

Duckbill Geotextile Anchor Specification



Registered Office: North House 198 High Street, Tonbridge, Kent, TN9 1BE
Company Registration No. 04023935, VAT Registered No. 656490607

Geotextile Anchors:

Anchor Systems offer three various types of geotextile anchor ranging in size and holding capacity. All anchors are made up of aluminium LM25 casting alloy and have a design life of up to 5 years subject to ground conditions.

Each anchor name represents that particular anchors holding capacity in medium dense ground conditions offering an anchoring system for all loading requirements.

- AS-20 – Holding capacity of 20kN
- AS-10 – Holding capacity of 10kN
- AS-0.5 – Holding capacity of 5kN

All geotextile anchor sizes can be installed using the below installation equipment quickly and efficiently.



Installation and Load Locking Equipment

Anchor Systems Easy reliable and rapid installation equipment is made up of three main components. 1) Easy to use drive steels designed for multiple and can be supplied in any required length to Taylor each application. 2) petrol Post Driver, a light weight 14.5Kg one man lift breaker that will install both AS-0.5, AS-10, AS-20 to required depths in a matter of minutes. 3) Lightweight aluminium Jack Jaw wire rope grip allows the user to remove the installation rod and to load-lock the anchor head with ease and speed in one operation.



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LANDSLIP PREVENTION, NELSON CLOSE, EXETER

Client: **Exeter City Council**
Main Contractor: **Dean & Dyball**
Installer: **Celtic Rock Services**

Requirements

To avoid the possibility of a landslip endangering nearby houses in Nelson Close, Exeter City Council appointed Dean & Dyball to stabilise an adjacent embankment.

The ground was secured by means of geotextiles and a gabion basket wall, all anchored using Duckbill mechanical ground anchors.



Installation

About half way up the 10m embankment a shelf was cut into the sandstone to allow the construction of a gabion basket wall which was to retain the soil, dense gravels and marl on the top half of the slope.

Material on the top half of the slope was stabilised with geotextile matting. This was anchored into the gravels and soil, to a depth of 1.2m, using Duckbill DB68 geotextile anchors.

The steel mesh gabion baskets were anchored into the sandstone, using Duckbill MR2 stainless steel anchors with 16mm high yield grip bars, before being filled with rocks to create a wall 2m high, 1m wide and some 45m long.

Anchor holes were pre-drilled by Celtic Rock Services who installed the anchors to a depth of 6m using a hand-held breaker. Anchors were proof tested to 45kN and then set to a working load of 20kN and terminated using a 400x400x10mm galvanised plate, nylon spacer (due to dissimilar metals) and load nut.

The completed project provides a fully anchored and stabilised embankment that should now pose no threat to nearby residents.

AVON CYCLEWAY, BRISTOL

Client: **South Gloucestershire Unitary Authority**
Engineers: **WS Atkins**
Main Contractor: **Christiani & Nielsen**

Requirements

A cycle route on the Avon Ring Road around Bristol was to be widened and refurbished by Christiani & Nielsen as part of the national Cycleway scheme which will create a countrywide network of interconnected, traffic-free, cycle routes and footpaths.

A section of the route contained a potentially unstable embankment that needed to be stabilised to prevent any possibility of future collapse which may endanger cyclists or pedestrians.

The system used to secure the embankments also had to satisfy South Gloucestershire Unitary Authority's requirement for an approved method which did not use grout and would therefore protect the environment in a sensitive area.



The load plates remain visible on three rows of Duckbill MR2 stainless steel anchors following installation to secure the embankment.

Solution

To ensure the stability of the route-side slopes, Duckbill mechanical ground anchors were specified by project engineers, WS Atkins, as they provided a rapid, cost-effective solution to the problem while complying with the Authority's other requirements.

In total, 130 stainless steel Duckbill MR2 anchors with 16mm high yield bars were driven 4m into the clay soils, using a special drill rig, by sister company, WT Specialist Contracts Ltd.

The anchors were proof tested to 40kN before being set to a working load of 20kN and terminated with 50mm² load plates.

