

# ACORN

## Operation & Safety Manual



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## GENERAL TRAP SAFETY

Please familiarise yourself with the following safety information before operating your equipment.

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 thereby launching the clay. It has a one-way clutch system meaning it cannot be unwound. This means that 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, and never carry out maintenance or reloading while the trap is in a dangerous state.

### Safety Basics

- 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 in use, or when the main spring is under tension.
- Connect and disconnect spring while launch arm is at 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 (it will damage trap, blow fuse and/ or 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 near zero tension in the main 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 320 CHECKLIST

## Unboxing Checklist

This varies depending on your shipping option.

1. **Main Unit x1**
2. **Base x1**
3. **Carousel Parts x1**
4. **Safety Guards x 4**
5. **LaunchPlate x1**
6. **Guard Struts x 2**
7. **Release Option**

Standard release option is the single button trap release.

# AUTOCLAY OPERATION INSTRUCTIONS

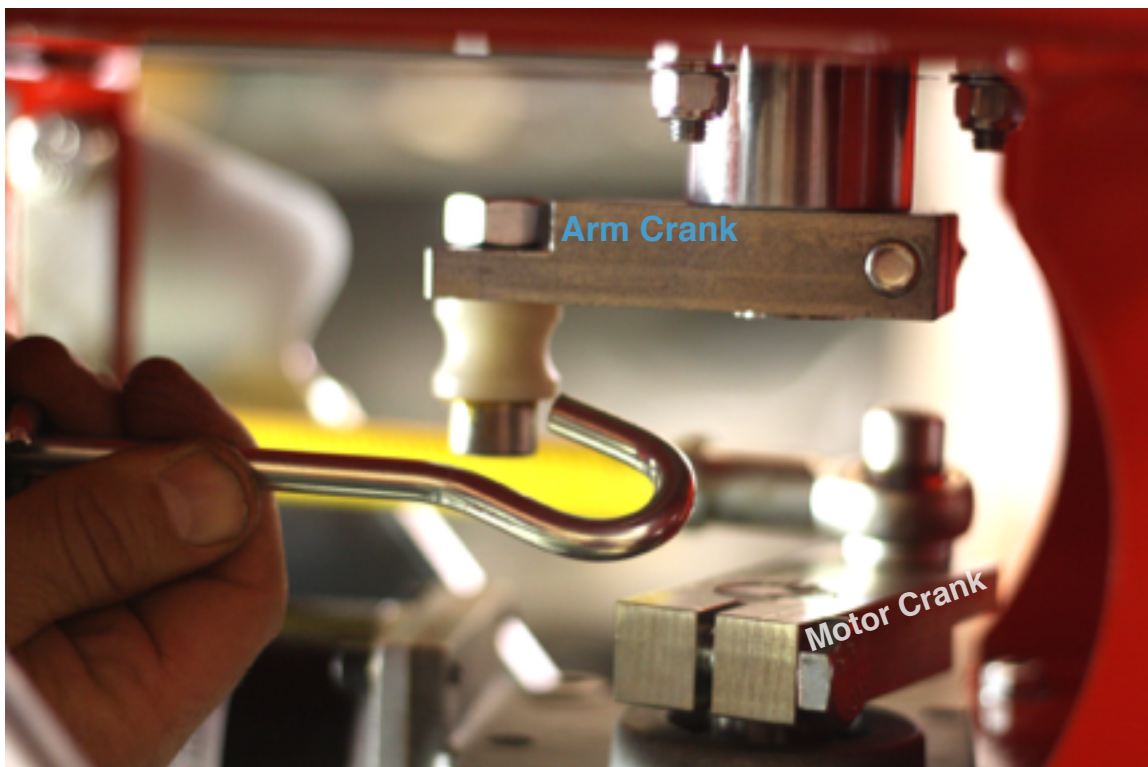
## Checklist

- 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. The in launch range is clear and suitable for such activity.
- F. Batteries are sufficiently charged and in good condition.

## How to Use

### 1. ATTACH THE MAIN SPRING -

- a. With the power **disconnected**, rotate the arm by hand in its normal direction of rotation to the 12 o'clock position in order to have the shortest distance between the arm crank and the spring anchor.  
**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 wind up the tensioning nut at the back 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, or online at [acorntraps.co.uk](http://acorntraps.co.uk)*

## 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, however the spring is still under some tension.

### 2. Safe Spring Removal Technique

***NOTE:*** This process can be 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 pushes the arm crank past the 12 o'clock position at which point the spring takes over and causes the arm to snap around and launch the clay. During the spring removal procedure however, the arm needs to be manually pushed by hand to **follow** the motor crank. The essence of this step is therefore to support the arm crank with the motor crank through the snapping point where the arm would normally want to whip around. The procedure is described in detail on the next page.



### Step 1

**After Disarming**, inch the motor forwards until the **Motor Crank** reaches approx. the 11 o'clock position, by tapping the "disarm" switch.

### Step 2

Manually rotate the arm by hand as far as it will go to the point where the **arm crank contact** meets the **motor crank contact** (underneath), or until you cannot push the arm around any further.

### Step 3

While continuing to push the arm as far it will go against the motor crank contact, slowly inch the motor forwards by tapping the disarm switch while continuing to push the arm in the same direction to keep the two contacts against one another. Keep the arm pushed up against the motor crank until the point where the spring's tension will naturally pull the arm against the motor crank and you no longer need to push it to follow.

At this point you can gradually alleviate the spring tension by tapping disarm. The arm crank will naturally stop following the motor crank at the 6 o'clock position (shown below), at which point the spring is at least tension and is safe to remove.

