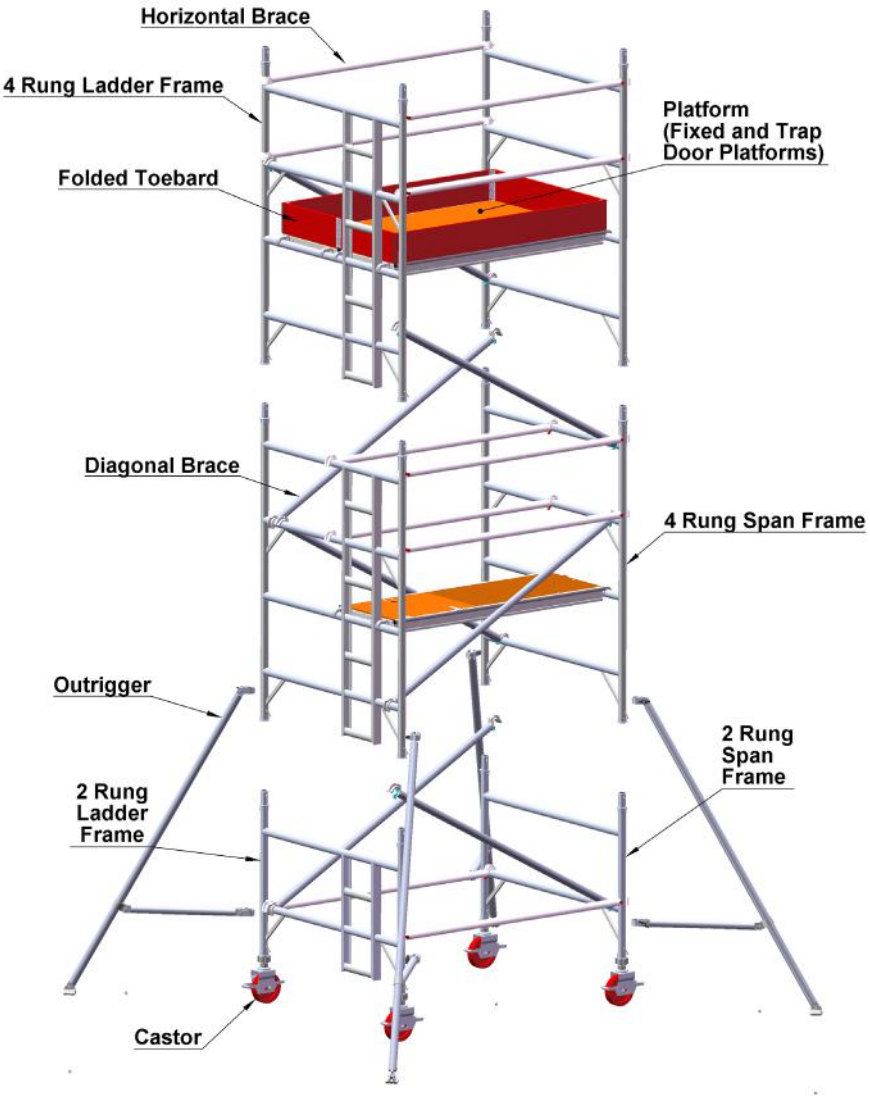
F. TIES

1. Ties should be used when the tower goes beyond its safe height, beyond the limits of the outriggers, or if there is a danger of instability. They should be rigid, two-way ties fastened to both uprights of the frame with load-bearing right-angled or swivel couplers. Only couplers suitable for the 50.8mm diameter tube of the tower should be used. Ideally, ties should be secured to both faces of a solid structure or by means of anchorages.
2. The tie frequency may vary depending on the application, but as a minimum, they should be at every **4 metres** in height.
3. For further information on tying-in a tower please contact your supplier.

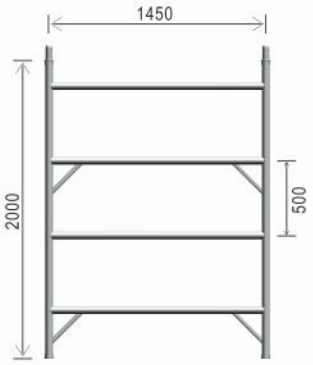
G. MAINTENANCE – STORAGE - TRANSPORT

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 set aside for manufacturer's 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 during transport.

