



AC320 Range Essential Safety Guidelines



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GENERAL TRAP SAFETY

It is important to familiarise yourself with the following safety information before operating the trap.

All of our traps employ a tensioned spring mechanism whereby the rotation of the motor applies tension to a large spring until a certain point when the spring's tensile force acts in the same rotational direction as the motor, causing the arm to rapidly whip around the rest of the way, and so launching the clay. It has a one way clutch system meaning it cannot be unwound. Thus the the trap is safest at the point where the least tension is felt by the spring, or near the 12 o'clock arm position. The state of the trap and its safety can be determined by the position of the arm. Please refer to the **Visual Safety Guide** to understand the different states of the equipment.

Safety Essentials

- Use the guards provided.
- Disconnect power when handling or reloading the trap.
- Disconnect power and spring during transit.
- Keep body parts, loose clothing or jewellery clear of moving parts.
- Do not walk in front of trap when the trap is is use, or when the spring is under tension.
- Connect and disconnect spring while launch arm is in approximately the 12 o'clock position.
- Ensure inclination adjustment fixing nuts are tightened before activating trap.
- Do not use trap during darkness or inadequate lighting.
- **Only use 12 volt power supply and with secure connections.**
- **Do not reverse the polarity of the power supply** (will damage trap, blow fuse and may cause injury).
- Do not use deteriorated or uncharged batteries.
- Exercise caution at all times and treat the trap like a loaded gun.
- Keep out of reach of children.

Visual Safety Guide

Armed

The main spring is under tension, the Crank Drive Linkage is engaged and the trap is ready to fire, the Launch Arm is in the armed position at 7 O'clock.



Armed - 7 o'clock

Disarmed

The clay has just been fired, there is not a lot of tension in the main spring. The Crank Drive Linkage is not engaged, and the Launch Arm is in the Disarmed position at 10 O'clock.



Disarmed - 10 o'clock

Make Safe

The battery **is not** connected, there is zero tension in the Launch Spring, the Crank Drive Linkage is not engaged, and the Launch Arm is in the Make Safe position at 12 O'clock.



Safe - 12 o'clock - connect and disconnect main spring during zero tension

Stored

The battery **is not** connected, the Launch Spring is removed, and the Launch Arm is in the Stored position at 6 O'clock.



Storage and transport - (spring removed)

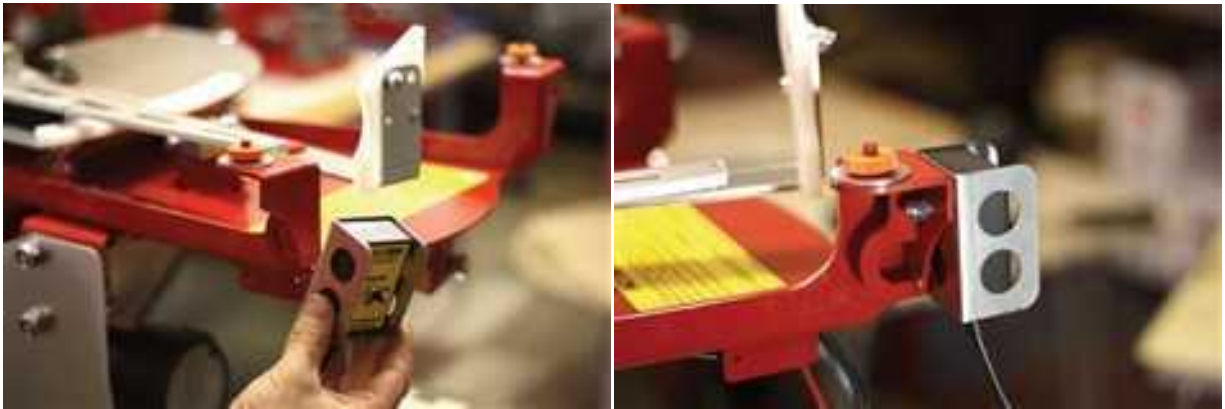
AUTOCLAY OPERATION INSTRUCTIONS

Checklist

- A. Guards are in place.
- B. Power is disconnected.
- C. The trap is stable on reasonably level ground.
- D. The inclination adjustment nuts are securely tightened.
- E. There are no pedestrians or members of the public in launch range.
- F. Batteries are sufficiently charged and in good condition.

