



beomat



MANUAL

Tyr MOT 250

English

Manual for Tyr MS 250

Before bolting the machine into position, install the launching arm guard, the magazine and the launching arm. Connect the wiring. Load a small amount of targets and test the launcher to determine the exact emerging point, make any minor adjustments by moving the machined left to right or forwards and backwards until a satisfactory result has been achieved.

Fasten the launcher in position.

Ensure that tests and installation are carried out in a safe way before bolting.

Adjustment guide

Your BEOMAT launcher has undergone a complete pre-delivery inspection and should not require any adjustment at the time of installation.

Should your launcher not be performing correctly, before any adjustments are made, please check the following:

1. Confirm that the launching arm is straight. Remove the arm and visually inspect the same (after some time of use, a slight “banana shape” in the working direction is normal and acceptable). However, if the arm is bent either up or down, it will severely effect the target flight, or cause target breakage. In such a case, replace the arm before checking further. If you think the arm needs adjustment please see next page.
2. Verify that the elevator is adjusted correctly. The ideal clearance between the highest point of the elevator and the bottom rim of the target, should be between 3mm (1/8”) - 6mm (1/4”).
3. Confirm that the target retainer brush is “holding” the target close to the launching arm (permissible distance between the target and the launching arm is 6mm (1/4”)

Following instructions will help you maintain your BEOMAT launcher. Please check your launcher on a regular basis. Keep the launcher clean and do not load with damaged targets.

Further trouble shooting is available at the end of this manual.

WARNING!

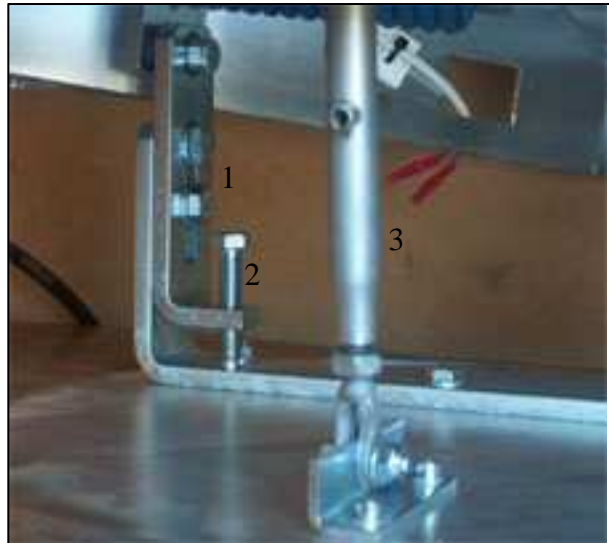
Ensure that the power is turned off and the launcher is in a disarmed position when adjusting or maintaining the launcher!

All work on electrical appliances should for safety reasons be performed by a qualified electrician.

Installation setup/target trajectory adjustments.

There are two adjustments for the target trajectory:

1. For the levelling of the target, the right side support leg is adjustable, please note the two lock bolts(1) and a height adjustment bolt(2) which may be adjusted to accommodate any specific target for a perfectly flat trajectory.
2. The vertical adjustment (setting the target height) is simply done by a turnbuckle(3)



Installation setup/spring tension adjustment.

The spring is installed without preload. To set the target flight distance is easily done by the multipurpose tool, a 3/8" drive ratchet. Loosen the lock nut at the end of the spring and by turning the ratchet on the outside clockwise thus increasing the spring tension. When the desired distance is obtained, tighten the lock nut.



Adjustment guide

Your BEOMAT launcher has undergone complete pre-delivery service and should not require any adjustments whatsoever at the time of installation. If the launcher is not performing properly after installation, (the machine may have been exposed to freight damage). If so, please call BEOMAT SWEDEN AB immediately

