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OPERATION MANUAL FALCON THROWING MACHINE FOR BENCH SHOOTING.

Ceramic plate launching machines are complex and dangerous equipment; They must be handled with extreme care to avoid accidents.
Care must be taken not to get in the path of the machine's mechanical parts while the machine is in motion or may be in motion.

A skeet launcher requires as much care as a loaded gun.

At all times, treat the cymbal launcher as if its mechanism is cocked and the cymbal cartridge is loaded.

This document must be read in its entirety before operating the machine.

1. INTRODUCTION

1.1 Purpose and composition of the operating instructions

1.1.1 This Throwing Machine Operator's Manual is a document that contains all the information about the design features,
components, methods of operation, possible malfunctions and methods of their elimination, as well as safety requirements when using the product.

Every effort has been made to ensure that the information presented here is complete and accurate and up-to-date.
state of affairs. The Company is not responsible for errors outside of its control.

NOTE! Due to the fact that the company is constantly working on improving the design of throwing machines, minor design changes not reflected in this document are possible.

1.1.2 The Throwing Machine Operator's Manual includes the following
sections:

- description and operation;
- intended use;
- maintenance;
- routine maintenance;
- storage;
- transportation.

1.2 Required level of specialized training of operating personnel

1.2.1 A throwing machine is a complex and dangerous piece of equipment.

1.2.2 A skeet launching machine requires the same careful handling as a loaded gun.

1.2.3 Unauthorized persons and untrained personnel must not approach or touch the machine.

Before starting work, operating personnel must familiarize themselves with this manual, as well as be instructed and checked for knowledge of occupational safety rules when working with throwing machines by a qualified specialist of the manufacturer's organization.

1.2.4 The throwing machine may be operated and serviced by persons at least 18 years of age, who have fully understood this manual and have been trained by a specialist
a qualified technician, as well as persons already experienced in working with similar throwing machines.

1.2.5 THE MANUFACTURER AND SELLER SHALL NOT BE LIABLE FOR ANY LIABILITY FOR DAMAGE AND (OR) INJURY RESULTING FROM THE CORRECT OR INCORRECT USE OF THIS PRODUCT BY PERSONS WHO HAVE NOT BEEN TRAINED BY A SPECIALIST OF THE MANUFACTURER'S ORGANIZATION.

Caution: This section contains instructions which, if not followed or followed correctly, may result in personal injury to the operator of the machine.

Warning: This section contains instructions which, if ignored or not followed correctly, may result in malfunction or damage to the machine.

2. DESCRIPTION OF THE TRIANON THROWING MACHINE

2.1 Machine purpose

The Trianon throwing machine is designed to launch standard Rabbit (Hare A) 110 mm skeet targets for bench shooting.

2.1.1 **Machine designation**

"T XXXX."

2.1.2 **Machine appearance**

The appearance of the throwing machine is shown in Figure 1.

Figure 1: Trianon throwing machine

2.1.3 **Scope of application**

The throwing machine is designed to equip professional sports stands.

The throwing machine can also be used in hunting farms, shooting clubs and by private persons who are qualified to handle similar products.

The product offered is designed for many years of trouble-free operation, provided that the requirements of this manual are followed.

2.2 Technical specifications

2.2.1 **Technical data**

Cassette type - 8-stack cassette;

Number of targets - 288 pcs;

Type of targets - "Rabbit" 110 mm, 120 g;

Power source - 12 volts; Motor power - 350

watts;

Adjustable trap ejection angles vertically - 0° to 90°; Target movement -

Hare, Looper, Candle;

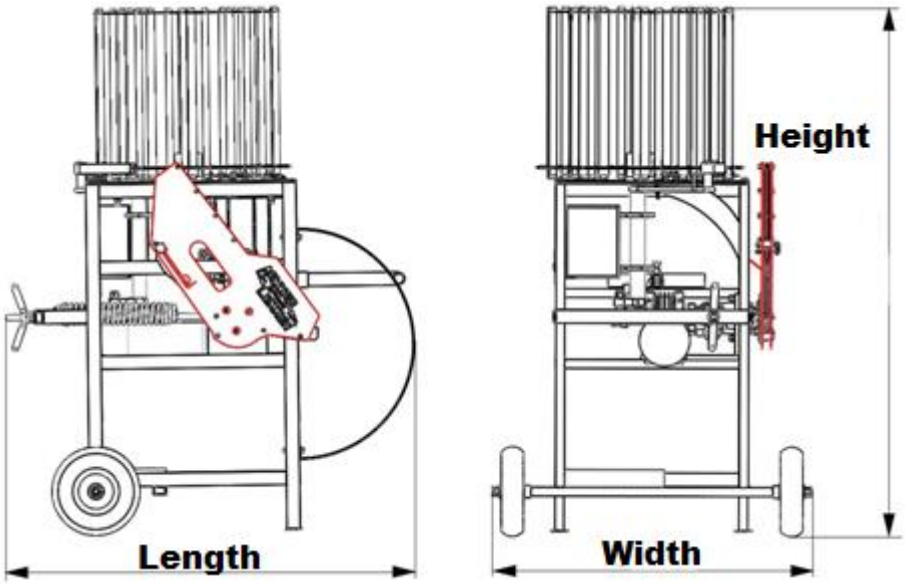
Weight - 52 kg;

