

Guidance on securing portable XC obstacles

General Introduction | Guidance on Securing Portable XC Obstacles



This document is a supplement A Guide To Cross Country Course Design and should be read alongside this document until such times as a new edition of the Guide is published.

While the philosophy and rule around the securing of XC obstacles has not been updated the knowledge concerning XC obstacles and resources for securing XC obstacles has changed in the last few years.

Today there are several different ways to secure XC obstacles to the ground; from posts (half-round/rounds), to ground-anchors/screw (eg Spirafix®) to metal pins of various kinds. Today, these options represent best practice. **Securing XC obstacles with wooden battens is no longer an acceptable practise.**

Philosophy

All reasonable steps must be taken to ensure that portable fences are secured in a way that will minimise the risk of them moving if hit by a horse. A “Belt and Braces” approach (too many fixings rather than too few) is a good one to have as fences lifting or moving may increase the chances of a fall.

ESNZ Rules of Eventing

665. 2. 1. Type of Obstacles/General

The obstacles must be fixed and imposing in shape and appearance. When natural obstacles are used, they should, if necessary, be reinforced so that they remain in the same state throughout the test. All reasonable precautions must be taken to prevent the possibility of an Athlete being able to pass mounted under an obstacle. Portable fences must be secured to the ground in a way that they have no possibility to move if hit by a Horse.

Posts

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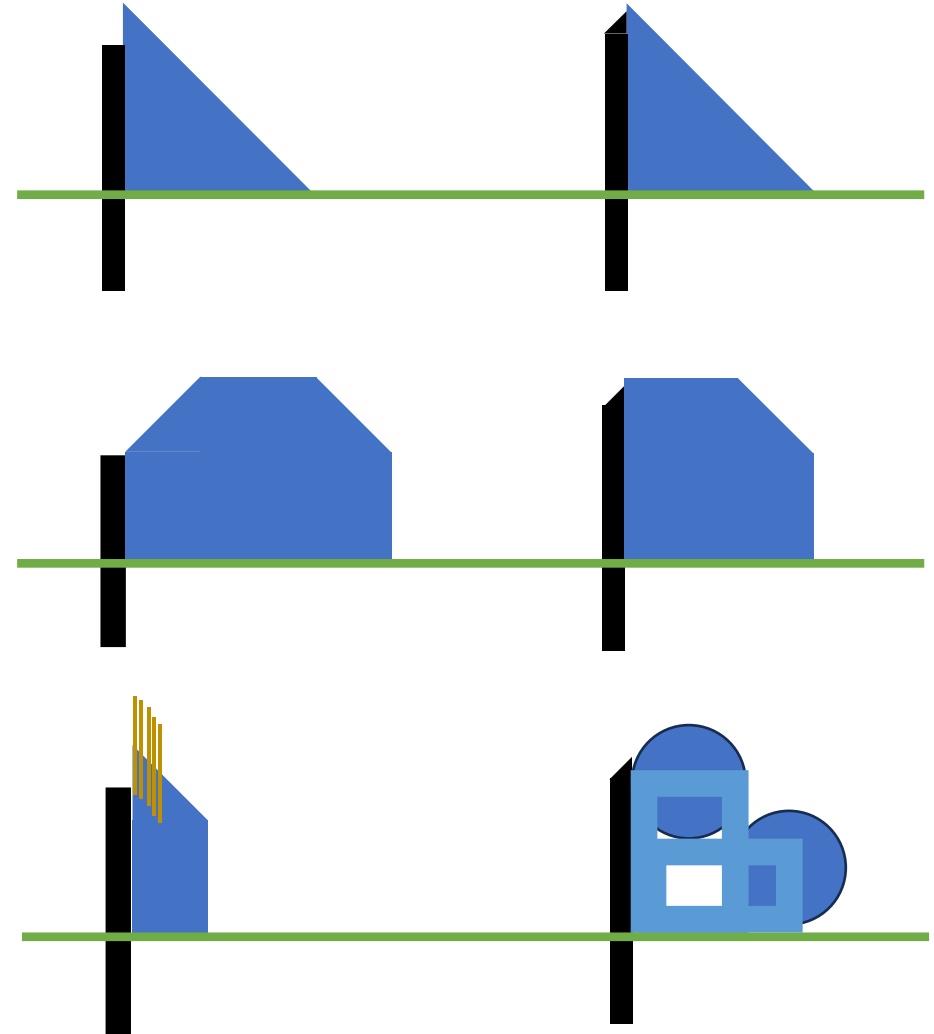
Posts are still an appropriate and often easy way to secure portable obstacles.

