KUZMA STABI M TURNTABLE (without arm) S/N……..

Instruction manual

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KUZMA LTD

INSTRUCTION MANUAL FOR STABI M turntable

The **Stabi M** turntable is a very precisely engineered piece of equipment. However the construction is robust and requires minimal maintenance for optimal performance.

Fig. 1.

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General

STABI M is a modern turntable designed in a classic turntable style with the emphasis on providing the best possible record playback.

The turntable's size allows even 12 inch tonearms to be mounted and covered with its massive acrylic dust cover on spring hinges. The dust cover is constructed not to pick up any vibration from loud music. Fig. 1.

The turntable is assembled from various solid parts of aluminium, making the construction rigid and absorbing vibration. On the outer sides of the main structure are solid aluminium plates, which give the turntable mass and further increase structural rigidity and damping.
The covered spikes within the legs allow horizontal levelling of the whole turntable.
The top aluminium plate under the platter, has an elastically underhung **main frame** and **motor system** below. **This** is insulated from the outer main turntable's structure via four big **elastic dampers,** which allow for fine horizontal levelling of the platter and tonearm.
The platter is constructed from two pieces of 40mm thick aluminium with an acrylic damping plate sandwiched between making a very inert support for records.
The bearing has an inverted shaft with a ruby ball which gives precise, low noise rotation to a supporting subplatter.
The main frame carrying the main bearing and massive aluminium **armboard,** is bolted together from solid aluminium blocks forming a unique damped rigid support.
The motor system: The DC motor itself is specially mounted inside a brass cup and aluminium plate. This motor assembly is enclosed and suspended inside a massive brass **motor housing**. Thus the main frame is doubly insulated from the motor system and yet still maintains rigidity, allowing for max. torque momentum to be transmitted via the stiff plastic belt to the subplatter. This gives the platter a high torque drive with the positive properties of belt and idler drives, while minimising the negatives one.
The external power supply: This controls the DC motor with precise frequency and it has very fine speed adjustments. **The control panel** on the front plate of the turntable has start/stop and speed change functions. The full speed of platter of 33rpm is reached in just over 3 seconds. There is also a remote control start/stop function.

Product registration and warranty extension

Kuzma products have a non transferable 2 year limited warranty on parts and labour, which may vary in each country.
To obtain the 5 year limited warranty from us, you need to register the product on our web site within 30 days of purchase. We suggest registration of products in any case because this will also help you to receive our technical support more easily and with resale of products. Simply register on our web site, complete the forms and you will receive an extended five year warranty card on your email within a few days.

Technical data:

Mass	60 kg
Platter mass	12 kg
Platter material	aluminium& acrylic
Bearing type	ruby ball- inverted
Shaft diameter	16 mm
Chassis/levelling	aluminium/yes
Turntable levelling	yes
Motor	1 DC (three phase)
Belt material	special
External power supply	yes
Speeds	33, 45, 78 (see page 10)
Armboard	yes
No. of tonearms	1
Suspended	special
Dimensions	610x500x290
Finishes	black
Clamp	yes
Mat	yes
Lid	yes
Accessories	oil, Allen key 4mm,4x armboard screws M5, clamp& 2x washers
Options:	armboards

Optional: various predrilled armboards (SME, Graham, Triplanar, Ikeda, Ortofon,…)

Safety Precautions:
Electrical connection to the motor controller unit (PS DC) from the mains comes via the cable. Please keep PS DC away from moisture and be careful not to damage the mains cable. The same precaution applies to cables feeding the turntable motor and front panel.

Basic Setup

Note: The turntable is packed in two wooden crates.
Note: Be careful when inserting the top plate into the main frame
Note: Some parts are heavy, so be careful when handling!
Note: Choose a suitable supporting table which can hold over 60 kg without warping.
Note: While the parts are packed in plastic bags for protection, these are not intended to be strong enough to lift or carry the contents.
Note: Allow ventilation space above the motor controller unit.

Unpacking

The larger crate contains the outer frame with top plate and lid.
Unscrew the top screws and remove the inner top foam. Remove side foam around lid first and put it aside. Then remove the wooden floor plate and top foam. Remove the side foam around the turntable and then two people should lift it up and position it on a strong support.

The smaller crate contains the platter, subplatter, clamp, power supply, cables, armboard and accessories,
Unscrew the top screws and remove the inner top foam. Then remove all parts except for the platter and subplatter.

Accurately position the turntable. Remove the foam between the outer frame and top plate then follow instructions for turntable assembly. Unpack subplatter and platter when needed.