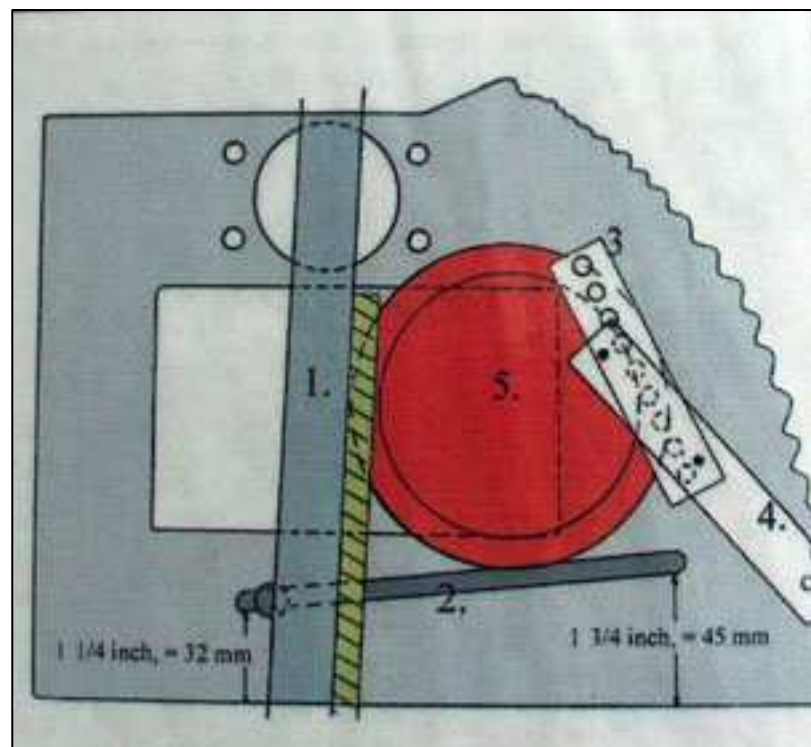
If your launcher is not performing correctly, before any adjustments are done, please check the following:

4. Confirm that the launching arm is straight. Remove the arm and visually inspect the same (after some time of use, a slight “banana shape” in the working direction is normal and acceptable). However, if the arm is bent either up or down, it will severely effect the target flight, or cause target breakage. In such a case, replace the arm before checking further. If you think the arm needs adjustments please see next page.
5. Verify that the elevator is adjusted correctly, i.e. a clearance between the highest point of the elevator and the bottom rim of the target, of at least 3mm (1/8”) 6mm (1/4”) is ideal clearance.
6. Confirm that the target retainer brush is “holding” the target close to the launching arm (permissible distance between the target and the launching arm is 6mm (1/4”).

The following pictures and instructions will help you maintain your BEOMAT launcher. Please check your launcher periodically. Please keep the launcher clean and do not load broken targets.

The target nest.

The birds view of the target nest shows you all the details for an excellent target performance. The launching arm (1), should be roughly parallel with the left side of the chassis, or as shown in the drawing. The target guide rail is an important part of the target performance. This guide rail (2) has had various lengths through the years, and is now at an exact length of 150mm (6”). Please note the exact position of the guide rail. (Should you have machines of an earlier model, it will be a great advantage to arrange the target nest to these exact specifications together with a new brush. If the guide rail is longer than 150mm



(6”), it is important that it be shortened to that length before adjusting to the position shown here).

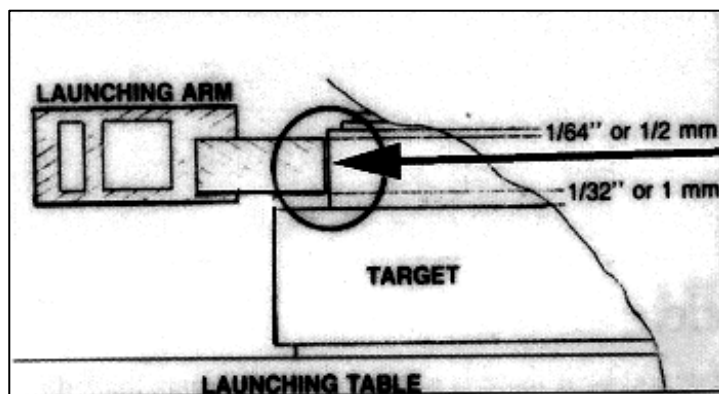
We have recently improved the nest brush itself (3) in order to have the optimum performance, and the brush is mounted directly onto the magazine table. (The brush in this picture is equipped with a bracket (4) and as such applies an earlier style machines). The brush position is essentially the same regardless of mounting. Should the brush require replacement detailed instructions are furnished with the brush

Correct launching arm adjustment procedure.

