

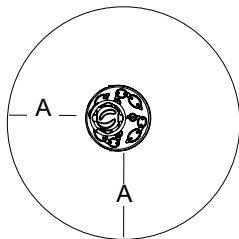
Installation Instructions

Playworld Systems® Model XX0043

Whirligig



Assembly View




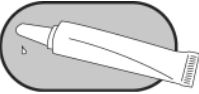

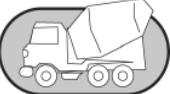



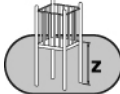
Equipment Use Zone

- A: ASTM at least 72 in. (1830 mm)
- A: CSA at least 1800 mm
- A: EN: at least 2000 mm

Installation Preparation

Recommended Crew: Two (2) adults
 Installation Time: 3 man-hours
 Concrete Required: 0.13 cubic yard (0,10 cubic meters)
 Use Zone: Refer to the information below
 User Group Age (years): ASTM/CSA: 5-12, EN: 6-14

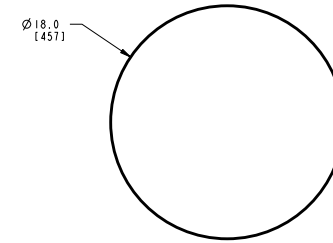
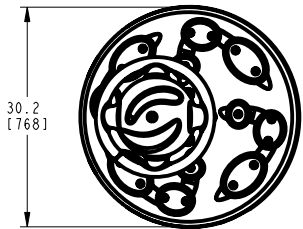
ICON KEY

	Fully Tighten Hardware		Add 1 Drop of Thread Locking Adhesive
	Do Not Fully Tighten Hardware		Pour Concrete
	Drill		Dig Footing Holes
	Hammer		Critical Fall Height

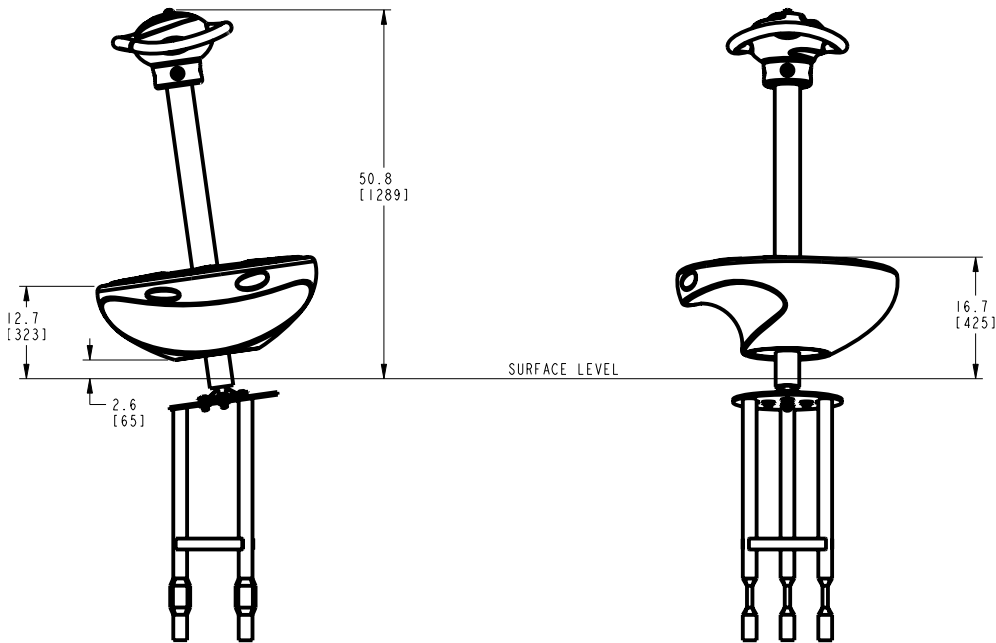
Installation Instructions

KEY	
Position	Unit of Measurement
Top #	Inches
Bottom #	[Millimeters]

