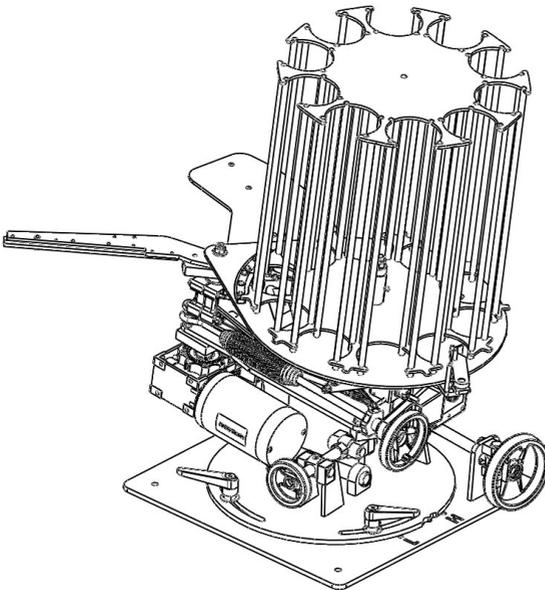




# Signature Skeet Operating Instructions



## **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 machine

**Preface:**

Every effort has been made to ensure that the information contained within this manual is complete, accurate and up-to-date. Promatic International assumes no responsibility for errors beyond its control.

**Conventions used within this manual:**

**Trap:** Your Signature: Double wobble, ATA or Single ABT/DTL - Clay target launcher - commonly known as a clay trap and may be referred to in this manual as “The trap” or “The machine”

**Warnings & Cautions:**



**Warning:** This section contains instructions which, if ignored or carried out incorrectly, may result in risk of personal injury.



**Caution:** This section contains instructions which, if ignored or carried out incorrectly, may result in malfunction or damage to the equipment or consumables.



**Note:** This section contains additional information which the user may find useful, but is not essential to the operation of the product.



**12v DC Power Source:**

**This Trap is designed to be powered from a 12v DC battery.**

**IT MUST NEVER 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.



**EYE PROTECTION MUST BE WORN WHEN WORKING ON OR AROUND A CLAY TARGET LAUNCHER AS SMALL SHARP PIECES OF CLAY MAY BE EJECTED DURING NORMAL USE.**

# Signature Skeet

## Specifications:

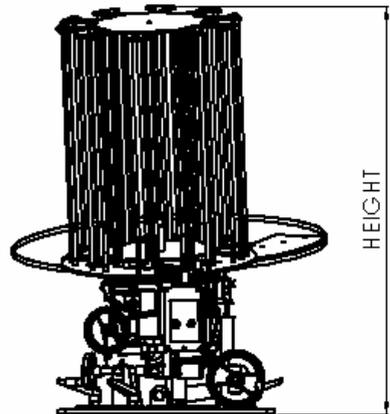
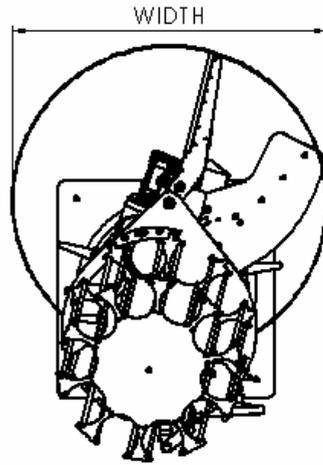
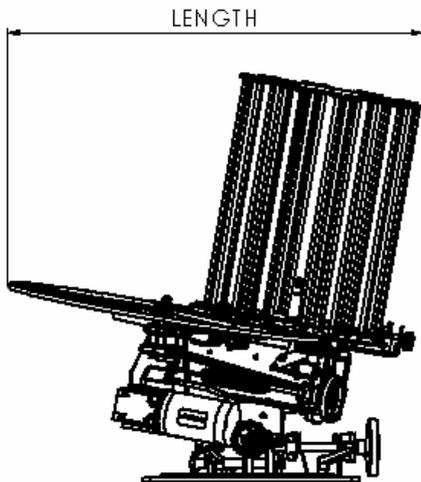
10 stack 550 bird carousel

