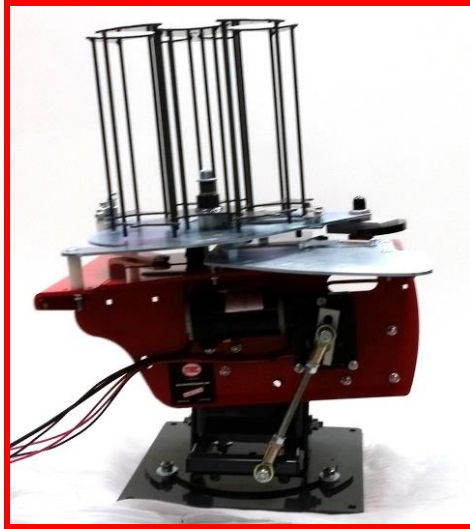




CLAY TARGET MACHINES

OWNERS MANUAL FOR MEC MODELS 100EMODSKT



CAUTION: ANY MEC CLAY TARGET MACHINE MUST BE IN THE DISARMED STATE WITH THE BATTERY DISCONNECTED PRIOR TO MAKING ANY ADJUSTMENTS, LOADING THE CLAY TARGETS OR TRANSPORTATION OF MACHINE.

Step 1 – Securely set the machine on level ground, either on the optional T Cart with hardware supplied or a pallet. If using a pallet, please make sure that it is fastened with clamps to keep machine from tipping. **IF NOT FASTENED SECURELY, SERIOUS INJURY OR DAMAGE TO MACHINE CAN OCCUR!!!**

DO NOT CONNECT THE BATTERY. Ensure that the machine is in the **DISARMED/SAFE** position.

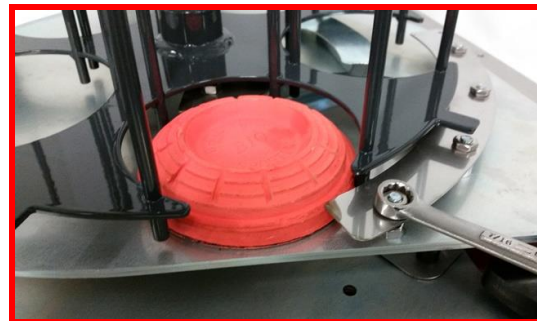
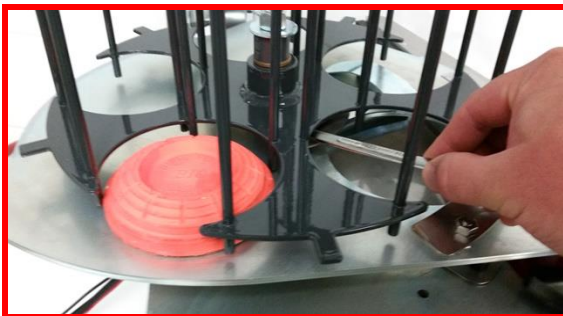
Step 2 – In most cases, your machine has been supplied to you ready to fire. If so, please proceed to **Step 3**. If your machine is supplied in a box without its carousel (shown below) fitted, you will need to attach it to the machine. Simply slide the carousel weldment onto the top plate shaft. If no grease is present, please add a little bit to the shaft. You may have to spin/rotate the carousel for it to slide on. Next, place the gray plastic collar over the shaft and onto the flange bearing in the carousel. Now place the large washer and nut onto the threads and tighten. Do not over tighten. You want a little bit of resistance there, but not too much. You shouldn't be able to spin the carousel with one finger.



CLAY TARGET MACHINES



Step 3 – The machine comes factory set to White Flyer standard clays. Clays can vary in size based on manufacturer. If using something different you might need to check the height / clearance of the knife-edges by placing a clay in the carousel. Rotate the carousel so that the clay starts to pass underneath the inner and outer knife separator blades. The clay must pass freely under the knife separator blades without binding, but with the minimum of clearance. Adjust if necessary with 7/16" open ended wrench. The height on both the inner and outer knife edge will need to be adjusted. Photos below show adjustment with carousel fitted, but you can remove the carousel to make adjustment easier if preferred.



