HIRE ASSOCIATION EUROPE SUPPLIER

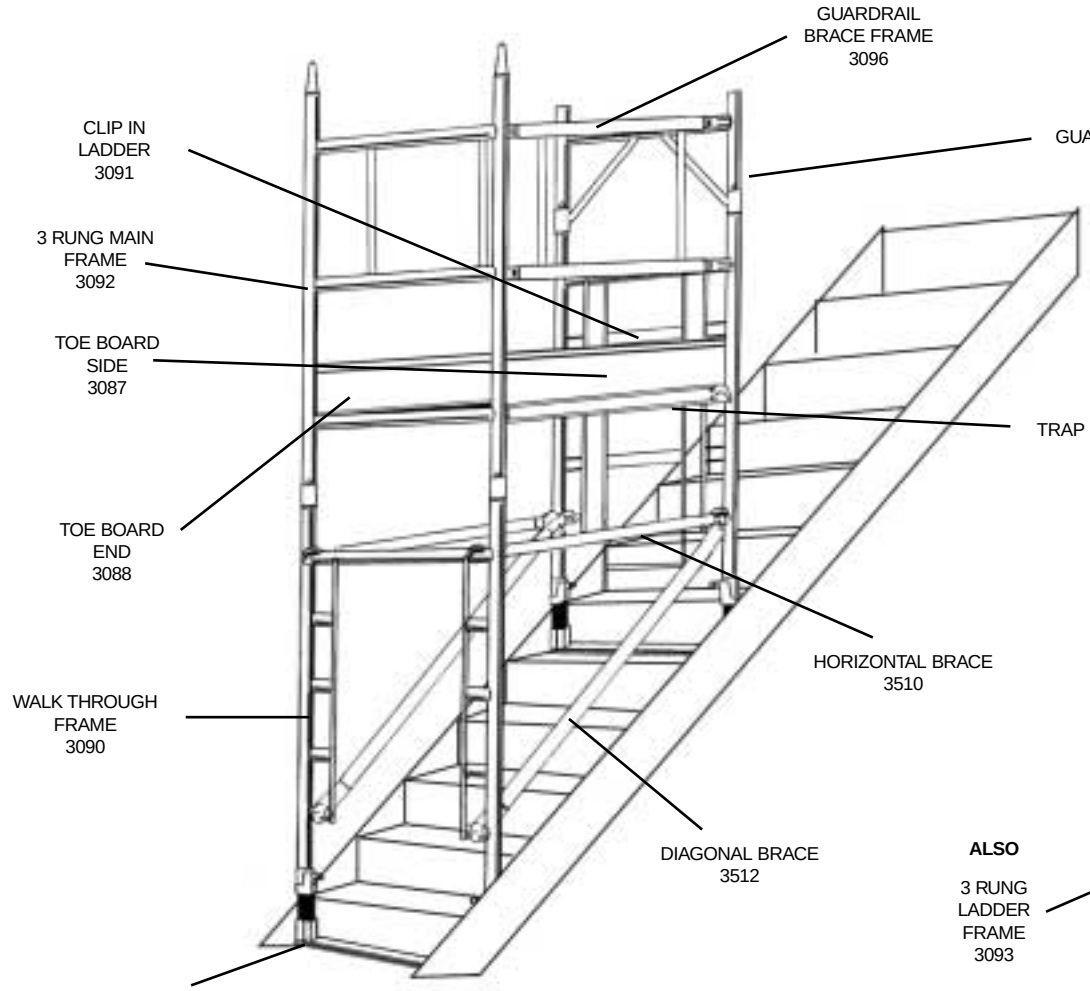
ALTO

ALTO M.D. TOWERS

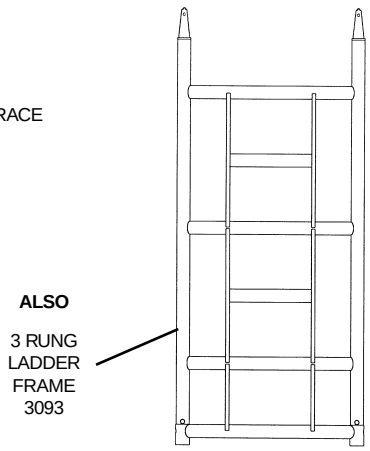
STAIRWELL TOWER ERECTION MANUAL

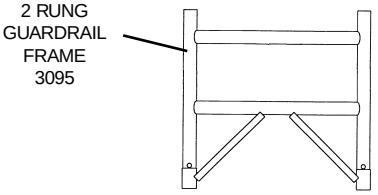
(IN ACCORDANCE WITH BSEN1004)

