

# Torc Ground Anchor – Series II

## Fitting Instructions for Concreting-In

Copyright © 2012-2016 Pragmasis Limited  
(11-Aug-16)

### Important Requirements

**Caution:** Be careful that you do not drop the anchor on your foot or allow the shackle to fall on a finger!

Any security installation is only as strong as its weakest link:

The Torc Ground Anchor must be used in conjunction with an appropriately fitted Sold Secure-approved lock and chain.

The integrity of the anchor is dependent upon the quality of the surface to which it is fitted. If you are laying fresh concrete, you should use a structural mix of concrete and not a *post-fix* mix such as is sold for fence posts. A *foundation mix* is fine.

Separate fitting kits are available for installation on pre-existing concrete floors and other situations.

If you are unsure, please contact your supplier for advice.

### What Tools Will I Need?

The fitting kit includes all parts that are required, except for the concrete. The only other items you will require for concreting-in are:

- Tools for digging the hole and mixing the concrete (e.g. a pick axe, a spade or shovel)
- Concrete materials (either ballast (sand & gravel) and cement, or gravel, sand and cement, or a *foundation ready-mix*)
- A flat wooden board to mix the concrete on, e.g. 100cm x 100cm
- Buckets of water (both for the concrete and for cleaning tools afterwards)
- Optionally, a trowel for smoothing the surface of the concrete
- A 17mm AF spanner or socket or adjustable wrench
- A medium sized hammer (a 4lb/2kg club hammer is fine)
- Eye protection – goggles or a visor should be worn (splashes of cement in the eye can be very painful!)
- Gloves – cement can be harmful when in prolonged contact with skin

### How Long Should I Allow to Concrete-in an Anchor?

Probably 60 minutes as a guideline, if the hole is already prepared. Be careful and don't rush.

### What Parts Should be in a Concrete-in Fitting Kit?

The Torc anchor concrete-in fitting kit contains:

- Anchor mounting plate with 4 fixing holes
- Bent mounting legs (qty. 2)
- M10 x 40mm long high tensile (10.9-rated) hex socket countersunk-head bolts, fully threaded (qty. 4)

- M10 nuts (qty. 4)
- M10 spring washers (qty. 4)
- Hardened steel ball bearings to suit bolts (qty. 4)
- 6mm hex wrench (*Allen* key)
- 6mm AF x ¼" Hex Driver bit to suit bolts
- M8 x 50mm hex head bolt (to be used as a punch)
- These instructions

## How to Fit a Concrete-in Torc Ground Anchor

The Torc ground anchor is designed to be fitted by any competent DIY enthusiast.

**You should read through these instructions in their entirety *before starting to fit an anchor*.** If you are not confident of your ability, you should ask an experienced person or professional builder to help.

In the following instructions, the term *bike* is used to mean any valuable item that you wish to secure with your ground anchor.

- 1. Check the contents of the Fitting Kit:** Ensure the fitting kit is complete (the items are listed above). Contact your supplier if there are any parts missing or damaged.
- 2. Choose a good location:** Be careful to choose an appropriate location for fitting your anchor, clear of any underground pipes, cables etc (the use of a metal detector or other pipe/cable detector is recommended if you are unsure). The anchor is designed for permanent installation so take time to ensure the chosen position will allow you to secure your motorbike with the chain etc that you have chosen. Putting the anchor near a corner or other location such that the bike restricts access to the anchor can make it a lot harder for a criminal to attack, as can keeping chains and locks off the floor. We recommend that you place the anchor in the intended location and check that you can get the bike into position and then ensure you can actually fit the chain & lock. Time spent now checking the intended location is much better than realising later that you can't get the bike within the range of your chain!
- 3. Dig the hole:** The concrete should fill a space that has been excavated in advance, measuring *at least* 600 x 600 x 150mm, or *at least* 450 x 450 x 250mm. The larger the volume of concrete and the more it is *keyed-in* to the surrounding soil etc, the better.  
These dimensions will require *approximately* 100kg of concrete mix to fill them.

If you *undercut* the edges of the hole, so that the hole is widest deeper in the ground, the more retention the anchor will have when the installation is complete.

