



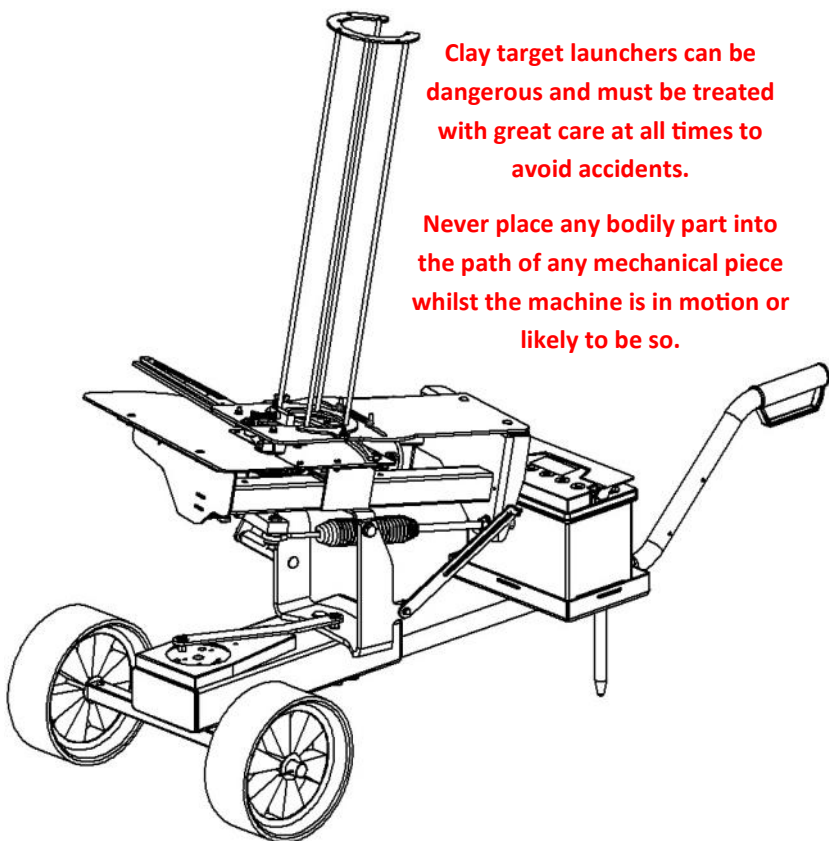
# Operating Instructions

## Wobble units - Super Hawk

### WARNING

Clay target launchers can be dangerous and must be treated with great care at all times to avoid accidents.

Never place any bodily part into the path of any mechanical piece whilst the machine is in motion or likely to be so.



You must treat a clay target launcher with the same caution that you would treat a loaded gun. Assume at all times that a clay target launcher is armed and loaded and treat it accordingly



This document must be read in full before attempting to operate the machine



### 12v DC Power Source:

This product is designed to be powered from a 12v DC battery, it **SHOULD NOT BE DIRECTLY CONNECTED TO HOUSEHOLD AC POWER**

**Battery:** Where a trap is connected to any other suitable power source i.e. a Transformer - the relevant sections of instructions should still be observed, i.e. "Disconnect the battery" and applied to this or any other power source.