Visual check illustration:

Check the launching arm adjustment with the launcher in cocked position, viewing the arm and the target from the rear of the machine (refer to illustration).

Then shut off power and release the launcher by its toggle switch. (Or, if not existing, it is perfectly safe to release the arm using your index finger behind the tip of the arm, pushing it to start after the power has been shut off).



Adjustment illustration:

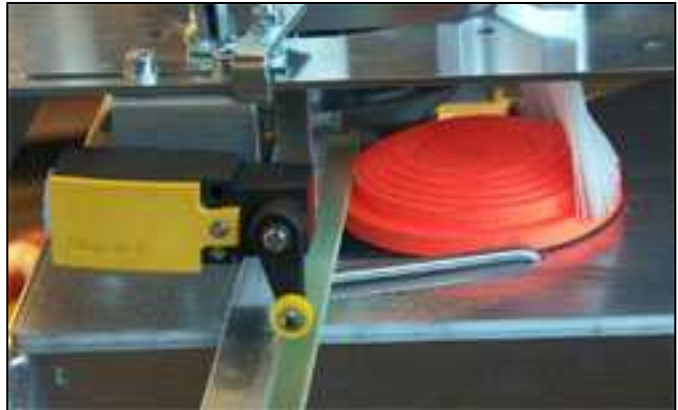
Procedures: Please note the position of the launching arm carrier. Refer to illustration above, before any adjustments are made. Proceed with the adjustment, use a 6 mm Allen tool to loosen the bolt (illustrated by arrow in illustration), about $\frac{1}{2}$ to 1 turn, while supporting the launching arm with your left hand. Then lightly pry the launching arm carrier up or down on the main shaft with a medium size screwdriver, “walking” it to the desired position on the shaft. Repeat the above steps until the correct adjustment is obtained. Tighten the retainer bolt to 20 - 30 NM (17 - 20 Lb.Ft or 2,2 - 2,6Kpm).



Micro switch adjustment

Maybe one of the most common corrections on the machine. For instance, if the machine should start releasing targets on its own, an adjustment of the switch to the left, or downwards may be a correct solution.

The switch is controlling the re-cocking function of the launcher, and is activated by the launching arm. To adjust the height of the switch, simply loosen the two slot mounted screws (shown) and slide the entire switch body up or down. Another adjustment, (not visible in this picture) is that the entire bracket may be moved in the slotted mounting holes at top of the bracket, allowing the switch assembly to be moved left or right. NOTE, the ideal position as shown, with the launching arm parallel with the left side of the chassis and the leading edge of the arm flush with the tip of the switch lever.



The Break

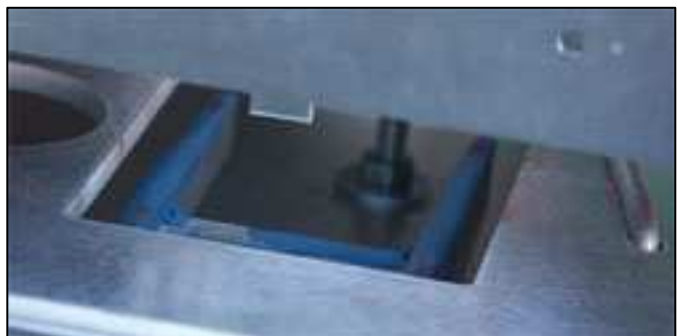
Adjustment of the back lash brake:

The break is situated on the throwing arm shaft. When the throwing arm is released it should not stop with a swivel. This will put a great strain on the throwing arm. To adjust the break, use an Allen key. Tightening of the adjusting bolt, turning clockwise, will increase the brake efficiency. Adjust the Allen bolt on the break, until the arm stops without vibrations. If a moderate tightening of this bolt does not have the desired effect, the sprague within the band may be faulty or worn.



Elevator clearance.

The only reason for the elevator to require an adjustment would be if there is a lot of broken targets loaded in the machine. The result is that the elevator must cut through the target pieces, which in turn may cause a slight bend in the parallel arm assembly, thus, necessitating adjustment. The machine itself will not break any targets unless it is severely out of adjustment. (Under severe conditions it may be necessary to either straighten or replace the parallel arm assembly).



