



Installation Manual – Swings

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Prepare the site

Prior to any installation you should be familiar with the requirements of AS 4685 - 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).

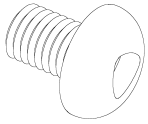
1. Check that the site is clear of underground power and services before you commence digging.
2. Measure the site to ensure that it is large enough to allow for the correct fall zones between the equipment and the outside of the soft-fall surface, and for correct distances between various items of equipment. If you are unsure of these requirements you should check with your PlayCo representative.
3. 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 prior to commencing installation of the equipment.

Equipment required for installation

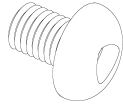
1. Ratchet (or socket set) with $\frac{1}{2}$ " driver
2. Ratchet (or socket set) with $\frac{3}{8}$ " driver
3. Cordless drill
4. Shovel for digging holes (preferably long handled)
5. If digging in hard ground you may need a 300mm auger and a crow bar
6. Spirit level
7. Concrete for footings
8. LOCTITE (to be used on every bolt and nut)

Fasteners

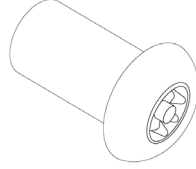
Tri-lobe



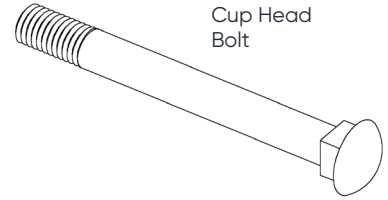
Tap Tight
Tri-Lobe



St Cap Nut



Cup Head
Bolt



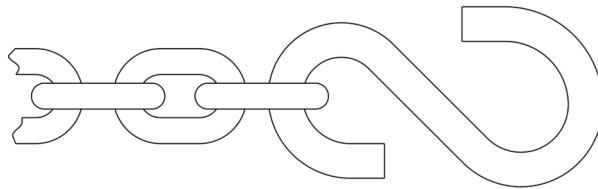
Tri-lobe
Driver



Torx
Driver



Please note that all S-Hooks should be fitted with the small loop attaching to the chain, and the large loop attaching to the connecting item (ie swing seat).



Concrete

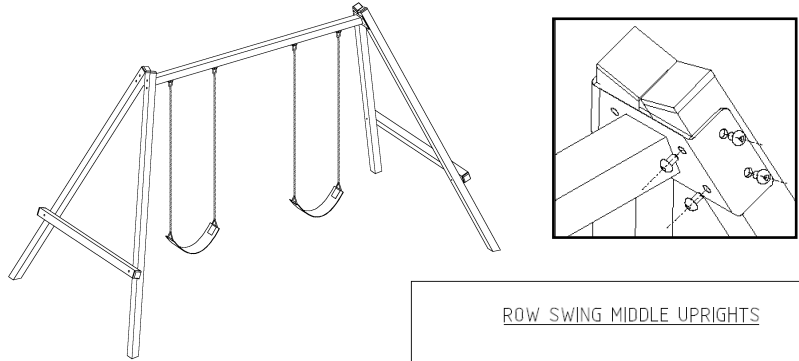
PlayCo recommends General Purpose Concrete. This is a concrete with a compressive strength of 20MPa (at 28 days) or higher.

The concrete used in playground footings should only be mixed and/or worked by a suitably experienced person following supplier/manufacturer's instructions.

A-Frame Swings & Double Steel Swings

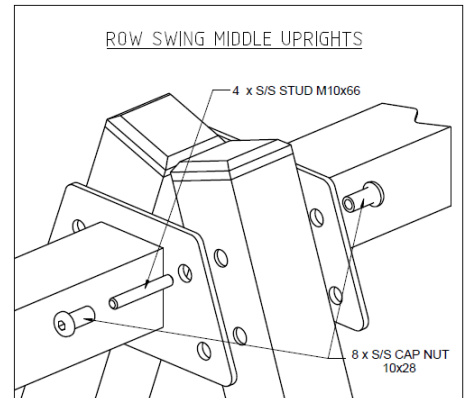
All cap nuts used must be stainless steel.

The swing frame is best assembled prior to installation. Assemble the frame while laid on the ground then roll into the upright position. The uprights are fastened to the top bar using 25mm tri-lobe bolts. Where tie bars (side bars) are used they are fastened to the uprights using a 130mm threaded stud with stainless steel cap nuts on both ends. Must use LOCTITE.



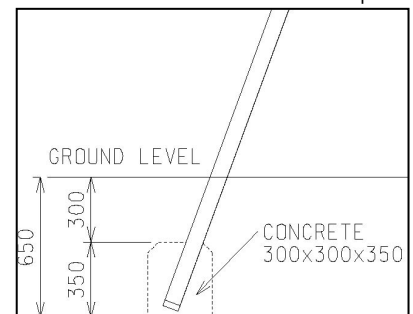
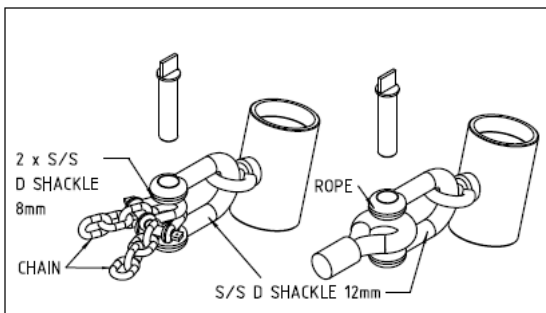
Use the frame in its upright position to determine the correct hole position and dig the holes. Lower the frame into the holes, ensuring that the top bar is level and at the correct height (Junior or any swing with 'pig tail hooks' - 2.2m, Senior - 2.5m from the underside of the top bar to the finished surface level). Concrete the uprights into the ground using footing sizes as shown.

For Row Swings the holes in ground for the middle uprights only should be 400x400mm, 800mm deep and the concrete should be 400x400x400mm.



Leave the concrete to set for at least 24 hours then attach the seats to the top bar using 'S' hooks, ensuring that the 'S' hooks are fully closed using vice-grips. (The large end of the 'S' hook attaches to the swing shackle and the small end to the chain, with the lower opening away from the seat.)

For swings with heights like 3m, 3.5m, or any special requested swings, this is the distance from the underside of the top bar to the finished surface level (same as above). The rest of installations are the same as above.

