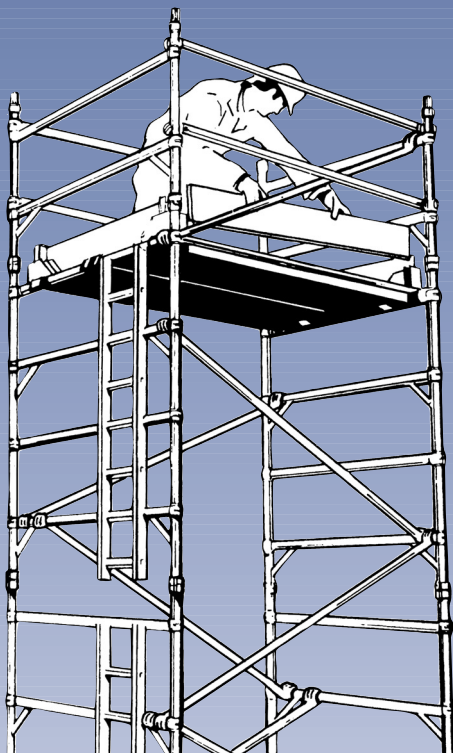


USER GUIDE

BOSS MOBILE TOWERS 1450/850 LADDERSPAN



youngman



Introduction

This BOSS Assembly Guide is designed to provide you with step by step instructions to ensure that your system is erected with the maximum of ease and safety. Before assembly, please read the safety notes carefully. Operatives must be qualified or competent to erect the tower. If the tower is passed on to another person they should also receive these instructions. Erect the tower in the position required. For full information on the application and use of a Mobile Access and Working Tower consult the PASMA Guide or prEN 1298.



DIN 4422 8/92:
HD 1004-3 8/12



BS1139:PART 3:1994



DIN 422 8/92:
HD 1004-3-8/12

BOSS™



BS1139:PART 3:1994

1450/850 LADDERSPAN

Components

2 RUNG
GUARDRAIL
FRAME

END
TOEBOARDS

PLATFORM
(FIXED AND
TRAP DOOR
DECKS)

