



Installation Manual – Summit

 **PlayCo**

Contents

Prepare the site.....	1
Equipment required for installation	1
Check the contents of the crate	2
Securing the site while work is in progress	2
Preparation for installation.....	2
Reading the Plans	3
Installation	3
Installing Footings.....	3
Installing Structure.....	6
Tube Joiner.....	17
Assembly Guide Steps	19
Before Leaving the Site	27
Safety and Maintenance Inspections.....	27
Routine Visual Inspection.....	28
Operational Inspection.....	29
Comprehensive Inspection.....	30

Prepare the site

Before any installation you should be familiar with the requirements of AS 4685 (Parts 1-6) – 2021 “Playground equipment – safety requirements and test methods” (particularly relating to fall zone requirements), AS/NZS 4422:2016 “Playground surfacing – specifications, requirements and test method” (relating to the type and depth of your soft-fall surfacing), and AS/NZS 4685.0:2017 “Playgrounds and playground equipment – development, installation, maintenance and operation” (dealing with your site requirements and ongoing maintenance).

1. This equipment is normally designed for installation on a flat level surface so you should ensure that your play area is prepared correctly.
2. Check that the site is clear of underground power and services before you commence digging.
3. Measure the site to ensure that it is large enough to allow for the correct fall zones between the equipment and the outside of the soft-fall surface, and correct distances between various items of equipment. If you are unsure of these requirements you should check with your Forpark representative.
4. For ease of installation, do not put the soft-fall surfacing in until after the equipment has been installed. Ensure that you allow for the required soft-fall depth when excavating the site. Any excavation should take place before commencing the installation of the equipment.

Equipment required for installation

1. Ratchet (or socket set) with 1/2" driver
2. Ratchet (or socket set) with 3/8" driver
3. Cordless drill
4. Shovel for digging holes (preferably long-handled)
5. If digging in hard ground, you may need a 300mm auger and a crowbar
6. Spirit level
7. 'G' clamps (for holding items in place before bolting)
8. String line or laser level
9. Wheelbarrow
10. An axe (for cutting tree roots if they are in the way)
11. Concrete for footings
12. Crane
13. Cherry Picker
14. Mechanical lifting aids
15. A basic first aid kit for emergencies
16. 'Occupational Health and Safety' plan and procedures if applicable including relevant crane and working at heights equipment and certifications

Check the contents of the crate

In addition to the equipment itself, you should also have the following:-

1. Plans of the play structure
2. Materials or packing list
3. Tri-lobe driver (driver with a rounded triangular head which fits onto your ½" socket)
4. Post Torx Driver (driver with a star-shaped head that fits into the ¼ inch socket)
5. Tech Screw Driver
6. Nuts and bolts, etc.
7. Touch up paint
8. Loctite

Securing the site while work is in progress

You should ensure that the worksite is clearly defined by some sort of barrier or a temporary fence to ensure that children or onlookers are not in danger of injury while you work. The concrete footings will need at least 7 days to set, so a barrier or fence will keep people off the equipment until it is ready to be used and until adequate soft-fall surfacing has been installed.

Preparation for installation

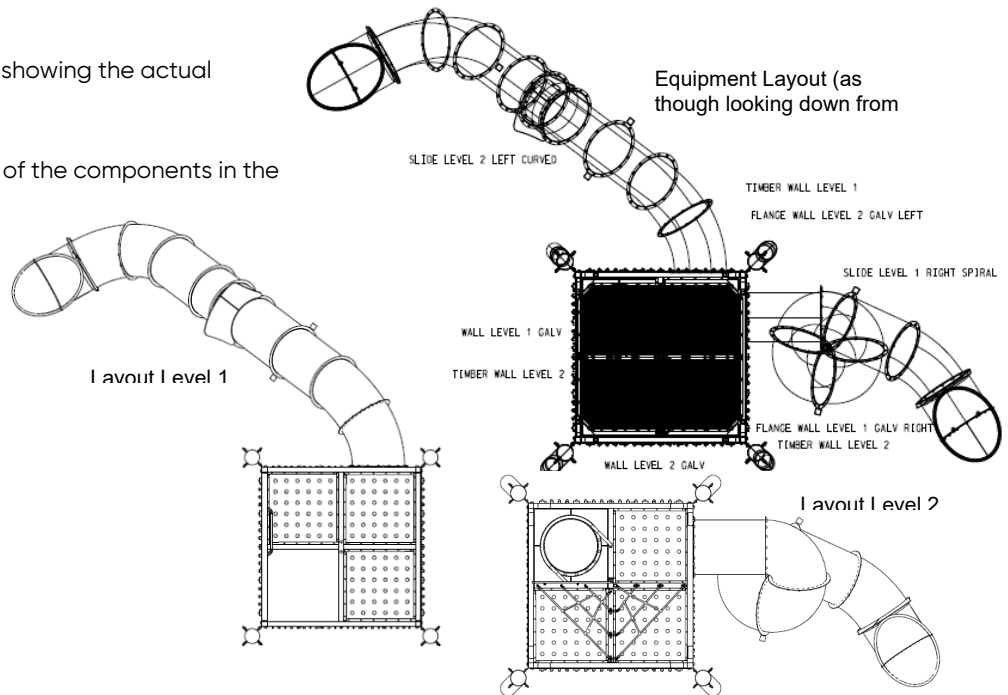
1. Before you commence installation you should familiarize yourself with the general instructions of this manual.
2. Once ready to commence installation you should lay out the equipment and ensure that you have all items detailed on the materials or packing list. (Some items listed on the packing list, such as caps, may already be attached to other components.)
3. Assemble the legs that go in the ground with the jig frame parts.
4. Lay the frame roughly on the ground to ensure that it fits within the prepared area and that all required fall zones are met.
5. Determine the proposed finished surface level and use a string line to set this level. This will help in ensuring that the items are set at their correct height above ground level.
6. Use normal class concrete with a strength grade of N32.

Reading the Plans

You have been supplied with a plan showing the actual layout of the equipment.

The plan shows the position of each of the components in the structure and items attached on each level (1, 2 or 3 story structure).

You have also been supplied with a set of drawings that indicate the position of the items for each level and an isometric image of the full structure.

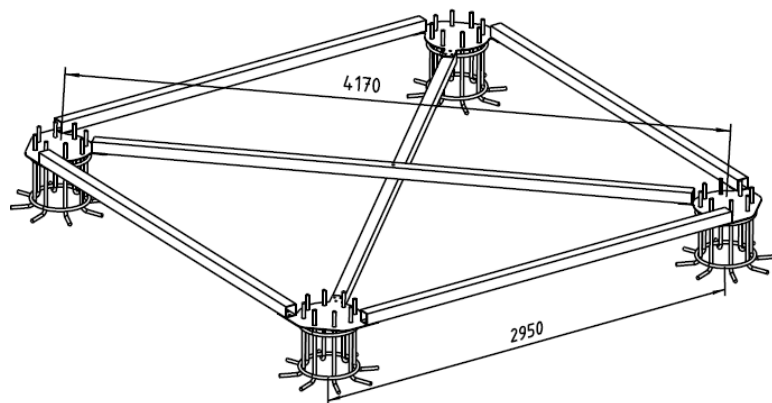
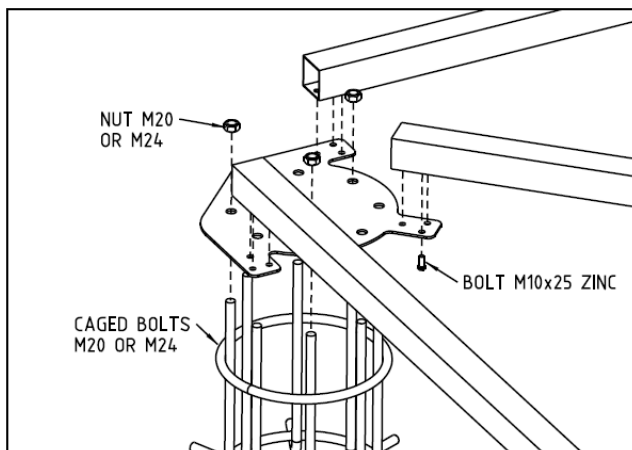


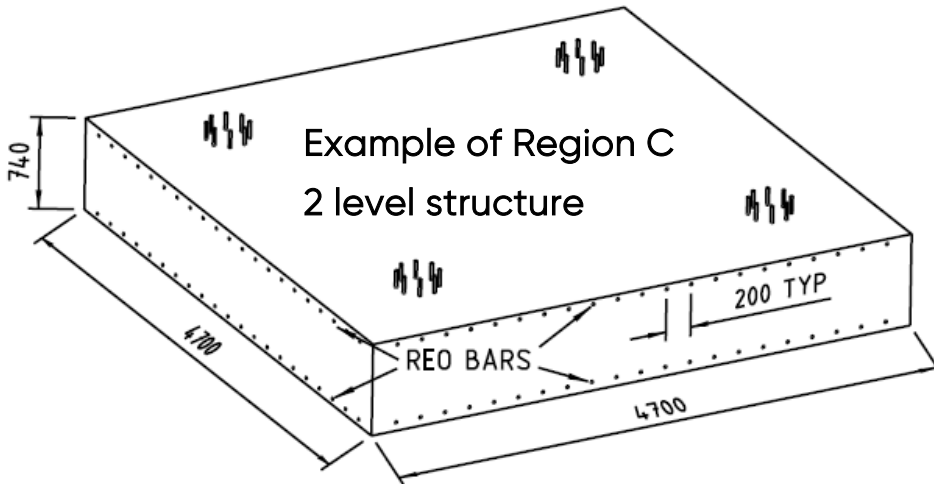
Installation

Installing Footings

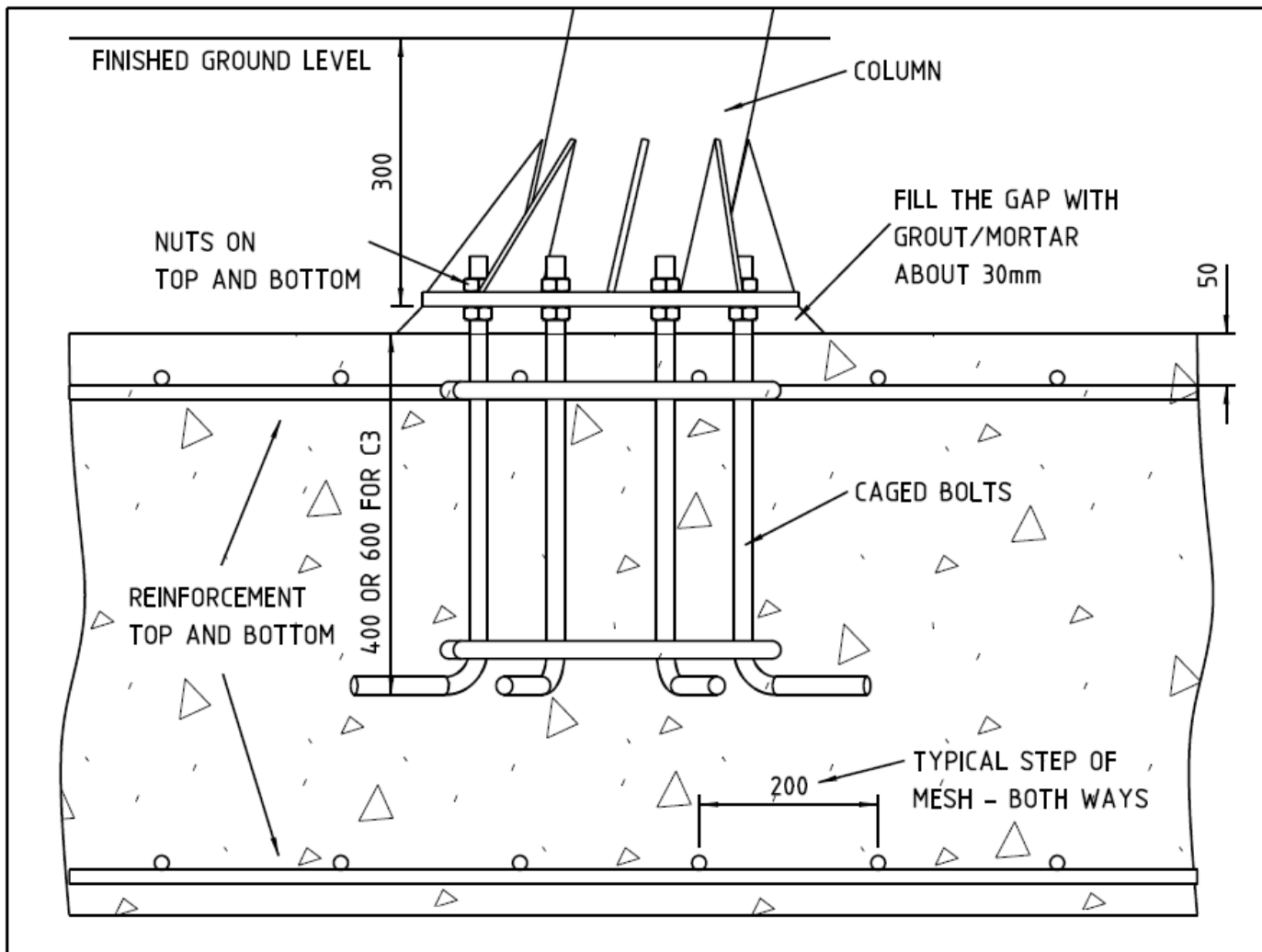
The first stage is to position and concrete caged bolts.