Length - 920 mm (1250 with handle extended for transportation); Width -

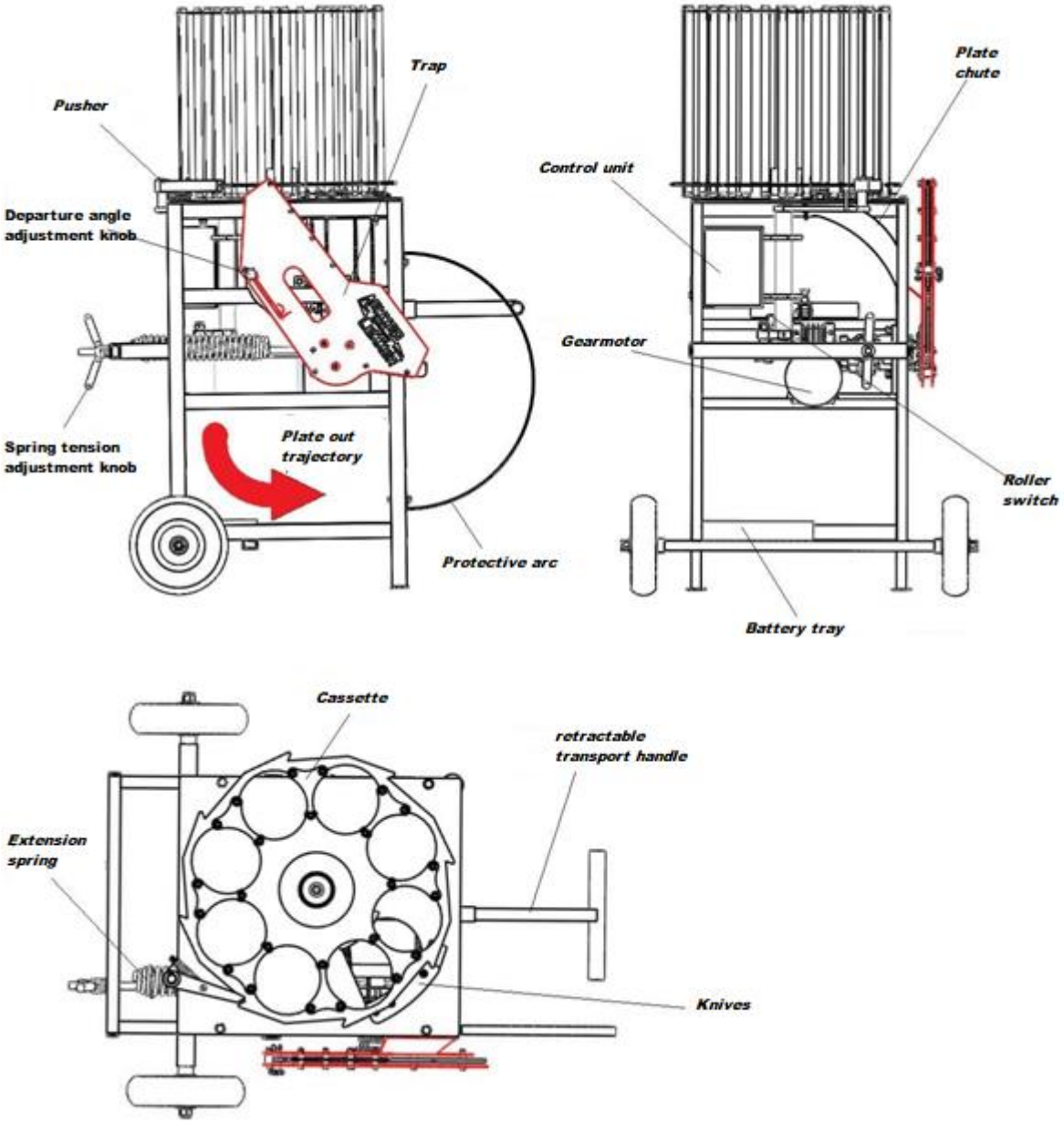
720 mm;

Height - 1180 mm;

Warranty - **1 year** for main elements (**2 years** for welded joints and gearmotor)



