

Instruction Manual EN 1298-IM-EN

The ALTO HD Stair Tower is certified to BS EN 1004:2004



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 Heavy Duty 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 Heavy Duty mobile access tower.

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@altoaccess.com.

Certifications

The Alto Heavy Duty Tower is a mobile access tower certified to EN 1004 Class 3. If the application is outside the scope of EN 1004, reference should be made to EN 1139 to ensure that the configuration of the equipment meets the relevant requirements. 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 2,500kg including its own weight. The maximum safe working load of any individual platform is 324 kg evenly distributed. If the tower is to be used in an application outside the scope of EN1004, contact your supplier or the manufacturer - Lakeside Industries Limited, for advice on loadings. Tel: +44 1527 500577 or Email: sales@altoaccess.com.

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 HD Tower 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 2,500kg including its own weight. The maximum safe working load of any individual platform is 324 kg evenly distributed.
- If the tower is to be used in an application outside the scope of EN1004, contact your supplier or the manufacturer, Lakeside Industries Limited, for advice on loadings. Tel: +44 1527 500577 or Email: sales@altoaccess.com.
- Towers **must always** be climbed from the inside using the Alto stair unit.
- The tower must be levelled when erected using the adjustable jack or castor legs.
- 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.
- See “*Moving the Tower*” below for safety guidelines affecting the relocation of the tower.
- 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 Heavy Duty tower is 30kg.
- Do not use boxes, ladders or other items to gain additional height.
- Do not stand on guard rails for any reason.
- If the tower is to be used in connection with hoisting arrangements, this is outside the scope of EN1004 and requires specific advice from the manufacturer to ensure safety.
- Contact the manufacturer Lakeside Industries Limited for advice on loadings Tel: +44 1527 500577 or Email: sales@altoaccess.com.
- Fit guard rails to all Platforms.
- Fit toe boards to all working platforms.
- Intermediate (rest) platforms are installed every 2m.
- The tower is not designed to be sheeted. Sheeting massively increases wind loads on the structure. If sheeting is to be attached, contact the manufacturer Lakeside Industries Limited for advice on loadings Tel: +44 1527 500577 or Email: sales@altoaccess.com.
- The tower is not designed to be lifted or suspended.
- 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. Where ballast or kentledge is used, it must be of solid material, placed on a platform on the lowest rung of the tower and secured against unauthorised removal.

Wind Speeds

Persons using or responsible for towers must beware of the effect of wind on the structure. Wherever possible, as a precaution, it is advisable to tie the tower in to a rigid structure if it is to be used where it is exposed to potential windy conditions. Users should beware the potential tunnelling effect of open ended or unclad buildings and narrow openings between buildings. We recommend that the use of the tower is discontinued in conditions where the wind speed is above 17mph (force 4).

| WIND DESCRIPTION | BEAUFORT SCALE | AVERAGE SPEED | INFORMATION |
|------------------|----------------|---------------|---|
| Medium Breeze | 4 | 13-17 mph | Safe to work on tower. |
| Strong Breeze | 6 | 25-31 mph | Tie the tower to a solid structure. Do not work on tower. |
| Gale Force | 8 | 39-46 mph | Towers must be dismantled. Towers must not be assembled. |

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.

Moving the Tower

Before moving the tower, its overall height should be reduced to 4m working platform height or less. No persons, tools, equipment or materials shall be permitted to remain on the tower when it is being moved.

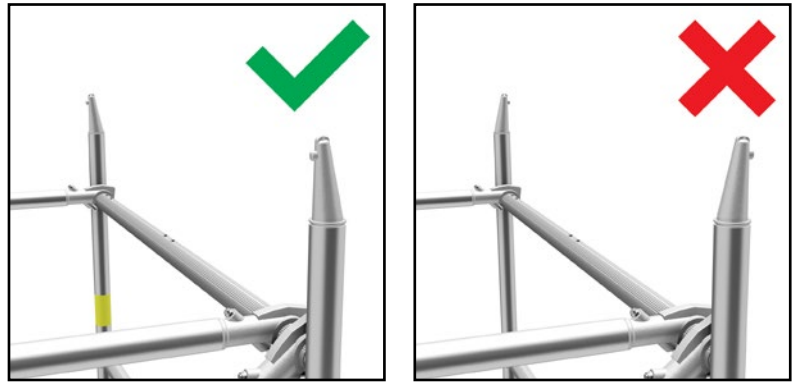
The tower should only be moved by pushing it by the lowest frames.