Measure and mark up ground for the footing excavation. Excavate a hole in the ground according to the region and the number of levels. Compact soil. Refer to the table below. Place the bottom reinforcement with a 75mm concrete cover below. Position caged bolts. Attach caged bolt groups to the jig frame to ensure the right bolt locations. Use 3 nuts per bar to locate cage bolts to frame plates. Use bolt M10x90 for the cross-connection at the centre. Tighten frame to plates. Keep the self-locking nuts for the caged bolts loose. Place the jig with the attached caged bolts at the right height. Concrete around and ensure the jig frame is level and into the correct position. Pour the rest of the concrete up to the last 50mm. Place the top reinforcement and pour the rest of the concrete to ensure 50mm cover. The bottom of the jig bars shall be level with the top of the concrete. Cure following the standard. Concrete to set for several days as per the table below. Fill gaps between bottom plates and concrete with about 30mm grout/mortar (1 part cement and 3 parts sand mixed with water).





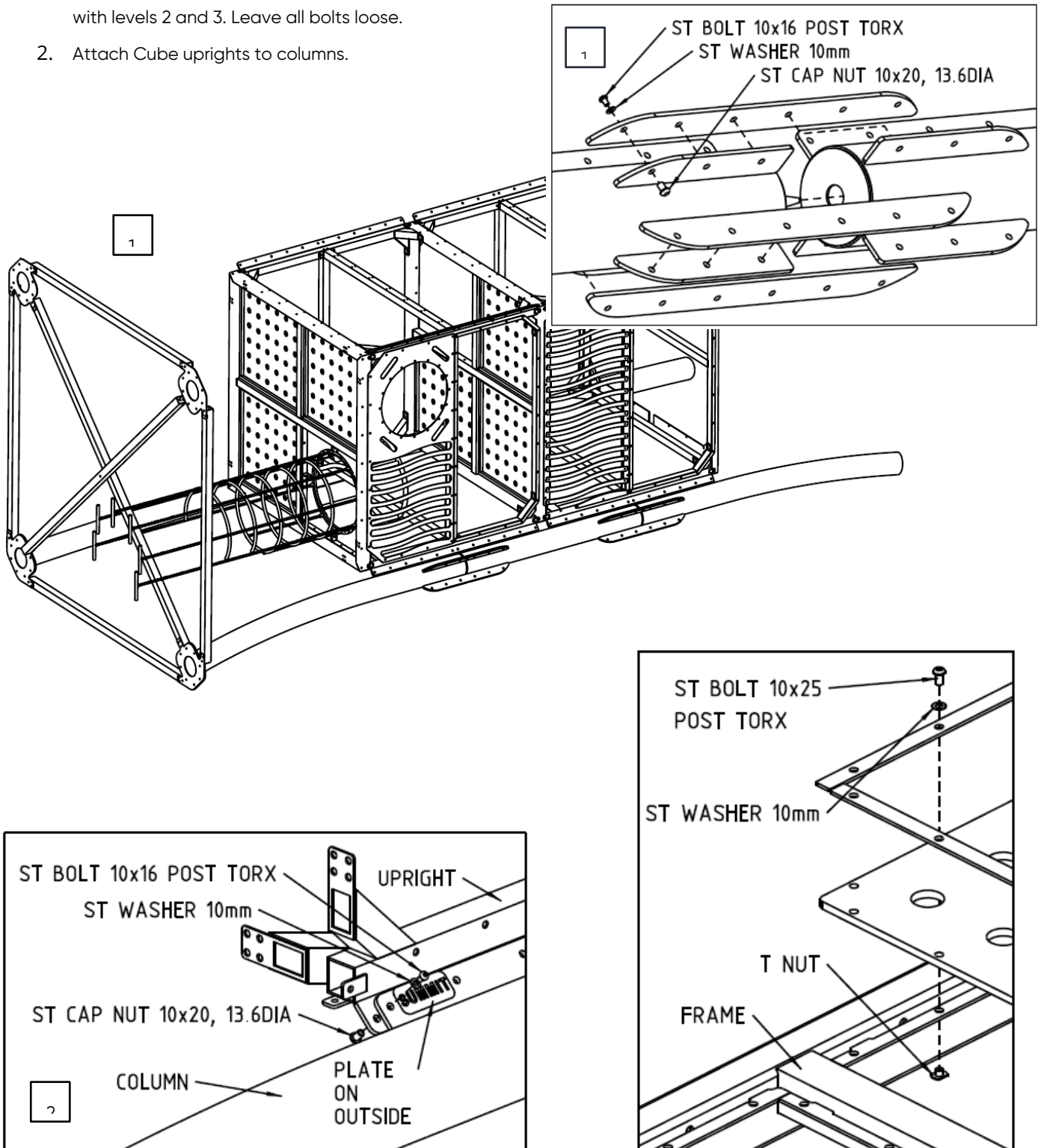
Region	level	concrete size m x m	concrete DEPTH	reo bars diameter	concrete curing days	bolts size	caged bolts embedment
A	1	3.6 x 3.6	0.50m	16mm	2	m20	0.4m
B	1	3.6 x 3.6	0.65m	16mm	2	m20	0.4m
C	1	3.8 x 3.8	0.74m	20mm	2	m20	0.4m
A	2	3.6 x 3.6	0.65m	16mm	2	m20	0.4m
B	2	4.0 x 4.0	0.74m	20mm	2	m20	0.4m
C	2	4.7 x 4.7	0.74m	20mm	3	m20	0.4m
A	3	4.2 x 4.2	0.74m	20mm	3	m20	0.4m
B	3	4.7 x 4.7	0.74m	20mm	3	m20	0.4m
C	3	5.3 x 5.3	0.74m	20mm	3	m24	0.6m



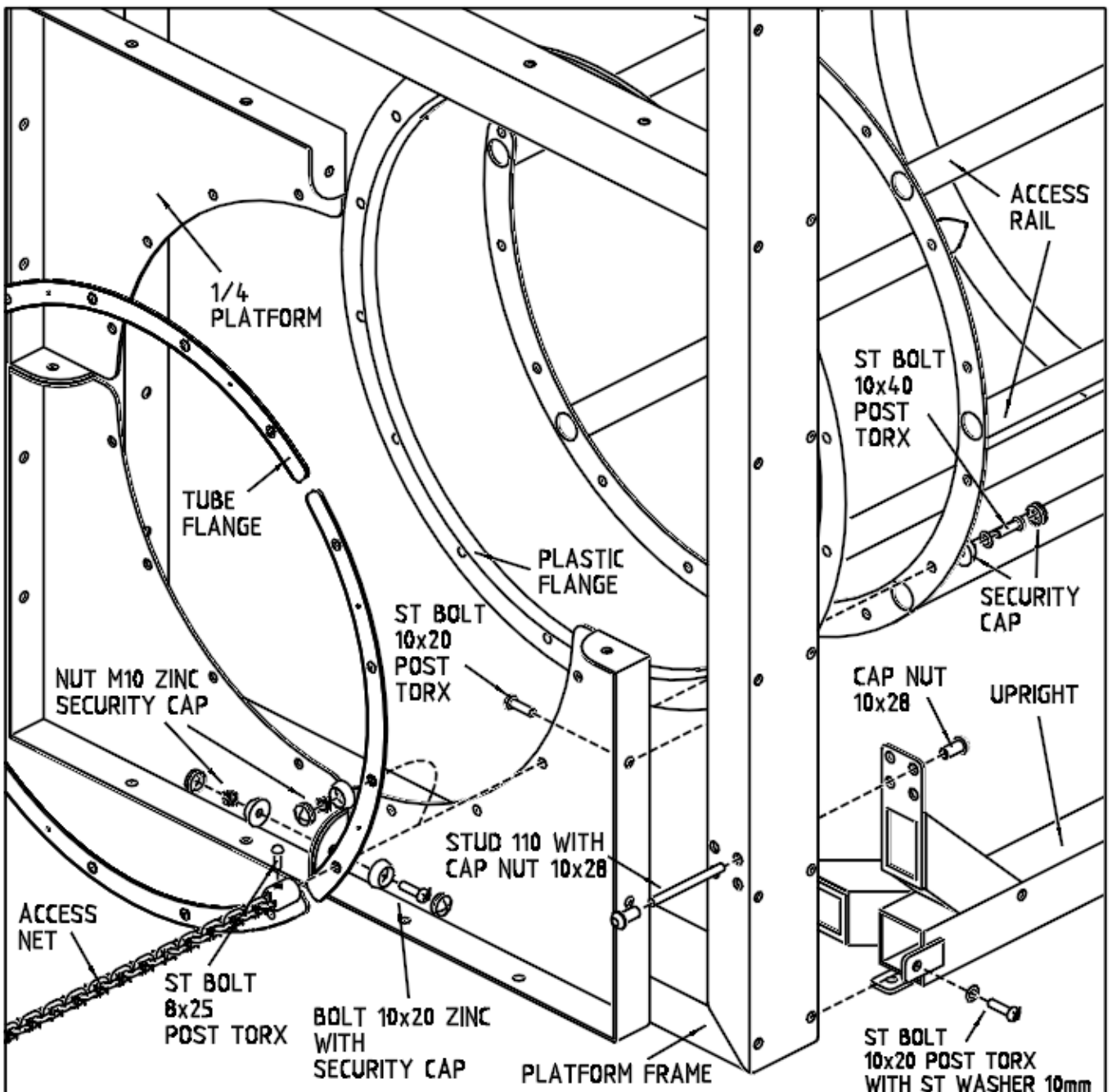
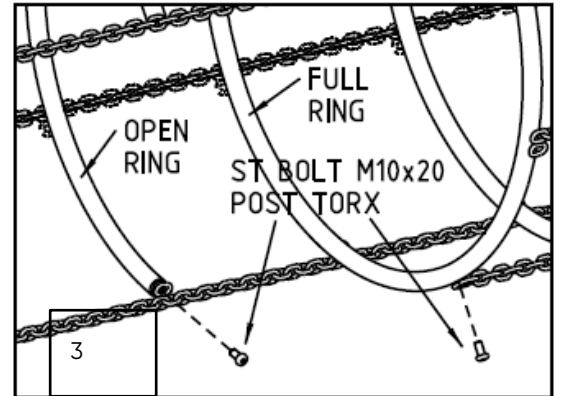
Installing Structure

Remove the jig frame from concreted legs. The assembling of the structure (columns, uprights, platform frames, platforms, walls, windows and roof) is to be done laying on the ground. Follow the steps:

1. Use the same jig frame from footing legs, raise vertically and attach 2 of the corner pipe columns the same way as the footing legs before. Attach the straight columns using 3 plates on every joint. Continue the same with levels 2 and 3. Leave all bolts loose.
2. Attach Cube uprights to columns.