2.2.2 **Location of the components of the Trianon throwing machine**



2.2.3 **Product composition**

Throwing machine, pcs. - 1; Control

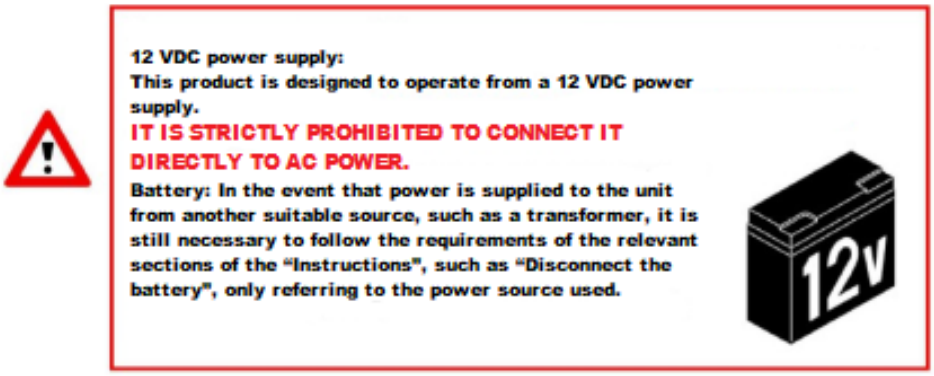
panel, pcs. - 1;

Control cable, m - 50;

Operation manual, pcs. - 1.

3. INTENDED USE

3.1 Operational limitations



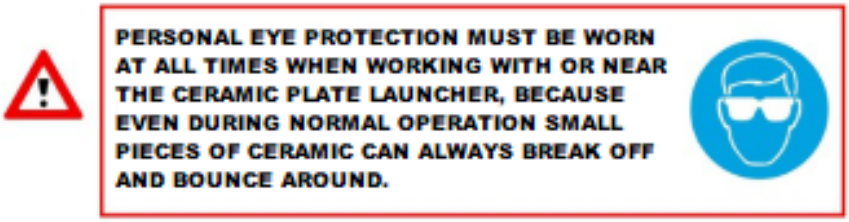
3.2 Machine installation

3.2.1 The ceramic plate launcher is installed on firm, level ground in such a way that there is no restricted access to the rear of the machine.

3.2.2 Make sure that nothing obstructs quick access to the battery terminals and that power to the machine can be supplied easily
terminated.

3.2.3 Before operating the machine, make sure that the machine is stable on firm, level ground.

3.3 Preparing for operation



3.3.1 This operating manual must be read before starting work.

3.3.2 Inspect the machine, make sure that it is free of mechanical damage.

3.3.3 Before connecting the battery to the machine, check the operation of the toggle switch of the ON/OFF/RESET switch to make sure that the switch is in the middle "OFF" position. (see Figure 2.2)

3.3.4 Uncoil the control cable with the remote control located at the rear of the machine and place it on the ground. Similarly, if you have a foot pedal - descend by pedaling with the toggle switch in the ON position (see figure 2.1)

Figure 2.1. Control panel with Descent button - operates with the toggle switch in the ON position (top position) (see Figure 2.2)

3.3.5 Connect the battery so that the red connector is connected to the positive battery terminal (+) and the blue connector is connected to the negative battery terminal (-).

3.3.6 When connected to the battery, the voltmeter screen located in the control box lights up and shows the battery charge in volts.

3.3.7 The machine must be operated from the rear of the machine.

Do not approach the machine from the front or side. The machine is never completely safe, even if it is de-energized, because its mechanism may be triggered.

3.3.8 From the rear of the machine, move the toggle switch
"Turn the "ON/OFF/RESET" switch to the lower "ON" position for about half a second and release it. The motor should turn a few degrees.

3.3.9 Set the toggle switch to the upper "ON" position.

The machine performs a cycle and stops in the charged position.

EXTREME CAUTION MUST BE EXERCISED WHEN THE MACHINE IS IN THE CHARGED POSITION!

See Figure 3.