SIDE
TOEBOARDS

HORIZONTAL
BRACE

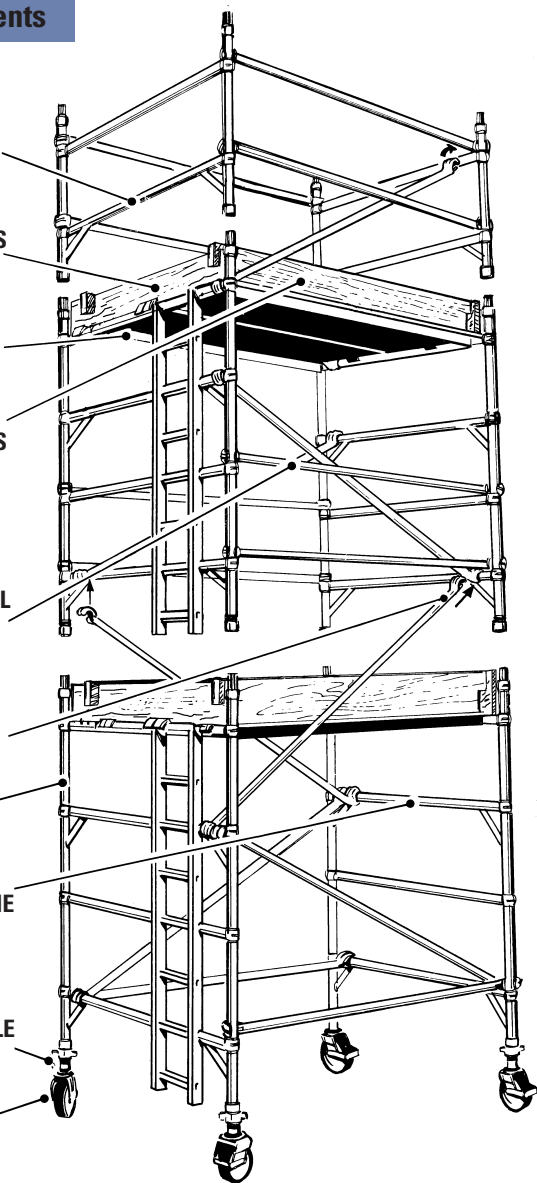
DIAGONAL
BRACE

LADDER
FRAME

SPAN FRAME

ADJUSTABLE
LEG

CASTOR



CHECKLIST

INSPECT COMPONENTS PRIOR TO ERECTION

INSPECT TOWER PRIOR TO USE

TOWER UPRIGHT

CASTORS LOCKED/LEGS CORRECTLY ADJUSTED

BRACES & PLATFORM LEVEL

STABILISERS/OUTRIGGERS FITTED AS SPECIFIED

PLATFORMS LOCATED & WINDLOCKS ON

HANDRAILS IN PLACE

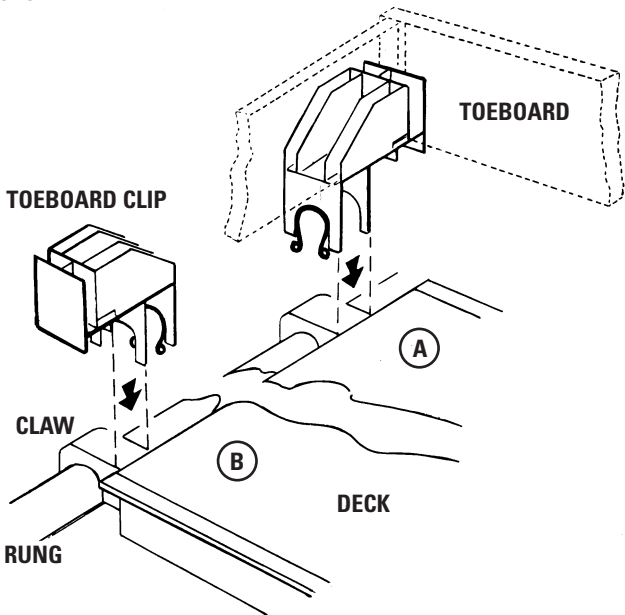
TOEBOARDS LOCATED



REFER TO THIS CHECKLIST BEFORE USING EACH TIME

Fitting Toeboards

Lock yellow plastic toeboard clips over rung and deck claw as shown. Position as (A) on right hand deck claw. On other side of working platform position as (B). Place 25mm thick toeboards into slots in toeboard clips as shown.

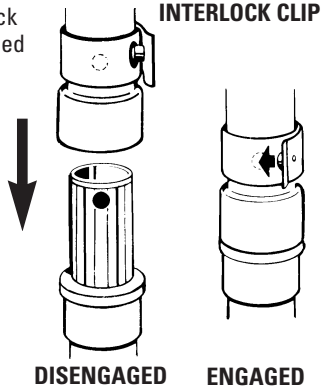


BOSS™

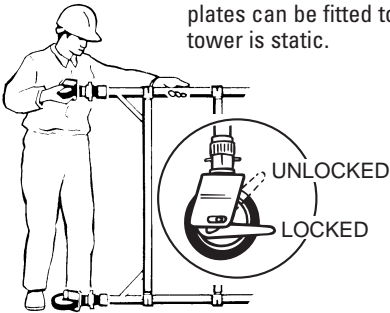
1450/850 LADDERSPAN ALLOY ACCESS SYSTEM

ASSEMBLY GUIDE

- 1** Check that interlock clips are disengaged on all frames.

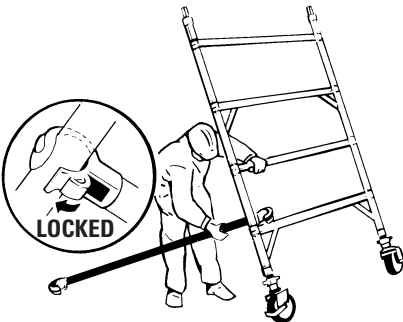


- 2** Insert two adjustable leg/castor assemblies into span frame. Lock castors. Repeat with ladder frame. Base plates can be fitted to adjustable leg if tower is static.