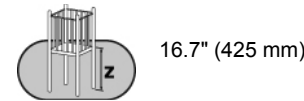
Top View



Footring Diagram



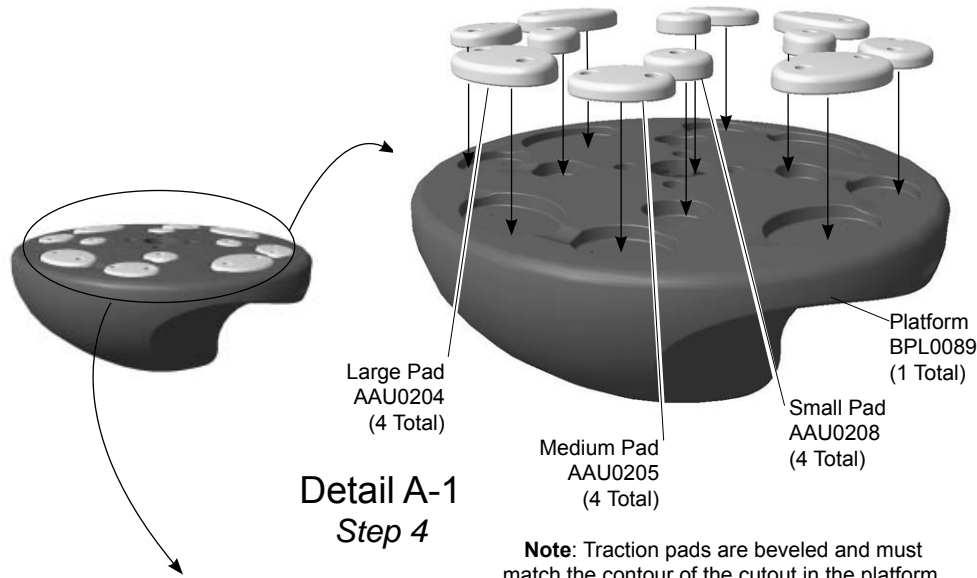
Elevation Views



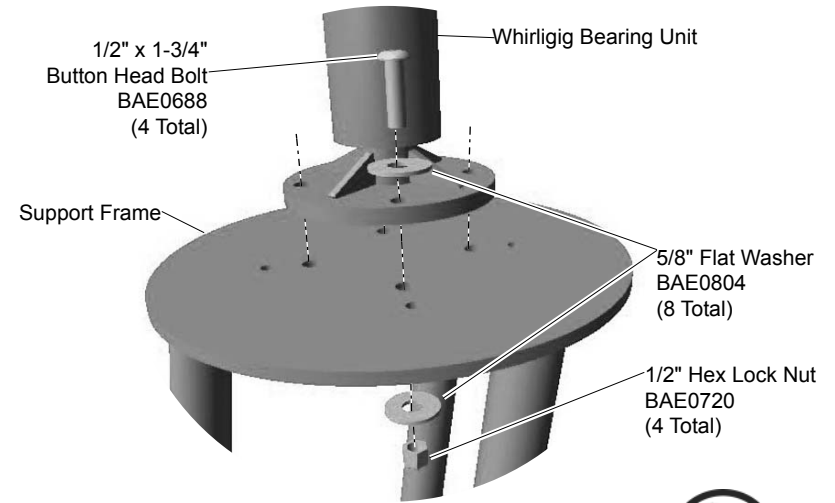
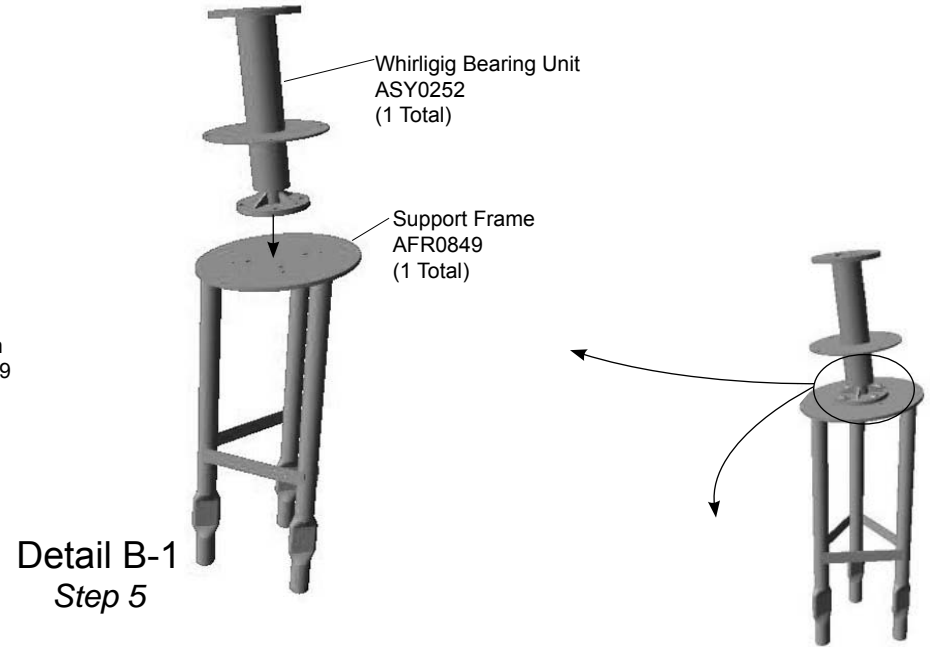
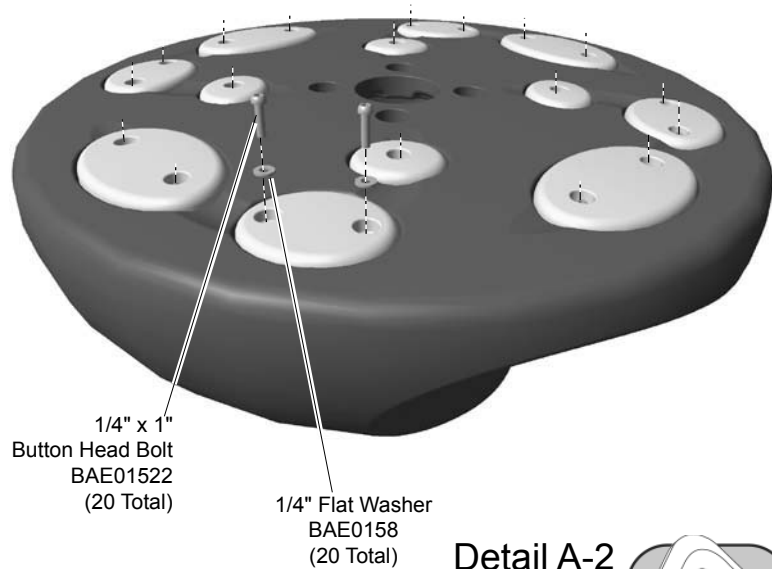
16.7" (425 mm)

Installation Instructions

Follow the details in alphabetical order. For clarification, each detail references the step description. The step descriptions start on page 6.

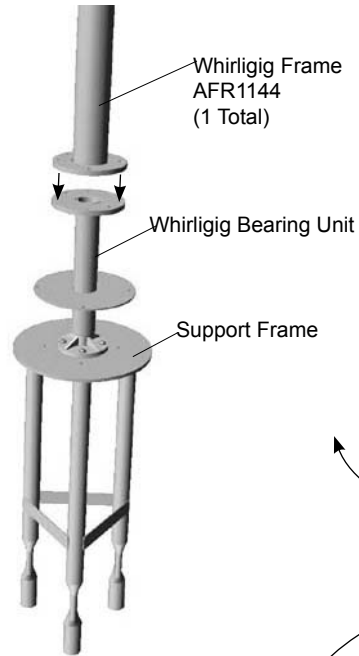


Note: Traction pads are beveled and must match the contour of the cutout in the platform.