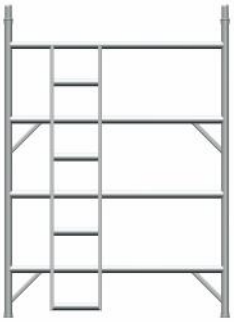
Components



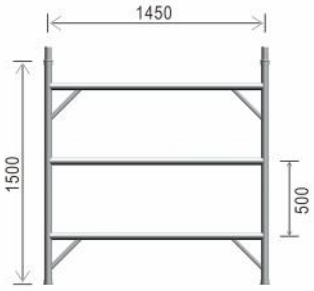
LOYAL 1450/850 Components



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

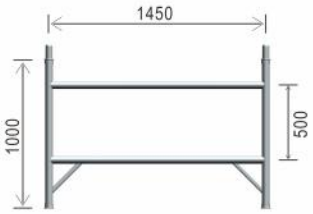


1450 4 Rung Ladder Frame
1450mm x 2000mm
Part No. 145-4-B

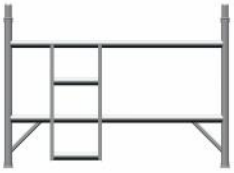


1450 3 Rung Span Frame
1450mm x 1500mm
Part No. 145-3-A

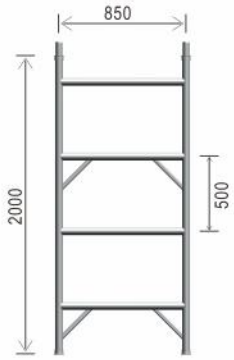
1450 3 Rung Ladder Frame
1450mm x 1500mm
Part No. 145-3-B



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

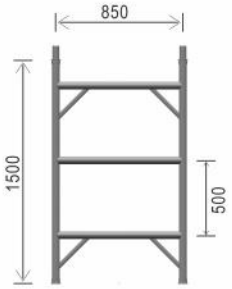


1450 2 Rung Ladder Frame
1450mm x 2000mm
Part No. 145-2-B



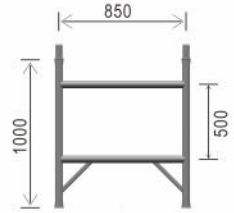
850 4 Rung Span Frame
850mm x 2000mm
Part No. 085-4-A

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

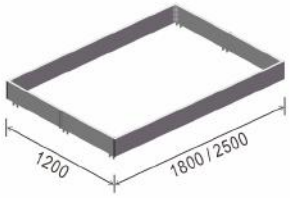
Horizontal Brace
1800mm, 2100mm
Part No. 1800-H-B, 2500-H-B

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

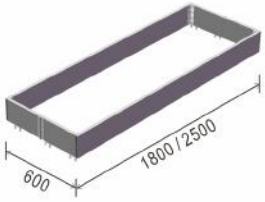
Trapdoor Platform
600mm x 1800mm, 2500mm
Part No. 1800-T-D, 2500-T-D

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

LOYAL 1450/850 Components



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



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

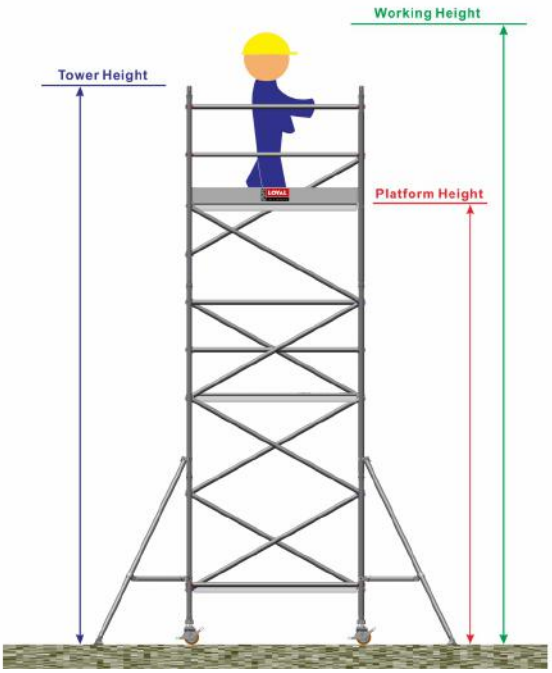
Castor Wheel c/w Adjustable Leg
150mm Dia.
Part No. 600-F-150

Safety Snap Pin
9.2mm dia.
Part No. SSP

Fixed Outrigger-Small
2350mm
Part No. SP7

Telescopic Outrigger-Medium
2550-3750mm
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: 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	4.2,m	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
1.8m and 2.5mTrap Door Deck		1	1	1	2	2	2	2	2	2	2	2	3	3	3	3
1.8m & 2.5m Horizontal Brace(Red)		6	6	6	6	10	10	10	10	10	10	10	14	14	14	14
2.1m & 2.7m Diagonal Brace(Blue)		2	3	3	4	5	6	7	8	9	10	11	12	13	14	15
Alu Folding Toeboard		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
SP7 Fixed Outrigger					4	4	4	4	4	4						
SP10 Adj. Outrigger-Medium											4	4	4	4	4	4
SP15 Adj. Outrigger-Large #																
1.8m Tower Total Self-Weight (kgs)		83.7	91.0	95.2	130.0	144.0	151.0	157.4	163.6	170.0	185.0	191.0	218.2	224.4	232.0	238.0
2.5m Tower Total Self-Weight (kgs)		97.1	105.0	109.0	148.2	164.0	172.0	178.5	185.2	192.0	207.2	223.1	247.0	253.7	261.4	268.0

