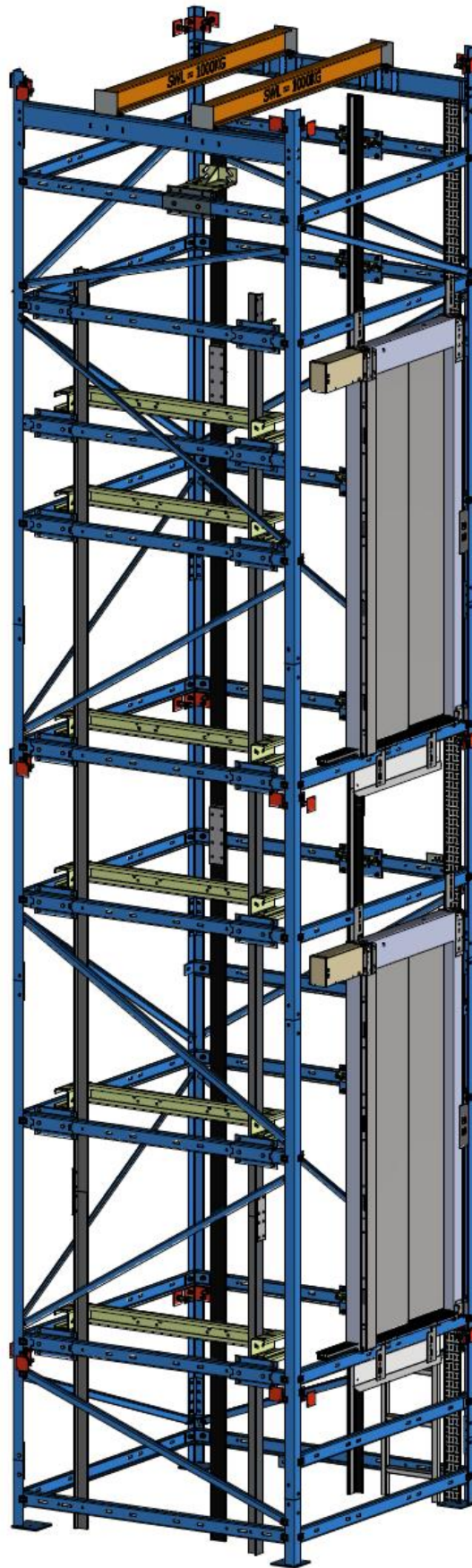


INSTALLATION GUIDE - FX STRUCTURE MP GO! TRACTION XTRALIFT 2.0



Part Number 100018

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1. General introduction:

The intention of this document is to provide information for the correct installation of the Stannah FX structure to accommodate the MP Go! Traction Xtralift 2.0 and to highlight key points and safety procedures.

This guidance manual should be read in conjunction with the contract specific General Arrangement Drawing and the Builder's Work Drawing.


Installing an FX steel structure can be dangerous if safe working practices are not followed. British Standard BS7255 (2012 Code of Practice for Safe Working in Lifts) recommends safe practices for those working on all types of lifts and should be referred to for guidance.

This manual is for guidance only. Owing to our policy of continual improvement, we reserve the right to alter the contents without prior notice.

Hazards identified during the installation of the FX steel structure are, but not limited to:






- Working at height (slips, trips and falls of persons)
- Falling objects
- Manual handling (Unhealthy postures or excessive effort)
- Impact hazard
- Cutting or severing hazard
- Crushing hazard
- Collapse of FX structure (error of fitting)

Please ensure that the installation is suitably planned and that site conditions (e.g. adequate lighting, floor surfaces etc) have been suitably assessed prior to commencement of installation.



NOTE: Heavy equipment. Some components and sub-assemblies are heavy and appropriate precautions must be taken to avoid injury when lifting or moving them.

The following PPE should be worn at all times during installation:

 <p><i>Safety gloves</i></p>	 <p><i>Safety goggles</i></p>	 <p><i>Safety helmet</i></p>	 <p><i>Safety shoes</i></p>	 <p>High visibility clothing must be worn <i>Clothing</i></p>
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2. Measuring and setting out:

All setting out and installation details are given on the Builder's Work Drawing and General Arrangement Drawing. All distances from the structure upright to the shaft walls are given but may vary depending on how plumb the shaft is built.

The centre-line of the car and counterweight guide rails are dimensioned on the General Arrangement Drawing.

Any deviation from the Builders Work Drawing or the General Arrangement Drawing must always be agreed first with the Contracts Drawing Office.

Prior planning should be undertaken to ensure that the guide-rail joints/fishplates and the corner angular upright joints do not coincide with a ring assembly. These will be shown on the builders work drawing. It is also important to pay particular attention to the correct vertical positions of ring assemblies at landing entrance levels.

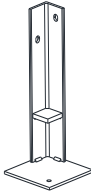
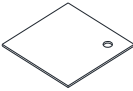

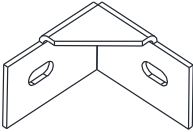
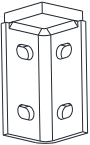


Consideration should also be given to the mounting position of the pit ladder prior to fixing the cable tray for the shaft wiring. Refer to section 5.6 for details.

The landing architraves can be fixed in position in 2 ways depending on whether the building lift well construction is masonry or timber frame. Refer to section 5.7 for details.


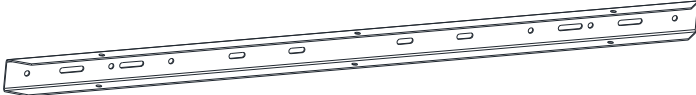
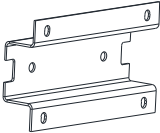
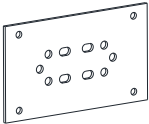
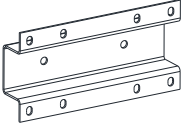
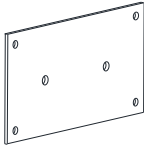

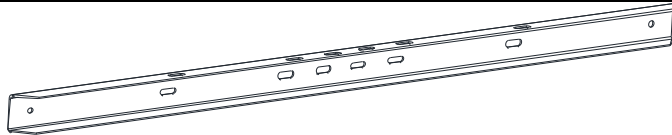



**PARTICULAR ATTENTION MUST BE PAID TO THE HANDING
OF THE GUIDE RAILS AND COUNTERWEIGHT. PLEASE REFER TO THE
BUILDERS WORK AND GENERAL ASSEMBLY DRAWINGS**


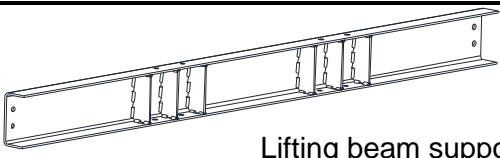

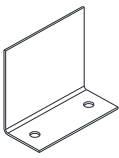

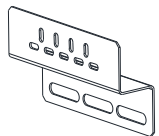
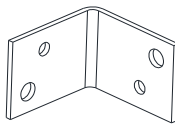
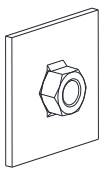
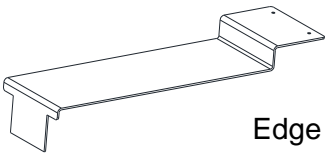
3. Component Identification:

Item	Part Description	Part Ref No.	Qty
1	 Bottom angular upright assembly	1000020	4
2	 Packer for item1 (if req'd)	1000050	6
3	 Joint – angular uprights	1000025	Depends on lift travel
4	 Corner joint bracket - rings	1000034	4 per ring assy
5	 Support bracket – Lifting beam assembly in headroom.	1000028	4
6	 Lower angular upright 2.6m long	1000024-2600	4
7	 Intermediate angular upright 3m long	1000024-3000	Depends on lift travel

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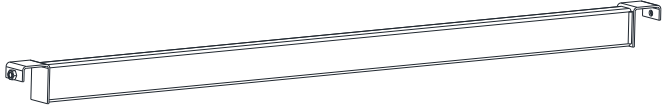


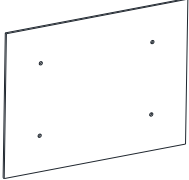
8	 Angular upright – headroom – 3m long (NOTE: Additional holes at upper end for lifting beam frame)	1000027	4
9	 Ring member – both guide sides - depth	1000030-1731 or 1000030-1766 or 1000030-1686	Depends on lift travel
10	 Guide support bracket	1000054	Depends on lift travel
11	 Guide mounting plate	1000056	
12	 Guide support bracket (300 wide)	1000055	2-off (for top car guide fixing on c/w side + pit ladder) on lifts with 2S doors
13	 Guide mounting plate (300 wide)	1000057	Depends on lift travel for lifts with 2C doors.
14	 Ring member - width	1000032-1744 or 1000032-1908	Depends on lift travel
15	 Ring member – landing threshold - width	1000058 or 1000037	1 each landing entrance
16	 Stiffening strip for item 15 (Refer to page 25)	1000059	1 per item 15

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17	 <p>Cross bracing</p>	1000052-1700- 1740-1800- 1840-1900- 1930-1970- 2020-2080-2130	Depends on lift travel
18	 <p>Lifting beam support member</p>	1000061-1731 or 1000061-1766 or 1000061-1686	2
19	 <p>Lifting beam RSJ</p>	1000060-1738 or 1000060-1902	2
20	 <p>Lifting beam retaining bracket</p>	1000039	2
21	 <p>Stiffener – Lifting beam assembly (Refer to page 20)</p>	1000064	4 (2 each for item 18)
22	 <p>Universal bracket – cable runs etc</p>	1000065	Depends on lift travel
23	 <p>Jacking bolt angle</p>	1000043	Depends on lift travel
24	 <p>Jacking bolt plate</p>	1000044	Depends on lift travel
25	 <p>Edge protection plate - scaffolding</p>	1000047-430	7 per working level