When moving the tower users are to be particularly careful of the following:

- Obstructions, moving machinery or electrical cables and equipment
- Not to move the tower in wind speeds of 18mph (force 5) or above
- The effect of rough, uneven or sloping ground on the stability of the tower
- Locking and unlocking the castors to allow and prevent the tower moving at appropriate times
- After completing the movement, use a spirit level to ensure that the tower is vertical and safely supported on an appropriate surface
- After completing the movement check that the tower is correct and complete.

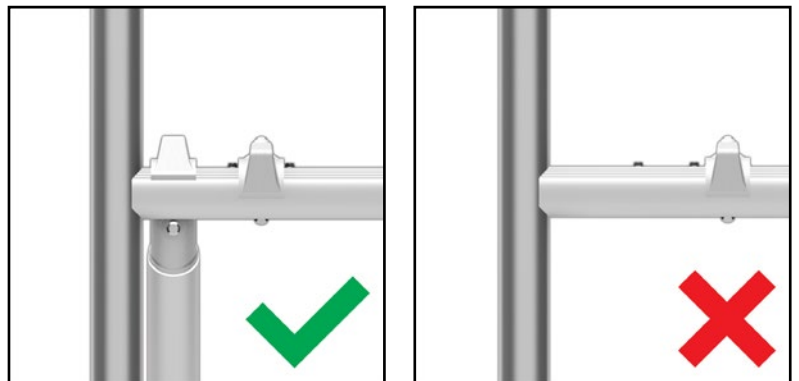
Frames

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

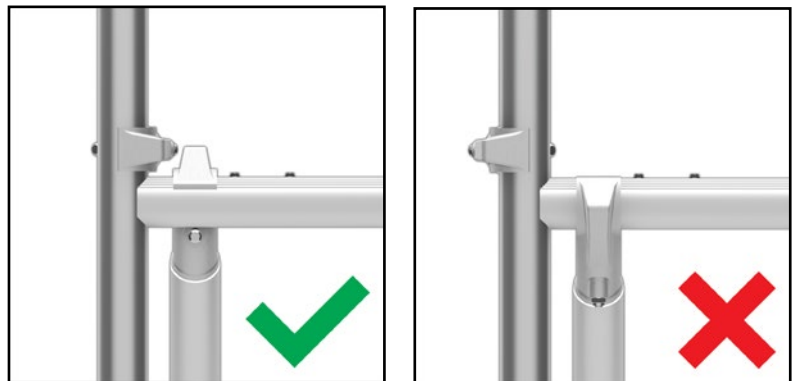


Braces

All braces are fitted with spring loaded pins that automatically lock the brace into position when attached to a tower. Brace hooks **must** be located either over the rung screw heads, between 2 screw heads or between the frame upright and a screw head to prevent lateral movement.

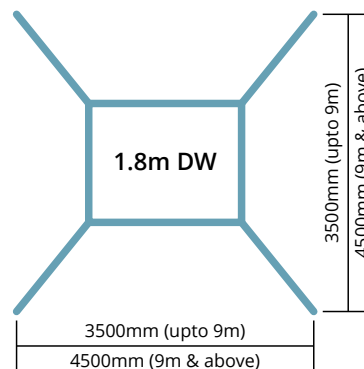


Diagonal braces **must** always be located with the claw opening facing down. Horizontal braces must be located with the claw facing either down (on the rung) or outwards (if on the upright).



Stabilisers

Stabilisers should always be attached to the tower so as to maximise the base area of the tower structure. Set the stabilisers so they form a square around the tower as per the diagram below. The correct size stabilisers **must** always be used - see component schedule for details.