The elevator should be checked with the power shut off and the machine released manually, i.e. not by the electrical switch, since the elevator will be moving upwards immediately when released by the electrical switch.

The distance from the highest point of the elevator to the upper surface of the launching table should be a minimum of 6mm (1/4") maximum about 13mm (1/2") as per illustration.

Elevator height adjustment.

Adjustment of the elevator, is done by loosening the small bolt, as shown, at the bearing riser on the parallel arm assembly. Then by sliding the bearing riser for or after you will be changing the height of the elevator. (Again, the machine must be released manually in order to have the elevator position correct).



And of course, as always, --the power must be shut off and the launcher arm released before any adjustments are made.

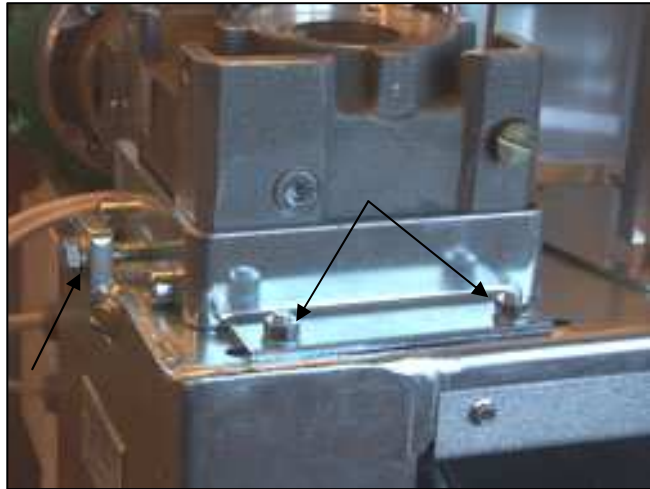
Target separating knife. (Customer option)

A target separating knife is installed on your BEOMAT machine. The knife is installed in a reversed position for the reason that it must be adjusted individually for every manufacture of targets. When activated, loosen the nut at the top, reverse the knife and use the installed washers to adjust the height. It may be necessary to bend the knife slightly up or down in order to very precisely adjust the knife. The knife will perform excellently with wet targets, but bear in mind, if not adjusted properly it will cause more harm than good.



Drive belt adjustment.

A pair of regular V-belts, are utilized between the reduction gear and the launcher main shaft. After some time, a year or two, it may be necessary to tighten the belts slightly. This is done by loosening the two fasteners as shown about one turn or at the most a turn and a half, then by tightening the belt tension bolt, shown, about one full turn. (it should be understood that too great a belt tension will put unnecessary pressure on the drive mechanism). Then re-tighten the two fasteners at the gear bracket.



Leaf spring.

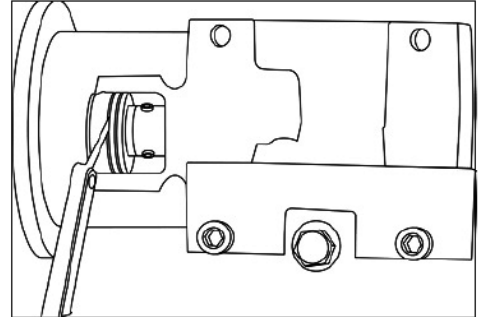
A leaf spring is installed to provide an “ease down” of the target stack. Adjustment is normally not required, however, if the spring should need replacement, or come out of position, it should be adjusted so that when the magazine is filled with targets, after delivering one target to the elevator, the full stack of targets will ease down.



The Clutch

The electric magnetic clutch cocks the machine. The clutch is located between the main motor and the gearbox. The distance between the rotor and the stator should be between 0.012" (0.3 mm) to 0.016" (0.4 mm). If the distance is less than this, the machine may start windmilling. If the distance is greater than this, the machine will not cock.

To adjust the clutch, loosen the two setscrews situated on the gearbox-input shaft and then slide the clutch forward or backward until the correct distance is obtained. Use a feeler gauge to obtain the correct distance.



Preventative Maintenance

DANGER

Before entering the house of the thrower or the danger area:

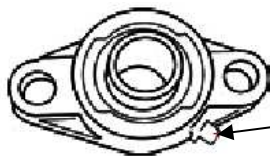
- △ Turn the power off.
- △ Always turn the power off using the main safety release.
- △ Make sure the machine is uncocked.
- △ Do not load the machine with broken or used targets.
- △ Clear the table and the elevator of any fragments of broken targets.
- △ Beware of the throwing arm 's speed when it releases.