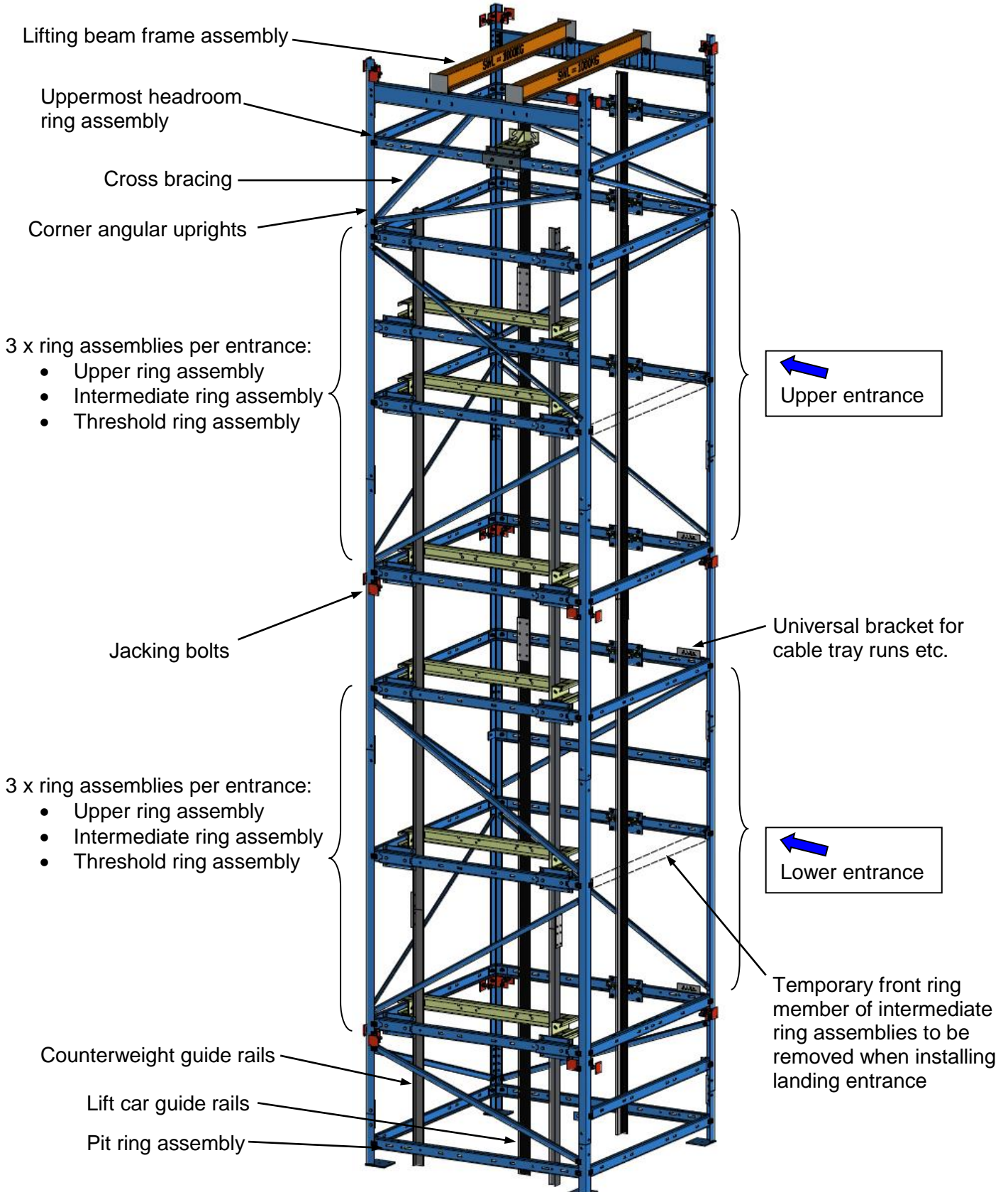
INSTALLATION GUIDE - FX STRUCTURE MP GO! TRACTION XTRALIFT 2.0



26	 <p>Support member – scaffold</p>	1000048-1628 or 1000048-1792	2 per working level
27	 <p>Scaffold board</p>	2000501-2 or 2000501-3	7/8 per working level
28	 <p>Scaffold board retaining angle</p>	1000051	2 per scaffold board
29	 <p>Jacking bolt slip plate (Use on timber frame installations)</p>	1000045	2 per Jacking bolt assy

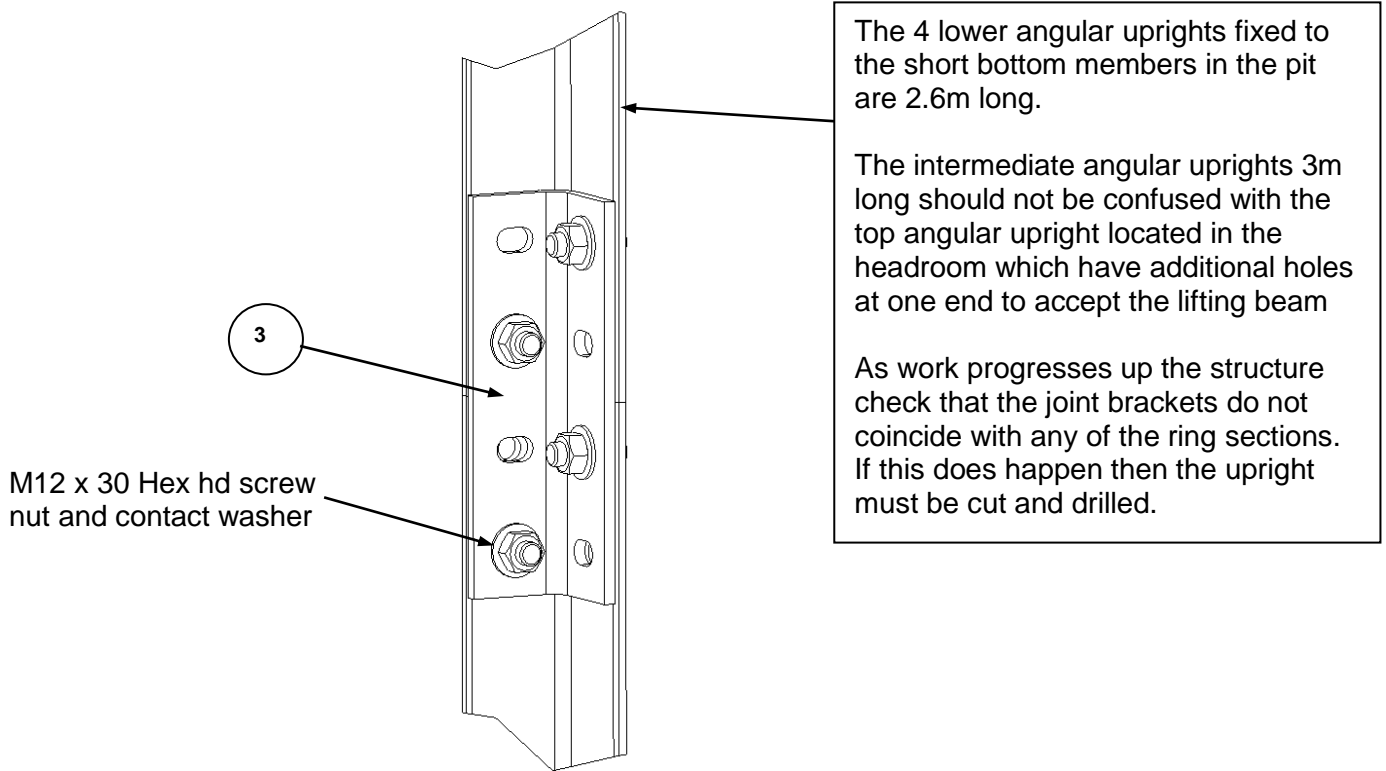
4. Assembly of the Structure Components:


4.1 Typical 2 floor structure with counterweight on left hand side (X entrance)



4.2 Assembly of the Angular Uprights:

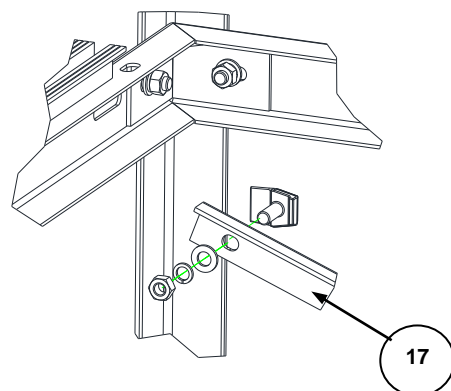
The 4 bottom corner angular uprights (item 1 above) are 366mm long and are located on the pit floor. Intermediate angular uprights are then joined to form the 4 corners of the steel structure.



 Reference should be made to the Builders Work Drawing to ensure that the angular upright joints) do not coincide with guide bracket centres

4.3 Assembly of the Cross Bracings:

Cross bracings of varying lengths should be fitted to all four sides of the FX structure.

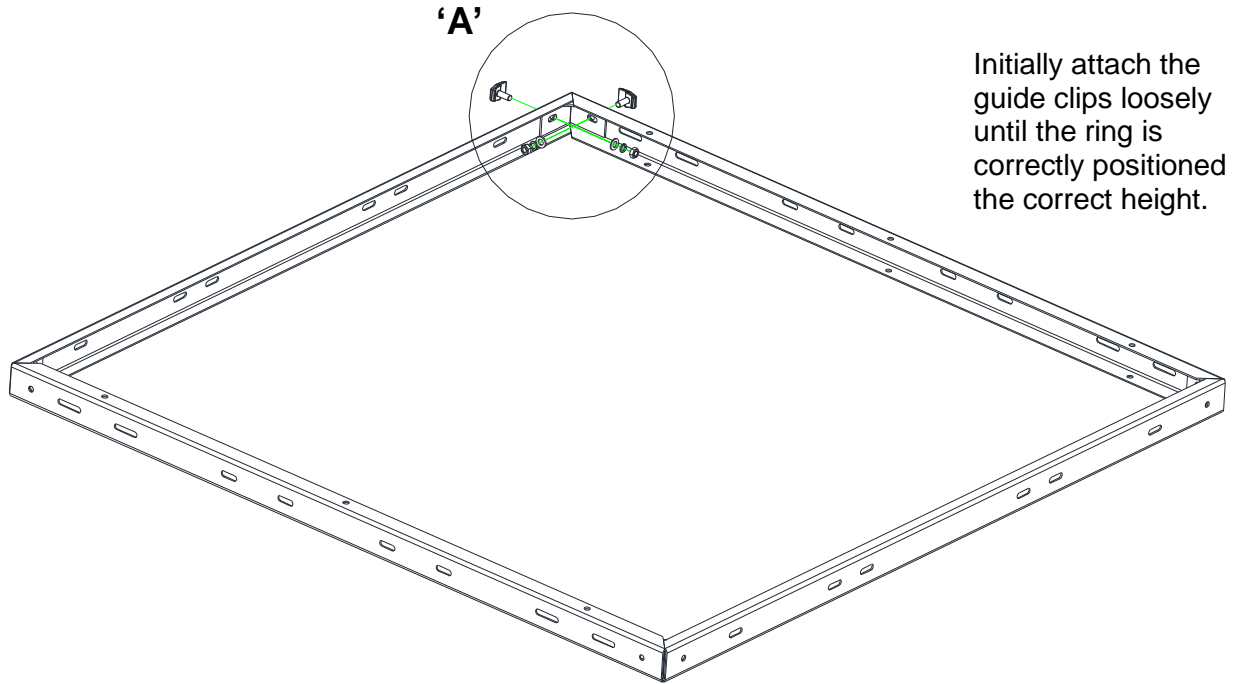


Each cross bracing is fixed to the angular uprights with x 2:
M12 Guide clips
M12 Full nut
M12 Spring washer
M12 Plain washer
Cross bracings should be fitted on the inside of the corner angular uprights where possible. Where this is not possible (e.g. clash with jacking bolts) they can be fitted to the outside.