**Length: 1200mm / 47 1/4"**

**Width: 1130mm / 44 1/2"**

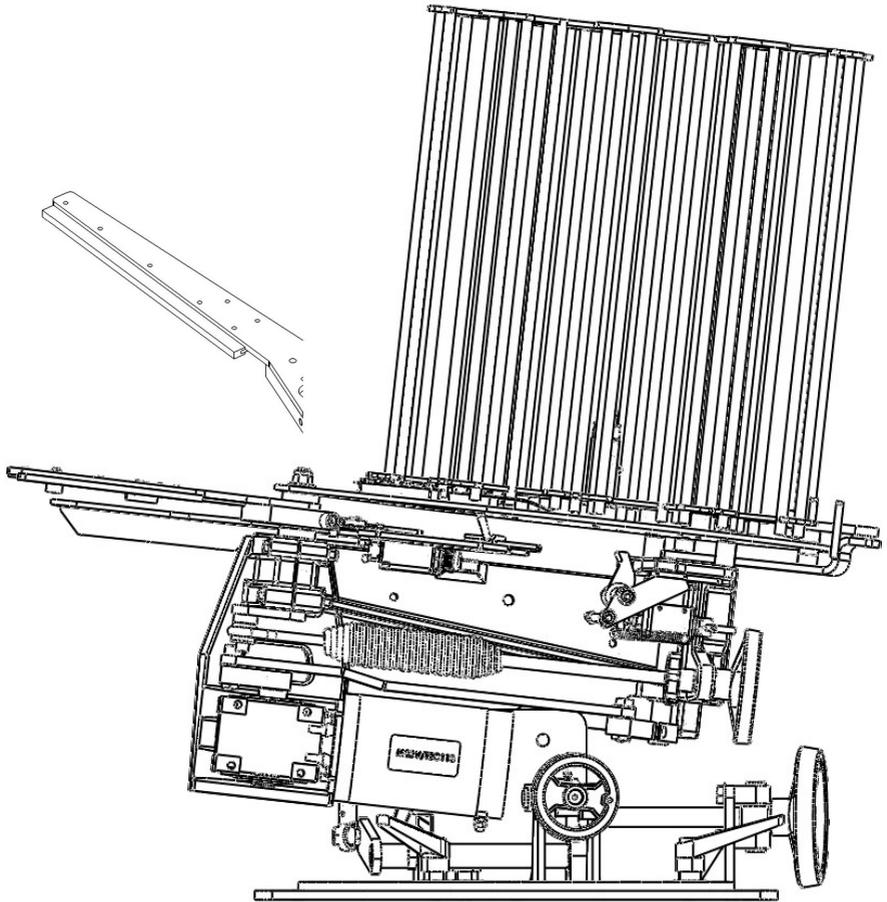
**Height: 950mm / 37 1/2" (On low elevation)**

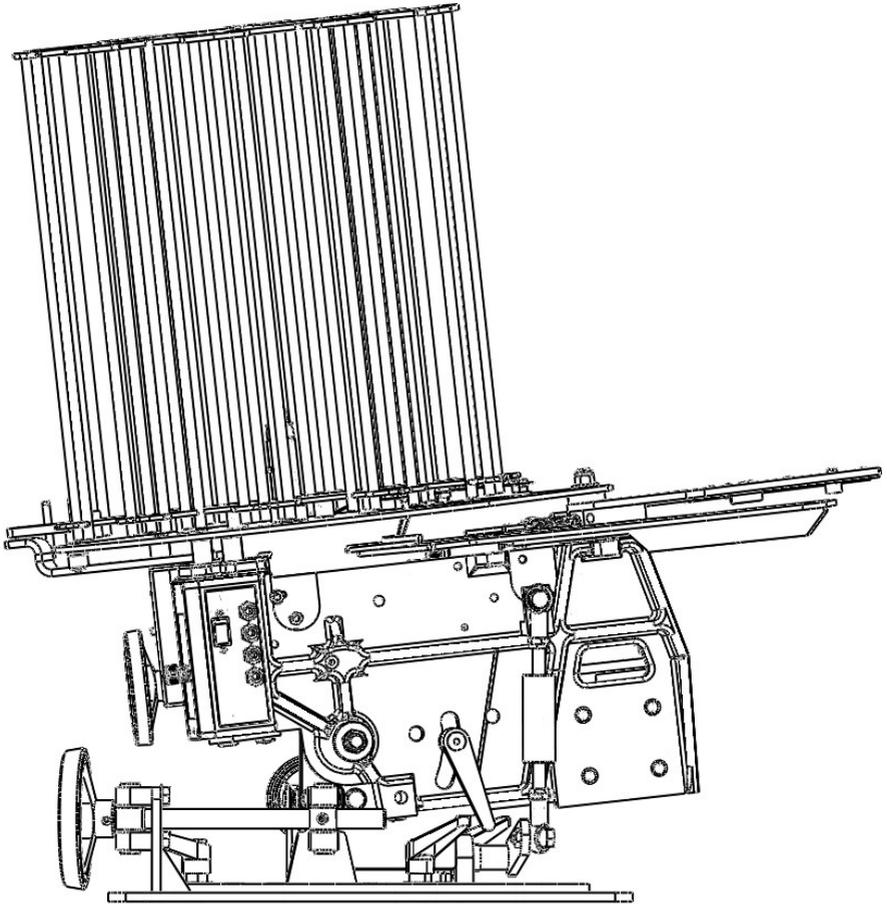
**Power: 12v DC Rechargeable battery  
(Or optional mains transformer 110 or 240v)**



Note that the Width dimension is the maximum extent of the sweep of the arm. The Height is measured with the trap set for the high house and the length is measured with the throwing arm extended to the front.

Understanding your new trap:





**Always disarm the machine before carrying out loading,  
adjustment or maintenance.**

## The spring tension adjustment

In addition to the main spring fixing/tensioning nut this trap is fitted with a quick action hand wheel which adjusts the spring tension between two stops, allowing rapid selection between pre-determined settings, ideal for quickly changing between the settings for single or double targets.

### Adjusting initial spring tension

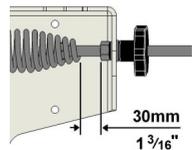
It is recommended that the spring tension is first set for the trap to function correctly in doubles mode.

**Decrease tension**—Loosen inside nut , then loosen outside nut to desired position. Re-tighten inside nut.

**Increase tension**—Loosen inside nut to required position, then tighten outside nut until frame meets inside nut. Re-tighten inside nut.



