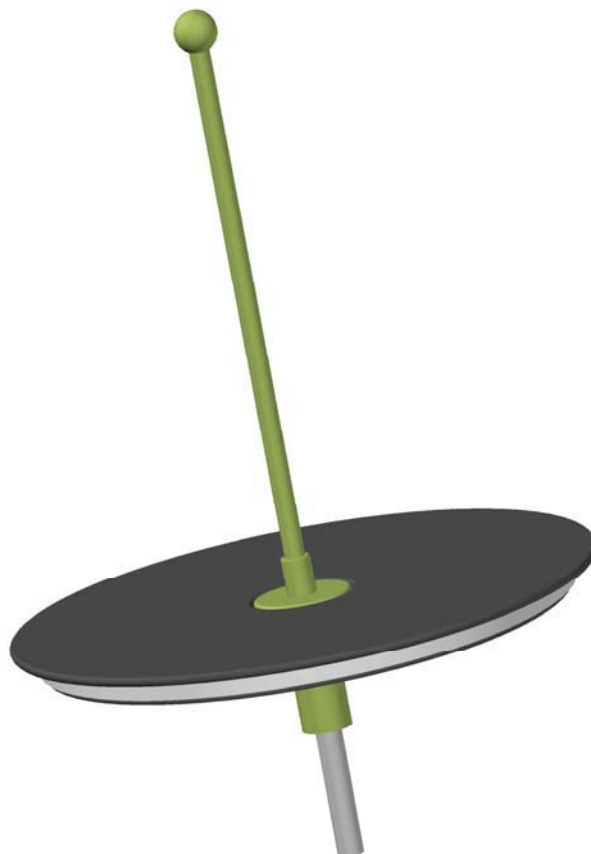




INSTALLATION INSTRUCTIONS
NEXUS MOMENTUM
NXMOM



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Section 1:

1 SPECIFICATIONS

REFERENCE		NXMOM
OVERALL HEIGHT (H1)	m	1.76
PLATFORM HEIGHT (H2)	m	0.59
CLEARANCE HEIGHT (H3)	m	0.42
DIAMETER (D)	m	Ø1.20
OVERALL WEIGHT	kg	123.00
HEAVIEST PART (DECK ASSEMBLY)	kg	74.00
LARGEST PART (DECK ASSEMBLY)	m	Ø1.20 X 0.085
CONCRETE	m ³	1.00
MINIMUM SPACE DIA (D1) x H	m	Ø5.20 x 3.10
MAXIMUM FREEFALL HEIGHT	m	0.59
FALLING SPACE AREA	m ²	21.24
IMPACT AREA (WET POUR)	m ²	22.50
LOOSE FILL AREA (SAND/BARK)	m ²	23.00
RUBBER TILES (1m X 1m)		28
MATTA (0.5m X 0.5m)	m ²	27.25
GRASSMATT FR (1m X 1.5m)	m ²	33.00
MANHOURS	hr.	5
MANPOWER		3
CONSTRUCTIONAL SPACE	m	3 X 3

NOTE: All dimensions in metres.

Concrete mix is recommended at:
 1 part cement;
 2 parts sand;
 4 parts aggregate;
 by volume with 20mm aggregate
 (20 N/mm² min. compressive strength)

SMP Playgrounds Ltd. recommends an effective *Impact Absorbing Surface tested to EN1177 & BS7188* beneath this 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 (shown in the above table) is the approximate working area required to lay out and assemble the equipment.

Care should be taken when siting this equipment in order to discourage users in the surrounding area from unintentionally coming into contact with the equipment. This can be achieved, for example by placing the equipment at the perimeter of the play area.

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

If a loose fill surface is selected for this item it will require a very high level of maintenance to ensure a sufficient thickness is in place at all times to provide 'critical fall height' protection.

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

2 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: Plumline, 5m tape measure, Spirit level, Torque wrench, M10 Torx tool (Supplied with unit), 19mm A/F Socket, Extension bar, Torque wrench, Protractor combination set.

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

2.1 ESTABLISH ORIENTATION

- i) See Specifications for equipments 'Minimum 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.

2.2 MARK OUT HOLES

Consult SMP layout drawing for structure position on site.

See FIG.2 for concrete foundation spacings.

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

2.3 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 equipment is to sit in loose fill or wet pour rubber surfaces allowances will need to be made for its recommended thickness. With certain loose fill materials, a greater thickness than 300mm 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.