4.4 Assembly of the Structure Rings:

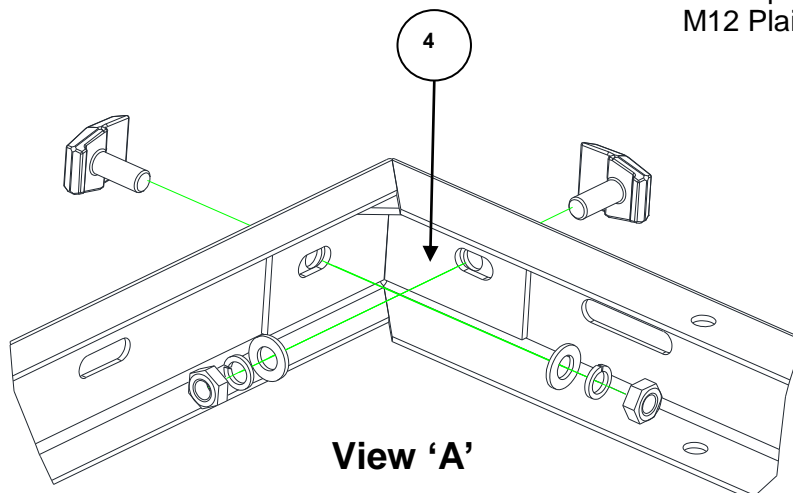


Check handing of car and counterweight guides on the builders work drawing and general assembly for contract



Initially attach the guide clips loosely until the ring is correctly positioned at the correct height.

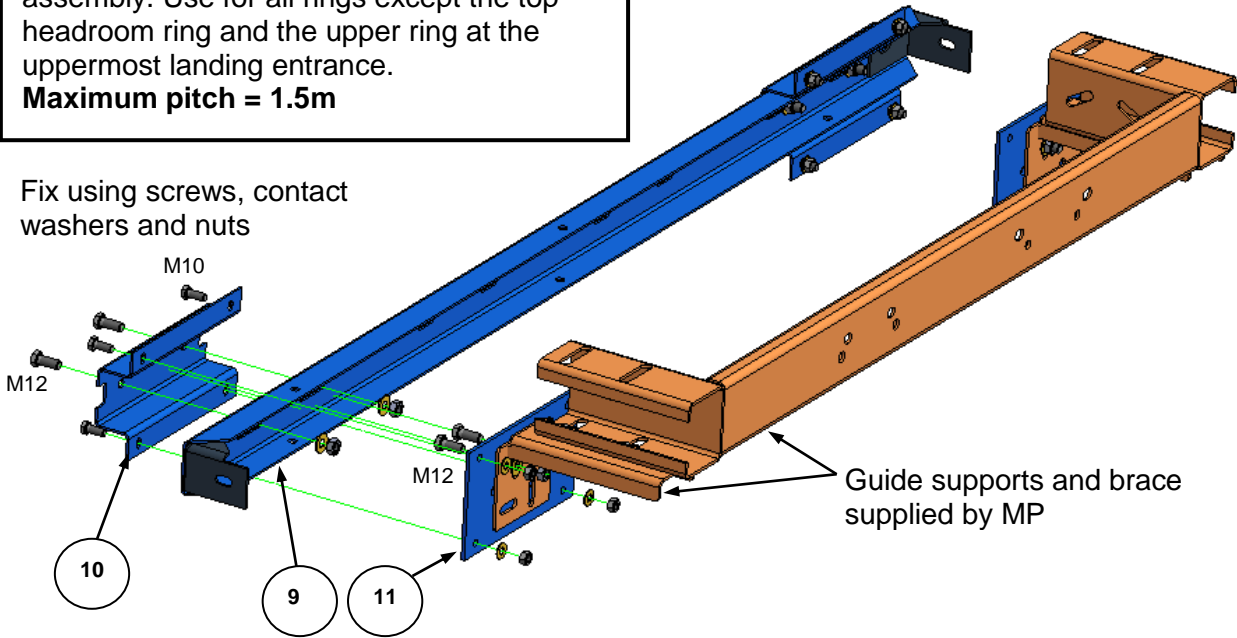
Each corner joint bracket is fixed to the angular uprights with x 2:
M12 Guide clips
M12 Full nut
M12 Spring washer
M12 Plain washer



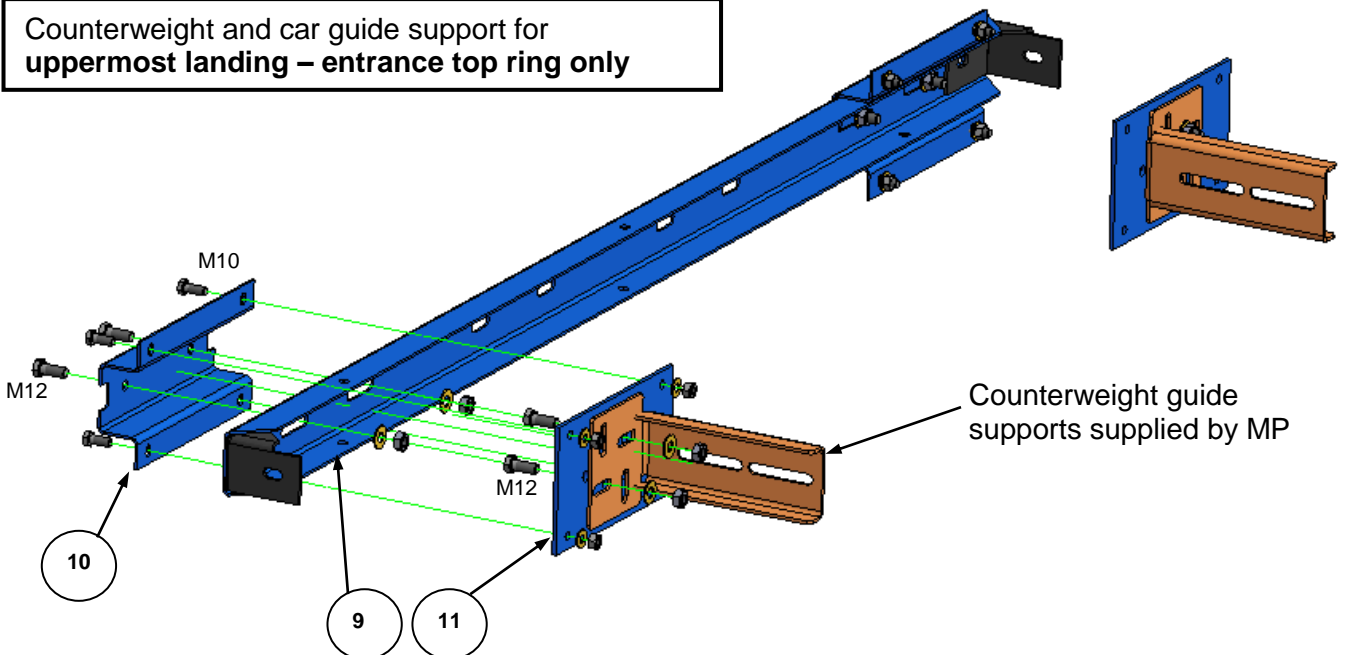
4.5 Assembly of the Guide Bracket Members – COUNTERWEIGHT SIDE:

Counterweight and car guide brace assembly. Use for all rings except the top headroom ring and the upper ring at the uppermost landing entrance.
Maximum pitch = 1.5m

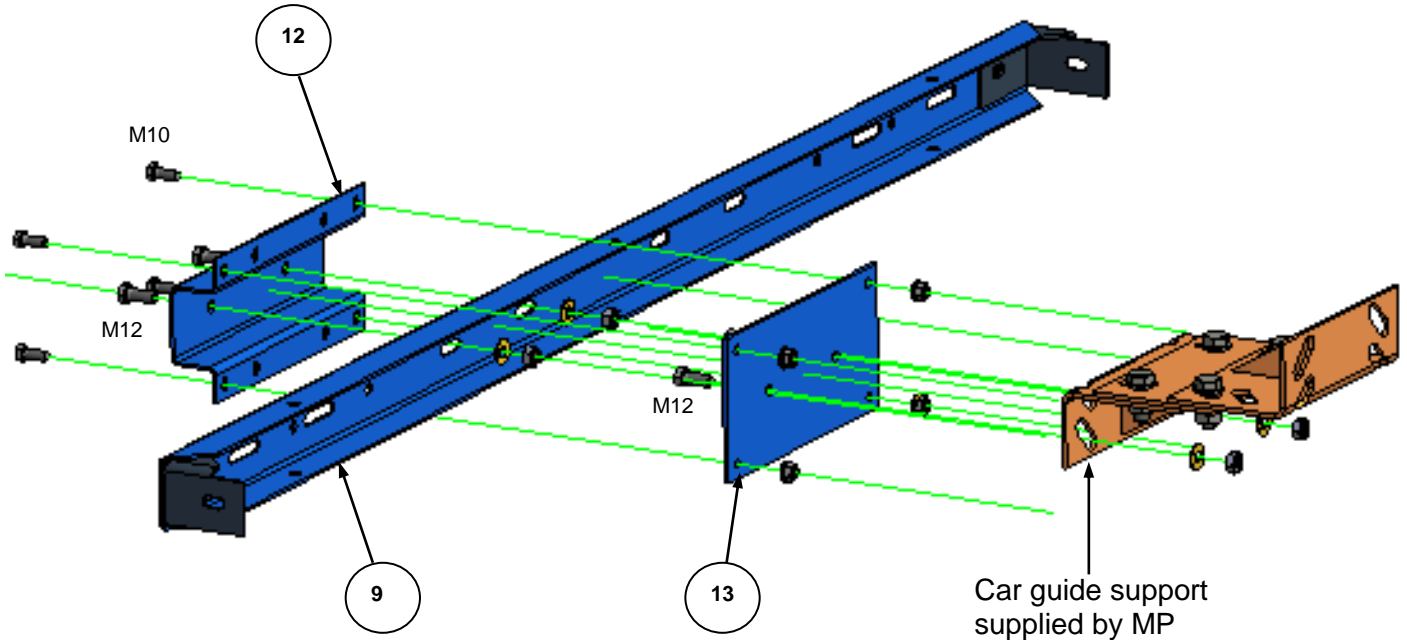
Fix using screws, contact washers and nuts



