LEACH'S

MEDIUM DUTY MINI TOWER

Mobile Aluminium Access Tower

ISSUE 1

Instruction Manual EN 1298-IM-EN

The Mini Tower is compliant with BS EN 1004:2004

3T - Through The Trapdoor Method

01432 346800 | sales@leachs.com | www.leachs.com

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 Mini Tower.

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

This manual contains all of the information necessary to correctly assemble your Mini 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 LEACH'S
Tel: +44 (0)1432 346 800 or Email: sales@leachs.com. Please note that diagrams are for illustrative purposes only. User guides are also available to download from our website www.leachs.com

Certifications

The Mini Tower is a mobile access tower compliant with EN 1004 Class 3. This tower is not suitable for applications outside of EN1004 or other than as described in these instructions. 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 350 kg including its own weight. The maximum safe working load of any individual platform is 200 kg evenly distributed. If the tower is to be used in an application outside the scope of EN1004, contact your supplier, LEACH'S, for advice on loadings.
Tel: +44 (0)1432 346 800 or Email: sales@leachs.com.

Inspection Care & Maintenance

The 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 “MD Tower Inspection Procedures”. A free downloadable copy is available at www.leachs.com
- Equipment should always be inspected before and after each use.
- Whilst the 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 LEACH'S or their authorised repairers.
- In case of any doubt as to the integrity of any items of the 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, LEACH'S 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 and functioning correctly. Damaged or 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 350 kg including its own weight. The maximum safe working load of any individual platform is 200 kg evenly distributed.
- Towers **must always** be climbed from the inside using the built in ladders only. If the work carried out from the tower requires frequent carrying of equipment and materials up or down the tower, an stair tower should be used in preference to a ladderspan tower.
- The tower must be levelled when erected using the adjustable jack or castor legs.
- It is recommended that the tower be tied in when left unattended.
- Never use other makes or types of tower component when assembling an Mini Tower.
- The Mini Tower has been designed for single person use. If the tower is to be used with two operatives, larger stabilisers or suitable alternative stabilisation methods must be used.

- Always comply with the Work at Height Regulations 2005 when erecting, dismantling & using the tower.
- 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 Mini 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.
- The tower is not designed to be used with hoisting arrangements.
- Contact LEACH'S for advice on loadings Tel: +44 (0)1432 346 800 or Email: sales@leachs.com
- Fit guard rails at every level and ensure all wind latches are engaged at both ends of the platform.
- 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. Sheets, tarpaulins, cladding or similar must not be attached to the tower.
- 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 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

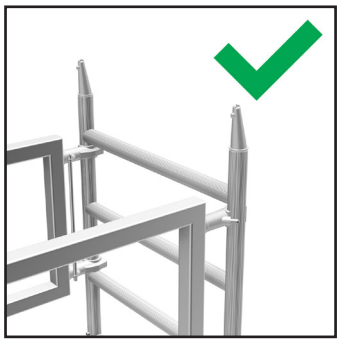
Always assess the risks before moving any tower. If there is any doubt as to the safety of the move, the tower must be dismantled before moving. No persons, tools, equipment or materials shall be permitted to remain on the tower when it is being moved. The tower should only be moved by raising the stabilisers by no more than 25mm and pushing it by the lowest frames.

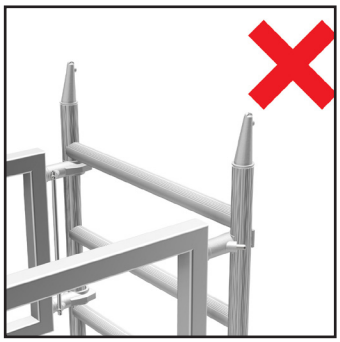
When moving the tower, users are to be particularly careful of the following:

- 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 & Braces

Frames **must** always be assembled with the offset conical head fitting pointing inwards towards the centre of the tower. The brace used at the base of the tower must be fitted with the brace hook facing downwards





Brace Panels

The Mini Tower is braced and guardrailed using prefabricated side panels. These must always be fitted with the claws facing outwards.

All brace panels are fitted with spring loaded pins that automatically lock the panel into position when attached to a tower. Hooks are linked at each end of the panel to allow both hooks to be fitted or released simultaneously.

Brace hooks are spaced so that they facilitate correct positioning of the panels and are retained in place by the end frame rungs to prevent vertical movement.

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. The stabilisers must always be used.

Tying In

The Mini Tower is designed to be assembled to platform heights of 2.2, 3.2 or 4.2 metres.
It must never be built to a height that would exceed the freestanding working heights specified in EN 1004-2004. If the tower is in a position such that it is unstable or is in danger of being unstable, it should be tied into a suitable rigid structure.