General

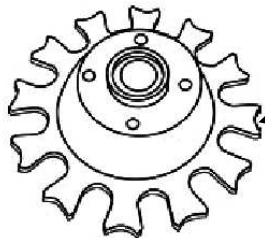
Keep the machine and the area around clean and remove any target fragments and other dirt daily.

If the machine has not been properly shut of using the safety release, -hand release the throwing arm by standing behind the machine and carefully push the arm counter-clockwise.

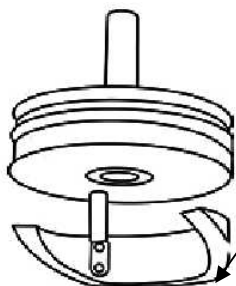
Greasing:



- Grease the grease nipples after 100,000 targets or once a year. There are four grease nipples on the Trap.



- Grease the magazine index wheel frequently. If the surface is dry, grease the twelve fingers on the wheel.



- Grease the elevator cam frequently. If the surface is dry, grease it.
- The worm gears are filled with synthetic grease and do not need to be changed at any time, as long as there is no abnormal leakage.

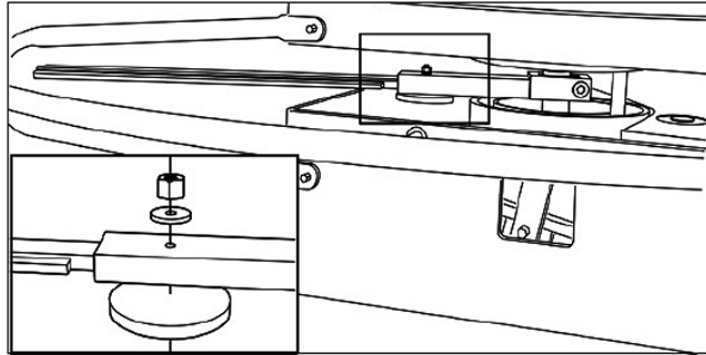
The Throwing Arm

- Avoid using the machine without targets as this will result in greater stress on the throwing arm.
- After extended usage, the throwing arm may become fatigued and the rubber molding worn. Check it often and replace when necessary.
- The launcher is at delivery ready for use. The machine is mounted and tested for the use of international 110 mm targets. However different brands are slightly different in measurement which may cause need for correction of the launching arm i height (see below).

Throwing Arm Replacement

1. Loosen the screw that holds the arm in the throwing arm holder.
2. Pull the throwing arm free.
3. Replace the throwing arm. Make sure the washer is on the underside of the arm holder.

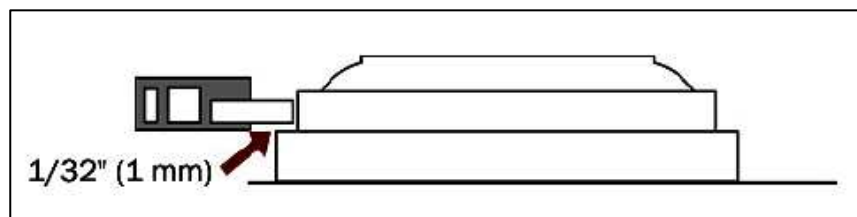
4. Securely tighten the screw.



5. Adjust the height of the arm by using a 6 mm Allen tool to loosen the bolt about $\frac{1}{2}$ to 1 turn, while supporting the launching arm with your left hand. Then lightly pry the launching arm carrier up or down on the main shaft with a medium size screwdriver, “walking” it to the desired position on the shaft