We recommend that two persons are required, to ease the erection process. Push castor onto adjustable leg to secure.

- 3** Clip horizontal brace (Red) onto side of span frame. Frame will now be self supporting.

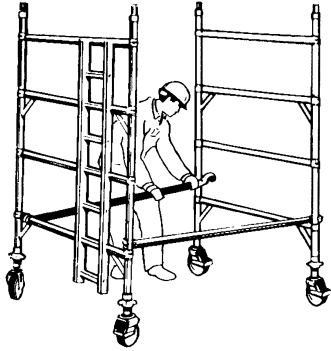


Note: All locking claws should be primed before use by pulling back trigger. After dismantling – ensure locking mechanism is released.

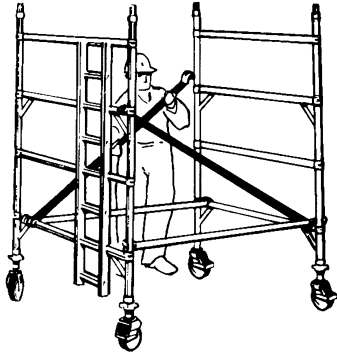
BOSS™

1450/850 LADDERSPAN ALLOY ACCESS SYSTEM

- 4** Clip other end of horizontal brace onto ladder frame ensuring ladder is on your right (from outside of frame – see sketch). Clip second horizontal brace onto other side of span & ladder base frames. Ensure claws are locked outwards **never** inwards. Lock castors.



- 5** Clip diagonal braces (blue) in opposite directions as shown. Adjust legs to ensure tower is vertical and square and that horizontal braces are level, using a spirit level.



- 6** Position fixed deck on second rung of frames as shown. Position second lift of frames ensuring that the ladder in the frame is directly above the one below it. Engage interlock clips. Add temporary horizontal handrails.

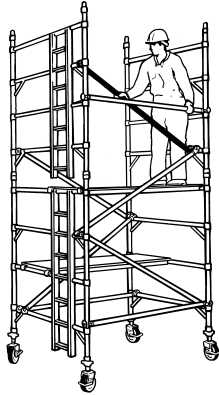
Note: If erecting more than one lift, fit appropriate stabilisers or outriggers **now**. (See special note on stabilisers & outriggers).



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1450/850 LADDERSPAN ALLOY ACCESS SYSTEM

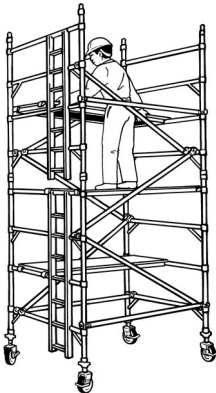
- 7** Clip on diagonal braces (blue) as shown. Ensure that separate frames are always braced together. Locate Trapdoor Deck on top of lower frame (4th rung) ensuring trap is positioned over ladder and opens to outside of tower.



- 8** Locate further Trapdoor Deck on 2nd Rung of upper Frame, (opposite side to ladder) and engage windlocks. Add temporary horizontal handrails.

Note: Add Trapdoor Deck rest platform every 4m, with horizontal braces at 0.5m and 1.0m rung levels on the outside face. If it is a working level, add toeboards. For fully decked areas, add 2 horizontal braces to the other face.

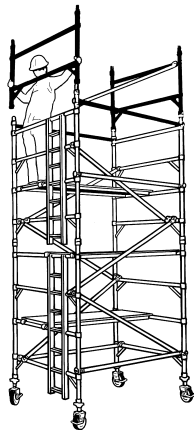
Note: always climb inside the tower.



- 9** Move temporary horizontal handrails to either side of Frame. Position 2 Rung Guardrail Frames. Engage interlock clips. Clip two horizontal braces (red) to each side of the Guardrail Frame.

Return to platform on 4th Rung (see **8**) and move uppermost Trapdoor Deck to 8th rung (top of upper Frame). Ensure trap is positioned over ladder as before, and opens to outside of tower.

Clip diagonal braces (blue) to lock Guardrail Frames to Frame below.