In addition, Duckbill DB68 geotextile anchors were used to secure geogrids that will aid the growth of vegetation, to grip the top soil and prevent surface erosion, and enable cyclists



The completed cycle route with geogrids and top soil in fully stabilised embankment.

Use of Geotextile Anchors

Anchor Systems (Europe) Ltd, Unit 45 Rowfant Business Centre, Rowfant, West Sussex, RH10 4NQ.



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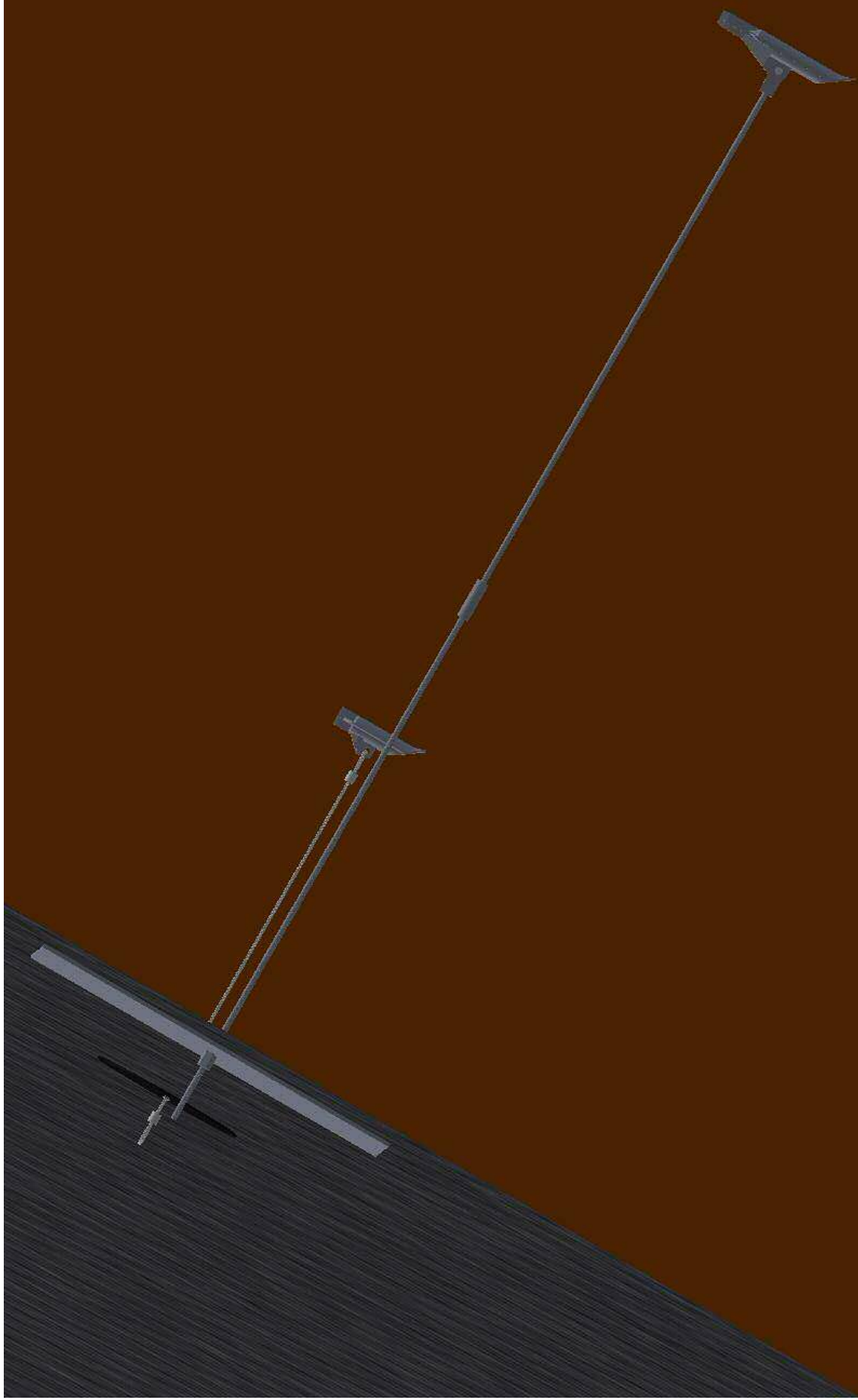