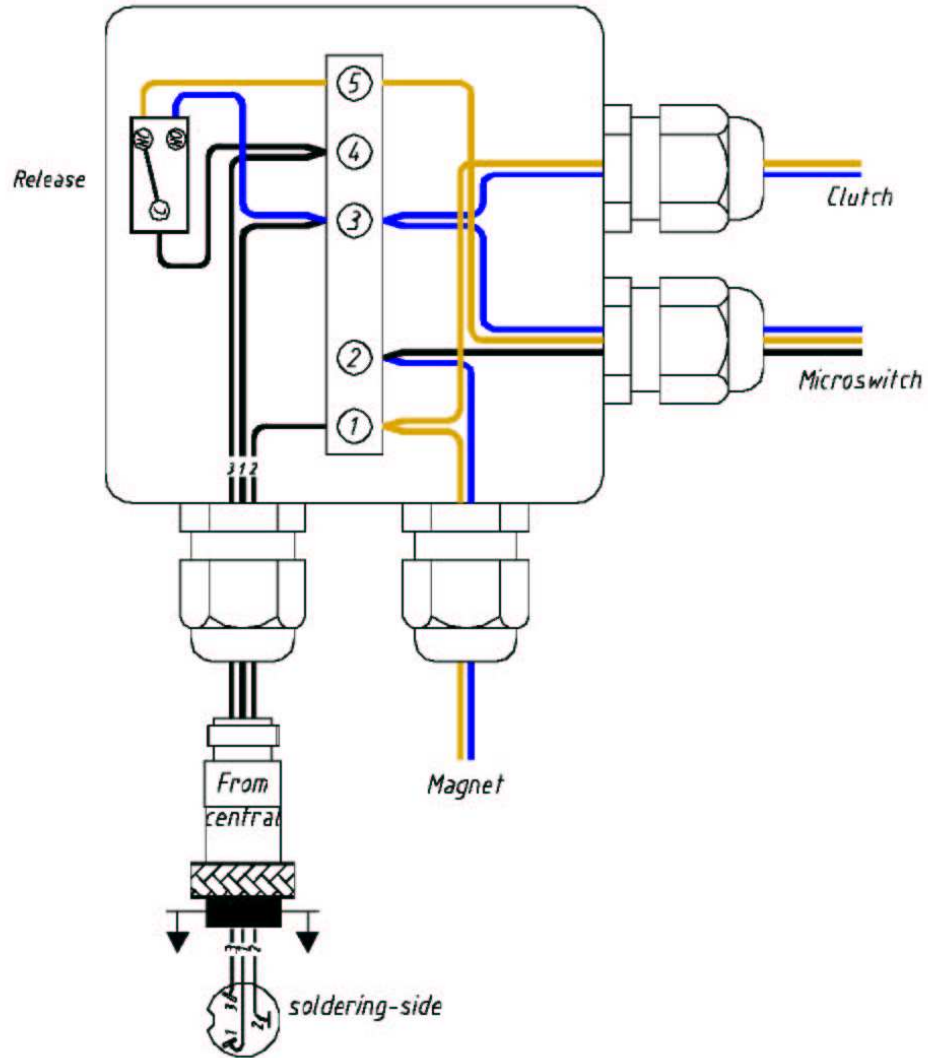
6. The distance between the rubber on the throwing arm and the first rim of the clay target should be $\frac{1}{32}$ " (1 mm).