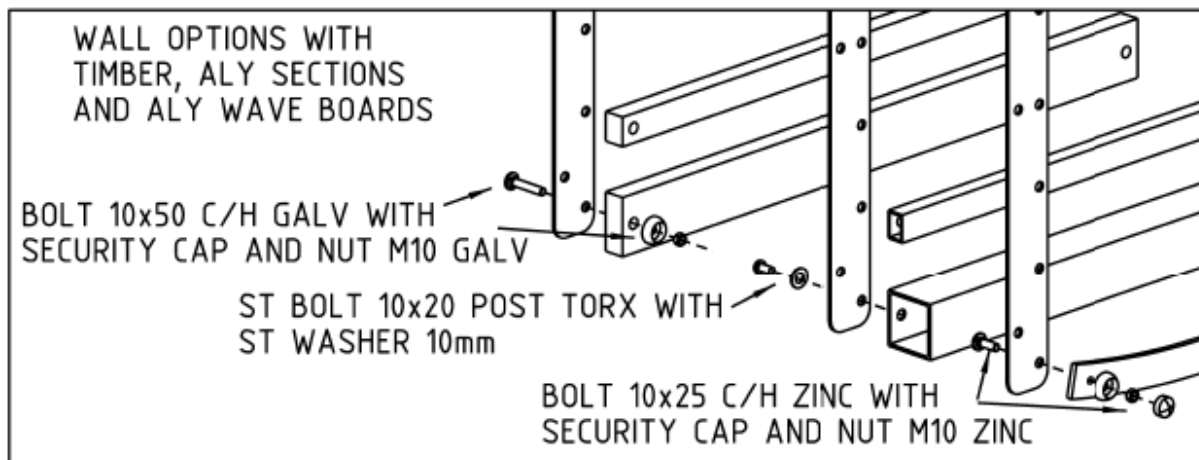
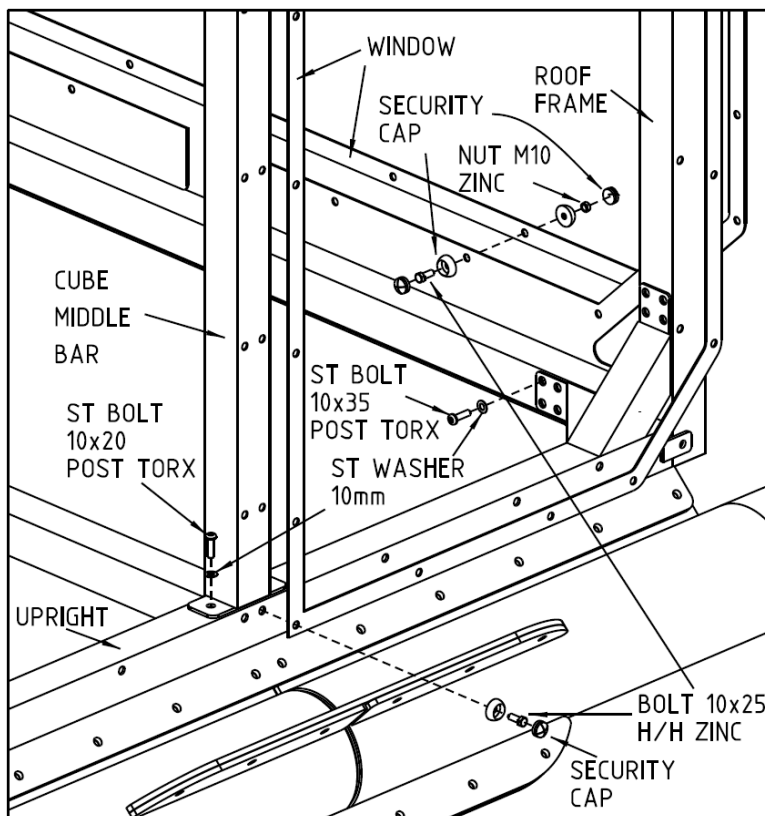


3. Join rings and chains of the access net. Access chain net has first and second open rings. Check the plan for the orientation of the open rings. Attach rubber platforms to the platform frame.
4. Attach platforms and the access net to the platform frames according to the level plan. Each platform frame weighs 150kg and may need mechanical lifting aid. Two legs of the access rail are attached to the access flange and 2 legs to the platform frame (require drilling and tapping).
5. Join the platform frame to the first level uprights that are attached to the columns. Continue attaching other platform frames.

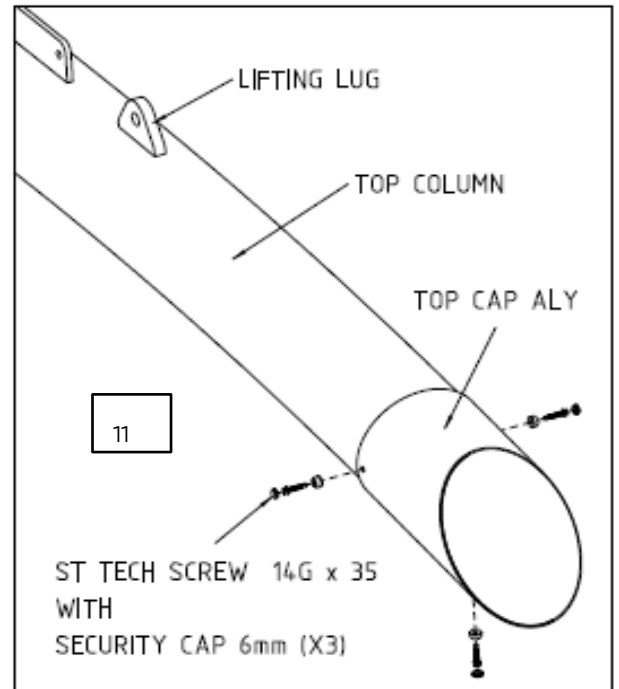
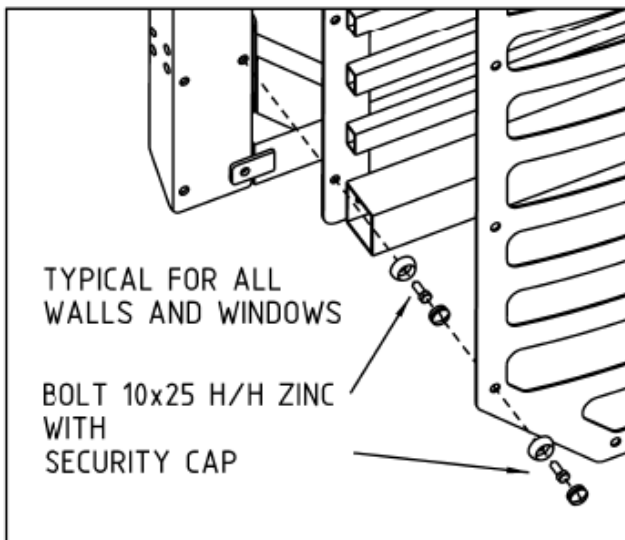
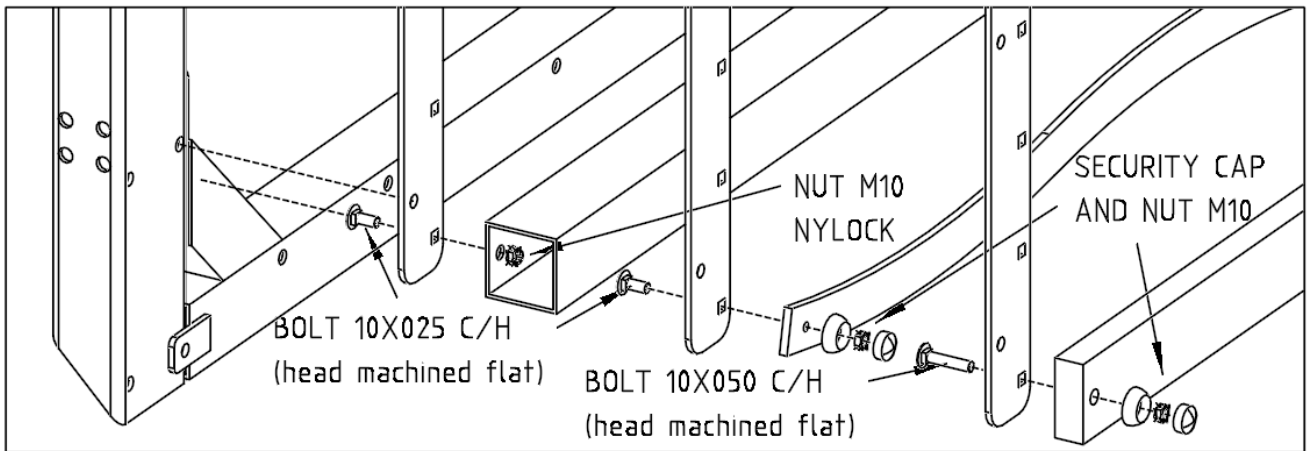


Attach the roof frame. Attach all windows and columns with uprights, on the opposite corner of frames on the ground. Attach the roof windows.

6. Build walls.
7. Attach walls.

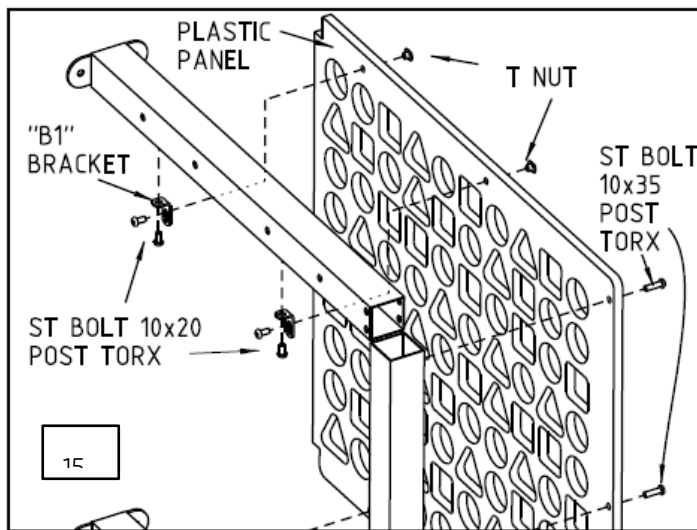


On the low corners of aly, wave and timber walls, to avoid standard bolt head making gap with the frame, special machined bolts are provided.