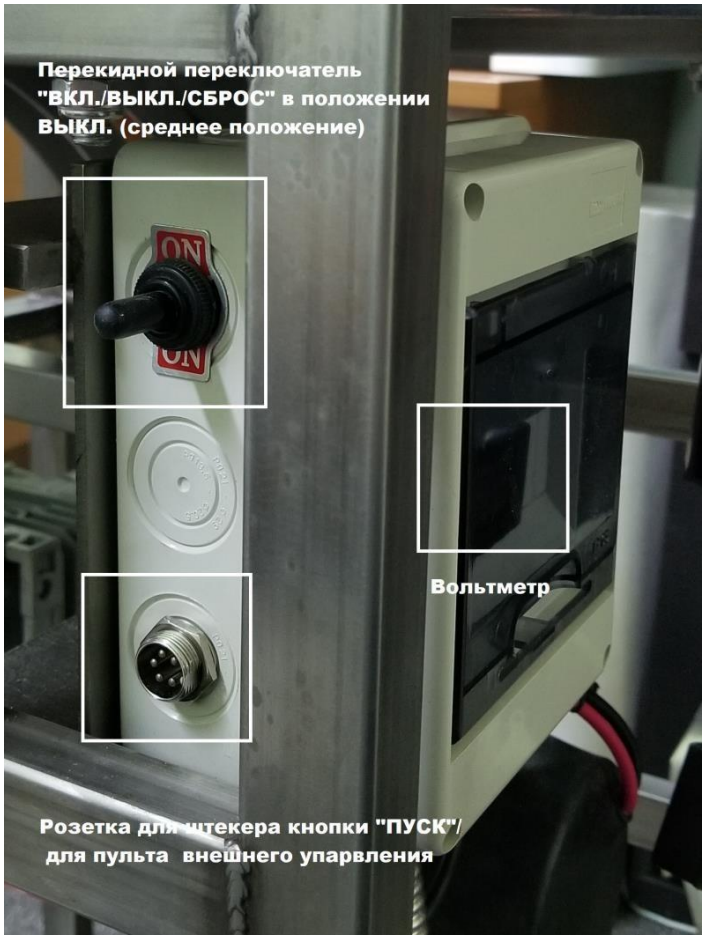


Figure 2.2. Location of the switches.

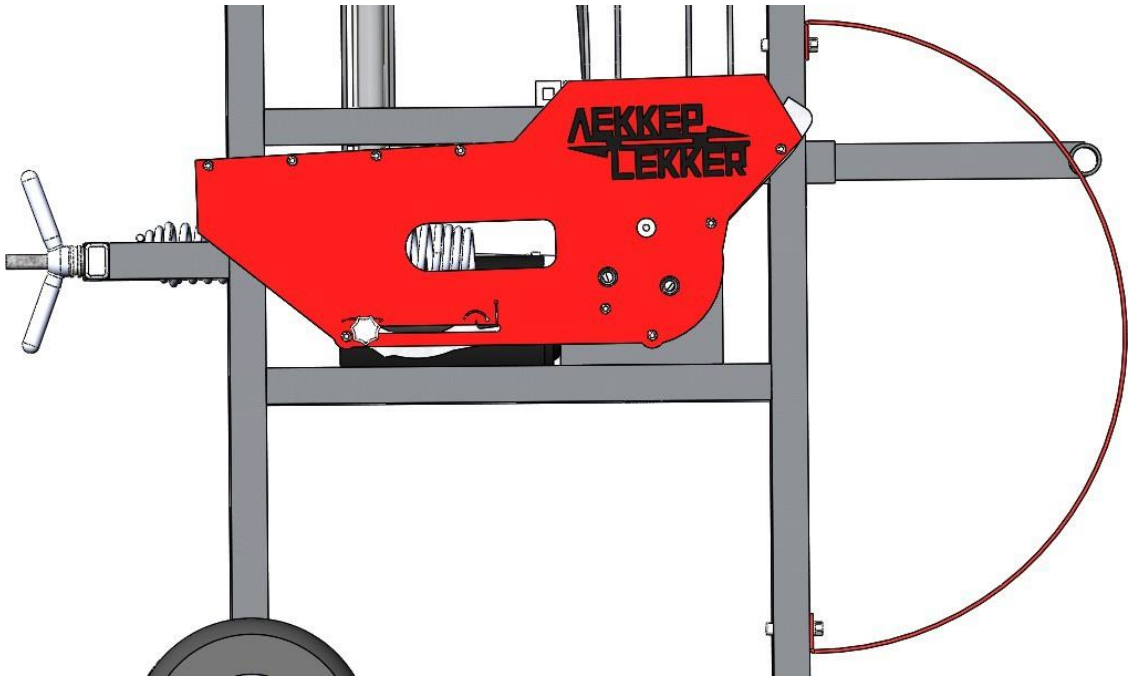


Figure 3: Charged position

3.3.10 Set the ON/OFF/RESET toggle switch to the lower position
"ON" for about half a second and then release it to allow it to return to the center "OFF" position. The trap will fire, but will not re-suspend.

The machine is now in the discharged or SAFE state. See figure 4.