### **WARNING THE TRAP MUST BE MADE SAFE BEFORE CONTINUING - SEE BACK PAGE**

#### **Dis-assemble the trap from its base**

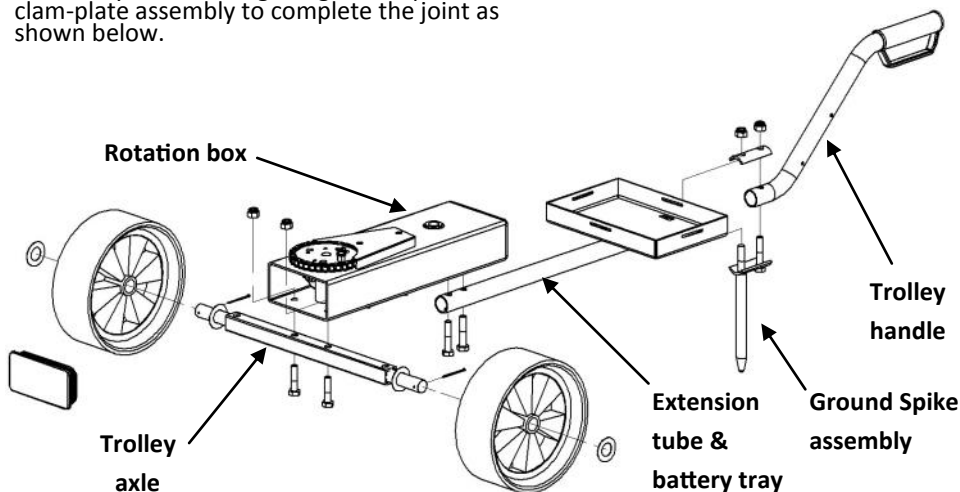
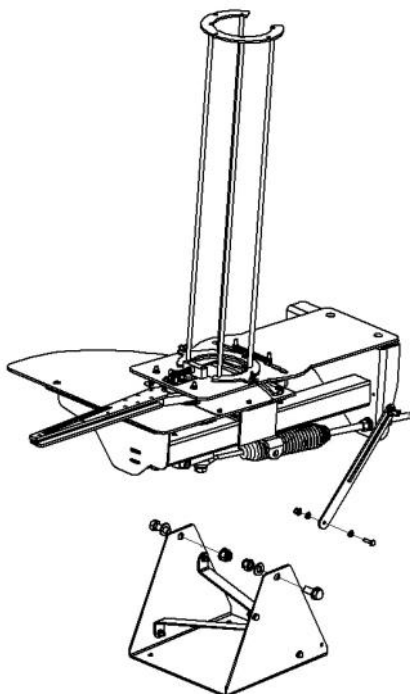
The rotation box forms the basis of the trolley spine. A swivel piece mounted to this acts as a mount for the trap and replaces the trap's existing base.

As supplied your trap will be fitted to a pressed steel base plate (with diagonal braces) it should be removed from this base complete with its rear support stay, this stay and some of the existing fasteners will be required to complete this assembly.

#### **Assemble the Rotation box to the trolley base:**

Fit the trolley axle to the front (gear wheel) end of the rotation box, fit the bolts from below with the nuts secured inside the rotation box. For each wheel fit a brass washer before & after and secure in place using a split pin.

Fit the extension tube battery tray assembly to the rear end of the rotation box, followed by the trolley handle using the ground spike and clam-plate assembly to complete the joint as shown below.