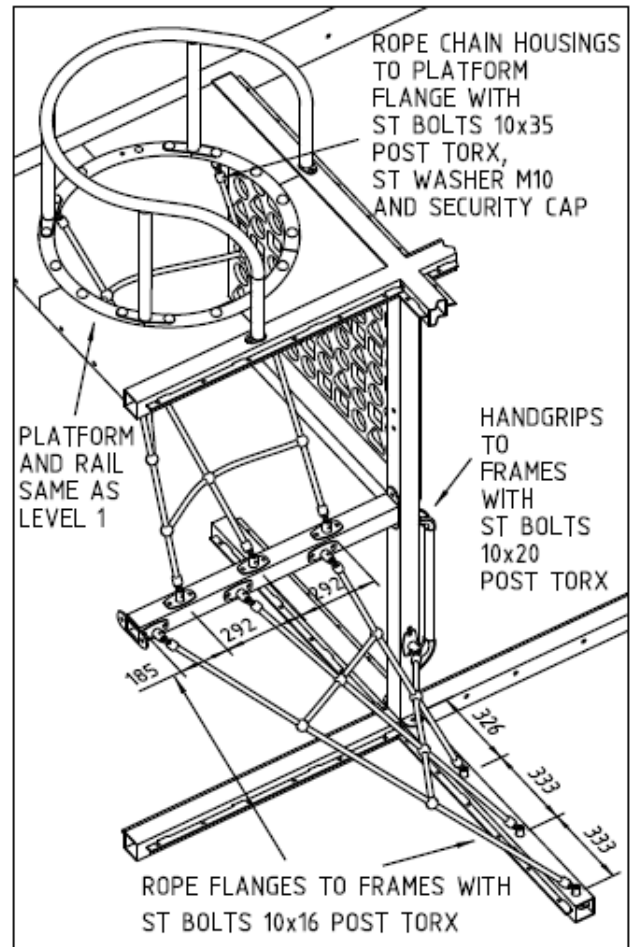


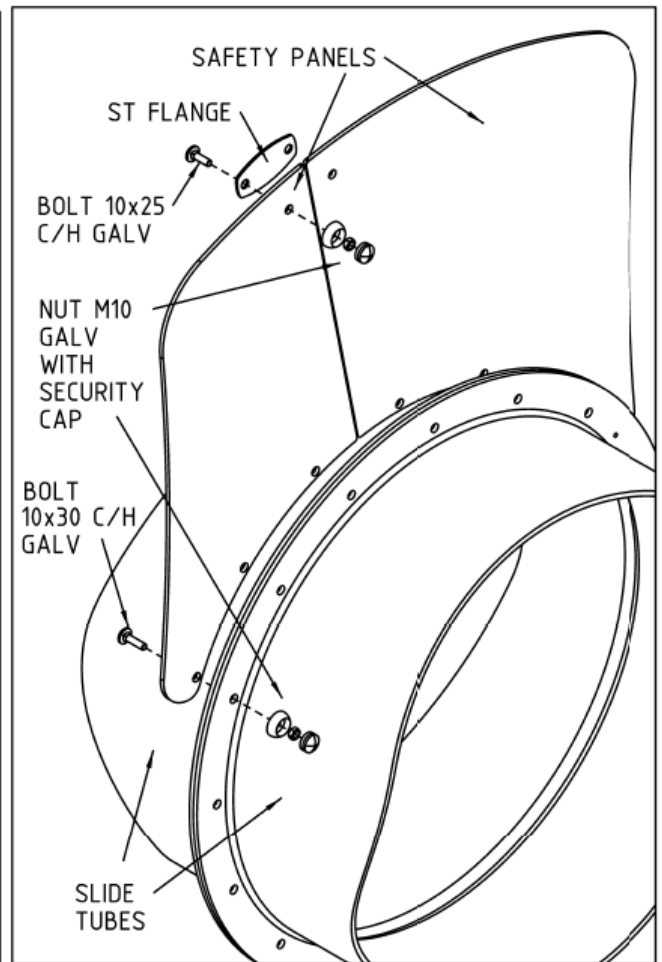
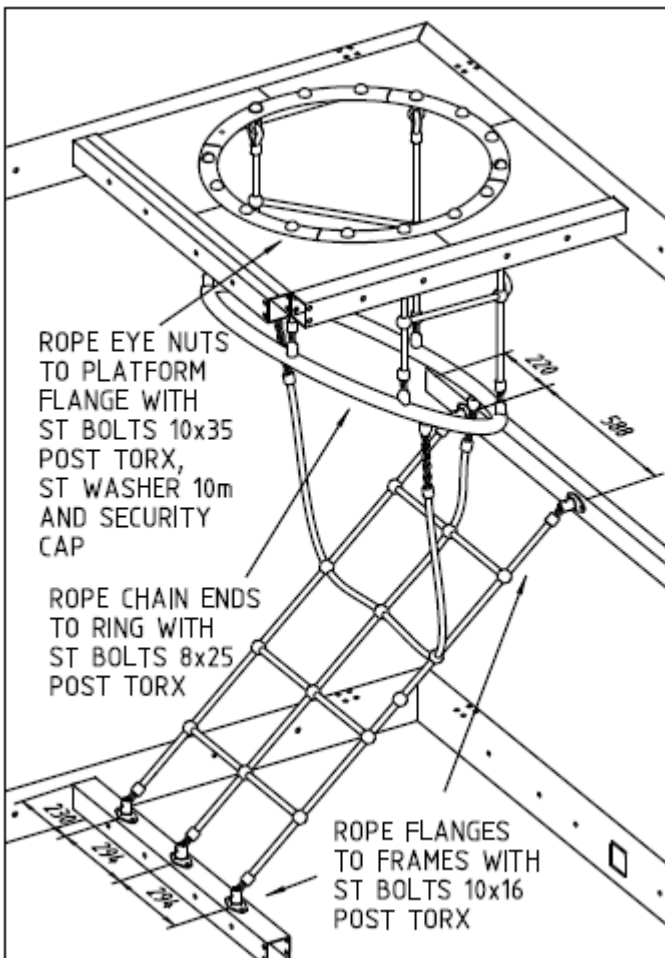
8. Be sure all nuts and bolts are well tightened.
9. Remove the floor jig from the bottom columns.
10. Lift the top of the structure with a crane to fit the 4 aluminium caps on top columns.

11. Raise the structure using the crane by the lugs on the top columns in an upright position and place them over the concreted legs. The holes on the plates should match as the same jig was used for positioning the legs and bottom columns. Bolt all plates together using the same fittings as with the jig. Be sure all nuts and bolts are well tightened.
12. Make sure all columns and uprights are vertical, well connected and all frames are square.
13. Use the holes on the roof to remove crane ropes.



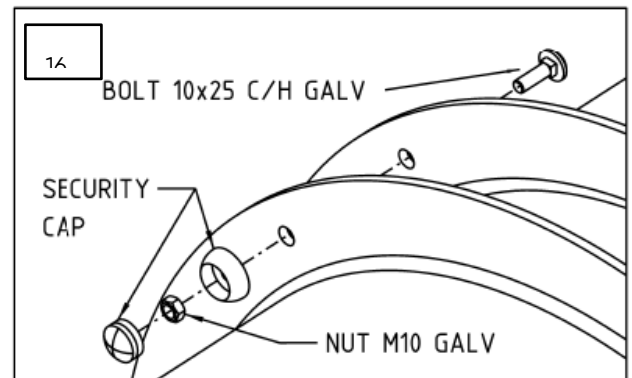
14. Climb to the first level and assemble according to the plan the access to level 2. Do the same for level 3. Platform frames need drilling and tapping for rope end flanges and plastic panels.





15. Build all slides using standard Tunnel slide assembly and according to the plan.

The orientation of each tunnel section is determined using a process referred to as "cranking". Cranking consists of placing the flanges of both sections together with the seams of the section to be attached aligned to the seams of the previous section, and rotating it either clockwise or anti-clockwise by the required number of bolt holes in the flanges. (For example, 3 cranking steps would involve rotating the section by 3 bolt holes.) Note: Clockwise is determined while standing on the ground, facing the slide up.



Below is the list of the variety of slides (straight slides are excluded, as all tube seams are top and bottom).

Slide Level 1 Right Spiral (Reverse Direction for Slide Left), (straight sections not shown)

Piece Number	Description	Cranking Steps	Direction
2	1 st 90° elbow	3	Clockwise
3	2 nd 90° elbow	1	Anti-clockwise
4	3 rd 90° elbow	2	Anti-clockwise
5	4 th 90° elbow	2	Anti-clockwise
7	35° elbow	0	Left
8	Exit Sections	5 and 1/2	Anti-clockwise

Slide Level 1 Right Curved (Reverse Direction for Slide Left), (straight sections not shown).

Piece Number	Description	Cranking Steps	Direction
1	1 st 35° elbow	3	Clockwise
2	2 nd 35° elbow	2	Anti-clockwise
5	1 st 45° elbow	6	Clockwise
6	Exit Sections	7	Anti-clockwise

Slide Level 2 Right Spiral (Reverse Direction for Slide Left), (straight sections not shown), (tube windows facing up)

Piece Number	Description	Cranking Steps	Direction
2	1 st 35° elbow	0	
4	3 rd 45° elbows	4	Clockwise
5	4 th 35° elbow	1	Anti-clockwise
6	5 th 90° elbow	2	Anti-clockwise
7	6 th 90° elbow	2	Anti-clockwise
8	7 th 90° elbow	2	Anti-clockwise
10	8 th 90° elbow	2	Anti-clockwise
11	9 th 90° elbow	2	Anti-clockwise
12	10 th 90° elbow	2	Anti-clockwise
13	11 th 45° elbow	0	
15-16	Exit Sections		

Slide Level 3 Right Spiral (Reverse Direction for Slide Left), (straight sections not shown), (tube windows facing up)

Piece Number	Description	Cranking Steps	Direction
2	1 st 90° elbow	3	Clockwise
3	2 nd 90° elbow	1	Anti-clockwise
4	3 rd 90° elbows	2	Anti-clockwise
5	4 th 90° elbow	2	Anti-clockwise
6	5 th 90° elbow	2	Anti-clockwise
7	6 th 90° elbow	2	Anti-clockwise
8	7 th 90° elbow	2	Anti-clockwise
10	8 th 90° elbow	2	Anti-clockwise
11	9 th 90° elbow	2	Anti-clockwise
12	10 th 90° elbow	2	Anti-clockwise
13	11 th 90° elbow	2	Anti-clockwise
14	12 th 90° elbow	2	Anti-clockwise
15	13 th 90° elbow	2	Anti-clockwise
16	14 th 90° elbow	2	Anti-clockwise
18	15 th 90° elbow	2	Anti-clockwise
20	35° elbow	0	Left
21	Exit Sections	5 and 1/2	Anti-clockwise

Slide Level 2 Right Curved (Reverse Direction for Slide Left), (straight sections not shown), (tube windows facing up)

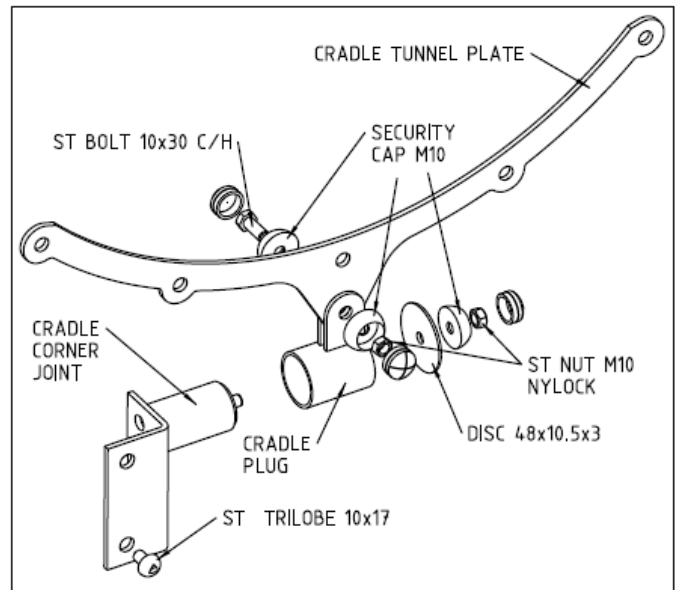
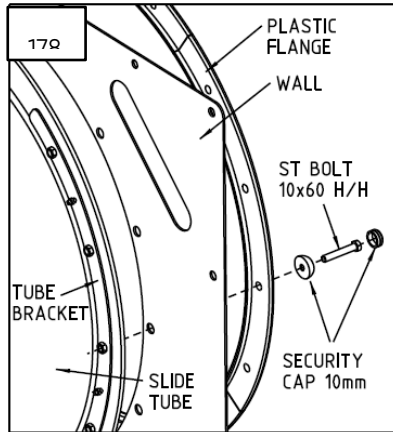
Piece Number	Description	Cranking Steps	Direction
1	1 st 35° elbow	3	Clockwise
2	2 st 35° elbow	2	Anti-clockwise
8	3 rd 35° elbows	3	Clockwise
9	4 th 35° elbow	0	Left
10	Exit Sections	6	Anti-clockwise

Slide Level 3 Right Combination (Reverse Direction for Slide Left), (straight sections not shown), (tube windows facing up)

Piece Number	Description	Cranking Steps	Direction
2	1 st 45° elbow	0	Down
4	2 nd 45° elbow	4	Clockwise
5	1 st 35° elbows	1	Anti-clockwise
6	1 st 90° elbow	2	Anti-clockwise
7	2 nd 90° elbow	2	Anti-clockwise
8	3 rd 90° elbow	2	Anti-clockwise
10	4 th 90° elbow	2	Anti-clockwise
11	2 nd 35° elbow	8	180 degree
12	3 rd 35° elbow	1	Anti-clockwise
16	4 th 35° elbow	6	Anti-clockwise
17	5 th 35° elbow	1	Anti-clockwise
18, 19, 20	Exit Sections	5	Anti-clockwise

16. Use the crane to lift into position. Attach all slides to walls from inside the structure, using ST Bolt 10x60 H/H into the welded nut on tube bracket.

