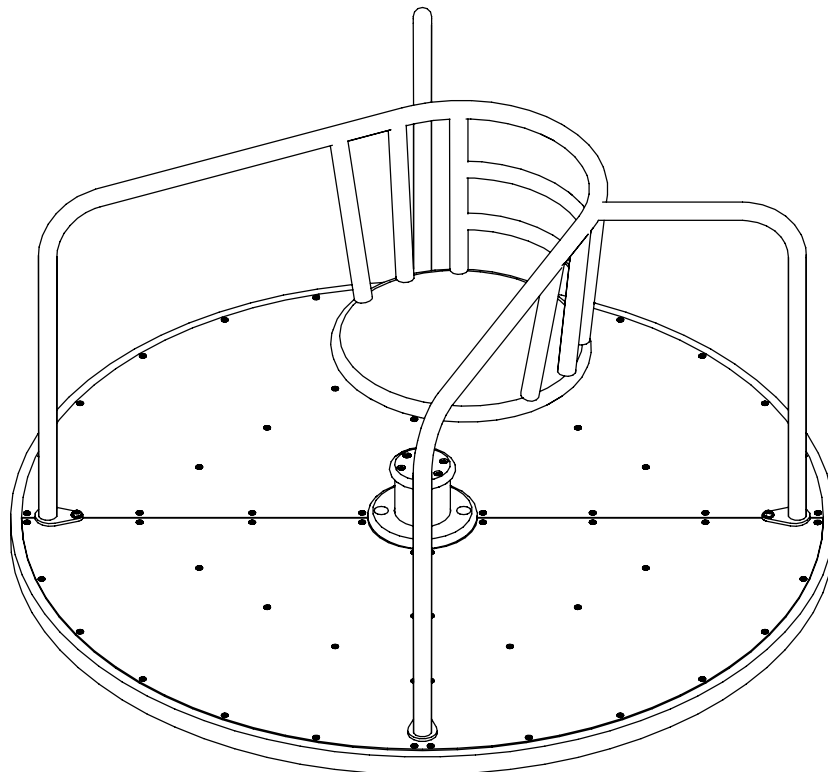




INSTALLATION INSTRUCTIONS

ORBITER ROUNDABOUT CAR-ORB
DYNAMO ROUNDABOUT CAR-DYN
QUARTET ROUNDABOUT CAR-QUA



ILLUSTRATED MODEL ORBITER

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1 SPECIFICATIONS

REFERENCE		CAR-ORB	CAR-DYN	CAR-QUA
OVERALL HEIGHT (H1)	m	0.800		0.725
DIAMETER (D1)	m	1.500		
WEIGHT	kg	155.50	145.00	164.00
HEAVIEST PART (DECK ASSEMBLY)	kg	91.00		
LARGEST PART ØxH (DECK ASSEMBLY)	m	1.500 x 0.080		
CONCRETE	m ³	0.234		
MINIMUM SPACE DIA x H (D2)	m	Ø5.500 x 2.800		
MAX FREEFALL HEIGHT	m	1.00		
FALLING SPACE AREA	m ²	23.76		
IMPACT AREA (WET POUR)	m ²	25.25		
RUBBER TILES 1m x 1m		26		
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.

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.

Constructional Space (shown in the above table) is the approximate working area required to lay out and assemble the equipment.

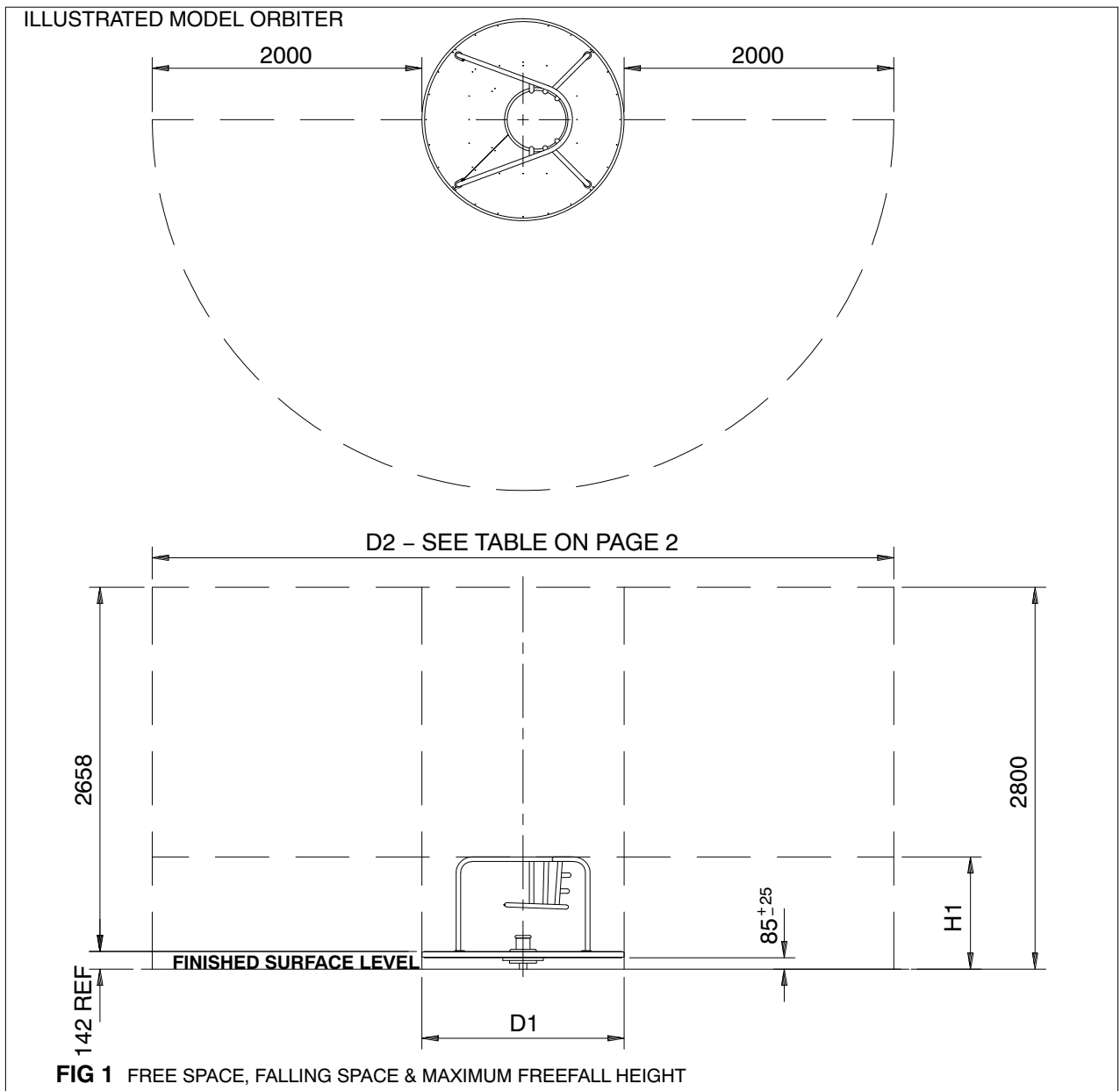
This equipment is not suitable for installation with loose fill surfaces, such as sand or bark.