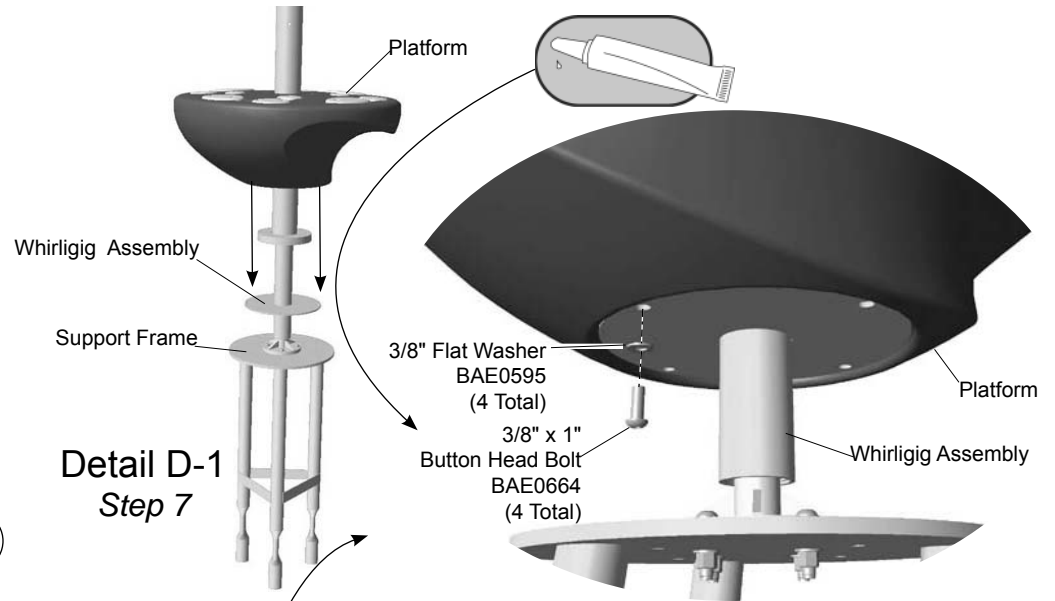


Installation Instructions

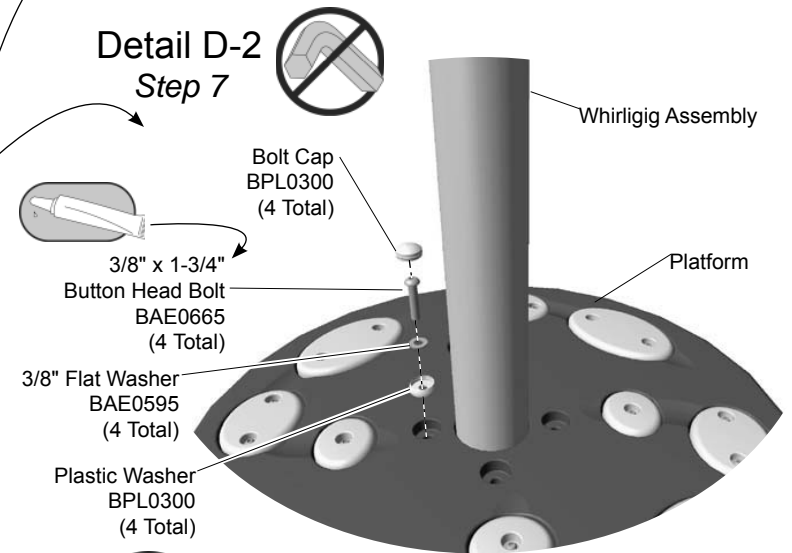
Detail C-1
Step 6



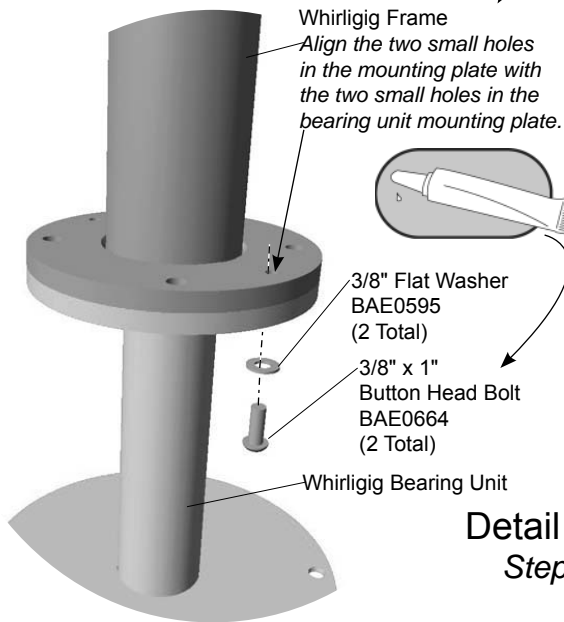
Detail D-1
Step 7



Detail D-2
Step 7



Detail C-2
Step 6

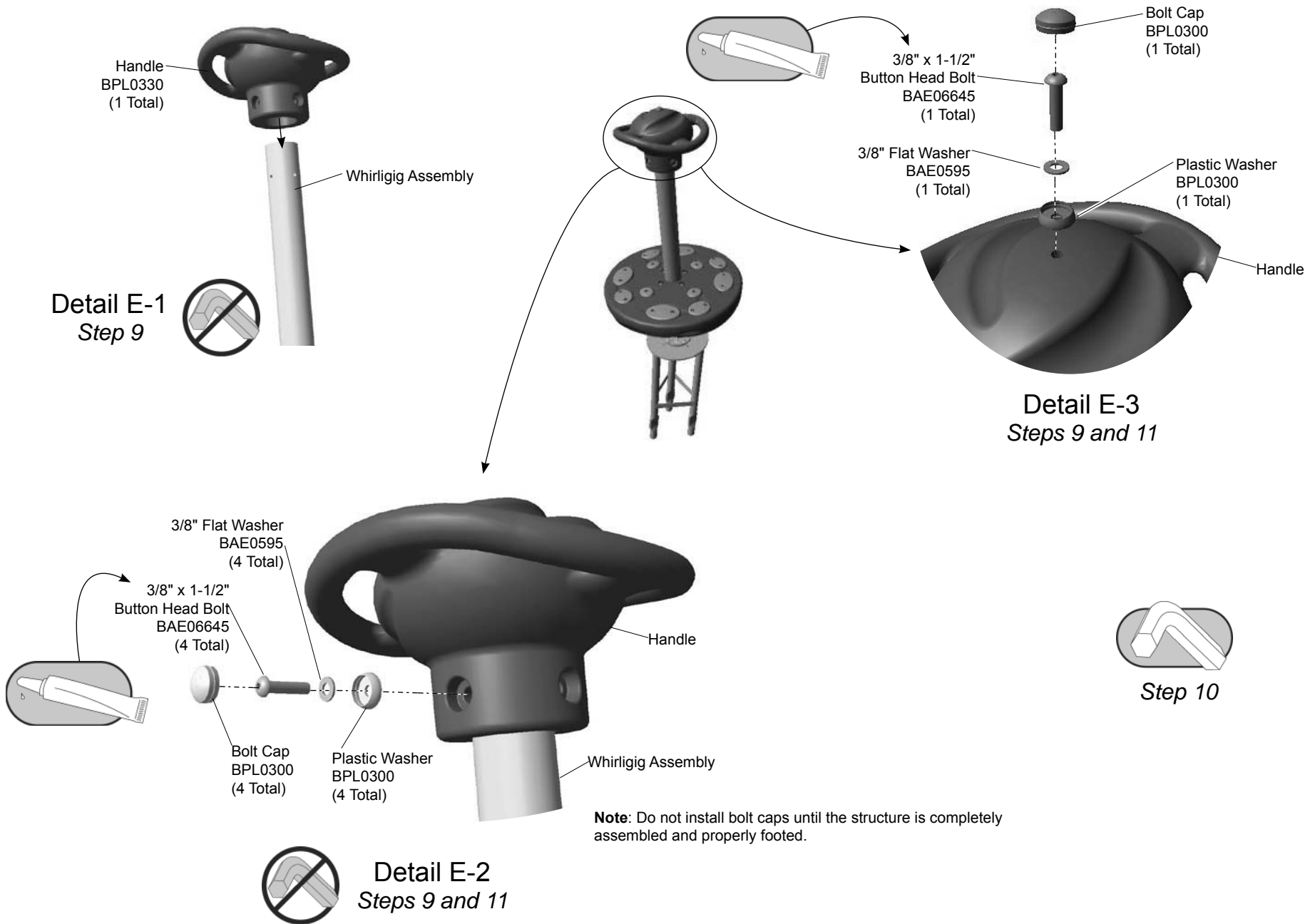


Detail D-3
Steps 8 and 11



Note: Do not install bolt caps until the structure is completely assembled and properly footed.

