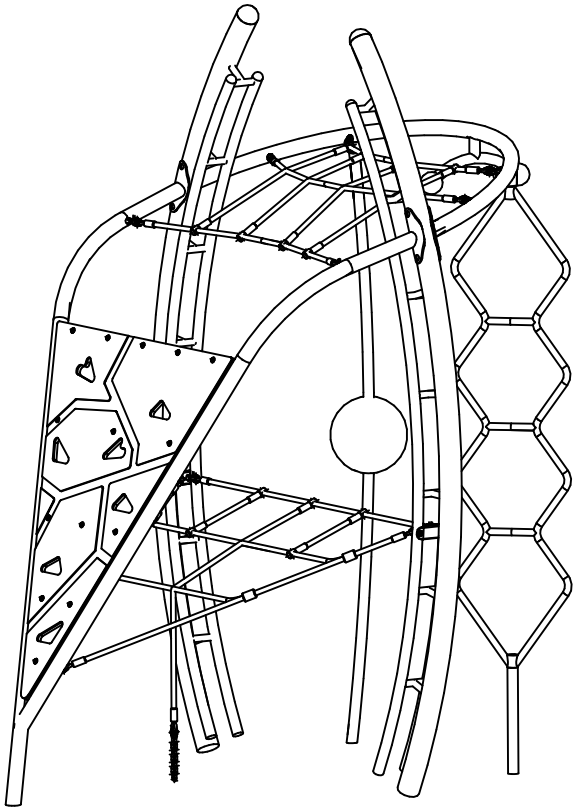
INSTALLATION INSTRUCTIONS

NEXUS

QUANTUM

NXQS2 NXQE2



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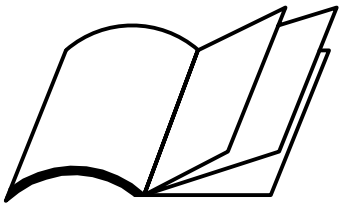
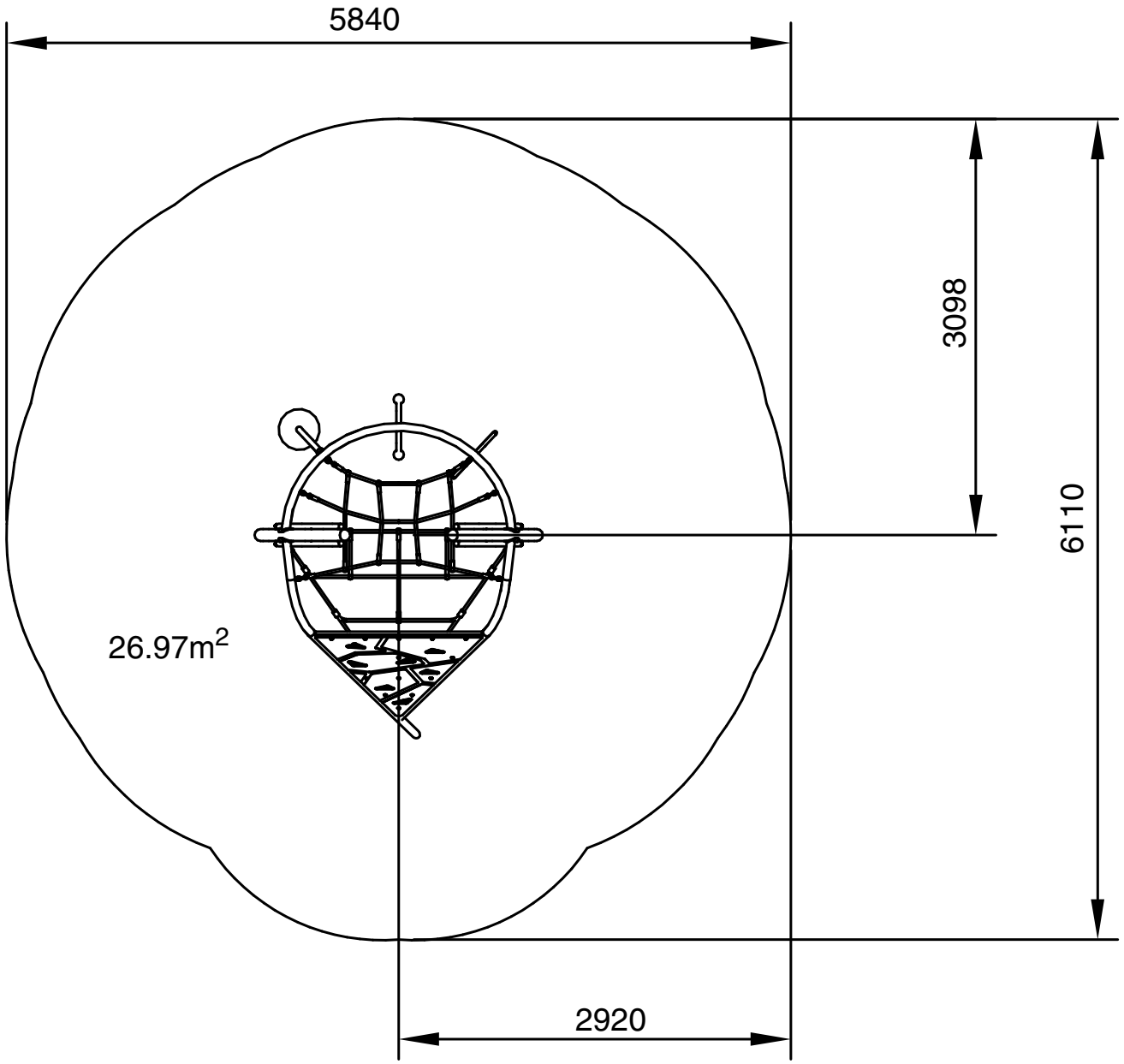


	LxWxH (m)	kg	m^3	m	≥EN1176	x 3=T
NXQ*2	2.61 x 2.15 x 3.0	260	1.06	6.00 x 6.00	2.50	T=18h



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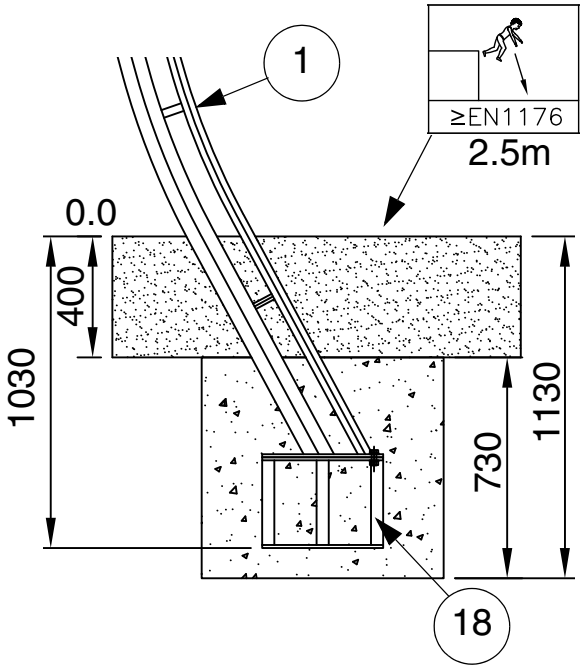

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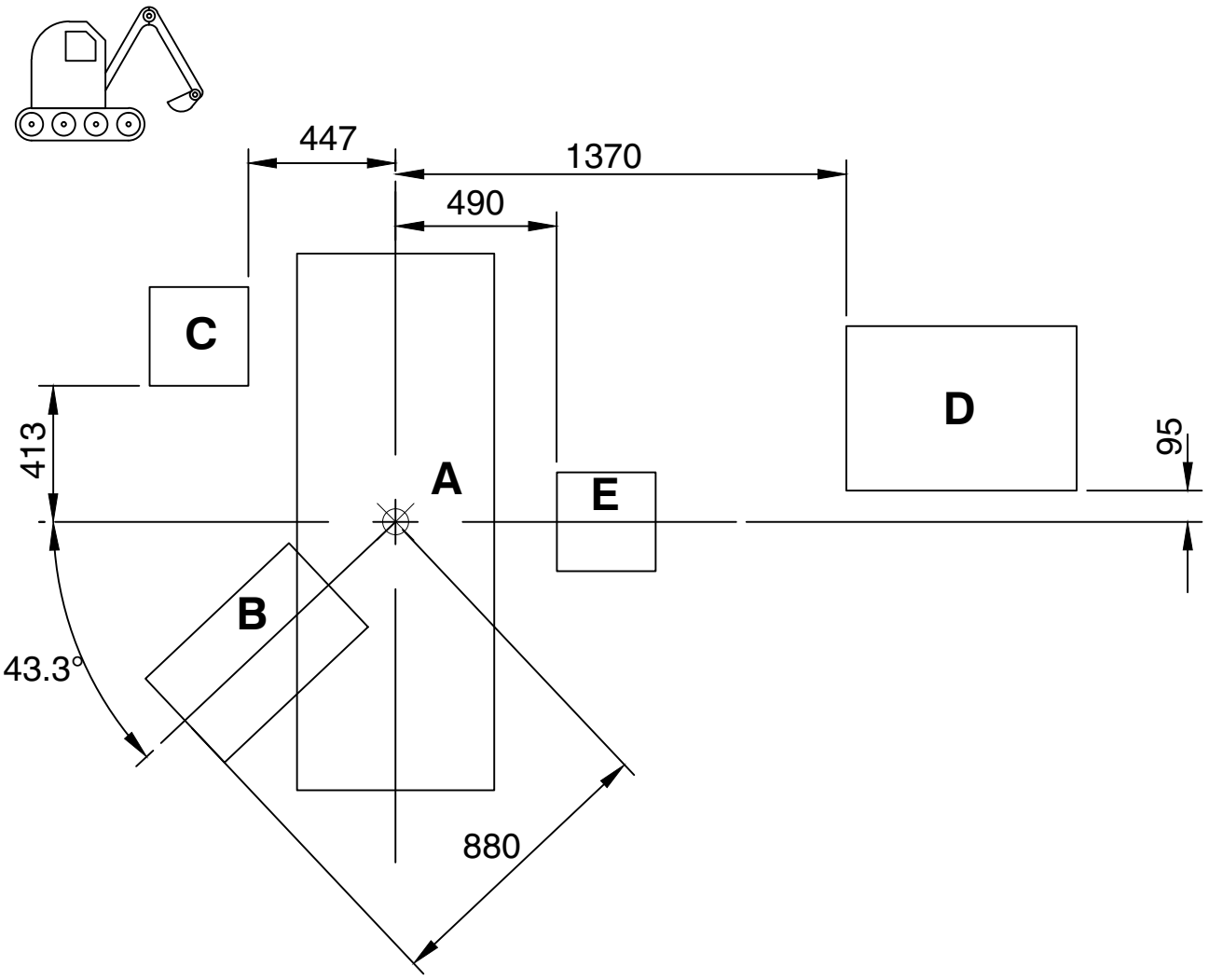
'A'	m	0.60 x 1.63 x 1.13
'B'	m	0.35 x 0.60 x 0.90
'C'	m	0.30 x 0.30 x 0.90
'D'	m	0.50 x 0.70 x 0.90
'E'	m	0.30 x 0.30 x 0.83