**Important: leave 30mm (1 3/16") thread length between inside nut and spring coil. Increasing spring tension up to full length of thread will seriously detriment the performance of the machine and will cause spring damage or failure.**



## Quick Adjustment using Hand Wheel

When changing from doubles or singles the spring will need to be adjusted.

The machine is supplied with two locking collars for the convenience of being able to pre-set the desired tensions for quick and easy change over from singles to doubles.

### Initial setup:

Set the ideal spring tension for each type of target during initial setup, firstly set the quick adjustment handwheel towards the single locking collar (one groove) then proceed to adjust the spring tension using the regular spring adjustment nut until the trap is throwing the correct distance with single clays. If necessary adjust the locking collar up until it sits just behind the trunnion nut (where the thread passes through the tensioner arm) this gives a quick reference to the correct position for singles. Do not tighten the grub screw yet.

Next adjust the spring tension using the handwheel until it is correct for doubles, adjust the double locking collar (two grooves) up until it sits the other side of the trunnion nut, this gives a quick reference to the correct position for doubles.

It will now be possible to move easily between singles and doubles by turning the handwheel until the stops are reached.

Double check that the spring tension is still as desired for each type of target, then lock off each locking collar using the grub screw. Re tighten the locking nut on the inside of the spring to prevent unwanted spring movement in use.

### In daily use (Quick adjust):

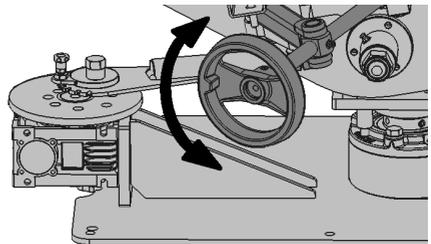
With the Ideal spring tensions for singles and doubles now pre-set, the trap can be quickly adjusted using the hand wheel up to the appropriate stop.

#### **Increase tension**

*Turn hand wheel anti-clockwise.*

#### **Decrease tension**

*Turn the hand wheel clockwise*



## **Tilt Adjustment**

### **Setting the Targets at the Same Height**

The Signature ATA has been designed so that both clays come off the machine at the same height , this can be achieved by easily levelling the machine. The machine can quickly be re-levelled if physical or climatic conditions change.

Setting the targets at the same height is achieved by tilting the trap either to the left or to the right by using the Tilt Adjustment hand wheel.

## **Knife edges**

### **How the single/double change-over works**

With the change-over lever pushed in (singles position) the trap effectively has a very long set of knife edges which act as they do on any other trap to split the bottom and second clay in the stack and as the lower clay is dropped through the hole, support the column of clays from the second row up allowing it to be carried over the drop holes, down the let-down ramps and gently back down onto the top plate.

With the change-over lever pulled out (doubles position) a pair of moving knife-edge blades are opened up exposing a second set of let-down ramps and creating a pathway for clays to drop through another drop hole, positioned later on the top plate. The open knives also reveal the leading edge of the rear set of knives where the stack is again split over the second drop-hole.

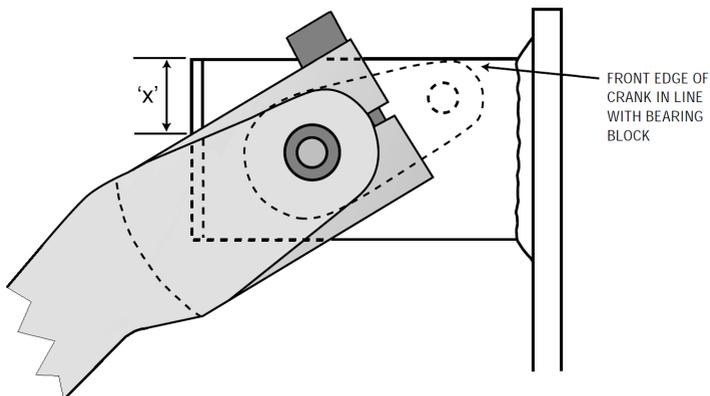
### **Switching from Singles to Doubles**

**Important: Always remove the column of clay targets that are above the moving knives when performing this action.**

Undo the Quick clamp and adjust lever to required position. Knives open (as shown opposite) will throw doubles, Knives closed will throw singles. Re-tighten the Quick clamp and re-stack any clay targets that were removed.