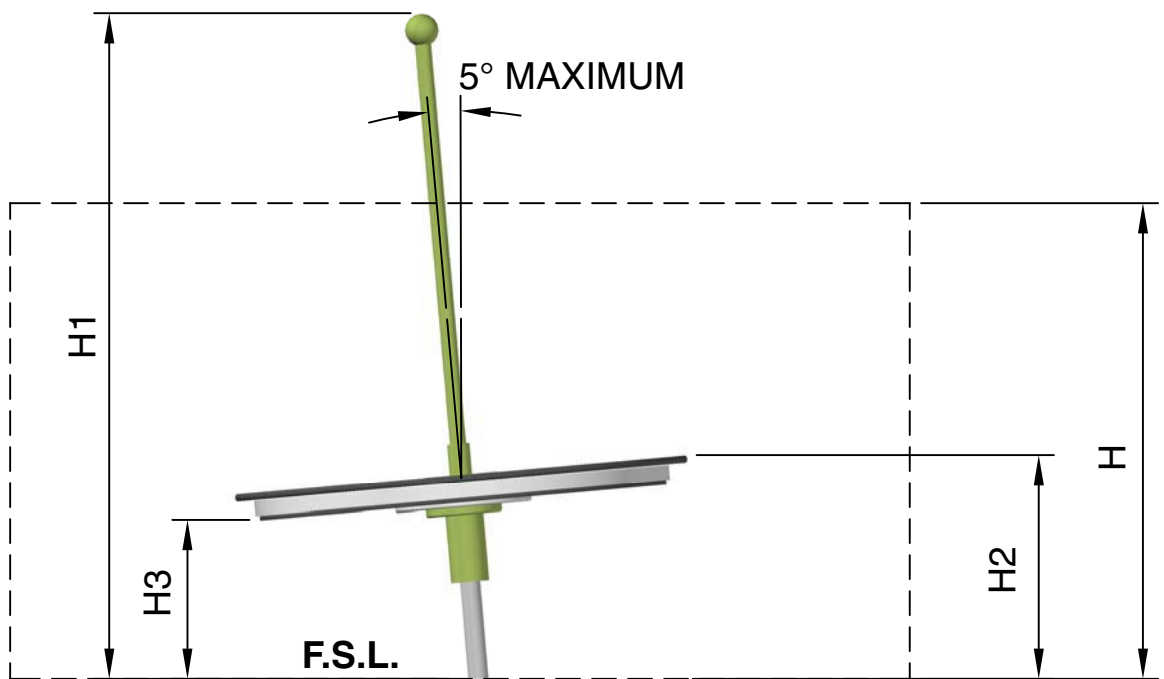
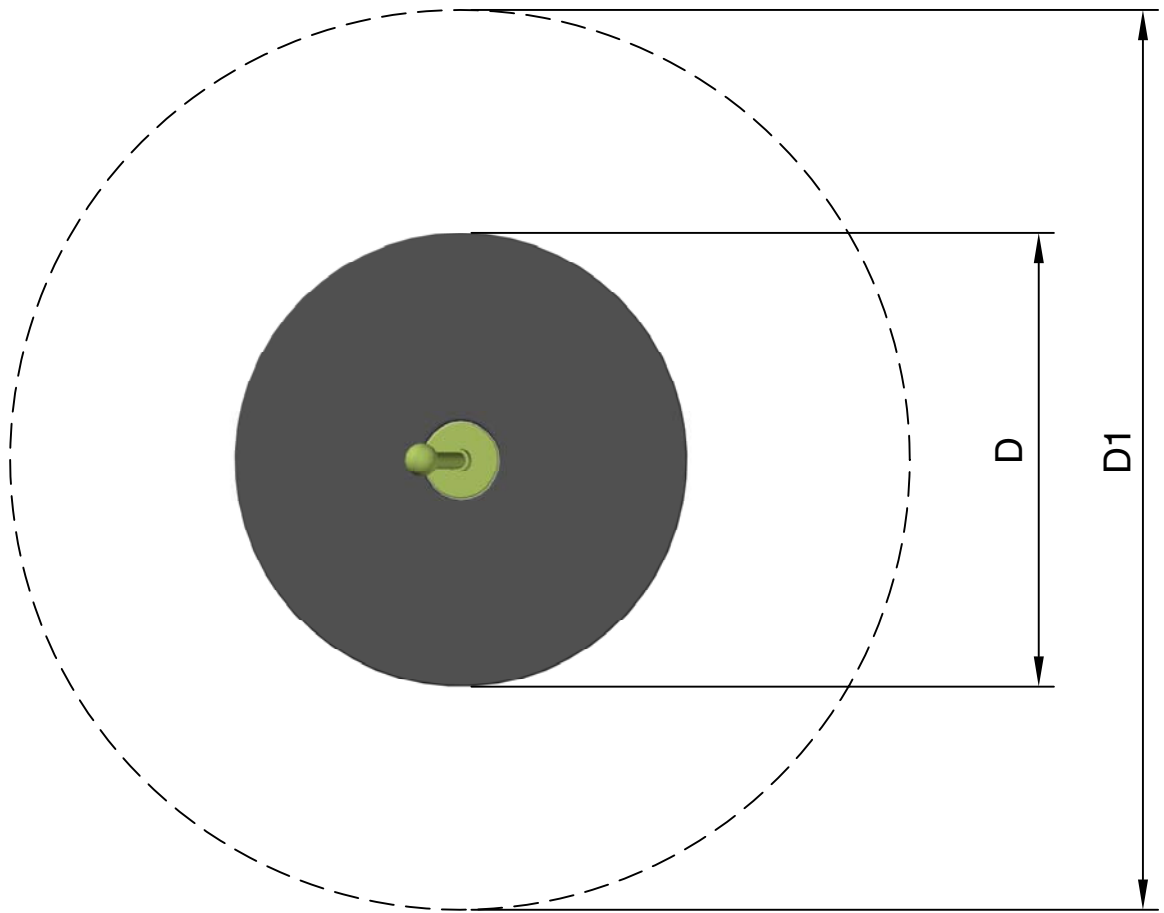


FIG.1

MINIMUM SPACE, FALLING SPACE & MAXIMUM FREEFALL HEIGHT

* THIS ALLOWS FOR 300mm THICKNESS OF LOOSEFILL SURFACE, WHICH WILL NEED TO BE CONFIRMED IS SUFFICIENT DEPENDING ON THE SPECIFIC LOOSEFILL MATERIAL SELECTED.