Installation Instructions



Installation Instructions

Notes Before You Begin: Do not over tighten bolts during assembly, only snug tighten them until assembly is complete. Do not install bolt caps until the structure is completely assembled and properly footed.

Carefully read and understand these installation instructions before you begin.

Step 1: Before attempting to assemble your equipment, please review all installation information carefully. Should you experience any difficulty during the installation process, please call us at the phone number shown on the last page of these instructions.

Step 2: Separate and identify all components and hardware.

Step 3: Excavate footings as shown in the **Support Post Footing Details** included in the annex at the end of this document.

Preassemble the platform.

Step 4: Preassemble the platform. See **Detail A-1** and **Detail A-2**. Select the platform, the traction pads, and the appropriate hardware. Place the traction pads in the appropriate holes in the platform. Attach as shown.

Note: The traction pads are beveled and must match the contour of the cutout in the platform.

Attach the Whirligig bearing unit to the support frame.

Step 5: Attach the Whirligig bearing unit to the support frame. See **Detail B-1** and **Detail B-2**. Select the Whirligig bearing unit, the support frame, and the appropriate hardware. Lower the Whirligig bearing unit onto the support frame and align the holes. Attach as shown.

Attach the Whirligig frame to the Whirligig bearing unit.

Step 6: Attach the Whirligig frame to the Whirligig bearing unit. See **Detail C-1** and **Detail C-2**. Select the Whirligig frame and the appropriate hardware. Lower the frame onto the bearing unit and align the holes. Attach as shown.

Attach the platform to the Whirligig assembly.

Step 7: Attach the bottom of the platform to the Whirligig assembly. See **Detail D-1** and **Detail D-2**. Select the platform and the appropriate hardware. Lower the platform onto the Whirligig assembly and align the holes. Apply a drop of loctite to the bolt threads and attach as shown.

Step 8: Attach the top of the platform to the Whirligig assembly. See **Detail D-3**. Select the appropriate hardware. Attach as shown.

Attach the handle to the Whirligig assembly.

Step 9: Attach the handle to the Whirligig assembly. See **Details E-1, E-2** and **E-3**. Select the handle and the appropriate hardware. Lower the handle onto the Whirligig assembly and align the holes. Apply a drop of loctite to the bolt threads and attach as shown both along the side and top of the handle.

Final Details.

Step 10 : Plumb and level the component. Tighten **all** fasteners. Fully tighten all fasteners according to tightening torque specifications. Block and brace for concrete. Pour concrete after all equipment has been assembled. Allow 72 hours for concrete to completely cure.

Torque Specifications:

Bolts and nuts - Snug tighten and then tighten an additional one half turn.

Step 11: Select plastic bolt caps and press into the plastic washers. See **Details D-3, E-2** and **E-3**. The bolt caps install more easily when they are warm.

Step 12: For areas complying with ASTM standard F1487 or the CSA Z-614, apply the age appropriate label to the equipment at eye level.

XX0043 - WHIRLIGIG

PART NO.	DESCRIPTION	QTY.
AAU0204	6.87" TRACTION PAD	4
AAU0205	4.88" TRACTION PAD	4
AAU0208	3.38" TRACTION PAD	4
AFR0849	FRAME - 15.00" x 14.91" x 34.15"	1
AFR1144	FRAME - 36.37" x 7.50"	1
ASY0252	WHIRLIGIG BEARING UNIT	1
BAD0085	THREAD LOCKING ADHESIVE	1
BAE01522	BOLT - 1/4"-20 x 1" BUTTON HEAD - SS	20
BAE0158	WASHER - 1/4" SAE FLAT	20
BAE0595	WASHER - 3/8" SAE FLAT	15
BAE0664	BOLT - 3/8"-16 x 1" BUTTON HEAD - SS	6
BAE06645	BOLT - 3/8"-16 x 1-1/2" BUTTON HEAD - SS	5
BAE0665	BOLT - 3/8"-16 x 1-3/4" BUTTON HEAD - SS	4
BAE0688	BOLT - 1/2"-13 x 1.75" BUTTON HEAD - SS	4
BAE0720	NUT - 1/2"-13 LOCK	4
BAE0804	WASHER - 5/8" FLAT	8
BAE0900	WRENCH - 5/32" SHORT HEX KEY	1
BAE0906	TOOL - 5/16" SHORT HEX KEY WRENCH	1
BAE0922	TOOL - TT 45 L WRENCH	1
BPL0089	PLATFORM - TWIST-N-CLIMB	1
BPL0300	CAP - 3/8" BOLT	9
BPL0330	ROTOMOLDED HNDL FOR 3-1/2" O.D. TUBE w/ 2 HLS	1
ALB0025	LABEL - AGE APPROPRIATE SHEET	1



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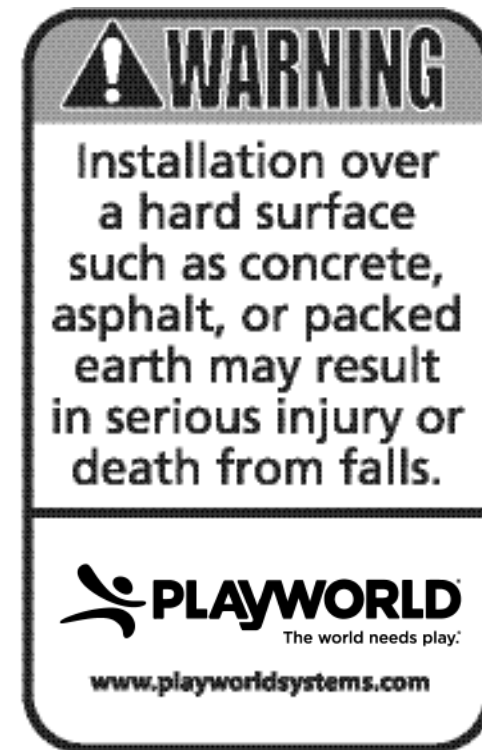