### Adjustment: Throwing arm timing

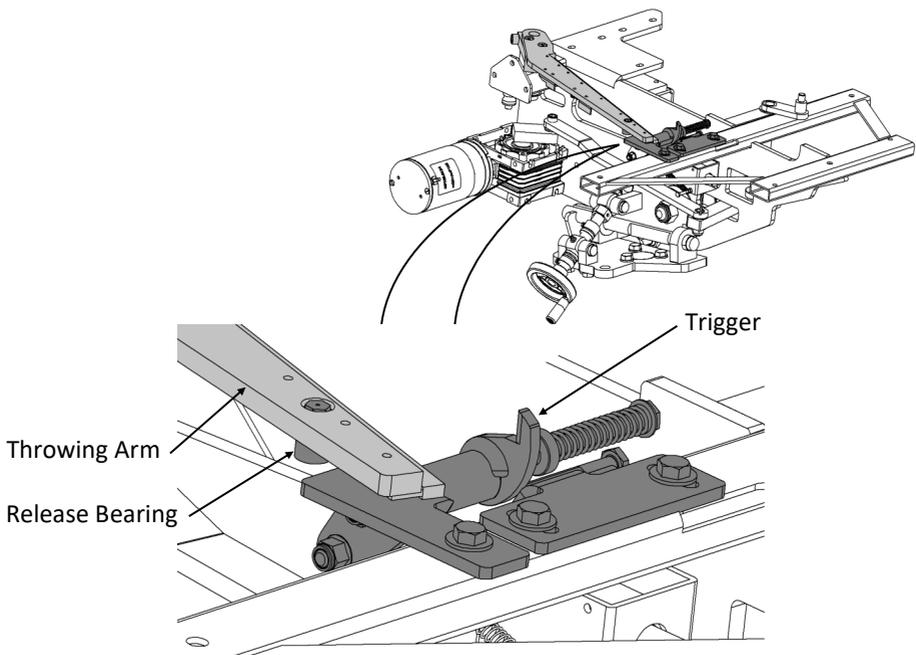
1. Disarm the machine by flicking the ARM/DISARM switch upwards towards the DISARM position and immediately releasing (long enough for the trap to fire, but not giving the machine a chance to rearm). The gearbox block will now be pointing towards the front of the machine.
2. Flick the ARM/DISARM switch upwards towards the DISARM position repeatedly until the gearbox block points towards the back of the machine but does not contact the throwing arm. This reduces the spring tension.
3. Note the position of the inside nut before removing the spring (as this determines the amount of spring tension set) then undo the rear nut and remove the spring from the trap.
4. With the spring removed, rotate the throwing arm until the mainshaft crank is pointing towards the mainframe with the leading curve aligned with the front edge of the square bearing tube. Refer to the diagram below.
5. Loosen the throwing arm clamp block bolt until the throwing arm will move around the mainshaft. Rotate the throwing arm clockwise (this is so the mainshaft is held by the one-way bearing and doesn't move) until the throwing arm is positioned as in the diagram below, where  $X=15\text{mm}$ .
6. Making sure both the mainshaft crank and the throwing arm are in the positions described, firmly tighten the throwing arm clamp block bolt. The arm timing is now complete.
7. Replace the spring paying attention to the orientation of the hook (Open side inwards towards the frame).



## Solenoid release Mechanism

Solenoid release mechanisms are used on machines where an instantaneous release of the target is required. The solenoid release mechanism consists of a release bearing fitted to the throwing arm, a trigger assembly which pivots on a bar mounted on a bracket and a solenoid to move the trigger out of the way to allow the release bearing to move past it when the trap is fired.

When the machine is turned on and arms itself, the motor drives the arm in a counter clockwise direction up to the solenoid trigger. The arm reaches Top Dead Centre (TDC) when the bearing is about 30mm (1-1/4") away from the trigger.



As the arm reaches TDC, the spring is at its maximum. As the arm then passes over TDC the spring takes over and pulls the arm around until it comes to rest with a clunk against the trigger and can go no further. The trigger holds the arm in the cocked position waiting to be fired.

The roller switch is set to stop the motor just as the arm gets to TDC so that there is no chance of the motor driving the arm into the trigger.

## Setting the Solenoid

With the trap in the **DIS-ARMED/SAFE** position; standing at the rear of the trap, adjust the roller switch out to the left side of the machine as far as it will go.

Press the toggle switch to "ON". The machine will load a clay and come to the cocked position and is now ready to fire. Note that the throwing arm has stopped short of the trigger.

Press the toggle switch to "OFF" but do not disarm. The machine should still be armed and treated with **EXTREME CAUTION**.

From behind the machine slowly and carefully push the tip of the arm towards the trigger assembly on the side of the machine. If the arm timing is correctly set, when the arm is about 30mm (1-1/4") from the trigger it will go over TDC with the spring pulling the arm on to the trigger. If the arm goes over TDC more than 30mm away from the trigger or it does not go over TDC before touching the trigger, then the arm timing will need to be adjusted.

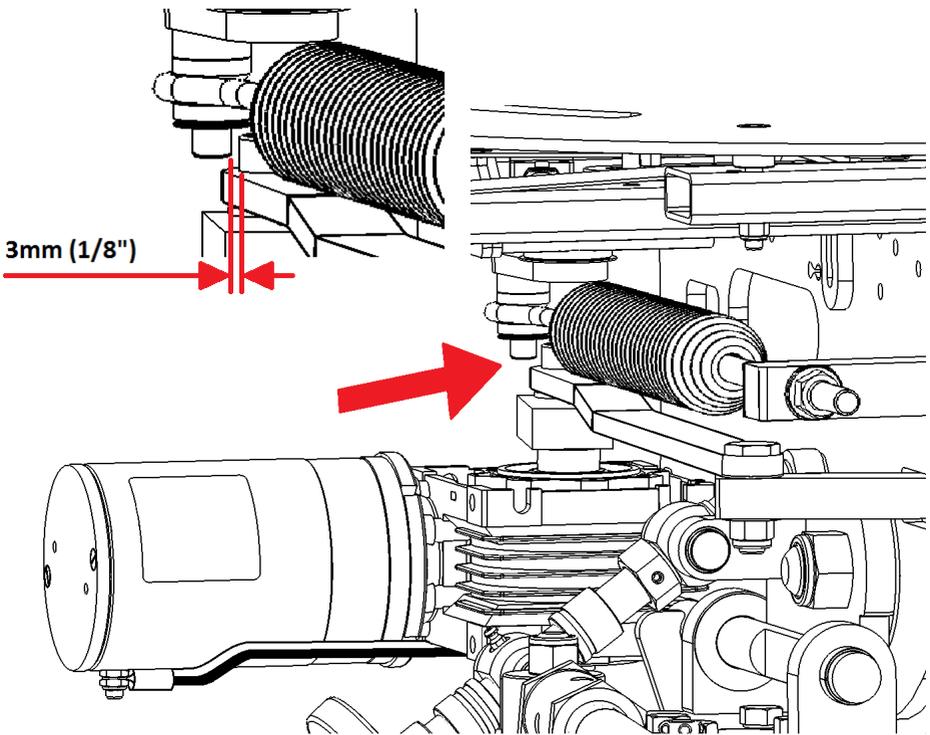
To adjust the arm timing, the machine must be in the **DIS-ARMED/SAFE** position. Undo the socket head bolt on the arm clamp block so that the arm can be moved on the shaft. Be careful not to move the arm while undoing the bolt.