Using the 3T (Through the Trap) Assembly method



ALSO





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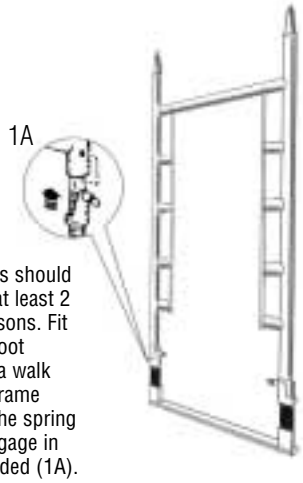
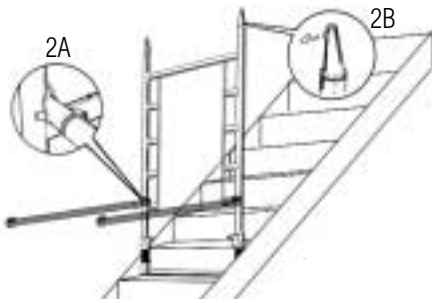
INSTRUCTIONS FOR BUILDING BASIC 1/2m STAIRWELL TOWER



1. 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 (1A).



2. Position the frame with the foot assembly on the higher location on the staircase making sure that the frame head fitting always points toward the middle of the tower (see detail 2B). Fit two short horizontal braces to vertical tubes of the frame just above lowest rung ensuring spring loaded pin faces outward (see detail 2A).

3. Fit the opposite ends of the braces to the other walk through base frame with foot assembly fitted. The braces would normally attach just above the frame top rung. Ensure that the pegs on the frame head fittings point towards the middle of the tower.

4. Fit two long braces diagonally between the bottom rungs of each frame. At this stage level the tower by adjusting the collars on the foot assemblies (see construction notes)

5. Add a 3 rung frame on to the lower walk through base frame by locating onto head fitting with peg engaging into hole provided. Repeat the process at the other end using a 1 rung guardrail frame

6. Fit guardrail brace frame between the two frames with the hooks attached just above the top two rungs ensuring spring loaded pins face outward (see detail 2A). Repeat on the other side of the tower

7. Fit the trap platform so that it is 1m (2 full rung spacings) below the top rung of the tower with the trap against the frame higher up the stairs

8. Locate the clip in ladder on the higher walk through base frame using the hooks at the top of the ladder to locate over the top rung of the frame. The locating lugs on the lower part of the ladder should rest against the inner sides of the frame opening so that the ladder presses against the frame as it is climbed (always climb the tower on the inside)

9. Fit the toeboards around the platform. Always remember to close the trapdoor immediately after climbing through

SAFETY NOTES

1. Before erecting check ground is level unobstructed and is suitable for the purpose. Also ensure area is clear of overhead obstructions, particularly power cables.
2. Check that the tower is stable before use.
3. Do not attempt to move a loaded tower.
4. Always climb the tower from the inside.
5. Do not overload the tower. Maximum platformloads 130 kg (2kN/m$^{2)}$). Maximum horizontal force at platform 30kg.
6. Never remove components from a tower whilst it is erected. Dismantling must always be performed from the top. Failure to observe this rule will seriously reduce the strength and safety of the tower.
7. Do not use damaged components. Check all components before use and periodically lubricate all moving parts and wipe off surplus oil.
8. Secure the tower when left unattended.
9. Do not lean ladders against towers or use ladders on top of platforms.
10. At heights where components cannot be passed up or down by hand, a rope should be used for securing to components to aid safe raising and lowering.
11. Never work from, or build or dismantle the tower from, an unguarded platform.
12. If used externally beware of high winds. Tie in if necessary regardless of working height. Secure platforms against lifting.
13. Legislation now calls for inspection and recording of assembled towers. See HSE guidance note 10 (revision 4) for further details.