* If you are unable to position the working platform easily from the ground, you may require an additional fixed platform for this tower.
# 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		1	
1450 3 Rung Span Frame		1		1		1		1	
1450 4 Rung Ladder Frame		4	5	4	5	5	6	5	6
1450 4 Rung Span Frame		4	5	4	5	5	6	5	6
1.8m and 2.5m Fixed Deck		1	1	1	1	1	1	1	1
1.8m and 2.5m Trap Door Deck		3	3	3	3	4	4	4	4
1.8m & 2.5m Horizontal Brace(Red)		14	14	14	14	18	18	18	18
2.1m & 2.7m Diagonal Brace(Blue)		16	17	18	19	20	21	22	23
Alu Folding Toeboard		1	1	1	1	1	1	1	1
SP7 Adj. Outrigger									
SP10 Adj. Outrigger-Medium		4	4	4	4	4	4	4	4
SP15 Adj. Outrigger-Large #		4	4	4	4	4	4	4	4
1.8m Tower Total Self-Weight (kgs)		244.3	250.6	257.8	264.1	291.2	297.5	304.8	311.0
2.5m Tower Total Self-Weight (kgs)		275.0	281.5	289.2	296.0	329.0	335.7	343.4	350.0

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** (users, tools and materials) must not exceed **950 kg minus the self-weight of the tower**.

Example 1:
A 1450 tower (3T method) with 4.2m platform height and 1,8m platform length has self weight of 157.4 kg.

→950.0kg －157.4kg ＝ **792.6kg maximum safe working load**

Example 2:
A 1450 tower (3T method) with 11.7m platform height and 2.5m platform length has self weight of 343.4 kg.

→950.0kg －343.4kg ＝ **606.6kg maximum safe working load**

For greater heights and loads, consult **Loyal Scaffolding Limited**.

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.

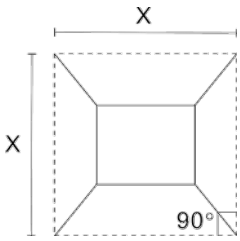
The quantities on page 8 will enable LOYAL towers to be built safely and therefore comply with the requirements of the Work at Height Regulations 2005. They include double guardrails to all platforms, and folding toeboard will need to be added if any levels are used as working platform and for storage of materials. EN 1004 requires platforms at least every 4.2m, 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=3351	X=3629
SP10	X=4789	X=5100
SP15	X=5520	X=5838

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: 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	4.2,m	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 2.5mTrap Door Deck		1	1	1	2	2	2	2	2	2	2	2	3	3	3	3
1.8m & 2.5mHorizontal Brace(Red)		6	6	6	6	10	10	10	10	10	10	10	14	14	14	14
2.1m & 2.7m Diagonal Brace(Blue)		2	3	3	4	5	6	7	8	9	10	11	12	13	14	15
Alu Folding Toeboard		1	1	1*	1	1	1	1	1	1	1	1	1	1	1	1
SP7 Fixed Outrigger				4	4	4	4	4	4	4						
SP10 Adj. Outrigger-Medium											4	4	4	4	4	4
SP15 Adj.Outrigger-Large #																
1.8m Tower Total Self-Weight (kgs)		66.3	73.0	91.3	110.0	123.0	129.6	135.0	140.4	145.7	160.0	165.2	191.6	197.0	203.4	208.7
2.5m Tower Total Self-Weight (kgs)		75.4	82.4	101.0	124.0	139.0	148.0	151.7	157.7	163.4	178.0	183.7	216.0	222.0	229.0	234.5

* If you are unable to position the working platform easily from the ground, you may require an additional fixed platform for this tower.
# 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
850 4 Rung Span Frame		4	5	4	5	5	6	5	6
1.8m and 2.5m Trap Door Deck		3	3	3	3	4	4	4	4
1.8m & 2.5m Horizontal Brace(Red)		14	14	14	14	18	18	18	18
2.1m & 2.7mDiagonal Brace(Blue)		16	17	18	19	20	21	22	23
Alu Folding Toeboard		1	1	1	1	1	1	1	1
SP7 Adj. Outrigger									
SP10 Adj. Outrigger-Medium		4	4	4	4	4	4	4	4
SP15 Adj. Outrigger-Large #									
1.8m Tower Total Self-Weight (kgs)		214.3	220.0	226.0	231.4	257.8	263.0	269.7	275.0
2.5m Tower Total Self-Weight (kgs)		240.5	246.2	253.2	259.0	291.3	297.0	304.0	310.0

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** (users, tools and materials) must not exceed **950 kg minus the self-weight of the tower**.

Example 1:
An 850 tower (3T method) with 4.2m platform height and 1,8m platform length has self weight of 135.0 kg.

→950.0 −135.0 = **815.0 kg maximum safe working load**

Example 2:
An 850 tower (3T method) with 11.7m platform height and 2.5m platform length has self weight of 304 kg.

→950.0 −304.0kg = **646.0 kg maximum safe working load**

For greater heights and loads, consult **Loyal Scaffolding Limited**.

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.