Predominantly posts are placed at the back of portable obstacles, one on the righthand side and another on the lefthand side. This is true even for narrow obstacles.

Obstacle with posts at the back may still require posts at the front or another method of securing the front of the obstacle to stop it lifting.

The top of the post securing an obstacle should be below the height of the fence and tapered away from the fence.

Posts should be between 600-800mm in the ground would be the norm, but ground conditions could require them to be deeper in the ground. The posts should be at least three quarters of the height of the fence above the ground or the same height at the leading edge of the fence.



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Type of Posts

Full round or half round No1 and No2 post are best used for securing obstacles.

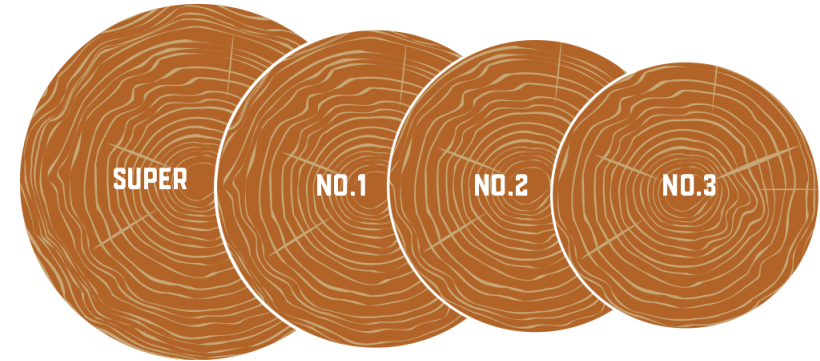
Try to avoid using posts with lots of knots as this can weaken the post. The length of the post will depend upon the height of the fence

**If you're in doubt
always go bigger**

Digging in or ramming

Ramming posts with post rammer is quickest method.

If digging in a post do not make the diameter of your hole too big – just enough for the post and a hand held rammer to secure the post home around the back of the post. Post should be flush to the hole edge and back of the fence.



No.1 - 115 - 139mm
No.2 - 90 - 114mm
No.3 - 65 - 89mm



No.1 - 175 - 200mm / No.1 - 160 - 175mm
No.2 - 150 - 175mm / No.2 - 140 - 159mm

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Securing Post to Obstacle

Posts should be secured to portable obstacles via screws into the portable obstacle's frame and not into just into the cladding.

The screws need to go through the post and well into the framing of the portable fence through any cladding to ensure the obstacle is secured to the post.

The best screws for securing posts to portable fences are galvanised screws.

Screws should be a minimum 150 mm long with diameter of no less than 8mm or 14G and ideally self-embedding.



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always go bigger ◀**

Ground Anchors

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Ground anchors and bracket are another method of securing portable obstacles (Spirafix system).

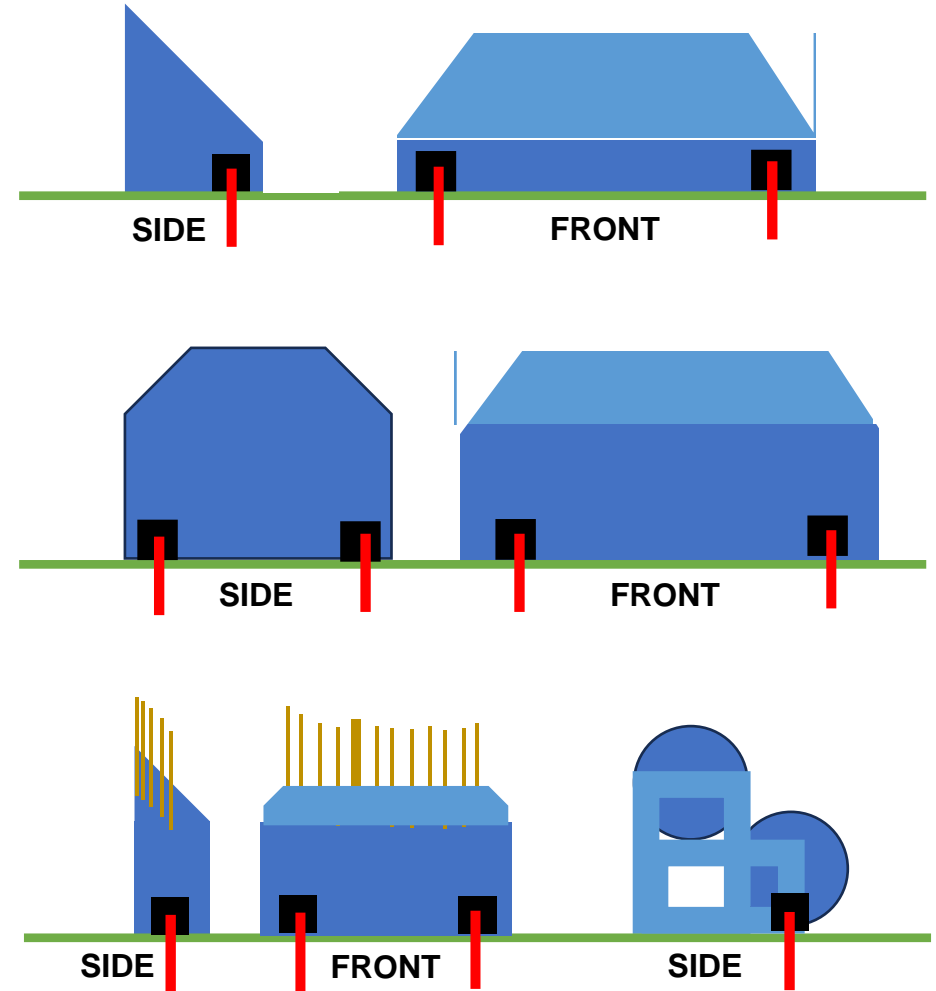
The ground anchors must be at the front of the fence rather than at the back, or at the front as well as the back. At least two must be used