Step 4 – Now, you can lay out the battery terminals and control box at the back of the machine. **DO NOT CONNECT BATTERY AT THIS POINT.**



CLAY TARGET MACHINES

Step 5 – Check that the ON/OFF/DISARM toggle switch on the grey control box in the OFF position. Connect the terminals from the wire harness to the battery, (a fully charged, good quality, deep cycle marine battery is recommended.) It is imperative that the “RED” wire go to the Positive Post and the “BLACK” wire go to the Negative Post. Never hammer the terminals onto the posts of the battery, or over tighten the terminals. Once the battery is connected you can connect the handheld to the machine.

Step 6 – Visually check, from the rear of the machine, that the motion of the Throwing Arm is not restricted or blocked in any way.

CAUTION: ALWAYS OPERATE THE MACHINE FROM BEHIND, NEVER FROM THE FRONT OR THE SIDES OF THE MACHINE. KEEP HANDS AND BODY PARTS AWAY FROM THE MACHINE WHEN ARMING, RELEASING AND DISARMING.

Step 7 – Standing at arm’s length behind the machine and making sure that all body parts are clear of the machine, push the ON/OFF/DISARM toggle switch into the DISARM position and then release it as soon as the throwing arm fires. The toggle switch is spring loaded and will return to the off position as soon as the switch is released stopping the machine from re-arming itself. If done correctly the arm will be pointing away from the left side of the machine when viewed from behind (right handed machines only). On left handed machines the arm will point away from the right side of the machine. The machine will now be in a safe condition.

Disconnect the terminals from the battery to ensure that the machine is not accidentally armed while adjusting and loading the machine.



CLAY TARGET MACHINES

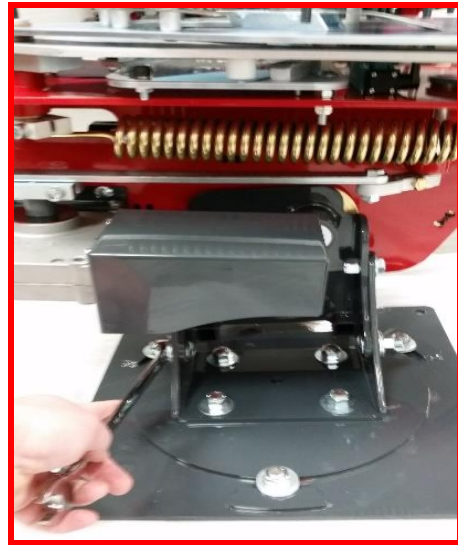
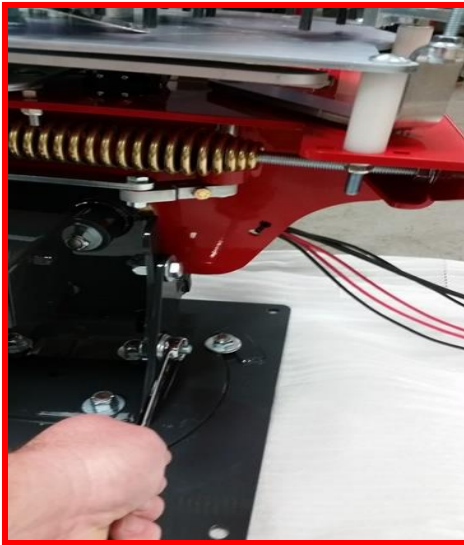
Step 8 – The amount of up and down angle of elevation is adjustable. Simply loosen the 3/8" allen bolt and slide it out on the slot of the clamp block to increase the height of the clay flight. Retighten the bolt securely and test fire. Sliding the bolt in on the slot will reduce the height of the clay flight.





CLAY TARGET MACHINES

Step 9 – Adjust the machines tilt by loosening the 3/4” nut on the front and rear on the base of the machine, as shown below. Tilt the machine to the desired angle and then retighten both nuts securely.



Step 10 – Rotate the machine by loosening the three 1/2” nuts. Once the machine is rotated to desired position, retighten the three nuts to secure machine.



Step 11 - Carefully load carousel with clays, removing any clays that show signs of damage. Load clays as evenly as possible and do not over load.