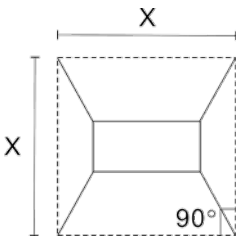
The quantities on page 10 will enable LOYAL towers to be built safely and therefore comply with the requirements of the Work at Height Regulations 2005. They include double guardrails to all platforms, and folding toeboard will need to be added if any levels are used as working platform and for storage of materials. EN 1004 requires platforms at least every 4.2m, 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=2994	X=3201
SP10	X=4458	X=4734
SP15	X=5195	X=5485

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

Assembly Procedure - Mobile Towers - 3T Method

General Notes

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 indicates it is 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

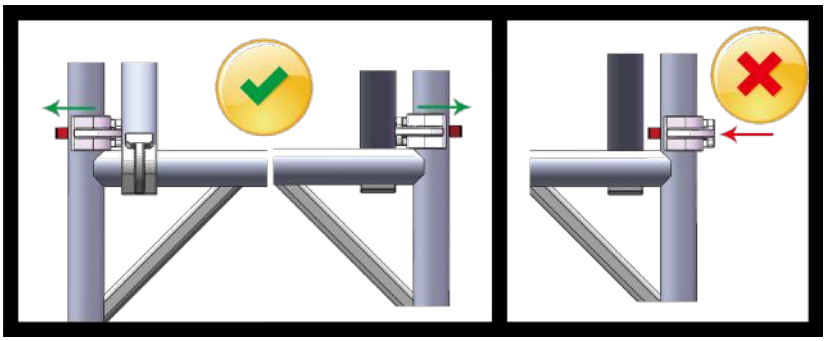
TO DISMAMTLING A LOYAL LADDERSPAN TOWER

- 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 (refer before each use):

1. Ensure all brace claws operate and lock correctly prior to erection ☐
2. Inspect components prior to erection ☐
3. Inspection tower prior to use ☐
4. Tower upright and level ☐
5. Wheels locked and legs correctly adjusted ☐
6. Diagonal braces fitted ☐
7. Outriggers fitted as specified ☐
8. Platforms located and platforms locks on ☐
9. Folding Toeboard located ☐
10. Check guardrails are fitted correctly, See illustration below ☐



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

Refer to this checklist before using each time.

Assembly - 1450 Double Width Towers (3T Method)

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, start with **2 rung** frames at the base, then **4 rung**, then **3 rung** at the top. Refer to the Quantity Schedules for detail.

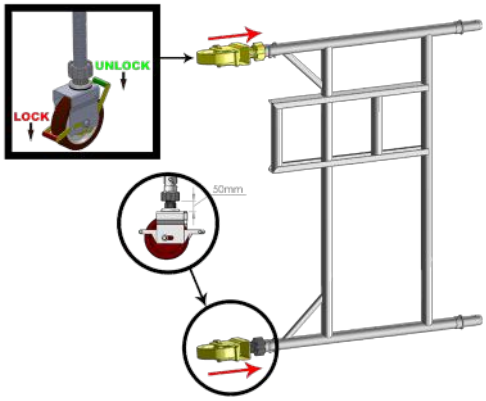
The procedure illustrated shows a **4.2m platform height** tower starting with a **2 rung** frame.

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

1. **Wheels and Adjustable Legs**
   Push the wheel into the adjustable wheel shaft (this may have been done prior to delivery). Push the wheel/adjustable wheel shaft assembly into the base of the 2 lower frame sections (lower frame size varies by tower size – see table above). Lock all 4 wheels as shown in diagram below.

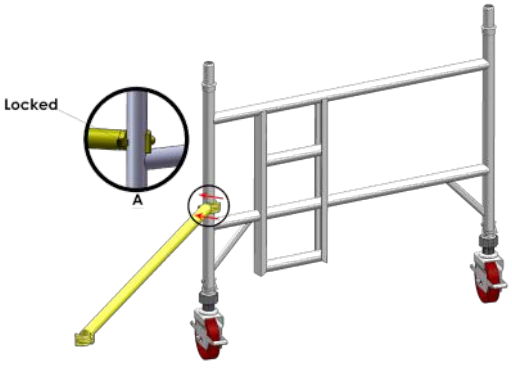
   For ease of levelling, leave a **50 mm** gap between the bottom of the adjustable leg and the adjustment nut. Adjustable legs are for **levelling only** and must **not** be used to gain height.

   Note: Base plates can be fitted to adjustable legs instead of wheels if required.



2. **First Horizontal Brace (Red)**
   Fit one horizontal brace onto the vertical of the span frame, just above the bottom rung. Ensure the claw faces outwards so the frame becomes self-supporting.