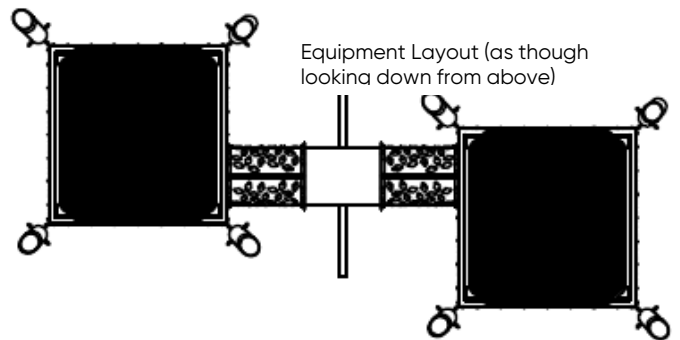
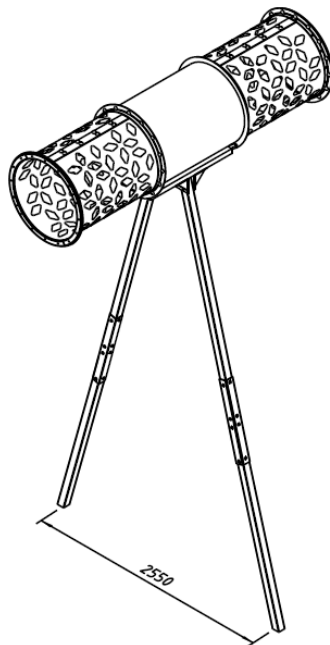
17. Attach slide cradle uprights, find and dig the holes for the footings. Concrete the uprights.



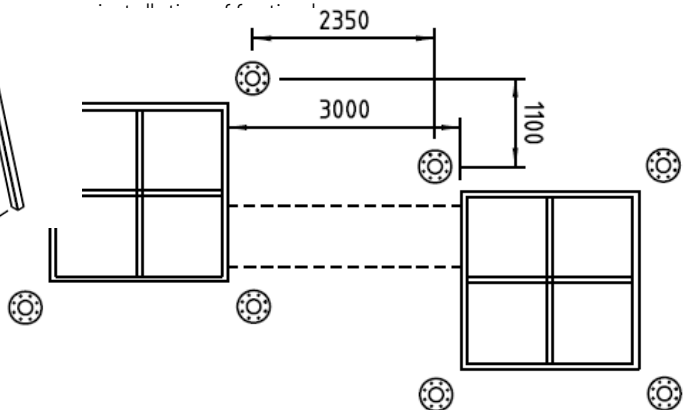
18. Mark and dig the holes for the access net bottom anchors and slides exit legs. Place in holes and concrete.

Tube Joiner

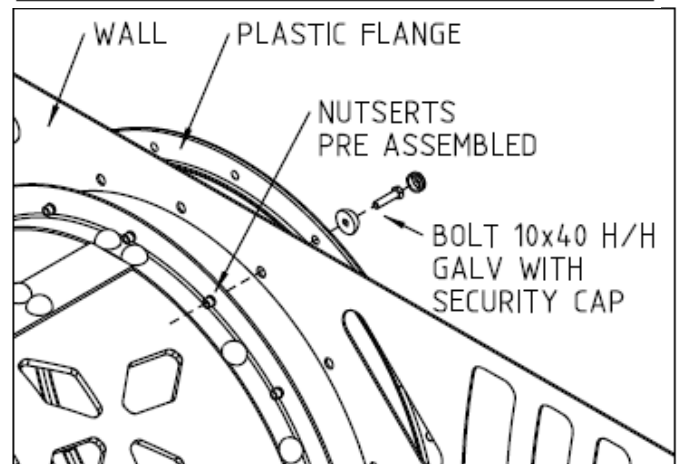
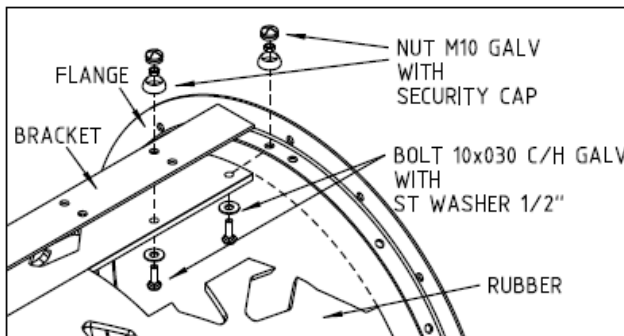
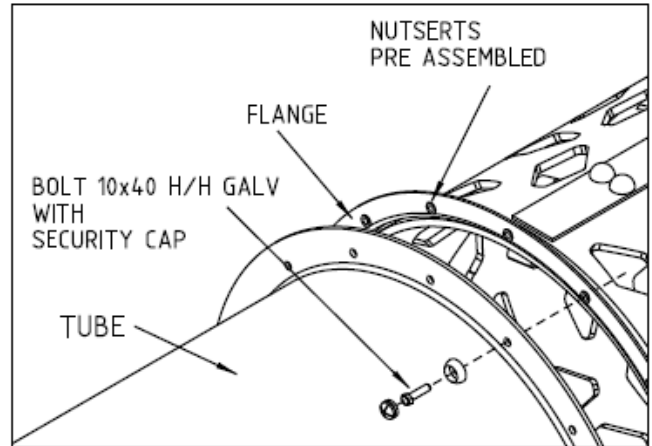
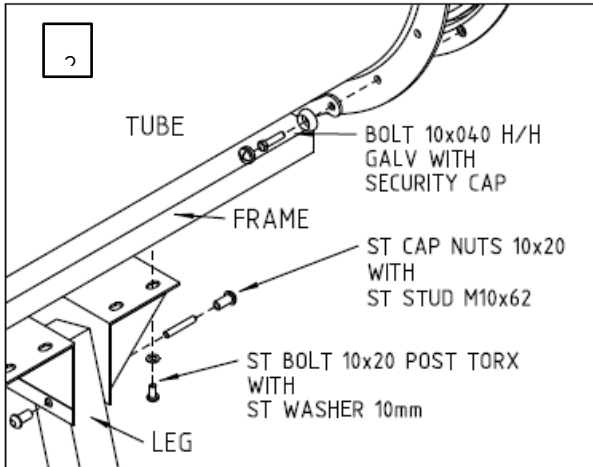
The distance between the cubes of both structures needs to be 3000mm (legs 2350mm) and offset of 1100mm. Tube joiner can be on levels 2 and 3. The distance of supporting legs on the finished ground level and 3650mm for level 3. The supporting uprights are 800mm in the ground with standard Forpark footings. The uprights are made in 2 parts joined by braces.



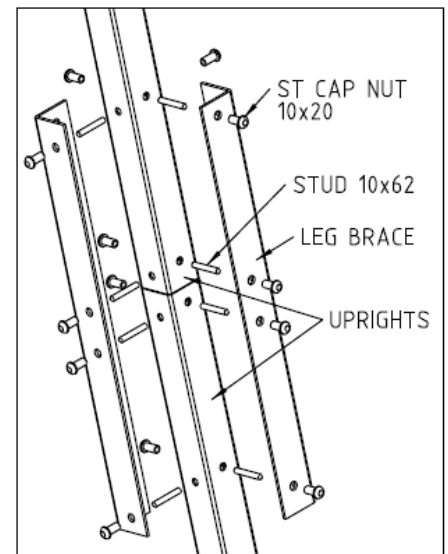
See page 3 for the ... is 2550mm for level 2



1. Build, rise and bolt both structures at the correct distance.
2. Connect all parts of the Tube Joiner laying on the ground.

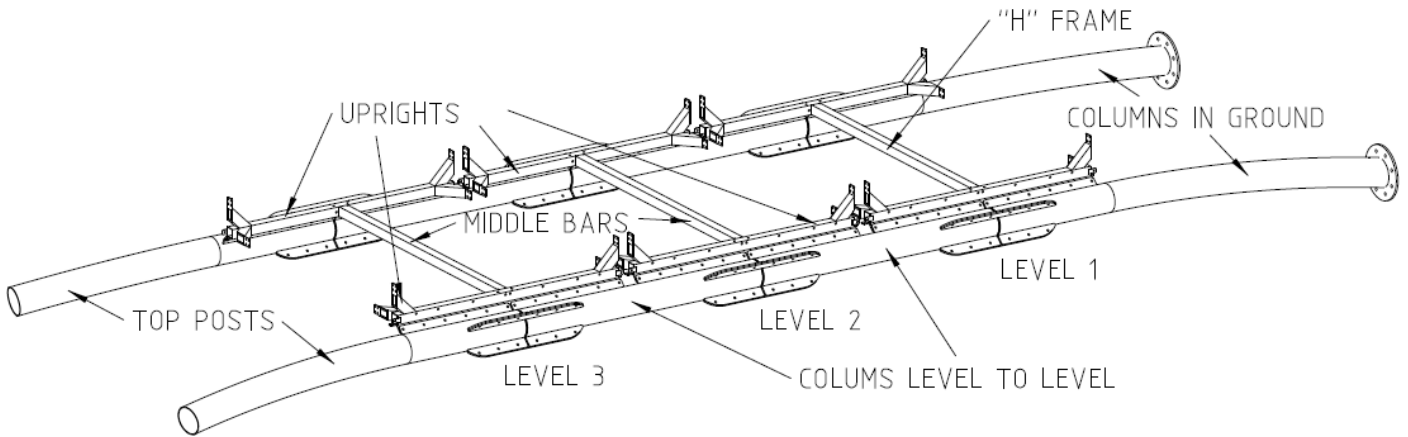


3. Mark and dig the holes in the ground for the supporting legs.
4. Use a crane to lift the Tube Joiner. Hold legs spread to the right distance to avoid tension and damage on top connections. Place legs in holes and bolt flanges to both structure walls.
5. Concrete legs.