Assembling

Turntable outer frame:
The outer frame of the turntable, which has four decoupling towers, is heavy. Lift it, being careful not to scratch against metal parts of clothing, and position it in the middle of the supporting board. You can now level the main frame horizontally with a spirit level. Rotate the front spiked legs only. The rear leg is fixed. Fig. 2.

Fig. 2. Turntable outer frame

Top plate:
This is heavy .There are height adjustment knobs on the four corners of the top chassis and, in the middle on the lower **main frame,** is the shaft with a fixed ruby ball.
Carefully position the top plate above the turntable frame and gently lower it onto the decoupling towers, ensuring that the gap around the frame is even. There should be about a 3mm gap between the frame and the outer edge of the top of the plate. When gently pushed down with both hands it will barely move.
Remove the protection cup from the bearing shaft. Be sure that it is clean. Locate the PVC bottle with bearing oil and cut the top off the nozzle to allow drops to be poured onto the shaft.

Altogether pour 35-40 drops of oil. This is not critical as any surplus will be caught in the lower reservoir. By squeezing the PVC bottle pour 8-10 drops of oil in the well, which contains the ruby ball. Then, by nearly touching the edge of the well with the dropper, allow the rest of the oil to slowly run along the shaft into the lower well. Have a tissue handy in case of oil spillage.
Clean your hands in case of oil contamination.
Gently position the subplatter over the shaft and slowly lower it down. A small amount of oil & air might escape from the hole on the slope. If so, wipe it. Gently rotate the subplatter a few times, lift it up half way and lower it again. It should rotate smoothly. Fig. 3&3A.

Fig. 3. Top plate in the outer frame with 4 height knob adjustments

Fig. 3A. Top plate with subplatter and belt

Belt:

Position the belt onto the motor pulley first and then with fingers position belt over subplatter perimeter. The belt is not very flexible but just stretch it into position by rotating the subplatter a few times.

Note: Be careful when positioning the platter onto the subplatter if the armboard is already mounted on the top chassis. There is only a small gap.

Platter:

Position the platter on the subplatter, holding the platter with both hands at the sides. Due to the small gap between the lower edge of the platter and the top of the subchassis, do not hold the platter underneath. Hold it firmly, so it will not slip. Be careful if the armboard is already mounted because there is a small gap between the platter edge and the armboard corner.

Setting up the turntable

Suspension adjustment:

Height adjustment of the top plate is by rotation of the black knobs on the top. Turning the adjustment knobs anticlockwise causes the top plate to rise. If you look at the edges of the top of the plate and turntable outer frame they should be horizontally aligned. Adjust the height of the top plate by turning the four knobs so that the top edge of the top plate is level with the top of the turntable frame. See Fig. 3.

The best way to do this is to adjust two opposing knobs a little, then another two knobs a little and the first pair again, etc. At this stage do not be too precise as the armboard and tonearm have yet to be added and they will lower the top plate height. Fig. 4.

Mounting armboard and tonearm:

Note: The top chassis will reach its correct height position only when the weight of the platter is added.

Be sure that you have an armboard with the correct pre-cut. Mount armbase on the armboard and then mount armboard on the turntable with four Allen keys. Use Allen key 4 mm. Fix firmly. The armboard can be fixed in both directions, so be sure you mount it correctly orientated. If necessary a second cut can be made on the armboard, but this is made of aluminium.

Mount the arm as instructed in the tonearm instruction manual. Route the tonearm cable underneath the turntable below the armboard. With tonearms where the cable is not connected to the tonearm below armboard, eg. 4Point, Air Line,….., the tonearm must be fixed on the armboard before it is fixed onto the turntable. Position the cable into the gap on the armboard, into the hole below the armboard and outwards through the hole on the rear of the turntable panel. It is easier done by two people. Then mount armboard with tonearm onto the top plate (main frame) ensuring that the cable is not in the way.

It is necessary to readjust the height due to the added weight. Do this as described before, by levelling it with outer frame and re check horizontally with spirit level.