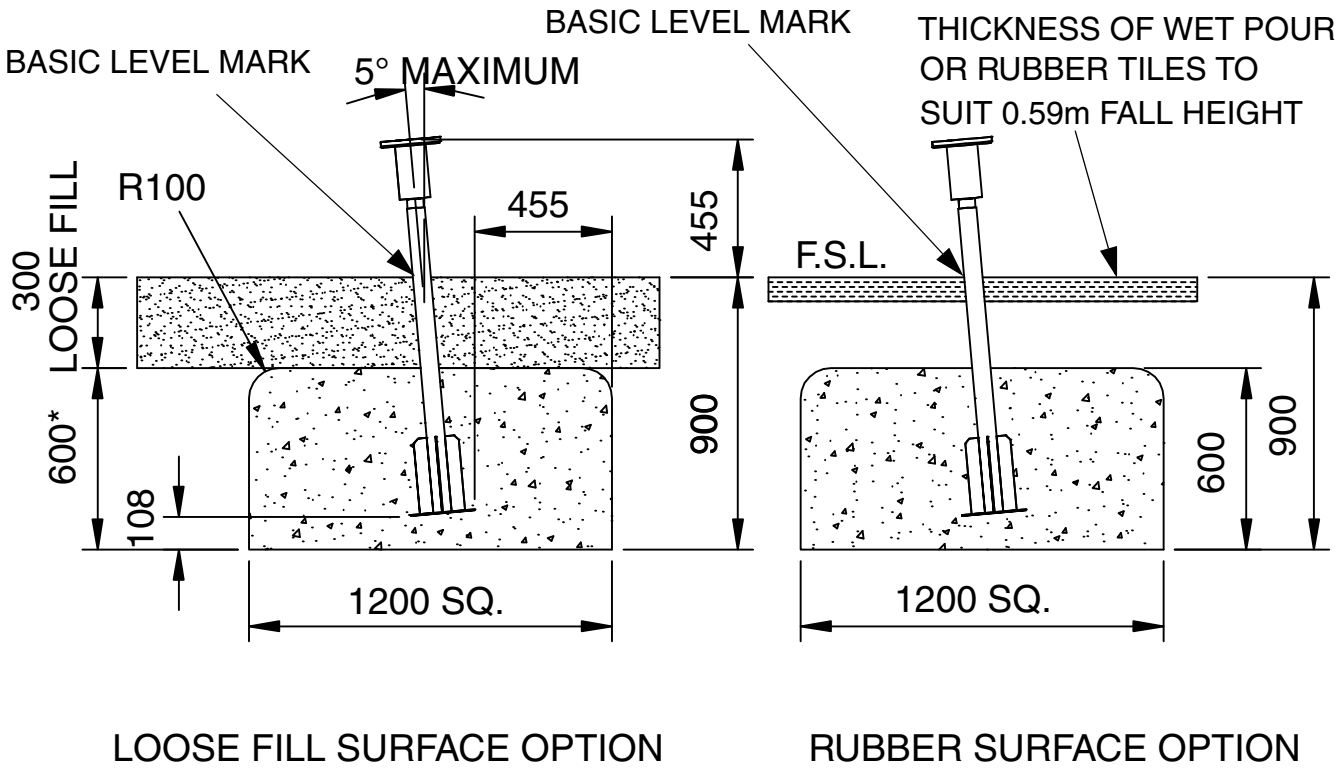


FIG.2 EXCAVATIONS SHAFT AND BEARING ASSEMBLY

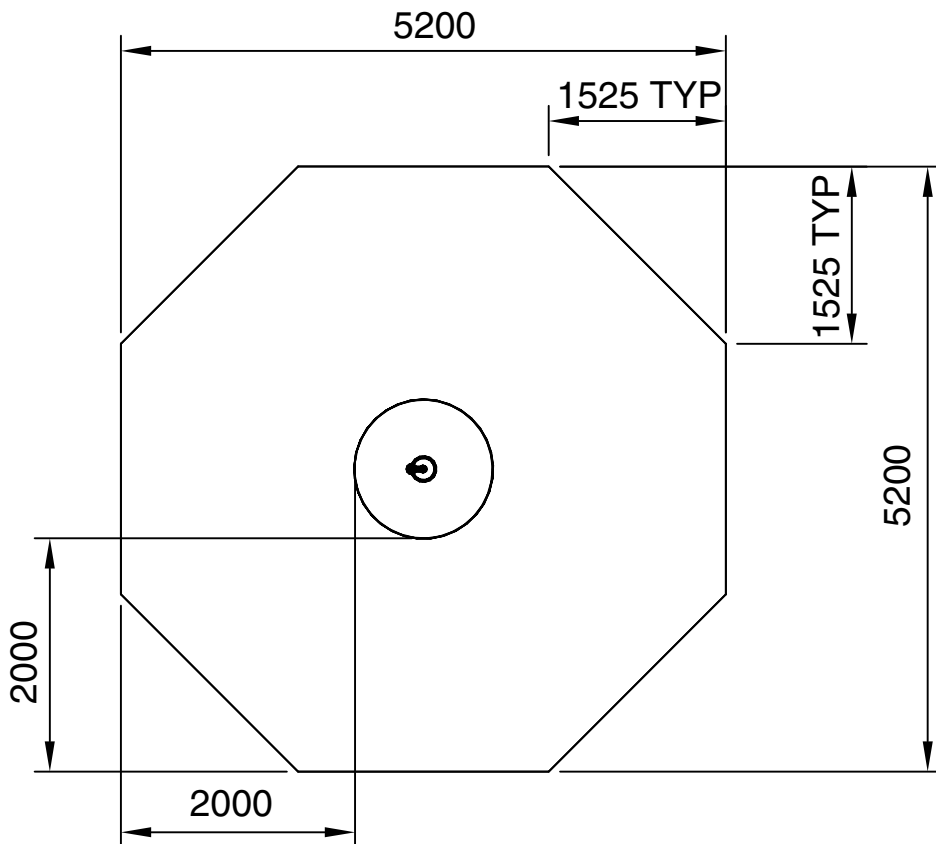


FIG.3 WET POUR AREA

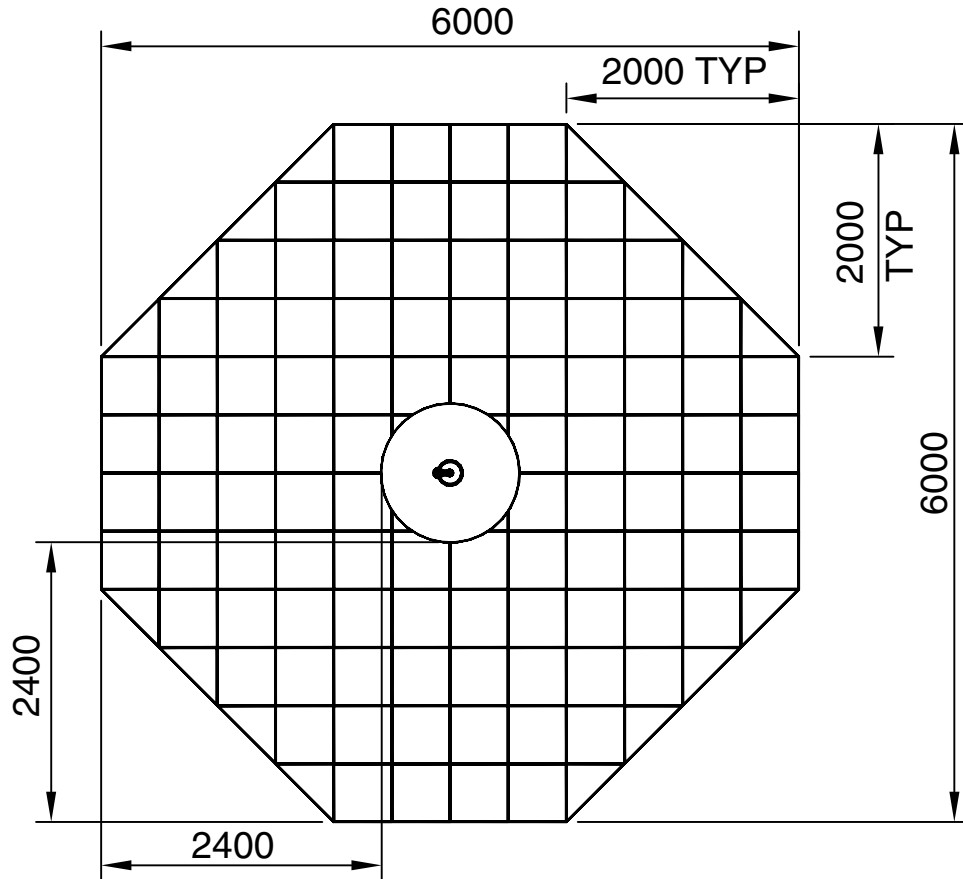


FIG.4 TILED AREA

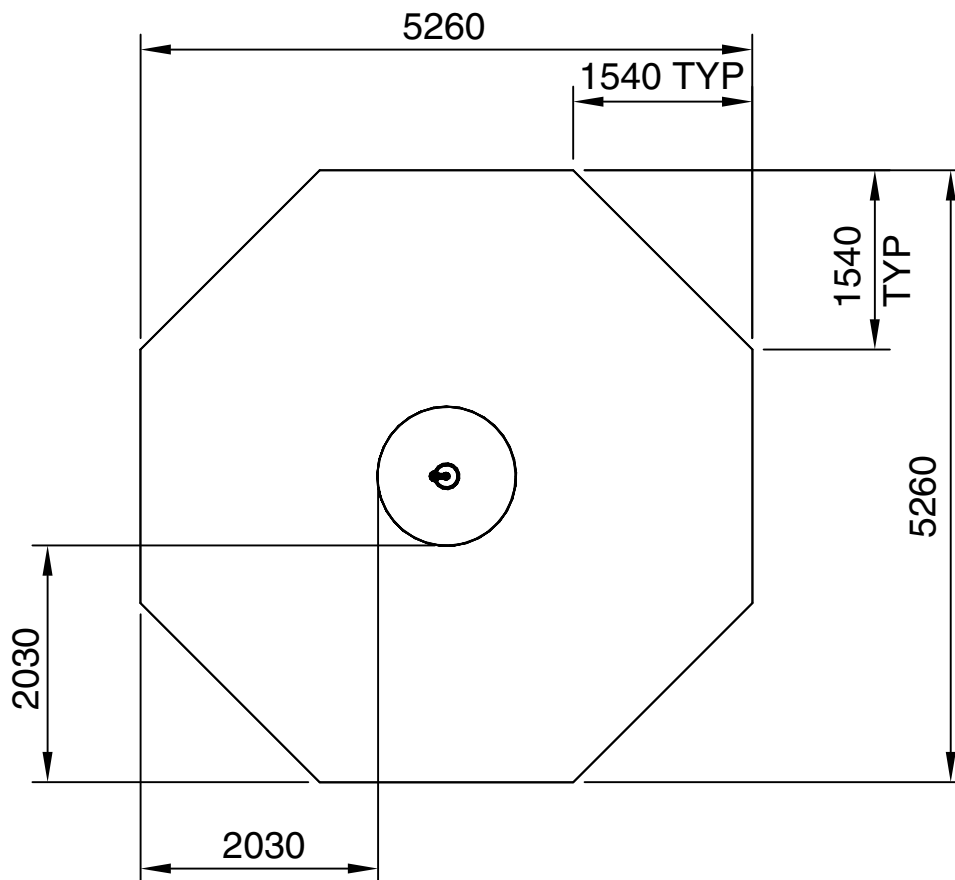


FIG.5 LOOSE FILL AREA

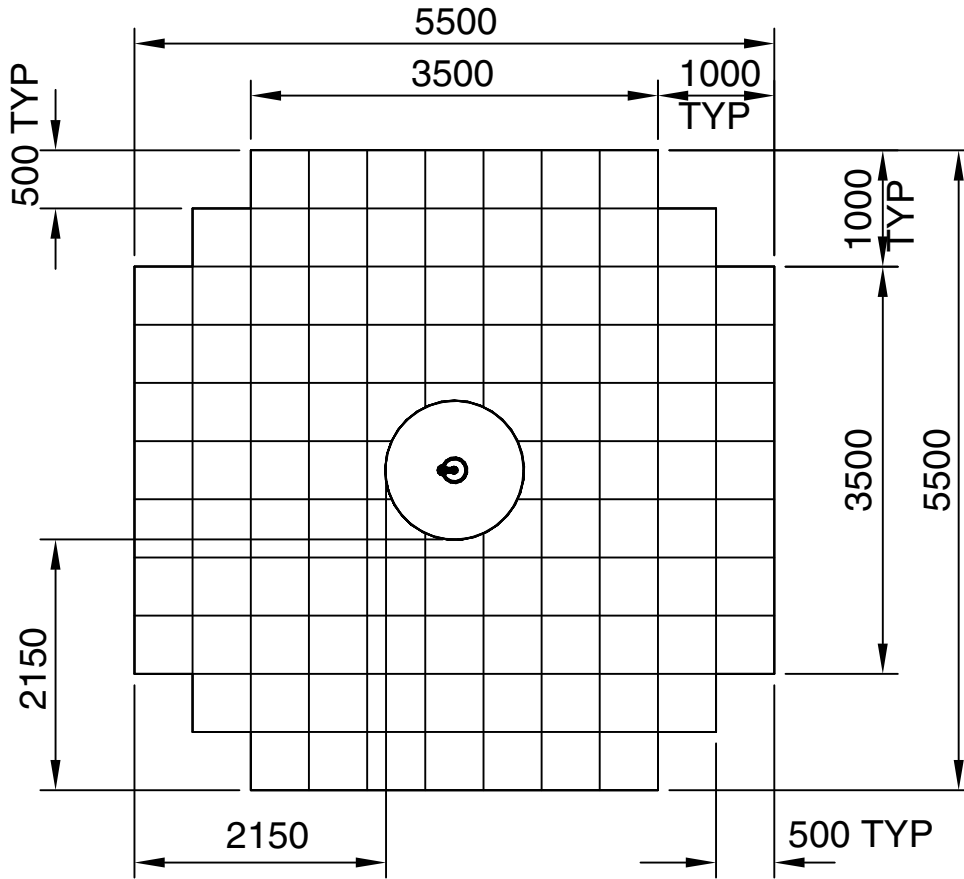


FIG.6 MATTA AREA

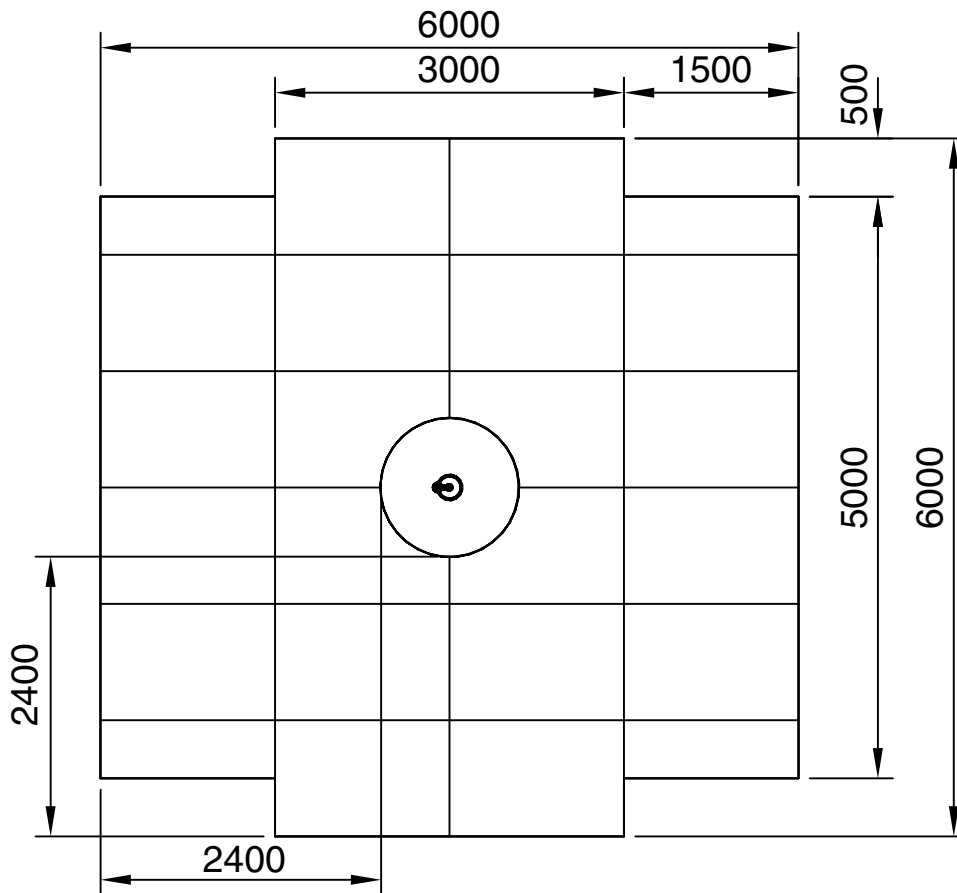


FIG.7 GRASSMATT FR

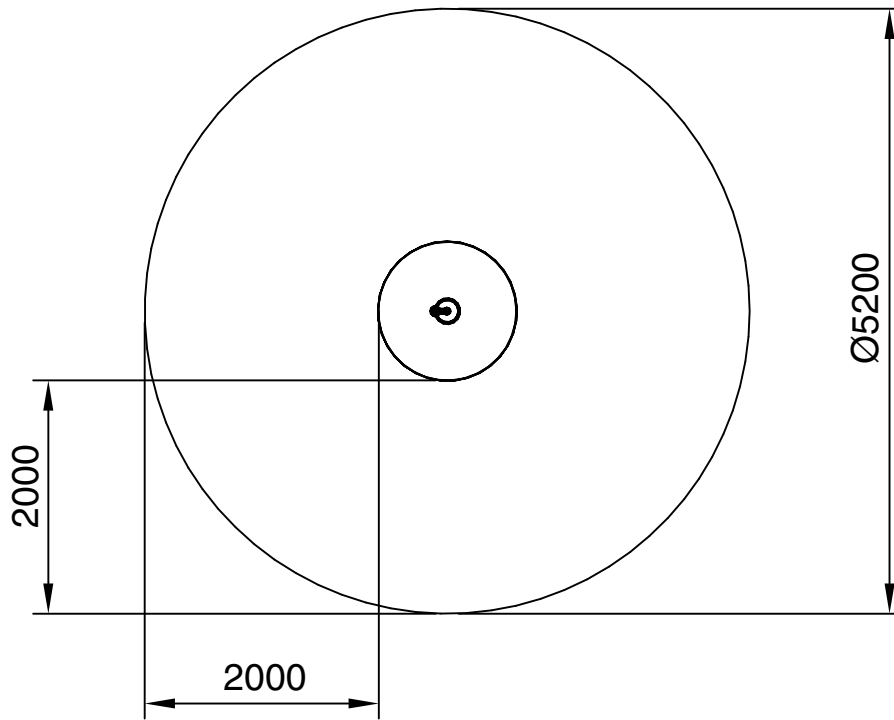


FIG.8 FALLING SPACE

3 PARTS LIST

UN-ASSEMBLED COMPONENTS					
ITEM	CODE	DESCRIPTION	RUBBER SURFACE	LOOSE FILL	WEIGHT (kg)
			NXMOM QTY		
1	37009001	MOMENTUM DECK ASSEMBLY**	1		74.00
2	37009201	MOMENTUM SHAFT & BEARING ASSY *	1		38.80
3	37009101	MOMENTUM POLE FABRICATION	1		9.50
