

Instruction Manual EN 1298-IM-EN

The ALTO MD Stairwell Tower

3T - Through The Trapdoor Method





Introduction

Please read these instructions carefully and ensure that you fully understand all of the information contained herein. All of the information in this document is vital for the safe utilisation of your Alto MD Stairwell Tower.

All Alto Access products are professional quality engineered equipment designed primarily with safety in mind and meet or exceed all standards, recommendations and guidelines. Used properly, Alto access equipment will keep you safe when working at height.

This manual contains all of the information necessary to correctly assemble your Alto MD Stairwell tower and incorporates all of the requirements of the PASMA 3T method of assembly as endorsed by the HSE.

This manual should be used in conjunction with your Risk Assessment and Method Statement and in line with the Work at Height Regulations 2005 which place an obligation on employers to eliminate or minimise risks. This manual must be made available to the user/assembler at all pertinent times.

Only competent and qualified personnel should undertake erection, dismantling or alteration, organisation, planning or supervision of mobile access towers. In the case of any doubt, sufficient relevant additional training must be given beforehand to ensure safe use. For further information on the use of mobile access towers consult PASMA (www.pasma.co.uk; Tel +44 (0) 845 230 4041). For any additional technical information or specific advice please contact the manufacturer Lakeside Industries Limited Tel: +44 1527 500577 or Email: sales@lakeside-industries.co.uk.

Certifications

This tower is manufactured in our ISO 9001 accredited facility. This manual complies with EN 1298-IM-EN.

Maximum Safe Working Loads

The safe working load of the tower is 750kg including its own weight. The maximum safe working load of any individual platform is 130kg evenly distributed.

If the tower is to be used in an application outside the scope detailed this instruction manual, contact your supplier or the manufacturer, Lakeside Industries Limited, for advice. Tel: +44 1527 500577 or Email: sales@lakeside-industries.co.uk.

Inspection Care & Maintenance

Alto Access equipment is designed and manufactured to the highest standards in the industry and is stronger, more robust and safer than any comparable competitor product. Properly cared for, it will give a long and productive service life.

- The equipment should be inspected and maintained as outlined in the "ALTO MD Stairwell Inspection Procedures". A free downloadable copy is available at www.altoaccess.com/downloads.
- Equipment should always be inspected before and after each use.
- Whilst Alto Access equipment is extremely robust, care should be exercised in loading, transporting and handling components to avoid damage or injury to either the equipment or persons.
- Repairs should only be carried out by Lakeside Industries Limited or their authorised repairers.
- In case of any doubt as to the integrity of any items of Alto Access equipment, the part should be
 withdrawn from use, quarantined and subject to detailed examination to determine whether repair
 or replacement is required. If returned to the factory, Lakeside Industries Limited will provide a free
 of charge evaluation of any damaged components.

Safety

Check that all of the necessary components and equipment for the particular tower configuration to be built are on site, undamaged & functioning correctly. Damaged/incorrect components must not be used.

- Check that the surface on which the tower is to be located is capable of supporting the tower and its payload.
- The safe working load of the tower is 750kg including its own weight. The maximum safe working load of any individual platform is 130kg evenly distributed.
- If the tower is to be used in an application outside the scope detailed this instruction manual, contact your supplier or the manufacturer, Lakeside Industries Limited, for advice on loadings. Tel: +44 1527 500577 or Email: sales@lakeside-industries.co.uk.
- Towers must always be climbed from the inside using the built in ladders only.
- The tower must be levelled when erected using the adjustable feet.
- Two or more persons are required for the safe erection and dismantling of a tower.
- It is recommended that the tower be tied in when left unattended.
- Always comply with the Work at Height Regulations 2005 when erecting, dismantling & using the tower.

- When lifting components, always use reliable lifting equipment and fastening methods and always lift from within the footprint of the tower structure to prevent risk of the tower overturning.
- Beware live electrical installations, cables, moving machinery or other obstructions when erecting, dismantling or using the tower. The tower is a conductive metallic structure.
- The maximum safe lateral force for a freestanding Alto MD Stairwell tower is 30kg.
- Do not use boxes, ladders or other items to gain additional height. Do not stand on guard rails for any reason.
- Fit guard rails to all Platforms and fit toe boards to all working platforms.
- Every erected tower must be inspected at least every seven days and any tower which has been left unattended should be inspected before use to ensure that:
 - 1 no components have been removed or relocated incorrectly;
 - 2 the tower is still vertical; and
 - 3 no environmental or other factors have arisen which will influence safe use of the tower.
- Unattended towers should be tied in to a rigid structure.
- Stabilisers or outriggers and ballast shall always be fitted when specified.
- Where there is insufficient clearance to fit the specified stabilisers, contact your supplier or the manufacturer for specific advice.