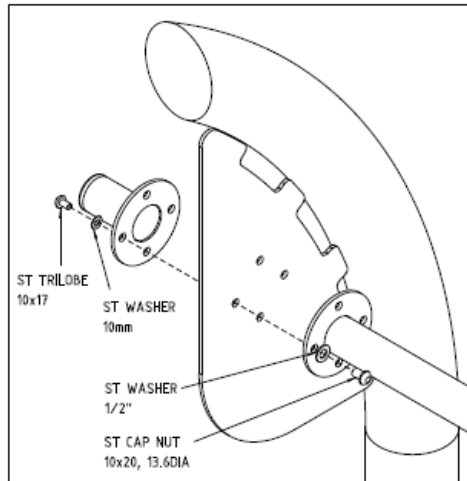


Flag swing

(Flag Double, Flag Double Row End, Flag Double Top Bar, Flag Middle Post, Flag Unity Row End)

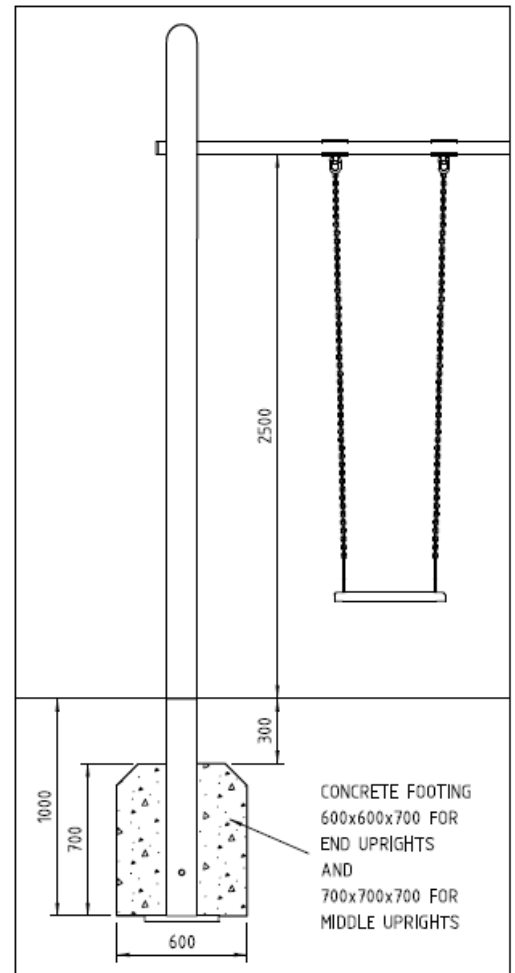
All used cap nuts must be stainless steel.

The swing frame is best assembled prior to installation. Assemble the frame while laid on the ground then roll into the upright position. The uprights are fastened to the top bar using 17mm tri-lobe bolts, cap nuts 10x20 and washers as shown. Must use LOCTITE.



Use the frame in its upright position to determine the correct hole positions and dig the holes approximately 1000mm deep and 600mm square for end uprights or the same depth with 700mm square for middle uprights. Lower the frame into the holes, ensuring that the top bar is level and standing 2.5m from the underside of the top bar to the finished surface level. Pour concrete around the bases of the uprights forming footings of 600mm x 600mm x 700mm for end uprights and 700mm x 700mm x 700mm for middle upright, the top being 300mm below the finished surface level with a tapered top so that water won't pool around the upright.

Leave the concrete to set for at least 24 hours then attach the seats to the top bar using 'S' hooks, ensuring that the 'S' hooks are fully closed using vice-grips. (The large end of the 'S' hook attaches to the swing shackle and the small end to the chain, with the lower opening away from the seat.)

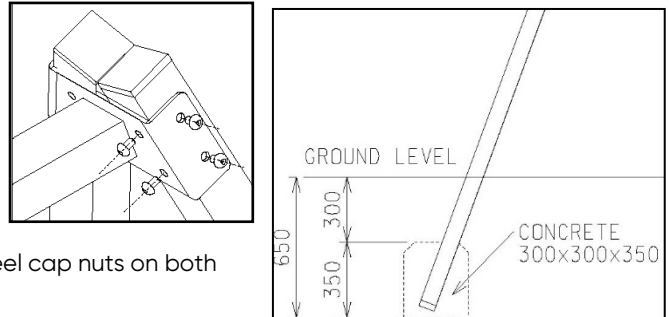


Gym Frame

All cap nuts used must be stainless steel. Must use LOCTITE.

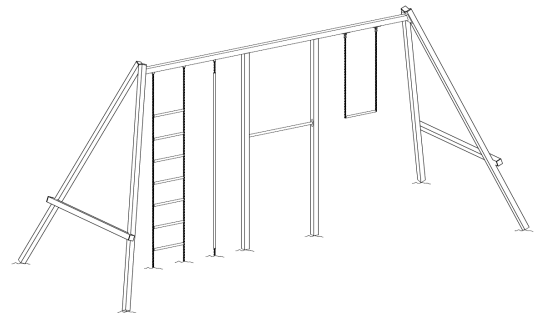
The gym frame is best assembled prior to installation.

Assemble the frame while laid on the ground then roll into the upright position. The uprights are fastened to the top bar using 25mm tri-lobe bolts. Fasten the tie bars (side bars) to the uprights using a 130mm threaded stud with stainless steel cap nuts on both ends.



Use the frame in its upright position to determine the correct footing hole positions. Dig the holes 300L x 300W x 650mm deep, legs to finish 600mm below surface level. Lower the frame into the holes, ensuring that the top bar is level and at the correct height of 2.8m from the underside of the top bar to the finished surface level.

Mark and dig the two central vertical upright posts holes. Attach the two upright end plates to the top bar using tri-lobe tap tights. Attach the horizontal chin up bar between these uprights using plastic flanges and the remaining tap tights. Tech screw the chin up bar at both ends through each plastic flange and cap with M6 security caps.