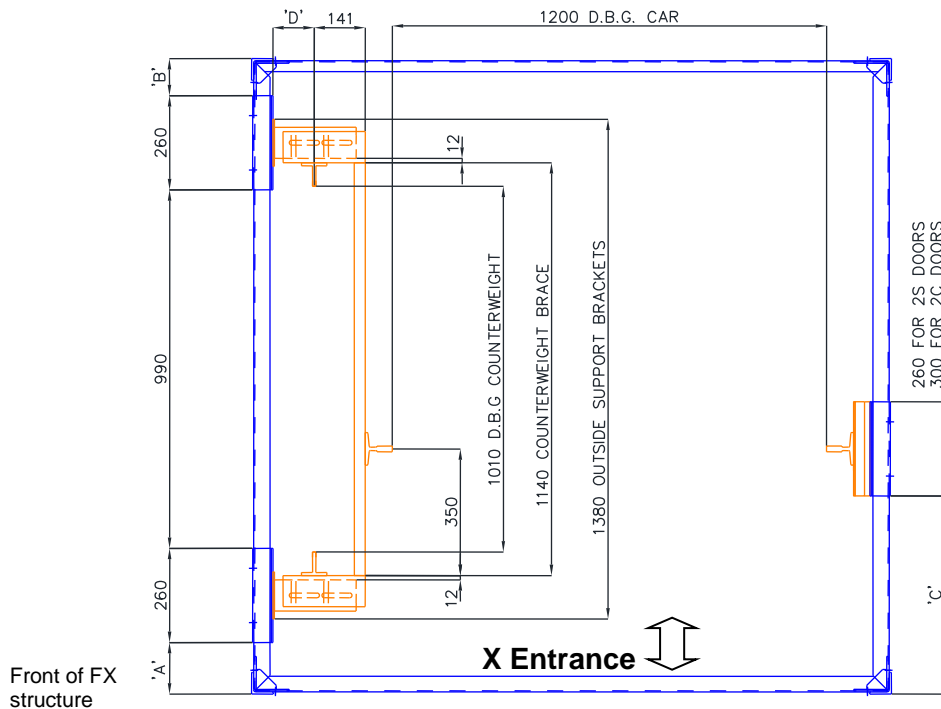
Counterweight and car guide support for uppermost landing – entrance top ring only



Car guide support for **uppermost headroom ring only**



Guide Rail Support Bracket Positions

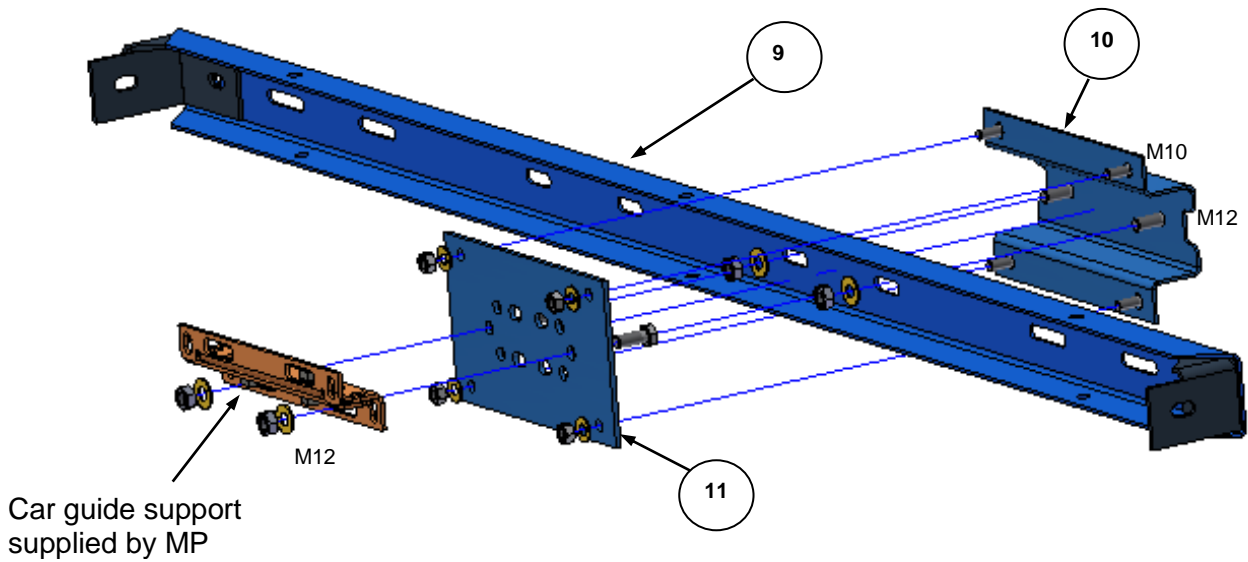


X entrance shown – refer to GA drawing for entrance arrangement

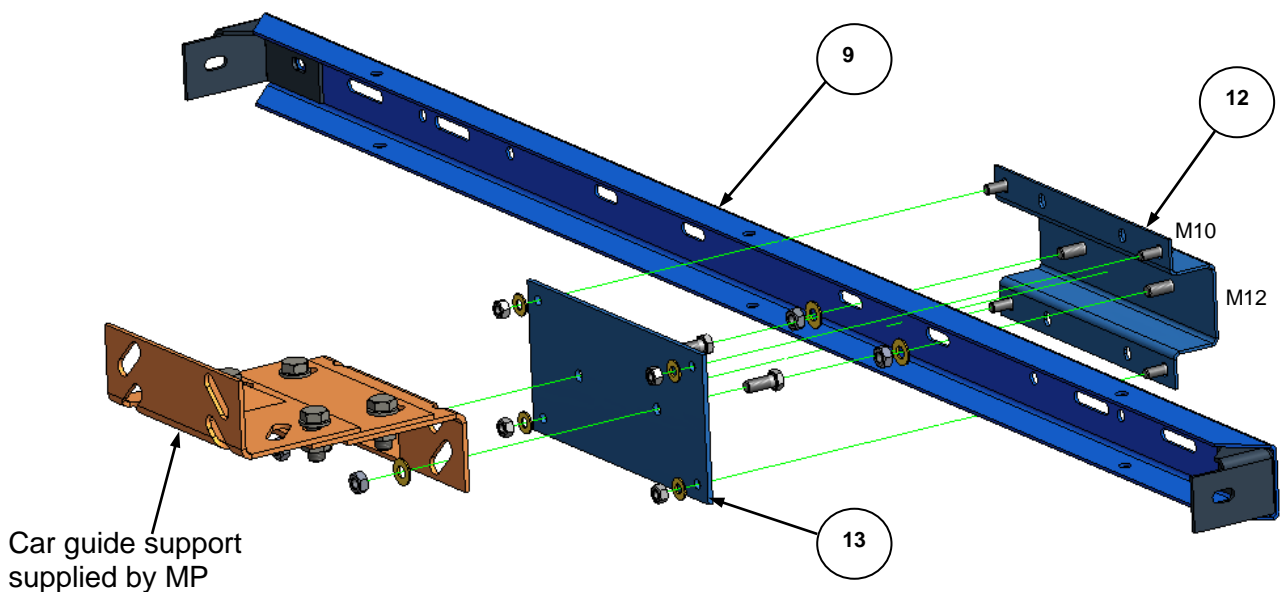
Model	Dim 'A'	Dim 'B'	Dim 'C'	Dim 'D'
800 + 900 2S Single entrance	142	103	547	114
800 + 900 2S Through entrance	140	140	545	114
800 2C Single entrance	117	83	502	142
800 2C Through entrance	123	123	508	142

4.6 Assembly of the Guide Bracket Members – OPPOSITE COUNTERWEIGHT SIDE:

Car guide supports for models with **2S** doors.
Maximum pitch = 1.5m



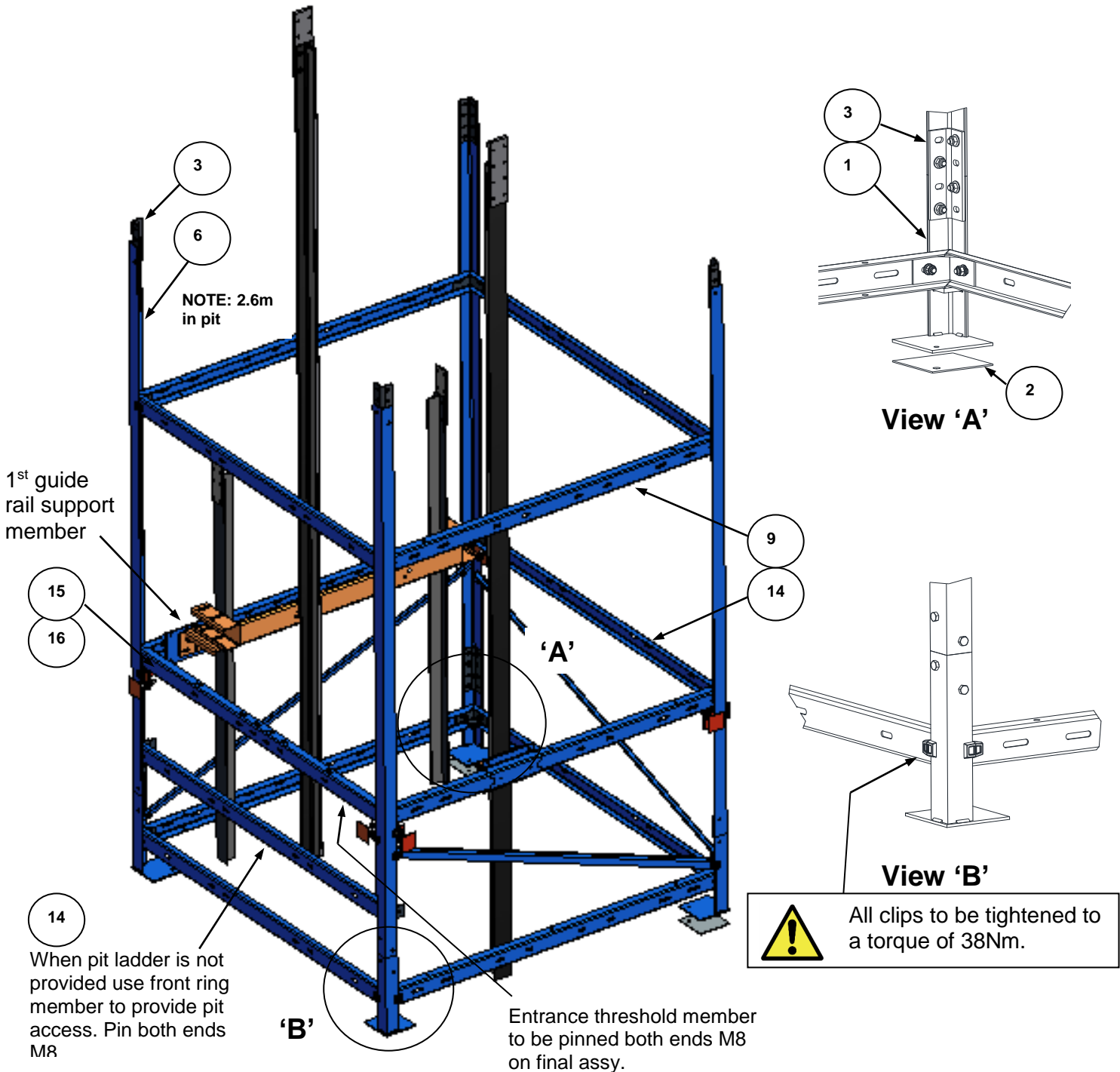
Car guide supports for models with **2C** doors.
Maximum pitch = 1.5m



5. Installing the FX Structure:

5.1 Installing the Pit Members:

The lift pit must be dry and clear from debris. Use packers provided under the bottom angular uprights to ensure that the first ring assembly (supported by welded pads) is level.