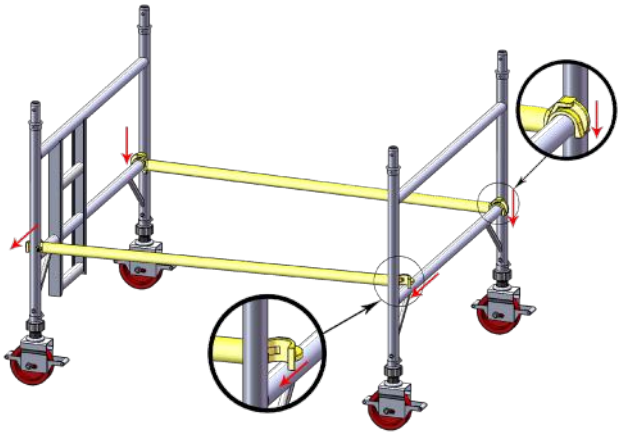
   Open locking claws before fitting.



Assembly Procedure Assembly - 1450 Double Width Towers (3T Method)

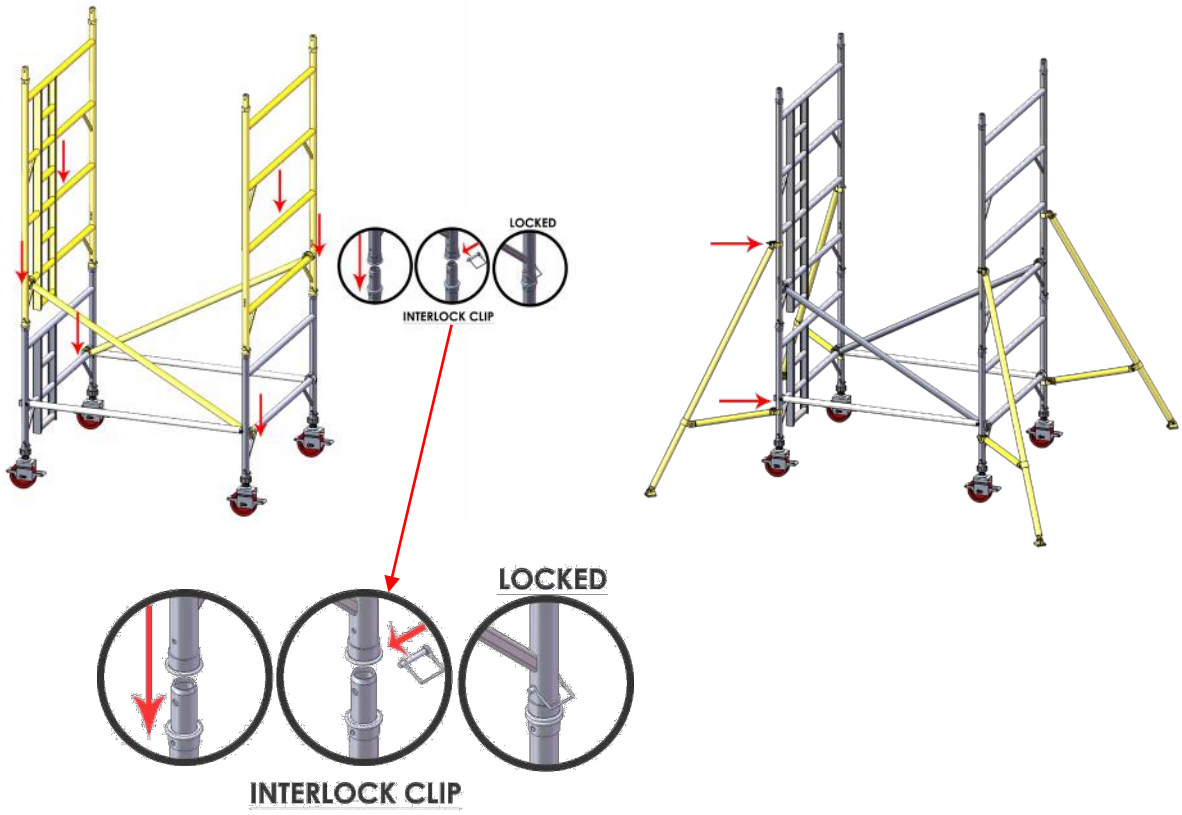
3. Second Frame and Squaring

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, just above the bottom rungs, with claws facing downwards to **square the tower**.



4. Build Up, Diagonals, Levelling, Outriggers

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**.
Check vertical and level with a spirit level; adjust legs as required.
Fit outriggers (see notes **on page 24**).
IMPORTANT – Only use adjustable legs to **level** the tower, not to gain height



Assembly Procedure Assembly - 1450 Double Width Towers (3T Method)

5. First Platform and Guardrails

Fit a **temporary fixed platform** onto the lowest rungs of the ladder and span frames.
Fit a **trapdoor platform** on the **4th rungs** with the trapdoor next to the ladder frame; hinges towards the **outside** of the tower.
Climb the ladder through the open trapdoor and, **seated in the trapdoor opening**, fit horizontal braces to the **5th and 6th rungs** in that order.
Outside horizontal braces: claws facing **outwards**.
Centre braces: claws facing **downwards** and directly above the edge of the trapdoor platform.
Remove the **temporary fixed platform**.

Do not stand on the platform until it is fully guarded with **4 horizontal braces**.