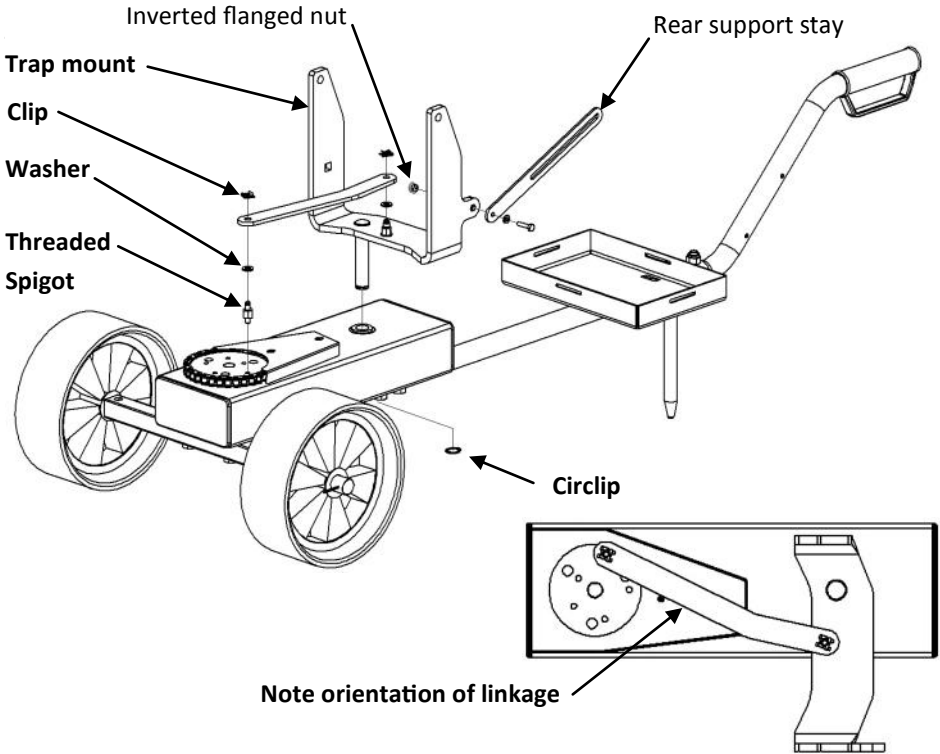


## Fit Trap mount & connect linkage to rotation wheel:

(All versions)

Insert the trap mount's lower pin through the bearing in the rotation box as shown below, secure with the circlip provided. Fit a threaded spigot to the trap mount, then fit a lightly greased washer, attach the short end of the linkage as shown below and secure with a spring clip which simply slides into the fine groove, snapping in place over the end of the shaft.

Fit the other threaded spigot into any of the holes of the rotating wheel, fit another lightly greased washer to this spigot and connect the other end of the linkage with a spring clip as before.



## Mount the trap onto the base:

The trap should now be mounted onto the trap carrier. Use a nylock nut and washer on the pivot points, tighten these until the trap can just pivot freely on the base without any resistance being felt.

## Rear support stay:

If a rotation box only is fitted (DTL trap) the rear support stay (removed from the old trap base) should be fitted to the trap mount using the original bolt & washer as shown above. Note this is fixed into the hexagonal hole in the trap carrier using the locking nut "backwards" i.e. the hexagon is placed into the hole and the bolt fitted through it so that the flange is on the inside of the trap carrier locking the assembly in place.

If an elevation box is to be fitted (ABT trap) the rear support stay should not be fitted as this could allow the frame to become locked causing damage to the elevation motor or linkage.

## Assemble the Elevation box and bracket (Where fitted)

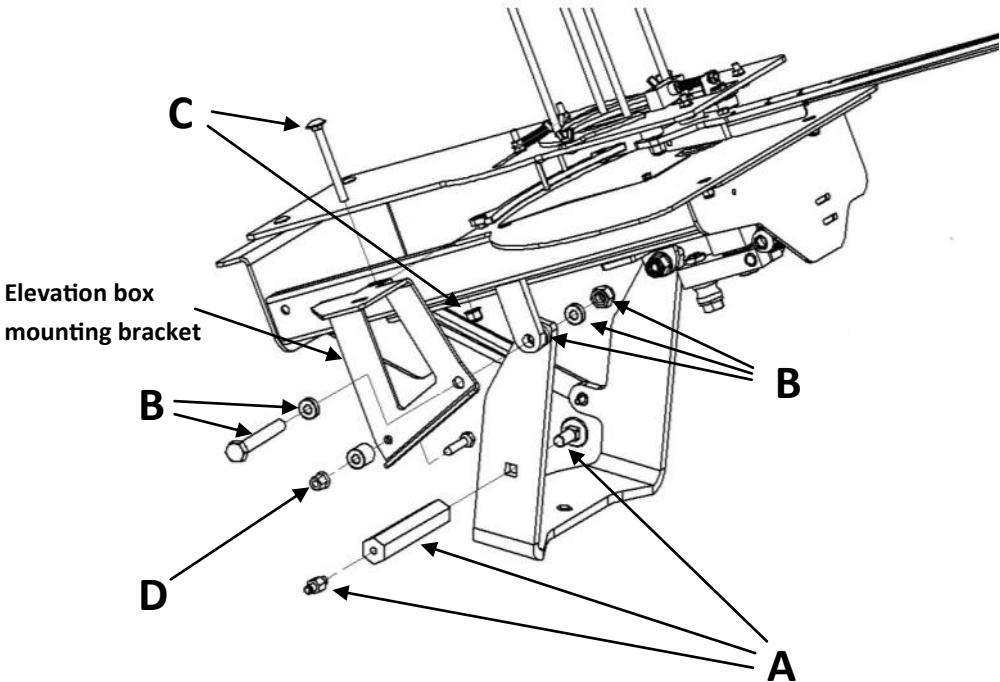
Insert the short M12 cup square bolt into the mounting hole in the side of the swivel bracket and fit the long hexagonal stud onto it (A on diagram) tightening this securely to the frame member, next insert a threaded spigot into the other end and tighten this in place.