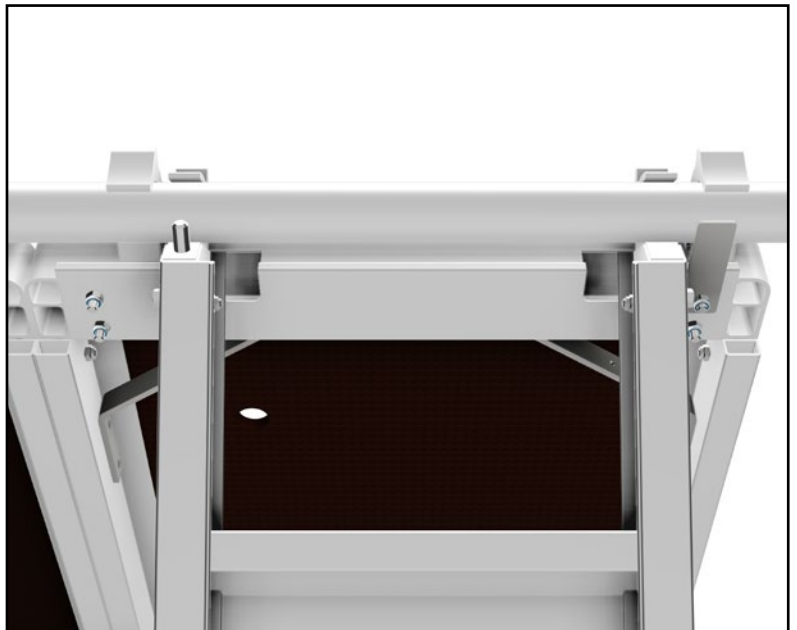


Stair Ladder Units

Stair ladder units clip onto the rungs in the same angle as a diagonal brace. The left-to-right positioning of the ladder on the rung should ensure that the ladder is centralised in the space between the outer frame upright and the screw in the middle of the frame rung.



The ladder unit has 1 spring-loaded pin in the top hook only. This should be fully engaged and the unit square on the frames before it is used. The trap platform has cut-outs in the end so the platform can sit over the stair ladder hooks. The top ladder should be positioned such that the hooks sit inside these cut outs.



Tying In

Towers must be tied into a suitable rigid structure once they go beyond the freestanding working heights specified in EN 1004 2004 - 8m working platform height outdoors and 12m working platform height indoors - 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

1.8m Long x 1.4m Wide (Double Width) HD Stair Tower Double Top Platform

DOUBLE WIDTH HD STAIR TOWER TO BS EN 1004:2004

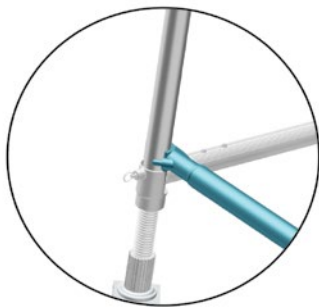
| CODE | PART DESCRIPTION | PLATFORM WORKING HEIGHT (m) | | | | | | | | | | | | |
|--|---------------------------------------|-----------------------------|-----|-----|-----|-----|-----|-------------------|-----|------|------|-----|-----|-----|
| | | INTERNAL & EXTERNAL USE | | | | | | INTERNAL USE ONLY | | | | | | |
| | | 2.4 | 3.4 | 4.4 | 5.4 | 6.4 | 7.4 | 8.4 | 9.4 | 10.4 | 11.4 | | | |
| 2238 | 150mm Dia. Castor Wheel | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 2240 | HD Adj. Aluminium Leg (silver collar) | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 2066 | HD 1.8m D/W Toeboard | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 2049 | HD 1.8m Stair Trap Unit (Step) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 2001 | HD 1.4m Base Frame | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 2002 | HD 1.4m Main Frame | 2 | 2 | 2 | 4 | 4 | 6 | 8 | 8 | 8 | 10 | 10 | 10 | 10 |
| 2008 | HD 1.4m 1/2 Frame | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 2040 | HD 1.8m Brace | 6 | 9 | 9 | 12 | 12 | 15 | 15 | 15 | 15 | 18 | 18 | 18 | 21 |
| 2041 | HD 2.7m Brace | 3 | 4 | 6 | 7 | 9 | 10 | 12 | 12 | 13 | 15 | 15 | 16 | 16 |
| 2043 | HD 1.8m Platform | 1 | 2 | 2 | 3 | 3 | 4 | 4 | 4 | 4 | 5 | 5 | 6 | 6 |
| 2056 | HD Small Stabiliser | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 2057 | HD Large Stabiliser | | | | | | | | | | 4 | 4 | 4 | 4 |
| 2206 | HD 1m Stair Ladder Unit | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 2207 | HD 1m Stair Ladder Unit Handrail | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 2205 | HD Stair Ladder Unit | 1 | 1 | 2 | 2 | 3 | 3 | 4 | 4 | 4 | 5 | 5 | 5 | 5 |
| TOTAL SELF WEIGHT OF TOWER (kg) | | 159 | 212 | 226 | 279 | 293 | 346 | 361 | 413 | 435 | 487 | 487 | 487 | 487 |
| MAX No. WORKING LEVELS | | 1 | 1 | 2 | 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |

ASSEMBLY INSTRUCTIONS - 2.4m, 4.4m, 6.4m, 8.4m, 10.4m



Step 1

Insert the leg & castor assembly into the base of the two 5 Rung Base Frames. When fully inserted, ensure the spring loaded pin is engaged into the hole in the side of the frames. Ensure all 4 wheels have the brakes applied.



Step 2

Connect 2 horizontal braces to the uprights of the first frame in the area just above the bottom rung. Make sure that the braces are connected from the inside of the tower facing outwards. Make sure that the frame head fittings are pointing inwards into the tower.



Step 3

Connect the 2nd frame to the horizontal braces in the same position that they are located on the first frames. Make sure that the frame head fittings are pointing inwards into the tower.

Step 4

Connect 1 diagonal brace (2.7m) and 1 stair ladder unit to the frames as shown. Keep the diagonal brace as close to the frame uprights as possible. Place the stair ladder unit about 160mm away from the frame uprights on the opposite side. Ensure that they run in opposite directions to each other.



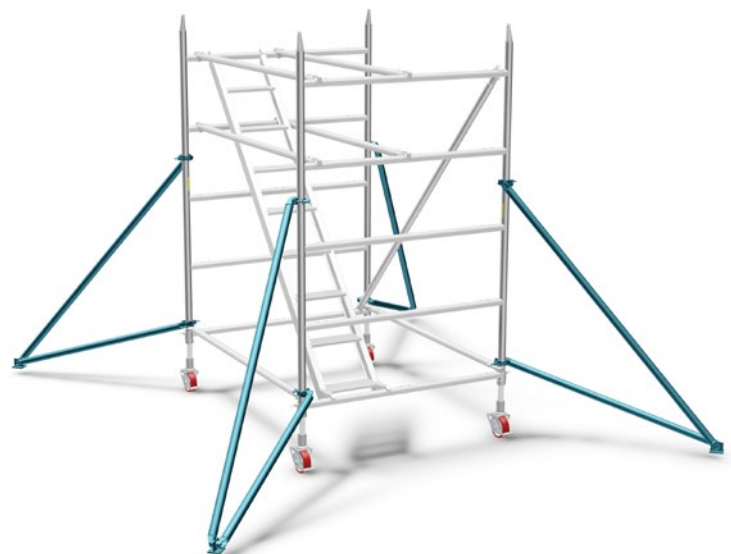
Step 5

Install 4 horizontal braces (1.8m) onto the rungs either side of the ladder as temporary guard railing. There should be installed on rungs 4 and 5 from the bottom. Using a spirit level, ensure that the framework is completely level by adjusting the legs. Twist the serrated collar above the wheel to adjust up & down.



Step 6

Once the framework is in position and level, connect 4 stabilisers to the corners. Fix the shorter arm to the lowest part of the frame, then connect the longer arm to the upper part, ensuring the foot is firmly placed on the ground. Small vertical adjustments can be made to either arm to guarantee a sturdy placement.





Step 7

Working from the guard railed stairs, ensuring the horizontal bracing is at waist height, install a 2 rung frame on each end of the tower. Make sure that the frame head fittings are pointing inwards into the tower. Install two 2.7m braces as handrails in the position shown, as near to the uprights as possible.