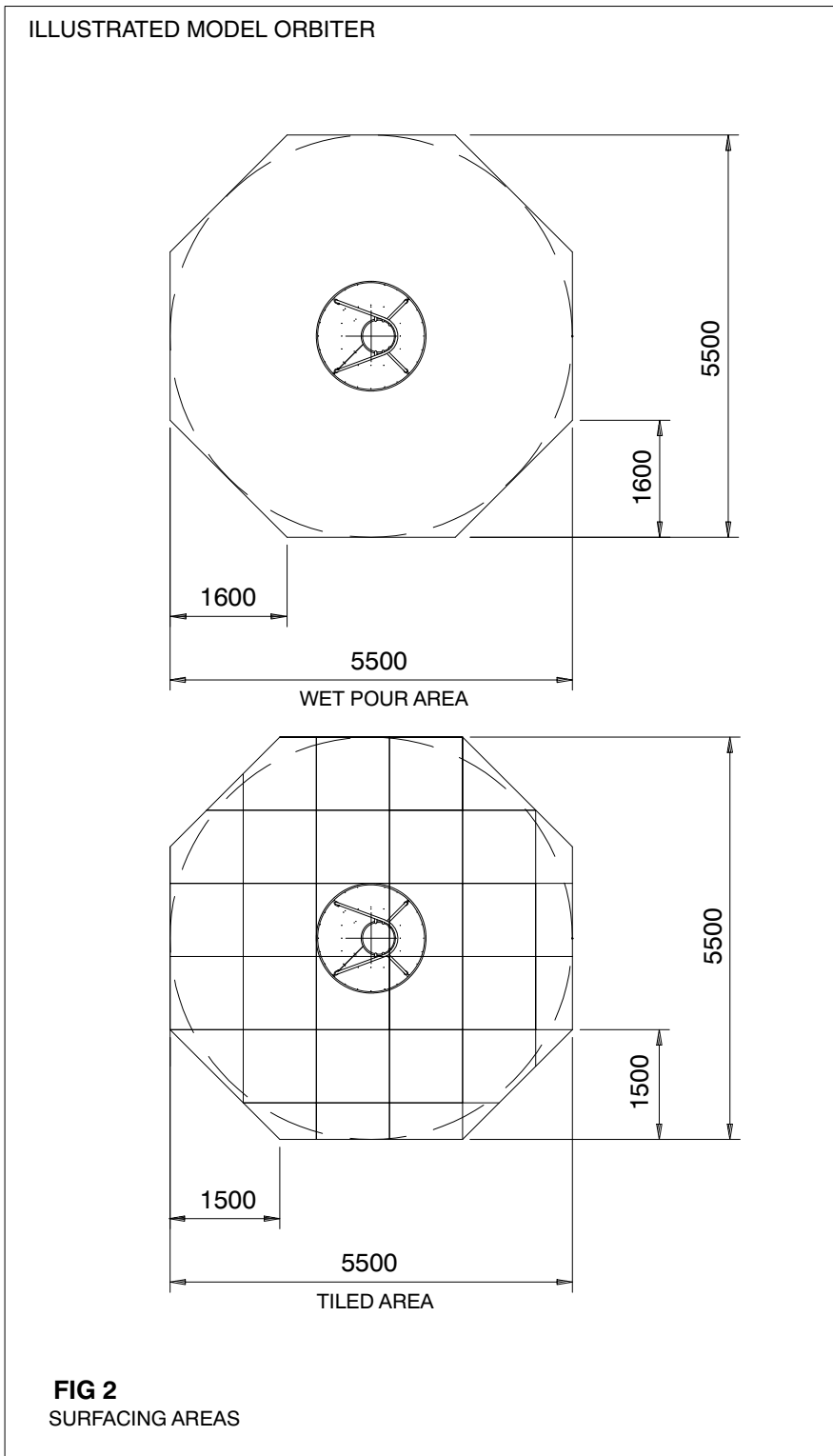
For the safe operation of this equipment it must be installed on horizontal ground with the required minimum space.

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

Tools: 5m tape measure, Spirit level, M10 Torx tool (Supplied with unit), M6 Torx tool (Supplied with unit), 19mm A/F Socket, Extension bar, Torque wrench.

Minimum Personal Protective Equipment:- Gloves, Armoured boots, Protective goggles.