TYPE 1/2 101/144



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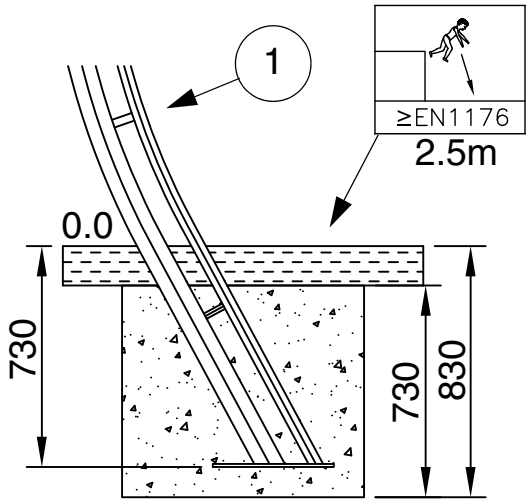
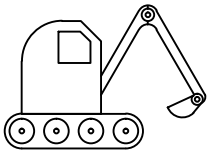
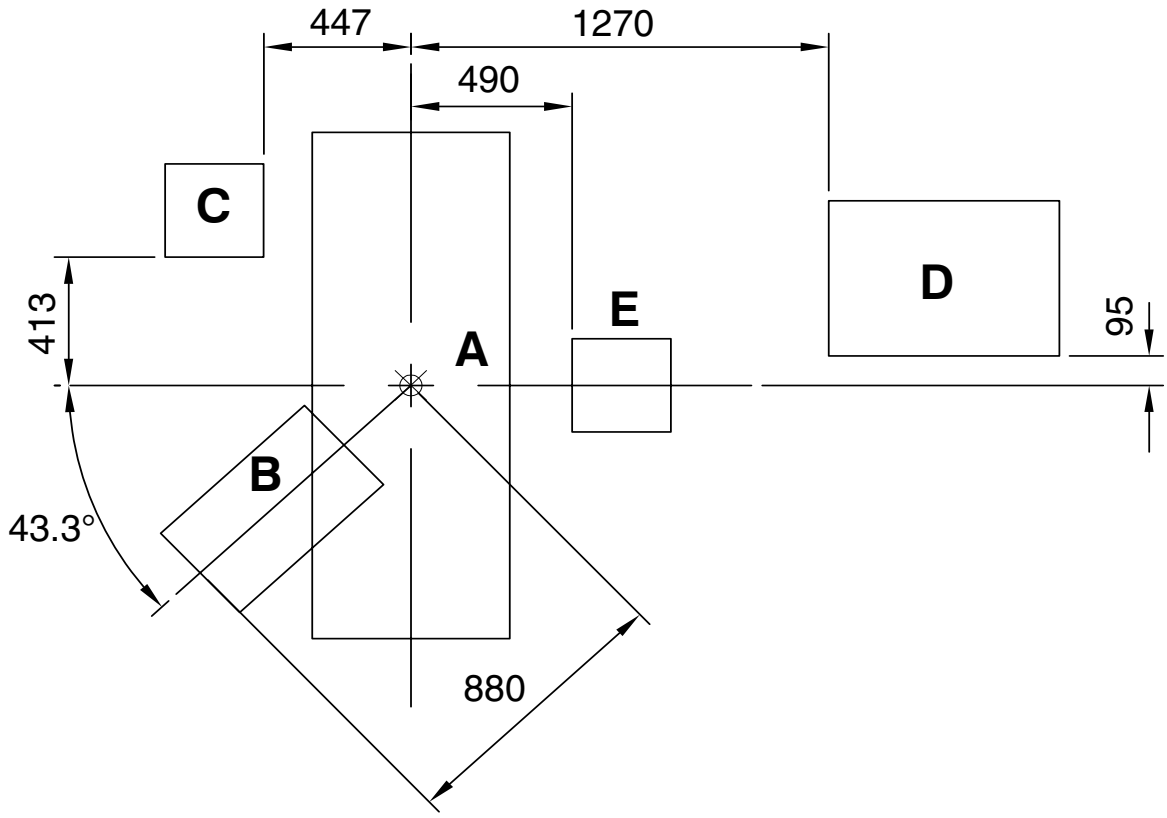


REF		L x W x D
'A'	m	0.60 x 1.630 x 0.83
'B'	m	0.35 x 0.60 x 0.60
'C'	m	0.30 x 0.30 x 0.60
'D'	m	0.50 x 0.70 x 0.60
'E'	m	0.30 x 0.30 x 0.43

TYPE 3 101/144





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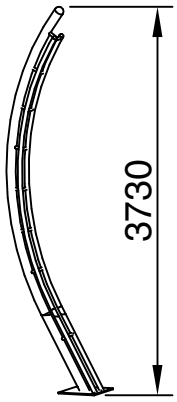
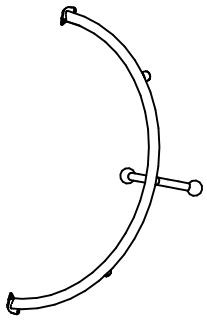
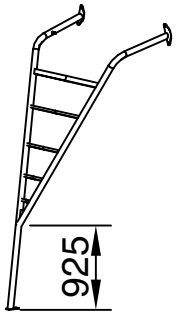
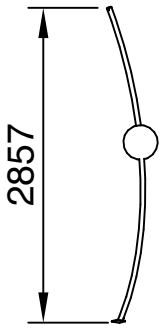
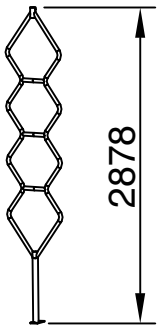
1	38000001		2		66.000
2	38005010		1		17.000
3	38005020		1		43.000
4	38003350		1		19.000
5	38002010		1		13.500

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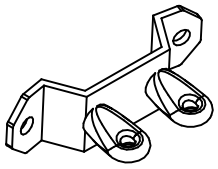
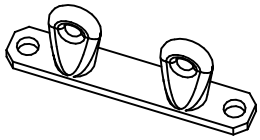
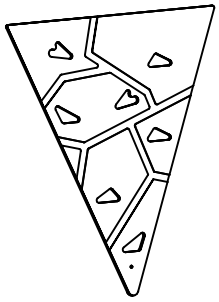
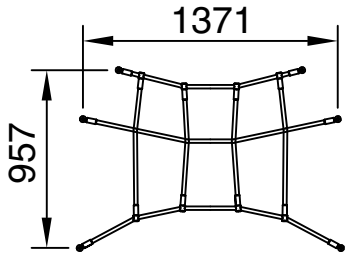
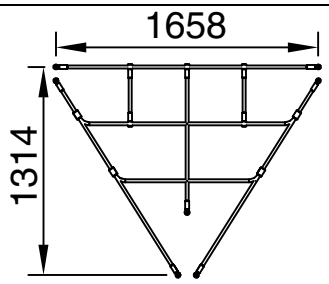
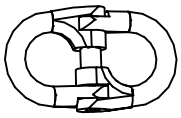
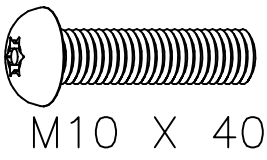
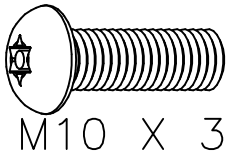
6	38008021		2		1.000
7	38005040		1		0.500
8	38005030		1		17.000
9	38005070		1		5.000
10	38005080		1		6.000
11	15715000		13		0.100
12	10121040		22		0.037
13	10121030		6		0.028