CLAY TARGET MACHINES

Step 12 – Your machine is now loaded and ready to fire. Make sure that the machine is pointed in a safe direction.

Step 13 – Standing at arm's length behind the machine, press the ARM/OFF/DISARM toggle switch to ARM. The machine will load a clay and come to the armed position and is now ready to fire and must be treated with **extreme caution**.

Step 14 – To check for clay flight and direction, fire the trap using the ON/OFF/DISARM toggle switch exactly as before, and press and release the DISARM toggle. This will fire one clay and will not rearm itself. Note – holding the disarm toggle will continually fire clay targets. Please use caution!

Step 15 – You can adjust the distance that the clay is thrown by extending the spring. This is achieved by winding tension on or off the main spring using a $\frac{3}{4}$ " wrench or the optional $\frac{3}{4}$ " extended socket, (which can be attached to an impact drive) on the nut on the back of the machine, and a $\frac{3}{4}$ " wrench on the flange nut on opposite side of the frame. This should be done with the machine in the disarmed/safe condition for small adjustments. After adjusting the main spring for the correct throwing distance, the nuts on the spring stud must be tightened securely against each other.



Step 16 – The pull cord or optional radio release can now be connected to the machine.



CLAY TARGET MACHINES

UNDERSTANDING THE CONTROL BOX

ELEVATION



DISARM
OFF
ARM

FIRE
BUTTON



CLAY TARGET MACHINES

REMOTE
DISARM
SOCKET



Elevation Toggle Switch - Pushing the switch downward will turn the elevation motor on. Note that the elevation motor will randomly start/stop when the machine is in operation. This prevents shooters from being able to predict the direction of the next target. Pushing the toggle switch upward allows you to nudge the elevation motor which elevates the machine up and down enabling you to check the clays flight.

Fire Button – The fire button allows you to test fire the machine from inside the trap house.

Disarm/Off/Arm – Pushing the switch downward to the arm state will arm the machine. Pushing the switch upward will cause the machine to fire (if in armed state) and disarm when the switch is released. Note – holding the disarm toggle will continually fire clay targets. Please use caution!

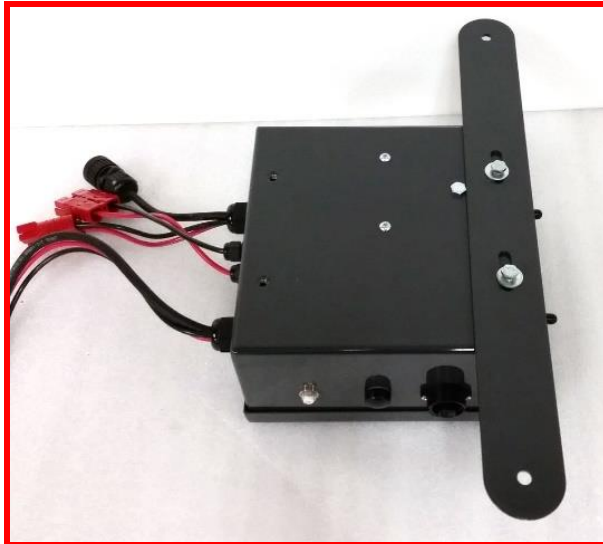
Remote Disarm Socket – The remote disarm socket on the side of the control box allows the remote disarm box assembly and 10ft. of cable (not included) to plug in and then it can be placed by the opening of the trap house. This allows the user to disarm the machine before entering the trap house.

Breakers – The breaker on the left is for the oscillation motor. The breaker on the right is for the cocking motor. If the breaker trips, it needs to be pushed back in to reset.



CLAY TARGET MACHINES

Step 17 – The bracket and hardware that is included can be used to secure the electrical box to the wall. You then can attach the bracket to the studs in your trap house. This will allow you to hang the box on the side of the wall with ease.



Step 18 – The machine is now ready for use by pressing the ARM/OFF/DISARM toggle switch, down to the “ARM” position.

Step 19 – With the machine pointed in a safe direction, press the fire button on the pull cord or radio release. This will cause the machine to fire a clay, and then reset to the firing position. Pressing the fire button again will do the same as above. Pressing and holding the fire button will continuously fire clays without delay.

