

# ASCEND ACCESS SYSTEM SCAFFOLDING L.L.C

## CANTILEVER TOWER SYSTEMS



## ASSEMBLY GUIDE

Conforms to BS 1139 Part6:2015

# Kit Lists and Ballast Requirements

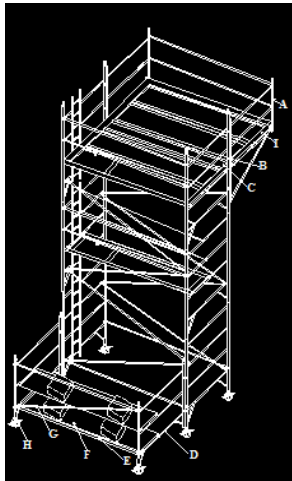
ALL INFORMATION AND ADVICE STATED WITHIN THIS DOCUMENT IS SUBJECT TO THE USE OF ASCEND TOWERS MANUFACTURED PRODUCTS ONLY.

ALL MAIN TOWER STRUCTURES MUST BE BUILT USING ASCEND TOWERS DOUBLE WIDTH OR SINGLE WIDTH 3T TOWER INSTRUCTION MANUALS.

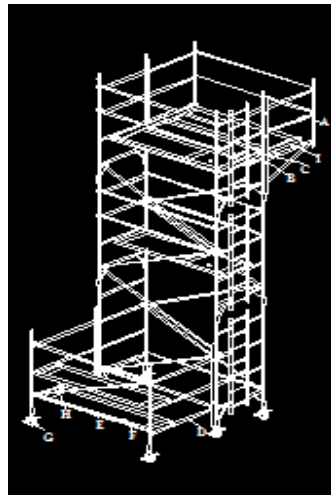
## TYPES OF CANTILEVER

All tower platform heights in meters and weights in kilograms

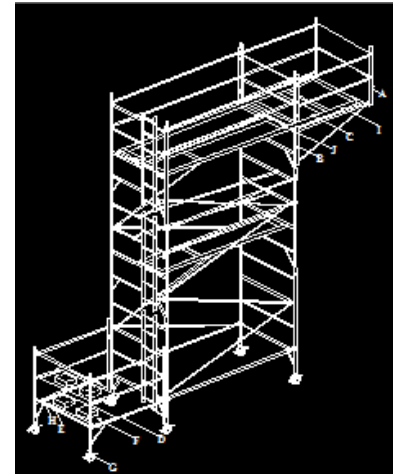
DOUBLE WIDTH-SIDE CONFIGURATION		
DESCRIPTION		QTY
A	DW Cantilever Frame	2
B	Aluminium Swivel Coupler	10
C	Cantilever rigger Platform	1
D	3 rungs DW Span Frame	2
E	Horizontal brace	4
F	Standard Platform	4
G	Castor with Adj Jack	2
H	Diagonal brace	1
I	Toe board Assembly	1



SINGLE WIDTH-SIDE CONFIGURATION		
DESCRIPTION		QTY
A	SW Cantilever Frame	2
B	Aluminium Swivel Coupler	10
C	Cantilever rigger Platform	1
D	3 rungs DW Span Frame	2
E	Horizontal brace	4
F	Standard Platform	4
G	Castor with Adj Jack	2
H	Diagonal brace	1
I	Toe board Assembly	1



DOUBLE WIDTH-END CONFIGURATION		
DESCRIPTION		QTY
A	DW Cantilever Frame	2
B	Aluminium Swivel Coupler	10
C	Cantilever rigger Platform	1
D	3 rungs DW Span Frame	2
E	Horizontal brace	4
F	Standard Platform	4
G	Castor with Adj Jack	2
H	Diagonal brace	1
I	Toe board Assembly	1
J	Trapdoor & Standard Platform for End cantilever	Each 1



DOUBLE WIDTH-SIDE CONFIGURATION	
Tower Platform Height	Ballast Required Buttress
1.20	235
1.70	265
2.20	295
2.80	325
3.00	355
3.80	385
4.30	410
4.80	440
5.30	470
5.80	500
6.30	540
6.80	570
7.30	600

SINGLE WIDTH-SIDE CONFIGURATION	
Tower Platform Height	Ballast Required Buttress
1.20	230
1.70	280
2.20	330
2.80	380
3.00	430
3.80	455
4.30	465
4.80	515
5.30	565
5.80	615

DOUBLE WIDTH-END CONFIGURATION	
Tower Platform Height	Ballast Required Buttress
1.20	157
1.70	179
2.20	201
2.80	223
3.00	245
3.80	267
4.30	272
4.80	294
5.30	316
5.80	338
6.30	361
6.80	383