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AS-5 Geotextile Anchor

Complete with recess wedge grip

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AS-5 Geotextile Anchor

Capping Plate, Clam-Cleat and Paracord

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AS-5 Geotextile Anchor With Aluminium End stop

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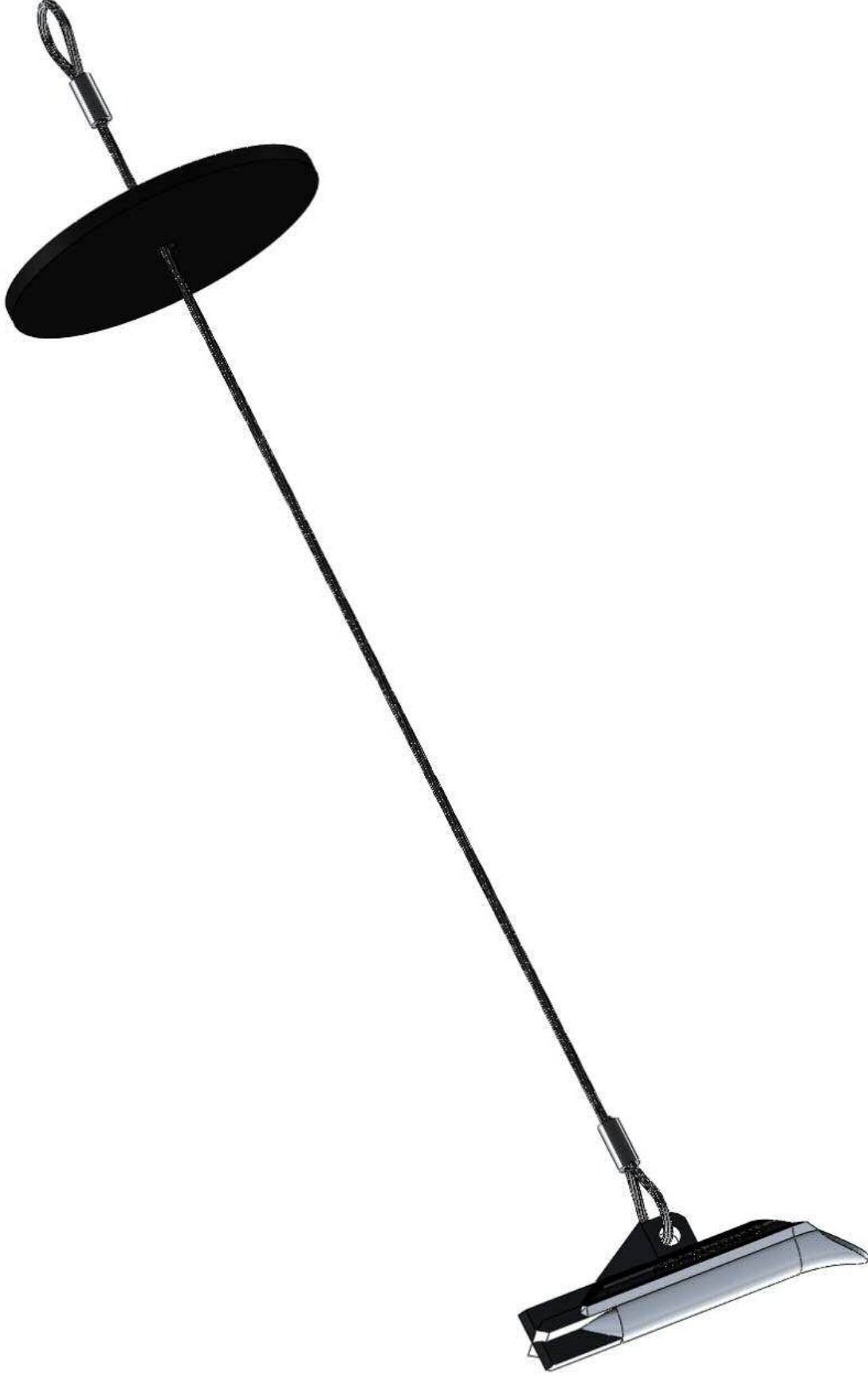