If the arm goes over TDC to early i.e. 40mm before it gets to the trigger, move the arm counter clockwise about 10mm (1/2") at the tip and retighten the arm clamp block bolt.

Press the toggle switch to "ON". The machine will load a clay and come to the cocked position again it will be short of the trigger. Press the toggle switch to "OFF" but do not disarm. The machine should still be armed. As before from behind the machine push the tip of the arm towards the trigger and note where it goes over TDC. If the arm still goes over TDC in the wrong place adjust the arm timing again as before.

### Setting the Solenoid (Continued)

With the arm timing set correctly, the roller switch needs to be adjusted back in to the correct position. Before making any adjustment ensure that the machine is in the **DIS-ARMED/SAFE** position. It is best to move the roller switch back in towards the trap about 2-3mm (1/8") at a time. The motor needs to be stopping just as the arm goes over centre, so that when the arm and motor have both stopped there is a gap of about 3mm (1/8") between the main shaft drive pin (under the nylon spring roller that the spring hooks to) and the 10mm Allen key bolt (that drives the base of the main shaft). See diagram below.



**Gap between the base of the main shaft pin and the drive pin**

**Transit Mode Procedure - This is recommended for machine transportation.**

**Warning: Stand at rear of machine only**

1. Disarm the machine by flicking the **ARM/DISARM** switch momentarily towards the **DISARM** position and immediately releasing (long enough for the trap to fire, but not giving the machine a chance to rearm). The throwing arm should be pointing towards the front of the machine. The Gearbox block (A rectangular block attached to the gearbox shaft) should be in a position pointing towards the front of the machine. Push the **ARM/DISARM** switch momentarily in direction of **DISARM/NUDGE** just enough to allow the block to move slightly past the straight ahead position as seen in the diagram below. If the block has gone too far, follow this procedure again until the desired position is achieved.
2. Disconnect the power source from the machine.
3. Adjust the spring to reduce the tension.
4. The throwing arm can be pushed slowly, **USING THE PALM OF THE HAND ONLY**, around Anti-clockwise (Into the machine).
5. As the throwing arm gets to the firing position (pointing directly to the back of the machine) the spring will take over, moving the arm onto the drive bolt on the Gearbox block. This will stop the arm and prevent it from firing.
6. This is **TRANSIT MODE**. The arm is now locked between the drive bolt and the one-way bearing within the trap, it cannot move or release again until power is applied and the **ARM/DISARM** switch operated.

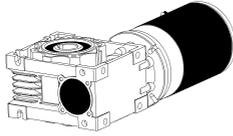
### **Disarming the machine (Safe mode).**

1. To disarm the machine push the **ARM/DISARM** switch momentarily to the **DISARM** position and immediately release (long enough for the trap to fire, but not giving the machine a chance to reararm). The throwing arm should be pointing towards the front of the machine.
2. Turn the **ON/OFF** or  switch (if fitted) to the OFF  or position and disconnect the battery.

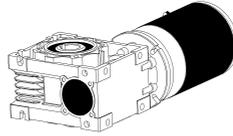
### **Firing the machine (Ensure the range is clear at the front of the trap.)**

1. Turn the **ON/OFF** or  switch (if fitted) to the ON  or position and set the **ARM/DISARM** switch to the **ARM/LOAD** position. The machine will move automatically and arm itself ready to launch a loaded clay.
2. Press the **FIRE** button on the command cable to throw a clay.
3. The machine will fire every time the **FIRE** button is pressed and will automatically reararm itself, until disarmed and switched off. When switched off, disconnect the power source.