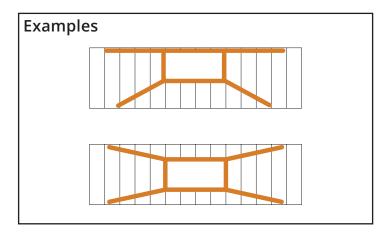
Erecting & Dismantling the Tower

All Alto towers must be built and dismantled in accordance with the step by step instructions in the following pages corresponding to the particular tower configuration involved and having regard to the working at height regulations and Health & Safety legislation.

Stabilisers

Due to the varying styles of staircases available, no specific layout can be detailed. However, stabilisers should be fitted wherever possible and positioned in a way that maximises the base area of the tower structure as much as possible.

For more advice, Tel: +44 1527 500577 or Email: sales@lakeside-industries.co.uk.



Frames

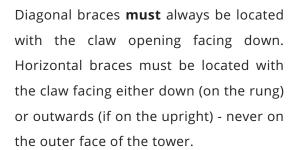
Frames **must** always be assembled with the offset conical head fitting pointing inwards towards the centre of the tower.

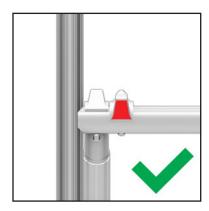


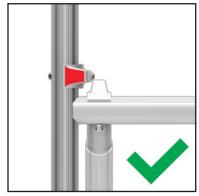


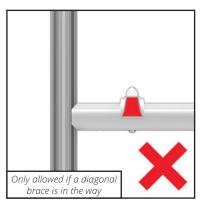
Braces

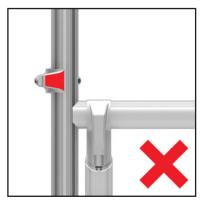
All braces are fitted with spring loaded pins that automatically lock the brace into position when attached to a tower. Braces must be fitted as close to the frame uprights as possible. Diagonal braces are always fitted to the outer edge if there is a horizontal brace sharing the same rung.





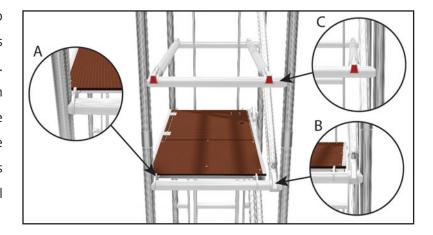






Platforms

Platforms must be installed tight up against the side of the frame that is opposite to the diagonal braces (fig. A). This offset position will give enough room to install the diagonal brace past the platform (fig. B). Always ensure that the horizontal braces installed as guardrails are positioned to allow the diagonal braces to run against the upright. (fig. C).

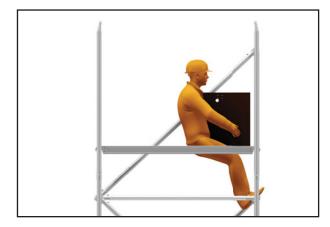


3T Method Explained

The "3T" or "through the trapdoor" method is one of the two permitted ways of assembling a tower without the assembler being at risk of falling. This tower is a 3T tower.

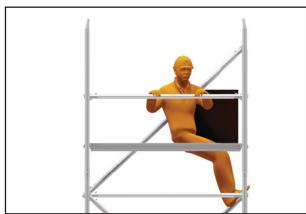
Step 1:

As each new level of platform is installed, the operative takes up a working position in the trap door of the platform, standing on the ladder and leaning back against the edge of the trapdoor aperture.



Step 2:

From this position the operative fits the horizontal braces 500mm & 1m above the platform level (i.e. on the first & second rungs). If the far end of the guardrail braces don't fully engage when they are put in place, the operative fully engages it when first climbing up onto the platform. This process ensures that operatives never have to stand on an unguarded platform.



Tying In

Towers must be tied into a suitable rigid structure once they go beyond the freestanding working heights specified in this instruction manual or if the tower is unstable or is in danger of being unstable.