Your machine is now operating smoothly and ready for use. It is critical that you never load or make adjustment to the machine unless it is disarmed and the battery disconnected. While in storage, the machine must be left in the disarmed state and the battery disconnected. Any spring tension does not need to be released.



CLAY TARGET MACHINES

FAULT FINDING MECHANICAL

CAUTION: ANY MEC MACHINE MUST BE IN THE DISARMED STATE WITH THE BATTERY DISCONNECTED PRIOR TO MAKING ANY ADJUSTMENTS, LOADING WITH CLAYS OR TRANSPORTING

1. The Machine breaks clays - Check loading cycle first:

- (a) Check that clay in the carousel is intact, not chipped or cracked. If in doubt, remove suspect clays and refill with ones known to be intact.
- (b) With the machine switched "OFF", rotate the carousel by hand, removing each clay as it drops onto the throwing plate. Check for cracks and chips. If the clays arrive on the plate intact, then move on to the throwing section below.
- (c) If they arrive chipped or cracked then remove the carousel and check that the clay slides under both inner and outer knife edges. There should also be some space between the inside and outside knife edge, about 1/8". Check that the knife-edges are not excessively high. 2 clays should have split without chipping or damaging the top or bottom clay. Using a 7/16" wrench adjust both knife-edges accordingly.

<https://www.youtube.com/watch?v=cBz4NKNj9I4> knife settings

1/8" SPACE
BETWEEN CLAY
AND KNIFE BLADE



- (f) When loading the clays be sure there are no tight spots in the carousel. Occasionally machines can suffer slight damage to the carousel.



CLAY TARGET MACHINES

Check throwing cycle next:

- (a) Check that the bolt holding the arm to its clamp block is tight.
- (b) Check arm for chunks missing from the black arm rubber or any other physical damage to the arm. If damage has occurred the black arm rubber should be replaced.
- (c) Check for damage to the throwing plate, in case it has been dented, bent or burred. Ensure that no screw heads protrude and that there are no other obstructions to the clay's path.
- (d) Check the height of the arm over the plate across its whole surface to ensure that the clay fits under the black rubber throwing arm strip with about 1/16" clearance. Any more than this clearance can cause the arm to break the clay by riding over it. Adjust by raising or lowering the throwing plate with 4- 1/2" nuts on the plates adjustment bolts.

2. Machine throws clays but:

- (a) The clay barely flies off throwing plate:
Check the height of the arm over the plate across its whole surface to ensure that the clay fits under the black rubber throwing arm strip with about 1/16" clearance. Any more than this clearance can cause the arm to break the clay by riding over it. Adjust by raising or lowering the throwing plate with 4- 1/2" nuts on the plates adjustment bolts.

<https://www.youtube.com/watch?v=qPnQpIMGT7E> E-series arm settings

<https://www.youtube.com/watch?v=IDGtb62IXj4> XP series arm adjustments
The arm might be bent down or the throwing plate bent up, squeezing the clay between them, the arm or plate should be replaced or straightened.

- (b) The clay goes no distance (even though the main spring is wound up tight).
The arm is probably bent upwards causing clay to go under it at its tip. This will also cause clays to break, the solution, is to straighten or replace the arm.
- (c) The clays are inconsistent in direction.
This could be caused by buildup of debris on the throwing plate; dirt, leaves, pieces of broken clay.
This is could also be caused by the front rail not moving freely. Light oil or a mechanical adjust if not free.
- (d) If the machine is a "Midi" or "Mini", the arm timing could have slipped.



CLAY TARGET MACHINES

3. Carousel does not rotate.

Check the following:

- (a) The Carousel pusher arm is not jammed with broken clays or dirt.
- (b) The pusher return spring is broken or missing.
- (c) With the pusher arm withdrawn, the carousel should be free to rotate with a small amount of friction. This is adjusted by tightening or loosening of the lock nut on top of the carousel's shaft.
- (d) Carousel pusher timing is in-correct, i.e. when the gearbox crank and connecting rod are in line at maximum extension, the Rear Pusher nylon for the carousel should be deep into the cut out on the Top Plate (100 e, 200e, 300e, 306xp). If your machine is a 400e or 408xp then the rear pusher will be on the radius of the top plate. If this is not the case, then the clamp on the rear pusher shaft should be adjusted accordingly. It must be tightened before operation of the machine.