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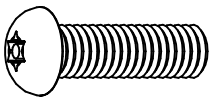
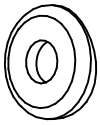
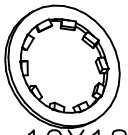
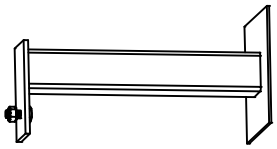
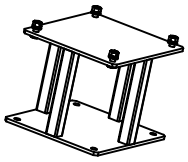
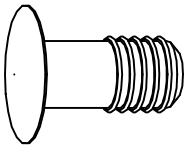
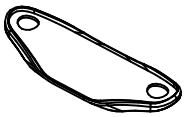
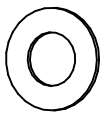
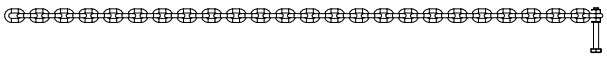
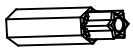
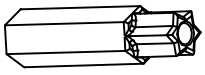
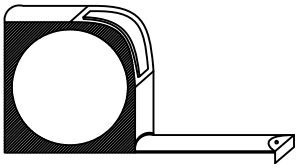
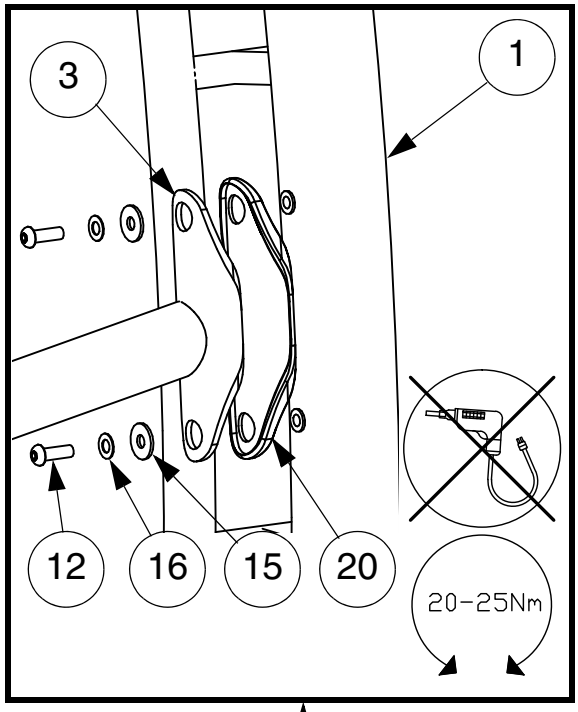
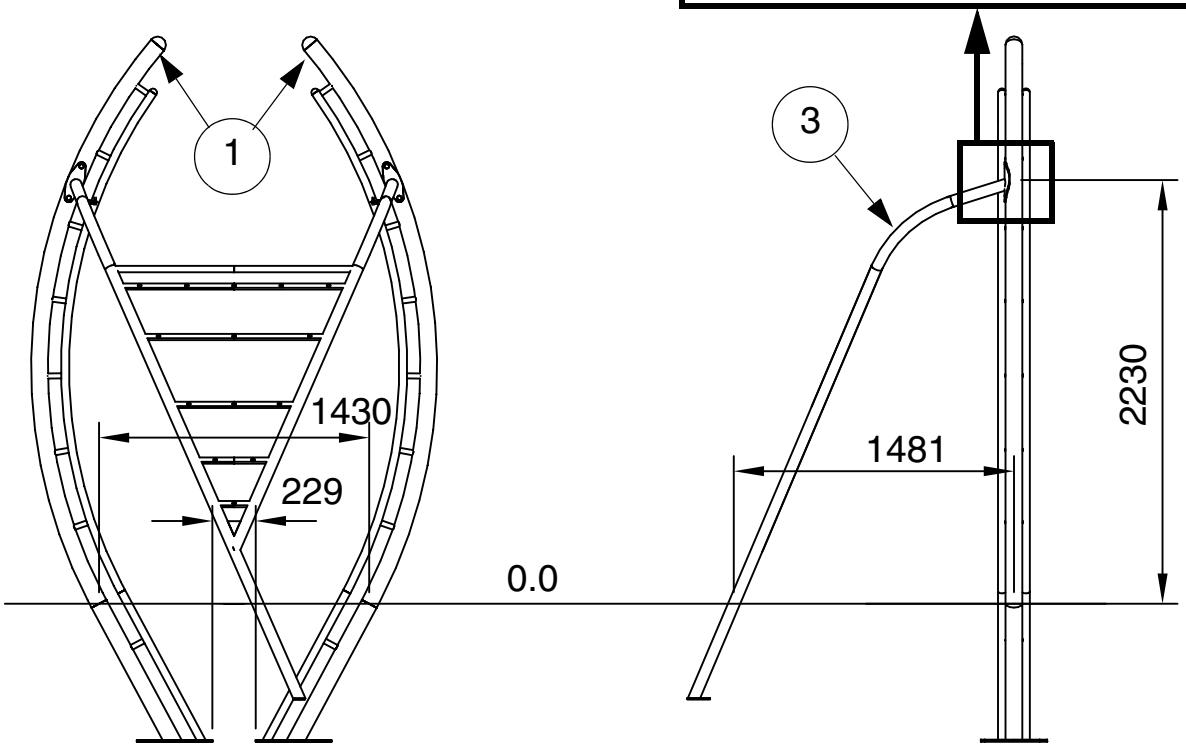
14	10120620	 M6 X 20	2		0.009
15	38001019	 M10 12X32X6.5	8		0.002
16	10301000	 M10 12X18X1	28		0.002
17	SSGIL			3	2.200
18	38000002			2	26.000
19	19024501		32		0.001
20	19023801		4		0.080
21	10291000	 M10 11X21X1	6		0.002
22	38008027		1		1.500
23	10120600	 T30 M6	2		-
24	10121000	 T45 M10	4		-

STEP 1







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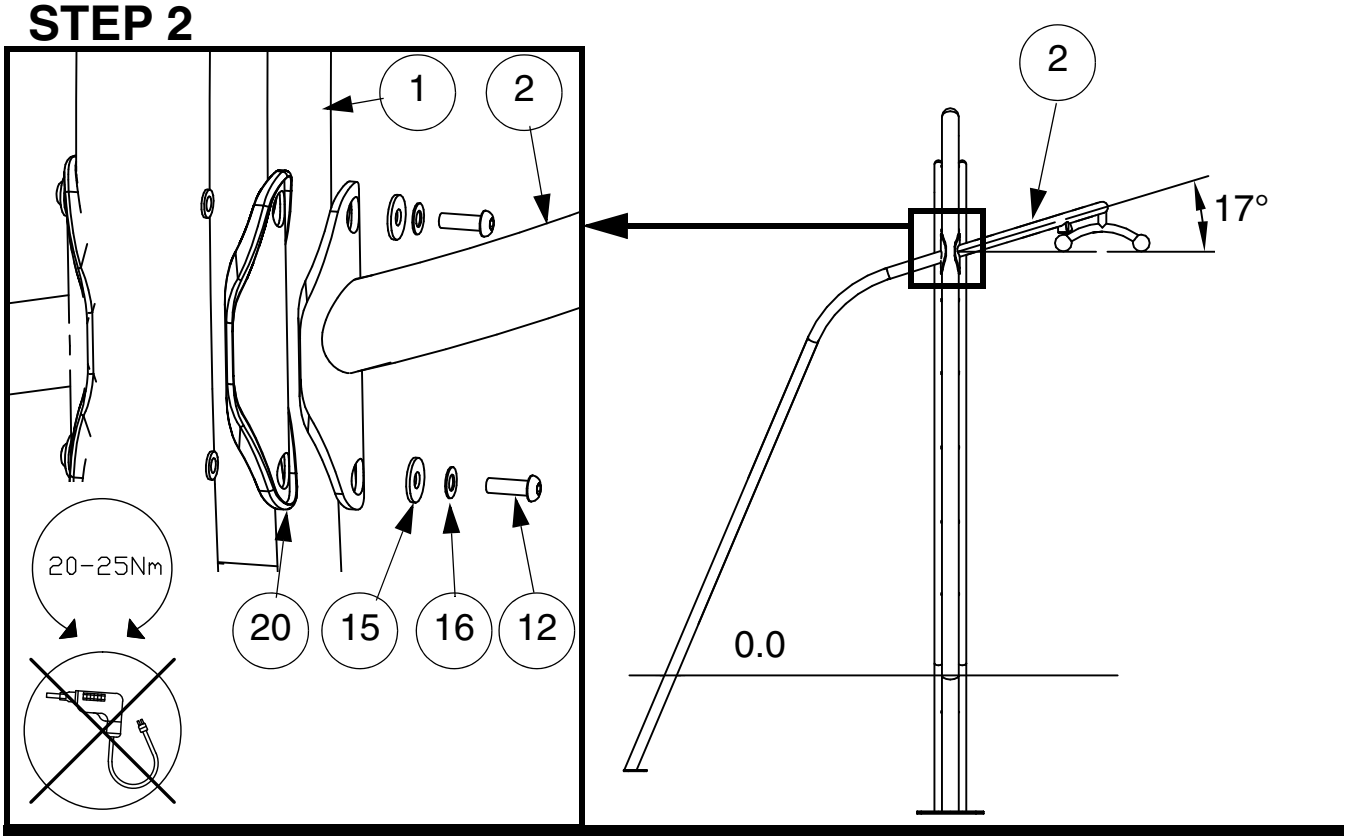

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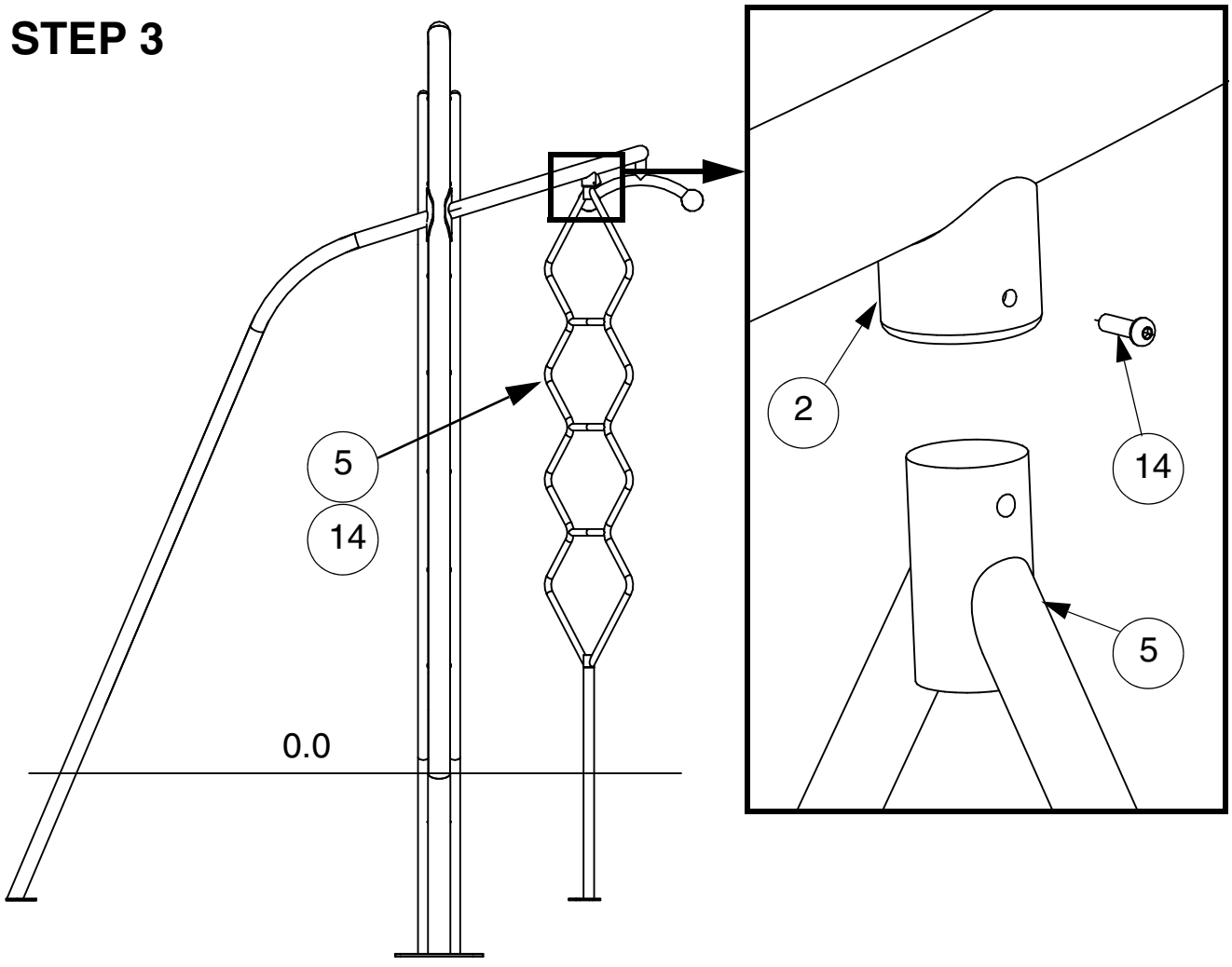