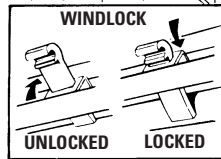
BOSS™

1450/850 LADDERSPAN ALLOY ACCESS SYSTEM

10 Move temporary horizontal handrail braces once Guardrail Frame horizontal braces are in place, to lower platform. Move Fixed Deck from 2nd Rung and re-locate on top working platform alongside Trapdoor Deck. Engage windlocks. Fit toeboards now, (see instructions on reverse).

Ensure 4th rung is Guardrailed.

To dismantle the structure, reverse steps ⑩ – ②.

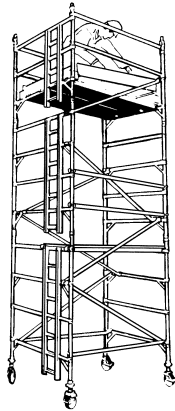


11 Tower finishing with 3 rung frames

Position 3 rung frames. Engage interlock clips. Clip 2 horizontal handrail braces (red) to each side of tower. (See note ⑩). Clip on diagonal braces (blue) as shown. Place fixed and trapdoor decks on bottom rungs of 3 rung span frame and ladder frame, ensuring that the trapdoor is positioned over ladder and opens to outside of tower.

Fit toeboards now (see instructions).

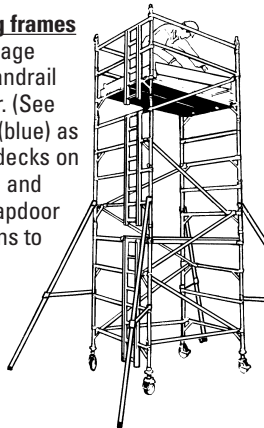
Rest Platform (every 4m), omitted for clarity.



12 Tower finishing with 4 rung frames

Position 4 rung frames. Engage interlock clips. Clip 2 horizontal handrail braces (red) to each side of tower. (See note ⑩). Clip on diagonal braces (blue) as shown. Place fixed and trapdoor decks on second rung of 4 rung span frame and ladder frame, ensuring that the trapdoor is positioned over ladder and opens to the outside of tower.

Fit toeboards now (see instructions).



STABILITY: STABILISERS

Attach one stabiliser to each corner of tower at approx. 45 degrees. If handle on clamp is obstructed from tightening, undo and place handle on other side of clamp.

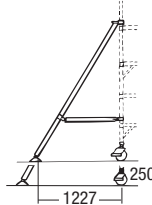
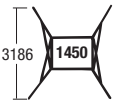
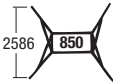
Ensure top clamp is positioned immediately under rung casting and tighten using the handle just enough to hold clamp in position. The bottom clamp should be positioned as low down as possible (see diagram). With SP15 position mid clamp and lightly tighten.

Extend telescopic legs until rubber foot is in contact with ground. Lock telescopic leg with interlock clip. If Plan Bracing is desired clip braces (Green) from tower to stabilisers at each end of tower as shown. Ensure rubber feet are in firm contact with the ground by sliding lower clamp downwards and tighten securely.

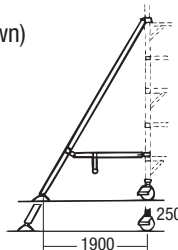
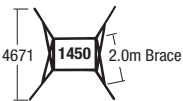
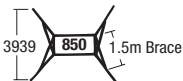
Securely tighten top clamp (and mid clamp on SP15's) to provide a rigid base structure.

When moving tower lock each telescopic leg just clear of the ground, unlock castors ensuring area is firm and clear of all obstructions both on the ground and above. After moving check all castors are firmly on the ground and locked, and that the tower is vertical. Re-position stabilisers as above.