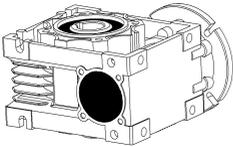
## Spare Parts List



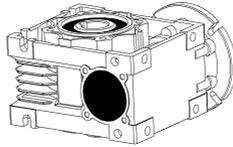
**M05V/MG100 12v Motor  
& Gearbox 100:1 Ratio  
(Rotation)**



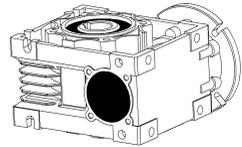
**M05V/MG80 12v Motor  
& Gearbox 80:1 Ratio  
(Elevation)**



**M03V/MV50R100 GEARBOX  
ONLY TYPE: NMRV50 R100:1  
MOTOVARIO (Rotation)**



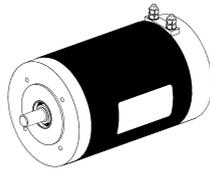
**M03V/MV50R80 GEARBOX  
ONLY TYPE: NMRV50 R80:1  
MOTOVARIO (Elevation)**



**M03V/MV50R60 GEARBOX  
ONLY TYPE: NMRV50 R60:1  
MOTOVARIO (Cranking)**



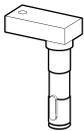
**M02V/MP102 MOTOR ONLY TYPE  
MP102 (ELEVATION/ROTATION)**



**M02V/TEC113 MOTOR ONLY  
TYPE - MP113 (CRANKING)**



**SDA/4100 Rotation Gearbox  
Shaft & Disc**



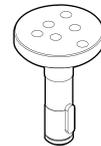
**SDA/4050  
GEARBOX SHAFT**



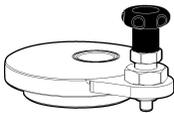
**SDA/2600  
MAIN SHAFT**



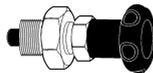
**SDA/2500  
ARM CLAMP BLOCK**



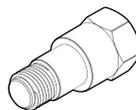
**SPIW/4125 Elevation  
Gearbox Shaft & Disc**



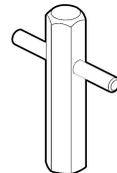
**SDA/4705 ROTATION CENTRE  
SWIVEL COMPLETE ASSEMBLY**



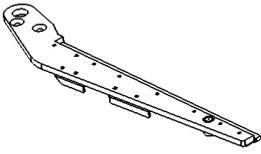
**D00V/4882/22/121  
INDEXING PLUNGER**



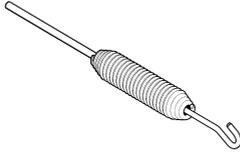
**SDA/4500 ROTATION  
LOCKING BOLT**



**SDA/5650  
ELEVATION LOCK NUT**



SDA/2010 THROWING ARM  
COMPLETE ASSEMBLY



S01Z/SHTR  
SHORT HOOK TRAP SPRING



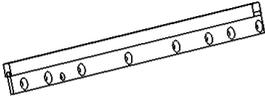
RN6/2630  
SPRING ROLLER



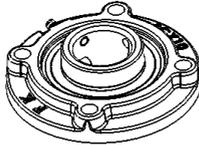
SPIDA/2700  
CLAY SWEEPER 'A'



SPIDA/2705  
CLAY SWEEPER 'B'



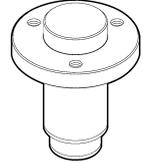
SPIDA/2200 FRICTION STRIP



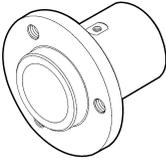
B01V/MFC50 MFC 50mm  
SELF-ALIGNING BEARING



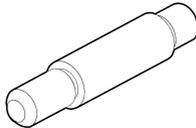
B02V/32008  
ROLLER BEARING



SDA/5254  
BASE SHAFT



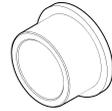
SDA/5025 ELEVATION  
PIVOT BOSS



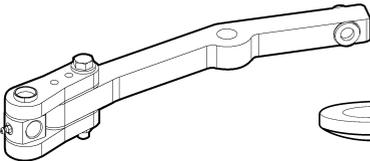
SDA/4475  
PIVOT SHAFT



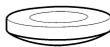
B06V/B303840  
OILITE BUSH (Plain)



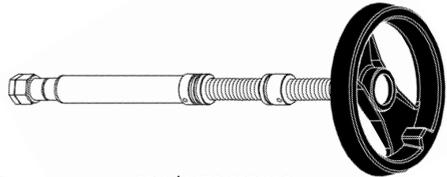
B06V/BF303825  
OILITE BUSH (Flanged)



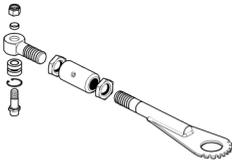
SDA/4160 SPRING  
ADJUSTMENT ARM



SDA/4188 SPRING  
PIVOT WASHER



SDA/4170 SPRING  
ADJUSTMENT THREAD



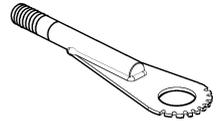
SDA/4460 OSCILLATION  
CRANK COMPLETE



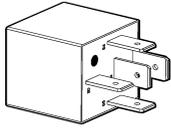
SDA/4465 OSCILLATION  
CRANK FRONT PART



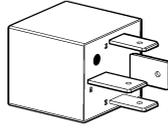
SDA/4472 OSCILLATION  
KNURLED ADJUSTER



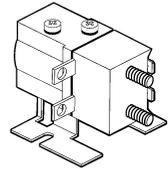
SDA/4468 OSCILLATION  
CRANK REAR PART



E09V/5PIN 5 Pin Relay (Standard)



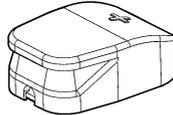
E09V/ 4PIN 4 Pin Relay (Heavy Duty)



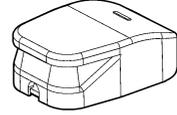
E09V/SW618  
12v Relay (Albright)