Installation Instructions

FINAL INSPECTION

- Playworld Systems® insists on the installation of protective surfacing within the use zone of each play structure in accordance with the applicable standard for your area, appropriate for the fall height of each structure.
- Playworld Systems® strongly recommends close supervision of children as they play. The owners of playground equipment and the parents or guardians of children are responsible for this proper supervision.
- As the owner of playground equipment, you are responsible for the maintenance of the equipment and surrounding play area. A comprehensive maintenance and inspection schedule must be developed and all equipment inspected frequently. Refer to the inspection and maintenance schedule in the back of this booklet.
- Perform a thorough final check on the installed equipment to insure all equipment is installed as specified by manufacturer's installation instructions.
 - Review all Installation Instructions for specified dimensions. Make sure dimensions called for in instructions agree with actual installation.
 - Double check height dimensions. Height measurements are taken from the top of the protective surfacing material.
 - Insure all fasteners are tightened according to tightening torque specifications listed on your installation instructions.
 - Clean dried concrete off of components and any other affected surface.
 - Touch-up any scratches or installation damage to powder coated finish with color-matched spray paint.
 - Allow adequate time for proper curing, both for concrete and urethane cement if rubber safety surfacing tiles have been installed.
 - Insure that protective surfacing is properly installed according to recommendations. Footings must not be exposed. Refer to the florescent orange sheet included in the front of the installation instruction booklet titled "Owners Manual".
 - Insure that hard surface warning/Playworld Systems® identification labels (shown below) are properly affixed to the play equipment. Labels are to be plainly visible according to current playground equipment guidelines. For areas complying with ASTM F-1487 or CSA Z-614 an age appropriate label must be applied in a visible location.

- Dispose of all packaging material properly. These materials which include large plastic bags and sheets can be a suffocation hazard. Dispose of these materials out of reach or contact of small children.



Fasteners

- Inspect for loose fasteners.
Tightening torque specifications are:
Bolts and Nuts: Snug tighten and tighten an additional one-half turn.
Set Screws: Snug tighten and tighten an additional full turn.
- Inspect drive rivets to insure they are intact and secure.
- If during the maintenance process a bolt needs to be removed from a part or parts, it will be necessary to apply a drop of liquid thread lock / loctite to the bolt before reinstallation.
- Inspect for missing, worn or broken fasteners. If any missing, worn or broken fasteners are found, refer to the installation instructions for proper replacement fastener. If any damage is detected, barricade equipment to prevent use until repair is completed. Contact your sales representative immediately for a replacement part.

Plastic Parts

- Inspect all plastic surfaces for sharp points, cracks or jagged edges. If any damage is detected and is determined to be unsafe, barricade equipment to prevent use until repair is completed. Minor burrs or sharp edges may be removed by using a sharp utility knife or block plane to remove sharp burr.

Castings

- Inspect the aluminum castings to insure they are properly secured to the component.
- Visually inspect the castings for cracks or breakage. If any damage is detected, barricade the equipment to prevent use until repair is completed. Contact your sales representative immediately for a replacement part.

Welds

- Inspect all welded joints. If any broken welds are detected, barricade equipment to prevent use until repair is completed. Contact your sales representative immediately for a replacement part.

Finish

- Inspect metal parts for finish damage.
To repair painted surfaces, sand damaged area with sandpaper and wipe clean. Mask area and paint with primer and allow to dry. Paint primed area with color-matching paint and allow to dry. Recoat area with color-matching paint if required. Drying time is approximately 8 hours between coats.
To repair the coating, contact the Playworld Systems' Customer Service Department for a coating repair touch-up kit.

Footings

- Inspect component to be solid in footing and secure. If any damage is detected, barricade equipment to prevent use until repair is completed.

Surfacing

- Refer to the specific surfacing maintenance detail sheet for additional information.

Replacement Parts

- Refer to your installation instructions to obtain replacement part number.
- Contact your sales representative or call Playworld Systems' Customer Service for a replacement part.

Equipment Maintenance Playworld Systems® Model XX0043 Whirligig



Inspection Form

- Be sure that you are using a copy of this Inspection Form and not your original.
- Use the Inspection Codes listed below and record condition of equipment at time of examination on the Inspection Checklist.
- Document any item from the Inspection Checklist that will require maintenance along with any corrective action on the Maintenance Schedule.
- Be sure to include appropriate dates and signatures on each section to properly document maintenance procedure.

Preventive Maintenance **... for Safety's Sake!**

INSPECTION CHECKLIST

	Frequency	Inspection Code	Date	Date Repairs Completed
Inspect plastic parts for damage.	Medium			
Inspect metal parts for structural and finish damage.	Medium			
Inspect for loose, missing, worn, or broken fasteners.	High			
Inspect footing to insure support is secure and footing is not damaged.	Low			
Inspect surfacing to insure proper depth and distribution.	High			

Inspection Codes

P = Pass F = Fail
NA = Not Applicable

Inspector: Name (Please Print) _____ Signature: _____ Date: ___ / ___ / ___

MAINTENANCE SCHEDULE

Item in Question	Description of Problem	Corrective Action	Date

Repairer: Name (Please Print) _____ Signature: _____ Date: ___ / ___ / ___

Important ! Please Read Completely Before Beginning Installation. According to a report published by the U. S. Consumer Product Safety Commission (C.P.S.C.) 72% of all playground injuries result from accidental falls. With this in mind, this equipment is designed to fill the need for safe yet challenging play. In conjunction with design efforts to reduce the possibilities of injuries, this equipment **must** be installed "Step by Step" per our installation instructions. As a new owner you are responsible for the correct installation, safe use, and maintenance of your equipment.