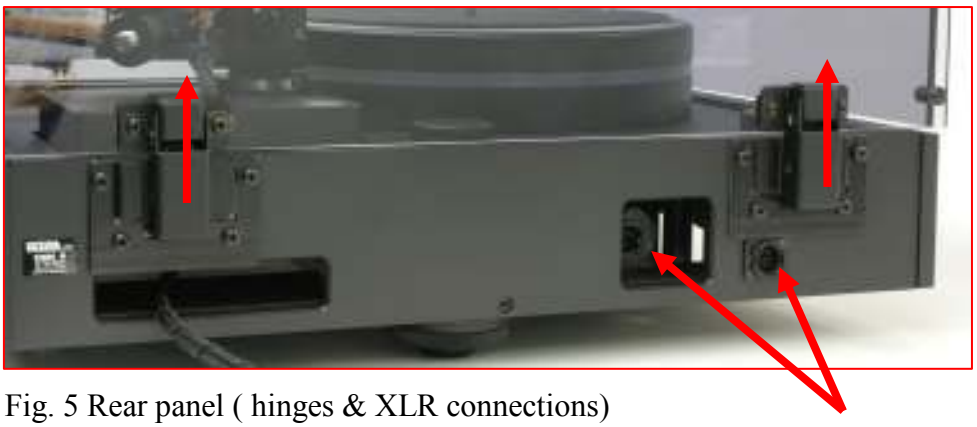

Fig. 5 Rear panel (hinges & XLR connections)

Lid:
Insert the lid in the appropriate slots on the rear wall of the main frame. Remove lid only in open position! Fig. 5.

Power supply:

Fig. 6 DC power supply

General PS description:
The DC motor controller unit generates a precise sine wave output to control rotation of a three phase frequency controlled DC motor. The signal is generated by a sophisticated computer based program. This allows for smooth generation of the sine wave with very fine choice of speed. Each speed can be selected, finely adjusted independently and then stored in the memory. The PS is factory preset. Fig. 6.

PS DC (DC Motor Power supply) connection:
Position the PS DC in such a way, that it will be convenient for operation of the turntable. You should, however, allow space above for ventilation, of at least 10-20 mm.
At the rear of PS are two XLR outputs: 7pin XLR for motor connection and 5pin XLR for front panel display .

Connect both XLR cables to the motor input in the slot and the panel input at the rear of the turntable.
It may take few hours for a new turntable to settle to the perfectly correct speed. When the PS is unplugged, the preset speeds will be stored.

Connect the mains cable to the mains and then switch on the PS DC at the front, which is then left permanently on. A red light and green display will light up on the front of PS DC. Also on the **front panel** of the turntable above the left side button, a red light will indicate the start/stop function. On the right hand side a green light will indicate the chosen speed (left LED 33, right LED 45). With the right hand button you can change speed, while the left hand button will start or stop platter rotation. The same functions are on PS DC, where there are also buttons for fine speed adjustment. Fig. 7.

Fig.7. Front panel: Left- Start/Stop, Right- Speed Selection (left LED 33, right LED 45)

Operation:
1. Press the power button at the front of the PS DC firmly. After 10 sec the PS is ready. The display will show 33 and above the start button a red LED will be shown. You can keep the PS DC switched on all the time.
2. On pressing the start button the red LED will turn green and the platter should start rotating. To stop the platter, simply press the start button again. The red LED will show and the platter will stop rotating.
3. Press the speed button and the selected speed will change from 33 to 45. Press again and it will return to 33.
4. Do not press the start button before the mains switch is on.
5. The same functions are also repeated on the turntable's front panel.

With PS DC we supply a **remote control** with battery already inserted (1 pc 12V V23GA). This will allow you to start or stop the platter from your listening seat by aiming in the direction of the PS DC. Both Start/Stop lights will change accordingly. Fig. 8.

Fig. 8. Remote control

Use and adjustments

Platter rotation:
Ensure that the red LED lights up and the green display shows the selected speed, when the PS DC is switch on. Press the start button. It is normal to hear some crackling sounds made by the belt and this will disappear in a few days. If constant noise is heard, then check the position of the belt on the motor pulley. Platter should reach 33rpm in 2 seconds.

Fine speed adjustment:
Observe on a strobe disc if the bars are stationary. If not (bars move in the same direction as platter rotation then the speed is too high) then press the plus or minus buttons few times until the bars are stationary (there are very small steps- so keep pressing a lot). On the display you will see a green dot in the right bottom corner indicating that change is in process. Using a pointed pen, press the "store" button and the green dot will disappear.
The first time the plus or minus button is used the changes in speed will be comparatively large. Each time, however, the store button is pressed the changes will be smaller until, finally the speed changes are barley visible.
Resetting the PS causes the speed change.
Check speed independently for both speeds. When using the strobe disc, be sure to use it properly. Check that you are looking at the correct speed and are using the correct strobe light.