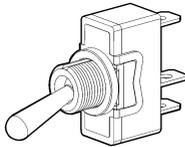
E11V/7410 Fire Button



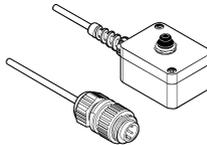
E06V/45100  
Positive Battery Terminal - Red



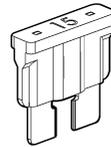
E06V/45110  
Negative Battery Terminal - Blue



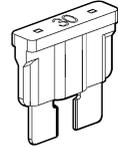
E11V/7420 Toggle Switch  
With Spade Terminals



E03V/CCH Command  
Cable Complete



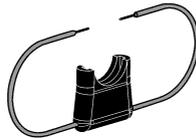
E10V/F15A FUSE 15AMP (Blue)



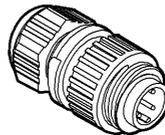
E10V/F30A FUSE 30AMP (Green)



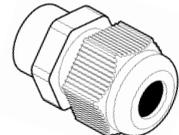
E10V/FH20A FUSE HOLDER  
20AMP - BLACK LEADS



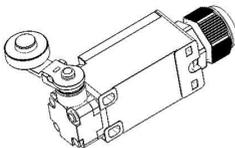
E10V/FH30A FUSE HOLDER  
30AMP - ORANGE LEADS



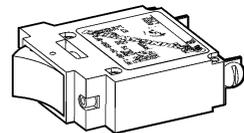
E06V/4PMH 4pin plug  
Hirschmann (male)



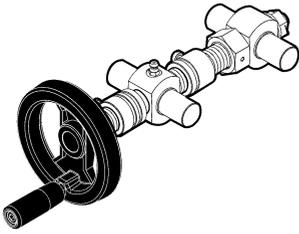
E04N/250PG9  
Cable Gland (PG9)



E11V/83850  
Roller Limit Switch

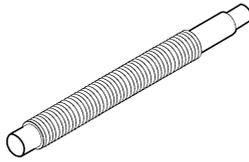


E10V/MB50A 12v  
Trip Switch (50a)