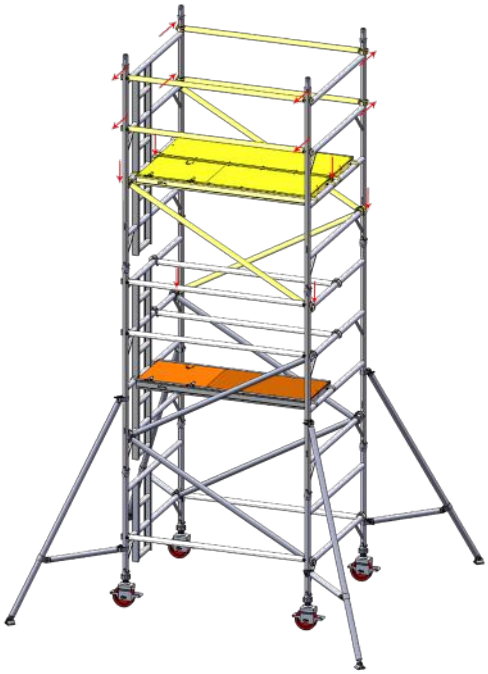
6. Next Diagonals and Frames

Fit the next pair of diagonal braces in opposing directions between the **3rd and 5th rungs**.
Add two additional frames (ladder and span) and ensure interlocking clips are engaged.

Assembly Procedure Assembly - 1450 Double Width Towers (3T Method)

7. Finalising a 4.2m Platform Height (or continue)

Add 2 more diagonal braces, opposing, between the **5th and 7th rungs**.
If finishing at this height (**4.2 m platform**), position the **fixed platform** on the **8th rungs**.
Position a **trapdoor platform** alongside (directly above the lower trapdoor platform), with trapdoor next to the ladder frame and hinges towards the outside.
Add a **single diagonal brace** between the **7th and 9th rungs**.
Climb through the trapdoor and, seated in the opening, fit horizontal braces to the **9th and 10th rungs** in that order.
All these horizontal braces: claws facing **outwards**.



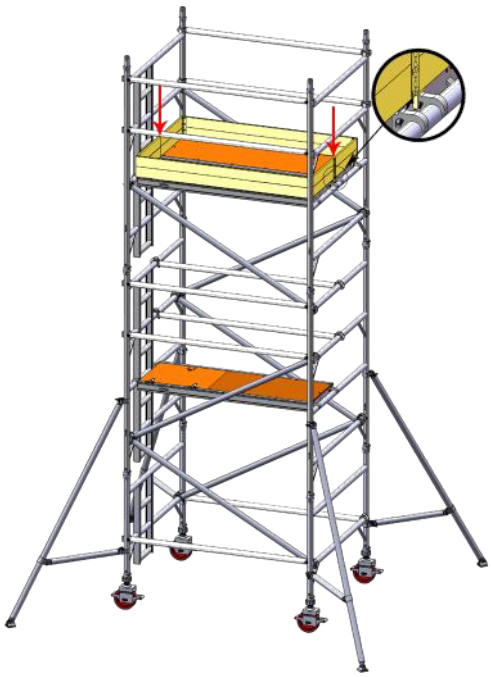
8. Building Above 4.2m

Continue adding frames (ladder and span), interlock clips, diagonal braces, trapdoor platforms, and horizontal braces in the same sequence.
At the required height, position the **fixed platform**, then the **trapdoor platform** alongside.
Fit the **single diagonal brace** as in Step 7, and the horizontal braces as before

Assembly Procedure Assembly - 1450 Double Width Towers (3T Method)

9. Folding Toeboard

Fit the **folding toeboard** (see instructions below in “Fitting Folding Toeboards”)



The tower is now complete

10. Dismantling Procedure

Reverse the building sequence.
When removing horizontal braces, unlock the **4 claws furthest from the trapdoor**, then immediately return to the **protected seated position** in the trapdoor to unlock and remove the 4 claws closest to the trapdoor.

Assembly – 850 Single Width Towers (3T Method)

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, start with **2 rung** frames at the base, then **4 rung**, then **3 rung** at the top. Refer to the Quantity Schedules for detail.

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

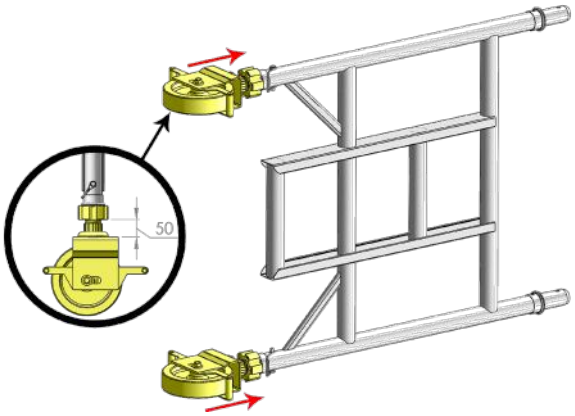
It is recommended that two persons are used to build LOYAL towers. **Above 4m**, at least two persons are essential. **Only climb the tower from the inside**.