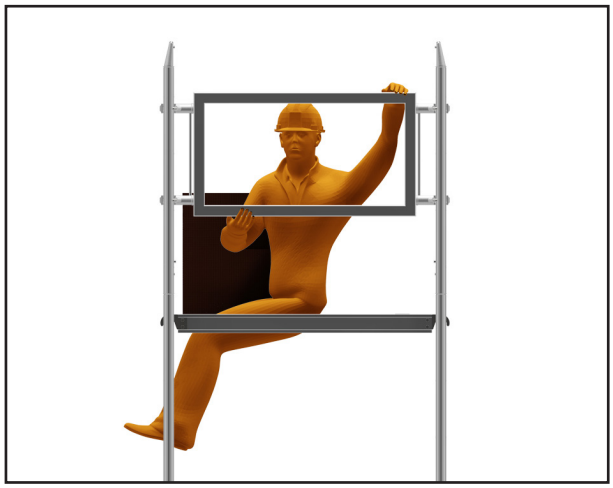
Standard scaffold tubes and fittings can be used with the products. Ties should be spaced at no more than 4m intervals. Ties must be rigid and be secured to both frame uprights. For further details regarding tying in, please contact your supplier: LEACH'S.

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.

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.

From this position clip on the 2 brace panels in the appropriate positions. Once both are fully installed the platform is now safe to stand on. This process ensures operatives can fully assemble the tower without standing on unguarded platforms.



Platforms

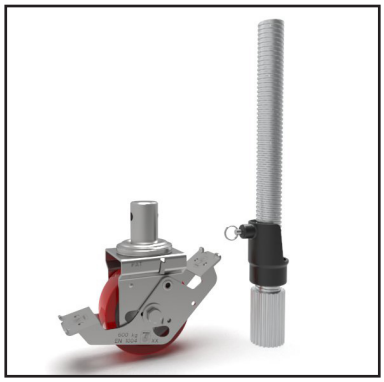
The Mini Tower platform units have 2 angled plates located on one end of the framework - on the underside. During the assembly phase these plates can be rotated outwards to enable the platform to be hooked onto the tower structure - either on the rungs of the end frames or onto the brace panels on the side of the tower.

Component Schedule

			WORKING PLATFORM HEIGHT		
CODE	PART DESCRIPTION	Wgt	2.2	3.2	4.2
2239	125mm Dia. Castor Wheel	2.5	4	4	4
3520	Mini Tower Adj. Alum Leg (black collar)	1.3	4	4	4
3201	Mini Tower Base Frame	12.4	1	1	1
3202	Mini Tower Main Frame	4.1	4	6	8
3203	Mini Tower Brace Panel	4.6	3	5	6
3204	Mini Tower Platform	11.1	1	2	2
3205	Mini Tower Toeboard	6.0	1	1	1
3510	1.2m Horizontal Brace (Red)	1.5	1	1	1
3207	Mini Tower Stabiliser	3.6	4	4	4
3206	Component hanger frame	1.9	1	2	2

WORKING PLATFORM HEIGHT	2.2m	3.2m	4.2m
MAX. WORKING HEIGHT	4.2m	5.2m	6.2m
OVERALL TOWER HEIGHT	3.4m	4.4m	5.4m
TOTAL SELF WEIGHT OF TOWER (kg)	90 kg	122 kg	134 kg

Components

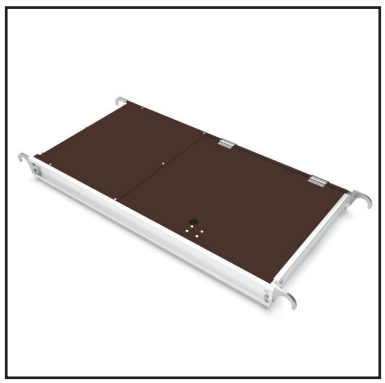


2239 - 125mm castor wheel
3520 - Adj. Leg

3201 - Mini Tower Base Frame

3202 - Mini Tower Main Frame

3203 - Mini Tower Brace Panel



3204 - Mini Tower Platform

3205 - Mini Tower Toeboard

3510 - 1.2m Horiz. Brace (Red)

3207 - Mini Tower Stabiliser

3206 - Component Hanger Frame

ASSEMBLY INSTRUCTIONS - All Platform Working Heights

Step 1

Insert the leg & castor assembly into each leg of the base frame assembly 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

Unfold the base frame and ensure that the gate frame latches securely. Connect one horizontal brace to the bottom rung on the open side of the base frame. Make sure that the brace is connected with the brace hook facing downwards