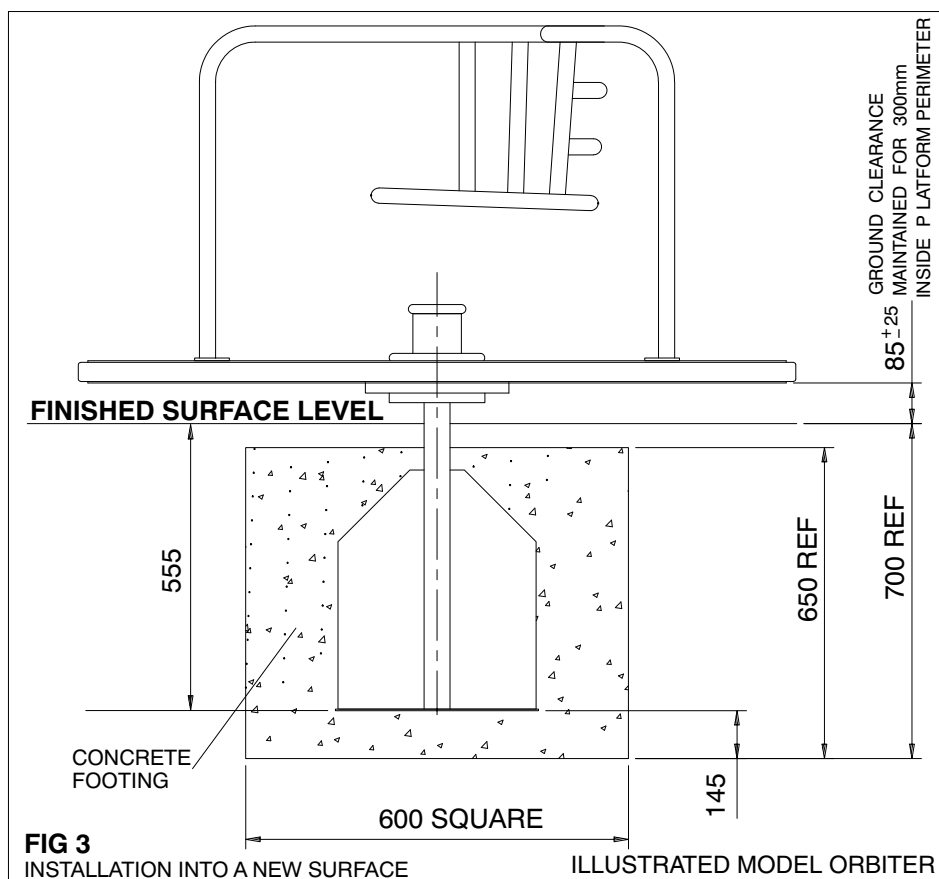
2 PARTS LIST

UN-ASSEMBLED COMPONENTS						
ITEM	CODE	DESCRIPTION	CAR-ORB QTY	CAR-DYN QTY.	CAR-QUA QTY	WEIGHT(kg)
1.1	71000201	DECK ASSEMBLY *		1		91.000
1.2	71000100	SHAFT & BEARING ASSY **		1		38.580
1.3	71000301	HANDRAIL & SEAT	1			22.450
	71000501	HANDRAIL		1		12.000
	71000601	SEATED FRAME ASSEMBLY***			1	31.000
1.4	71000402	POLY LOWER PLATE		1		0.550
1.5	10121030	RESISTORX HEAD M10x30		9		0.030
1.6	10251240	HEX HEAD BOLT M12x40		4		0.050
1.7	10291000	WASHER-PLAIN-M10		9		0.002
1.8	10291200	WASHER-PLAIN-M12		4		0.003
-	10120600	M6 TORX TOOL		1		-
-	10121000	M10 TORX TOOL		1		-

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

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

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



3 INSTALLATION & ASSY PROCEDURES

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.

RISKS:

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

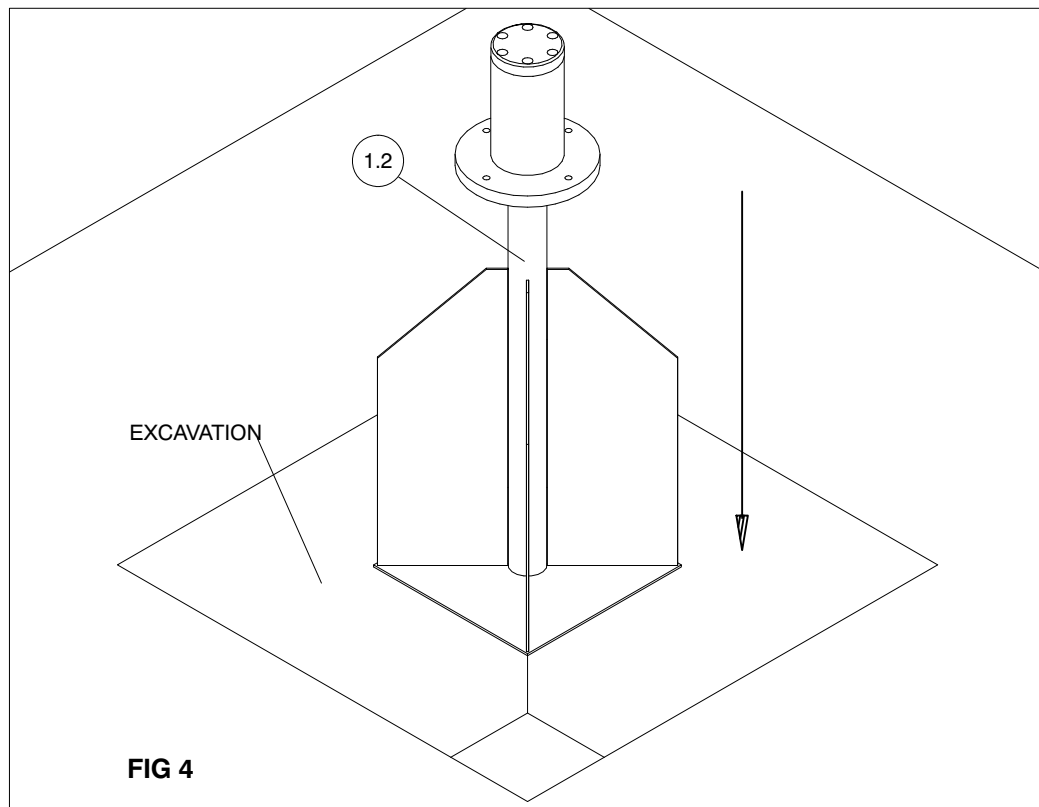
CONTROL MEASURES:

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

PRE-INSTALLATION INSPECTION

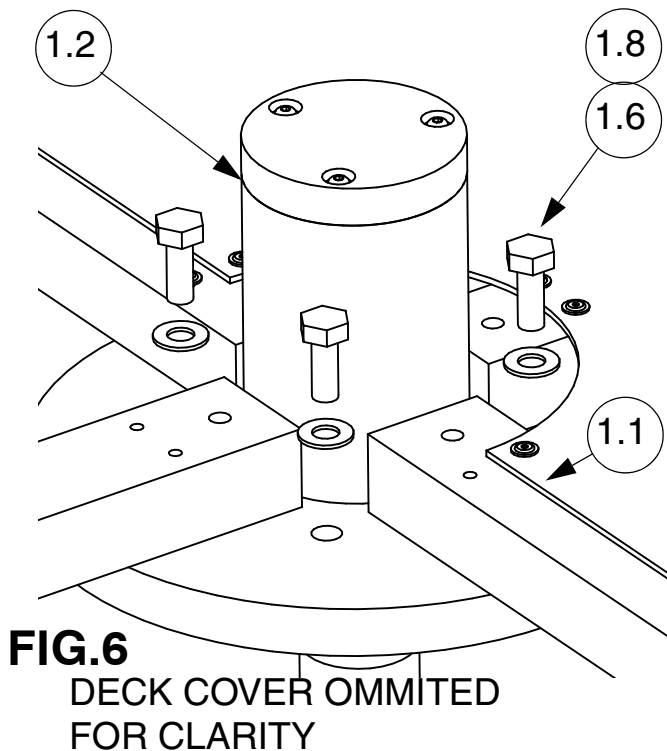
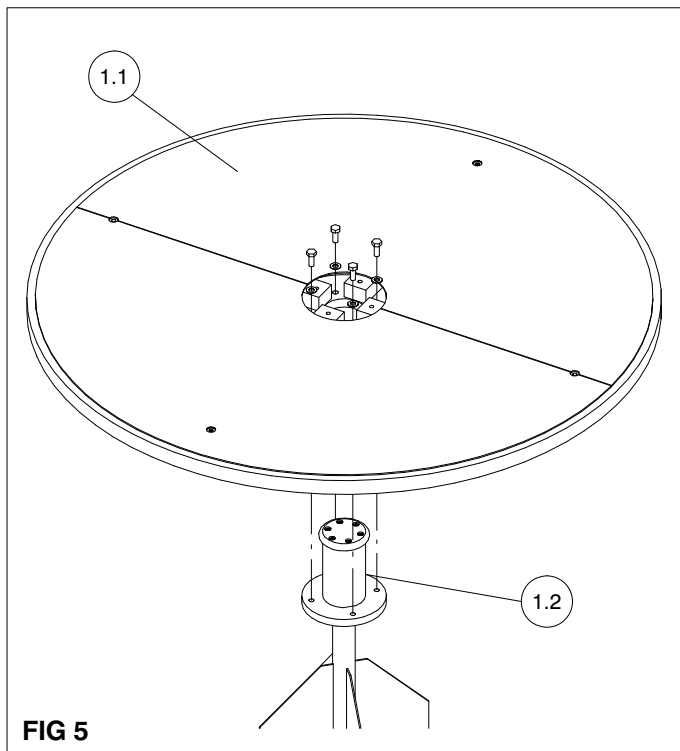
Inspect all parts for damage (that may have occurred during transportation & storage). Finish Coatings, if found to be damaged these should be made good before erection (Refer to maintenance instructions). Any damaged or missing parts must be replaced.

- i) Warn the public of the risk of injury, by placing signs and fencing the surrounding area, before commencing installation.
- ii) Mark out foundations and excavate the hole. (refer to site plan for unit location).
- iii) Position roundabout shaft (item 1.1) into excavation, pack up to height, level and plumb. (figs 3 & 4)
- iv) Brace roundabout shaft into position.
- v) 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 should slope down & outwards locally from the equipment upstand to the required level to form a watershed.



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

- vii) Place the deck (item 1.1) onto the shaft and bearing housing assy (item 1.2). **Note: This item is heavy, and should be lifted by a minimum of three people.** Secure the deck to the bearing housing using 4-off M12 x 40 bolts (items 1.6) and washers (items 1.8). Fully tighten to 50-60 Nm. (figs 5 & 6)



- viii) Slide the lower polyethylene plate (item 1.4) over the bearing housing (item 1.2) and secure to the deck assy (item 1.1) using 4-off M10 x 30 Resistorx bolts (items 1.5) and washers (items 1.7). Fully tighten to 20-25 Nm (fig 7)