4	10251240	HEX HEAD BOLT M12 X 40	4		0.050
5	10121040	RESISTORX HEAD M10 X 40	4		0.037
6	10291200	WASHER M12	4		0.003
7	10291000	WASHER M10	4		0.002
8					
-	10121000	M10 TORX TOOL	1		-

* SEE APPENDIX 'A' FOR PT. No. BREAKDOWN

* *SEE APPENDIX 'B' FOR PT. No. BREAKDOWN

4 INSTALLATION & ASSY PROCEDURES

4.1 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.

4.2 RISKS:

- i) Large parts which could be difficult to lift or handle.
- ii) Structure unstable until concrete footings have fully cured.

4.3 CONTROL MEASURES:

- i) All staff working on installation to wear suitable 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) Care should be taken when any awkward/heavy lifting may be required.

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.

4.4 INSTALLATION

- i) Refer to site layout for position and orientation of product, then, mark the outline of the position of the footings with e.g. spray or chalk etc. Excavate the hole.
- ii) Position Shaft & Bearing Assembly (item 2) into excavation, pack up to height, level and plumb. (FIG.1,2 & 9).
- iii) Shim and brace Shaft & Bearing Assembly into position.

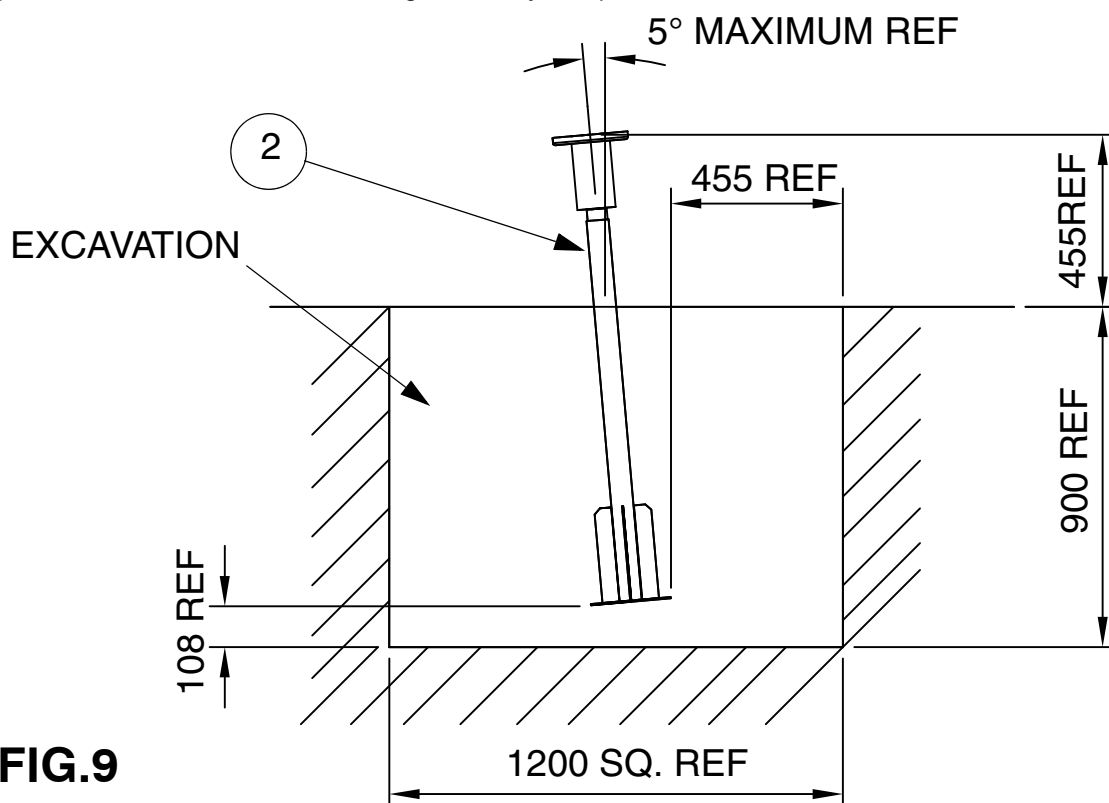


FIG.9

NOTE: Check that the Shaft and Bearing Assembly has been positioned in the correct place and that it is plumb, square and inclined at the correct angle with the angle pointing in the right direction. Also ensure that the assembly is propped safely so that it may be left for the concrete foundations to cure.