Standard scaffold tubes and fittings can be used with the Alto Access products. Ties should be spaced at no more than 4m intervals. Ties must be rigid and be secured to both frame uprights. For further details regarding tying in, please contact your supplier or the manufacturer: Lakeside Industries Limited.

COMPONENT SCHEDULE

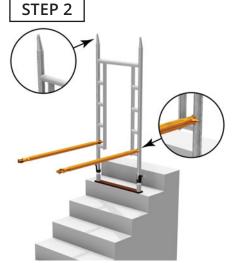
1.2m Long x 0.6m Wide ALTO MD Stairwell Tower

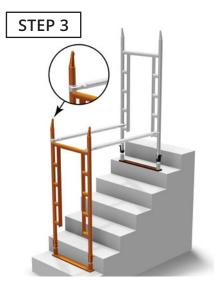
ALTO MEDIUM DUTY STAIRWELL TOWER
Using the 3T (Through The Trapdoor) assembly method

					PLATFORM	PLATFORM WORKING HEIGHT (m)	HEIGHT (m)			
					INTE	INTERNAL USE ONLY	NLY			
CODE	PART DESCRIPTION	1.0m/2.0m	1.5m/2.5m	2.0m/3.0m	2.5m/3.5m	3.0m/4.0m	3.5m/4.5m	4.0m/5.0m	4.5m/5.5m	5.0m/6.0m
3089	Stairwell Frame Foot Assembly	2	2	2	2	2	2	2	2	2
3090	Stairwell Walk Through Frame	2	7	7	7	7	7	2	2	2
3091	Stairwell Clip In Ladder	<u></u>	<u>_</u>	<u></u>	<u></u>	<u></u>	-	<u></u>	<u></u>	~
3092	Stairwell 3 Rung Main Frame	~	<u></u>	<u> </u>	2	2	7	C	С	m
3093	Stairwell 3 Rung Ladder Frame	••••		<u> </u>	<u></u>	<u></u>	7	2	2	m
3094	Stairwell 1 Rung Guard Rail Frame	····	<u></u>		<u></u>	<u></u>		<u></u>	<u></u>	
3095	Stairwell 2 Rung Guard Rail Frame	••••	<u></u>	<u> </u>		<u></u>	-	•••••	<u></u>	_
3086	Stairwell Trap Platform	<u></u>	<u></u>	<u></u>	7	7	7	7	7	2
3510	Stairwell 1.2m Horizontal Brace (Red)	2	2	4	9	9	9	_∞	_∞	10
3512	Stairwell 1.2m Diagonal Brace (Silver)	2	m	4	4	2	Ŋ	9	9	7
3096	Stairwell Guardrail Brace Frame	2	7	7	7	7	7	7	7	2
3516	Low Level Stabiliser	•••••	4	4	4	4	4	4	4	4
3087	Stairwell Wooden Toeboard Side	2	2	7	7	7	7	7	7	2
3088	Stairwell Wooden Toeboard End	2	2	2	2	2	2	2	2	2
		•							•	
	TOTAL SELF WEIGHT OF TOWER (kg)	57	77	98	103	107	111	119	122	131
	MAX No. WORKING LEVELS	~	<u></u>	<u></u>	←	<u> </u>	7	7	7	2
	ASSEMBLY INSTRUCTIONS PAGE	Page 8	Page 9	Page 10	Page 11	Page 12	Page 13	Page 14	Page 15	Page 16

ASSEMBLY INSTRUCTIONS - Starting Steps for all platform heights







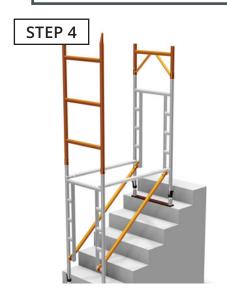
These towers should be erected by at least 2 competent persons. Fit an adjustable foot assembly into a walk through base frame ensuring that the spring loaded pins engage in the holes provided.

Position the frame on the upper area of the stairs, making sure that the frame head fittings always points toward the middle of the tower. Fit 2 horizontal braces to vertical tubes of the frame just above lowest rung ensuring spring loaded pin faces outward.

Fit the opposite ends of the braces to the other walkthrough frame, ensuring that the braces sit above the top rung of the frame. Adjust the heights of the frames until these braces run horizontal. Make sure both frames have the head fittings pointing inwards.