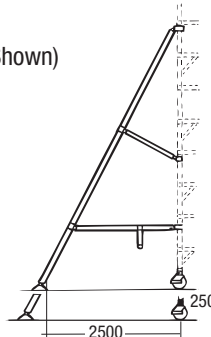
SP7



SP10 (Optional Plan Brace Shown)



SP15 (Optional Plan Brace Shown)



MOBILE OUTRIGGERS

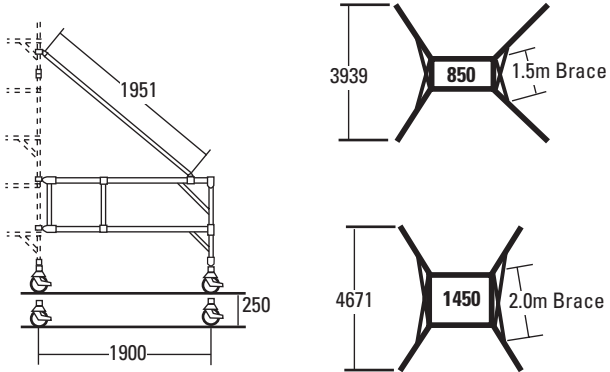
Insert adjustable leg/caster assemblies into leg of each outrigger, lock castors.

Attach one outrigger to each corner of the tower at approx. 45 degrees. If handle on clamp is obstructed from tightening, undo and place handle on other side of clamp. Ensure top clamp is positioned immediately under rung casting and tighten using handle just enough to hold clamp in position. After adjusting legs until castors are firmly on the ground, carry out this procedure on lower clamp.

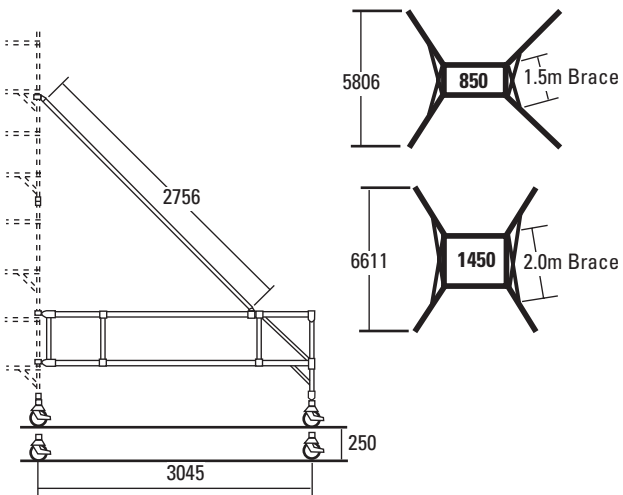
Clip in plan braces from tower to outriggers at each end of tower as shown. Securely tighten all clamps and double check that all castors are firmly in contact with the ground and are locked.

When moving tower unlock all castors, ensure area is firm and clear of all obstructions both on the ground and above the tower. After moving ensure tower is vertical and that all castors are firmly on the ground and locked.

MP7



MP16



USAGE ADVICE

ERECTION

- Check that all components are on site and that they are functioning correctly – See Quantity Schedule.
- Check if the ground on which the mobile access tower is to be erected and moved, is capable of supporting the tower.
- During the erection of a tower it is recommended that a temporary guardrail brace be employed.
- The safe working load is 275 kgs (606 lbs) uniformly distributed – maximum concentrated load 150 kgs (330 lbs) per deck up to a maximum of 950 kgs (2100 lbs) per tower (including self weight). ***This must not be exceeded.***
- Towers must always be climbed from the inside during assembly and using the built-in ladder provided during use.
- Do not use boxes or step ladders on the platform to gain additional height.

LIFTING OF EQUIPMENT

- Tower components should be firmly secured by a reliable lifting material (eg rope), employing a reliable Knot (eg clove hitch), to ensure safe fastening.



STABILISERS/BALLAST

- Stabilisers or outriggers and ballast weights shall always be fitted when specified.
- Ballast is used at the base to stabilise towers against overturning. The QUANTITY SCHEDULE shows the recommended stabilisation. In circumstances where there is restricted ground clearance for stabilisers/outriggers, contact your supplier for advice.

It must be of solid materials (i.e. not water or loose sand) and should not be positioned to overload individual legs. Ballast should be secured against accidental removal, and be supported on the lowest rung of the bottom frame.