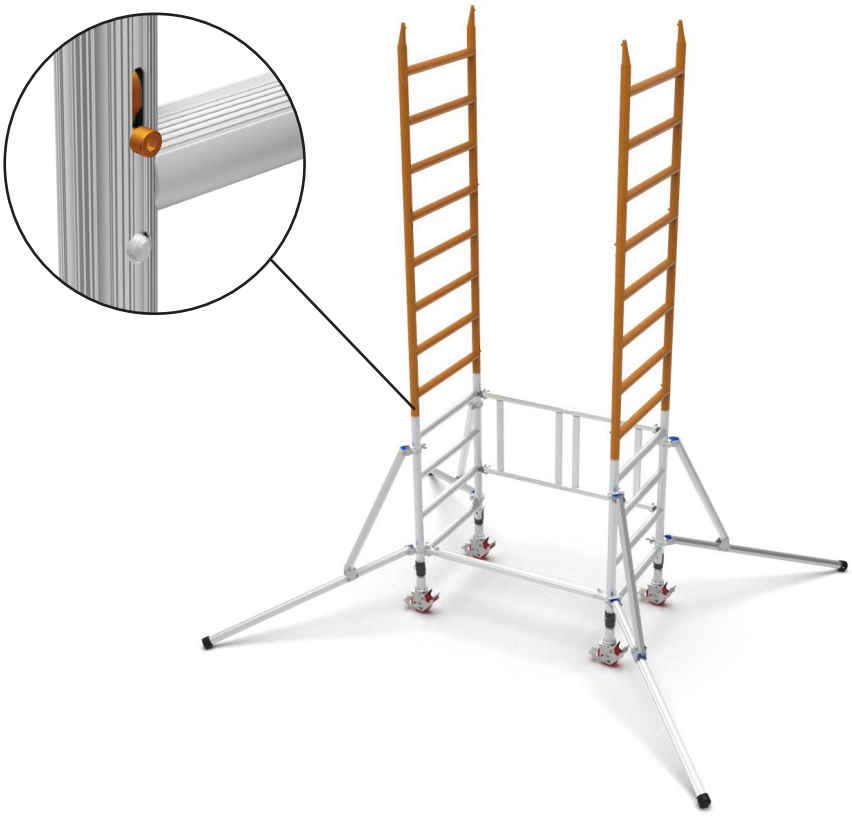
Step 3

Fit a platform to the 2nd rung down. Using a spirit level, ensure that the framework is completely level by adjusting the legs. Twist the serrated collar above the wheel to adjust the leg up & down.

Step 4

Connect 4 stabilisers to the corners. Once the stabiliser is postioned correctly, tighten the 2 couplers - ensuring the foot of the stabiliser is firmly on the floo

If building a 3m working platform height, do not assemble Step 5 below and go to Step 6 on page 13.



Step 5

Remove the platform. Connect two 1m frames together to create a 2m frame - ensuring that the locking bolts at the bottom of the upper frame are engaged. Repeat this for a 2nd pair of frames. Put a pair of assembled frames on each end of the base unit with the head fitting pointing inwards. Ensure that the locking bolts at the bottom engage once added to the base frame.

Build Method for 2m Working Platform Height

Step 6

Add a brace panel between rungs 6 and 8 on the same side of the tower as the folding gate on the base frame. Make sure that the hooks are facing outwards. Now, install a platform onto rung 8 (counting upwards from the bottom of the tower). Engage the wind latches at both ends of the platform.

Step 7

Locate a hanger frame onto the brace panel as shown. Hang the toeboard on first, then two brace panels ready for the next stage.

Step 8

Using the 3T method, add the two brace panels above the top platform so the top bar of the brace panel is in line with the top rungs of the frames. When the panel is in the correct position the top hooks will sit just below the top rung of the frames and the bottom hook located just above the 3rd rung down from the top. Now fit the toeboard

Build Method for 3m Working Platform Height

Step 6

Remove the platform. Connect a 1m frame on each end of the base unit with the head fittings pointing inwards. Ensure that the locking bolts at the bottom engage once added to the base frame. Then add a brace panel between rungs 6 and 8 on the same side of the tower as the folding gate on the base frame. Make sure that the hooks are facing outwards.

Step 7

Add a platform onto the 4th rung up from the bottom and a second brace panel between rungs 6 and 8 on the opposite side to the firs one making sure that the hooks are facing outwards. Make sure that the wind latches are engaged on the platform.

Step 8

Locate a hanger frame on the upper rungs of each brace panel. Connect two 1m frames together to create a 2m frame. Ensure the locking bolts at the bottom of the upper frame are fully engaged. Repeat for a second pair of frames. Hang one brace panel then two 2m end frames on one hanger frame. Hang two brace panels then the toeboard on the second hanger frame. Hook a platform onto the end frame.