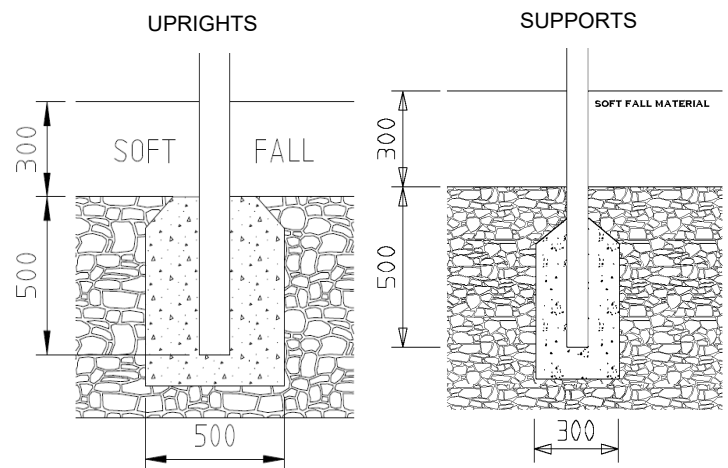
Join the trapeze bar to the swing castings using S-hooks.

The chain ladder and chain fire pole attach to the top bar chain housings using the 8x25 post torx bolts. Mark and dig the holes for the chain ladder and chain fire pole, checking that the chains are not slack before concreting.

Orbit Swing and Orbit Swing-A-Way

Concrete should be used on all items in the ground as per the diagram. Generally the footing should be 500mm x 500mm (deep) with a tapered top so that water won't pool around the upright. For the supports use smaller footing of 300mm x 300mm x 500mm (deep).

Note: If the ground is soft or likely to be subject to settling it is best to use an additional 100mm of concrete on the footing below the upright. This may need to set before placing the upright in place.



Once star joints and rails are secure, ensure all horizontal rail is level, then using a cordless drill, insert a tech screw through each of the lower clamp halves (see diagram). Plug all open holes in the star joints with caps provided.

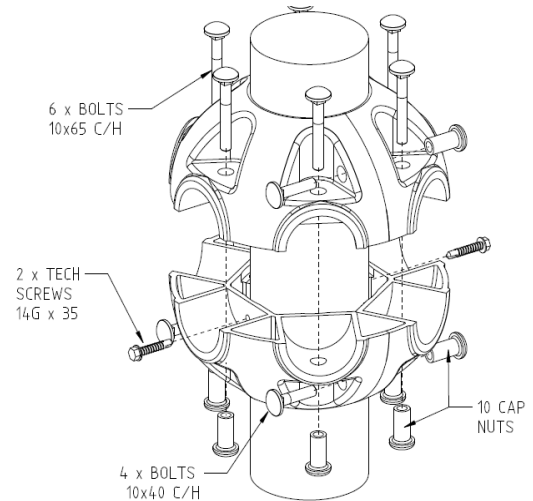
Once the uprights and horizontal rail are in place, attach the large clamps (50-90) onto the uprights onto the rails as per the diagram for each component, using three cap nuts and three 17mm tri-lobes. Each clamp is then secured in place by inserting a tech screw through the small hole on each side and into the post or rail. A security cap should be used with each tech screw as shown, fitting the base to the screw before fastening. The tech screw is inserted using a power drill and the tech screw driver supplied. Once secure, the top of the security cap should be securely fastened.

Once the frame is assembled and installed, leave the concrete to set for at least 24 hours before attaching the seats with S-Hooks. Please note that all S-Hooks should be fitted with the small loop attaching to the chain, and the large loop attaching to the connecting item.

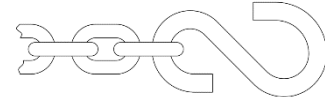
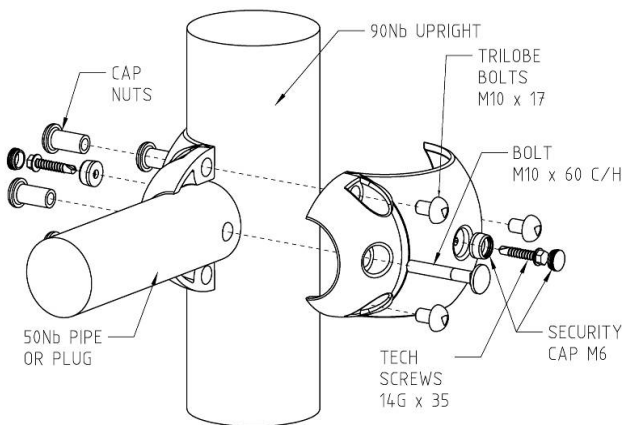
For the basket to the ropes using 25mm tri-lobes and washers.

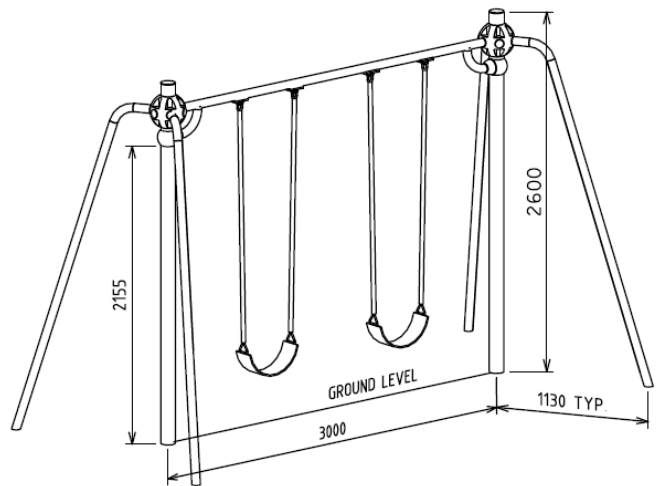
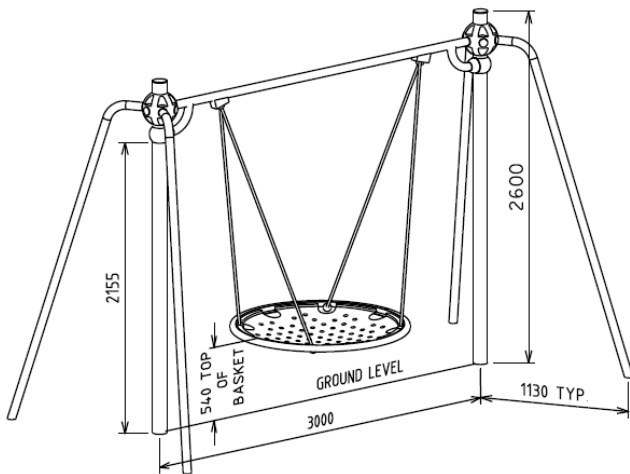
Frame joints and basket connection are the same as on "Swing-A-Way Installation Instructions".