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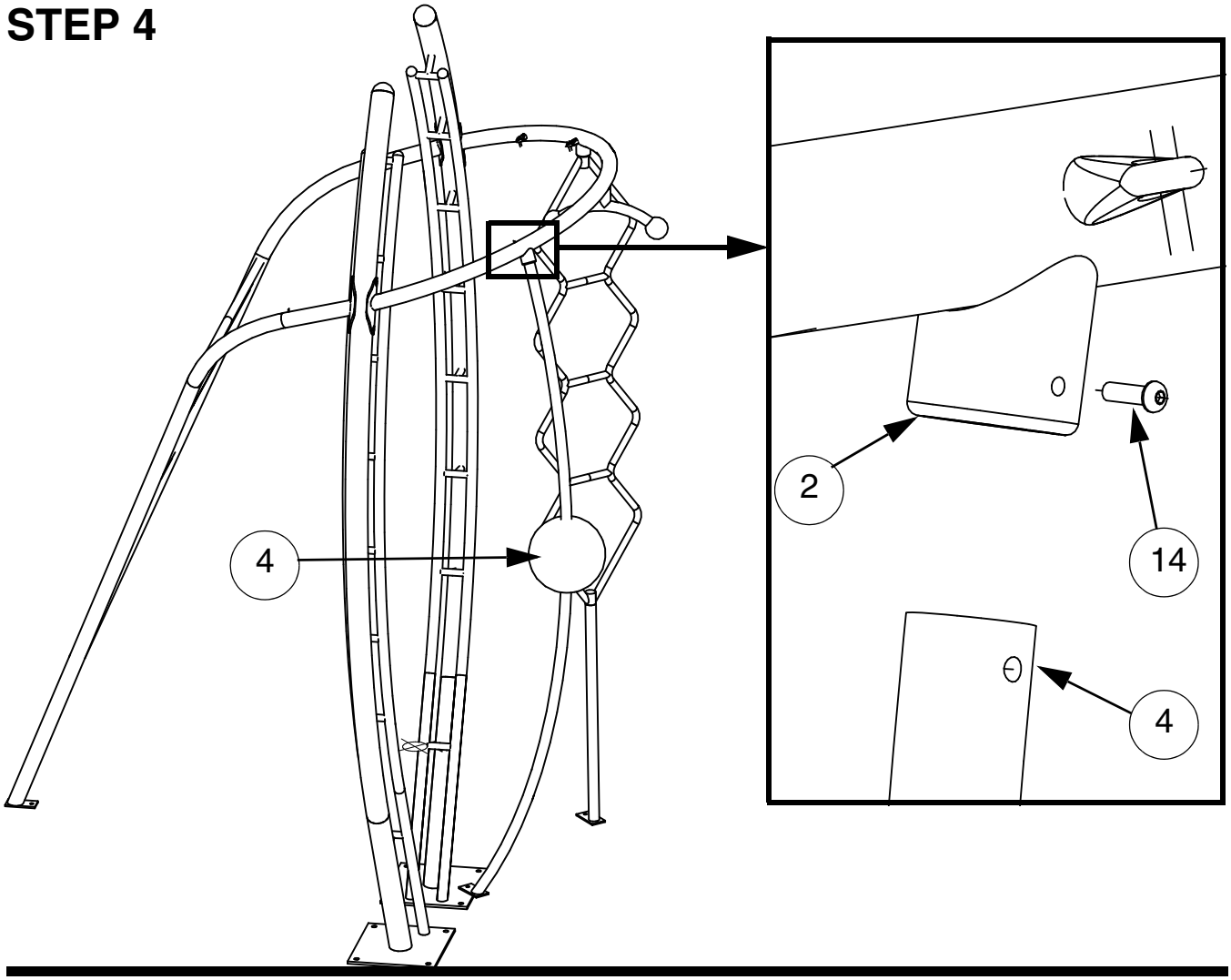

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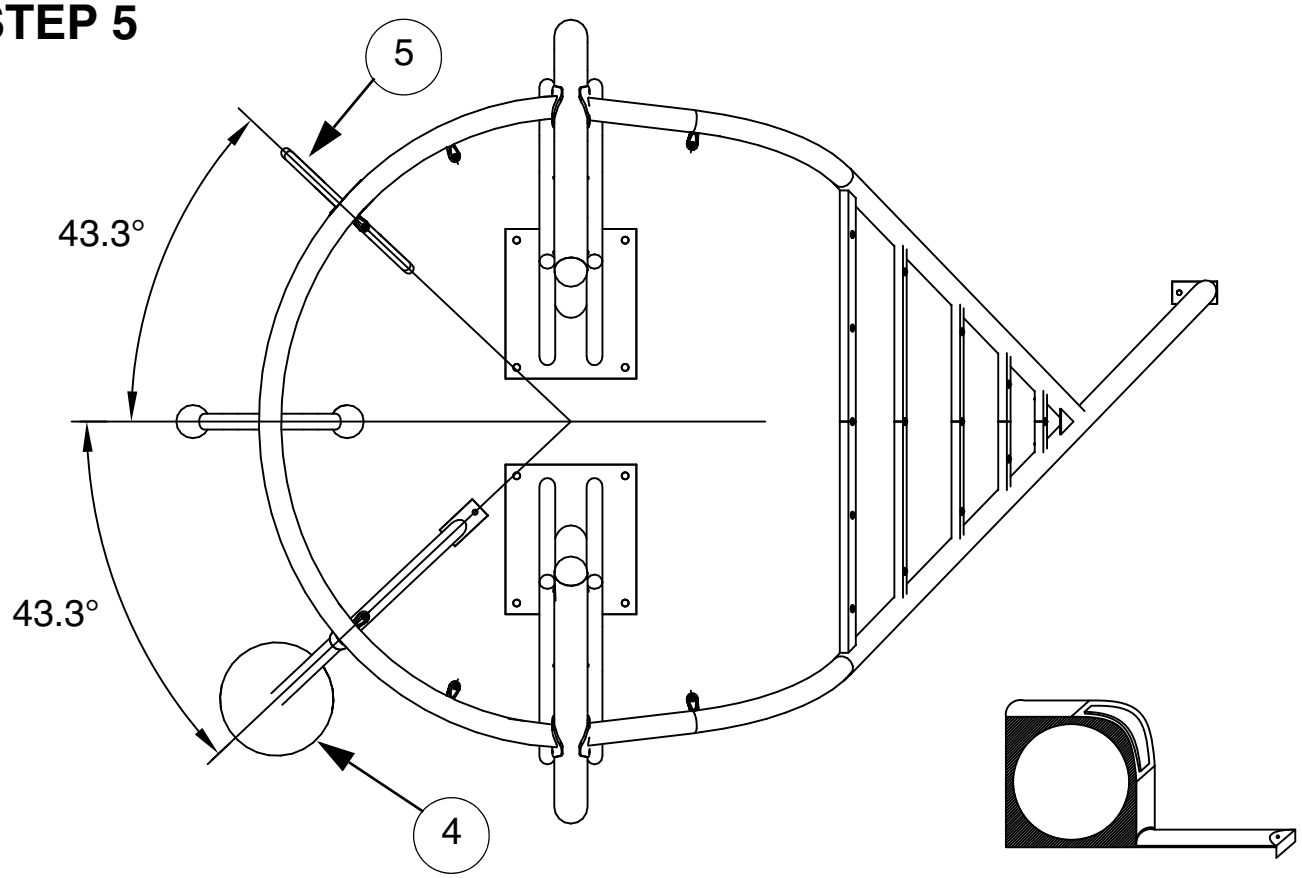

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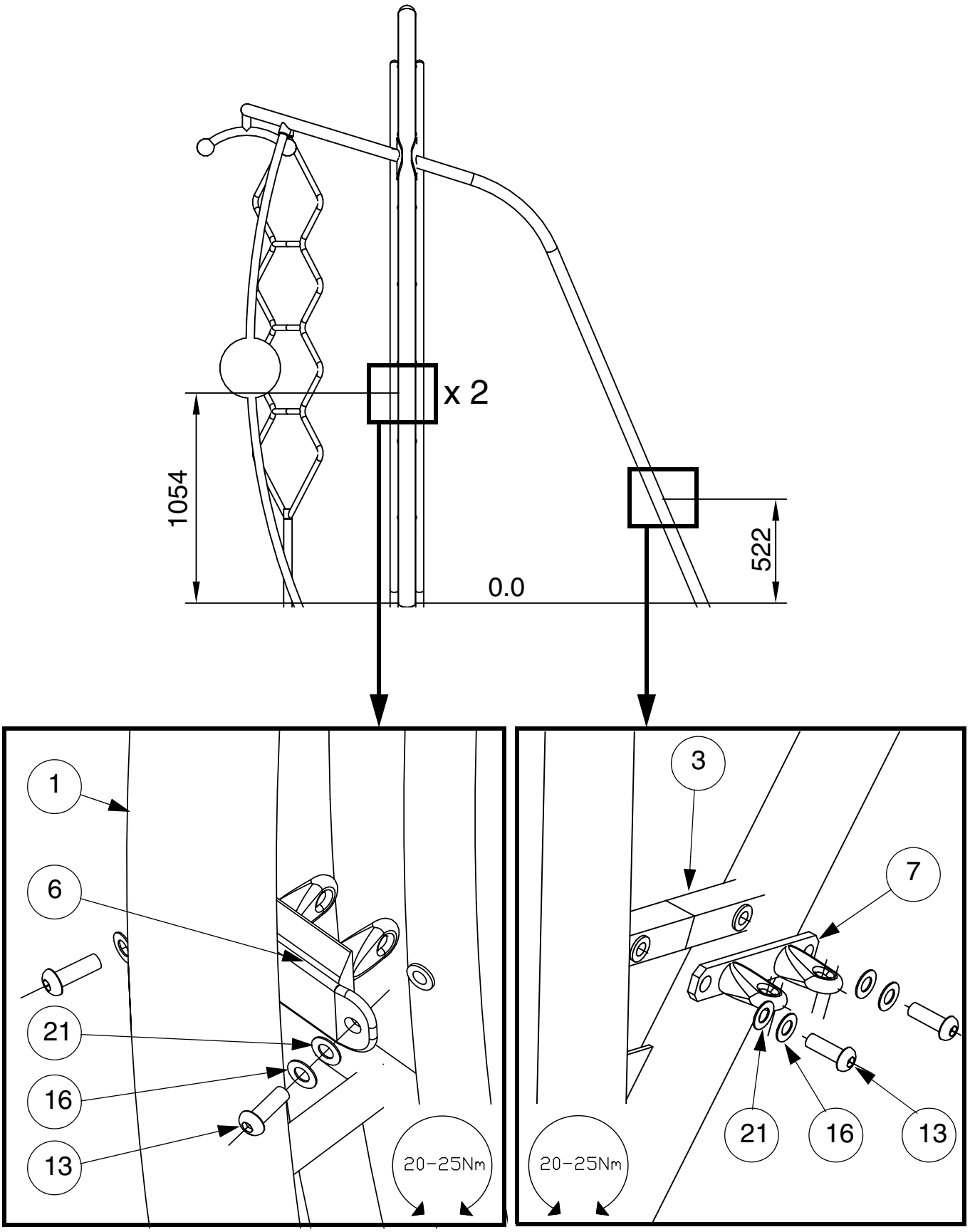