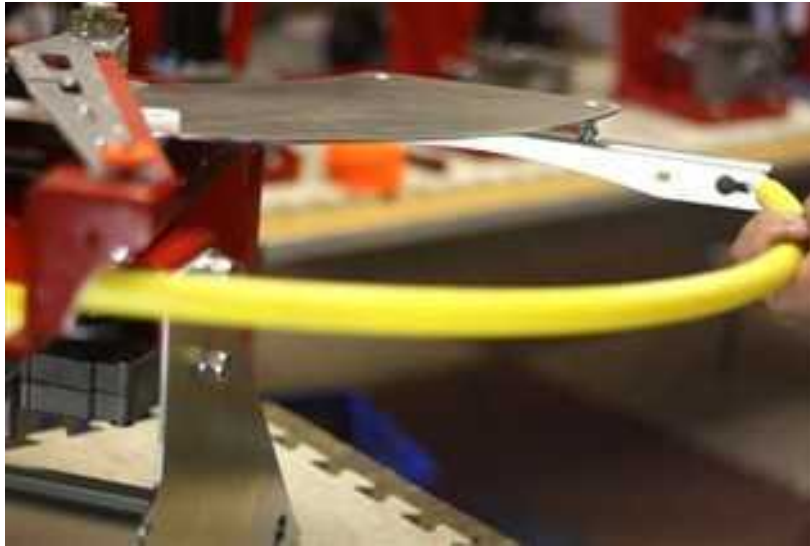
Step 1 - ATTACHING THE CONTROLLER BRACKET AND GUARDS

- a. Attach the Controller Bracket to the main unit using as shown, using the lock nut attached to the bracket itself.



- b. Combine two guard tubes to create one long open-ended guard section for the forward part of the guard loop.





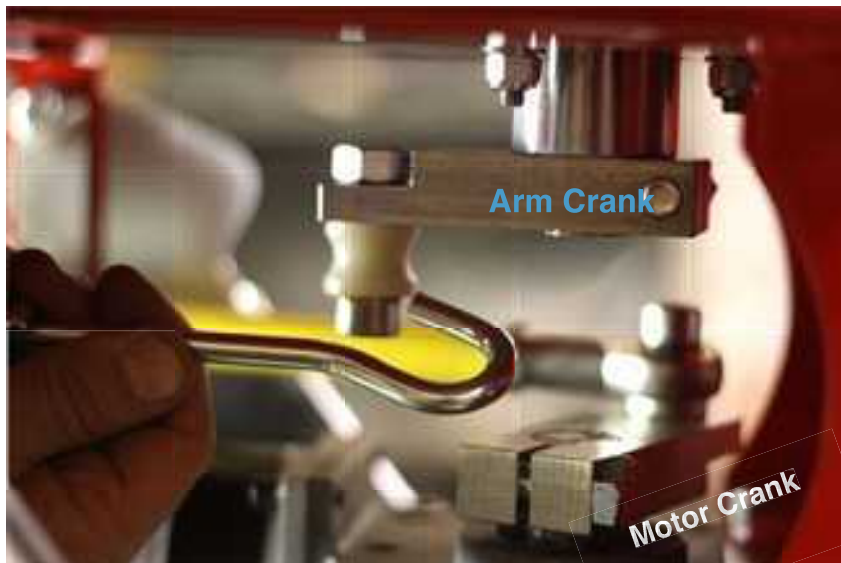
c. Use the two remaining guard tubes for the sides, by inserting them as pictured.

d. Now attach the longer forward guard section onto the two white protrusions provided by the side guards.

Step 2

1. ATTACHING THE MAIN SPRING -

- a. With the power **disconnected**, put the arm to the 12 o'clock position in order to have the shortest distance between the arm crank and the spring origin point. NOTE: If you cannot rotate the arm further because of the motor crank; temporarily connect the power and tap the "Disarm" function to rotate the motor crank clear, then disconnect from power. Do not attempt to force the arm around.
- b. With the arm in the 12 o'clock position (and therefore the arm crank underneath in approx. the 6 o'clock), carefully hook the spring onto the white nylon pivot as shown below.



- c. Now tighten the nut which holds the spring at the back of the main unit, to apply some tension to the spring. This nut can be used to set the tension of the spring for further or shorter throws. Be careful on max setting! Always set the lowest tension setting when connecting or disconnecting the spring.

2. LOAD CLAYS

Load the carousel with the desired clays. As stock, the carousel only holds standard sized clays unless you have purchased optional inserts which convert each carousel section individually to hold different sizes as may be desired.

3. ENSURE SETTING IS SET TO “OFF” AND CONNECT POWER

With guards in place and all checklist items fulfilled, ensure the controller switch is in the “OFF” position before connecting the power supply.

4. SWITCH TO “ON”

Now switch the controller to the “ON” position. The trap will cycle to the armed state and stop automatically.

5. PRESS “FIRE”

Depending on your trap release option, press “FIRE” (or say “Pull” aloud for acoustic systems) to fire a clay. The trap will automatically re-arm and stop, ready for the next shot. Hold the button down to cycle continuously.

NOTE: For more detailed instructions for using the many different release options and controllers, please refer to the instructions included individually with your trap release units.

How to Disarm and Make Safe for Transit/Storage

1. Switch to “Disarm”

Momentarily switch the controller to “Disarm”. This will fire the last clay (if one is present) but will not initiate the re-arming cycle. The launch arm will stop at approximately the 10 o'clock position. Switch to “OFF”.