Attach the elevation box mounting bracket to the trap's right hand pivot point using the longer M12 hex head bolt and 3 washers (B on diagram) lightly grease the centre washer (between trap pivot and mount, then secure this assembly on the inside with an M12 Nyloc nut. Similarly secure the trap's left hand pivot point using the shorter M12 hex head bolt and 3 washers, again apply grease to the centre washer and secure with an M12 Nyloc nut. Do not over-tighten as these are the main pivot points.

Fix the bracket to the trap frame using the Long Cup square bolt vertically through trap frame (C on diagram) secure below with an M8 nyloc nut.

At the rear of the bracket loosely place the M8x40 Cup square bolt and the shorter nylon spacer (D on diagram) but do not fit the nut yet.

Check that the trap pivots freely on its mount without any resistance being felt (too much resistance would cause premature wear to the elevation components as well as excessive battery drain).



## Fit the Elevation box to the bracket

Remove the large black plastic plugs from the ends of the elevation box (taking care not to dislodge the electrical wiring from the motor) this will allow a clear view of the internal keyhole slots in the rear face of the box.

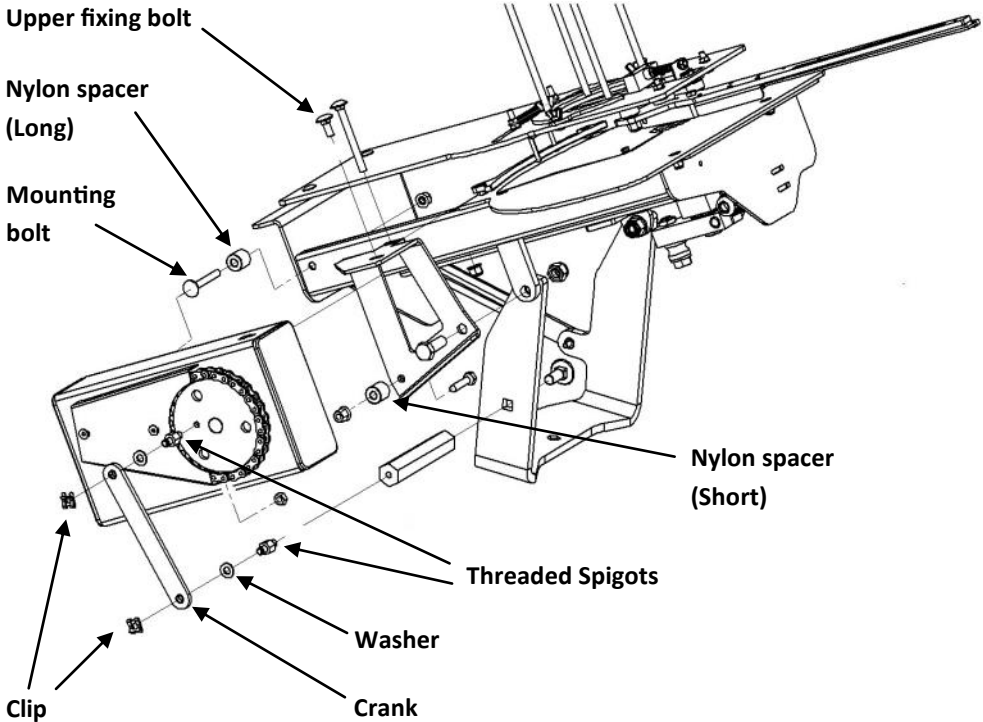
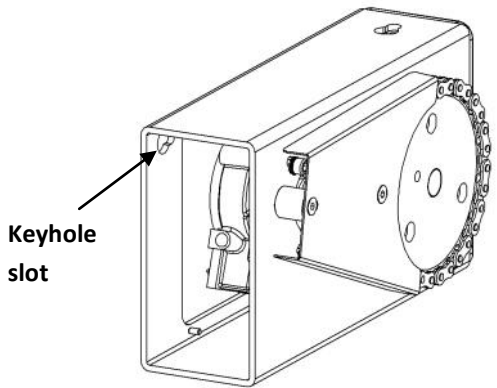
The elevation box has two keyhole shaped slots in its rear face, however on this model these are not used in the conventional manner.