- iv) Fill the hole with concrete to the required level, taking into account any Impact Absorbing Surfacing requirements. Ensure that the 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.
- v) Keep installation off limits to the public until the concrete has completely cured. (Recommended initial curing time is 48 hours).
- vi) Place the Deck Assembly (item 1) onto the Shaft & Bearing Assembly (item 2). Secure the deck to the bearing housing flange using 4-off M12 x 40 Hex Head Bolts (item 4) and M12 Washers (item 6). Fully tighten to 50-60 Nm. (FIG.10 & 11).

NOTE: This item is heavy and should be lifted by a minimum of three people.

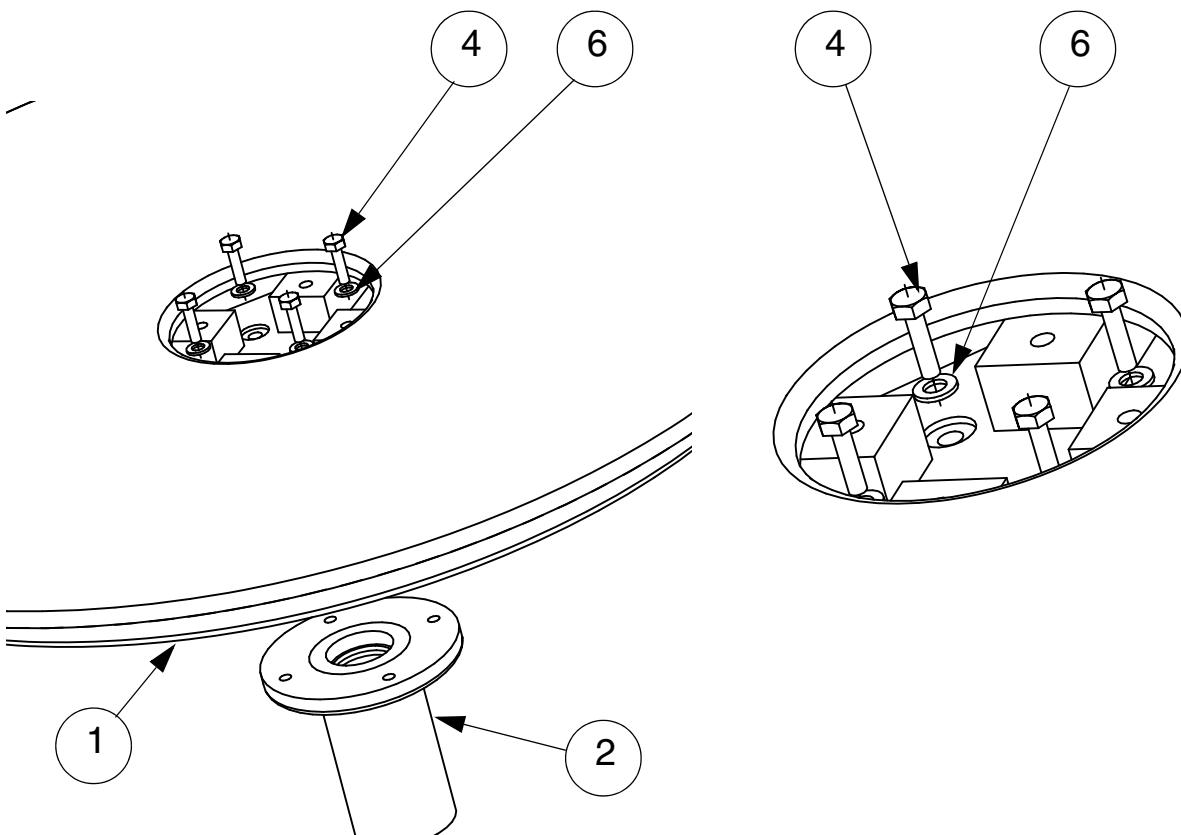


FIG.10

FIG.11

vii) Place Pole Fabrication (item 3) into the hole in centre of the Deck Assembly (item 1) and secure in place using 4 off M10 x 40 Resistorx bolts (item 5) and M10 washers (item 7). Fully tighten bolts to a maximum torque setting of 20-25Nm. (FIG.12).

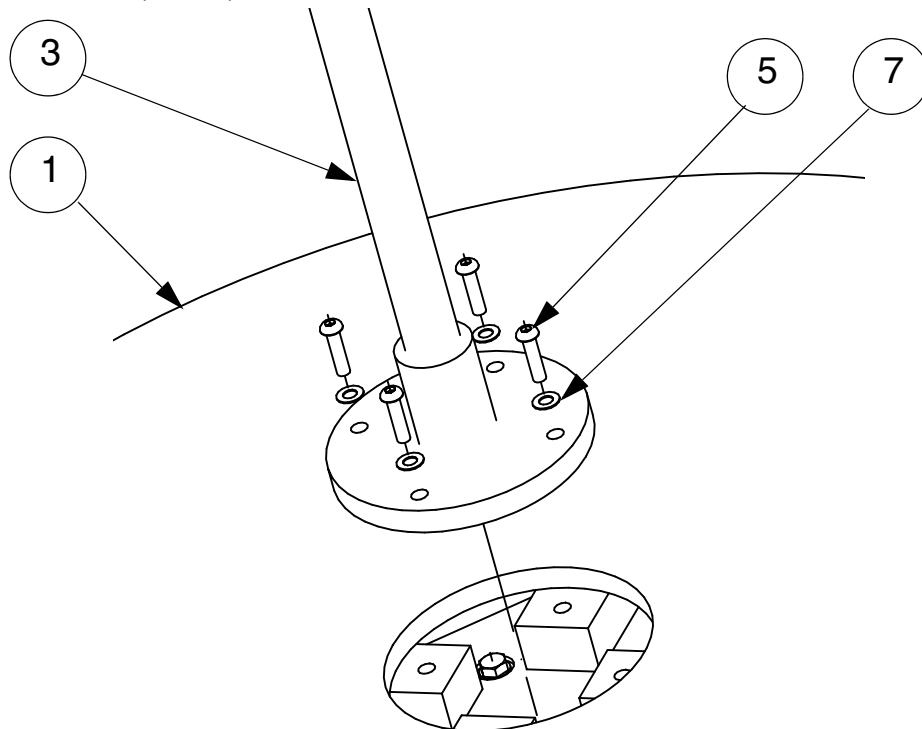


FIG.12

5 POST INSTALLATION INSPECTION

CHECK

- 1 The unit is installed at the correct height. - See FIG.1
- 2 All fixings are tightened to the correct torque and have no protruding sharp edges.
- 3 Paint work is not damaged. (Any making good should be carried out using the procedure in the Inspection and Maintenance instructions).
- 4 The Eko Grip Platform is not damaged.
- 5 The Momentum rotates freely.
- 6 Concrete foundations are secure.
- 7 Adequate provision of Impact Absorbing Surfacing with no obstructions or other hazards within the equipments minimum space.
- 8 Site is clear of all tools and rubbish.
- 9 Remove any warning signs.