### Check Tower and cantilever assembly instructions before use

- The MAXIMUM number of persons on a cantilever structure at any one time during assembly and dismantling is TWO.
  - The MAXIMUM number of simultaneous work platforms allowed is ONE.
  - The MAXIMUM number of persons allowed on a Rest Platform is ONE.
  - The MAXIMUM number of persons allowed on a Work platform is ONE.
  - Never remove the ballast with the cantilever structure in place.
  - Never assemble the cantilever structure without correct ballast.
  - Ensure that the Cantilever structure is within maximum platform height stated.
  - Ensure that you have the correct ballast weight for the tower size required and a means of securing it to the Butress structure platforms.
  - All the ballast weight must be spread evenly amongst the platform/platforms and secured in position.
  - Guardrails and Toe boards must be fitted to the working platforms.
  - Never jump on to or off platforms.
  - Do not exceed the safe working load of the platform or structure by accumulating debris, material or tools on platforms as these can be a significant additional load.
  - Never extend your adjustable legs to achieve extra height, these are for leveling only.
  - Never use a ladder or other objects on the platform to achieve additional height.
  - Never climb on horizontal or diagonal braces. Do not gain access or descend from the working platform other than by the intended access system.
  - DO NOT work from the built in ladders, they are a means of access only.
  - Should you require additional Platform height, check kit list on this and the cantilever structure kitting guide for components and ballast requirements.
  - DO NOT assemble a cantilever structure on unstable ground or objects such as loose bricks, boxes or blocks. Only a sound rigid footing must be used.
  - Do not use any cantilever structure which is damaged, which has not been properly assembled, which is not firm and stable, and which has any missing or damaged parts.
  - Ensure the whole structure is level and that ALL castors are locked when the structure is in position.
  - Ensure that ALL Swivel Couplers are tightened fully once in position. All couplers MUST be specific aluminum tower couplers.
  - Do not use Scaffold Couplers.
  - Ensure that all frames, braces and platforms are firmly in place and that all locking hooks are functioning correctly. Ensure that all frame locking clips are engaged. If any missing, replace them.
  - Outdoor Cantilever Structures should, wherever possible, be secured to a building or other structure. It is good practice to tie in all cantilever structure of any height, especially when they are left unattended, or in exposed or windy conditions.
  - Do not use sheeted cantilever structures, Tarpaulin or other materials which could act like a sail.
  - A cantilever Structure must not be used in winds stronger than 7.7 meters per second. (Beaufort scale 4). Be cautious if assembling or using the cantilever structure in open places, such as hangers or unclad buildings wind forces can be increased, as a result of the funneling effect.
  - Do not assemble or use a cantilever structure near un-insulated, live or energized electrical machinery or circuits or near machinery in operation.
  - If an overhead hazard exists, head protection should be worn.
  - Do not lean ladder against the tower, or climb the outside of the cantilever structure. Whatever your intended access system, it should only be used inside the cantilever structure.
  - It is not permissible to attach and use hoisting facilities on cantilever structures, unless specifically provided for by the manufacturer.
  - Check that you have taken all necessary precautions to prevent the cantilever structure being moved, or rolling away. Always apply all castor brakes or use base plates.
  - DO NOT try to move an assembled cantilever structure. If you must move the cantilever structure, remove all materials and personnel; dismantle the cantilever section and tower to no higher than 2m. Remove the ballast last.
  - When moving a cantilever structure, force must always be applied at the base.
  - The cantilever structure should only be moved manually on firm, level ground which is free from obstacles. Normal walking speed should not be exceeded during relocation. The ground over which a cantilever structure is moved should be capable of supporting the weight of the structure.
  - It is not permissible to attach bridging sections between a cantilever structure and a building.
- ALWAYS TAKE CARE OF ALUMINIUM SCAFFOLD AND CANTILEVER EQUIPMENT .REMEMBER YOUR SAFETY DEPENDS ON THE SAFE ASSEMBLY AND USE OF THE EQUIPMENT.RESPECT IT.**

# Assembly Guide...Step 1 Buttress Section

## GENERIC BUILD METHOD FOR SIDE ON AND END ON BUTTRESS SECTIONS

**SIDE ON APPLICATIONS-** ASCEND Double and Single Width 2m, 2.5m and 3m Towers

**END ON APPLICATIONS-** ASCEND Double Width 2m, 2.5m and 3m Towers only

All buttress frames **MUST** be Double width.

Side On position; Cantilever frames should be on the ladder side of the tower, Buttress on the opposite side

End On position; Cantilever frames should be at the Span frame end, Buttress at the Ladder frame end.

Before you start, ensure that all items required for your tower and cantilever are present and that you have sufficient suitable ballast weights and a means to secure them to the platforms to ensure safe use of the completed structure.

If stabilizers are not being used in your main tower structure, build the base section of the tower and then add the buttress and ballast weights before you complete the following the double width or single width 3T tower instruction manual.