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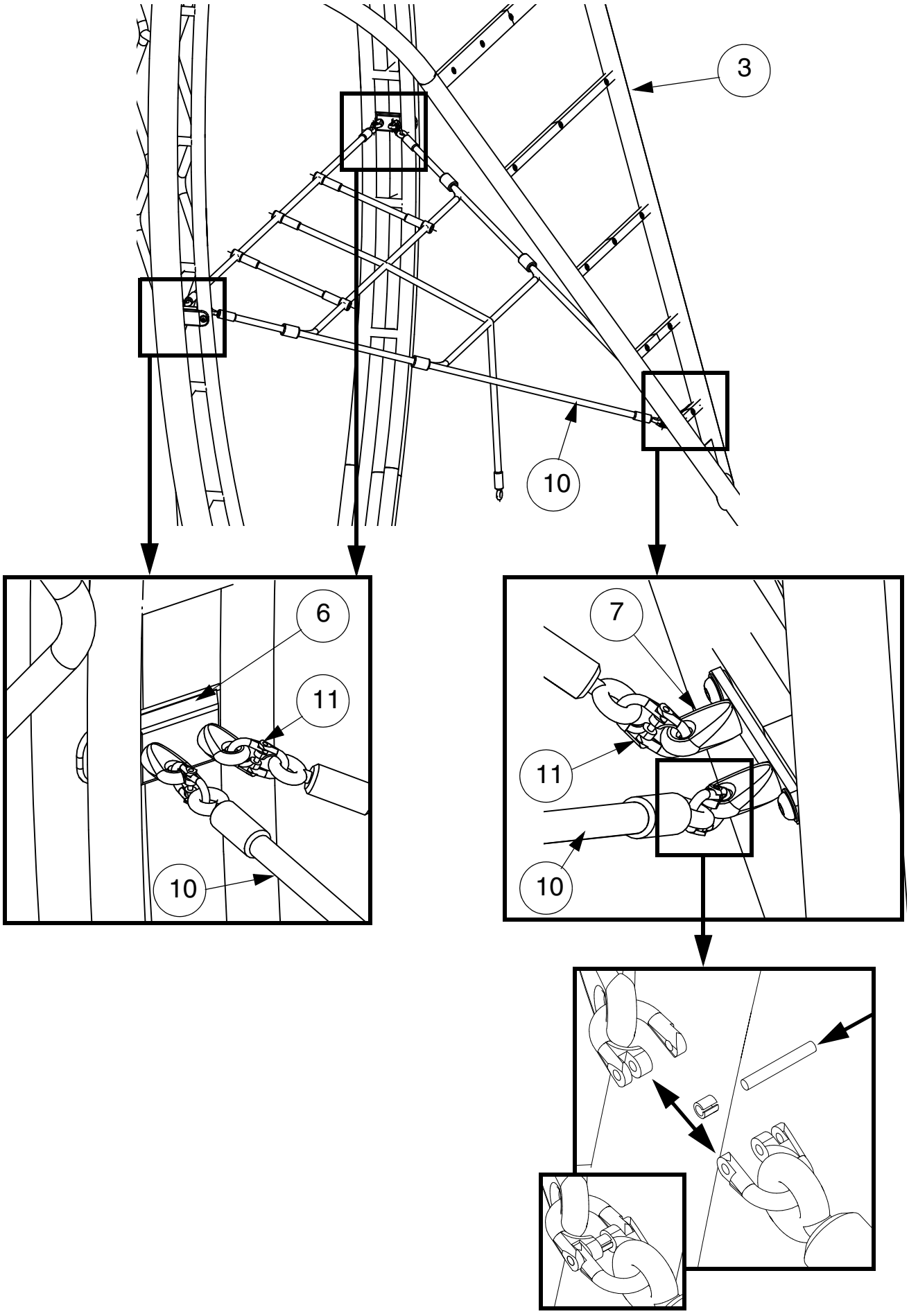

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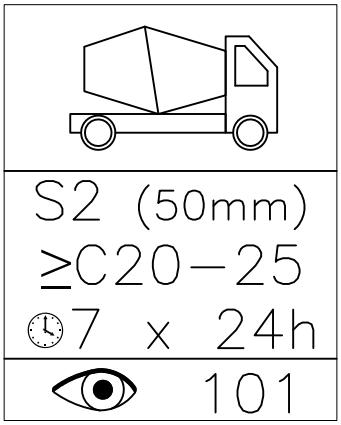

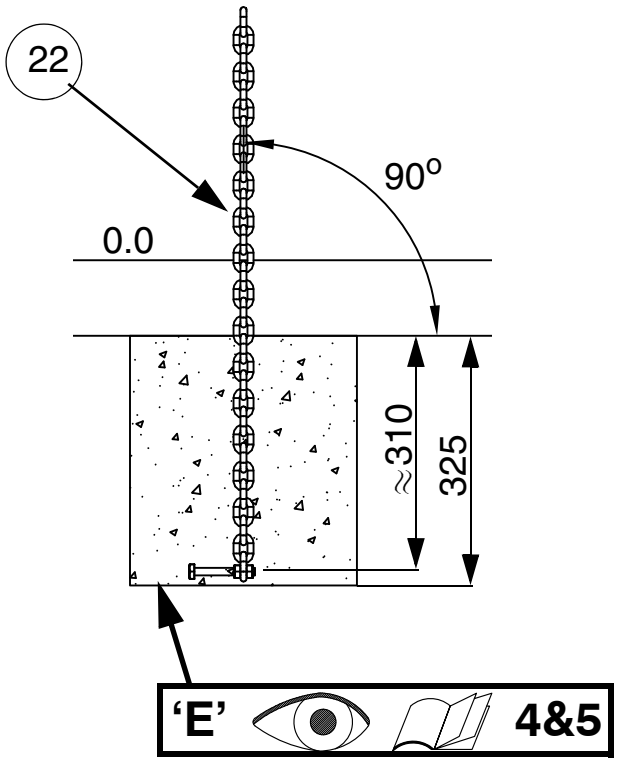

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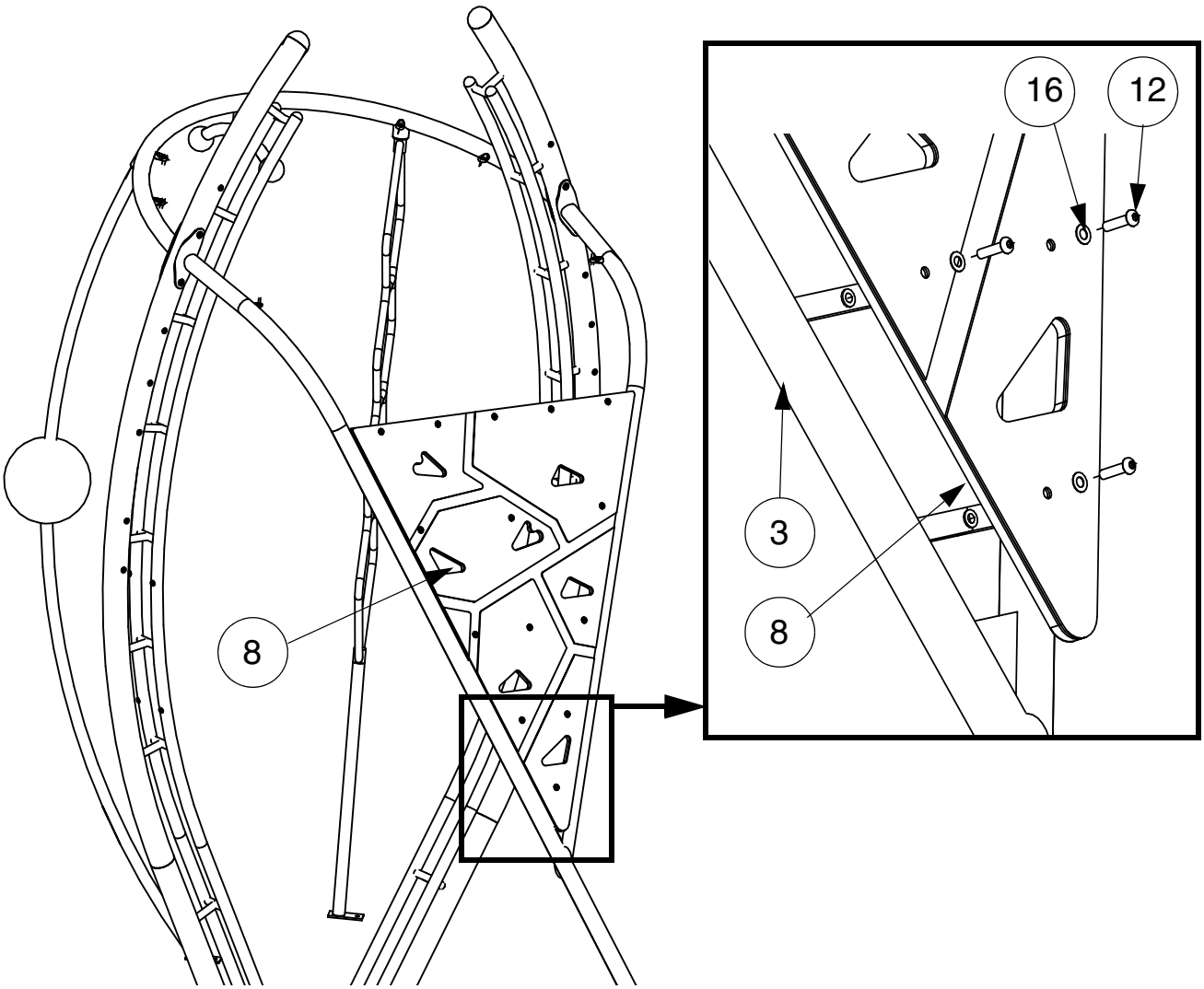