Fit the elevation box to the bracket at the front by passing the M10 hex head bolt through the forward keyhole slot and securing internally with a Nyloc nut (Do not fully tighten yet).

At the rear of the trap pass the M8 cup square bolt through the rear keyhole slot and the longer nylon spacer, passing the bolt through into the hole in the trap's side frame ensuring that the flats of the cup square head sit properly within the thin part of the keyhole slot before securing with a Nyloc nut (Do not fully tighten yet).

Returning to the front of the elevation box, place the short M8 Cup square bolt (Upper fixing bolt on diagram below) through the keyhole slot in the upper face and securing internally with a Nyloc nut.

At this stage all three nuts should be fully tightened and the plastic end caps replaced.



Each of the threaded spigots should now be fitted with a lightly greased washer, followed by the crank fitted between them. The crank is secured by a spring clip at each end which simply slides into the fine groove, snapping in place over the end of the shaft.

### Connecting the electrical wiring:

Remove the black end plug (control panel) from the rotation box.

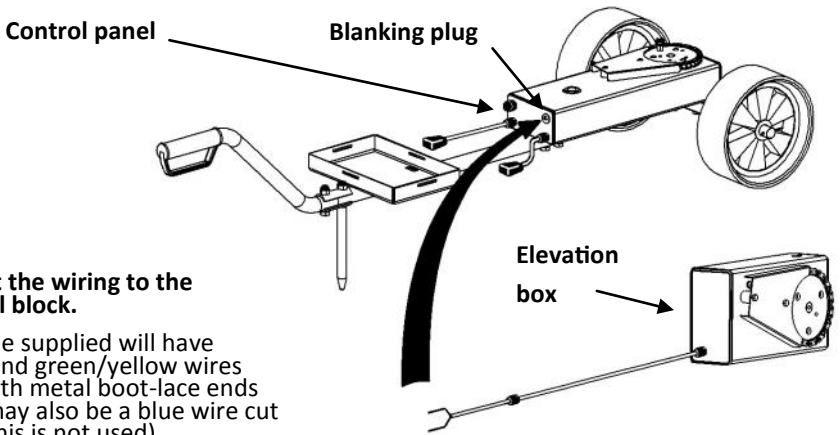
The electrical assembly within the rotation box has controls for rotation and elevation.

The elevation box is connected into the existing rotation box, undo and discard the white or light coloured blanking plug on the rotation box and pass the wiring from the elevation box through into the rotation box.

It is advisable to slacken the rear part of the gland to allow it to spin on the cable during fitting - this prevents the cable from twisting as the gland is screwed in.

Once the cable is in place tighten the gland into the threaded hole and fit the plastic nut to secure it in place, re-tighten the front part to seal the cable against moisture ingress and prevent it pulling out in use.

The wiring for the elevation unit is fitted with metal boot-lace ends, and should be fitted into the terminal block connectors as shown below.



### Connect the wiring to the terminal block.

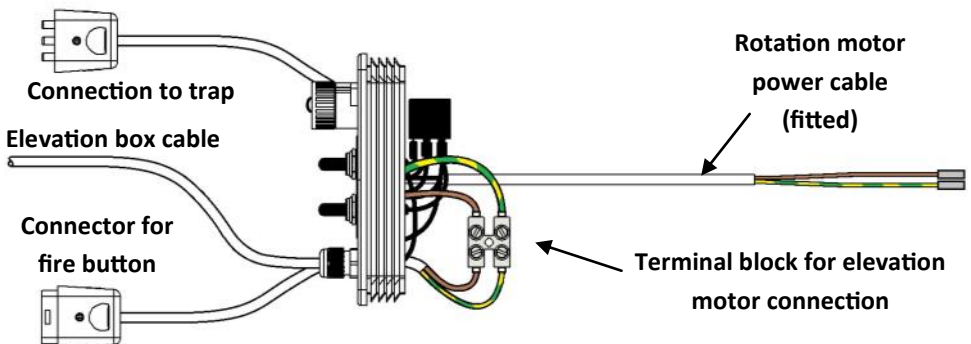
The cable supplied will have Brown and green/yellow wires fitted with metal boot-lace ends (there may also be a blue wire cut back—this is not used)

The brown wire should be connected to the terminal with the brown wire in it.