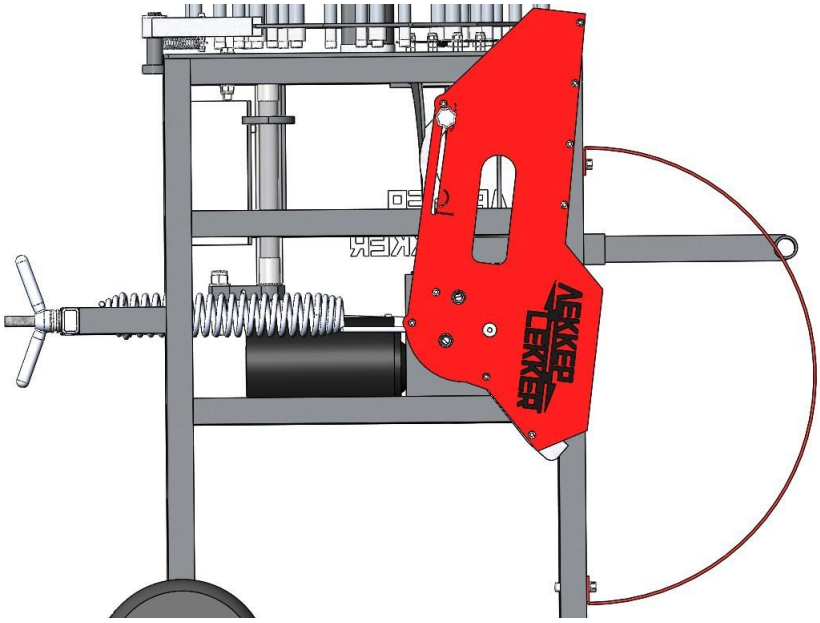


Figure 4: Discharged (safe) state

3.3.12 To eliminate the risk of accidental re-arming, it is recommended to disconnect the machine from the power supply.

4. MACHINE UTILIZATION

4.1 Fill the cassette. It is recommended to initially load several (3-4) targets into each column. The targets are placed with the colored side up - when using Nasta targets, with the dark side up - when using Lipetsk targets.

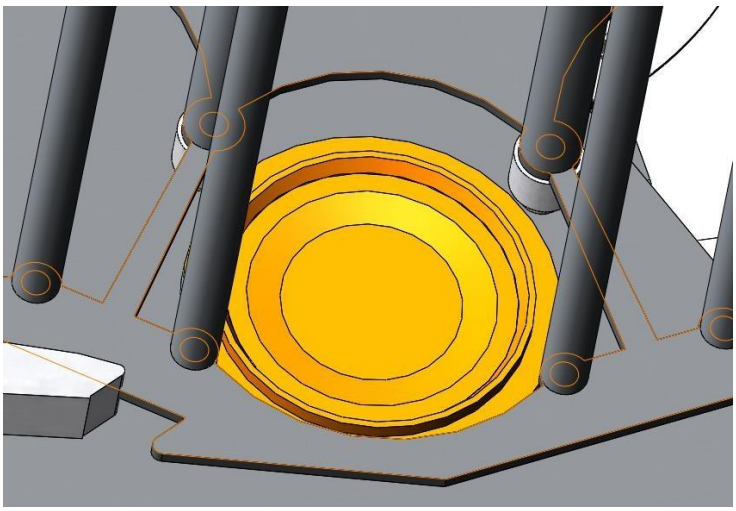


Figure 5. Plate position in the cassette

Don't forget to reconnect the power supply after loading targets! This is often forgotten in a hurry when recharging the machine during shooting.

4.2 Set the toggle switch to the upper "ON" position. The machine loads the target, is placed in the cocked state and is now ready to fire.

4.3 To check the direction of flight of the target, fire a shot by turning the "ON/OFF/RESET" toggle switch to the lower "ON" position, the machine will fire ONE shot, the machine is now in a safe (discharged) condition.

4.4 Fill the cassette completely with targets by repeating step 4.1.

4.5 Insert the plug of the start button cable into the control unit of the throwing machine. (see figure 2)

4.6 You can connect the control cable or a radio trigger control device to the control cable on the dispatcher's console.

4.7 The machine fires a shot and then re-arms whenever the firing button on the control cable or radio remote control unit is pressed.

5. SHUTDOWN SEQUENCE

5.1 After use, the machine must be left in a discharged/safe condition (see point 6.1), the electrical supply must be disconnected.

6. CHARACTERIZATION OF OPERATING MODES AND PROCEDURE FOR TRANSFERRING THE MACHINE FROM ONE OPERATING MODE TO ANOTHER

SAFEGUARDING

WARNING: ALWAYS STAY BEHIND THE UNIT.

- Switch the mechanism to the unloaded state by turning the toggle lever.

the "ON/OFF/RESET" switch to the lower "ON" position (not cocked) and immediately release it so that the toggle switch moves to the middle "OFF" position;

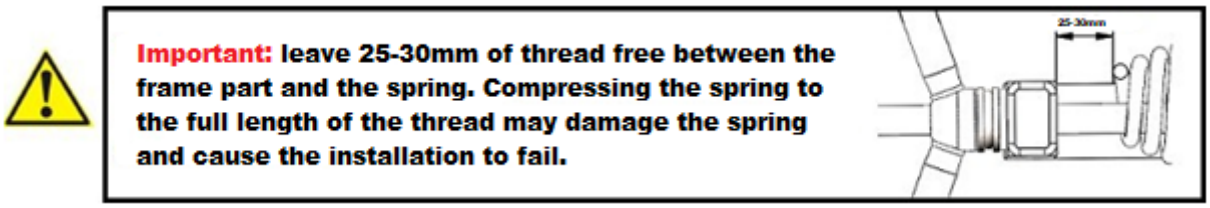
- Disconnect the machine from the power source by removing the battery terminals.