Step 9

From the platform, fit the two end frames. Ensure that the head fitting are pointing inwards and the locking bolts at the bottom of the installed frames are in the locked position.

Step 10

Remove the brace panel and fit it on the same side as the hanger frame it comes off between rungs 6 and 8 above the current platform. Ensure the hooks face outwards. Relocate the empty hanger frame onto the newly fitted brace panel. Take the second platform off the end of the tower and fit it 8 rungs above the current platform. Engage the wind latches.

Step 11

Transfer the toeboard and two brace panels up to the hanger frame fitte in step 10 - in that order.
Using the 3T method, add the two brace panels above the top platform so the top rung of the brace panel is in line with the top rung of the frames with the lower hooks above the 3rd rung down. Finally, fit the toeboard to the platform.

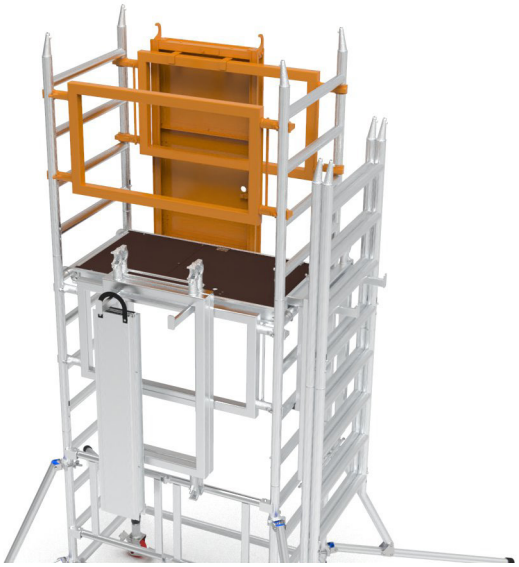
Build Method for 4m Working Platform Height

Step 6

Add a brace panel between rungs 6 and 8 on the same side of the tower as the folding gate on the base frame. Make sure that the hooks are facing outwards. Now, install a platform onto rung 8. Engage the wind latches at both ends of the platform.

Step 7

Fit a hanger frame onto the brace panel installed in step 6 and hang 2 brace panels, the toeboard and 2 more brace panels. On the ground make two 2m frames by connecting two pairs of 1m frames together. Now, fit a 2nd hanger frame on one end of the tower. Hang 1 brace panel first, then the two 2m frames off it. Finally hook a platform on the other end of the tower.



Step 8

Using the 3T method install 2 brace panels. Remove these from the hanger on the side of the tower. Relocate the platform hanging from the end of the tower round onto the empty brace panel on the side of the tower.

Step 9

Remove the 2 assembled end frames and install on the tower, ensuring the head fittings pointing inwards and the locking bolts at the bottom are fully engaged. Remove the brace panel from the end hanger and fit it on the tower - ensuring the hooks are located between the 6th and 8th rung up from the platform. Ensure that the hooks face outwards. Relocate the empty hanger frame from the end of the tower up onto the newly fitted brace panel

Step 10

Relocate the toeboard and 2 brace panels up to the upper hanger frame that was moved in step 9. Now take the second platform off the side of the tower and fit it 8 rungs above the platform you are standing on. Engage the wind latches.

Step 11

Using the 3T method, add the two brace panels above the top platform so the top rung of the brace panel is in line with the top rung of the frames with the lower hooks above the 3rd rung down. Ensure that the hooks face outwards.

Now fit the toeboard

Dismantling

Disassembly is the reverse of the relevant assembly process until you reach an assembled base unit as described in step 3.

Ensure that the 3T method is used at all times.

The toeboard should be secured in the closed position using the Velcro strap provided after removal from the platform before proceeding further with the dismantling.

Packing & Transportation

The base unit is designed to contain all the components for your Mini Tower.

Once your tower is disassembled to the base unit stage shown in step 3, add a brace frame on the opposite side to the folding gate. Ensure that the hooks face outwards.

Fit the toeboard to the platform in the base of the unit.

Fit the hanger frames to each end frame facing inwards on the top rung. Place the brace frames onto the hanger frames sideways on.

Stack the end frames in the centre of the unit between the brace frames.

Add the second deck in front of the end frames and the stabilisers in front of the platform.

The stored configuration of the Mini Tower is now complete.

Notes

THE HEIGHT OF SAFETY

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

LEACH'S
Beacon Park,
228 Holme Lacy Road,
Hereford
HR2 6BQ
t: +44 (0)1432 346 800
e: sales@leachs.com
w: www.leachs.com

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