In the illustrations opposite:

- the black square represents the metal anchor plate that needs to be attached to the portable obstacle – through any cladding into the frame.
- the red rod represents the screw anchor that fits through the metal plate and driven into the ground.

Ground anchors must be used with a metal anchor plate which is attached to the portable obstacle and not by themselves.

Anchor brackets should not be removed off jumps once attached as the repeated application of metal anchor plates will reduce the structural integrity and strength of the point of attachment to the portable obstacle.



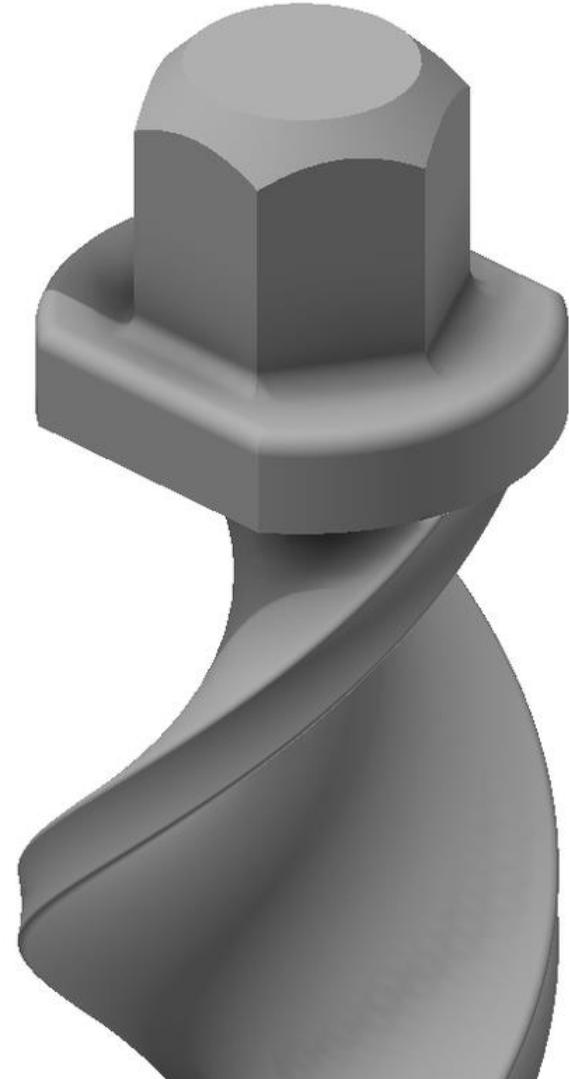
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Ground anchors (Spirafix C type)

There are two lengths of ground anchors available (460mm and 620mm) in two diameters (40mm and 50mm) commonly available in New Zealand from a number of suppliers

- Neil Mosley
- Chris Lever (via Australia)
- John McGiven (aluminium)
- Spirafix (via Allied Fastening, Auckland)
- Spirafix (via Wayne Coppins in Australia)

It is important that the appropriate one is used depending on the soil type. I.e. long ones in sandy soil.