6.1 **Loading or adjusting the machine may only be carried out when the machine is in a discharged/safe condition**. (see paragraph 6.1)

6.2 Increasing or decreasing the range of the target is achieved by increasing or decreasing the spring tension. For the location of the spring adjustment see para. 2.2.2. A support bearing and a two-bladed knob are provided to facilitate tension adjustment.

Reducing the spring tension: loosen the spring to the required degree by turning the two-petal knob counterclockwise.

Increasing the spring tension: tension the spring to the required degree by turning the two-blade knob clockwise.



Adjusting the platter departure angle

The ejection angle of the plate can be adjusted using the sliding slider located on the front of the trap (see Figure 6). To do this, loosen the screw on which the departure angle adjustment knob is located until you can move the guide inside the trap. Next, move the screw to the desired

The screw must be locked in position (see figure 7) and the screw must be tightened by turning the knob clockwise.

Figure 6. Adjusting the platter departure angle

Position **1** - imitation of movement along the trajectory of "*Hare*" (a plate hopping on the ground - *It is necessary to organize a track (rubber, plywood) for the movement of the target*)

Position **2** - simulation of departure along the *Luper* trajectory (departure of the plate along the parabolic trajectory, at the maximum angle for this trajectory). It is possible to set the screw between positions **1** and **2**.

Position **3** - simulation of flight along the "*Candle*" trajectory (vertical upward flight of the cymbal)

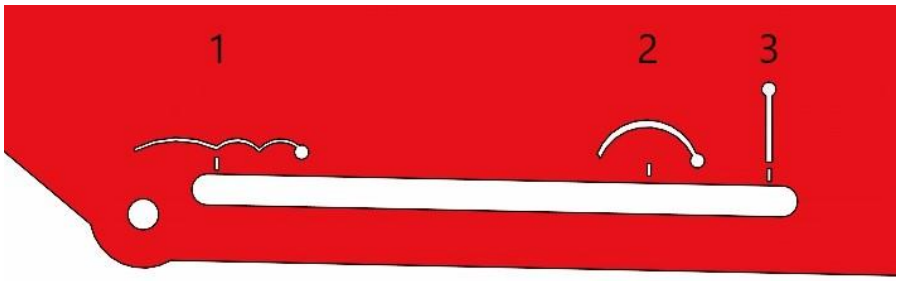
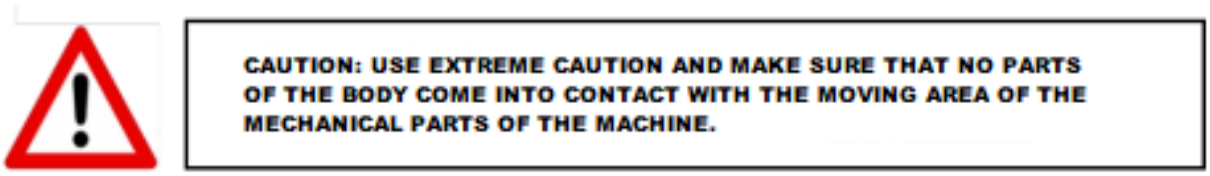


Figure 7: Basic positions of the plate outreach

You can also set any intermediate positions using the sliding slider without being bound to a specific trajectory.

7. LIST OF POSSIBLE FAULTS AND RECOMMENDATIONS FOR THEIR ELIMINATION

All repair and maintenance work shall be carried out when the machine is in the в safe (discharged) condition. п. 6.1)



7.1 Troubleshooting:

7.1.1. Failure to restart the **unit**: the pusher does not return to its original position. The following steps should be performed:

- translate toggle toggle switch в middle position "OFF";
- disconnect the power cable from the battery;
- make sure that there are no foreign objects (fragments of the target plate) in the path of the pusher movement;
- replace the battery pack with a fully charged one;
- move the switch to the upper "ON" position;
- the rig is going to go off;
- if the fault is not eliminated, carry out the first two steps in section 7.1.1

and contact a specialist.