MOVEMENT

- The tower should only be moved by manual effort, and only from the base.
- When moving the tower, beware of live electrical apparatus, particularly overhead, plus wires or moving parts of machinery.
- No personnel or materials should be on the tower during movement.
- Caution should be exercised when wheeling a tower over rough, uneven or sloping ground, taking care to unlock and lock castors. If stabilisers are fitted, they should only be lifted sufficiently above the ground to clear ground obstructions. The height of the tower, when being moved, should not exceed 2.5 times the minimum base dimensions, or 6 metres overall height.

USAGE ADVICE

DURING USE

- Beware of high winds in exposed, gusty or medium breeze conditions. We recommend that in wind speeds over 7.7 metres per second (17 m.p.h.), cease working on the tower. If the wind becomes a strong breeze, expected to reach 11.3 metres per second (25 m.p.h.), tie the tower to a rigid structure. If the wind is likely to reach gale force, over 18 metres per second (40 m.p.h.), the tower should be dismantled.

Wind Description	Beaufort Scale	Beaufort No.	Speed in m.p.h.	Speed in m/sec.
Medium Breeze	Raises dust and loose paper, twigs snap off.	4	8-12	4-6
Strong Breeze	Large branches in motion, telegraph wires whistle.	6	25-31	11-14
Gale Force	Walking is difficult.	8	39-46	17-21

Beware of open ended buildings which can cause funneling effect.

- Do not abuse equipment. Damaged or incorrect components should never be used.
- 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.
- The assembled tower is a working platform and should not be used as a means of access to other structures.
- Beware of horizontal forces (eg power tools) which could generate instability. Maximum horizontal force 20 kg.
- The stairway towers featuring an inclined staircase access are for use with personnel frequently carrying tools and/or materials.
- Mobile towers are not designed to be suspended - please refer to your supplier.

TIES

- Ties should be used when the tower goes beyond its safe height beyond the limits of the stabilisers/outriggers or 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 dia. tube of the tower should be used. Ideally ties should secure to either face of a solid structure or by means of anchorages.
- The tie frequency may vary depending on the application, but they should, at a minimum, be at every 4 metres height.

MAINTENANCE

- All components and their parts should be regularly inspected to identify damage, particularly to welds. Lost or broken parts should be replaced, and any tubing with indentations greater than 5mm should be put to one side for manufacture repair. Adjustable leg threads should be cleaned and lightly lubricated to keep them free running.

QUANTITY SCHEDULE

BOSS 1450 LADDERSPAN TO HD1004: AVAILABLE IN 3 LENGTHS – 1.8m, 2.5m & 3.2m

INTERNAL/EXTERNAL USE

DESCRIPTION	WORKING HEIGHT		INTERNAL USE ONLY																					
	PLATFORM HEIGHT		4.2m 2.2m	4.7m 2.7m	5.2m 3.2m	5.7m 3.7m	6.2m 4.2m	6.7m 4.7m	7.2m 5.2m	7.7m 5.7m	8.2m 6.2m	8.7m 6.7m	9.2m 7.2m	9.7m 7.7m	10.2m 8.2m	10.7m 8.7m	11.2m 9.2m	11.7m 9.7m	12.2m 10.2m	12.7m 10.7m	13.2m 11.2m	13.7m 11.7m	14.2m 12.2m	
125/150/200mm CASTOR			4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
250mm ADJUSTABLE LEG			4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
1450 2 RUNG SPAN FRAME*			2		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
1450 3 RUNG LADDER FRAME			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1450 3 RUNG SPAN FRAME			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
1450 4 RUNG LADDER FRAME			1	1	2	1	2	2	3	2	3	3	4	3	4	3	4	5	4	5	5	6	5	6
1450 4 RUNG SPAN FRAME			1	1	2	1	2	2	3	2	3	3	4	3	4	4	5	4	5	5	6	5	6	6
1.8/2.5/3.2m FIXED DECK			1	1	1	1	1	1	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3
1.8/2.5/3.2m TRAP DOOR DECK			1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
1.8/2.5/3.2m HORIZONTAL BRACE (RED)			6	6	8	8	8	10	10	10	10	10	10	10	10	12	12	12	12	12	12	12	12	12
2.1/2.7/3.4m DIAGONAL BRACE (BLUE)			3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	23
1.8/2.5/3.2m SIDE TOEBOARD			2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
1.2m END TOEBOARD			2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
TOEBOARD HOLDER			4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4