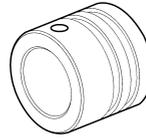
SDA/5130

TILT ADJUST SCREW ASSEMBLY

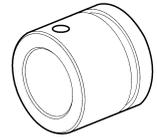


SDA/5132

TILT ADJUST SCREW THREAD



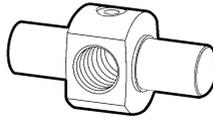
SDA-5135-1 COLLAR M20x1.5 1 GROOVE



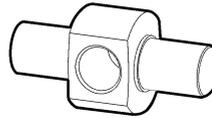
SDA-5135-2 COLLAR M20x1.5 2 GROOVE



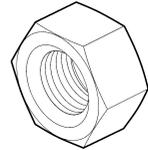
D01V/4354100 BLACK  
PLASTIC HANDWHEEL



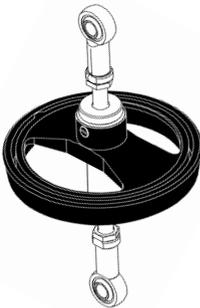
SDA/4166 TRUNNION  
THREADED M20X1.5



SDA/4167 TRUNNION  
20mm PLAIN HOLE



C11Z/20/1.5 NUT  
M20X1.5 PITCH



SDA/4450 ELEVATION  
ADJUSTMENT ASSEMBLY



B05V/PHS12  
M12 ROD END RIGHT HAND  
THREAD



C25S/12  
M12 THREADED BAR (ST/STEEL)  
RIGHT HAND THREAD



SDA/4451  
ELEVATION ADJUSTMENT  
CENTRE BLOCK



C25S/12L  
M12 THREADED BAR (ST/STEEL)  
LEFT HAND THREAD

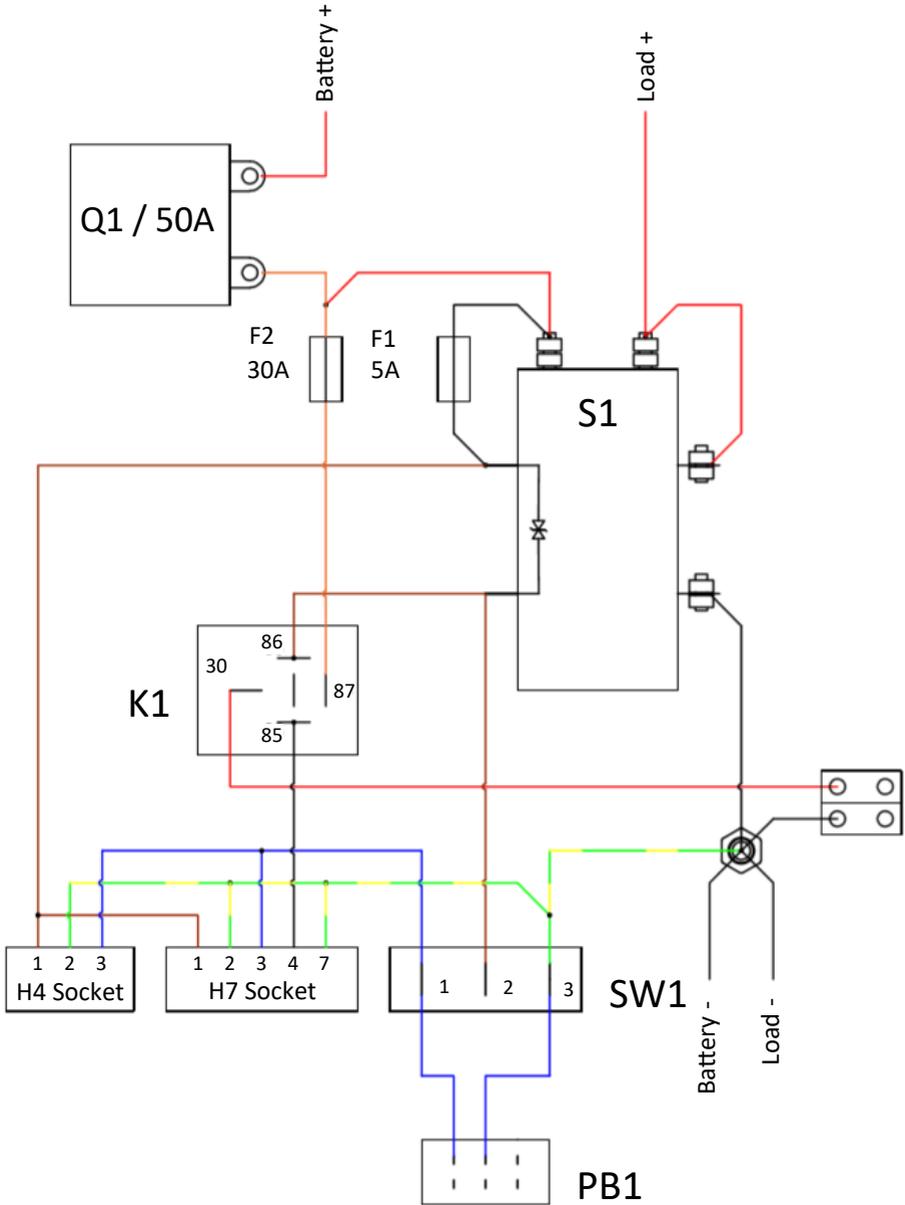


B05V/PHSL12  
M12 ROD END LEFT HAND  
THREAD



D01V/4353160 BLACK  
PLASTIC HANDWHEEL

# Electrical Schematics Signature Skeet



## Electrical Schematics

Use this section to help identify any faults during any electrical troubleshooting, or to assist with the wiring of components if replacing parts.



**Note:** The layout of the schematics do not resemble the general arrangement of the components. This layout is to make the drawings as clear as possible.

**Key:**

Q = Circuit Breaker

K = Relay

SW = Switch

PB = Push Button

F = Fuse

S = Solenoid



**ALWAYS disarm the machine before carrying out loading, adjustment or maintenance. Ensure that the machine has been isolated from the power source before proceeding with any maintenance on the control box.**

Notes:



**For Service and Supplies contact your local Trap Supplier.**

**Follow Promatic on social media:**



**Subscribe to the Promatic newsletter. Browse to:**

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**Be sure to ask your supplier for Promatic Clays.**

**[www.promatic.co.uk/all-products/clays](http://www.promatic.co.uk/all-products/clays)**



Barclay Phelps CE Marking Consultants, 29/8 City Mill Lane, Gibraltar 646, Europe

## CERTIFICATE & DECLARATION OF CONFORMITY FOR CE MARKING

### Company contact details:

Promatic International Ltd.  
Station Works, Hooton Road, Hooton, S Wirral, CH66 7NF, United Kingdom  
Tel: +44(0)151 327 2220 Fax: +44(0)151 327 7075 e mail: info@promatic.co.uk

### Promatic International Ltd. declares that their:

Clay Target Launchers listed as the following models  
Elite, Hawk, Superhawk, Harrier, Harrier ABT/Wobble, Eagle, Eagle Battue, Falcon, Hobby / Merlin,  
Ranger 8, Osprey/All American Ranger, Ranger Battue, Ranger ABT/Wobble,  
Sporter 400TT, Sporter 400TT ABT/Wobble, Super Sporter Battue, Super Sporter,  
Super Sporter Downhill Thrower, Super Sporter ABT/Wobble, Rabbit, Squirrel,  
Ranger Chondell, Chondell, Hunter Wobble, Huntsman, Huntsman XP,  
Fieldsman, Club Skeet, Pro Skeet, Int Skeet, Olympic Trap, Club 275 DTL/ATA,  
International DTL/ATA, Pro ABT/Wobble, Auto Trap DTL/ATA/ABT/Wobble,  
International Doubles DTL/ATA/Wobble and Sporter Doubles DTL/ATA/Wobble

### are classified within the following EU Directives:

Machinery Directive 2006/42/EC  
Electromagnetic Compatibility Directive 2004/108/EC

### and further conform with the following EU Harmonized Standards:

EN 12100-1:2003+A1:2009 EN 12100-2:2003+A1:2009  
EN 61000-6-3:2007 EN 61000-6-1:2007

**Dated:** 19 April 2011

**Position of signatory:** Group Technical Director

**Name of Signatory:** Graham Stephen Fair

**Signed below:**

p.p. Promatic International Ltd.

A handwritten signature in black ink, appearing to read 'G.S.F.', is written over the printed name of the signatory.



**Promatic International Ltd.**

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Sig ATA MK2 v2.1 March 2015