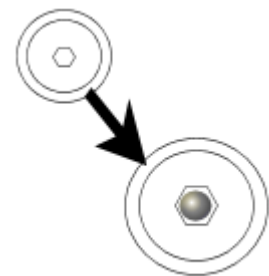
**Remember that any anchor is only as good as the substrate/base it is fitted to. If you only dig a small hole, the anchor will be more vulnerable than if it were fitted to concrete filling a good-sized hole.**

- 4. Mount the anchor and shackle on the mounting plate:** Taking care with the **growing weight of the assembly**, place the D-shaped shackle against the centre of the mounting plate and put the anchor in position over it so that the shackle is held in position by the cut-outs in the anchor base plate and the four bolt holes line up with the mounting plate. Carefully, put the first two mounting bolts through the anchor, through the mounting plate, through one of the bent mounting legs and fit a spring washer and nut onto each of them, behind the bent mounting leg. Repeat for the other two bolts and second mounting leg. This secures the anchor and shackle, loosely, to the mounting plate and to the mounting legs. **DO NOT FORGET TO PUT THE SHACKLE AGAINST THE PLATE FIRST!!!**

5. **Tighten the bolts:** Using the L-shaped hex wrench (*Allen key*) provided and a 17mm spanner/socket or adjustable wrench, tighten all four bolts & nuts evenly until they are all tight. There is no need to use any extra leverage than the arm of the hex wrench.
6. **Check all four bolts are fully home:** Once you have tightened all of the bolts, check that they are all fully home and in contact with the metalwork. The ground anchor should now be held tightly against the mounting plate and the mounting plate should be held tightly against the bent bars. The following photos show how the assembly should look:



7. **Insert the ball bearings:** Place the anchor/plate/bars assembly the right way up on a hard but unimportant surface and hammer one of the ball bearings supplied into the hexagonal head of each bolt. You may find the extra M8 x 50mm bolt is useful as a *punch* to reach the bolt heads – the end of the bolt has a slight dimple that will locate on the ball bearing. The ball bearings are a very tight fit so it will take a few hammer blows to drive them into the bolt heads. Be careful not to hit your fingers! 😊



8. **Mix the concrete:** Typically, the following proportions are appropriate, either:
- a) 6 parts of Ballast (sand and gravel) to 1 part of cement, or
  - b) 4 parts gravel to 2 parts sand to 1 part cement.

These above measures are all *by volume*, e.g. corresponding to shovel-fulls.

Alternatively, use a *foundation* ready-mix, where the constituents have been pre-mixed for you. Avoid using a post-mix or any other weak concrete or mortar mixes (bricklaying mortar or rendering or plastering mixes are *not* suitable!).

If you purchase materials in 20kg bags, you are likely to need a total of 5-7 bags to fill a hole with the dimensions given above.

Wearing gloves and eye protection, mix the ingredients until they have a consistent colour. Ensure that the cement is evenly distributed through the other materials – there should not be any dusty cement at this stage as it should all be mixed with the sand and gravel.

Add water, very steadily, and mix thoroughly. You want to get a slurry that will only just flow a little and that will retain some shape in a heap. It is much better to add a little water and to see that the mix is still dry so that you can add a little more water, than to add too much water and to have to add more cement & sand & gravel to get a good consistency in the mix. Adding a little water, several times, and mixing thoroughly through the whole heap is a much more reliable and quicker way of getting a good mix.

You may find that it is easier to mix the concrete in two or three goes, rather than trying to mix it all at once. This will also allow you to gauge the amount required to fill the hole accurately, without having a lot of mixed concrete left over. If you do mix it in multiple batches, you should complete all of them within an hour because you need to set the ground anchor into wet concrete *and* because you want the concrete to set as a single mass, without cracks or gaps.

9. **Put the concrete and the anchor into the hole:** Whether mixing the concrete in one go or in batches, you should fill the hole promptly. You can smooth the surface of the concrete with a trowel, if available, or with the back of a spade or shovel. You should find that by *working* the concrete mix slightly, you can get the surface to smooth out. Then, carefully, push the anchor assembly into the wet concrete in the intended location. You will need to wobble the anchor assembly as you push it into the concrete to allow the concrete to bed in around the mounting legs. Take care with the weight and to keep the anchor itself reasonably horizontal. Also, be careful not to allow any of the concrete mix to get caught up in the pivot area for the D-shackle. If any concrete does get caught in that area, it is recommended that you remove the whole assembly away from the concrete and pour plenty of water through the pivot area to be sure it is free of concrete before placing the assembly back into the concrete.

Once the anchor mounting plate is sitting flat on the surface of the concrete, you can smooth the surrounding concrete finally if required.

Clean your tools before the concrete starts to set! Cement is harmful to the environment so take care with how you dispose of the washings from tools and any surplus mixed concrete. Avoid allowing any cement or concrete mix getting into any streams or other watercourses as it will kill fish and other organisms.

10. **Leave the concrete to harden:** Do not disturb the anchor while the concrete is setting. It should start to go hard after a couple of hours, and should normally be hard enough to walk on after two days.

11. **The installation is complete. Well done 😊**

## **Using a Torc Ground Anchor**

A properly installed anchor should give you many years of trouble-free service.

Remember that you must use an appropriately fitted Sold Secure-approved lock and chain to be confident in your security provisions.

No maintenance is normally required. Do not use any abrasives for cleaning.