ASSEMBLY INSTRUCTIONS - 1.0-2.0m platform height

Complete steps 1-3 first (above)



Now install 2 diagonal braces on the lowest possible position on the walkthrough frames. Once attached, check the levels again. Now fit a 3 rung frame and a 1 rung guardrail frame as shown. Make sure the 3 rung frame has the head fittings pointing inwards.



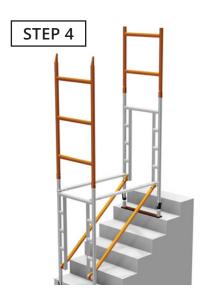
Install a ladder, trap platform & 2 brace frames in the positions detailed above. Make sure the brace frames are clipped to the uprights from the inside as detailed in step 2. The ladder should be hooked on so that it only swings inwards to the centre of the tower.



Now fit the 4 toeboard components. The pin located in the toeboard end channel goes at the bottom of the unit. The toeboard sides slide down into the channels and the notch in the side rests on the pins in the channel to stop it dropping further.

ASSEMBLY INSTRUCTIONS - 1.5-2.5m platform height

Complete steps 1-3 first (page 8)



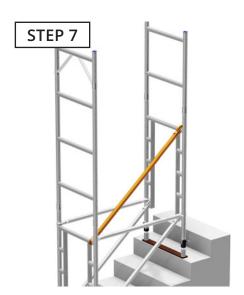
Now install 2 diagonal braces on the lowest possible position on the walkthrough frames. Once attached, check the levels again. Now fit a 3 rung frame and a 2 rung guardrail frame as shown. Make sure the 3 rung frame has the head fittings pointing inwards.



Install a ladder, temporary platform & 2 brace frames as shown. Make sure the brace frames are clipped to the uprights from the inside as detailed in step 2. The ladder should be hooked on so that it only swings inwards to the centre of the tower.



Working off the temporary platform, fit a 1 rung guardrail frame onto the 3 rung main frame as shown above. Make sure the pegs on the head fittings of the 3 rung frame locate through the holes provided on the guardrail frame.



Remove the temporary platform & the 2 brace frames. Now, fit a long brace diagonally between the top rungs of each walkthrough frames on one side only. At this point, install the stabilisers as detailed on page 5.



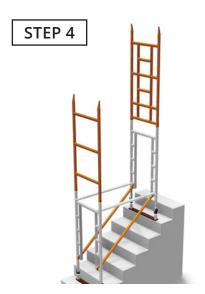
Fit the clip-in-ladder, then the working platform on the 3rd rung down from the top. Using the 3T method, fit the guardrail brace frames in the position shown above. Make sure the brace frames are clipped to the uprights from the inside as detailed in step 2.



Now fit the 4 toeboard components. The pin located in the toeboard end channel goes at the bottom of the unit. The toeboard sides slide down into the channels and the notch in the side rests on the pins in the channel to stop it dropping further.

ASSEMBLY INSTRUCTIONS - 2.0-3.0m platform height

Complete steps 1-3 first (page 8)



Install 2 diagonal braces on the lowest possible position on the walkthrough frames. Once attached, check the levels again. Now fit a 3 rung frame and a 3 rung ladder frame as shown. Make sure both the frames have their head fittings pointing inwards.



Install a ladder, temporary platform & 2 brace frames as shown. Make sure the brace frames are clipped to the uprights from the inside as detailed in step 2. The ladder should be hooked on so that it only swings inwards to the centre of the tower.



Working off the temporary platform, fit a 2 rung guardrail frame onto the 3 rung main frame as shown above. Make sure the pegs on the head fittings of the 3 rung frame locate through the holes provided on the guardrail frame.



Remove the temporary platform & the 2 brace frames. Now, fit 2 diagonal braces to one side of the tower as shown. Then install 2 horizontal braces from the top rung of the upper walkthrough. At this point, install the stabilisers as detailed on page 5.



Fit the working platform on the 3rd rung down from the top. Using the 3T method, fit the guardrail brace frames in the position shown above. Make sure the brace frames are clipped to the uprights from the inside as detailed in step 2.

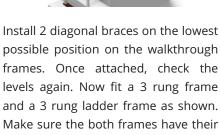


Now fit the 4 toeboard components. The pin located in the toeboard end channel goes at the bottom of the unit. The toeboard sides slide down into the channels and the notch in the side rests on the pins in the channel to stop it dropping further.

ASSEMBLY INSTRUCTIONS - 2.5-3.5m platform height

Complete steps 1-3 first (page 8)





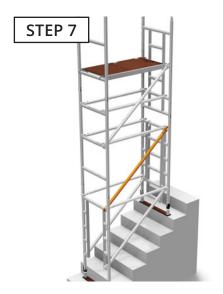
head fittings pointing inwards.