SP7 FIXED STABILISER			4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
SP10 TELESCOPIC STABILISER																								

TOTAL TOWER SELF-WEIGHT (KGS) 1.8m	102	110	170	179	183	208	215	223	228	235	241	250	272	279	286	294	299	306	312	319	325	325	325	325
TOTAL TOWER SELF-WEIGHT (KGS) 2.5m	119	127	158	167	171	239	246	253	260	268	275	284	312	320	327	336	341	348	355	362	369	369	369	369
TOTAL TOWER SELF-WEIGHT (KGS) 3.2m	140	148	188	198	203	242	250	257	264	309	316	327	362	371	378	388	393	401	408	416	423	423	423	423

*Or 2 Rung ladder Frame

NUMBER OF WORKING PLATFORMS ALLOWED

The number of working levels is based on fully loading each single deck to the maximum of 275kg. A deck is defined as a single unit, but a working platform can be either one or two decks. The 275kg limit applies to each such working level, regardless of the number of decks.

In normal circumstances only two such working levels are permissible, as with the taller structures/lengths self-weight will be a limiting factor.

Maximum Safe Working Load for the tower structure is 950kg.

Should heavier loads than these be required for particular applications, your local Branch will be able to provide guidance.

The quantities above comply with the requirements of the Construction (Health, Safety & Welfare) Regulations 1996 and BS 1139 Part 3 (HD 1004). They include double handrailing to the rest platform level, and toeboards will need to be added if this is used as a working platform.

Fixed platforms are provided every 4m (Per BS 1139 pt3), plus an additional platform to ease assembly. However this is not a Regulatory requirement.

Should a fully decked rest platform be employed two additional handrails will be required.

BALLAST: 1450 LADDERSPAN – Internal/External use. There is no requirement for ballast on 1450 towers if using stabilisers as detailed in the above table. If for internal use only, SP10 stabilisers may be fitted up to 10.7m platform height.

MOBILE OUTRIGGERS

MP7 mobile outriggers can be used instead of SP10 and stabilisers, as detailed below.

MP7 mobile outrigger kits comprise:

MP7 MOBILE OUTRIGGER	4
125/150/200mm CASTOR	4
(Use same diameter castors as on tower)	
250mm ADJUSTABLE LEG	4

The above components replace:

SP7/SP10 STABILISER	4
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With Outriggers a 2m Plan Brace is also required.

STABILISERS

To improve rigidity, larger stabilisers can be used at a lower level than shown in the table.

BOSS 850 LADDERSPAN TO HD1004: AVAILABLE IN 3 LENGTHS – 1.8m, 2.5m & 3.2m

INTERNAL/EXTERNAL USE

DESCRIPTION	WORKING HEIGHT PLATFORM HEIGHT	4.2m 2.2m	4.7m 2.7m	5.2m 3.2m	5.7m 3.7m	6.2m 4.2m	6.7m 4.7m	7.2m 5.2m	7.7m 5.7m	8.2m 6.2m	8.7m 6.7m	9.2m 7.2m	9.7m 7.7m	10.2m 8.2m
125/150/200mm CASTOR		4	4	4	4	4	4	4	4	4	4	4	4	4
250mm ADJUSTABLE LEG		4	4	4	4	4	4	4	4	4	4	4	4	4
850 2 RUNG SPAN FRAME*		2		2	2									
850 3 RUNG LADDER FRAME			1		1						1		1	
850 3 RUNG SPAN FRAME			1		1						1		1	
850 4 RUNG LADDER FRAME		1	1	2	1	2	2	3	2	3	3	4	3	4
850 4 RUNG SPAN FRAME		1	1	2	1	2	2	3	2	3	3	4	3	4
1.8/2.5/3.3m TRAP DOOR DECK		1	1	2	2	2	3	3	3	3	3	3	3	4
1.8/2.5/3.2m HORIZONTAL BRACE (RED)		6	6	10	10	14	14	14	14	14	14	14	14	18
2.1/2.7/3.4m DIAGONAL BRACE (BLUE)		3	4	5	6	7	8	9	10	11	12	13	14	15
1.8/2.5/3.2m SIDE TOEBOARD		2	2	2	2	2	2	2	2	2	2	2	2	2
0.6m END TOEBOARD		2	2	2	2	2	2	2	2	2	2	2	2	2
TOEBOARD HOLDER		4	4	4	4	4	4	4	4	4	4	4	4	4