Installation Guidelines

- Identify all parts and thoroughly read the assembly instructions before beginning construction.
- Refer to your playground equipment plan and footing diagram to assure the equipment purchased will fit into your selected site area. The use and no-encroachment zones around the play equipment shall be obstacle-free areas designated for unrestricted circulation.
- **ASTM compliance:** For rotating play equipment that rotates around a vertical axis with a maximum dimension **greater** than 20 inches (508 mm) measured from the axis of rotation to the outermost perimeter which exceed the speed limitation requirements shall not be less than 108 inches (2743 mm) on all sides. This includes a use zone of 72 inches (1829 mm) that shall **not overlap** the use zone of other structures. The exemption is equipment where the diameter of the platform is less than 20 in. (510 mm) may overlap if the adjacent designated play surfaces of each structure are less than 30 in. (760 mm) above the protective surface. If adjacent designated play surfaces on either structure exceed a height of 30 inches (760 mm), the minimum distance between structures shall be 108 inches (2743 mm).
- For rotating play equipment that rotates around a vertical axis with a maximum dimension **less than or equal** to 20 inches (508 mm) measured from the axis of rotation to the outermost perimeter shall not be less than 72 inches (1829 mm) on all sides. Overlapping use zones is allowable if the adjacent fall height of each structure is less than or equal to 30 inches (760 mm) above the protective surfacing. If adjacent play structures have a fall height greater than 30 inches (760 mm) than the distance between the structures shall be no less than 108 in. (2743 mm).
- **CSA compliance:** For rotating play equipment, the use zone should extend on all sides a minimum distance of 1800 mm. This use zone may **not** be overlapped by the use zones of adjacent play equipment. A no-encroachment zone is also required for play equipment over 500 mm in diameter that rotates around a vertical axis. In addition to the use zone measurement, this zone will extend an additional 1800 mm and may **not** be overlapped by the use or no-encroachment zones of adjacent play equipment.
- **EN compliance:** For rotating play equipment, the use zone should extend on all sides a minimum distance of 2000 mm. This use zone may **not** be overlapped by the use zones of adjacent play equipment. There must also be a head clearance of 2000 mm above the maximum height of the rotating play equipment. Refer to the Use Zone diagram or master structure drawing.
- Site layout is a critical part of the overall installation. Footings must be measured and marked accurately according to the footing diagram. A level and clear installation site is ideal.
- Good drainage around the structure and its supports is important. Inquire with local contractors for appropriate recommendations.
- After laying out all footings and before digging holes, be sure to inquire about underground utilities that may exist.
- Do not leave the job site unattended without making sure that all fastening hardware on all components are tightened according to tightening torque specifications listed on every installation guide. We also recommend roping off construction area and covering all holes that do not contain a piece of equipment with plywood or other suitable material.
- Excavate holes as shown in the footing detail. If a level and clear site cannot be obtained, adjust the depth of footing to maintain a level footing base. If soil conditions are loose or unstable, a larger diameter footing may be required. Inquire with local contractors for appropriate recommendations. Be sure concrete that might have splashed onto the unit is washed off before it dries. Allow concrete to harden 72 hours before allowing your structure to be used. **Assemble the entire structure before pouring concrete unless specifically instructed to do so in the installation instructions.**

Guidelines

- Insure that Age Appropriate and Hard Surface Warning/Playworld Systems identification labels are properly affixed to the play equipment. Labels are to be plainly visible according to current playground equipment guidelines.

- **IMPORTANT!** Because accidental falls around your playground equipment can occur, Playworld Systems recommends that the area under and around the structure be covered with a resilient material such as sand, bark mulch, or wood chips. If loose fill surfacing materials are used, Playworld Systems recommends a depth of 12 in. (305 mm). An approved rubber safety matting can also be used. **Many protective surfacing materials can become compacted due to weather and use, which reduces their shock absorbency. It is strongly recommended that the surfacing be checked weekly and material added or replaced as necessary. Hard surfaces, such as asphalt, concrete and packed earth are not acceptable for use under playground equipment.**

- The entire area, under and around the playground equipment, must be covered with protective surfacing material. The impact attenuation of the protective surfacing under and around playground equipment should be rated to have a critical height value of at least the height of the highest accessible part of the equipment. The critical height for surfacing is to be rated in accordance with A.S.T.M. standard, designated F1292, A Standard Specification for Impact Attenuation of Surface Systems Under and Around Playground Equipment. Critical fall heights for Europe and Canadian compliance shall be listed on the elevation page or master structure drawing if they differ from the ASTM standard. Contact the manufacturer of unitary surfacing materials (rubber matting) for the critical height rating for their products.

Tools Required: Playworld Systems supplies a service kit that contains commonly used hex key wrenches required to assemble your equipment. You may also need: shovel, digging iron, post hole digger, steel rake, wheelbarrow, garden hoe, water hose, tape measure, level, alignment tool, 3/8" ratchet with 9/16" socket, and 9/16" combination wrench.

Maintenance

- Inadequate maintenance of equipment has resulted in injuries on the playground. Because the safety of playground equipment and its stability depends on good inspection and maintenance, **a comprehensive maintenance program must be developed for each playground and strictly followed.** All equipment must be inspected frequently for any potential hazards. Special attention must be given to moving parts and other components that can be expected to wear. Inspections must be carried out in a systematic manner by trained personnel. Any damaged or worn parts, or any other hazards identified during inspections must be repaired or replaced immediately. Complete documentation of all maintenance inspections and repairs must be retained.

Supervision Guidelines

- Playworld Systems strongly recommends close supervision of the children as they play as well as intensive classroom and home instruction about safe behavior on playground equipment.

- Playground supervisors should be aware that not all playground equipment is appropriate for all children who may use the playground. Signs should be posted near the equipment indicating the recommended age of the users. Supervisors should direct children to equipment appropriate for their age.

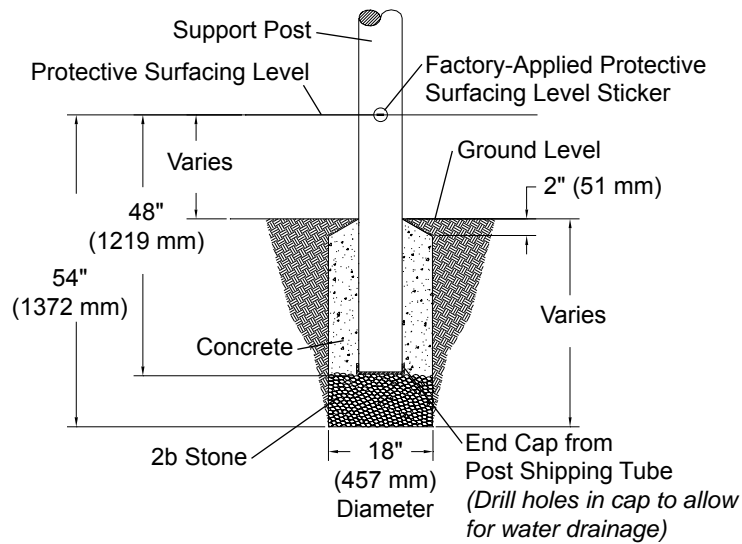
- It is important that playground supervisors recognize that preschool-age children require more attentive supervision on playgrounds than older children.

- Do not permit the use of wet playground equipment. Wet equipment will inhibit necessary traction and gripping capabilities. Slips or falls could occur.

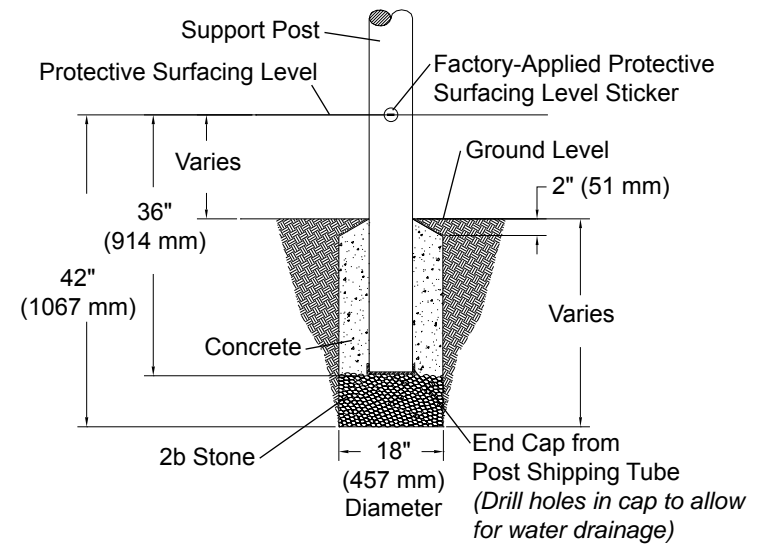
- Do not permit too many children on the same piece of equipment at the same time. It is suggested that children take turns.