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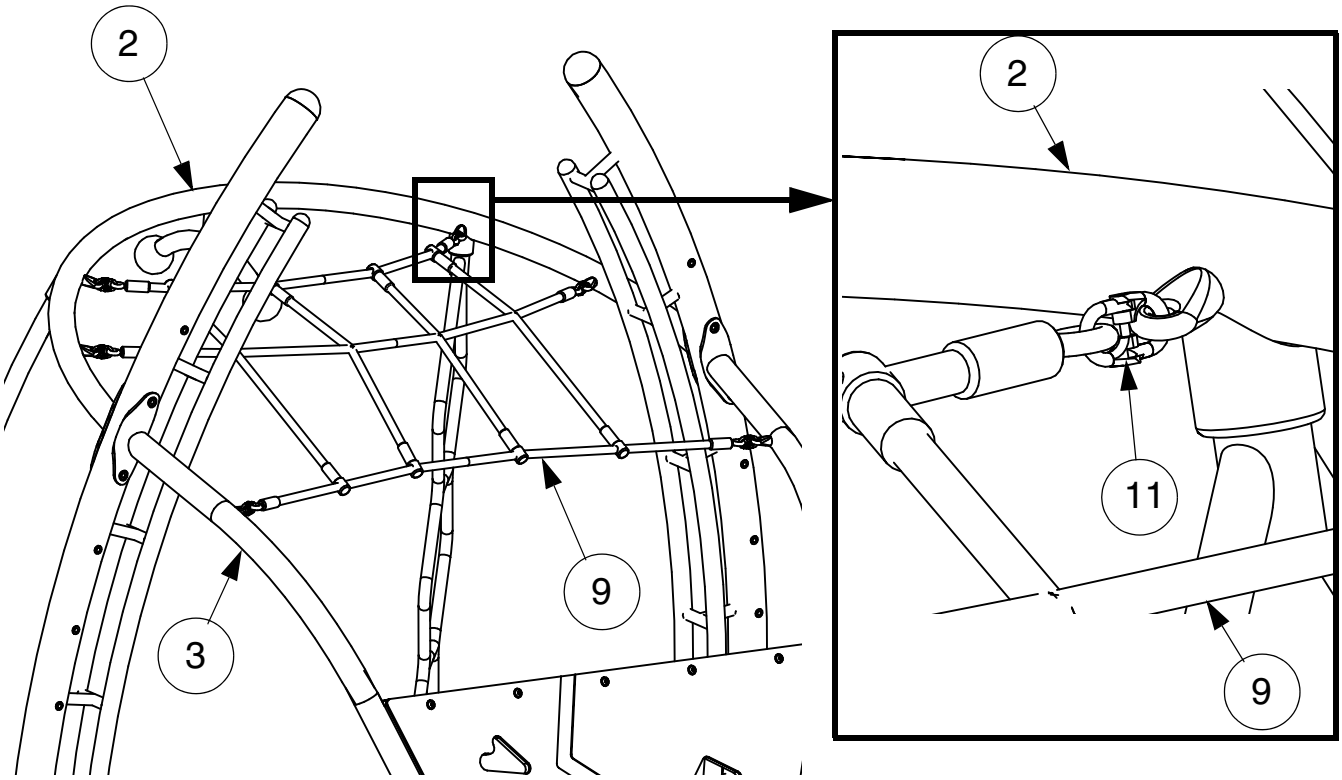

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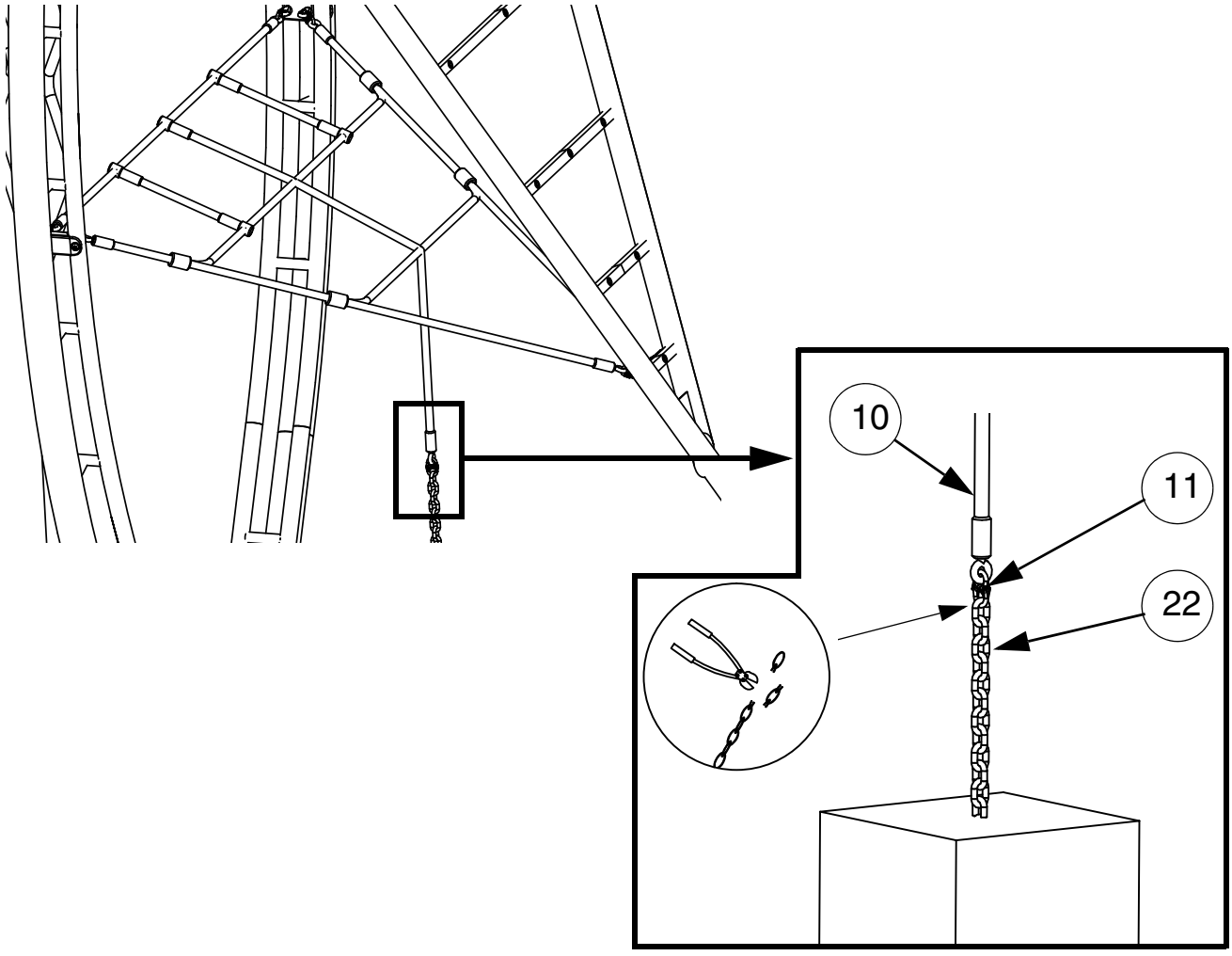
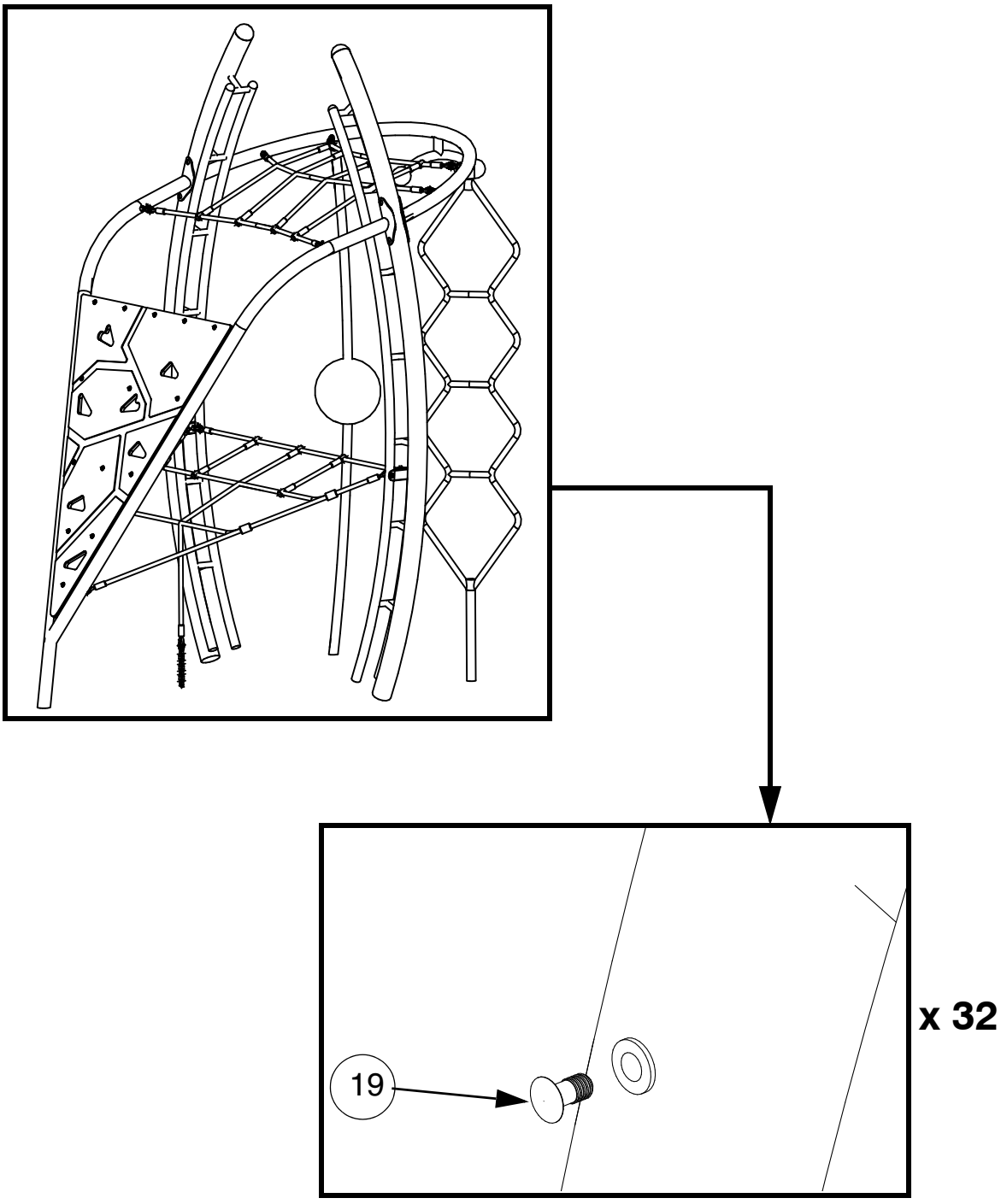
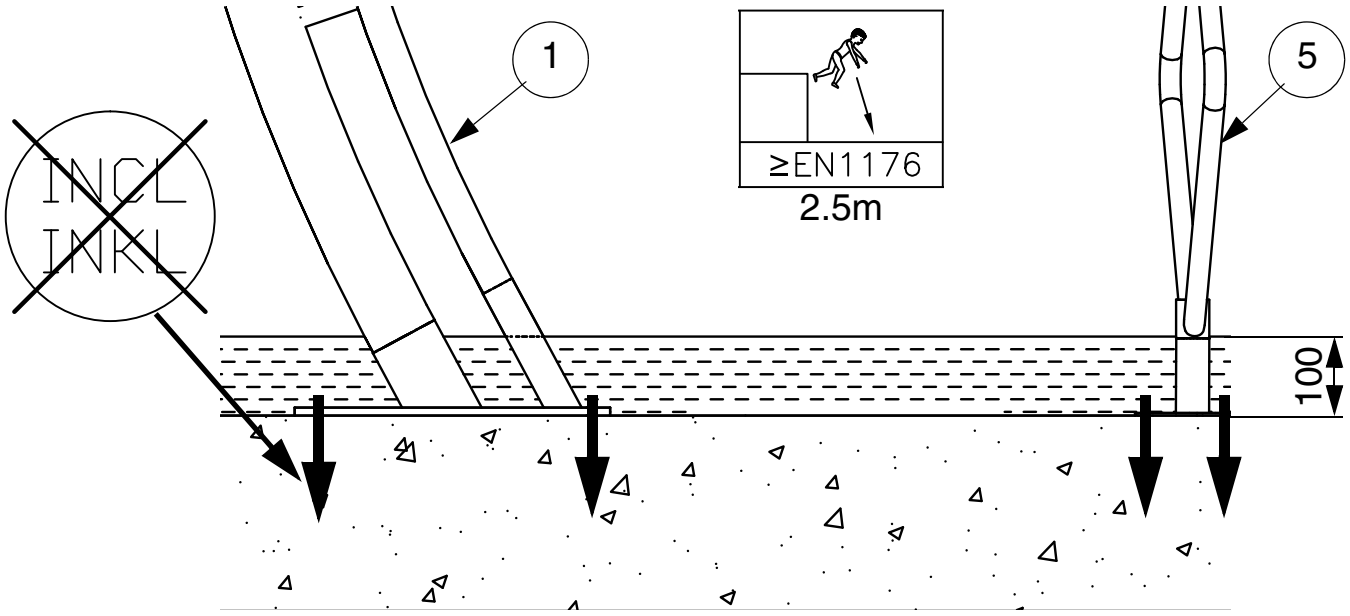