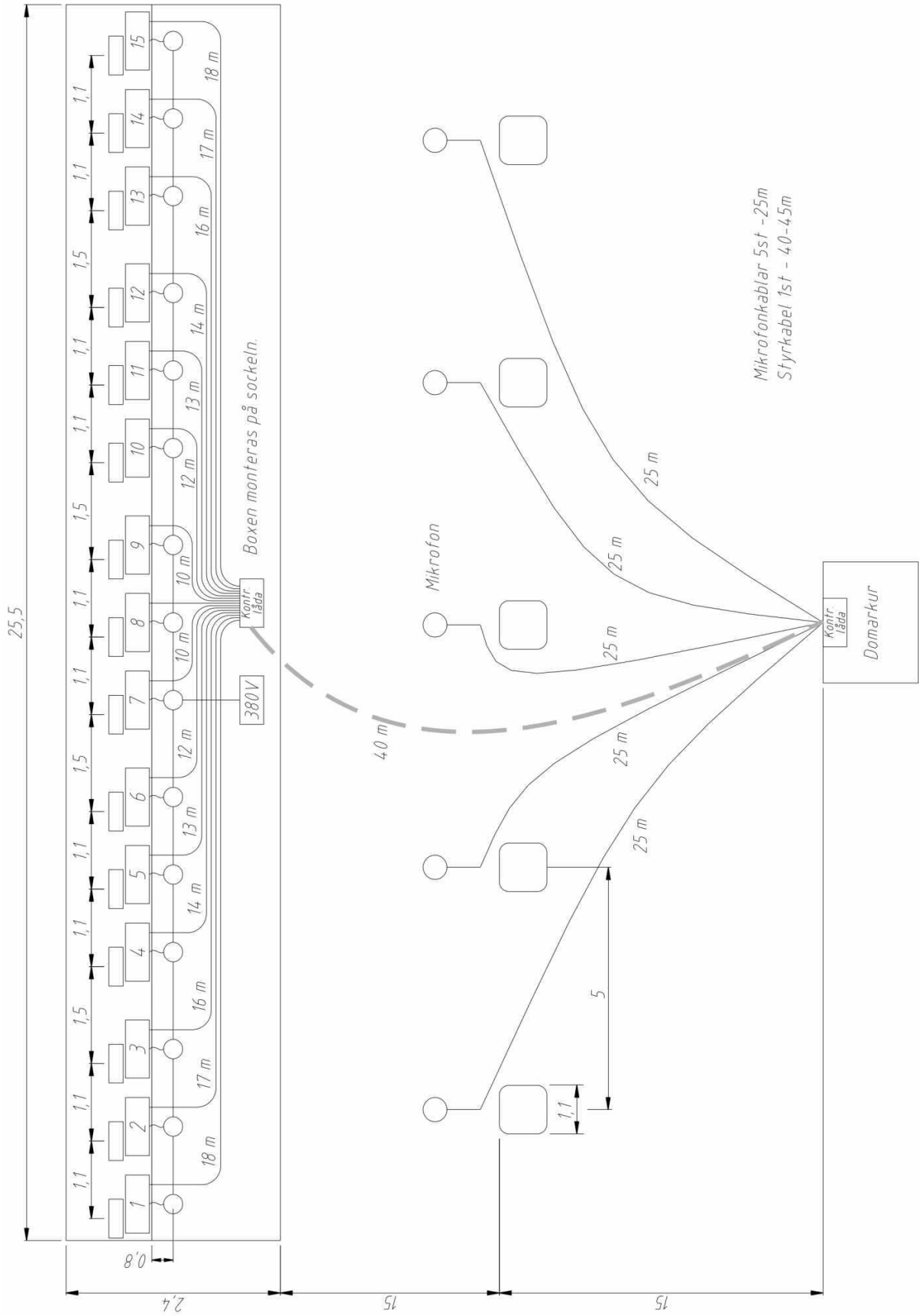
Tighten the retainer bolt to 20 - 30NM.

Nr	Ant	Ändring och/ eller medd -nr	Datum	Inf.	Godk.

Electric wiring machinebox



Det.-nr	Ant.	Benämning	Material	Mod.-nr, Ämne Dimension	Anm.
Costr:	Föred	Kop.	No nr.	Stand.	Godk.
	JPN				
BEOMAT		Machinebox MOT/ CVR/ Ret. magnet			020405
					4-7068-4



Troubleshooting

Problem	Cause	Solution
The trap does not start	No power	Check the power supply. Check the overload breaker situated on the side of the motor connector box. All electronic work should be carried out by a qualified electrician.
Targets are not released	Faulty relay	Replace the relay in the connector box.
Two targets delivered at the same time	Target retainer wheel O-rings are damaged	Replace the O-rings in the target elevator.
Broken targets	Fragment of broken targets	Clear the trap from broken target fragments.
	The launching arm is incorrectly adjusted	Adjust the launching arm.
	Launching arm is bent	Replace the launching arm.
	Target retainer wheel O-rings are damaged	Replace O-rings.
	The target retainer wheel is not turning	Remove the target magazine and the retainer wheel. Clean, then grease.
	Different target brands and sizes are used	Change targets.
	Wet targets	Replace for dry targets.
The trap is launching continuously	Faulty push button	Disconnect the release cord. If the trap stops launching targets, replace the push button.
	Faulty micro switch	Lift the metal trigger arm on the micro switch. If the trap does not stop launching targets, replace the micro switch.
	Faulty clutch	Adjust the clutch.

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