STAR JOINT ASSEMBLY



CLAMP 50-90 ASSEMBLY



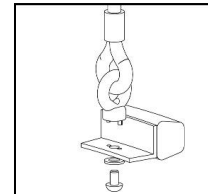
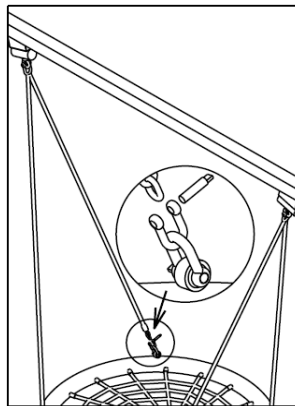


Rope Basket Position

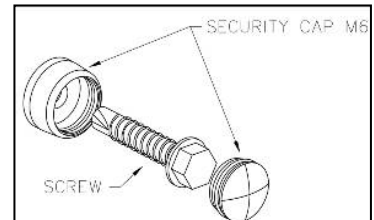
The position of the basket to frame and ropes (chain) is important.

The bush on the basket with attached D Shackle to be as shown.

Attach D Shackles, cut tags and file sharp edges.



SECURITY CAP FOR TECH SCREW



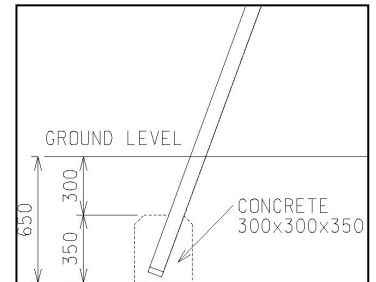
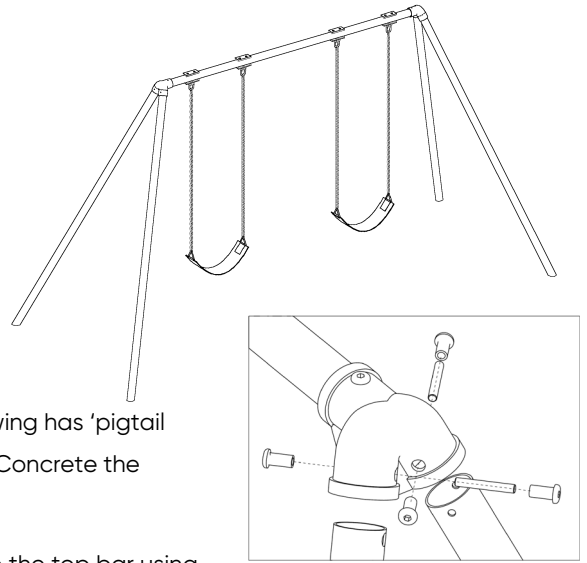
Pipeline Swing

All cap nuts used must be stainless steel.

The swing frame is best assembled prior to installation. Assemble the frame while laid on the ground then roll into the upright position. The uprights are inserted into the pipe joint on the top bar and fastened using cap nuts 10x28 and stud 10x70 (4 cap nuts and 2 studs on each joint). Must use LOCTITE.

Use the frame in its upright position to determine the correct hole position and dig the holes. Lower the frame into the holes, ensuring that the top bar is level and at the correct height (2.5m or 2.2m if the swing has 'pigtail hooks' from the underside of the top bar to the finished surface level.) Concrete the uprights into the ground using footing sizes as shown.

Leave the concrete to set for at least 24 hours then attach the seats to the top bar using 'S' hooks, ensuring that the 'S' hooks are fully closed using vice-grips. (The large end of the 'S' hook attaches to the swing shackle and the small end to the chain, with the lower opening away from the seat.)



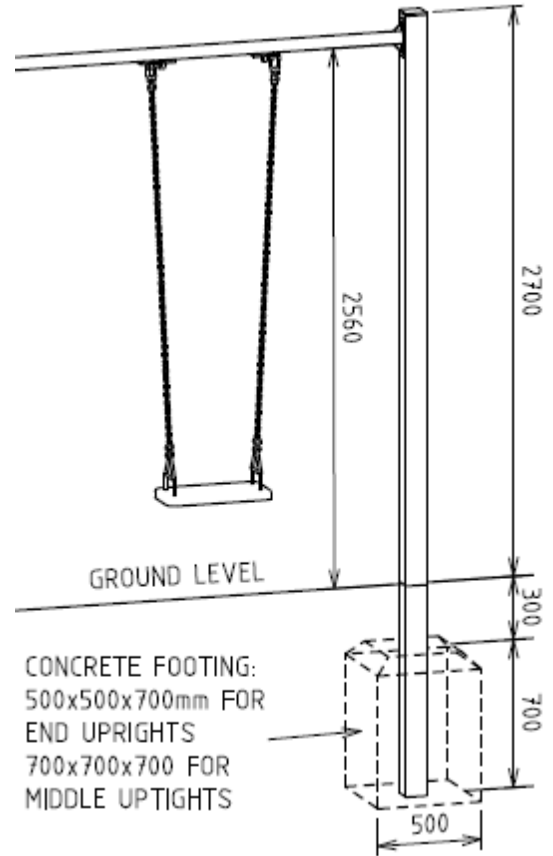
Post Swing Senior

All cap nuts used must be stainless steel.

The swing frame is best assembled prior to installation. Assemble the frame while laid on the ground then roll into the upright position. The uprights are fastened to the top bar using 25mm tri-lobe bolts. Must use LOCTITE.

Use the frame in its upright position to determine the correct hole positions and dig the holes approximately 1000mm deep and 500mm square for end uprights or the same depth with 700mm square for middle uprights. Lower the frame into the holes, ensuring that the top bar is level and standing 2.56m from the underside of the top bar to the finished surface level. Pour concrete around the bases of the uprights forming footings of 500mm x 500mm x 700mm for end uprights and 700mm x 700mm x 700mm for middle upright, the top being 300mm below the finished surface level with a tapered top so that water won't pool around the upright.