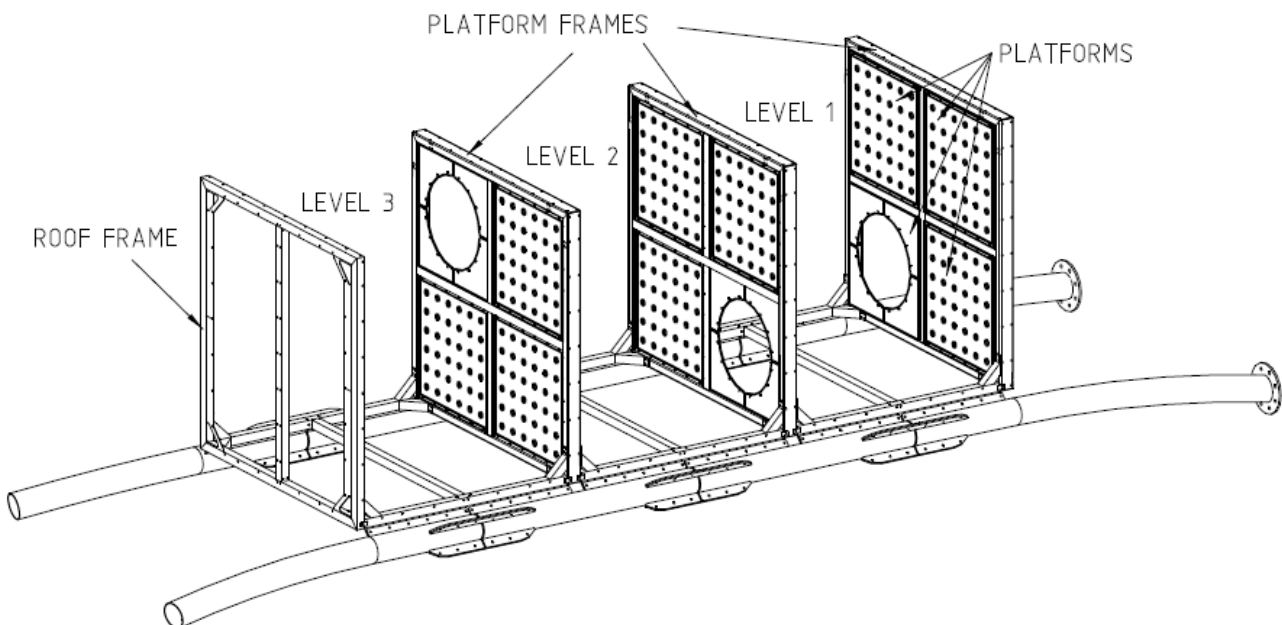


Assembly Guide Steps

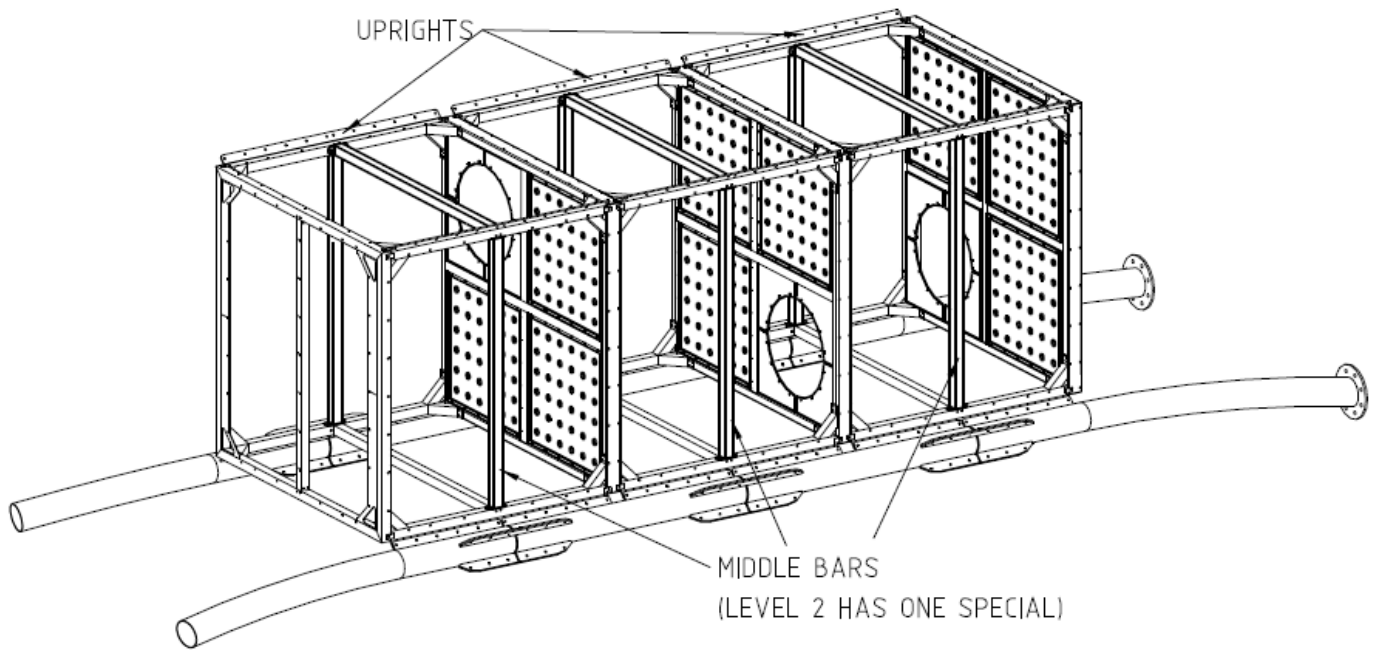
1. Lay 2 legs on the supports provided and using a laser level ensure both legs are level and the correct distance apart by attaching the H Frame and the Middle Bars. Ensure that the uprights are installed on the same side of the leg plates. (ie; on the opposite side to the summit logo plate.)



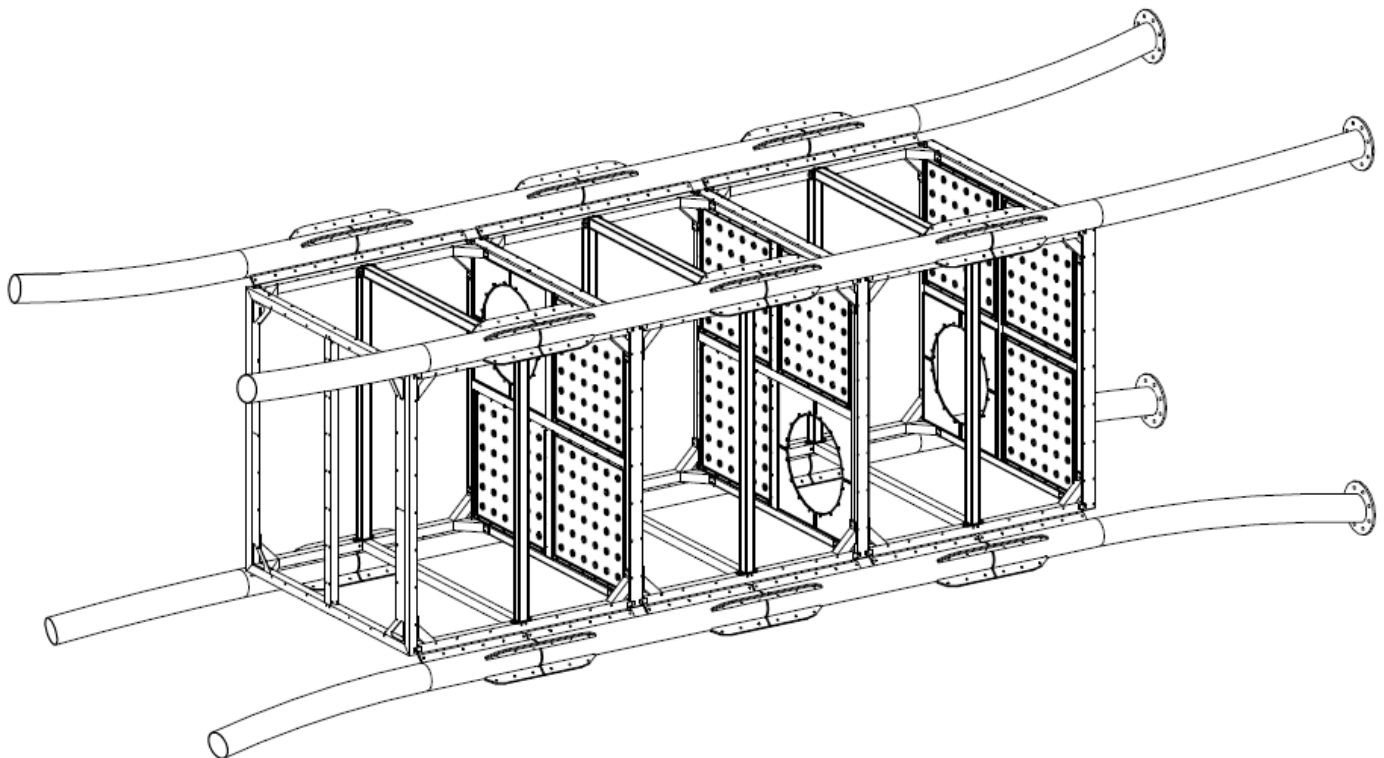
2. Lower the Platform Frames into place and bolt through (each Platform Frame has 1 Ali and 3 rubber platforms), ensuring that the orientation is correct on each level. Refer to the plan. At the top, there is a Roof Frame (no platforms).



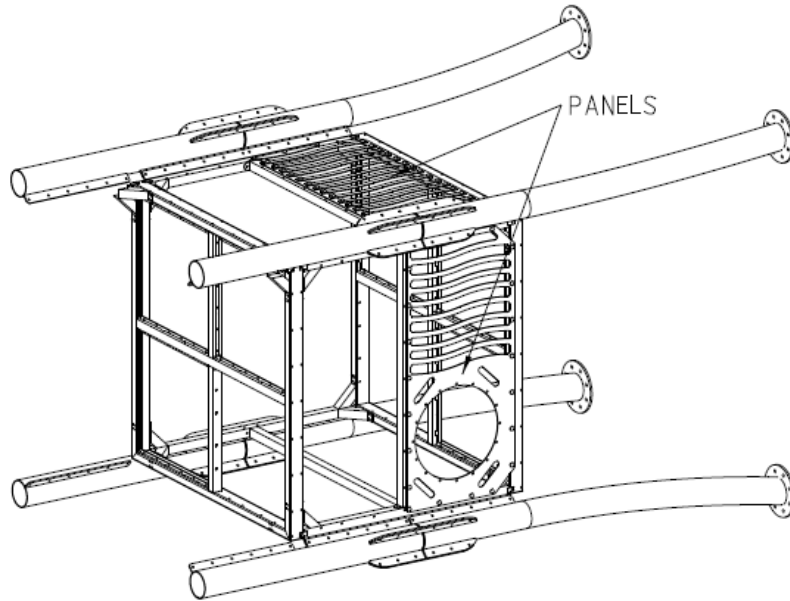
3. Attach the Uprights to Frames and Middle Bars to complete the "Box" section of the summit.



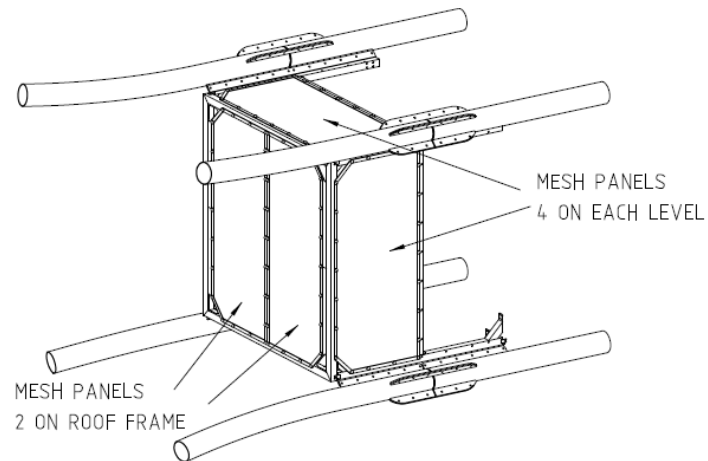
4. Attach the Summit legs to the other side by lowering them down into position using one of the Guide rods provided to locate them. Ensure both are installed on the correct side of the plate.