CHECK



Appendix A: SHAFT & BEARING ASSY (CODE 37009201)

The assembly described below is for the Shaft & Bearing Assy. This will be supplied complete by SMP. Instructions are included should the unit need to be dis-assembled.

NOTE: A suitable Bearing Fit Adhesive (Loctite 641) is required for mounting the bearings to the shaft. (not supplied).

ASSEMBLED COMPONENTS				
ITEM	CODE	DESCRIPTION	QTY.	WEIGHT (kg)
1	37009202	MOMENTUM GROUND MOUNTING	1	28.00
2	38004001	BEARING ASSEMBLY	1	11.000
3	71000109	HOLDING WASHER	1	0.080
4	10121030	RESISTORX HEAD M10x30	1	0.030
5	10309999	HEAVY DUTY WASHER M10	2	0.011

NOTE: The Bearing Assembly item 2 contains the following items.

38004001 BEARING ASSEMBLY				
ITEM	CODE	DESCRIPTION	QTY.	WEIGHT (kg)
1.1	38004012	BEARING HOUSING	1	10.100
1.2	71022208	SPHERICAL ROLLER BEARING	1	0.50
1.3	71022210	SPHERICAL ROLLER BEARING	1	0.70
1.4	71000110	OIL SEAL	1	0.015

1 BEARING REMOVAL

- i) Dis-assemble the Pole Assembly from the Deck Assembly by removing 4 off Armour Rings, M10 x 40 Resistorx Bolts and M10 Washers. See Section 1 FIG.12.
- ii) Dis-assemble the Deck Assembly from the Shaft & Bearing Assembly by removing 4 off M12 x 30 Hex Head Bolts and M12 Washers. See Section 1 FIG.10 & 11.
- iii) Undo the M10 x 30 Resistorx bolt (item 4) in the centre of the shaft (item 1) and remove the Holding Washer (item 3) and Heavy Duty Washers (item 5). (FIG.3).
- iv) Slide the Bearing Assembly (item 2) off the shaft (item 1).
- v) Remove the Oil Seal (item 1.4) from the Bearing Housing (item 1.1). Inspect for signs of wear and replace if necessary. (FIG.1 & 2).
- vi) Using a suitable bearing extractor, remove the Spherical Roller Bearing (item 1.3) from the Bearing Housing (item 1.1). Inspect for signs of wear and replace if necessary. (FIG.1 & 2).
- vii) Using a suitable bearing extractor, remove the Spherical Roller Bearing (item 1.2) from the Bearing Housing (item 1.1). Inspect for signs of wear and replace if necessary. (FIG.1 & 2).

2 BEARING REPLACEMENT

- viii) Press the Spherical Roller Bearing (item 1.2) into the Bearing Housing (item 1.1) ensuring it is fully in position. (FIG.1 & 2)
- ix) Press the Spherical Roller Bearing (item 1.3) into the Bearing Housing (item 1.1), ensuring it is fully in position. (FIG.1 & 2)
- x) Slide the Oil Seal (item 1.4) into the Bearing Housing (item 1.1), (FIG.1 & 2).

NOTE: Ensure the oil seal is the correct way up. (FIG.1 & 2)

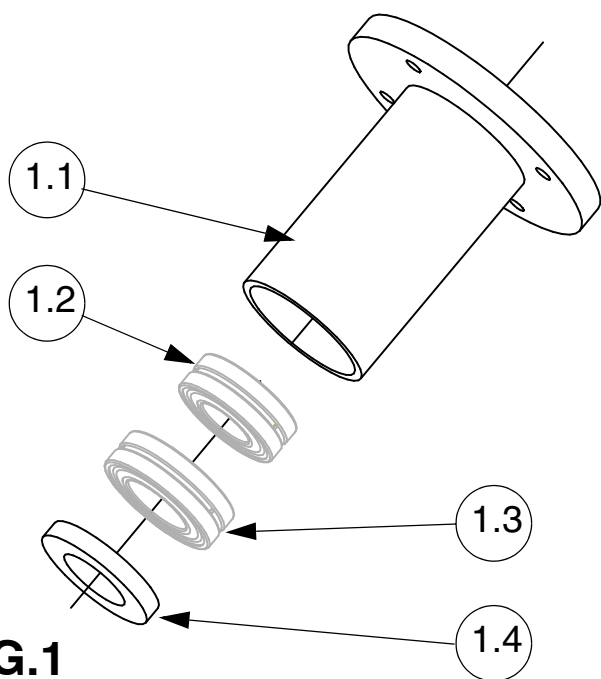


FIG.1

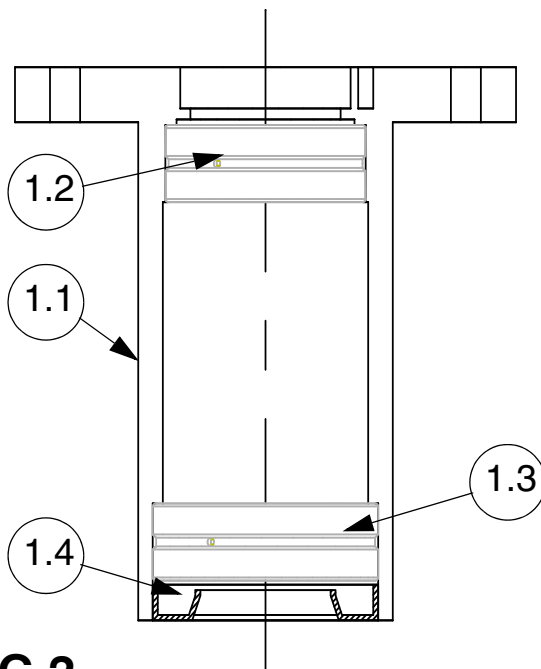


FIG.2

- xi) Apply a suitable Bearing Fit Adhesive (Loctite 641) to the mounting diameters on the Shaft for the two bearings and slide the Bearing Assembly (item 2) over Shaft. (FIG.3)

NOTE: Ensure that the Bearing Assembly is fully pressed home.

- xii) Secure the Bearing Assembly (item 2) in place with the Holding Washer (item 3), Heavy Duty Washers (item 5) and a Resistorx M10 x 30 bolt (item 4). Fully tighten to 20-25 Nm. (FIG.3).