Step 8

Working from the stairs, install a plain platform onto the 5th rung up. Ensure the wind latches are engaged on the underside. Remove the 3 temporary horizontal braces at the stairs (2 in the centre of the tower and the lowest horizontal on the outside). Make sure that 1 is left on the same rung as the platform on the opposite side. From the stairs, clip on 3 braces as guardrails for the platform as shown. Go to step 12 if a 2.4m tower is being built.

Proceed to Step 9

ASSEMBLY INSTRUCTIONS - 3.4m, 5.4m, 7.4m, 9.4m, 11.4m

Step 1

Insert the leg & castor assembly into the base of the two 5 Rung Base Frames. When fully inserted, ensure the spring loaded pin is engaged into the hole in the side of the frames. Ensure all 4 wheels have the brakes applied.



Step 2

Connect 2 horizontal braces to the uprights of the first frame in the area just above the bottom rung. Make sure that the braces are connected from the inside of the tower facing outwards. Make sure that the frame head fittings are pointing inwards into the tower.



Step 3

Connect the 2nd frame to the horizontal braces in the same position that they are located on the first frames. Make sure that the frame head fittings are pointing inwards into the tower.





Step 4

Connect 1 diagonal brace (2.7m) and 3 horizontal braces (1.8m) to the tower as shown. Make sure that the diagonal brace is up against the frame uprights and the horizontal brace hooks are located between the 2 screws on the rungs. Using a spirit level, ensure that the framework is completely level by adjusting the legs. Twist the serrated collar above the wheel to adjust up & down.



Step 5

Install a plain platform to the 3rd rung up. Make sure the wind latches are engaged on the underside. Fit the 1m stair unit and handrail. Ensure that the couplers on the handrail unit and the coupler on the stair unit that engages the handrail upright tube are all tightened. Check that the pin on the stair unit top hook is engaged and the swing arm assembly is fitted correctly.



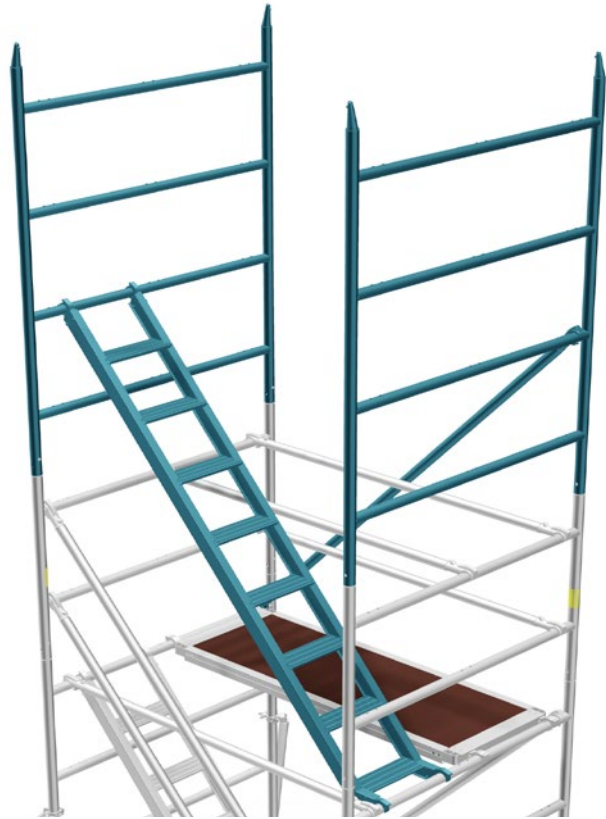
Step 6

Once the tower is in position and level, connect 4 stabilisers to the corners. Fix the shorter arm to the lowest part of the frame, connect the longer arm to the upper part, ensuring the foot is firmly placed on the ground. Small vertical adjustments can be made to either arm to guarantee a sturdy placement. Then install a temporary horizontal brace in the position shown.

Proceed to Step 9

Step 9

Working off the platform, install two 4 rung frames onto the top of the tower as shown. Now, on the opposite side of the tower to the stairs, install a diagonal brace from the rung the working platform is on up to the 4th rung above on the opposite frame. In the opposite direction, place a stair ladder unit, as shown.