INTERNAL USE ONLY

10.7m 8.7m	11.2m 9.2m	11.7m 9.7m	12.2m 10.2m	12.7m 10.7m	13.2m 11.2m	13.7m 11.7m	14.2m 12.2m
4	4	4	4	4	4	4	4
4	4	4	4	4	4	4	4
		2	2			2	2
1		1		1		1	
1		1		1		1	
4	5	4	5	5	6	5	6
4	5	4	5	5	6	5	6
4	4	4	4	4	4	4	4
18	18	18	18	18	18	18	18
16	17	18	19	20	21	22	23
2	2	2	2	2	2	2	2
2	2	2	2	2	2	2	2
4	4	4	4	4	4	4	4

SP7 FIXED STABILISER	4	4	4	4	4									
SP10 TELESCOPIC STABILISER					4	4	4							
SP15 TELESCOPIC STABILISER								4	4	4	4	4	4	4

BALLAST REQUIRED (KGS) 2.5m											25	50	50	75
BALLAST REQUIRED (KGS) 3.2m											25	50	100	125

TOTAL TOWER SELF-WEIGHT (KGS) 1.8m	108	115	142	148	153	195	201	206	212	233	239	242	242	269
TOTAL TOWER SELF-WEIGHT (KGS) 2.5m	119	127	161	167	173	222	228	234	240	262	291	321	321	381
TOTAL TOWER SELF-WEIGHT (KGS) 3.2m	134	142	187	193	200	259	266	272	279	326	355	411	411	481

*Or 2 Rung ladder Frame

NUMBER OF WORKING PLATFORMS ALLOWED

The number of working levels is based on fully loading each single deck to the maximum of 275kg.

A working platform can be either one or two decks, and the 275kg applies to each working level, regardless of whether one or two decks.

The number of working levels will be limited by the total Safe Working Load of the tower.

The Maximum Safe Working Load for the tower structures shown above is 950kg. For heights in excess of these, and for heavier loads, consult your local Branch for guidance.

The quantities above comply with the requirements of the Construction (Health, Safety & Welfare) Regulations 1996 and BS 1139 Part 3 (HD 1004). They include double handrailing to the rest platform level, and toeboards will need to be added if this is used as a working platform.

Fixed platforms are provided every 4m (Per BS 1139 pt3), plus an additional platform to ease assembly. However this is not a Regulatory requirement.

Should a fully decked rest platform be employed two additional handrails will be required.

STABILISERS AND BALLAST: – Internal/External use.

Stabiliser requirements are based on calculations from HD1004:

1. Up to 8.2m (Platform Height) the stabilisers and ballast are shown for external use.

2. Above 8.2m, the shedule is for internal use only.

For internal use only, towers may be erected up to 12.5m without ballast, and SP10 stabilisers may be fitted up to 9.7m platform height. For greater rigidity, fit SP15 at lower height.

MOBILE OUTRIGGERS

MP7 and MP16 mobile outriggers can be used instead of SP10 and SP15 telescopic stabilisers respectively, as detailed below.

MP7 and MP16 mobile outrigger kits comprise:

MP7/MP16 MOBILE OUTRIGGER	4
125/150/200mm CASTOR	4
(Use same diameter castors as on tower)	
250mm ADJUSTABLE LEG	4

The above components replace:

SP7/SP10/SP15 TELESCOPIC STABILISER	4
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With Outriggers a 1.5m Plan Brace is also required.



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