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Ground anchors brackets (Spirafix C type)

The ground anchor brackets are the second and equally as important part of the whole Ground anchor system for securing portable XC fences

The brackets need to be firmly secured to the frame of the portable XC obstacle. As close to the ground level as possible to maximise the length of the anchor screw that goes into the ground.

The strength of the screws and the number of screw use to secure the ground anchor bracket to the fence also defines how well the portable obstacle is secured to the ground.

Finally it is important to screw the anchor bracket across the grain of the wood of the portable obstacles frame timber. As this provides the greatest holding strength for the screws. It is not advisable to attached ground anchor brackets to the end of timber framing of a portable obstacle i.e. with the grain of the timber as screws will pull out more easily..



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Ground anchors brackets (Spirafix C type)

In terms of types of screws to use for attaching the ground anchor bracket – it is best to use 14G screws..

- 65mm long Hex head or bugle screws are a good starting point



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Installation

Using a sledgehammer or lump hammer, along with a manual hammer cap installation is achieved by impacting the anchor into the ground, we recommend multiple moderate impacts versus heavier larger impacts to allow the anchor to rotate into the ground with each impact.

The tools needed:

- A Hammer Drill, or Impact Driver, for screwing the ground anchor bracket to the portable XC obstacle.
- A sledge hammer or lump hammer is required for driving in the ground anchor into the ground. A protective cover for the top of the ground anchor is a good idea. Damaging the “nut” head of the ground anchor hammering it in can make taking it out difficult
- An impact wrench or driver or hinged brake bar plus a k## inch/mm socket to fit on the head of the ground anchor should be used to remove the ground anchor.



<https://youtu.be/mYX2jfra2M4>

Pegging

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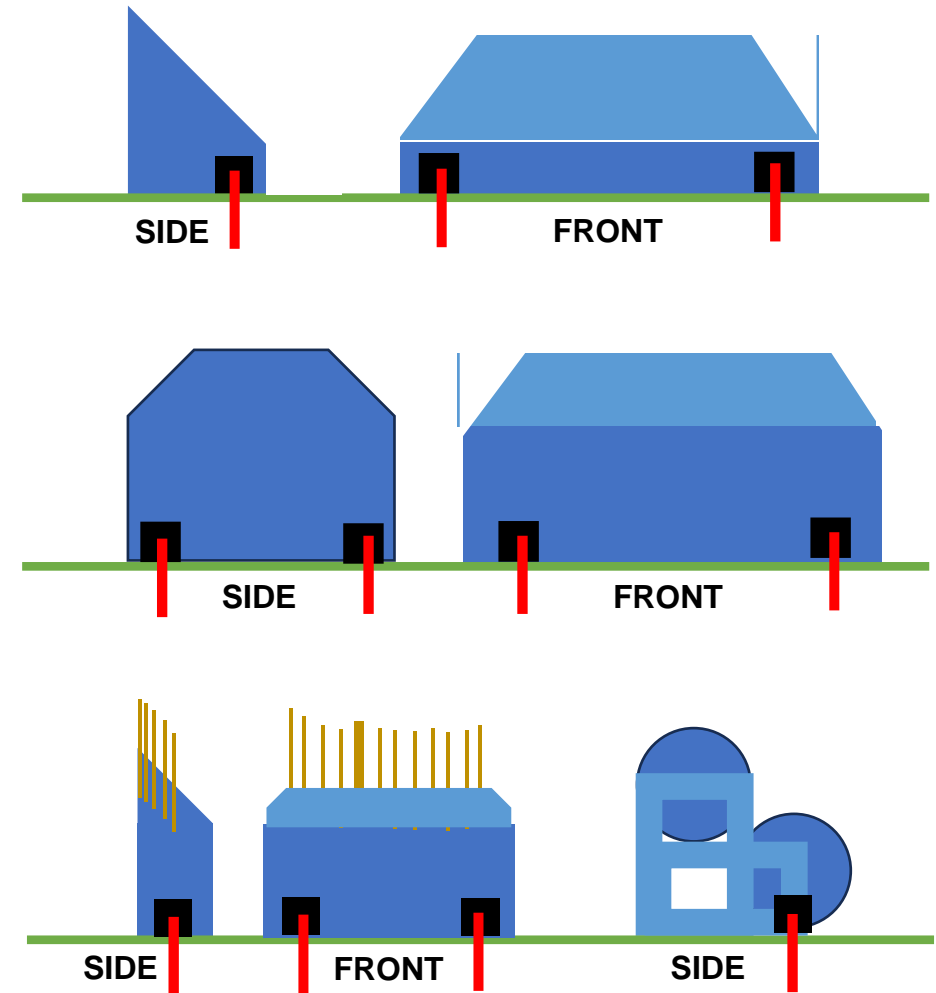
There are a wide variety of other pegs that are and can be used as ground anchors to help secure portable XC obstacles

- Re-enforcing steel rods / rebar stakes
- Steel Stakes

These types of pegs are only appropriate at non “Star” levels that is CCN95, CCN80 and CCN65

Even then the Ground Anchors and Brackets (Spirafix) and posts represent the best practice method of securing portable XC obstacles.