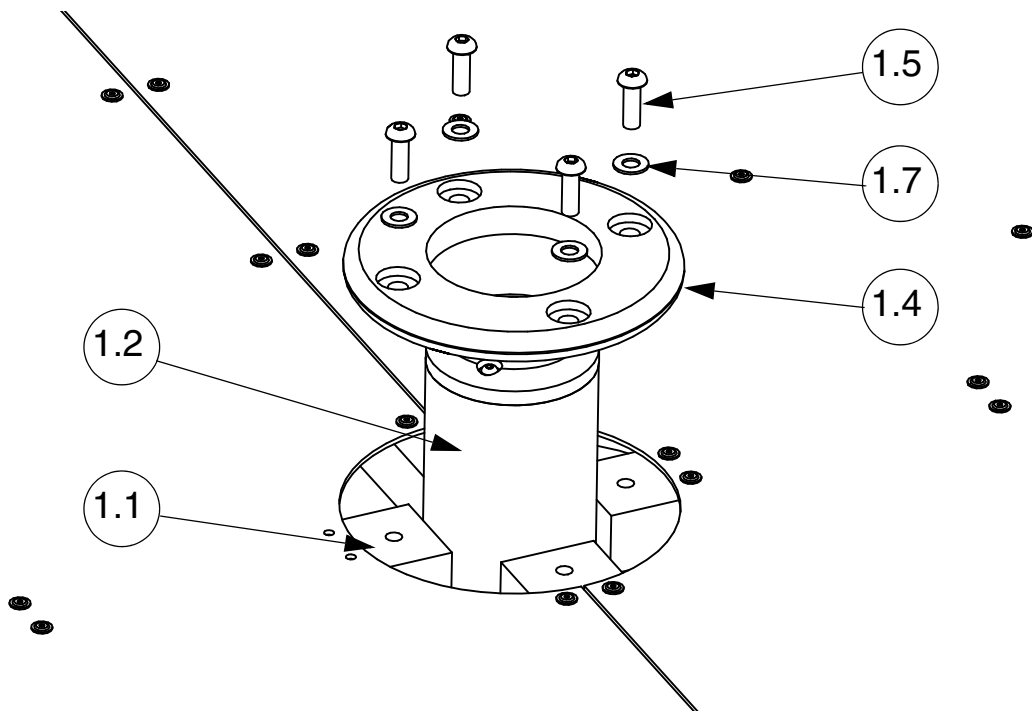
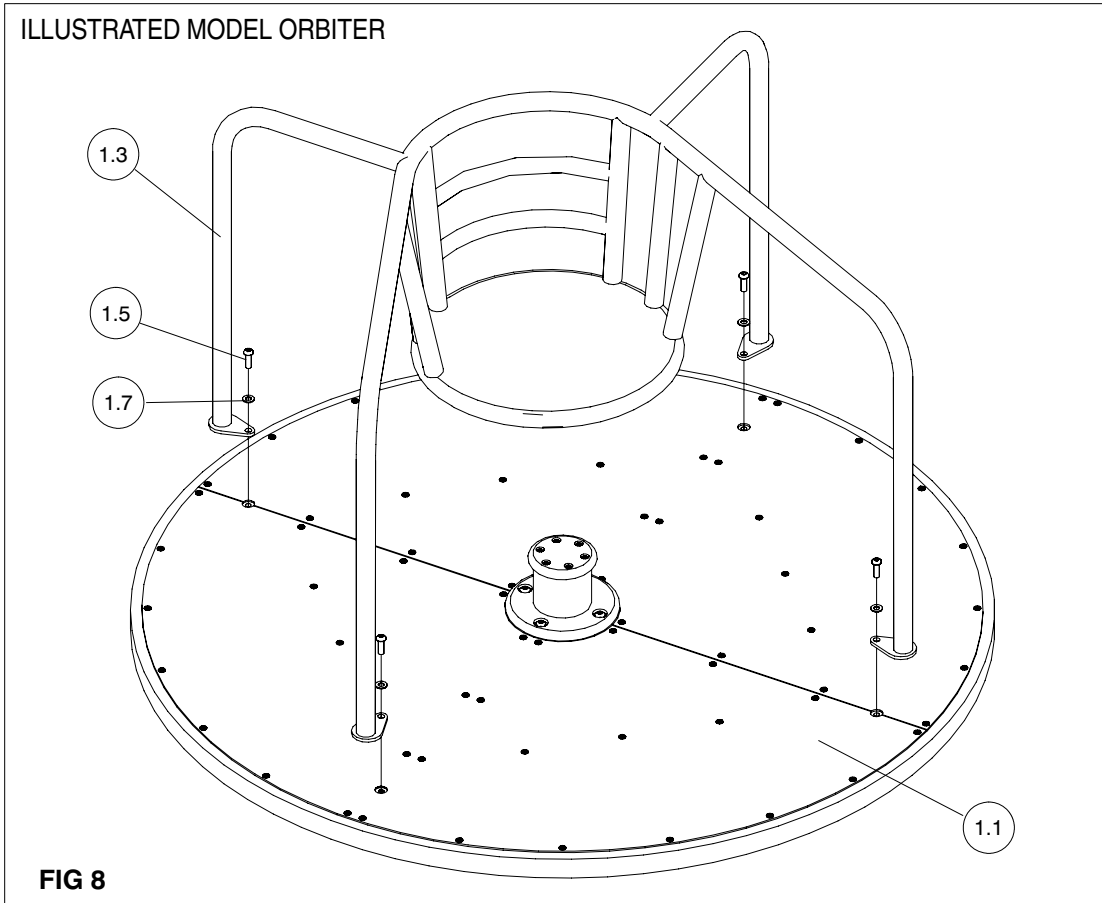


FIG.7

- ix) 17 Place the handrail (item 1.3) onto the deck assembly (item 1.1) and secure using 4-off M10 x 30 Resistorx bolts (items 1.5) and washers (items 1.7). Fully tighten to 20-25 Nm (fig 8).



4 POST INSTALLATION INSPECTION

CHECK

- | | |
|---|--|
| <ul style="list-style-type: none"> 1 The unit is installed at the correct height. - See Fig 3 2 All fixings are tightened to the correct torque and have no protruding sharp edges. 3 Paint work is not damaged. 4 The polyethylene is not damaged. 5 The roundabout deck 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. | <p>CHECK ✓</p> <ul style="list-style-type: none"> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> |
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Appendix A: SHAFT / BEARING ASSEMBLY (CODE 71000100)

The assembly described below is for the shaft / bearing assembly. 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)
2.1	71000102	SHAFT & BASE FABRICATION	1	26.000
2.2	71000101	BEARING ASSEMBLY	1	11.000
2.3	71000109	HOLDING WASHER	1	0.080
2.4	71000108	POLY UPPER COVER	1	0.350
2.5	10120620	RESISTORX HEAD M6 x 20	3	0.013
2.6	10290600	WASHER-PLAIN - M6	3	0.001
2.7	10121030	RESISTORX HEAD M10 x 30	1	0.030
2.8	71022209	GASKET	1	0.005
2.9	10309999	HEAVY DUTY WASHER M10	2	0.011

NOTE: The Bearing Assembly item 2.2 contains the following items.

71000101 BEARING ASSEMBLY				
ITEM	CODE	DESCRIPTION	QTY.	WEIGHT (kg)
2.21	71000105	BEARING HOUSING	1	10.100
2.22	71022208	SPHERICAL ROLLER BEARING	1	0.60
2.23	71022210	SPHERICAL ROLLER BEARING	1	0.70
2.24	71000110	OIL SEAL	1	0.015

1 BEARING REMOVAL

- i) Dis-assemble the Shaft/Bearing Assembly by removing the M6 x 20 Resistorx bolts (items 2.5) and Washers (items 2.6) holding the Poly Upper Cover (item 2.4) and Gasket (item 2.8) in place. (FIG.12).
- ii) Undo the M10 x 30 Resistorx bolt (item 2.7) in the centre of the Shaft & Base Fabrication (item 2.1) and remove the Holding Washer (item 2.3) & Heavy Duty Washers (item 2.9). (FIG.11).
- iii) Slide the Bearing assembly (item 2.2) off the Shaft & Base Fabrication. (item 2.1).
- iv) Remove the Oil Seal (item 2.24) from the Bearing Housing (item 2.21). Inspect for signs of wear and replace if necessary. (FIG.10).
- v) Using a suitable bearing extractor, remove the Spherical Roller Bearing (item 2.23) from the Bearing Housing (item 2.21). Inspect for signs of wear and replace if necessary.
- vi) Using a suitable bearing extractor, remove the Spherical Roller Bearing (item 2.22) from the Bearing Housing (item 2.21). Inspect for signs of wear and replace if necessary. (FIG.9 & 10).