CONSTRUCTION NOTES

1. Follow the erection manual to ensure that the correct erection procedure is used.
2. Ensure that sufficient equipment is available to construct the tower and is in working order.
3. Do not extend frame foot jacks more than is necessary to level the tower.
4. Use a Spirit level to check that the tower is upright.
5. The peg on the head fitting must always point inwards
6. Fit the first two horizontal braces to the vertical frame tube. This prevents the frame from falling over during erection and dismantling.
7. All diagonal braces are fitted as close as possible to the upright.
8. Observe all height limits and fit stabilisers to increase the safe working height to the tower.

   Towers may also be tied to a suitable rigid structure using standard scaffolding tubes and fittings (see tying in). Fittings connected to the tower should not be over tightened as this could distort the aluminium tube.
9. Fit toeboards to all working platforms and ensure that all platforms are adequately guarded.
10. The dismantling sequence is the reverse order of the erection process.
11. For special or unusual applications contact your supplier for further technical data sheets and expert advice

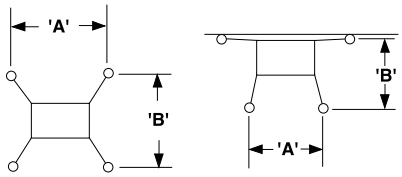
INSTRUCTIONS FOR BUILDING BASIC 1.5/2.5m STAIRWELL TOWER

Follow steps 1-4 of the basic stairwell assembly instructions opposite

5. Fit a 3 rung frame on to the lower walk through base frame by locating onto head fitting with peg engaging into hold provided. Repeat the process at the other end using a 2 rung guardrail frame.

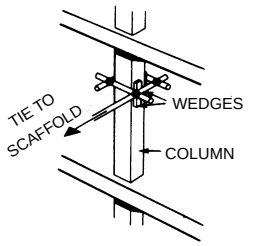
6. Fit al long brace diagonally between the top rungs of each walk through base frame

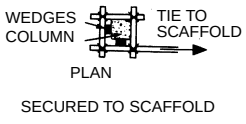
7. Add a 1 rung guardrail frame onto the top of the lower walk through frame by locating onto head fitting with the peg engaged into hold provided



8. Fit appropriate stabilizers (see schedule on back page) to each corner of the tower to increase the effective base dimensions A *& B. They must be fitted so that when viewed from above the greatest square is formed. Ensure that the wing nuts are tight so that it is not possible to move the stabilizers without slackening the wing nuts. Do not over tighten them as this may distort the tube. If it is impossible to fit stabilizers due to working in a confined area then the tower must be securely tied in using scaffold tube and couplers (see safety notes)

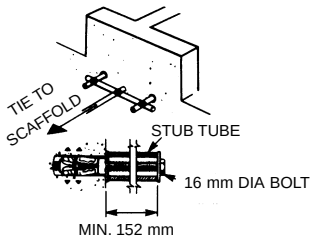
TYING IN





SECURED TO SCAFFOLD

fig. A



SECURE TO EMBEDDED TIES IN CONCRETE

fig. B

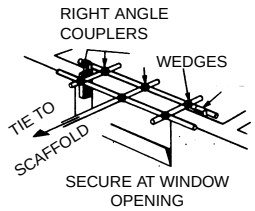
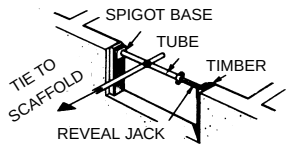


fig. C



SECURE TO REVEAL PROP.

fig. D

NOTE: Arrangement shown in fig. D is considered to be a friction device and should not exceed ½ the total number of scaffold ties in any area. When friction devices are used the connection to the scaffold must be made onto both vertical uprights. Ties should be at no more than 4m intervals.

INSTRUCTIONS FOR BUILDING STAIRWELL TOWERS 2m/3m IN HEIGHT AND ABOVE

To build towers higher than 2m/3ms follow the same procedures as above using 3 rung and 3 rung ladder frames to gain height and then top off using frames as shown in the schematic diagrams overleaf. However please note the following: Always work from a guardrailed platform while building. When building, fit a trap platform above you and, working through the trapdoor of this platform, install guardrails at 0.5m and 1.0m above platforms. It may be necessary to relocate platforms during assembly to achieve this.