7.1.2 **Spontaneous gunfire**:

- set the circuit breaker to the DOWN (OFF) position;
- disconnect the cable of the "Start" button from the control unit of the throwing machine;
- switch the unit back on by turning the toggle switch to the upper "ON" position;
- If the unit cranks normally, the control cable is defective - replace it.
- If the unit continues to fire spontaneously, turn it off, to do so:
- translate circuit breaker circuit breaker в middle position "OFF";
- disconnect the power cable from the battery;
- contact a service technician.

7.1.3 **The pusher is jammed**:

Handle the machine with care as the pusher can move at any time. When performing any work on the machine, stay in a safe area at the rear of the machine and make sure that no part of the body is in the path of the pusher.

- move the switch to the middle "OFF" position;
- disconnect the power cable from the battery;
- loosen the spring (see point 6.3).
- remove any foreign objects obstructing the movement of the trap.

7.1.4 The car is smashing the targets

- Check that the targets in the cassette are intact, free of cracks and chips. If the target is defective, it must be removed and replaced with a whole one.

If no target defects are detected, perform the following steps:

- With the machine in the "OFF" state, manually rotate the cassette and inspect each target that falls into the throwing chute. Make sure there are no cracks or chips in the target.
- If the target is cracked or chipped, perform the following steps:

- remove the targets from the cassette;

- check on several targets that the target can pass freely under the inner and outer cutting edges of the knife (see figure 9) and is not destroyed by the carousel plate.

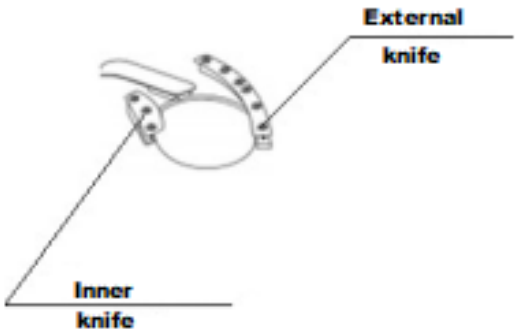
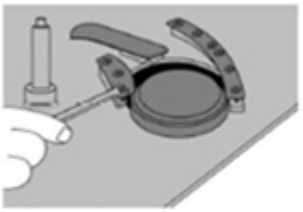


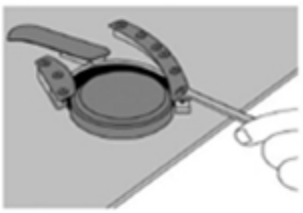
Figure 9. Diagram of knives

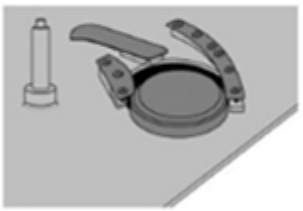
- make sure that the cutting edges of the knife are not positioned too high, i n this case they will cut the lower part of the next target. If the cutting edges of the knives are destroying t h e bottom of the next target - adjust both knife cutting edges accordingly by following the steps below:

Place one ceramic target plate on the top plate of the machine and slide it halfway under the blades of the two knives.



Use a 10mm wrench to adjust the height of the inner and outer blades of each blade. It is necessary that the gap between the lower surfaces of the blades and the horizontal surface of the plate is at least 0.5 mm.





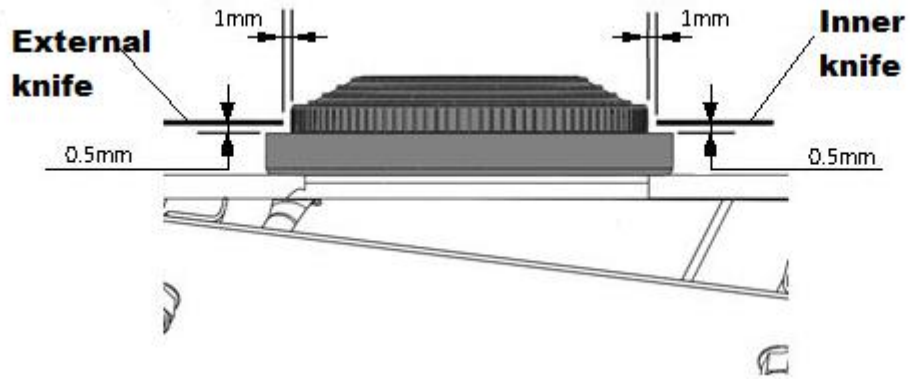


Figure 10. Plate and blade clearance

When using targets from different manufacturers, it becomes necessary to adjust the knives. We recommend using targets from the same manufacturer.

- Replace the cassette and place one target in each column of the cassette. Rotate the cassette by hand so that each target passes through the target feed opening into the ejection ramp. When passing targets over the blade edges, make sure that nothing obstructs the targets from passing over the blade edges. If the targets do not pass evenly through the blades or get stuck, the cassette may be damaged. To check this, take several targets and pass them up and down through each of the eight pockets of the cassette.
- If the malfunction persists, contact a service technician.