STEP 12



Appendix A:



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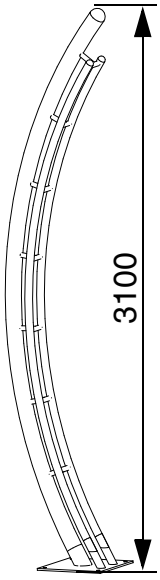
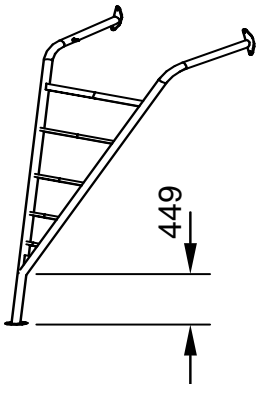
1	38000005		2
3	38005120		1

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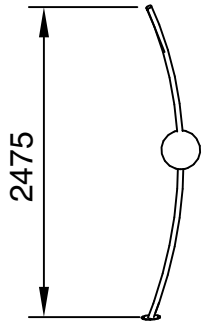
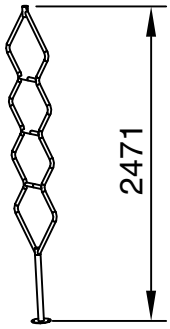
4	38003450		1
5	38005018		1

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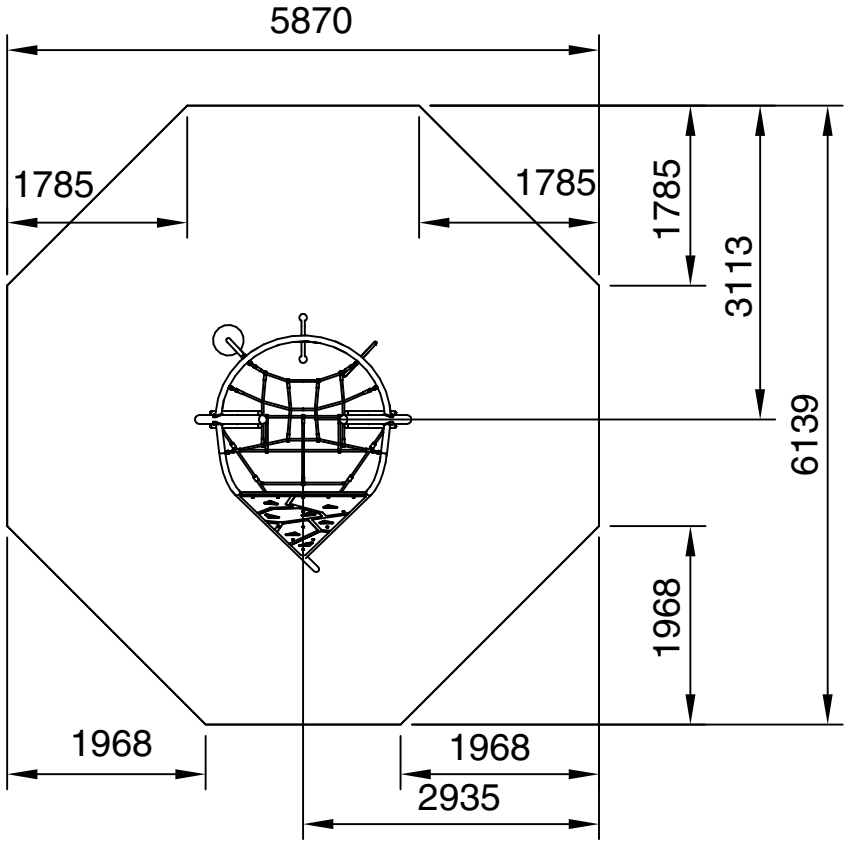

NXQE2 TYPE 1/2 LOOSEFILL

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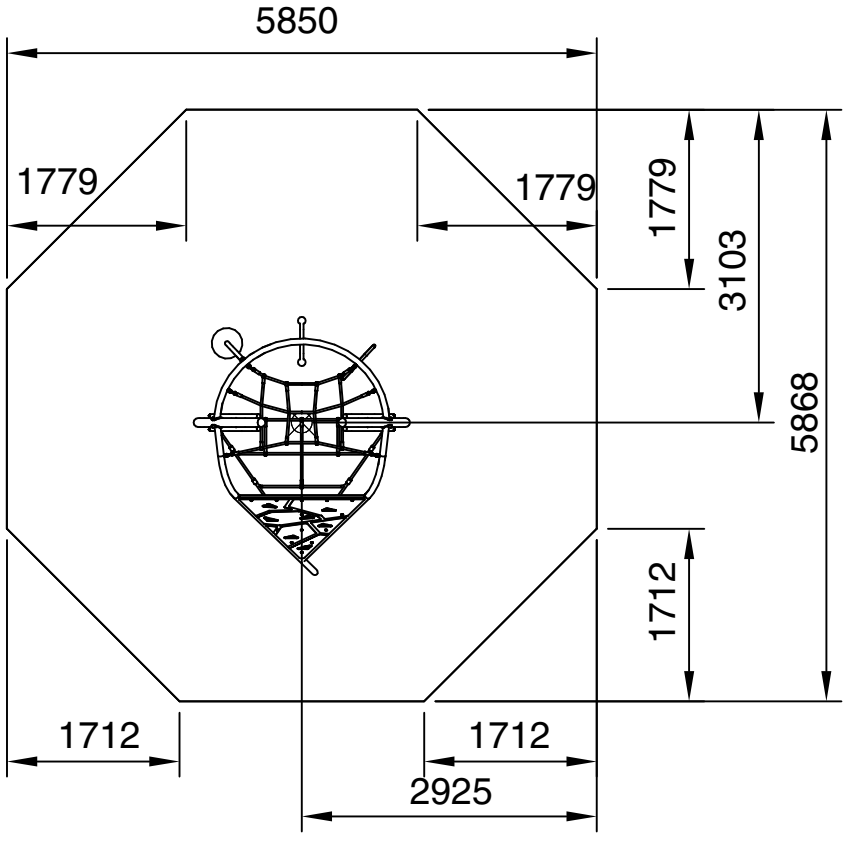

NXQS2 TYPE 3 WETPOUR

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SMP Playgrounds Ltd. recommends an effective *Impact Absorbing Surface tested to EN1177 & BS7188* beneath **all** play equipment. Refer to manufacturers instructions for details of installation. The surface should have a Critical Fall Height greater than the Maximum Freefall Height of the equipment.