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AS-5 Geotextile Anchor With Nylon Recess Plate

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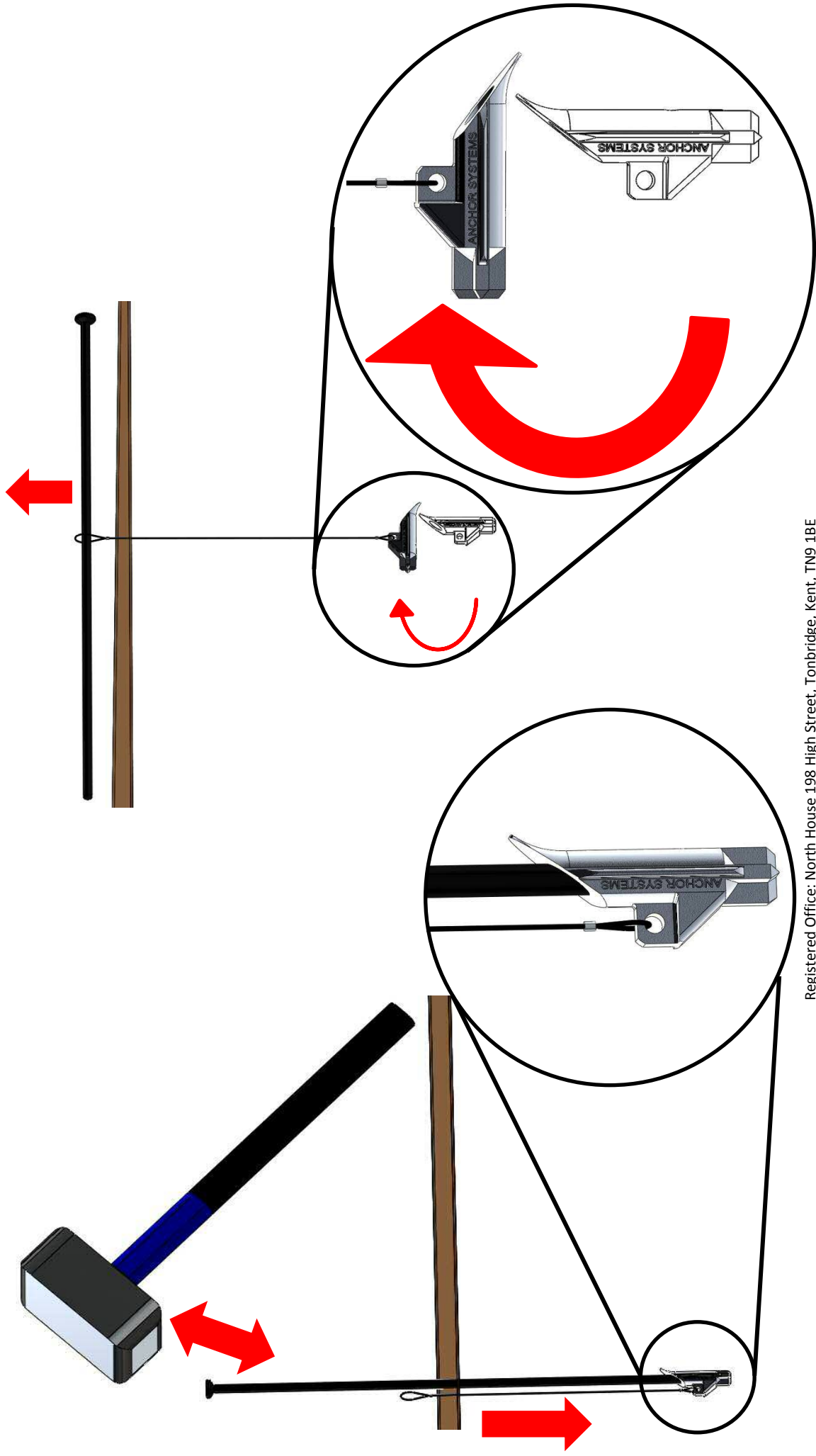