7.1.5 Unusual noise

- Check that all bolts are well tightened. In

case of:

- spring is not sufficiently tensioned and its coils are touching each other - tension the spring (see point 6.3).
- the tappet is not attached to the lever - tighten the nut securing the tappet to the motor shaft.
- the shaft bearing is damaged or has failed - have the bearing replaced by a specialist.

7.1.6 The spring is not properly tensioned/loosened

- The support bearing on the spring bolt has failed - contact a service technician.

8. MAINTENANCE SERVICE

8.1 General Guidelines.

8.1.1 Types, scope and frequency of maintenance

The main purpose of maintenance is to detect and prevent malfunctions by performing timely work to ensure product operability.

Maintenance of the machine during the warranty and post-warranty period is a prerequisite for its safe operation and efficient use for its intended purpose.

The list and frequency of scheduled maintenance, equipment and materials required for this purpose are shown in Table 1.

In case of violation of the requirements for scheduled maintenance or lack thereof, the manufacturer declines the warranty obligations

8.1.2 Requirements for the composition and qualifications of service personnel

The machine may only be operated by persons who have fully understood this manual and have been trained by a qualified specialist from the manufacturer's organization or by specialists from the manufacturer's organization.

8.2 Safety measures

Before carrying out maintenance work, the throwing machine must be set in the unarmed/safe state (see point 6.1) and disconnected from the power supply.

8.3 Product maintenance procedure

Table 1. Scheduled maintenance procedure

Content works maintenance work	**Periodicity**	**Performer**
Replacing the power supply	As required	Consumer specialists
Check tightening bolts major moving parts	Once a month	Consumer specialists
Changing the lubrication of rubbing parts	Every six months	Consumer specialists
Replacement trap rubber-metal lining	As it wears out	Consumer specialists

9. STORAGE

The product should be stored in the warehouses of the supplier and the customer in the absence of acid, alkaline and other aggressive impurities in the air at ambient air temperature from - 30°C to + 50°C at the limit value of relative humidity up to 95%.

In case of long-term storage, it is advisable to remove the spring tension to prevent the spring from being pulled out prematurely. For more details see paragraph 6.3.

10. TRANSPORTATION

During transportation the throwing machine must be in unloaded condition and it is advisable to remove the spring. For more details see point 6.3.

The throwing machine can be transported in closed vehicles (in covered wagons, closed cars, containers) at ambient temperature from - 30°C to + 50°C and upper relative humidity up to 95% at temperature +25°C.

The machine is equipped with wheels for more mobile movement. The machine can be transported on the ground using the retractable handle, which can be locked in two positions with a stopper: folded / unfolded. There is a stopper at the end of the extendable handle. (see figure 8)

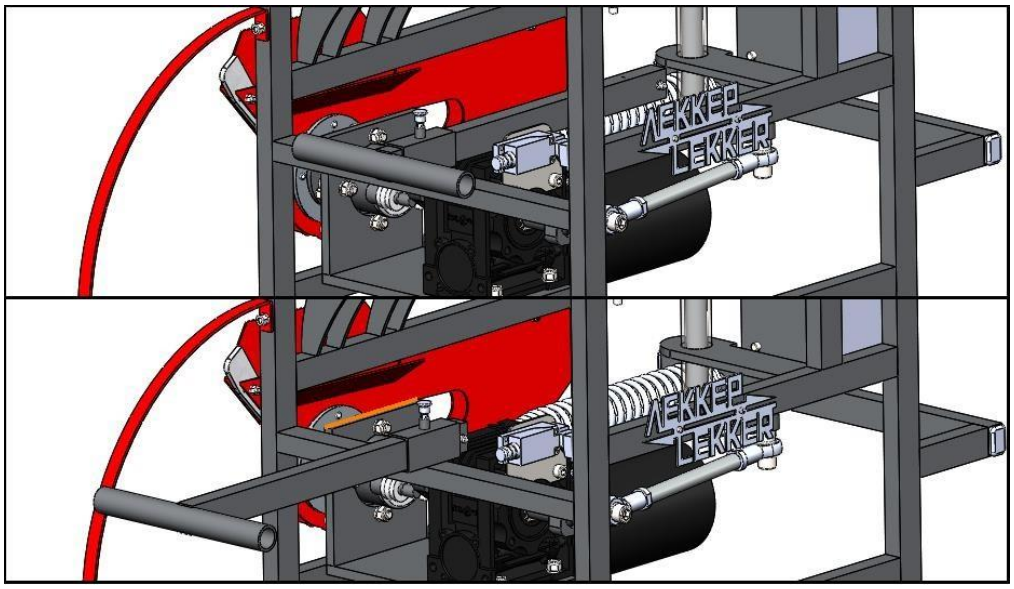


Figure 8. Folded / unfolded handle position