2 BEARING REPLACEMENT

- vii) Press the Spherical Roller Bearing (item 2.22) into the Bearing Housing (item 2.21) ensuring it is fully in position. (FIG.9 & 10)
- viii) Press the Spherical Roller Bearing (item 2.23) into the Bearing Housing (item 2.21), ensuring it is fully in position. (FIG.9 & 10)
- ix) Slide the Oil Seal (item 2.24) into the Bearing Housing (item 2.21), (FIG.9 & 10).

NOTE: Ensure the oil seal is the correct way up. (FIG.9 & 10)

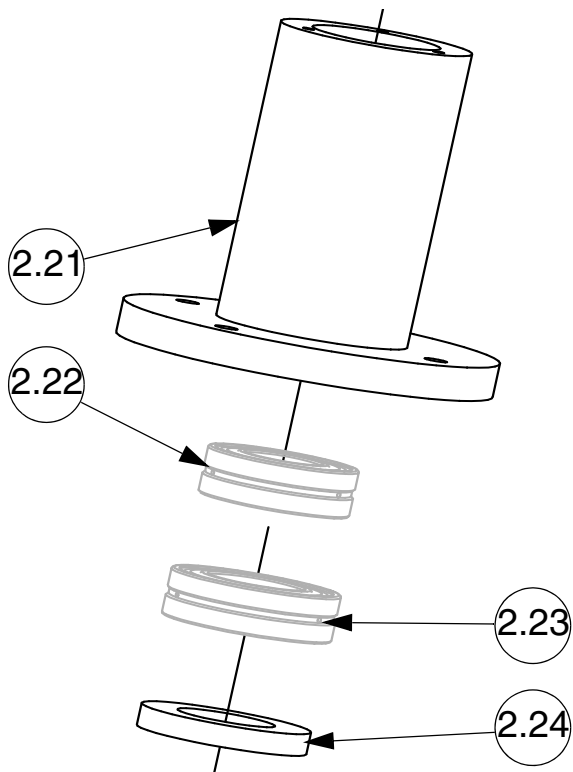


FIG.9

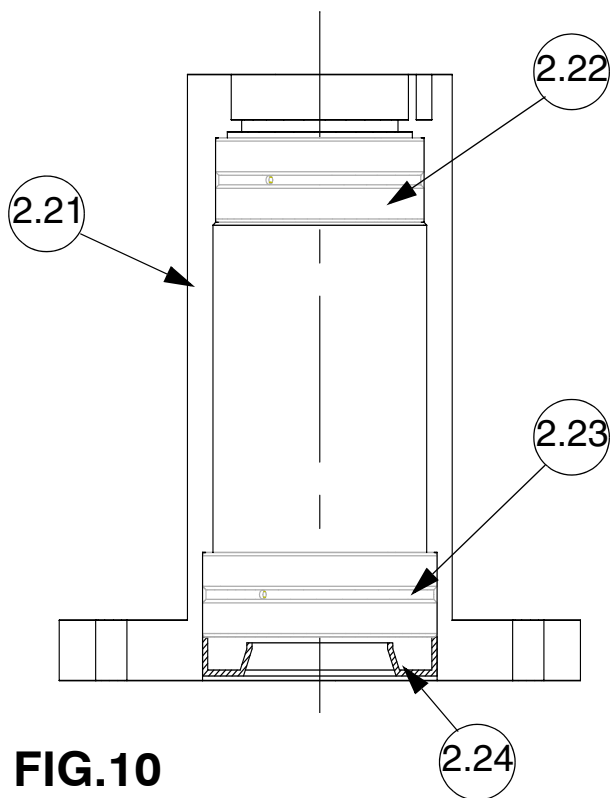


FIG.10

- x) 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 2.2) over the Shaft. (FIG.11).

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

- xi) Secure the Bearing Assembly in place with the Holding Washer (item 2.3), Heavy Duty Washers (item 2.9) and a Resistorx M10 x 30 bolt (item 2.7). Fully tighten to 20-25 Nm. (FIG.11).

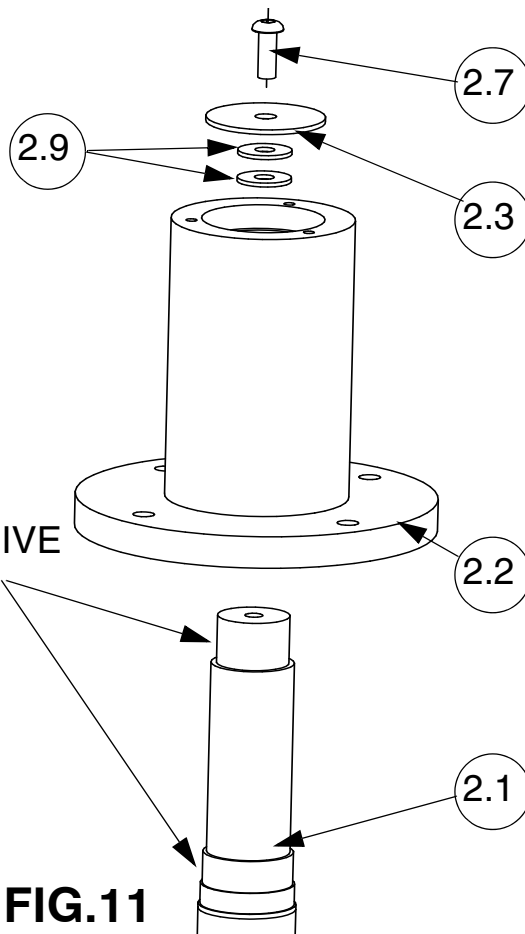


FIG.11

xii) Position Gasket (item 2.8) and the Poly Upper Cover (item 2.4) onto the Bearing Assembly (item 2.2) as shown and secure using 3 off M6 x 20 Resistorx bolts (items 2.5) and Washers (items 2.6). (FIG.12).