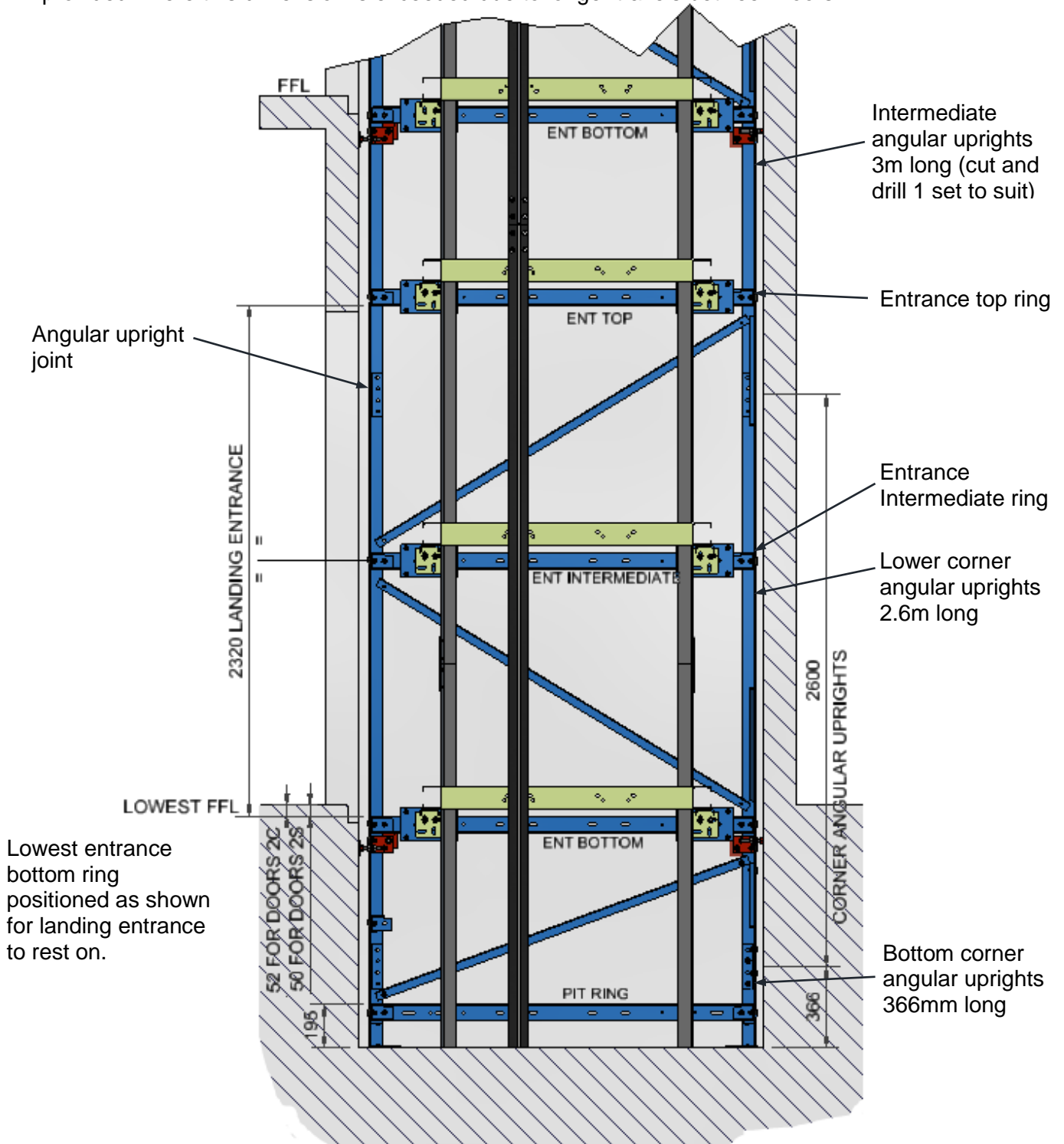


Note: Square up the pit ring section and uprights, then plumb the rest of the structure off the pit ring section.

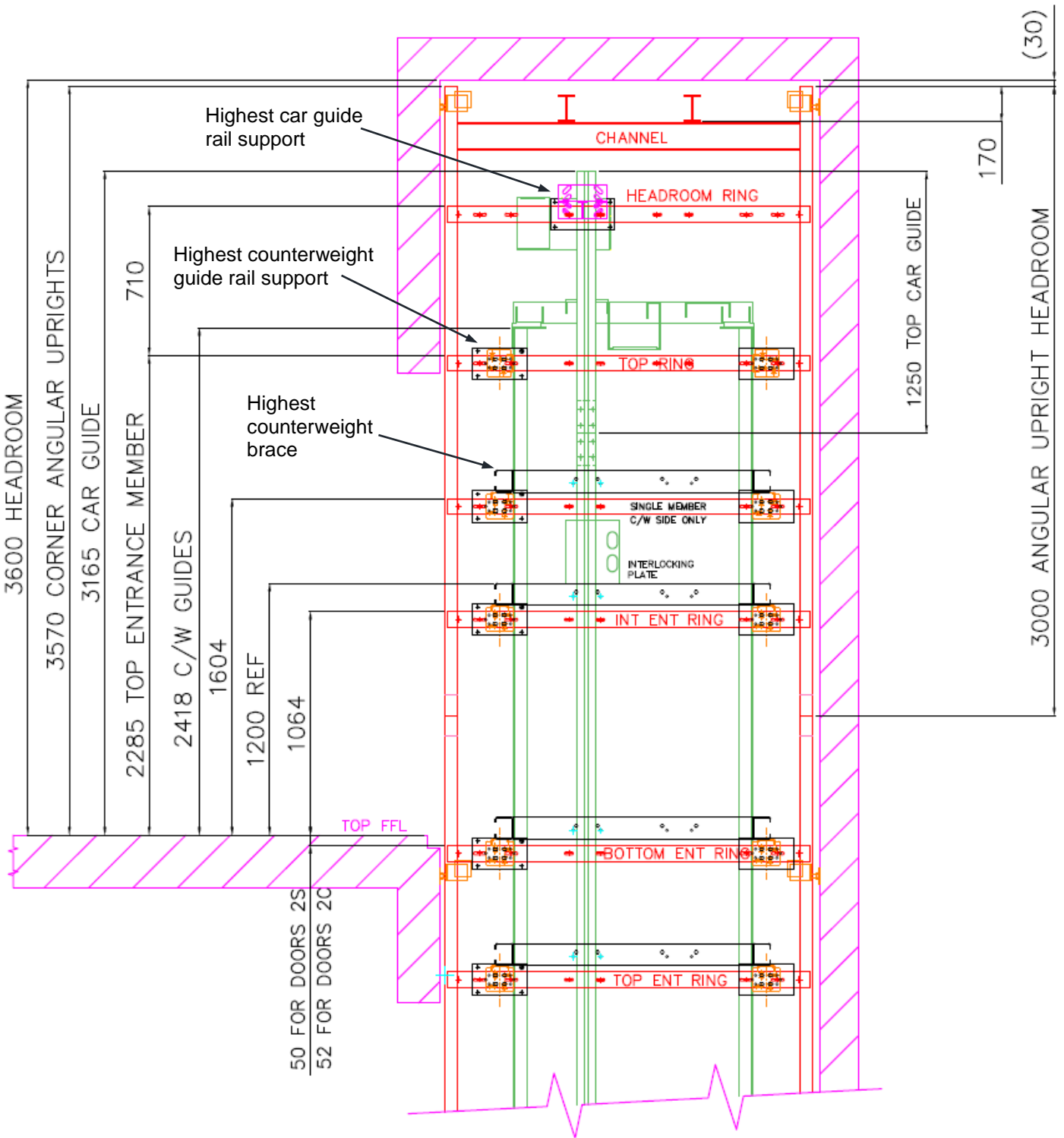
5.2 Installation of the Ring Assemblies:

Prior to the erection of the tower structure it is advisable to segregate all the ring components into small batches which, when assembled will form the individual rings. The channels which make up the rings are pre-punched to accept the landing entrances, brackets for cable runs etc.

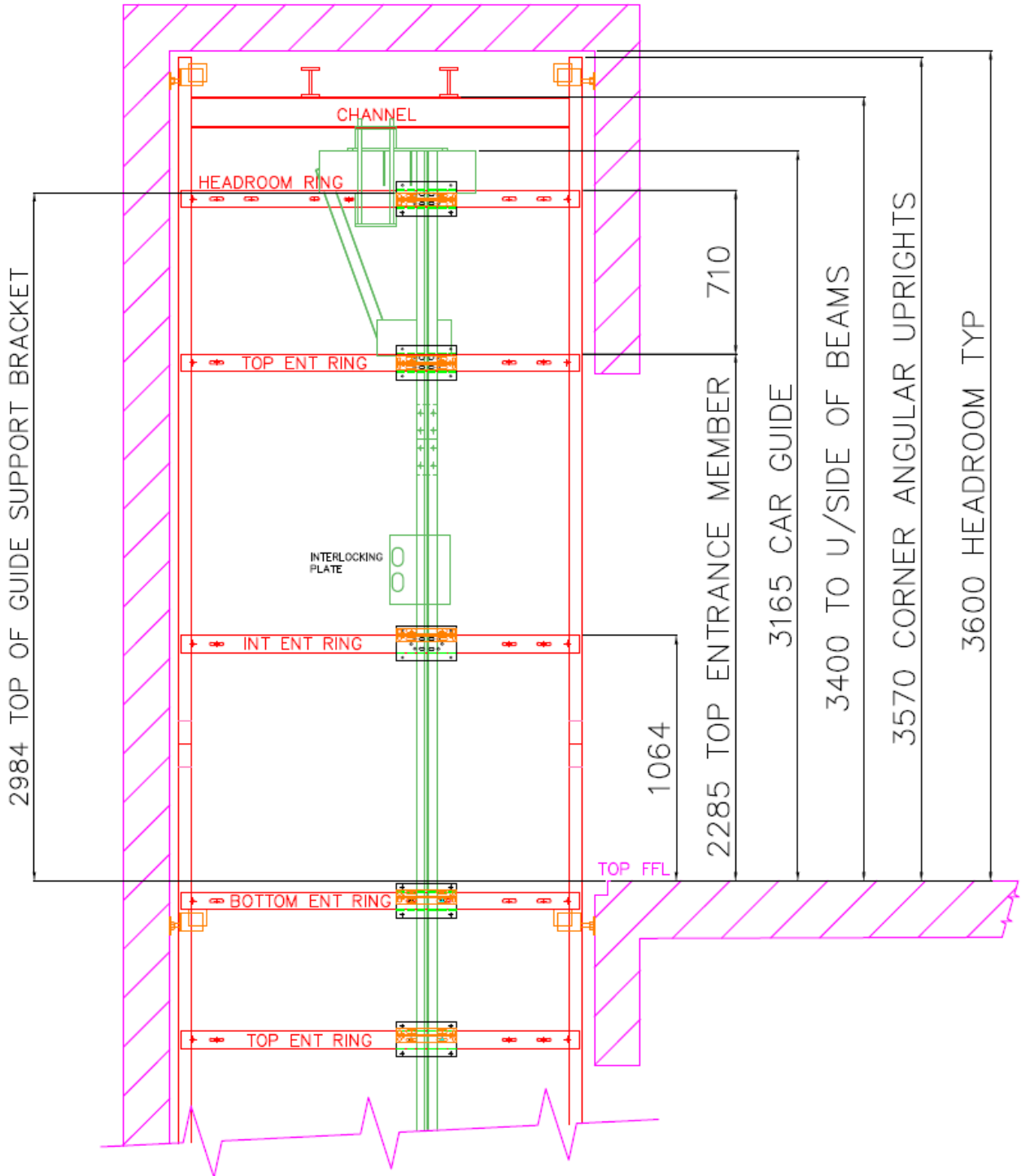
Ring assembly pitches should not exceed 1200mm. Additional ring assembly components are provided where this dimension is exceeded due to longer travels between floors.