Constructional Space is the approximate working area required to layout and assemble the equipment.

For the safe operation of this equipment it must be installed on horizontal ground with the required minimum space.

The concrete foundations indicated are for average ground. Care should be taken concerning abnormal conditions.

1 PREPARATION

All equipment assembly and fixings must conform to EN1176.

Before commencing the installation the surrounding area must be sufficiently fenced and signs erected to warn the public of the risk of injury.

Tools / ancillary equipment: Plumbline, 10m tape measure, Spirit level, Step ladder, Torque wrench, M6 & M10 Torx tool (Supplied with unit).

Minimum Personal Protective Equipment:- Hard hat, Gloves, Armoured boots, Goggles.

1.1 ESTABISH ORIENTATION

i) See page 3 for equipments ‘falling space’.
ii) Measure out the site to ensure the space required fits into the allotted area, it is horizontal and free from trip points or other obstructions.
iii) Ensure the equipment is to be provided with an effective Impact Absorbing Surface which has a tested critical fall height rating greater than the maximum freefall height of the equipment.

1.2 MARK OUT HOLES

Consult SMP layout drawing for structure position on site.

See pages 4 & 5 for concrete foundation spacings.

NOTE: This is a minimum guide only. Hole excavation should be done progressively as the steelwork is erected.

1.3 ESTABLISH DATUM LEVEL

i) If a rubber tiled Impact Absorbing surface is to be laid, see separate instructions (base may incorporate up to 2% falls etc).
ii) if loosefill surface is specified SMP will supply extensions to all the equipment to allow for the loose fill thickness of 400mm, ensuring that all the steelwork has adequate penetration into the concrete footings. With certain loose fill materials, a greater thickness than 400mm may be required. This will need to be determined by allowing 100mm for dispersal in addition to the thickness required for the freefall height of the particular Nexus layout. All component extensions for loose fill type surfaces are itemised in the following sections and should be bolted in place where applicable before the general assembly proceeds.

2 INSTALLATION & ASSY PROCEDURES

2.1 SAFE WORKING PRACTICE:

A full risk assessment should be carried out prior to commencing the installation, which will be specific to the site selected. The major risks associated with purely the assembly of this product are highlighted below, which can form part of this overall assessment.

2.2 RISKS:

i) Large parts which could be difficult to lift or handle.

ii) Lifting parts overhead.

iii) Structure unstable until all fixings are tightened.

2.3 CONTROL MEASURES:

i) All staff working on installation to wear suitable PPE including Hard Hat, Toe Protective Shoes and Gloves.

ii) Any staff or other persons on site, not working directly on the installation, to be kept away from the installation.

iii) Mechanical help to be utilised for any awkward lifting that may be required.

iv) Ensure adequate personal and equipment are on site to support the structure whilst it is being assembled.

Pre - Installation Inspection:-

i) Inspect all parts for damage (that may have occurred during transportation & storage). Finish Coatings, if found to be damaged these should be made good before erection (Refer to maintenance instructions). Any damaged or missing parts must be replaced.

ii) Warn the public of the risk of injury, by placing signs and fencing the surrounding area, before commencing installation.

2.4 INSTALLATION

i) Refer to site layout for position and orientation of product, then, mark the outline of the position of the footings with eg. spray or chalk etc. Excavate the holes. See pages 4 & 5

ii) Position a post (item 1) into the excavation referring to the site layout, shim as required and check its position and orientation. Ensure the post is plumb and square.

iii) Position a second post (item 1) into excavation and suspend the top end of the Climbing Wall Frame (item 3) between the two posts, and place the bottom leg into foundation 'D'. Shim at base of leg to ensure Climbing Wall Frame stands at the correct position. Retain using 2 off Gasket (item 20), 4 off M10 x 40 Resistorx bolts (item 12), Saddle washers (item 15) and Shockproof washers (item 16). Fixing point on both posts is the 4th set of holes from the ground. Ensure the post is plumb and square. **(STEP 1) Do not tighten fasteners**.

iv) Suspend the Top Ring Assembly (item 2) between the two posts on the opposite side to the Climbing Wall Frame, but at the same height. Retain using 2 off Gasket (item 20), 4 off M10 x 40 Resistorx bolts (item 12), Saddle washers (item 15) and Shockproof washers (item 16). **Do not tighten fasteners. (STEP 2)**.

NOTE: It is very important to check that the legs are in correct relative position to ensure the correct assembly of the bottom net at a later time. Measure between the centres of the legs main tube diameter at finished surface level, and between main legs and the climbing wall frame leg. See STEP 1

NOTE: Check that the structure has been position in the correct place, that it is plumb and square.

v) Fully tighten fixing bolts to a maximum torque setting of 20-25Nm.

vi) Position the Vertical Climber (item 5) in foundation 'C' and socket on the underside of the Top Ring Assembly (item 2). Shim at base as required to ensure Vertical Climber is set in the vertical plane and retain in position using 1 off M6 x 20 Resistorx bolt (item 14) which is screwed through the retaining socket into the clearance hole at the top of Vertical Climber. **(STEP 3)**.

NOTE: The Vertical Climber is set at a rotated angle of approx. 43.3° from the datum **(STEP 5)**.

vii) Position the Sphere & Pole (item 4) in foundation 'B' and socket on the underside side of the Top Ring Assembly (item 2). Shim at base as required to ensure section of the Sphere & Pole fitting into socket is set in the correct plane and retain in position using 1 off M6 x 20 Resistorx bolt (item 14) which is screwed through the retaining socket into the clearance hole at the top of the Sphere & Pole top section. **(STEP 4)**.

NOTE: The Sphere & Pole is set at a rotated angle of approx. 43.3° from the datum see **(STEP 5)**.

viii) Secure the Rope Fixing Bracket (item 6) into positon on both posts (item 1) at the highest set of fixing holes located on the outside smaller tubes of the post using 2 off M10 x 30 Resistorx bolts (item 13), Shockproof washer (item16) and M10 washer (item 21). Fully tighten bolts to a maximum torque setting of 20-25Nm. **(STEP 6)**.

ix) Secure the Net Fixing Bracket (item 7) into positon on the back face of the bottom cross-member of the Climbing Wall Frame (item 3), using 2 off M10 x 30 Resistorx bolts (item 13), Shockproof washer (item 16) and M10 washer (item 21). Fully tighten bolts to a maximum torque setting of 20-25Nm. **(STEP 7)**.

x) Attach the Bottom Net (item 10) to eye fixings located on the Rope Fixing Bracket (item 6) attached to the posts and the Net Fixing Bracket (item 7) attached to the Climb Wall Frame (item 3) using 6 off Coupling Link (item 11). **(STEP 7)**.

xi) Mark out the ground fixing position from the Bottom Net for the ground fixing chain in the base of the evacuated hole 'E'.

xii) Use the top framework of the structure to suspend the Ground Fixing Chain Assembly (item 22) verticaly over the previously marked Bottom Net ground fixing position. Ensure that at least 13 chain links are encased in the concrete to provide a secure fixing, with the Hex. Bolt at the bottom of the hole. This will leave at least 14 links extended above the 0.0 level to allow subsequent adjustment of the Bottom Net. Stake in position to ensure chain stays vertical during pouring of concrete. **(STEP 8)**.

xiii) Remove the Bottom Net and fixings and store for re-assembly after the concrete has set.

NOTE: It is very important that the relevant leg positions are correct before the concrete is poured to ensure correct assembly of bottom net. Re-check dimension on legs in conjuction with STEP 1.

Concrete mix is recommended at:
1 part cement;
2 parts sand;
4 parts aggregate;
by volume with 20mm aggregate
(20 N/mm^2 min compressive strength)

xiv) Fill the holes with concrete to the required level, taking into account any Impact Absorbing Surfacing requirements. Ensure that a full volume of concrete is used. The top of the concrete should gradually (1:100) slope down & outwards locally from the equipment upstand to the required level to form a watershed. Ensure that the Fixing Chain (item 22) is properly embeded in the concrete and is in the correct position and as near vertical as possible.

xv) Keep installation off limits to the public until the concrete has completly cured. (Recommended initial curing time is 48 hours).

xvi) Attach Climbing Wall (item 8) to the Climbing Wall Frame (item 3) using 14 off M10 x 40 Resistorx bolts (item 12) and Shockproof washers (item 16). **(STEP 9)**.

xvii) Re-attach the Bottom Net (item 10) to eye fixings located on the Rope Fixing Bracket (item 6) attached to the posts and the Net Fixing Bracket (item 7) attached to the Climb Wall Frame (item 3) using 6 off Coupling Link (item 11).

xviii) Attach the Top Net (item 9) to eye fixings located on the inside of the Top Ring Assembly (items 2) and Climbing Wall Frame (item 3) using 6 off Coupling Link (item 11). **(STEP 10)**.

xix) Tension Bottom Net (item 10) by connecting to the Ground Fixing Chain Assy (item 22) with Coupling Link (item 11). Remove all excess links before connecting. **(STEP 11)**.

xx) In all fixing positions on the steel work that have not been utilised, the protective plug should be removed and the permanent black protective plug (item 19) inserted & knocked home with a soft hammer. This also includes holes in top of Tee post smaller tubes.**(STEP 12)**

3 POST INSTALLATION INSPECTION

	CHECK	CHECK ✓
1	All fixings are tightened to a maximum torque setting of 20-25Nm and have no protruding sharp edges.	❑
2	Paint work and polyethylene panels are not damaged (Any making good should be carried out using the procedure in the Inspection and Maintenance instructions).	❑
3	Ensure all unused fixing holes in steel work have correct black plastic plug fitted.	❑
4	Concrete foundations are secure.	❑
5	Concrete has a water shed away from legs.	❑
6	Adequate provision of impact absorbing surfacing and no trip points within the minimum space.	❑
7	Site is clear of all tools and rubbish.	❑
8	Remove any warning signs.	❑