REST PLATFORMS

Rest platforms must be fitted every 2m and consist of a trap platform, and guardrails at 0.5m and 1m as shown. Remember to always close trapdoor immediately after climbing through. Nb. see safety note on back page.

WARNING

WARNING: never work from or build, or dismantle the tower from an unguarded platform

When tower is left unattended remove clip in ladder and toeboard to allow emergency access through the tower. This can be further assisted by opening the trap door on the platform

COMPONENT SCHEDULE

ALTO STAIRWELL TOWERS WITH PLATFORM HEIGHTS FROM 1m/2m TO 5m/6m CONFORMING TO HD1004 WHERE RELEVANT

INTERNAL USE ONLY

PLATFORM HEIGHT			1.0/2.0m	1.5/2.5m	2.0/3.0m	2.5/3.5m	3.0/4.0m	3.5/4.5m	4.0/5.0m	4.5/5.5m	5.0/6.0
DESCRIPTION	CODE	WEIGHT Kg									
Frame Foot Assembly	3089	3.8	2	2	2	2	2	2	2	2	2
Walk Through Frame	3090	4.7	2	2	2	2	2	2	2	2	2
3 Rung Main Frame	3092	4.1	1	1	1	2	2	2	3	3	3
3 Rung Ladder Frame	3093	6.2	0	0	1	1	1	2	2	2	3
2 Rung Guard Rail Frame	3095	2.4	0	1	1	0	1	1	0	1	1
1 Rung Guard Rail Frame	3094	1.6	1	1	0	1	1	0	1	1	0
Clip in Ladder	3091	3.5	1	1	1	1	1	1	1	1	1
Trap Platform	3086	9.8	1	1	1	2	2	2	2	2	3
Horizontal Brace	3510	1.5	2	2	4	6	8	8	8	8	12
Diagonal Brace	3512	1.8	2	3	4	4	5	5	6	6	7
Guardrail Brace Frame	3096	3.4	2	2	2	2	2	2	2	2	2
Stabilisers	3516	3.9	0	4	4	4	4	4	4	4	4
Toe Board Side	3087	2.0	2	2	2	2	2	2	2	2	2
Toe Board End	3088	1.5	2	2	2	2	2	2	2	2	2
TOTAL SELF WEIGHT OF TOWER KGs			56	76	86	102	109	111	119	121	143
MAXIMUM NUMBER OF WORKING LEVELS			1	1	1	1	2	2	2	2	3

NOTES: A WORKING LEVEL ON A TOWER IS A PLATFORM WITH TOEBOARDS & DOUBLE GUARDRAILS. THE MAXIMUM LOAD ON A 600 mm WIDE PLATFORM IS 2kN/m² WHICH IS:-
130 kgs EVENLY DISTRIBUTED ON A PLATFORM.
THE MAXIMUM LOAD ON A TOWER (INCLUDING THE SELF WEIGHT OF THE TOWER) SHOULD NOT EXCEED 750kgs (3/4 TONNE). THE MAXIMUM HORIZONTAL FORCE WHEN USING HAND TOOLS ETC. SHOULD NOT EXCEED 30 kgs & STABILISERS MUST BE FITTED
THE ABOVE SCHEDULE INCLUDES FOR: (i) 1 WORKING LEVEL WITH DOUBLE TOEBOARDS & DOUBLE HANDRAILS AT 0.5m.
(ii) A SINGLE TRAP PLATFORM & HANDRAILS AT 0.5m INSIDE & OUT AS REST PLATFORMS EVERY 2 m.
TO CONVERT A REST PLATFORM TO A WORKING LEVEL: ADD 1 - TOEBOARD SET

ALTO STAIRWELL TOWER BRACE GUIDE

BRACE TYPE	CODE	COLOUR I.D.	LENGTH
Horizontal Brace	3510	Red	1.20 m
Diagonal Brace	3512	Silver	1.56 m

SCHEMATIC DIAGRAM TOWERS 2/3m – 5.0/6.0m

KEY: WTF - Walk Through Frame
3RF - 3 Rung Frame
2RF - 2 Rung Frame
1RF - 1 Rung Frame
3RLF - 3 Rung Ladder Frame
h - Horizontal Brace
d - Diagonal Brace
P - Platform
tb - Toeboard