Install a ladder, temporary platform & 4 horizontal braces as shown. The braces should be placed so there is enough space to install the diagonal brace in step 6. The ladder should be hooked on so that it only swings inwards to the centre of the tower.



Install a diagonal brace from the 1st rung up above the temporary platform as shown. Now fit a 3 rung main frame on top of the 3 rung main frame. Then install another platform **1.5m** above the temporary platform.



Remove the temporary platform & fit a diagonal brace to one side of the tower as shown. At this point, install the stabilisers as detailed on page 5.



Using the 3T method, install a 1 rung guardrail frame on the 3 rung ladder frame. Then fit the guardrail brace frames in the position shown above. Make sure the brace frames are clipped to the uprights from the inside as detailed in step 2.



STEP 9

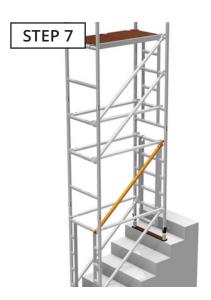
Now fit the 4 toeboard components. The pin located in the toeboard end channel goes at the bottom of the unit. The toeboard sides slide down into the channels and the notch in the side rests on the pins in the channel to stop it dropping further.

ASSEMBLY INSTRUCTIONS - 3.0-4.0m platform height

Complete steps 1-5 of the 2.5m-3.5m platform height first (pages 8 & 11)



Install 2 diagonal braces from the 1st & 2nd rungs above the temporary platform as shown. Now fit a 3 rung main frame on top of the existing 3 rung main frame. Then install another platform **2m** above the temporary platform.



Remove the temporary platform & fit a diagonal brace to one side of the tower as shown. At this point, install the stabilisers as detailed on page 5.



Using the 3T method, install a 1 rung guardrail frame on the 3 rung main frame and a 2 rung guardrail frame on the 3 rung ladder frame. Make sure the pegs on the head fittings of the 3 rung frames locate through the holes provided on the guardrail frames.





Still using the 3T method, install the 2 guardrail brace frames in the position shown above. Make sure the brace frames are clipped to the uprights from the inside as detailed in step 2.





Now fit the 4 toeboard components. The pin located in the toeboard end channel goes at the bottom of the unit. The toeboard sides slide down into the channels and the notch in the side rests on the pins in the channel to stop it dropping further.

ASSEMBLY INSTRUCTIONS - 3.5-4.5m platform height

Complete steps 1-5 of the 2.5m-3.5m platform height first (pages 8 & 11)



Install a diagonal brace from the 1st rung up above the temporary platform as shown. Now fit a 3 rung main frame on top of the 3 rung main frame.



Remove the temporary platform & 4 guardrails using the 3T method. Next, install a diagonal brace in the position shown. Now relocate the platform & braces 1 rung higher than before. At this point, install the stabilisers as detailed on page 5.



Install a 3 rung ladder frame & 2 rung guardrail frame onto the framework as shown above. Then install a diagonal brace from the 2nd rung above the platform up to the newly installed 3 rung ladder frame.



Next, install a 2nd platform 2m above the first one. Using the 3T method, install the 2 guardrail brace frames in the position shown above. Make sure the brace frames are clipped to the uprights from the inside as detailed in step 2.



Now fit the 4 toeboard components. The pin located in the toeboard end channel goes at the bottom of the unit. The toeboard sides slide down into the channels and the notch in the side rests on the pins in the channel to stop it dropping further.

ASSEMBLY INSTRUCTIONS - 4.0-5.0m platform height

Complete steps 1-5 of the 2.5m-3.5m platform height first (pages 8 & 11)



STEP 7



Install a diagonal brace from the 1st rung up above the temporary platform as shown. Now fit a 3 rung main frame on top of the 3 rung main frame.

Remove the temporary platform & the upper 2 guardrails using the 3T method. Next, install a diagonal brace in the position shown. Now relocate the platform & braces 2 rungs higher than before. At this point, install the stabilisers as detailed on page 5.

Install a 3 rung ladder frame & 3 rung main frame onto the framework as shown above. Then install 2 diagonal braces from the 1st and 2nd rungs above the platform, up to the newly installed 3 rung ladder frame.