In this position, the trap is safe and there is no risk of the trap firing by accident, the **spring is still under some tension and is safe.**

2. Safe Spring Removal Technique

NOTE: This process can be extremely dangerous or damage your machine if carried out incorrectly. For this reason it is strongly recommended that you fully understand the process before attempting to remove the spring.

During normal operation, the motor crank contact **pushes** the arm crank contact past the 12 o'clock position until the spring takes over and rapidly snaps around the rest of the way to launch the clay, however during the spring removal procedure, the arm needs to be manually rotated by hand to **follow** the motor crank past the 12 o'clock position so that the arm is prevented from rapidly snapping the rest of the way. The essence of this step therefore is to support the arm crank contact with the motor crank contact, past the snapping point so that the spring tension can be gradually alleviated for safe spring removal.

Step 1 - Disarm the trap

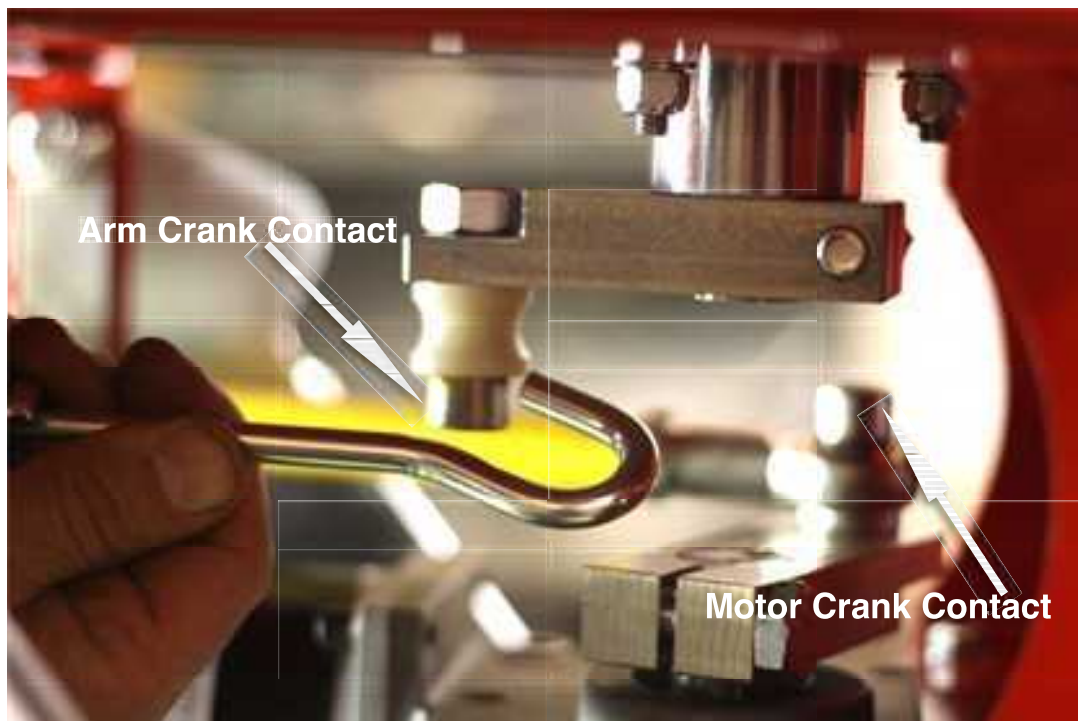
Tap the disarm switch (do not hold) to fire off the last clay (or to relieve the spring tension if no clays remain).

Step 2 - Manually rotate launch arm by hand

Manually rotate the arm up to the point where the arm crank contact meets the motor crank contact, and it cannot be pushed further

Step 3 - Tap disarm while continuing manual rotation of the launch arm

Now carefully inch the motor forward using the disarm switch while continuing to manually push the launch arm around to follow it. When you push the launch arm past the 12 o'clock position it would normally want to snap the rest of the way violently. To prevent this, keep the two contacts of the arm crank and the motor crank in contact as you carefully inch past the snapping point. After this point you can gradually alleviate the spring's tension by continuing to tap "disarm". When the arm crank reaches the 6 o'clock position it will stop following the motor crank around and the spring is now safe to be removed. Do not attempt this process unless you fully understand the above instructions.



Additional Modular Upgrades from Acorn



Extreme Power Spring

This main spring replacement is not for the faint hearted. Known as the legendary Red Spring - use with extreme caution.



Midi / Mini Carousel Inserts

Allows you to customise each carousel column to feed either mini or midi size clays. You can even alternate each column with different size clays to keep the shooters on their toes.

Please visit acorntraps.co.uk for all our modular upgrades and release options.



Acorn Target Systems Ltd, Wolseley Business Park, Mobbs Way, Lowestoft NR32 3FA
Tel: 01502 515213 Mobile: 07759 089291