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Rootball Fixing Kit

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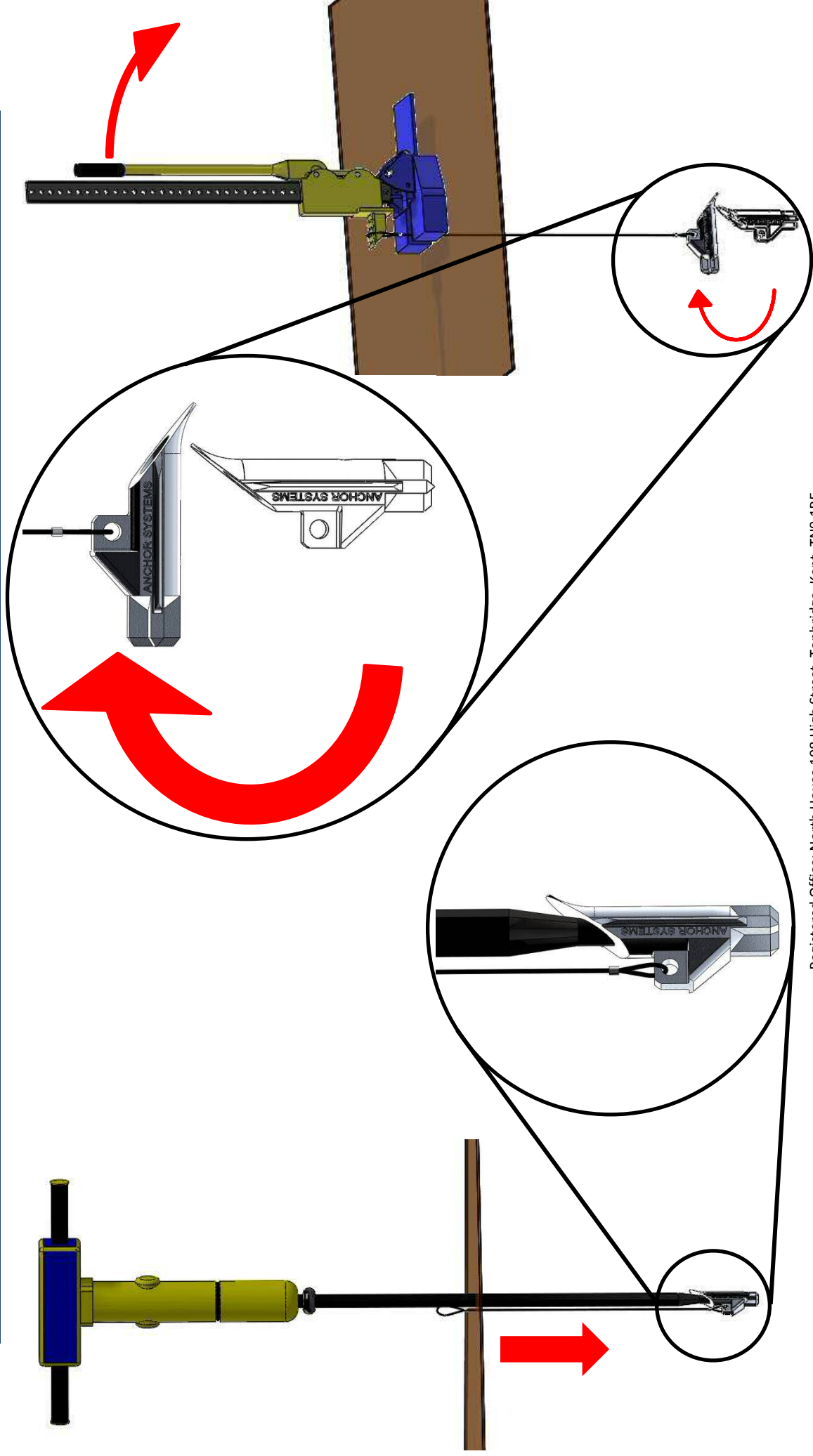
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