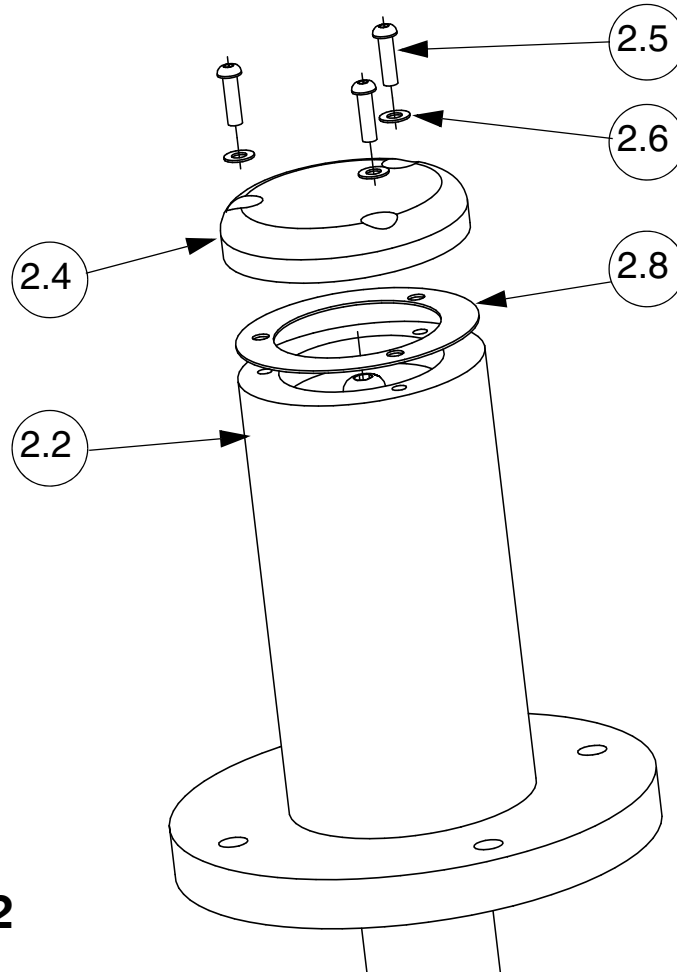


FIG.12

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Appendix B: DECK SUB-ASSEMBLY (CODE 71000201)

The assembly described below is for the deck assy. 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)
3.1	71000202	SUPPORT DECK FABRICATION	1	55.800
3.2	71000204	DECK SHEET	2	9.500
3.3	71000205	UNDERSIDE INFILL	4	4.100
3.4	10350516	RIVET 5x16	112	0.002
3.5	10290500	RIVET WASHER	112	0.001

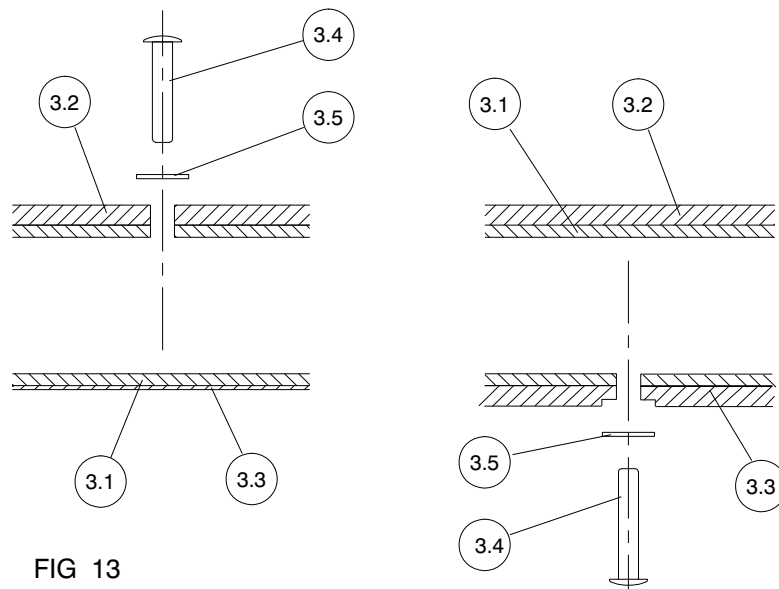


FIG 13

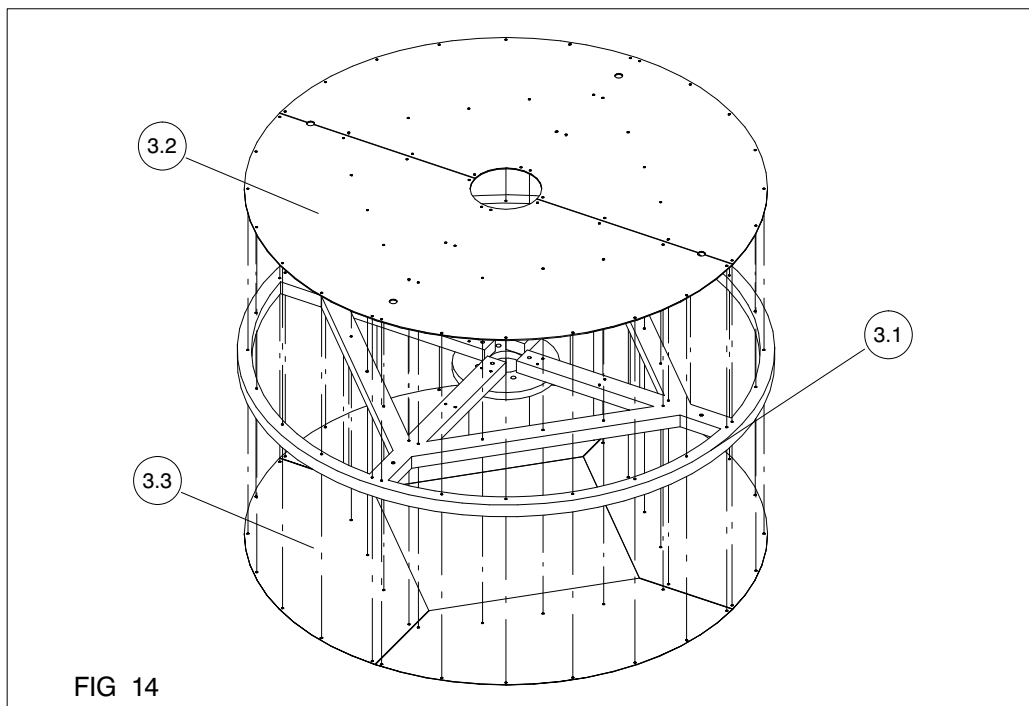


FIG 14

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Appendix C: SEATED FRAME ASSEMBLY (CODE 71000601)