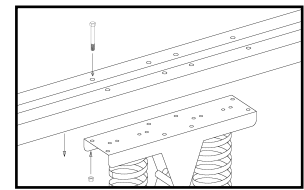
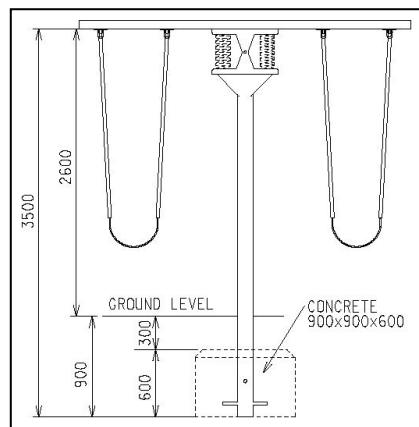
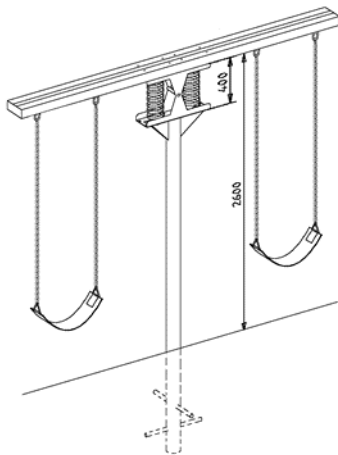
Leave the concrete to set for at least 24 hours then attach the seats to the top bar using 'S' hooks, ensuring that the 'S' hooks are fully closed using vice-grips. (The large end of the 'S' hook attaches to the swing shackle and the small end to the chain, with the lower opening away from the seat.)



Spring Swing

Dig a single hole approximately 900mm deep and 900mm square. Insert the upright into the hole making sure it is level with the top standing 2.2m above the finished surface level. Pour concrete around the base of the pole forming a footing of 900mm x 900mm x 600mm (as shown), the top being 300mm below the finished surface level with a tapered top so that water won't pool around the upright. Check levels again after the concrete is poured.

Leave the concrete to set for at least 24 hours then bolt the cross beams to the spring using 100mm hex head bolts (pointing down) and nyloc nuts, then raise the top bar and spring assembly into position and fasten using 40mm hex head bolts (pointing upwards) and nyloc nuts. Must use LOCTITE. Attach the seats and chains to the top bar using 'S' hooks, ensuring that the 'S' hooks are fully closed using vice-grips. (The large end of the 'S' hook attaches to the swing shackle and the small end to the chain, with the lower opening away from the seat.)



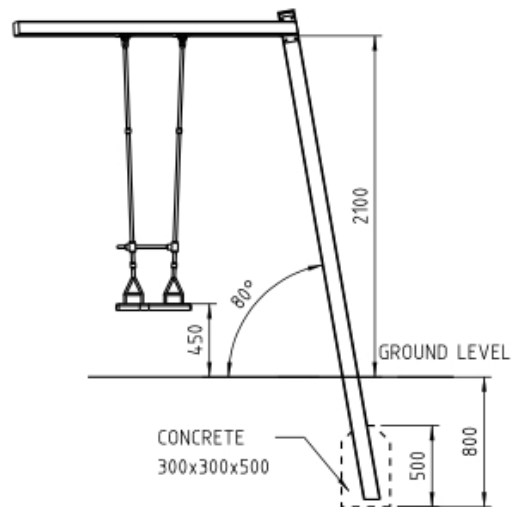
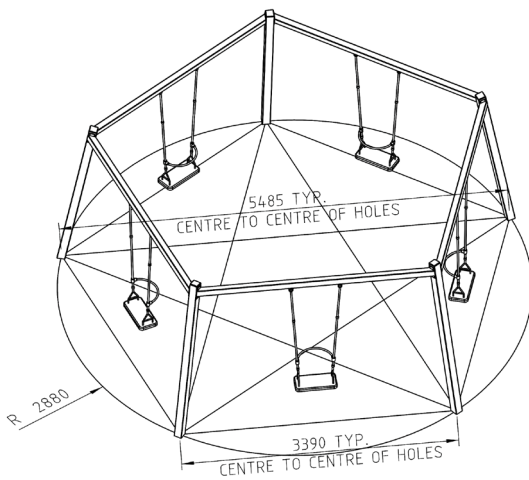
Satellite Swing

All cap nuts used must be stainless steel

Dig 5 holes 300x300x800mm deep as shown on the image (3390mm between outside holes and 5485mm on the diagonal). These distances are typically centre to centre.

Assemble two uprights to the top bar using 10x100 Cup Head Bolts and St Cap Nuts. Place the assembled pieces into the footing holes. Place the next upright in the footing hole, raise and bolt the top bar. Follow this order and complete the circular assembly. Be sure all uprights are angled inwards at 80 deg from ground surface and top bars are set at 2100mm height. Pour concrete around the base of each upright forming footings of 300mm x 300mm x 500mm, the top being 300mm below the finished surface level with a tapered top so that water won't pool around the upright. Check levels again after the concrete is poured.

Leave the concrete to set for at least 24 hours then attach the chains to the top bar and seats to eye nuts of supports using 'S' hooks, ensuring that the 'S' hooks are fully closed using vice-grips. (The large end of 'S' hooks attaches to the swing shackle and the small end to the chain. On the seats the large end of 'S' hooks goes to seat frames with the lower opening away from the seat.) Attach supports to chains using 8mm bolts. Must use LOCTITE. Ensure that the supports above the seats face inwards.



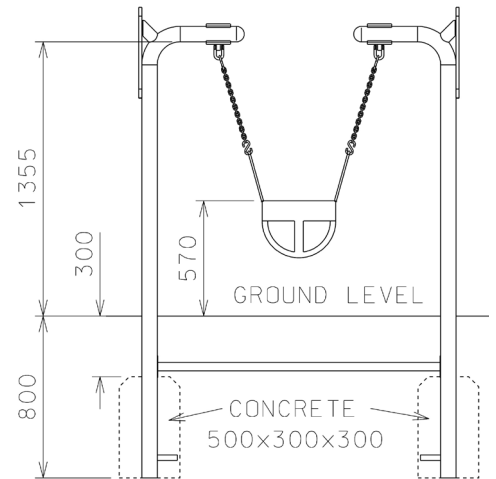
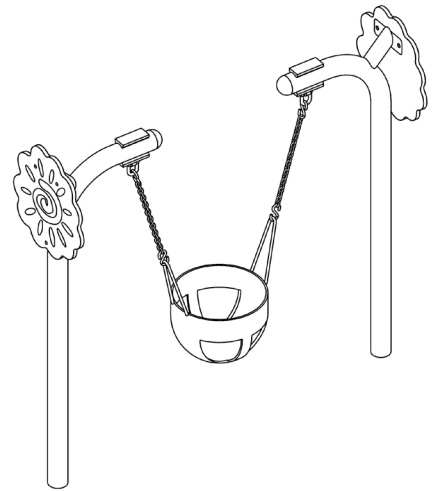
Swing Mini Infant

The swing frame is best assembled prior to installation. Attach panels to posts with 2 tri-lobes 10x25, 4 tri-lobes 10x20 and 4 t nuts. Join rail to posts, using 4 tri-lobes 10x17. Must use LOCTITE.