Side view shows pit and lowest floor entrance



Sectional side view shows headroom (3600mm) and top floor entrance - Lift machine/Counterweight side



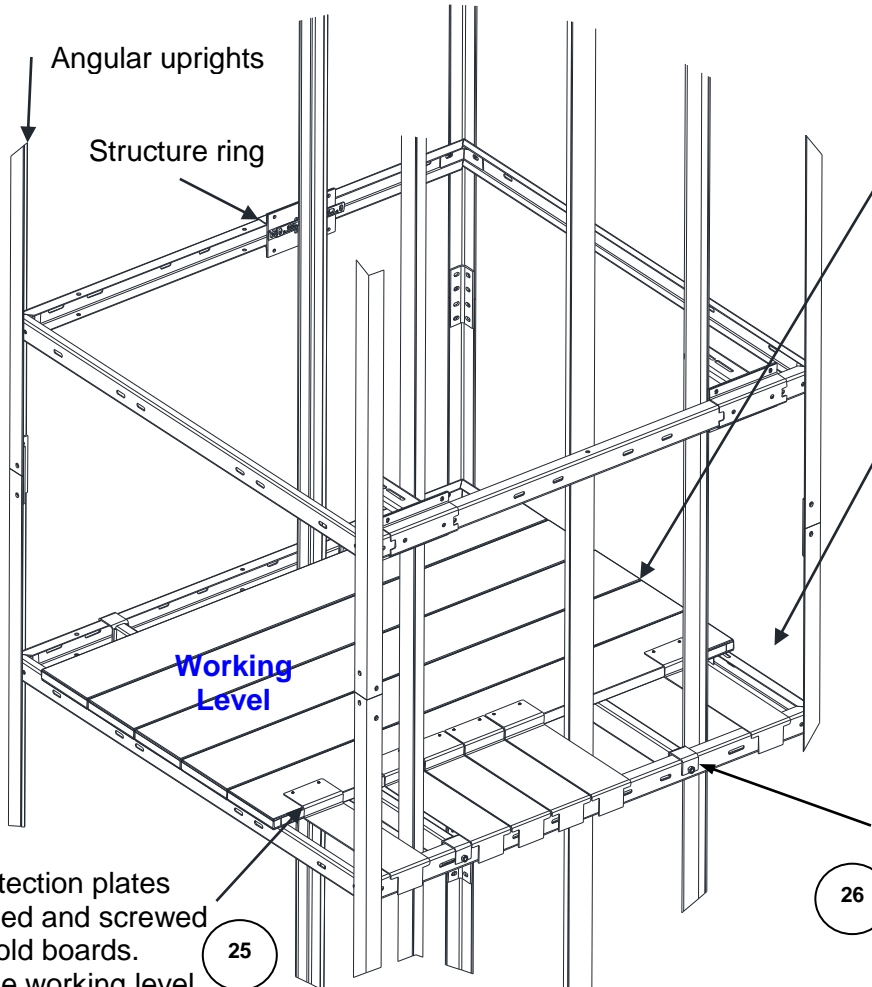
**Sectional side view shows headroom (3600mm) and top floor entrance -
Rope hitch side - Opposite counterweight**

5.3 Structure Working Platform:

The FX structure should be boarded out as below to provide working platforms during installation.



Max SWL distributed on the working platform = 500kg
Keep the working level fully boarded until installation of the guide rails.
The level below the working level must also be fully boarded and shall be at a vertical distance not exceeding 2 metres.



Ensure that the boards are supported at each end by the full flange of the structure ring section. They should not project more than 200mm beyond the support, unless secured to prevent tipping.

The working level and level below must comprise a complete structure ring with 4 steel members and a corner joint bracket in each corner. (Landing entrance mid-members can be removed later).

Ensure guide clips securing the ring assemblies to the corner uprights have been tightened prior to using as a working platform.

2 x steel members to support the scaffold boards which must be used at all times. They must be located so that **the scaffold boards are supported at a span not exceeding 1200mm**. Clamp the support members in place using the M12 fixings provided.

Fall protection plates positioned and screwed to scaffold boards. Keep the working level fully boarded until installation of the guides

25

26

Board retaining angles fitted to the underside of the boards with No.14 x 3/4" self-tapping screws provided. See additional note below.

28

27

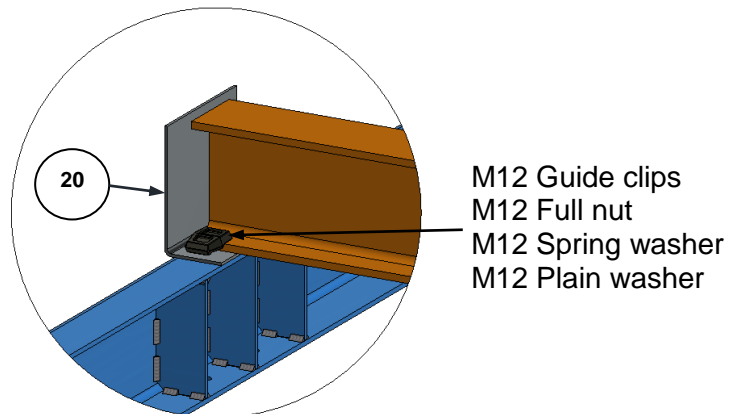
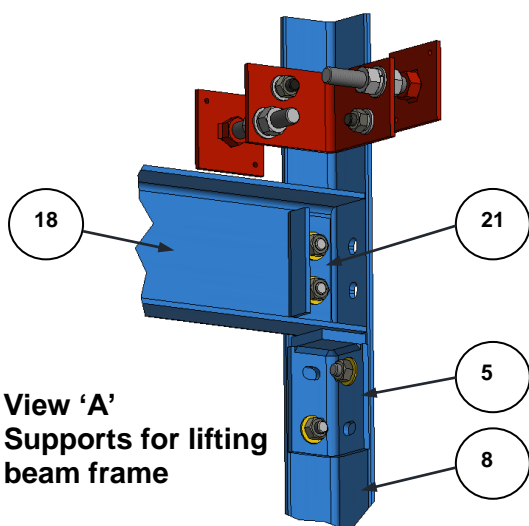
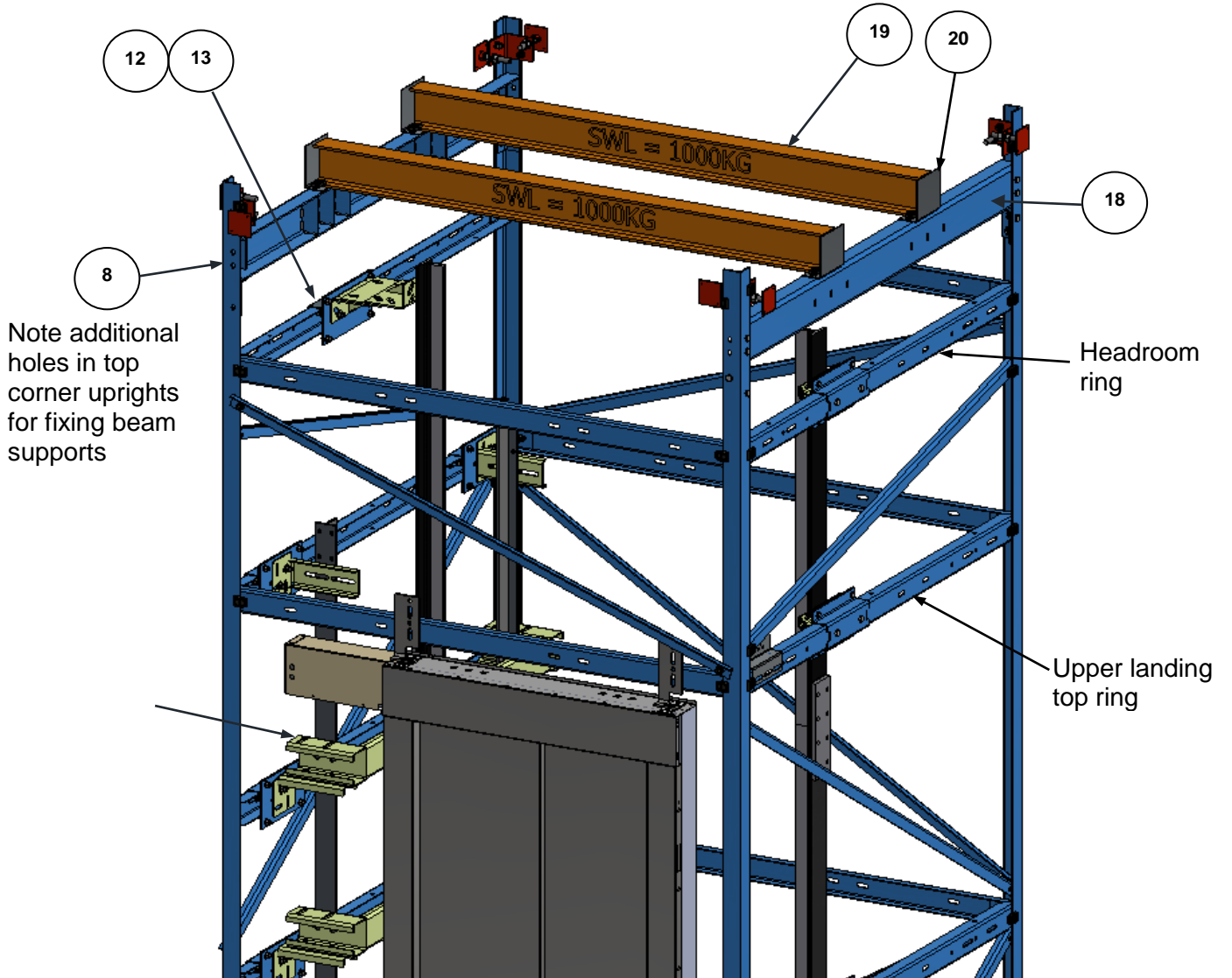
Banded scaffold boards

View shows the underside of the scaffold board.



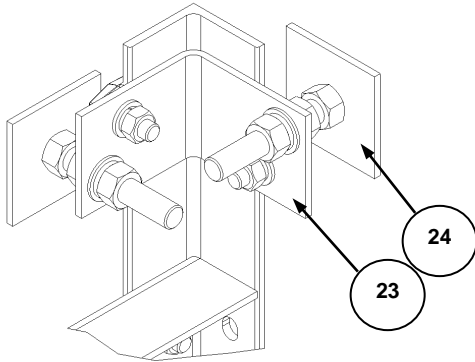
Note: Ensure that the distance outside the board retaining angles is only 10mm less than the inside dimension of the steel ring.