- Constantly observe play patterns to discover possible hazardous play and suggest changes in equipment use or play patterns.

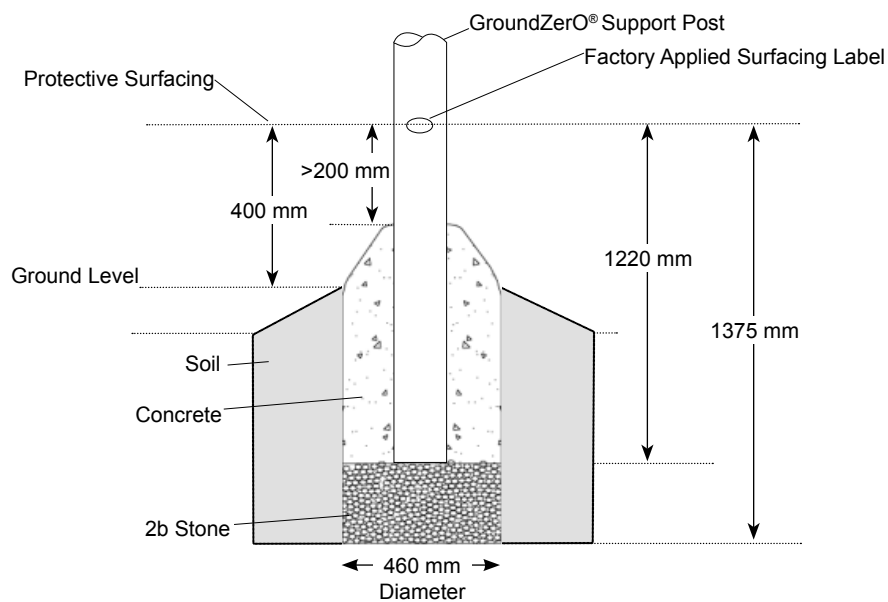
Footings Details (in ground)



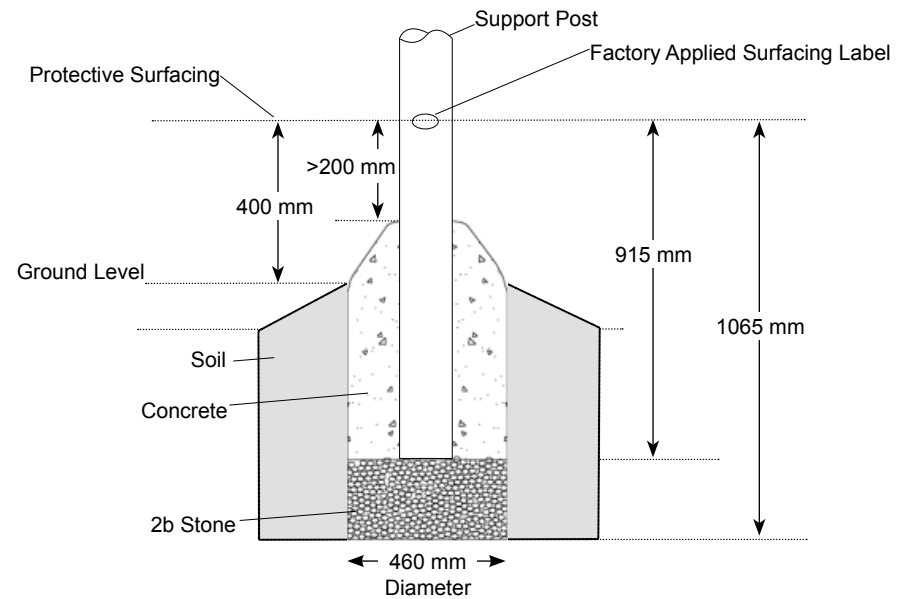
GroundZero® Support Post Footing Detail ASTM/CSA



Support Post Footing Detail (ASTM/CSA)



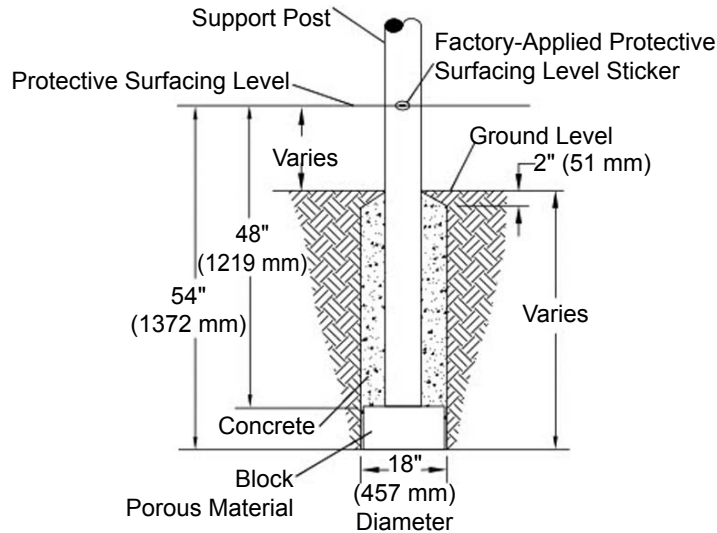
Footing Detail GroundZero® Support Post (EN)



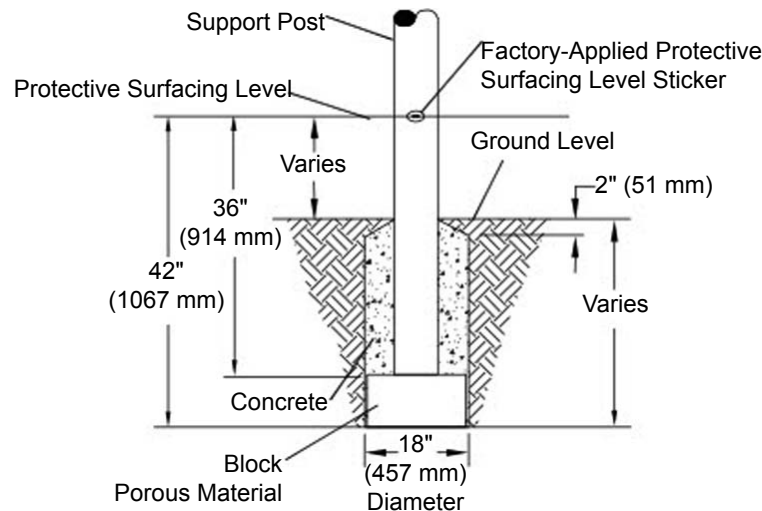
Footing Detail Support Post (EN)