Wooden pegs are no longer an acceptable method of securing portable XC obstacle. Unless the dimensions of the wooden pegs match those of No1/No2 half rounds posts at a minimum. In addition, wooden pegs need to be installed as per posts - see page ## - i.e. to a depth of 600-800mm and at least three quarters of the height of the fence above the ground



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Re-enforcing Steet Rods / Rebars

The diameter of any re-enforcing steel rods/rebars should be no less and 16mm

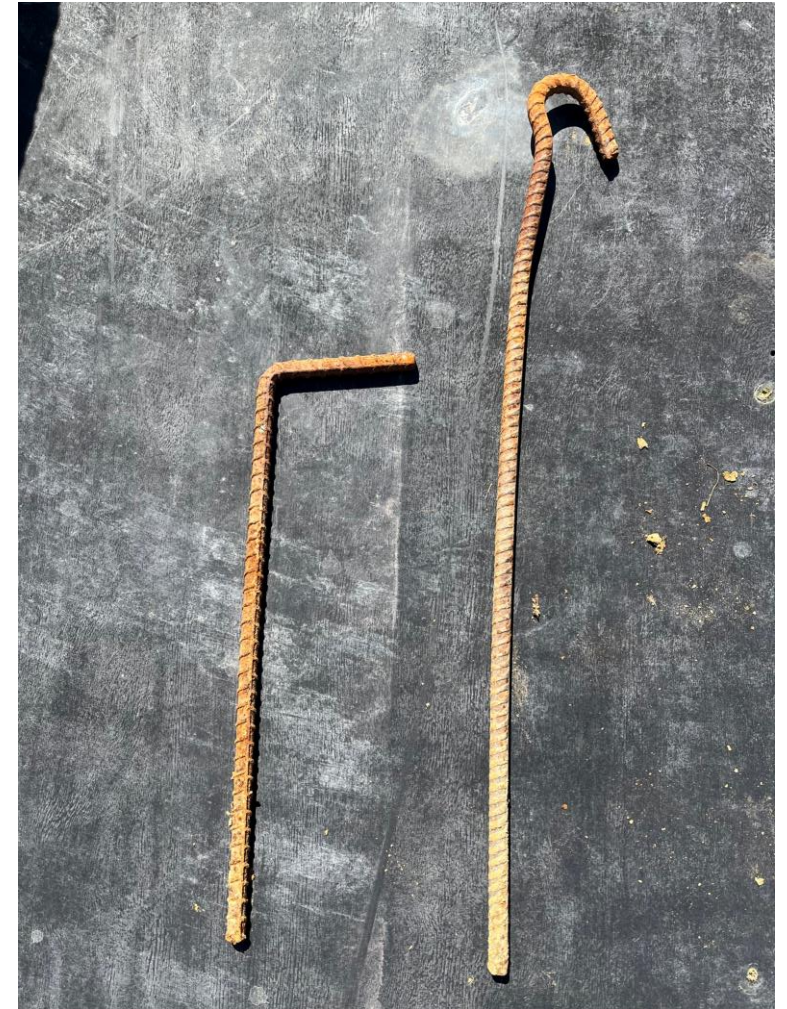
The rod needs to go into the ground below the portable XC obstacle by at least 400mm.

The rods can have a cap at the top or bent over at right angle or bent over in a u shape loop.

They are to be used in conjunction with a bracket on the portable XC obstacle similar to that used for ground anchors (Spirafix) or through a whole in the skids or frame of the portable XC obstacle.

The rods should be hammered into the ground at an angle to the portable xc obstacle

Rods are best used at the font of an obstacle and on both sides or at the font and back on both sides



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Steel Stakes

These should be flat with holes drilled at one end so the stake can be screwed to the portable XC obstacle and tapered at the other end to help with hammering them into the ground

The stakes should go into the ground below the portable XC obstacle by at least 400mm.

The stakes should be hammered into the ground at an angle to the portable xc obstacle

The stakes are best used at the front of an obstacle on both sides or at the front and back of the obstacle on both sides