Step 10

Still standing on the platform, clip on 2 diagonal braces as handrails for the stair ladder unit. Fit another plain platform 4 rungs above from the existing one. You may now remove the temporary brace in the centre of the tower. Working from halfway up the stair ladder unit, install a horizontal brace on the same rung as the platform that has just been fitted, but on the opposite side of the tower - as shown. **NOTE:** do not install this horizontal brace if this is the top level of the tower.





Step 11

Working off the stairs, install 3 guardrails for the platform in the positions shown. Ensure that the platform is at waist-height whilst standing on the stairs when the braces are being installed. Do not progress any further up the stairs until these have all been installed. Now repeat steps 9, 10 and 11 until you reach the correct working platform height. Then move onto step 12.



Step 12

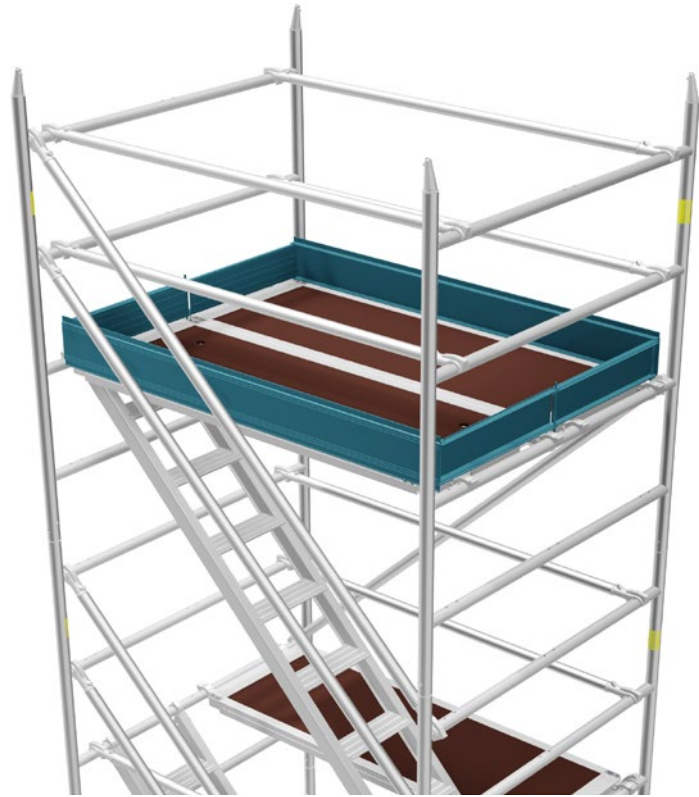
When the correct working platform height is reached, work from the stairs and install the trap platform alongside the plain platform such that it hinges outwards. Still working from the ladder through the new trap platform, relocate the centre horizontal brace onto the outside face of the tower and add a second horizontal brace one rung lower.

Finally, install the folding toeboard unit around the entire top working platform.