Footings Details (in ground)

Footings Notes



GroundZero® Support Post Footing Detail ASTM/CSA Block Option

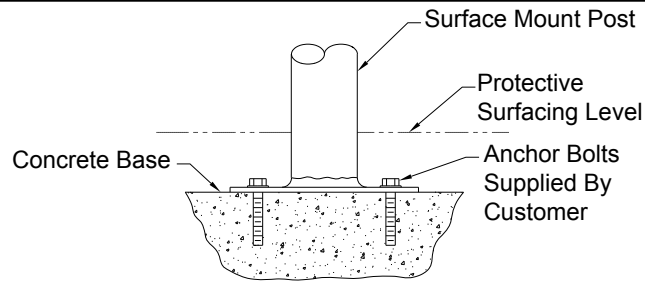


Support Post Footing Detail (ASTM/CSA) Block Option

FOOTING NOTES (IN GROUND)

- Support post footing depth equals 42 in. (1067 mm) minus the depth of the protective surfacing material. The posts are designed to have 24" (610 mm) in concrete.
Example: If 12 in. (305 mm) of wood mulch is used for surfacing, the footing depth would be 30 in. (762 mm).
- GroundZero® support post footing depth equals 54 in. (1372 mm) minus the depth of the protective surfacing material. The posts are designed to have 36" (914 mm) in concrete.
Example: If 12 in. (305 mm) of wood mulch is used for surfacing, the footing depth would be 42 in. (1067 mm).
- Most support posts and component support legs will have either a factory-applied sticker with a line, or factory-applied mark designating the level of protective surfacing on a clear and level installation site. The footing depth measurements are based on this line/mark.
- If the play equipment is installed on uneven terrain, maintain support post mark for the protective surfacing level at the lowest grade. Adjust other footings accordingly. Support posts and all attaching decks and play components must be plumb and level.
- Do not encase the bottom of the support post in concrete. Place the post directly on packed stone or other porous material.
- The footings shown on Playworld Systems' documentation are recommendations based on historical performance in average soil conditions. Footing dimensions may be modified by the owner based on actual soil conditions.
For example:
 - If local soil is loose or unstable, a larger footing may be required.
 - If local soil is considered stable, such as bedrock, clay or hard packed earth, a smaller footing may be used. Before changing footing dimensions, we strongly recommend that the footings be reviewed and approved by a registered engineer.
- The base of the footing must be below the frost line.
- Assemble the entire structure before pouring concrete unless specifically instructed to do so in the installation instructions.

Footing Detail (surface mount)



Surface Mount Footing Detail

Footing Notes

FOOTING NOTES (SURFACE MOUNT)

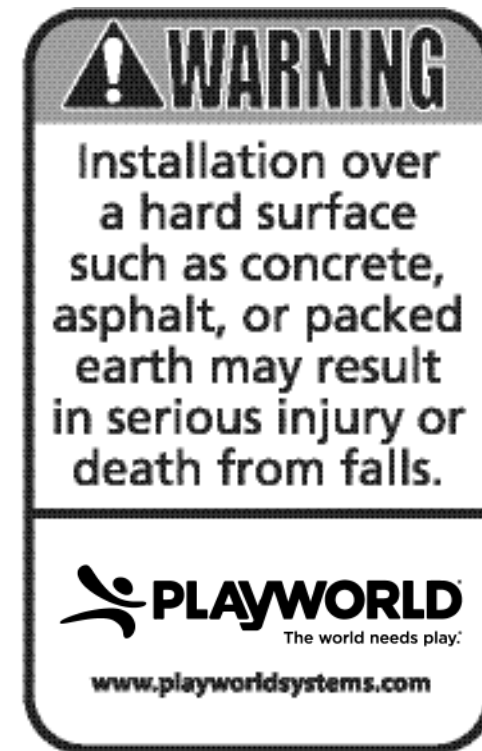
- Most support posts and component support legs will have either a factory-applied sticker with line, or factory-applied mark designating protective surfacing level on a clear and level installation site.
- If the play equipment is installed on uneven terrain, maintain support post mark for the protective surfacing level at the lowest grade. Adjust other footings accordingly. Support posts and all attaching decks and play components must be plumb and level.
- The footing size may vary due to local soil and weather conditions.
- Base of footing must be below frost line.

Surface mount hardware is not supplied. Customer is responsible for concrete base and providing surface mount hardware as specified by a registered structural engineer for each specific project application.

FINAL INSPECTION

- Playworld Systems® insists on the installation of protective surfacing within the use zone of each play structure in accordance with the applicable standard or specifications appropriate for the fall height of each structure.
- Playworld Systems® strongly recommends close supervision of children as they play. The owners of playground equipment and the parents or guardians of children are responsible for this proper supervision.
- As the owner of playground equipment, you are responsible for the maintenance of the equipment and surrounding play area. A comprehensive maintenance and inspection schedule must be developed and all equipment inspected frequently. Refer to the inspection and maintenance schedule in the back of this booklet.
- Perform a thorough final check on the installed equipment to insure all equipment is installed as specified by manufacturer's installation instructions.
 - Review all Installation Instructions for specified dimensions. Make sure dimensions called for in instructions agree with actual installation.
 - Double check height dimensions. Height measurements are taken from the top of the protective surfacing material.
 - Insure all fasteners are tightened according to tightening torque specifications listed on your installation instructions.
 - Insure all exposed pipe ends have properly installed end caps. Insure that drive rivets are secure.
 - Clean dried concrete off of components and any other affected surface.
 - Touch-up any scratches or installation damage to powder coated finish with color-matched spray paint.
 - Allow adequate time for proper curing, both for concrete and urethane cement if rubber safety surfacing tiles have been installed.
 - Insure that protective surfacing is properly installed according to C.P.S.C. (or other appropriate body) recommendations. Footings must not be exposed.

- Insure that hard surface warning/Playworld Systems® identification labels are properly affixed to the play equipment. Labels are to be plainly visible according to current playground equipment guidelines. For locations complying with ASTM F1487 or CSA Z-614, Age Appropriate labels must also be applied in a visible location.
- Dispose of all packaging material properly. These materials which include large plastic bags and sheets can be a suffocation hazard. Dispose of these materials out of reach or contact of small children.



Surfacing Warning Label