5.4 Headroom/Lifting Beam Assembly:



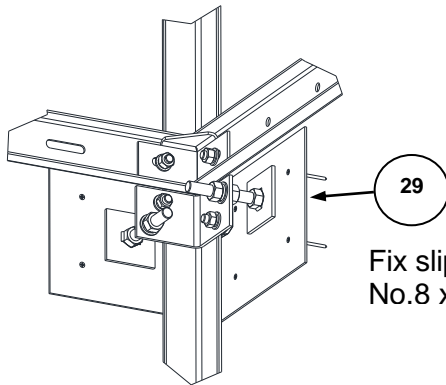
5.5 Plumbing and Stabilizing the Structure:

The FX structure assembly should be positioned the required distance from the landing as shown on the Builders Work and General Assembly drawings.



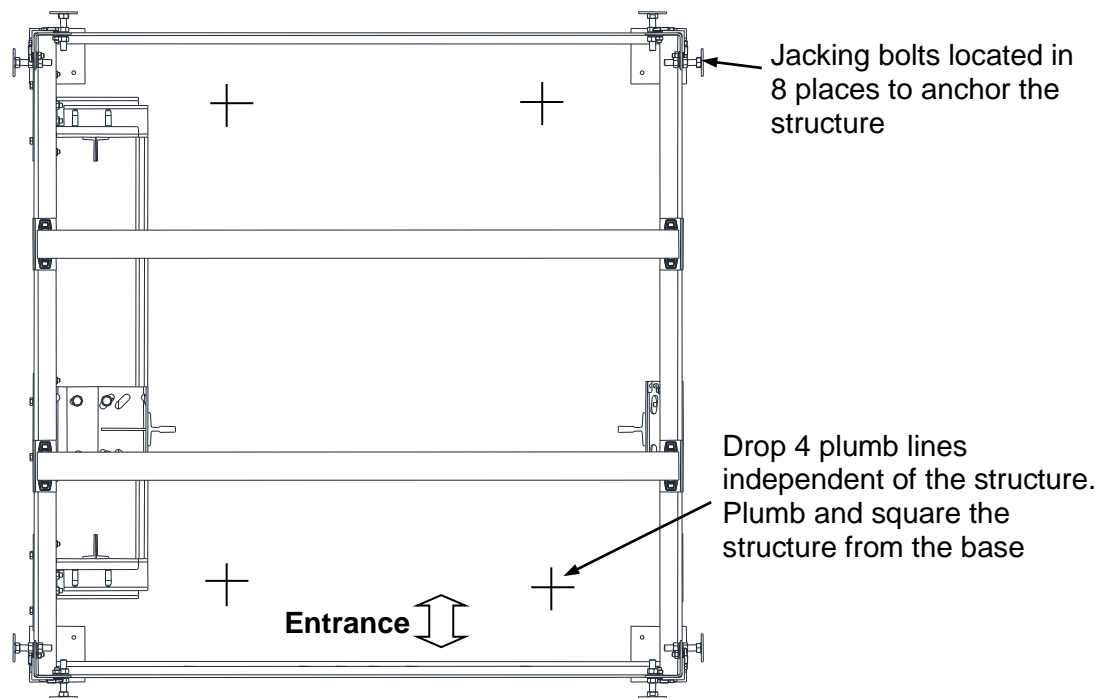
The structure assembly is plumbed and stabilised using jacking bolts.

The structure should be anchored where possible to resilient building material at each floor level, at the top of the structure and at any intermediate points where the pitch between jacking bolts exceeds 4m.



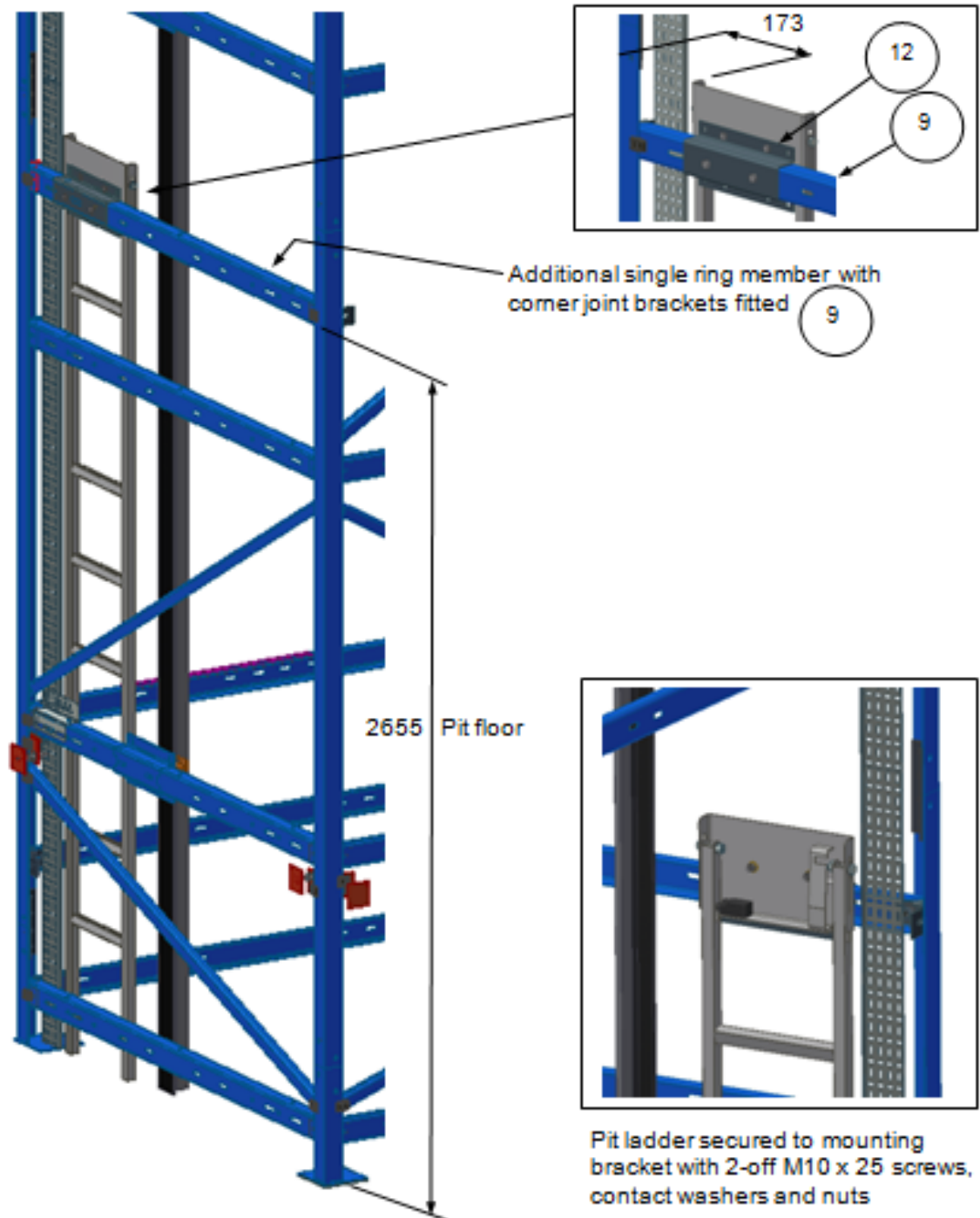
i For timber frame structures, fix steel slip plates between jacking bolt plates and lift well. Refer to the Builders Work Drawing for details.

Fix slip plates to timbers with No.8 x 65 CSK screws

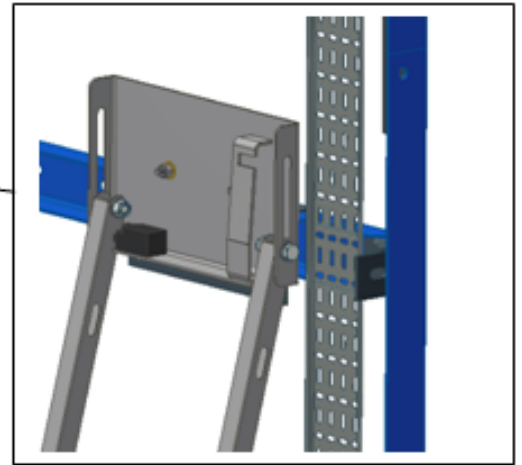


5.6 Installing the Retractable Pit Ladder (to EN81-20)

5.6 Installing the Retractable Pit Ladder (to EN81-20):



Pit ladder shown in the stowed position – supplied by MP



Ensure electrical safety switch is activated to prevent lift operation when not in stored position.

Ensure feet of ladder are in contact with the pit floor when in the deployed position.

Pit ladder shown in the deployed position – supplied by MP

5.7 Fixing of the Landing architraves:

The landing architraves can be fixed in position in 2 ways:

1. Directly to the FX steel structure for masonry building construction.
2. To timber infill members which form part of a building timber frame construction. This method allows for settlement of the building due to the nature of the construction.

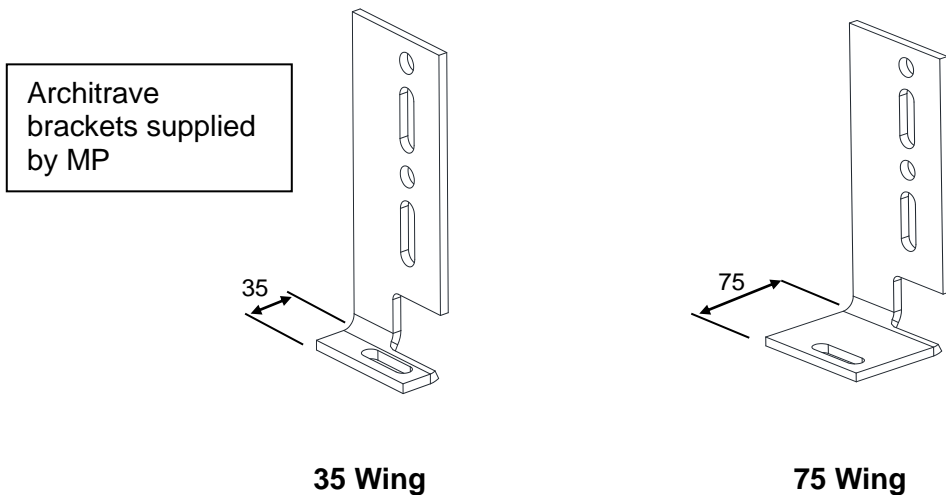
Both of the above methods utilise the architrave support brackets (4off per entrance) supplied by MP. Bracket designations are listed in the following table:

Method1: Masonry Construction - Fixing Direct to FX Steel Structure

Door Type	Bottom Bracket Type	Top Bracket Type
2 Panel Side Opening	35 WING	35 WING
2 Panel Centre Opening	35 WING	35 WING