On some towers where the diagonal brace pattern ends one rung below the work platform, you may step the last pair of braces up one rung to support the work platform and cantilever (if required)

### SAFE WORKING LOADS (SWL)

**CANTILEVER /WORKING PLATFORM 150Kg**

**COMPLETED STRUCTURE 750Kg**

**BUTTRESS PLATFORM 250 Kg (Per Platform)**

#### IMPORTANT BALLAST INFORMATION

ALL ballast weight **MUST** be evenly over platforms and secured in place.

ALL ballast weight **MUST** be of solid material, not sand, water, other liquids or granular materials. Additional Buttress Platforms may be required on some towers.

**NEVER** remove the Ballast whilst the cantilever section is in place or before the Tower is below 2m platform height.

Single Width Cantilever Frames from Side On or End On builds use the same Ballast weight stated.



1. Insert castor and leg into each of the buttress frames and lock brake when in position.



2. Secure each buttress frame to the main tower structure using an aluminium swivel coupler above the top and bottom rungs of each frame.



3. Fit 1 buttress horizontal brace to the vertical above the top rung and 1 below the bottom rung at the end away from the main tower structure.



4. Fit 1 diagonal brace to the bottom rung of a buttress frame at the furthest point away from the main tower.



5. Fit ballast platform to the bottom rung at the end away from the main tower structure. Level the buttress using a spirit level as a guide; retighten couplers before continuing (if required)



6. Fit the required ballast weight evenly on the ballast platform and secure in place.



7. All additional ballast platforms and weights must be positioned on the buttress frames only, starting above the first.



8. Secure the ballast to the platform(s) to avoid accidental removal.

## Assembly Guide...Step 2 Cantilever Section

The following information shall be displayed prominently at the base of the tower in accordance with BS1139 Part 6:2015

- a) The maximum number of simultaneous working platforms permitted is ONE
- b) The maximum number of persons permitted on the working platform during use is ONE
- c) The maximum number of persons permitted on the tower during assembly and dismantling is TWO
- d) The maximum number of persons permitted on any one platform on a cantilever tower is one
- e) The maximum safe working load(SWL) on working platform(s) on a cantilever tower is 150Kg
- f) The maximum SWL on the cantilever tower is 750Kg
- g) The load class of the prefabricated tower scaffold is Load class 3

### SIDE ON-Single Width Towers MUST use Single Width Cantilever System only



1. Fit 3 Swivel couplers to the vertical above the top rung, below the platform and 2 rungs below the platform. Repeat on the opposite side.



2. Fit cantilever frames; ensure the rungs line up to avoid trip hazards on the platform decks. Ensure couplers are tight.



3. From behind the guardrail braces fit the rigger infill platform.



4. From behind the guardrail braces fit a platform next to the rigger infill platform. (Single Width Cantilever go to step 6)



5. Fit an additional set of guardrails to the top 2 rungs on the cantilever frames for the new platform, pushing down to lock on.



6. Reposition the inner braces to the verticals above the top 2 rungs on the cantilever frames to complete your working guardrails. (Single width cantilever go to step 8)



7. From behind the inner set of guardrails fit a platform next to the one you are on. Go to step 9



8. Reposition the inner set of braces to store ready for safe dismantling on the tower



9. Fit toe boards to complete the

**Dismantling is the reverse of assembly.  
You MUST reposition the stored braces before removing any platforms**

## Assembly Guide...Step 2 Cantilever Section

The following information shall be displayed prominently at the base of the tower in accordance with BS1139 Part 6:2015

- a) The maximum number of simultaneous working platforms permitted is ONE
- b) The maximum number of persons permitted on the working platform during use is ONE
- c) The maximum number of persons permitted on the tower during assembly and dismantling is TWO
- d) The maximum number of persons permitted on any one platform on a cantilever tower is one
- e) The maximum safe working load(SWL) on working platform(s) on a cantilever tower is 150Kg
- f) The maximum SWL on the cantilever tower is 750Kg
- g) The load class of the prefabricated tower scaffold is Load class 3

### END ON-Double Width Tower only, Single or Double Width Cantilever Systems

Note: Fit Platform for end cantilever on main tower where cantilever sections is fitted



1. Fit 3 Swivel couplers to the vertical above the top rung, below the platform and 2 rungs below the platform. Repeat on the opposite side.

2. Fit cantilever frames; ensure the rungs line up to avoid trip hazards on the platform decks. Ensure couplers are tight. Repeat on the opposite side.

3. From behind the rungs/gate fit the Rigger platform on the nearside of Cantilever

4. From behind the rungs fit an additional set of guardrails to the top 2 rungs on the Cantilever frames.**(for single width go to step7)** for the new platform, pushing down to lock on



5. Going through the rungs or gate, from behind the new guardrails fit a platform next to the one you are on.



6. Reposition the inner set of braces (Double width Cantilever only)



7. Fit toe boards to complete the structure

**Dismantling is the reverse of assembly.**