1. Wheels and Adjustable Legs

Push the wheel into the adjustable wheel shaft (this may have been done prior to delivery). Push the wheel/adjustable wheel shaft assembly into the base of the 2 lower frame sections (lower frame size varies by tower size – see table above). Lock all 4 wheels as shown in diagram below.

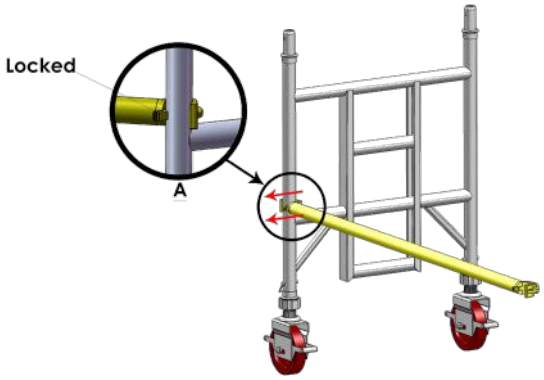
For ease of levelling, leave a **50 mm** gap between the bottom of the adjustable leg and the adjustment nut. Adjustable legs are for **levelling only** and must **not** be used to gain height.

Note: Base plates can be fitted to adjustable legs instead of wheels if required.



2. First Horizontal Brace (Red)

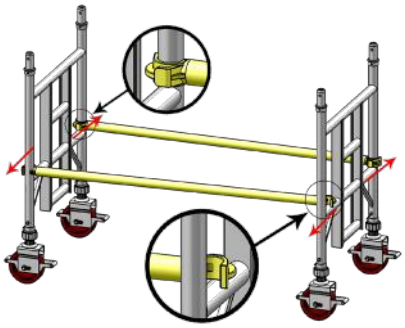
Fit one horizontal brace to the vertical of the span frame just above the bottom rung. Claw facing outwards. Open claws before fitting.



Assembly – 850 Single Width Towers (3T Method)

3. Second Frame and Squaring

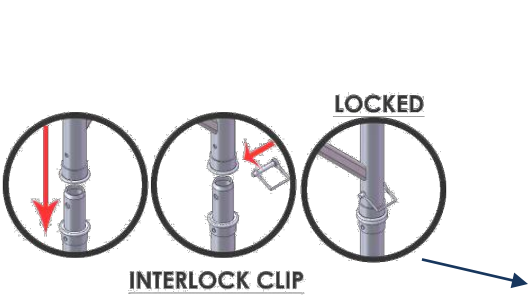
Position the ladder frame as shown below and fit the other end of the horizontal brace to the vertical just above the bottom rung.
Fit a second horizontal brace to the other side, just above the bottom rungs, with claws facing **downwards** to **square the tower**.

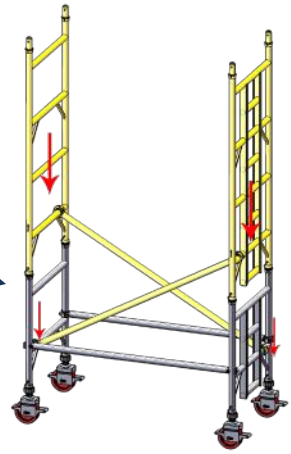


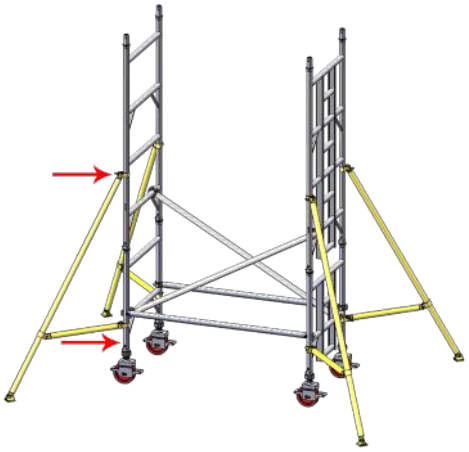
4. Build up, Diagonals, Levelling, Outriggers

Fit 2 additional frames (span and ladder) and ensure **interlock clips** are engaged on all 4 joins (see below).
Fit **2 diagonal braces (blue)** in opposing directions between the **1st and 3rd rungs**.
Level the tower with a spirit level and the adjustable legs.
Fit **outriggers** (see notes **on page 22**).

Important: Adjustable legs are for **levelling only and not to gain height**.







5. First Trapdoor Platform and Guildrails

Fit a **trapdoor platform** on the **4th rungs** with the trapdoor next to the ladder frame and hinges towards the **outside**.
Climb through the trapdoor and, **seated in the opening**, fit horizontal braces to the **5th and 6th rungs** in that order.
Horizontal braces: claws facing **outwards**.
Do not stand on the platform until fully guarded with **4 horizontal braces**.