Dig 2 holes 300x300x800mm deep as shown on the image, 1500mm apart centre to centre and dig 300mm deep channel between holes for the rail.

Lower the frame into the holes, ensuring that the uprights are vertical and at the correct height. Concrete the uprights into the ground using footing sizes as shown.

Leave the concrete to set for at least 24 hours then attach the seat to the top using 'S' hooks, ensuring that the 'S' hooks are fully closed using vice-grips. (The large end of the 'S' hook attaches to the swing shackle). Must use LOCTITE.



Swing-A-Way

All cap nuts used must be stainless steel.

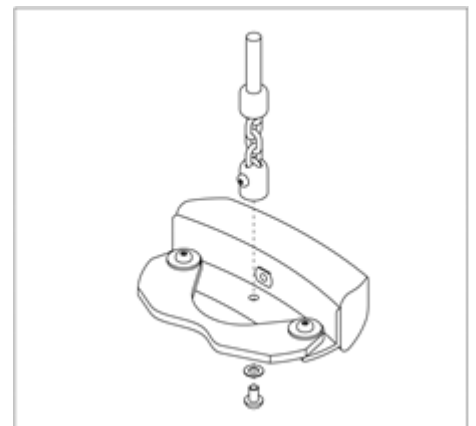
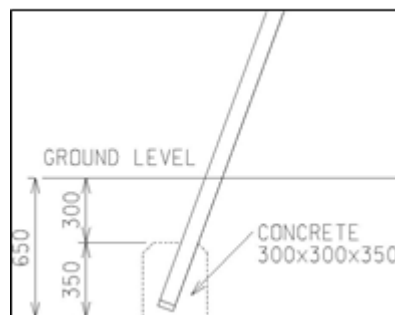
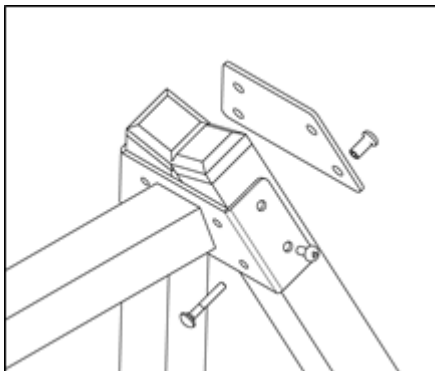
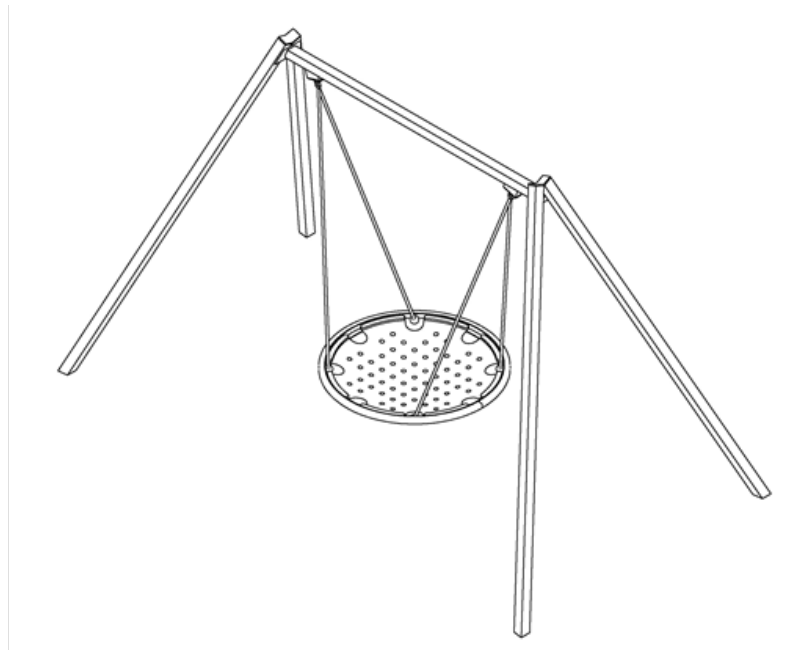
The swing frame is best assembled prior to installation. Assemble the frame while laid on the ground then roll into the upright position.

The uprights are fastened to the top bar using cap nuts and 75mm cup head bolts with the plate on the reverse side as shown, and 25mm tri-lobe bolts into the side of the uprights.

Use the frame in its upright position to determine the correct hole position and dig the holes. Lower the frame into the holes, ensuring that the top bar is level and at the correct height of 2.5m from the underside of the top bar to the finished surface level).

Concrete the uprights into the ground using footing sizes as shown.

Leave the concrete to set for at least 24 hours then attach the basket to the ropes using 20mm tri-lobes and 3/8" galv washers (must use LOCTITE).



Rope Basket Position

The position of the basket to frame and ropes (chain) is important.

The bush on the basket with attached D Shackle to be as shown.

Attach D Shackles, cut tags and file sharp edges.