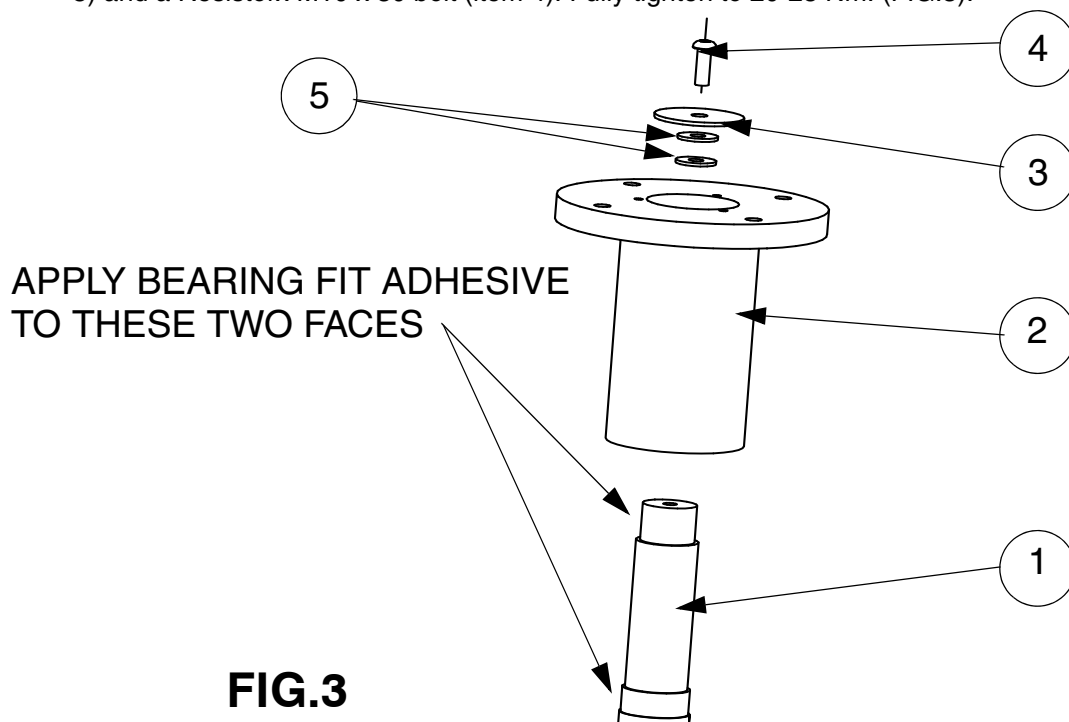


FIG.3

- xiii) Re-assemble the Deck Assembly on to the Shaft & Bearing Assy using 4 off M12 x 30 Hex Head Bolts and M12 Washers. See Section 1 FIG.10 & 11.
- xiv) Re-assemble the Pole Assembly on to the Shaft & Bearing Assy using 4 off Armour Rings, M10 x 40 Resistorx Bolts and M10 Washers. See Section 1 FIG.12.
- xv) Ensure all fixings are fully tightened.

Appendix B: DECK ASSEMBLY (CODE 37009001)

The assembly described below is for the Deck Assembly. This will be supplied complete by SMP. Instructions are included should the unit need to be dis-assembled.

ASSEMBLED COMPONENTS				
ITEM	CODE	DESCRIPTION	QTY.	WEIGHT (kg)
1	37009002	MOMENTUM DECK FABRICATION	1	43.00
2	37009003	MOMENTUM DECK PANEL TOP	1	19.00
3	37009004	MOMENTUM DECK PANEL BOTTOM	1	11.50
4	10121030	RESISTORX BOLT - M10 X 30	20	0.028
5	10291000	WASHER - M10	20	0.002
6	10350516	RIVET - Ø5 X 16	28	0.002
7	10290500	RIVET WASHER	28	0.001

1 REMOVAL OF DECK PANEL TOP

- i) The Deck Panel Top can be removed from the Deck Assembly by removing the 20 off M10 x 30 Resistorx bolts (item 04) and Washers (item 05). FIG.1

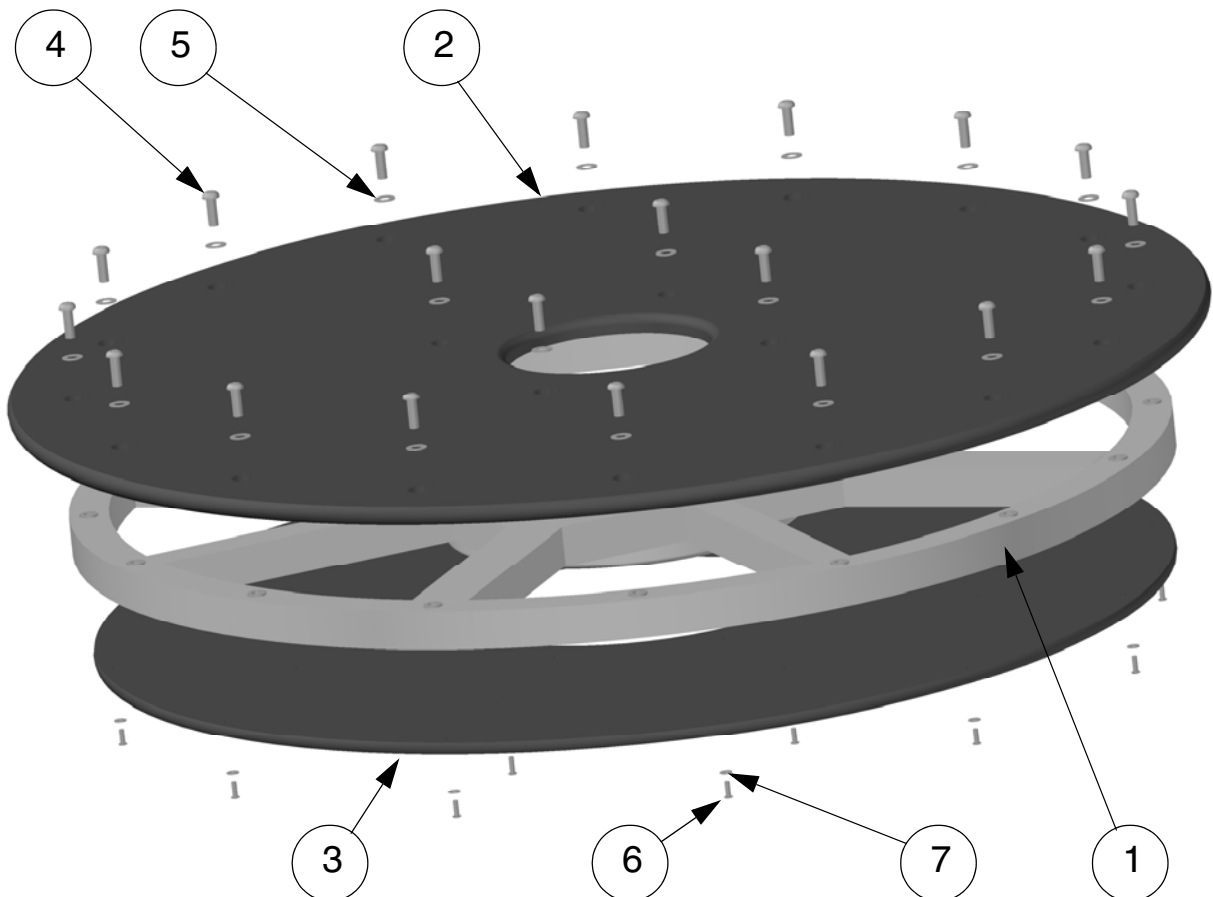


FIG.1

NOTE: Item 03 the Deck Panel Bottom is not a replaceable component.

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