DISMANTLING INSTRUCTIONS - All Platform Working Heights

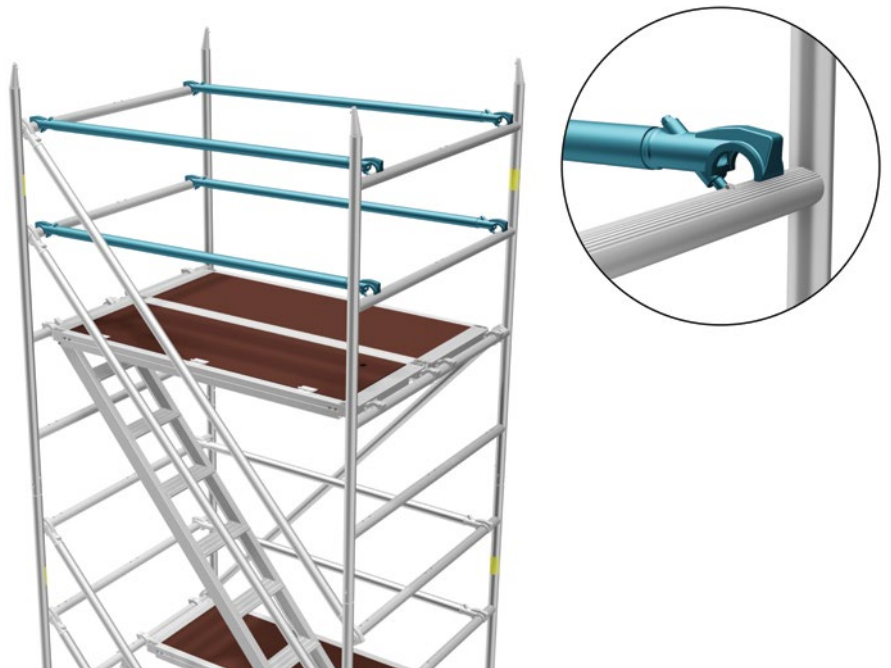
Step 1

The dismantling procedure requires a minimum of 2 operatives to complete the task safely. To start, first remove the aluminium toeboard assembly.



Step 2

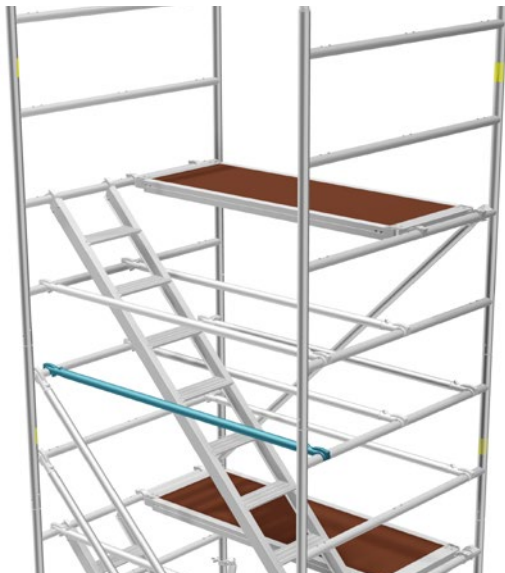
Next, remove the 4 guardrails. To remove braces or guardrails, first disconnect each brace at the one end only - furthest away from the top of stair unit. Then immediately take up the protected position on the stair unit with the platform frame at waist level. Whilst standing through the trapdoor, disconnect the braces completely.





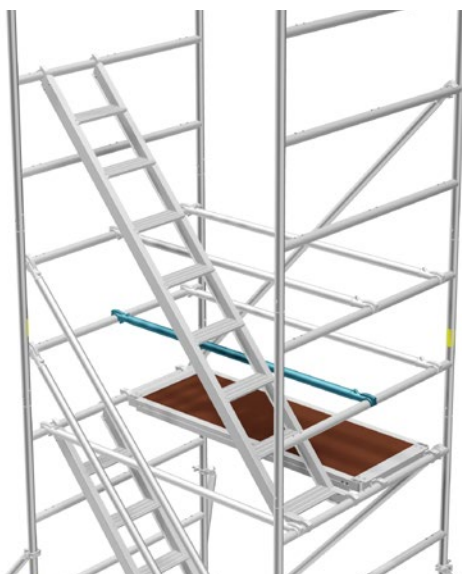
Step 3

From the stairs, remove the trap platform. Now, reconnect the 4 horizontal braces that were removed in step 2 into the positions shown. Now, the 2 diagonal braces that were the handrails can be removed. Ensure that the platform is at waist-height whilst standing on the stairs when removing the diagonal braces.



Step 4

Once the diagonal braces are removed, relocate the uppermost horizontal brace on the outside of the tower down 2 rungs into the position shown. Make sure the horizontal braces that are 1 rung below the upper platform are at waist height when moving this down.



Step 5

Working off the platform, relocate the upper horizontal brace in the centre of the tower down 2 rung positions (to knee height) as shown, so the platform is fully guarded at 0.5m and 1.0m on both sides. Then remove the 2 horizontal braces on the outer side of the stair unit. Now remove the upper plain platform.

Step 6

Remove the stair unit and the diagonal brace on the opposite side of the tower. The two 4 rung frames can now be taken off.



Step 7

Remove the 4 guardrails using the same process used in step 2. Then working off the stair unit, reconnect the horizontal braces into the positions shown. Now, the 2 diagonal braces that were the handrails can be removed.

Now repeat steps 4, 5 and 6 until the tower is dismantled or the new platform height is achieved.