The green/yellow wire should be connected to the terminal with the green/yellow wire in it.

Ensure that the screws are fully tightened and that the gland is secure to prevent the cable pulling out in use.

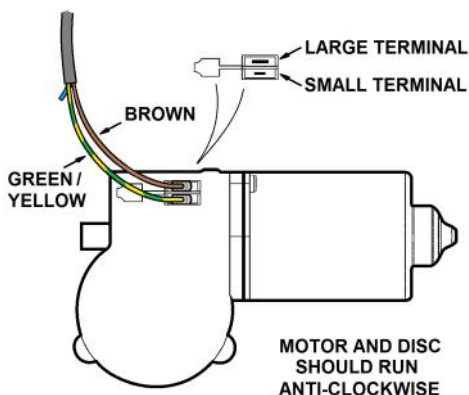
Replace the black end plug (control panel) in the end of the rotation box ensuring that the relays are passed inside the box and that no wires become trapped. Tap the plug home with firm hand pressure near the edges.



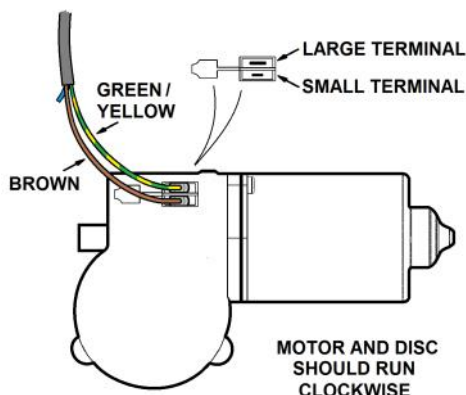
## Motor wiring:

If any motor wiring has been supplied loose, or has been disconnected at any time during trap assembly, then reconnect as follows:

ROTATION BOX MOTOR



ELEVATION BOX MOTOR



**Warning:**  
THE TRAP MUST BE IN SAFE MODE BEFORE CONTINUING - SEE BACK PAGE FOR INSTRUCTIONS ON HOW TO DO THIS.

## Connect the battery:

Secure the battery to the tray using the Velcro strap(s) provided.

Ensure that the main power switch **on the trap**, as well as the two switches on the control panel are in the OFF (centre) position before connecting to the battery.

The **RED** connector goes onto the + (or red coloured) battery terminal

The **BLUE** connector goes onto the - (or black coloured) battery terminal

## How to operate:

**Rotation Function** - Setting the switch down to the **ROTATION** position will allow to motor to run continuously varying the angle of the target left-to-right. Pushing the switch upwards to the **NUDGE** position will give a momentary burst of movement for as long as you continue to hold the switch toggle (automatically springing back to the **OFF** position when released) this will allow a fixed trajectory to be selected.

Using the optional holes on the rotation disc a narrower or wider target field can be selected as desired.

The elevation function (where fitted) works in the same way, note that the pitch and gearing of the two functions has been designed so that the target movement in each plane is not the same, and once the mechanisms have run for a few turns the movement becomes unpredictable, making the targets that bit more challenging.

Refer to the main operating instructions for details of specific features and operation of the trap, and the leaflet provided with any radio which may have been purchased.

**Safe Mode Procedure - Warning: Stand at rear of machine only**

1. To disarm the machine press the red test fire button at the rear of the machine and immediately push the on/off toggle switch upwards to the **dis-arm** position before the machine re-arms.
2. Hold the toggle switch upwards until the throwing arm is pointing towards the front of the machine.
3. Release the toggle switch and disconnect the battery/power source from the machine .



**Spring Removal / Tensioning:**

**Removal of, or tensioning of the spring can be carried out only in the disarmed condition.**

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