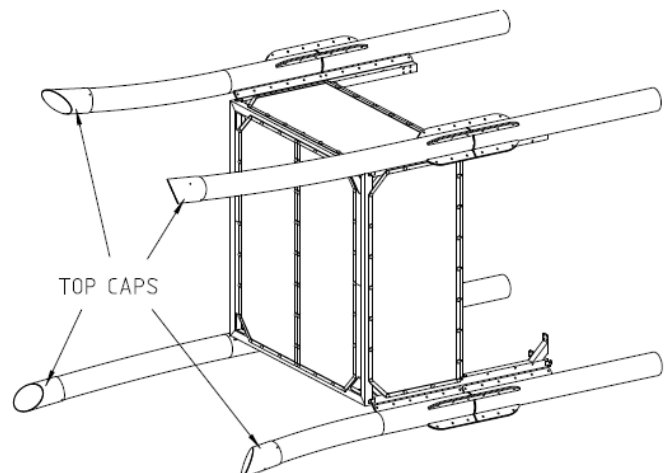
5. Begin to attach all the Panels, according to the plan. Remember to Loctite as you go.



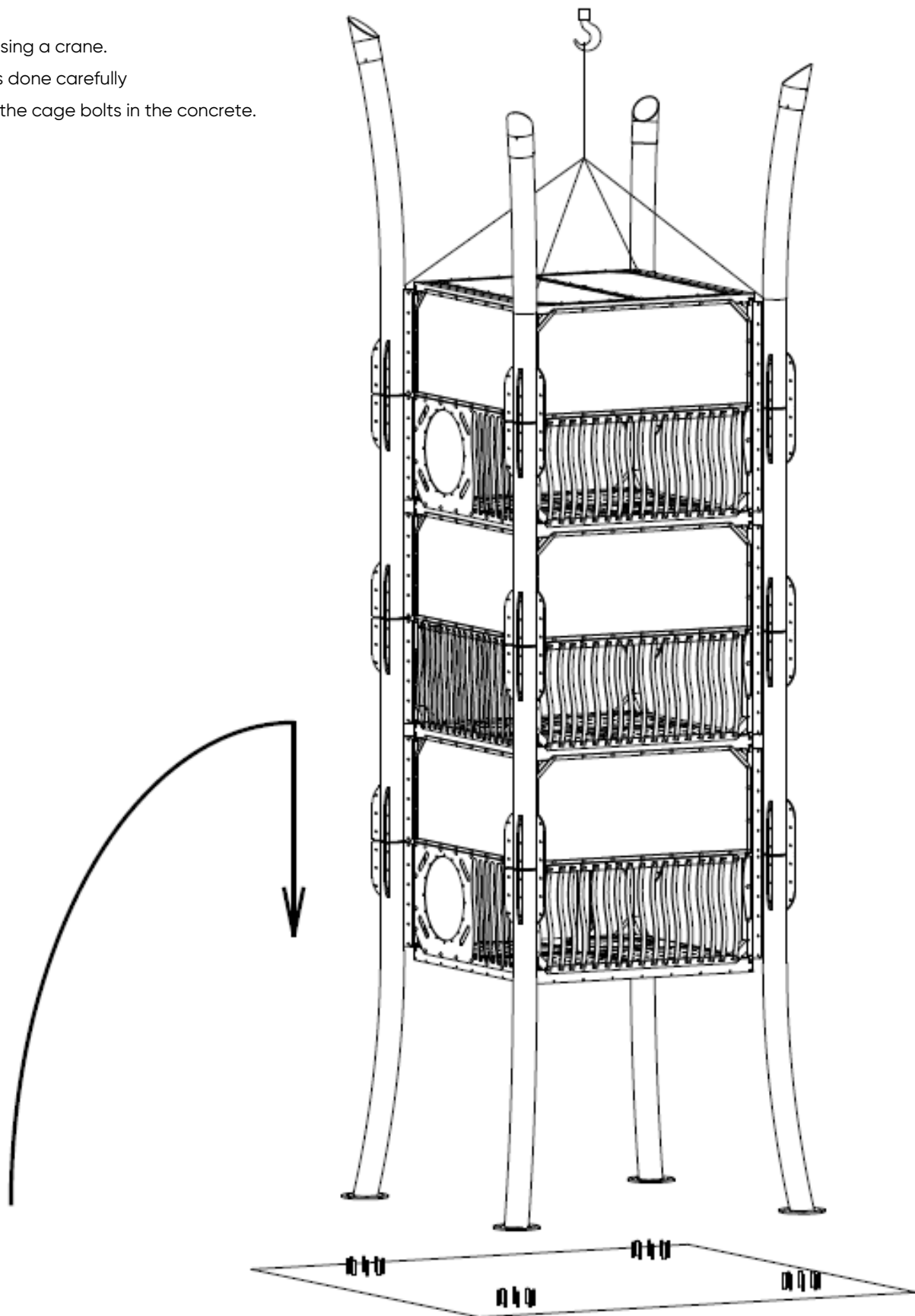
6. Attach the mesh panels. Start with the corners first.



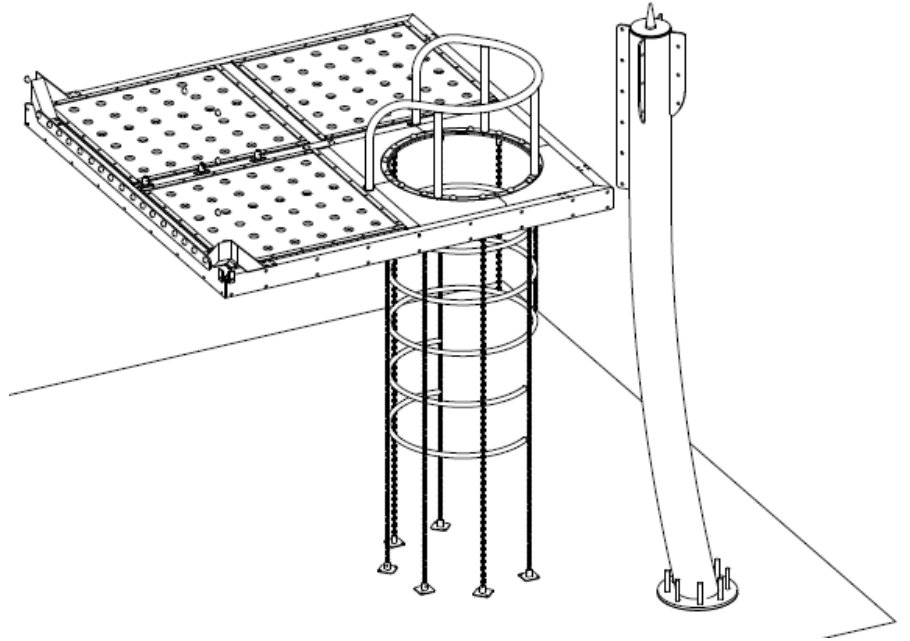
7. Don't forget the coloured Top Caps.



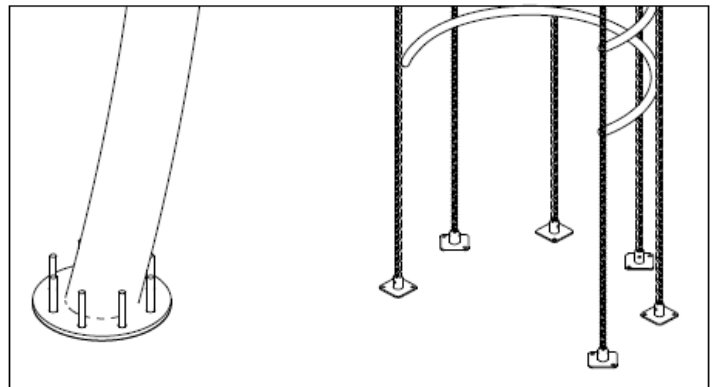
8. Standing it up using a crane.
Make sure this is done carefully
and lower onto the cage bolts in the concrete.