Next, install a 2nd platform 2m above the first one. Using the 3T method, install a 1 rung guardrail frame on top of the 3 rung ladder frame. Make sure the pegs on the head fittings of the 3 rung frame locates through the holes provided on the guardrail frame.



Again, using the 3T method, fit the guardrail brace frames in the position shown above. Make sure the brace frames are clipped to the uprights from the inside as detailed in step 2.



Now fit the 4 toeboard components. The pin located in the toeboard end channel goes at the bottom of the unit. The toeboard sides slide down into the channels and the notch in the side rests on the pins in the channel to stop it dropping further.

ASSEMBLY INSTRUCTIONS - 4.5-5.5m platform height

Complete steps 1-5 of the 2.5m-3.5m platform height first (pages 8 & 11)



Install a diagonal brace from the 1st rung up above the temporary platform as shown. Now fit a 3 rung main frame on top of the 3 rung main frame. Then install another platform **1.5m** above the temporary platform.



Remove the temporary platform & the upper 2 guardrails using the 3T method. Then fit a diagonal brace to one side of the tower as shown. At this point, install the stabilisers as detailed on page 5.



Using the 3T method, install a 3 rung ladder frame onto the existing ladder frame. Still using the 3T method, install 4 horizontal braces. Working off the platform, install 2 diagonal braces one from the platform level and one from 2 rungs above.



Next, install a 3 rung main frame onto the main frame, and a 2 rung guardrail frame on the ladder frame as shown. Then fit a new platform 2m above the existing one.



Using the 3T method, fit a 1 rung guardrail frame onto the 3 rung main frame and 2 guardrail brace frames in the position shown above. Make sure the brace frames are clipped to the uprights from the inside as detailed in step 2.



Now fit the 4 toeboard components. The pin located in the toeboard end channel goes at the bottom of the unit. The toeboard sides slide down into the channels and the notch in the side rests on the pins in the channel to stop it dropping further.

ASSEMBLY INSTRUCTIONS - 5.0-6.0m platform height

Complete steps 1-5 of the 2.5m-3.5m platform height first (pages 8 & 11)



Fit a 3 rung main frame on top of the existing 3 rung main frame. Now install 1 diagonal brace and 2 horizontal braces in the positions shown above. Now install a platform **2m** above the temporary platform.



Remove the temporary platform & the upper 2 guardrails using the 3T method. Fit 1 diagonal brace to one side of the tower as shown. At this point, install the stabilisers as detailed on page 5.



Using the 3T method, install a 3 rung main frame & 3 rung ladder frame onto their corresponding ends as shown. Still using the 3T method, install 4 horizontal braces as guardrails and 1 diagonal brace.



First fit a 3 rung ladder frame onto the existing ladder frame. Next, install 2 diagonal braces in the positions detailed above. Now fit a trap platform 2m above the existing platform.



Using the 3T method, fit a 2 rung guardrail frame onto the 3 rung main frame and 2 guardrail brace frames in the position shown above. Make sure the brace frames are clipped to the uprights from the inside as detailed in step 2.



Now fit the 4 toeboard components. The pin located in the toeboard end channel goes at the bottom of the unit. The toeboard sides slide down into the channels and the notch in the side rests on the pins in the channel to stop it dropping further.

Dismantling

The dismantling procedure requires a minimum of 2 operatives to complete the task safely. To dismantle the tower, the assembly sequence should be followed in reverse. To remove braces or guardrails, first disconnect each brace at the end furthest away from the platform trap door. Then immediately take up the protected position detailed in the 3T method. Whilst standing through the trapdoor as per the 3T method, disconnect the braces completely.

Tower Diagrams

The following pages show the components and their positions in a fully assembled tower.

DIAGRAM NO.	PART NO.	DESCRIPTION
1	3089	Stairwell Frame Foot Assembly
2	3090	Stairwell Walk Through Frame
3	3091	Stairwell Clip In Ladder
4	3092	Stairwell 3 Rung Main Frame
5	3093	Stairwell 3 Rung Ladder Frame
6	3094	Stairwell 1 Rung Guard Rail Frame
7	3095	Stairwell 2 Rung Guard Rail Frame
8	3086	Stairwell Trap Platform
9	3510	Stairwell 1.2m Horizontal Brace (Red)
10	3512	Stairwell 1.2m Diagonal Brace (Silver)
11	3096	Stairwell Guardrail Brace Frame
12	3516	Low Level Stabiliser
13	3087	Stairwell Wooden Toeboard Side
14	3088	Stairwell Wooden Toeboard End