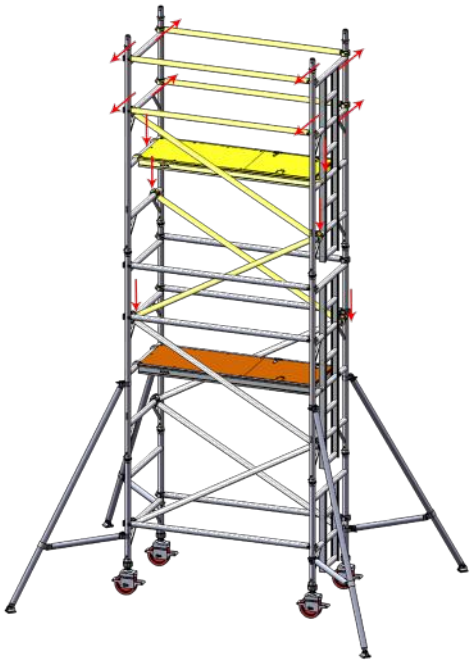
Assembly – 850 Single Width Towers (3T Method)

6. Next Diagonals and Frames

Fit the next pair of diagonal braces in opposing directions between the **3rd and 5th rungs**.
Add two additional frames (ladder and span) and ensure interlocking clips are engaged.

7. Higher Level Platform and Bracing

Add 2 more diagonal braces, opposing, between the **5th and 7th rungs**.
Position a **trapdoor platform** on the **8th rungs**, trapdoor next to the ladder, hinges outward.
Add a **single diagonal brace** between the **7th and 9th rungs**.
Climb through the trapdoor and fit horizontal braces to the **9th and 10th rungs**.
Horizontal braces: claws facing **outwards**.



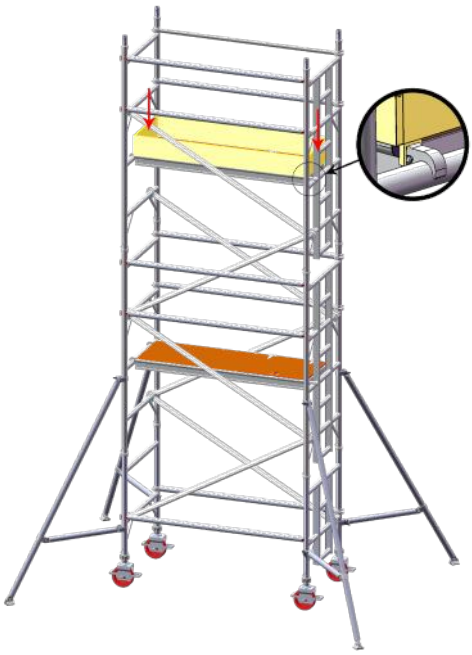
Assembly – 850 Single Width Towers (3T Method)

8. Building Above 4.2m

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.

9. Folding Platfrom

Fit the **folding toeboard** (see instructions below in “Fitting Folding Toeboards”).



The tower is now complete

Dismantling Procedure

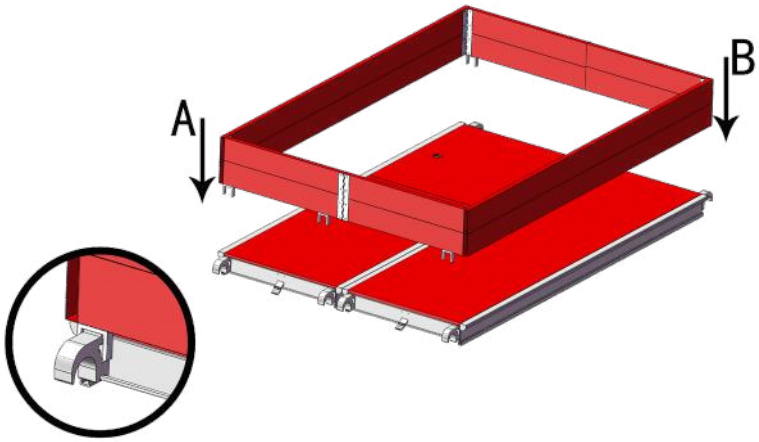
10. Dismantling Procedure

Reverse the building sequence.
When removing horizontal braces, unlock the **4 claws furthest from the trapdoor**, then immediately return to the **protected seated position** in the trapdoor to unlock and remove the 4 claws closest to the trapdoor

Fitting Folding Toeboards (Mobile Towers – 3T Method)

Fit the folding toeboard **over the deck** at each corner claw as shown.

Position as **(A)** and **(B)** on each corner claw.



Outriggers (Mobile Towers – 3T Method)

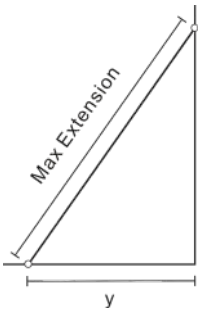
Attach **one outrigger to each corner** of the tower as shown. Ensure outrigger feet are equally spaced to form a **square**.

SP10 and SP15 telescopic outriggers must always be fully extended.

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

Moving the Tower with Outriggers:
Adjust the top clamps to lift the four outrigger feet a **maximum of 25 mm** 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 :