The assembly described below is for the seated frame 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)
4.1	71000602	SEATED ROUNDABOUT FRAME	1	28.000
4.2	71000604	ROUNDABOUT SEAT	4	0.500
4.3	71000605	ROUNDABOUT CENTRE SEAT	1	0.500
4.4	10121035	RESISTORX HEAD M10 X 35	12	0.032
4.5	10291000	WASHER M10	12	0.002
4.6	19028651	PLASTIC CAP	12	0.002

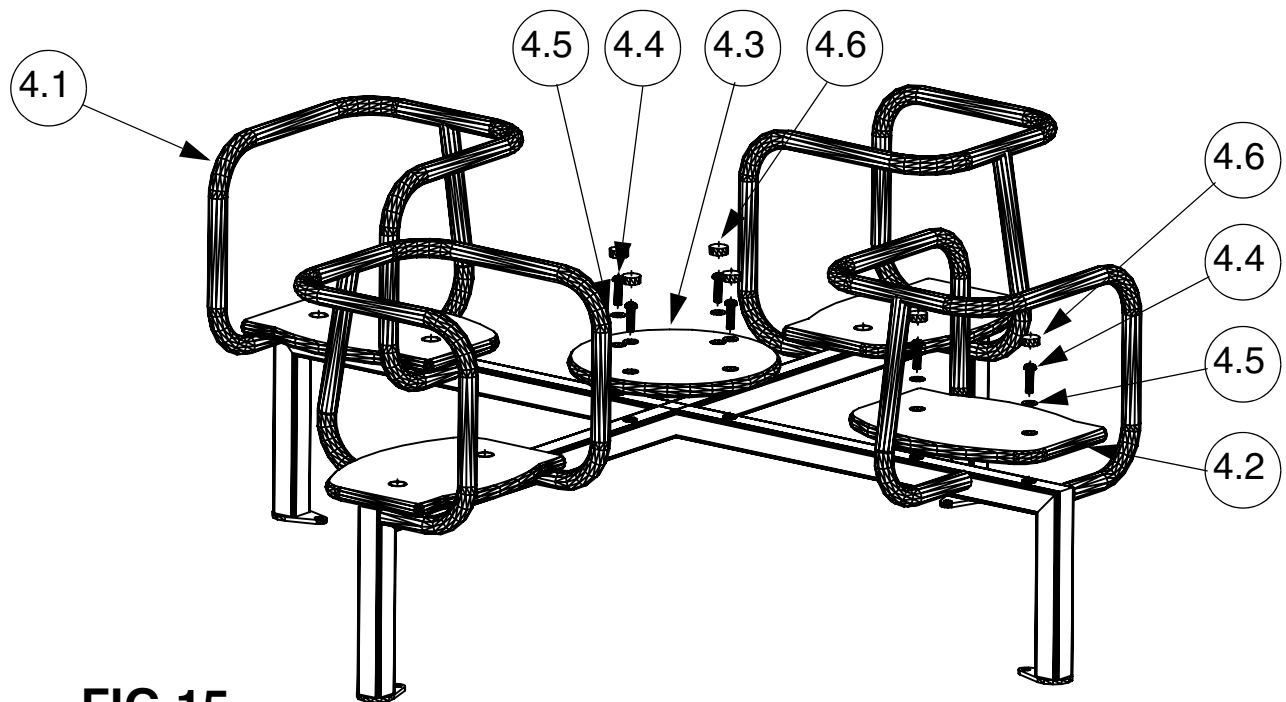


FIG.15

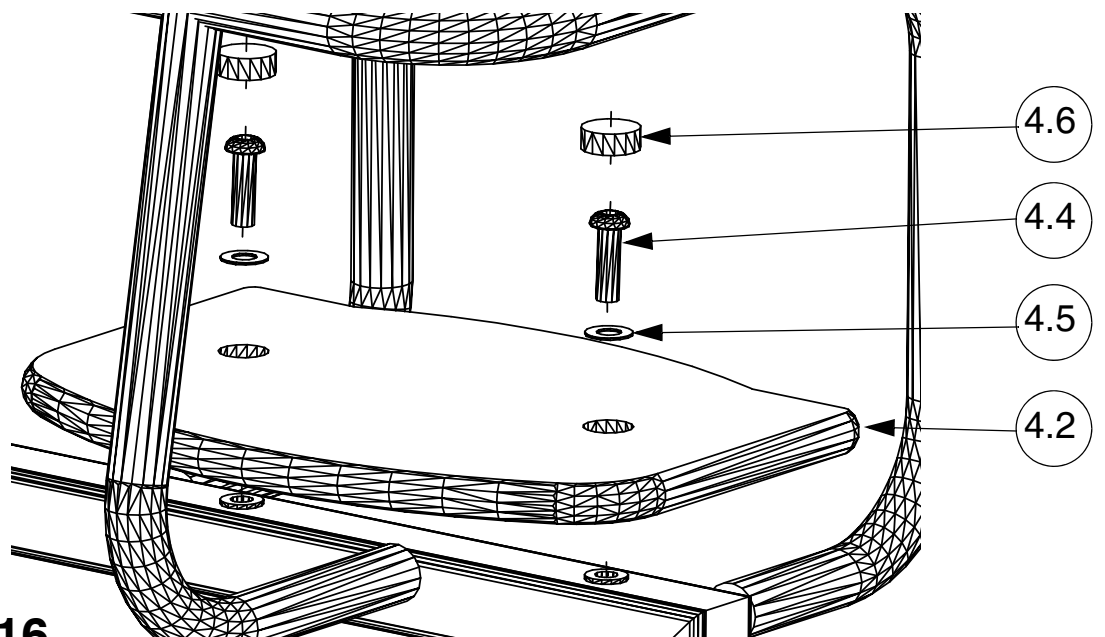


FIG.16

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