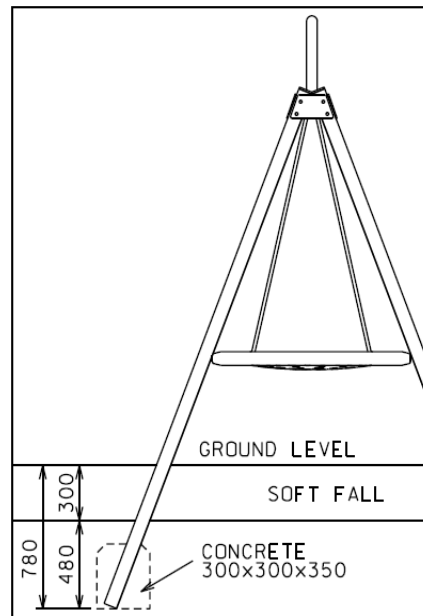
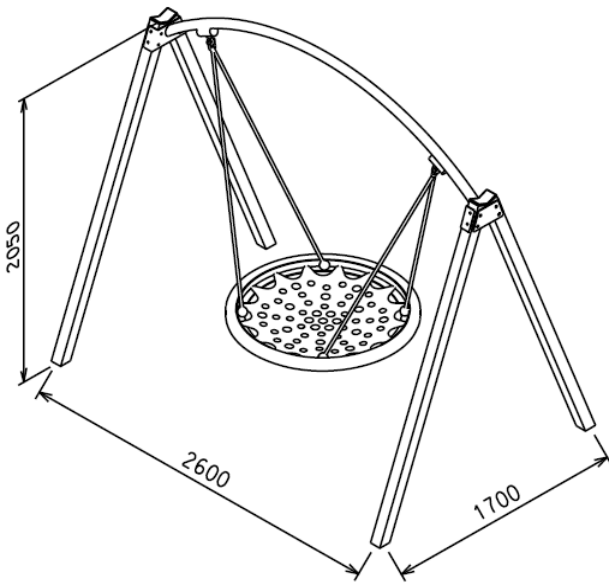
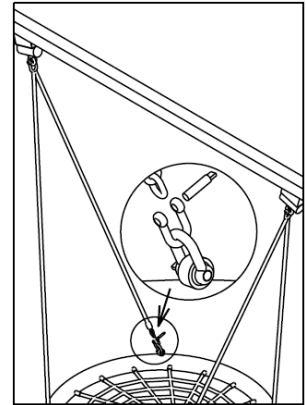
Swing-A-Way Arched Frame Junior

All cap nuts used must be stainless steel.

Use shown dimensions on ground level and footings.

Lower the frame into the holes, ensuring that the top bar is level and at the correct height of 2050mm from the top of the uprights to the finished ground level.

Frame joints and basket connection are same as on "Swing-A-Way Installation Instructions".



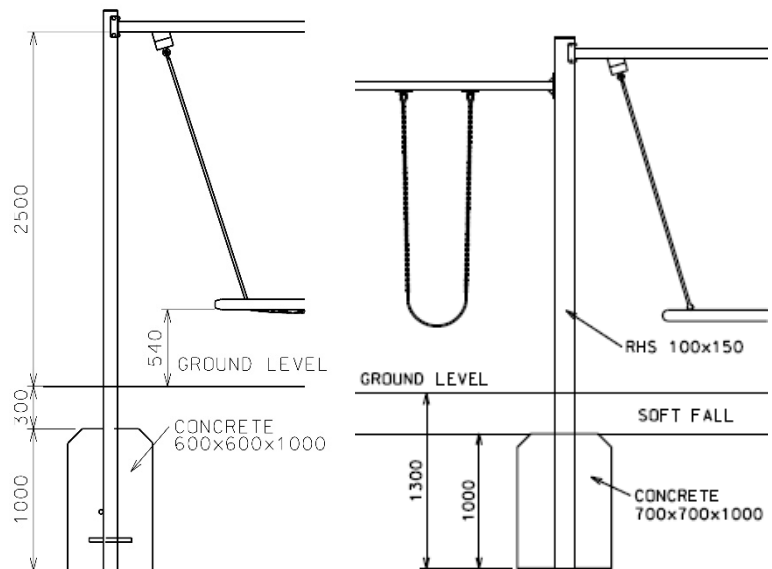
Swing-A-Way Post

The swing frame is best assembled prior to installation. Join top bar to uprights using tri-lobes 25mm. Dig 2 holes with size according to plan on 2.8m distance. Lower the frame into the holes, ensuring that the top bar is level and at the correct height of 2.5m from the underside of the top bar to the finished surface level).

Concrete the uprights into the ground using footing sizes as shown.

When this swing is part of a swing row, the joining upright is RHS100x150 and requires concrete footing 700x700x1000.

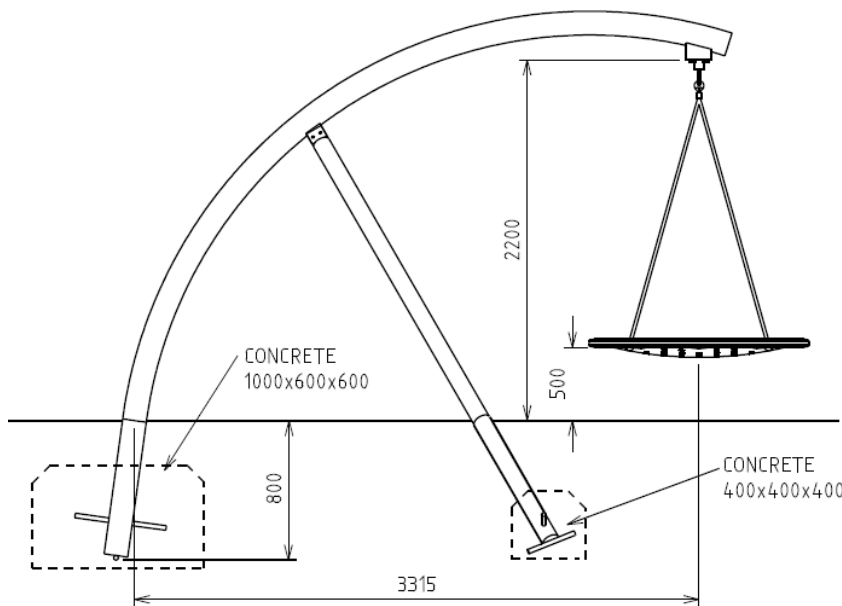
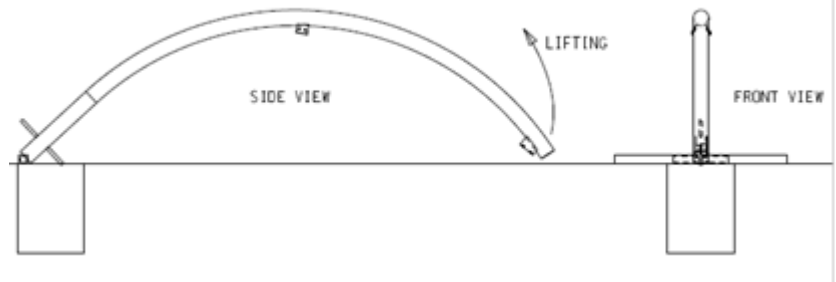
Leave the concrete to set for at least 24 hours then attach the basket to the ropes using 17mm tri-lobes and washers (as shown above). Must use LOCTITE.