9. Attach Access to Level 1.

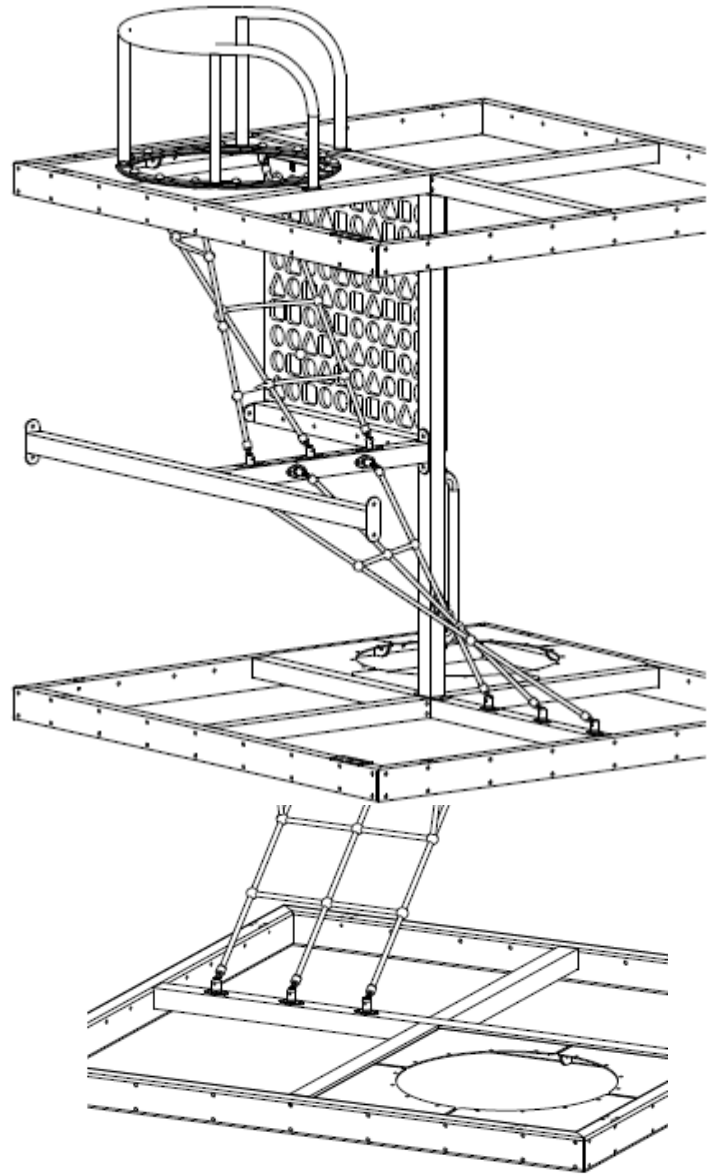


10. Cut chains to concrete level,
then mark and attach the anchor plates.

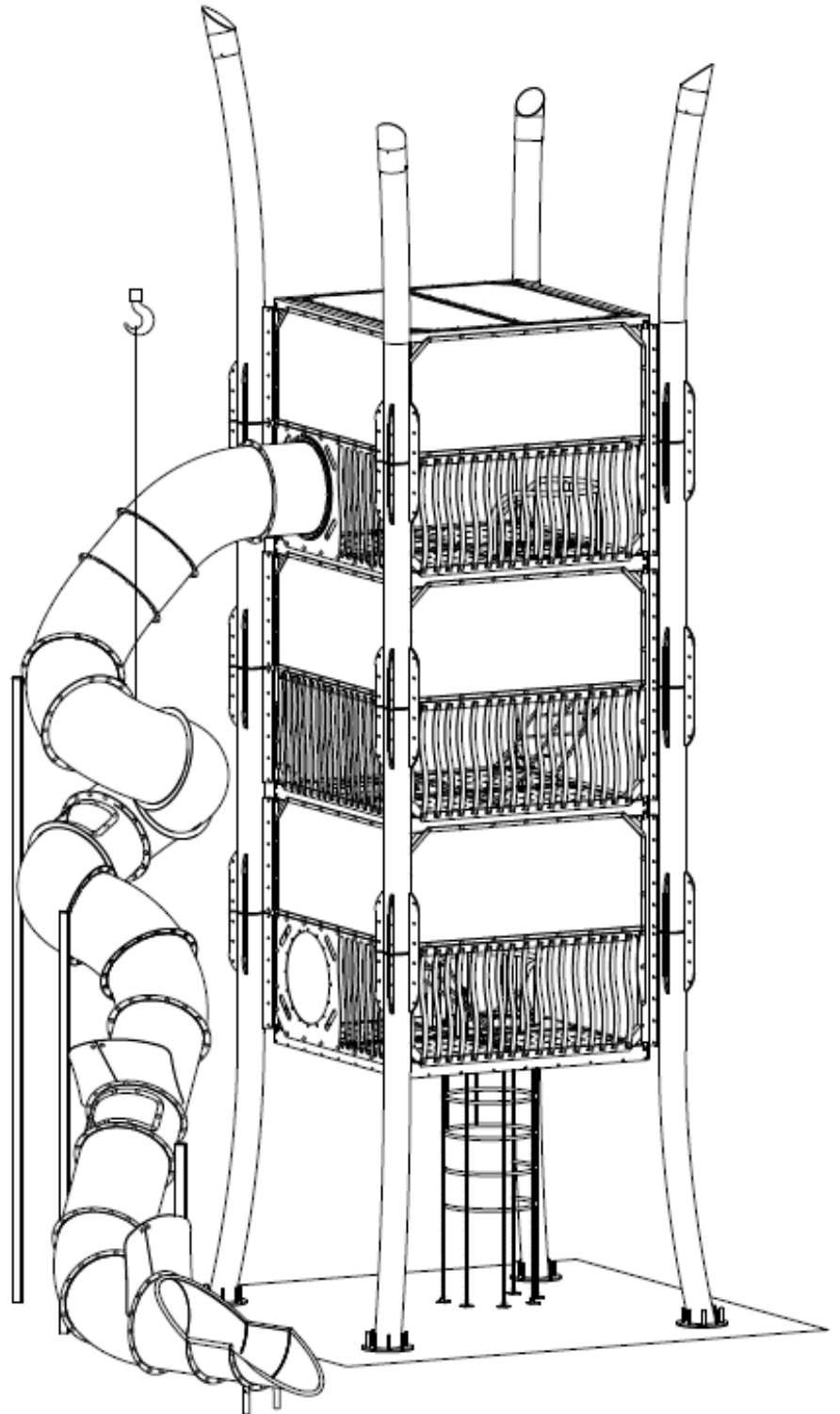


11. Attach Access to Level 2.

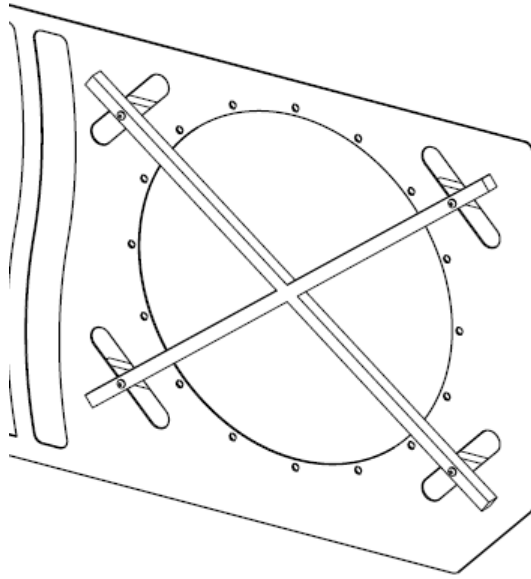
Attach Access to Level 3.



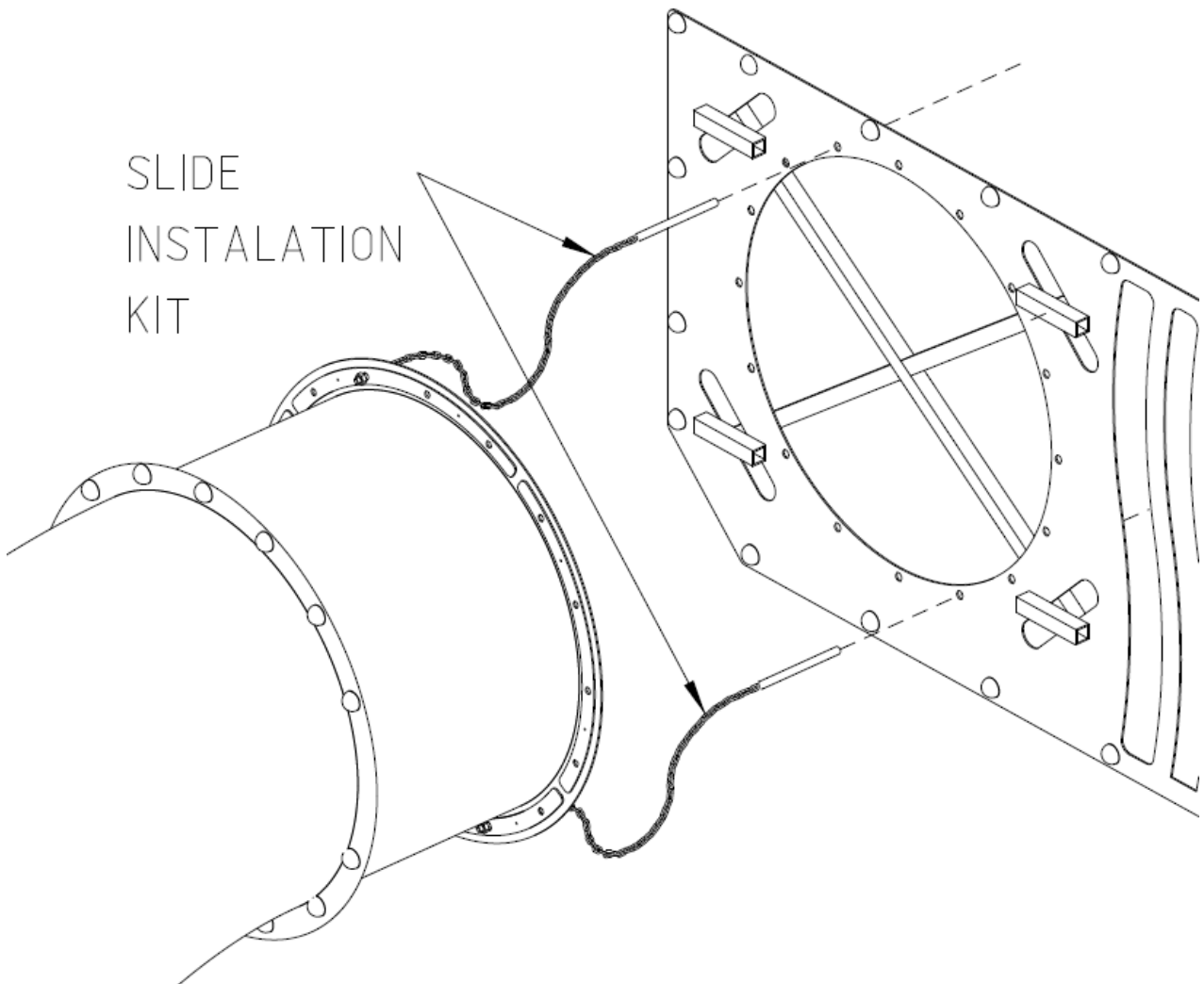
- Using the crane lift the assembled slides into place and use the guide bolts and chains to locate them into the slide entrance panel position and secure them with bolts provided.



14. Slide panels need a Slide Hole Blocker. (view from inside)



15. Use Slide Installation Kits to pull the slide flange to the panel flange on 2 opposite holes. Then remove the Hole Blocker and attach the slide.



Before Leaving the Site

- Check that all bolts are tightened.
- Check that all concrete footings are 300mm below the finished surface level where loose-fill material is used.
- Check that the structure is solid with all uprights secure in the ground.
- Check your softfall, ensuring that your fall zones and the depth of the softfall are correct.
- Touch up any scratches on the paintwork.
- Remove all rubbish and packaging from the site.

Safety and Maintenance Inspections

To ensure that your equipment remains in a safe condition, we recommend that you establish a schedule of safety and maintenance inspections and record the details of your inspections in a logbook. In this manner, any minor repairs are done as soon as they are required, and your equipment will remain in a safe condition. In the event of an accident occurring on your play equipment, your records of these inspections are proof that your 'duty of care' has been maintained.

We recommend that your play equipment be inspected with varying degrees of detail on a frequency basis as outlined below.

Any spare parts that may be required for your play equipment will be available through your local Forpark Australia branch, and our sales staff will be able to help you with any queries you may have regarding your equipment.

Please remember! Play equipment that is well maintained remains safe and will last for many years.

Routine Visual Inspection

Frequency – At least weekly. Daily inspections may be required where loose-fill surfacing is used or in cases where the equipment is subject to heavy use or vandalism.

Surfacing

- Check that the soft-fall surfacing area is free of debris and contamination.
- Check that displacement of your loose-fill surfacing material has not resulted in areas becoming shallower than the recommended depth, particularly below items of equipment where falls are likely. Such areas should be levelled or filled to ensure that the recommended depth is maintained.

Equipment

- Check for vandalism, and any damaged or missing parts. In the event of any damage or missing parts, isolate the play equipment until repairs have been carried out.

Operational Inspection

Frequency – Every one (1) to three (3) months, depending on the level of use. Equipment subject to heavy use or vandalism may need to be inspected more frequently. Any problems identified should be addressed on a priority basis taking into account any safety implications.

Surfacing & Surrounds

- Check that the soft-fall surfacing area is free of debris and contamination.
- Check that a loose-fill soft-fall surfacing is at the recommended depth, and top up if necessary.
- Check that a synthetic surface is in good condition and securely in place to provide impact absorption.
- Check that any soft-fall surfacing borders are secure in the ground, do not constitute trip points, and have no rough or sharp edges.
- Check the area for overgrown bushes or hazards that may have intruded into the play area over time.

Equipment

- Check all fasteners and tighten and replace any that are missing.
- Check that all uprights and components are secure in the ground and that no footings are showing through the soft-fall.
- Check steel play equipment for rust or corrosion. (All metal play equipment will show some signs of breakdown over time, and this may be exacerbated by a marine environment.) Replace any badly corroded parts.
- Check timber equipment for splintering and warping, and coat with Sikken's Cetol if required. Replace any damaged items.
- Check all moving parts for excessive wear, and replace any worn items.
- Check all chain links for wear and replace any damaged items.
- Check for any bending or cracking of steel components and replace where necessary.
- Check all paintwork, and touch up any areas that are worn or chipped.
- Large rope net structures with tensioning aids (e.g. turnbuckles) need to be checked for sufficient tension and re-tensioned if necessary.
- In highly corrosive environments it is strongly recommended that all equipment is regularly washed with clean water to prevent any build-up of rust-causing minerals. This is particularly important where the equipment is positioned under a permanent shade structure and cannot be naturally washed by rain.
- Check for any grease points and apply Molycoat Long Term grease to all grease nipples.

Comprehensive Inspection

Frequency – Annually. Every year, it is advisable to have your equipment checked by someone who is qualified in playground equipment maintenance, or by an engineer.

Surfacing & Equipment

- In addition to a detailed inspection of all areas covered in an “Operational Inspection”, the following checks should be made.
- Check the structural integrity of equipment subject to corrosion or rotting.
- Check for any changes in the safety of the equipment resulting from repairs made, or added or replaced components