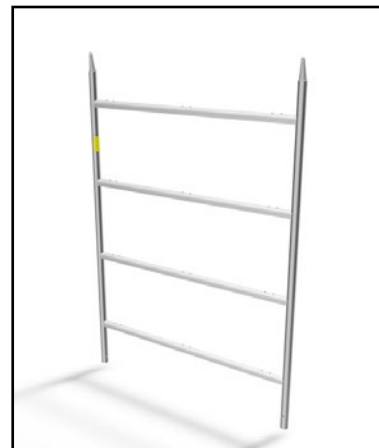
Components



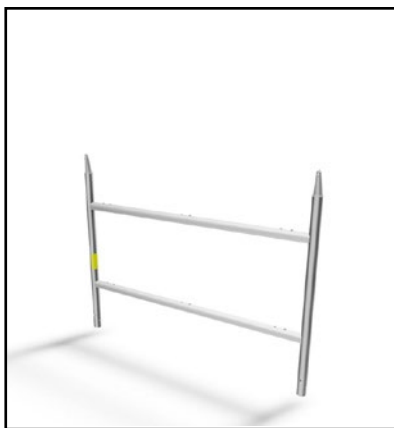
2238 - 150mm castor
2240 - HD Adj. Leg



2001 - HD 1.4m Base Frame



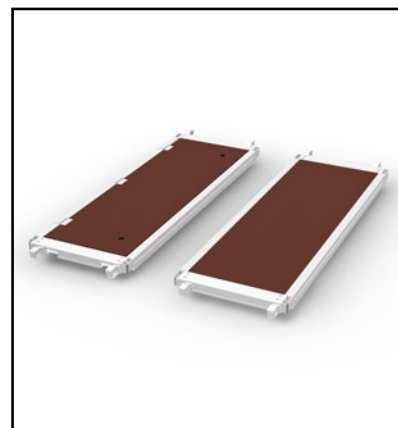
2002 - HD 1.4m Main Frame



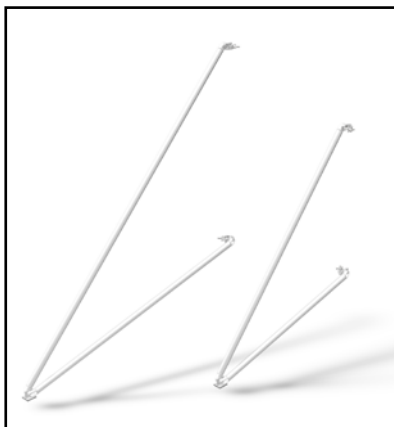
2008 - HD 1.4m 1/2 Frame



2040 - 1.8m Brace (horizontal)
2041 - 2.7m Brace (diagonal)



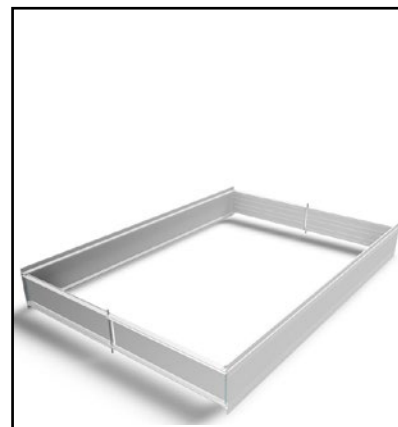
2049 - 1.8m Stair Trap Unit
2043 - 1.8m Plain Platform



2056 - HD Small Stabiliser
2057 - HD Large Stabiliser



2205 - Stair Ladder Unit



2066 - 1.8m D/W Toeboard

THE HEIGHT OF SAFETY


For further information regarding our range of access products and services, please get in touch with us:

Lakeside Industries Ltd
Unit 19 Howard Road, Park Farm Industrial Estate
Redditch, Worcestershire. B98 7SE. UK

t: +44(0)1527 500 577
e: sales@altoaccess.com
w: www.altoaccess.com

 @lakesideindust

 @altotowers

 lakeside-industries-ltd



Manufacturing Member

Lakeside Industries Ltd

Unit 19 Howard Road, Park Farm Industrial Estate, Redditch, Worcestershire. B98 7SE
+44(0)1527 500577 | sales@altoaccess.com | www.altoaccess.com