Tornado

Dig three holes spaced 2400mm apart in the shape of a triangle. (Note: as the uprights are installed at an angle, the distance between the uprights at their base is greater than at finished ground level.) The main hole should be approximately 900mm deep and the support leg holes 800mm deep.

The main upright has a 60mm diameter pipe welded to the bottom of it. There are also two 75x75 lengths of steel which are used as extensions to this pipe simply for installation purposes. Position the main upright with both ends resting on the ground and the centre vertically up. Insert the 75x75 extensions over the pipe at the base and position over the deeper hole as shown.

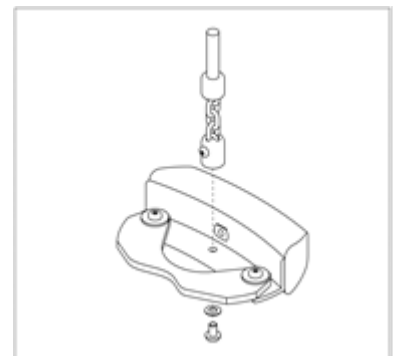


At this point the upright can either be lifted and propped up with a supporting bar or lifted and held up by a crane. This choice is left up to the individual installer though it is possible with the correct aids and procedures to lift and support the upright without the use of a crane. Main upright weight is 95 kg and minor uprights are 30 kg a piece.

The two supporting uprights can now be dropped in their respective holes (with the base rested on top of a brick or block) then fastened to the main upright using 17mm tri lobes and stainless cap nuts. Use the stainless washers provided as spacers (3

1/2" washers on each cap nut side and one M10 washer on each tri-lobe side). The 75x75 extensions can now be removed and the main upright lowered into its hole. (Ensure that there is something solid in the base of the hole so that the upright does not sink.)

The attachment point for the universal bearing on the high end of the main upright must finish 2200mm above finished ground level. The main upright will come marked with a ground level marker. Pour concrete into each hole according to the footing sizes shown. The top of the footing should be at least 300mm below the finished surface level with tapered tops so that water does not pool around the uprights. Check levels again after the concrete is poured.



The main Tornado upright will come with the universal bearing and ropes attached. The ropes must be tied up and out of the way to stop people from swinging on the ropes before the concrete is set.

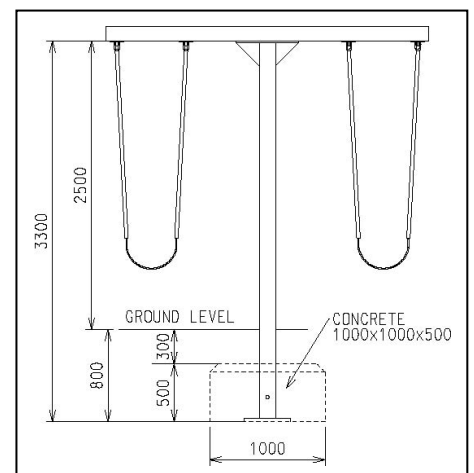
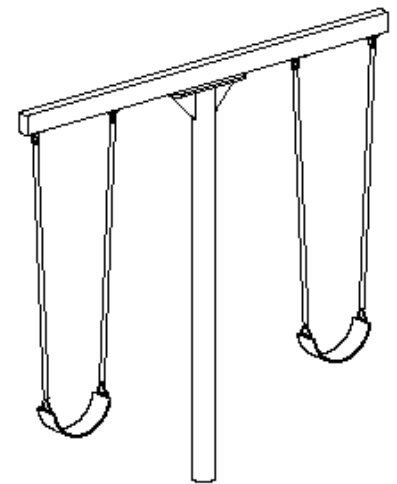
Leave the concrete to set for at least 24 hours then attach the Tornado basket to the ropes using 20mm tri lobes and washers (must use LOCTITE).

Note: The bearing unit contains 2 grease nipples which should be greased approximately every 6 months using 'Molycote Long Term 2 Plus' grease.

'T' Swing

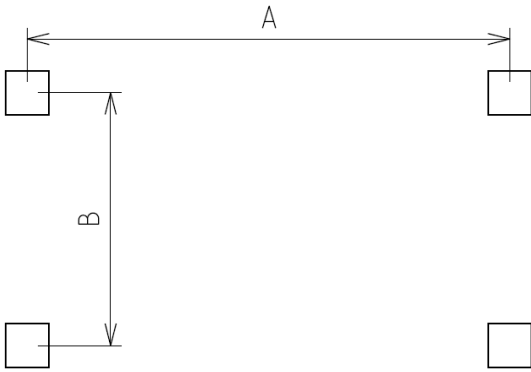
Dig a single hole approximately 800mm deep and 1000mm square. Insert the upright into the hole making sure it is level, with the underside of the top standing 2.5m above the finished surface level (2.2m for junior version). Pour concrete around the base of the pole forming a footing of 1000mm x 1000mm x 500mm (as shown), the top being 300mm below the finished surface level with a tapered top so that water won't pool around the upright. Check levels again after the concrete is poured.

Leave the concrete to set for at least 24 hours then bolt the cross beam to the upright using 12x30mm hex head bolts (pointing down) and nyloc nuts. Must use LOCTITE. Attach the seats and chains to the top bar using 'S' hooks, ensuring that the 'S' hooks are fully closed using vice-grips. (The large end of the 'S' hook attaches to the swing shackle and the small end to the chain, with the lower opening away from the seat.)



Footing plan for 4 leg swings

The dimensions are centre to centre of footings.



Swings	A	B
Double steel swing –junior	4400mm	2300mm
Double steel swing –senior	4650mm	2600mm
Double steel swing 3m	5000mm	3000mm
Double steel swing 3.5m	5400mm	3450mm
Gym Frame	6850mm	3900mm
Swing Tyre Frame	4450mm	2200mm
Pipeline swing	4700mm	2300mm
Pipeline swing single	3150mm	2300mm
Pipeline Hook swing	4550mm	2100mm
Swing-a-Way Frame	4650mm	2600mm
Swing-a-Way Arched Frame Junior	2600mm	2000mm