Factory preset speed:
If you find that your speed selection is out of range for some reason, you should reset the PS DC to factory set outputs.
Turn the power off, wait 10 sec, press and hold the speed button and then press the power on. When the display shows CU, release the speed button. The display will now show FA and then 33. Your PS is now preset for factory preset speeds.

In this case when you set up the platter speed you might find that first steps are bigger until you put the adjusted speed into the memory, then next steps will be much finer.

Temporary options:
78 rpm speed:
Platter not rotating (press start/stop button), then press and hold + button for 7-8 seconds, then press speed button to show 78rpm. Then press start for platter rotation. Pressing speed button will show all three speeds.

Display off:
Platter not rotating (press stop function), then press and hold – button for 7-8 seconds and display will be switch off. However when speed change or fine speed adjustment is used display will turn on for 7-8 seconds.

Temporary options will be switched off, when PS power button is turned off.

Clamp:
The function of the clamp is to press the record close to the platter mat, thus minimizing vibration between the record and platter and decreasing warps of the record itself.
The clamp can be also used without washers. Gently screw down the clamp on top of the record.

It is advisable to put a washer under the LP (thin for thick records and thick for thin records) before screwing the clamp down. Observe the outer edge of the LP. To start with this edge will be above the mat but will slowly lower to touch the mat. Hold the LP so that it does not rotate. If the clamp is screwed too much, the outer edge will begin to rise.
Pressure should then be released by slightly unscrewing the clamp until the outer edge is touching the mat again. This is the position in which the record is held in firmest contact with the mat. With very bent records pay particular attention to the highest point of the rim.

With practice there is no need to stop spinning the platter while changing LPs or using the clamp.

Maintenance

Mat:
The top surface of the mat can be cleaned using a roller textile cleaner. It can be peeled off and returned back.

Bearing:
Oil in the bearing will last for 5-6 years or more. Running the bearing without oil will do no harm due to the choice of materials and type of construction.
Oil should be added if the top reservoir (with ruby ball) is totally dry. The oil level will be below the ruby ball as, when the subplatter is lowered onto the shaft, the bearing surface increases the level of oil above the ruby ball. When the subplatter is removed you can see the level of oil inside its sliding ring (brown colour). If it is above the sliding ring in the subplatter there is plenty of oil. If excess oil is added it will run into the appropriate extra reservoir.

Belt:
Periodically remove the platter and remove the belt. Clean the belt and running surfaces of the motor pulley and the subplatter with a soft cloth soaked in alcohol (every 8-12 months). For best performance replace belts every 5-7 years. If the platter needs more then 3 seconds to reach 33rpm, then the belt tension should be increased. Below the motor tower is an Allen screw(hex) which you release with Allen key 4 mm. Then push the motor tower for 1-2mm away from platter shaft . Then fix the motor position and check start up. If the platter reaches 33rpm speed in less then 1 second, then the motor tower should be positioned closer to the platter shaft.

Remote control:
Remove single rear screw with Philips screwdriver and replace battery 12V V23GA(size diameter 10mm x 27mm)

Troubleshooting

Platter not rotating:
Motor controller unit- check if the red LED is on
-green display should show 33 or 45, if not re-plug PS DC
- check both connection cables from PS DC to motor
Consult dealer or qualified electrician.

Very slow start:
Remove the platter and belt and check position of the belt and tension.

Wrong speed:
If you find out that your speed selection is way out of range for some reason, you should reset PS to factory set outputs:
First check position of the belt.

Factory preset:
If the speed is totally incorrect: Reset to factory preset and then adjust correct speed on the PS DC by using strobo disc:
Turn the power off, wait 10 sec and then press and hold speed button, then press power on. When display will shows CU, release the speed button. The display will now show FA and then 33. Your PS is now preset for factory preset speeds. See page 9.

Suspension:
While adjusting subchassis height you might unscrew rear left knob too high(shiny brass knob is too high on thread) and it will run out of adjustment. In this case remove platter& tonearm, lift up the subchassis and rotate brass knob underneath towards the end of the thread.

Transportation

For short distances dismantle the platter, and disconnect all cables. Block the tonearm's tube and the top aluminium plate with foam inserts. Do not tilt more then 15 degrees for long periods of time as this could cause bearing oil to spill.

If you need more tilt more than this angle, then you should remove the bearing oil and subplatter and it is advisable to protect the ruby ball.

All parts are heavy and can be easily damaged by sliding around a transport vehicle. Repacking in the original boxes is, therefore, recommended.

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