<https://www.youtube.com/watch?v=N3Wdk88efTQ> XP pusher shaft



CLAY TARGET MACHINES

FAULT FINDING ELECTRICAL

CAUTION: ANY MEC MACHINE MUST BE IN THE DISARMED STATE WITH THE BATTERY DISCONNECTED PRIOR TO MAKING ANY ADJUSTMENTS, LOADING WITH CLAYS OR TRANSPORTING

1. Machine does not Arm

Check:

- (a) Battery is charged and that connections are tight.
- (b) Toggle switch is in the down ON position or on the Handheld that the “ARM” indicator light is on.
- (c) There are 3 components in place to protect your electrical box.
 - 1. Re-settable breaker. Found on the side of the electrical box. (older models have non-resettable breakers)



- 2. 60amp or 70amp relay. Found inside the electrical box. (automotive type)



- 3. Inline fuse. Found inside electrical box. (7.5amp automotive type 2 prong fuse)
<https://www.youtube.com/watch?v=JZZmYQtybAE> replacing fuse





CLAY TARGET MACHINES

(b) Check the above items.

(c) **If your machine has a Gray Arm / Dis-arm box.** Make sure the wires inside are in good shape, free of corrosion and not pinched on the bottom of the box. Green to White would by-pass the switch and arm the machine. This would indicate a faulty switch.

3. Machine runs in DISARM position, but not in the ARM position.

(a) Check for faulty relay.

4. Machine ARMS but will not fire on the Pull Cord button.

(a) Either the connections, cable or command push button are faulty. Disconnect the 110V Plug from the Pull Cord, using a lead wire, with 1" stripped of each end, insert into the Positive and Negative sides of the outlet plug. Once contact is made, the machine should fire.

If the trap does not fire, then there is a broken wire in the cable or a bad connection in the three-pin plug or control box.

(b) If the trap does fire then reconnect the Pull Cord, remove the cover on the push button box and short across the two spade connectors.

If the trap fires - then the push button is faulty.

If the trap does not fire - then there is a broken wire in the Pull Cord or a bad connection in the three-pin plug.

5. Trap fires by itself.

(a) Disconnect the Pull Cord and switch the trap back on.

If the trap cocks normally - then the Pull Cord is damaged or shorted out.

Alternatively, the push button switch is stuck in or faulty.

(b) If the trap continues to fire – Check to make sure the Throwing arm is contacting the roller limit switch arm. The arm should pass over the limit switch with only a small amount of space.

(c) If the machine still fires by itself - check if the relay contacts have stuck together, and if so replace. If the relay operates correctly, but the trap still fires by itself, then the roller limit switch is faulty and should be replaced.

(d) If the machine still fires by itself – Throwing arm timing could have slipped. Call the Technical Support Line for help.



CLAY TARGET MACHINES

CUSTOMER SERVICE

We're here and ready to help you! Don't forget to take advantage of our trouble shooting guide, website videos, and online owner's manuals, which are available 24/7. You may contact factory customer service at:

MEC Outdoors
800 Horicon Street, Suite 1
Mayville, WI 53050 USA

1-800-797-4632

ctmsales@mecoutdoors.com

MEC OUTDOORS

Website: www.mecoutdoors.com

Facebook: www.facebook.com/MECOutdoors/

Instagram: www.instagram.com/mecoutdoors.official/

Twitter: https://twitter.com/MEC_Outdoors

YouTube: www.youtube.com/mecoutdoors

Mayville Engineering Company (MEC)

Website: www.mecinc.com

Thanks for choosing MEC! Every machine is hand set and tested prior to leaving our shop to ensure quality. We take pride in our products, so you can have a better experience in the field. Your patronage is very much appreciated!

For any questions regarding setup or use of any MEC Clay Target Machines, please give us a call or you can visit us on our website for video footage showing how setup and adjustments are made.

To receive our monthly newsletter, go to our website, select the "Shooting Sports Lifestyle" tab and click "Join Us".