Method 2: Timber Frame Construction - Fixing to Timber Infill Members

Door Type	Bottom Bracket type	Top Bracket Type
2 Panel Side Opening	75 WING	75 WING
2 Panel Centre Opening	75 WING	75 WING

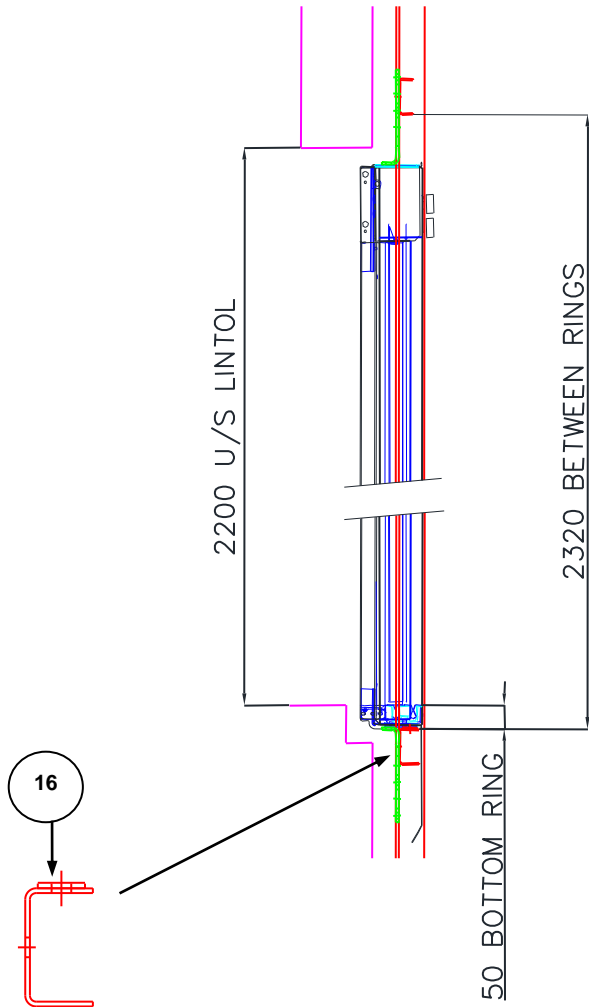


Reference must be made to the Builders Work Drawing to ensure the correct positioning of the landing entrances and the correct method of fixing.

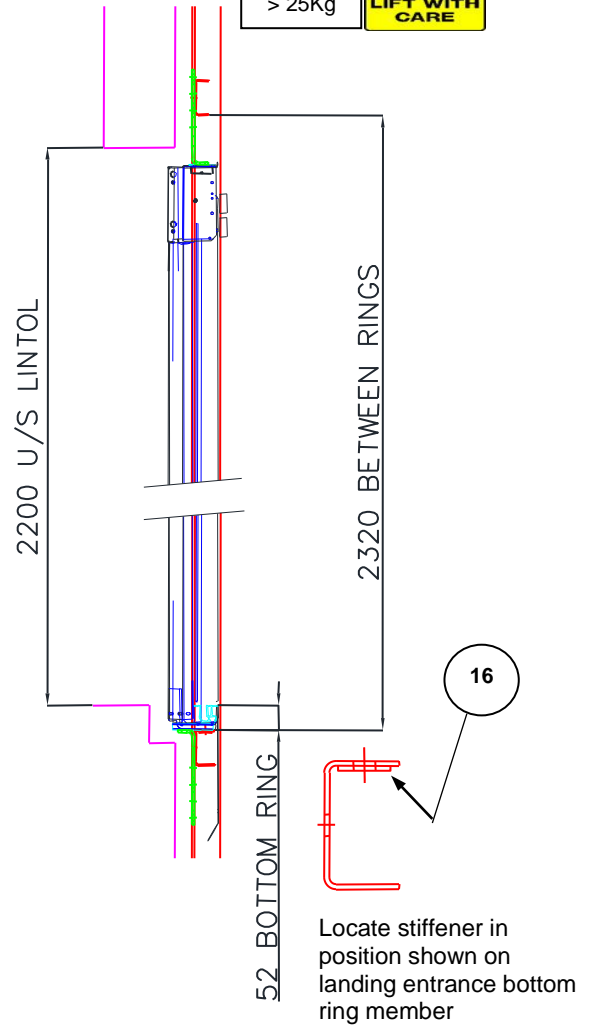
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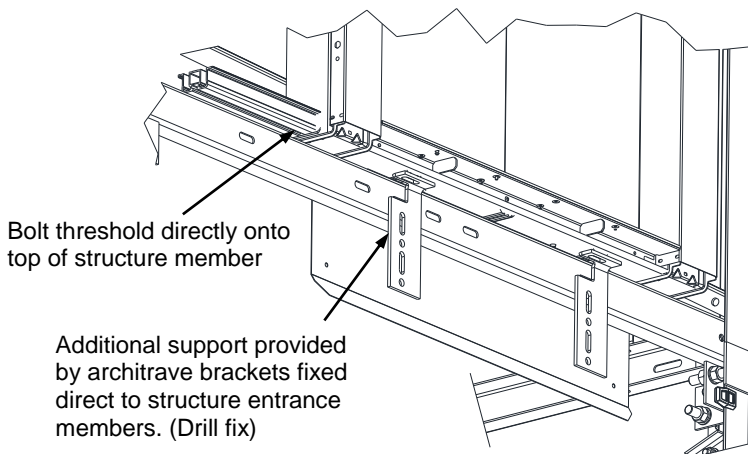
Method1: Masonry Construction - Fixing Direct to FX Steel Structure:



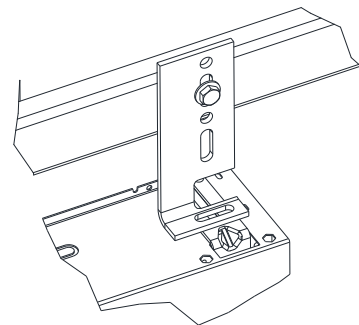
2 Panel Side Opening



2 Panel Centre Opening

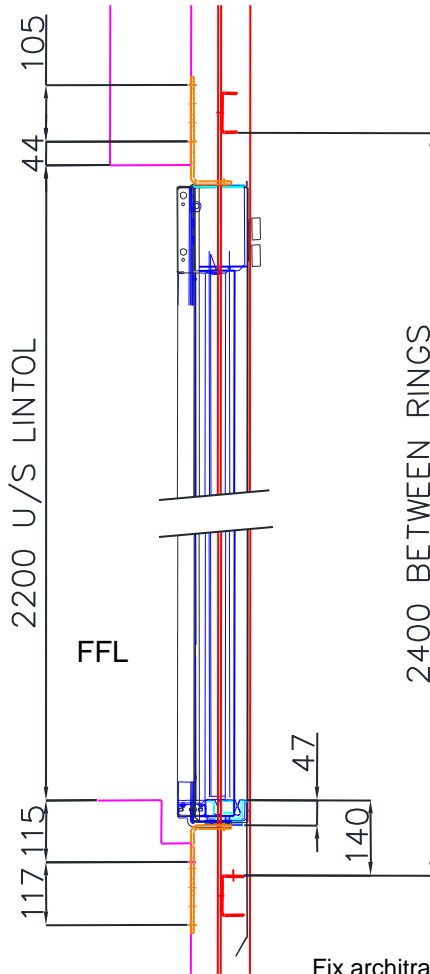


Bottom architrave brackets x 2

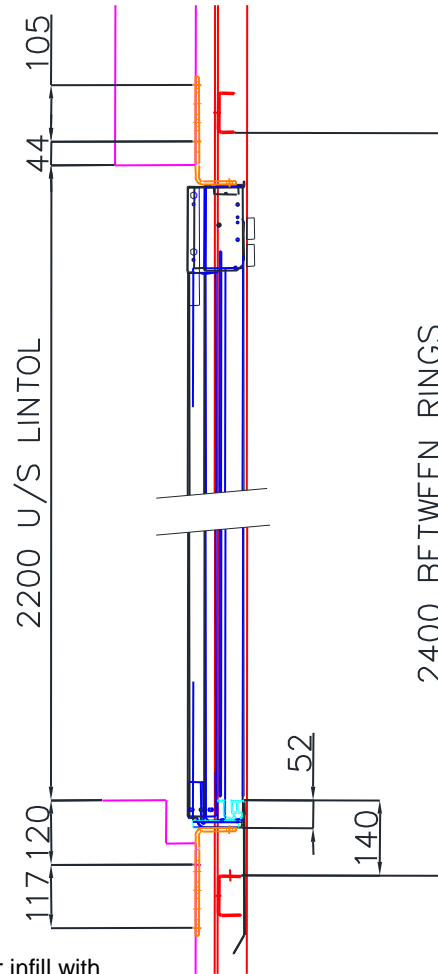


Top architrave brackets x 2

Method 2: Timber Frame Construction - Fixing to Timber Infill Members:

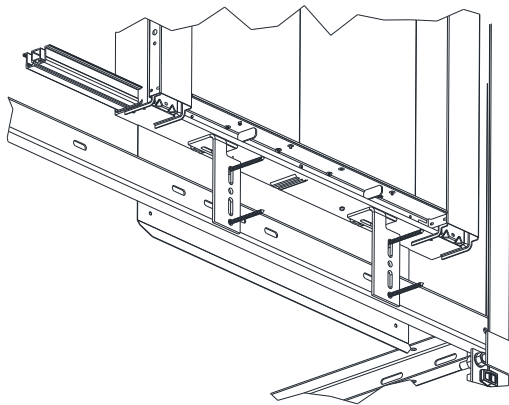


2 Panel Side Opening

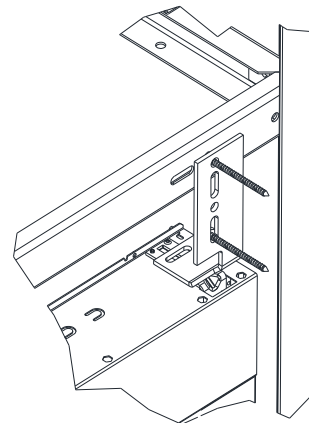


2 Panel Centre Opening

Fix architrave brackets to timber infill with M10 x 100 coach screws



Bottom architrave brackets x 2



Top architrave brackets x 2

6. Revision History:

6.1 DOCUMENT HISTORY			
Issue	Changes	Name	Date
1	Document introduced	PAJ	Oct 2013
2	Dim 'A' and Dim 'B' in table for guide rail support bracket positions (page13) all increased by 10mm. Dim 'D' also added.	PAJ	Jan 2015
3	Section 5.6 added – Installing the retractable pit ladder (to EN81-20)	PAJ	April 2015
4	Document amended for 1500mm max pitch of guide brackets (from 3000mm). Sectional side view added (page 18) showing rope hitch.	PAJ	Sept 2017
5	Additional safety notes added to Section 5.3 for working platform – taken from TD3005 rev G. Includes max span of unsupported boards to be 1200mm and distance outside scaffold board end angles to be only 10mm less than inside dimension of the ring. This was raised on incident report IR30061.	PAJ	18/05/21