



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.

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 is might 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.

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



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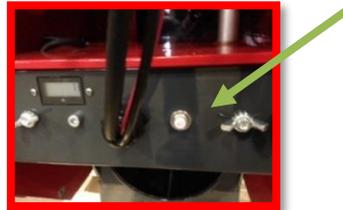
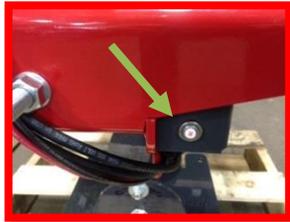
FAULT FINDING ELECTRICAL

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





(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.

Do not hesitate to call MEC Shooting Sports Customer Service @ 1-800-797-4632 for help on diagnosing any problems with your MEC Clay Target Machine.