Permanent platform location
Toeboard set

Frames (all versions)

1.0m - 2.0m Platform Working Height

1.5m - 2.5m Platform Working Height

Platform Working Height

7
1111

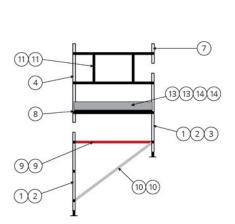
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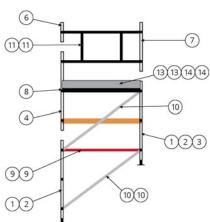
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9 9

10 10

2.0m - 3.0m

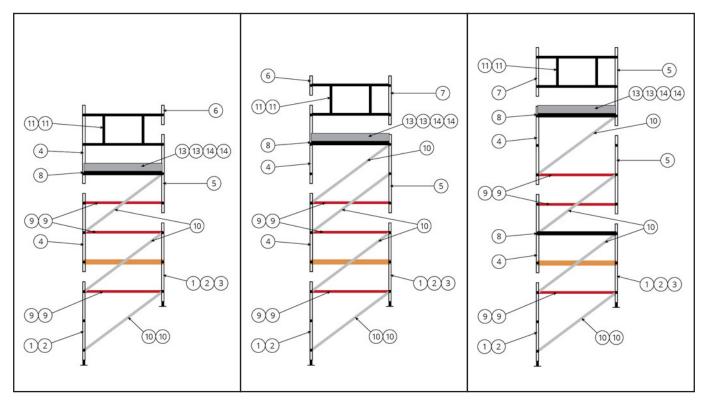




2.5m - 3.5m Platform Working Height

3.0m - 4.0m Platform Working Height

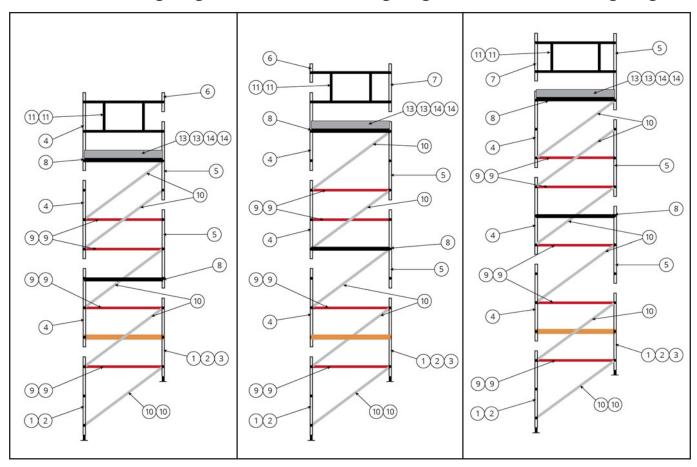
3.5m - 4.5m Platform Working Height



4.0m - 5.0m Platform Working Height

4.5m - 5.5m Platform Working Height

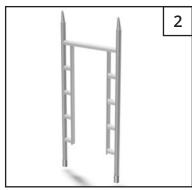
5.0m - 6.0m Platform Working Height



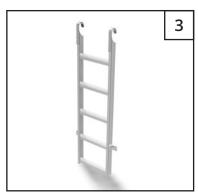
Components



3089 - Stairwell Frame Foot Assembly



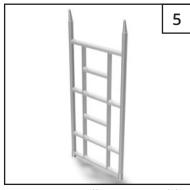
3090 - Stairwell Walk Through Frame



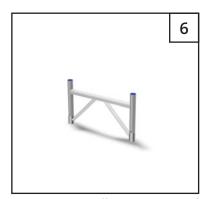
3091 - Stairwell Clip In Ladder



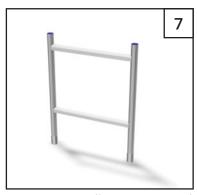
3092 - Stairwell 3 Rung Main Frame



3093 - Stairwell 3 Rung Ladder Frame



3094 - Stairwell 1 Rung Guard Rail Frame



3095 - Stairwell 2 Rung Guard Rail Frame



3086 - Stairwell Trap Platform



3510 - 1.2m Horiz. Brace (red) **3512** - 1.2m Diag. Brace (silver)



3096 - Stairwell Guardrail Brace Frame



3516 - Low Level Stabiliser



3087 - Wooden Toeboard Side 3088 - Wooden Toeboard End

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