



Well Tempered Lab

INSTRUCTION MANUAL

Amadeus MK II

## Preliminary

Before embarking on the relatively simple process of assembling the Amadeus MK II, please take the time to fully read these instructions and follow the steps within. The old adage of *"if all else fails read the instruction manual"* needs to be applied from the onset. The Well Tempered Lab cannot be held responsible for consequences resulting from the failure to comprehend these instructions. If in doubt always consult with your dealer.

The Well Tempered Lab's policy is the continuous improvements of its products. We therefore reserve the right of departure from illustration or specification that this might occasion.

## Contents

Unpacking the Amadeus MK II	Pg 3
Assembly	Pg 3 - Pg 4
Suspending the Symmetrex Tonearm	Pg 4 - Pg 6
Installing the Platter	Pg 7 - Pg 8
Installing the Belt	Pg 8
Speed adjustments	Pg 8
Fitting the Cartridge and Tonearm adjustments	Pg 9 - Pg 10
Rear Panel	Pg 10
Stylus Pressure Gauge	Pg 11
Making a Belt	Pg 12
Troubleshooting	Pg 13
Tonearm Alignment Guide for Well Tempered Lab Turntables	Pg 14
Specifications	Pg 15
Warranty and Service	Pg 16
European Waste and Electrical and Electronic Directive	Pg 16
Registration	Pg 16

## Unpacking the Amadeus MK II

We recommend the use of the white gloves provided when handling the plinth and platter assemblies.

Take care that none of the fluids contaminate the finished surfaces of your Amadeus MK II.

The Amadeus MK II packaging has been designed to protect it from the hazards of shipping. It is advisable to save it for further use.

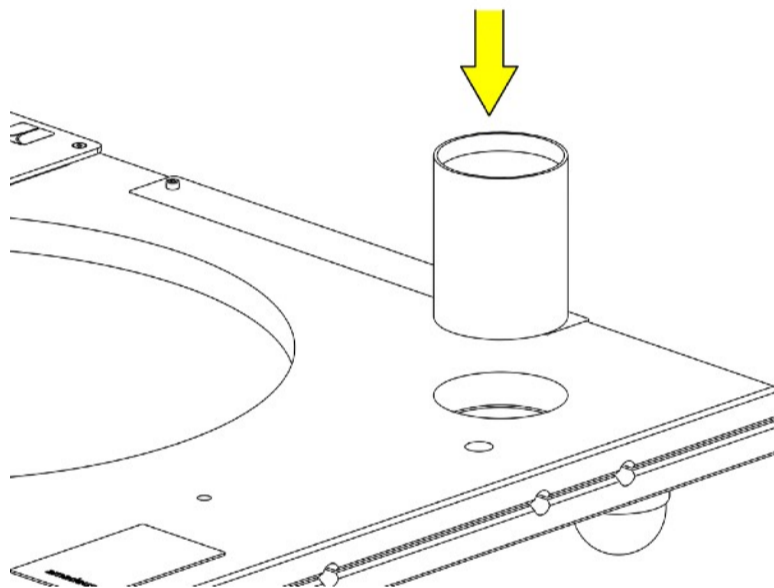
Important: Never place a Well Tempered Lab turntable in direct sunlight. Not only will it have detrimental effects on your valuable recordings, it will impair the mechanical integrity and performance of your turntable.

## Assembly

For ease of assembly we recommend a flat work surface, such as a table or bench. All necessary tools have been provided.

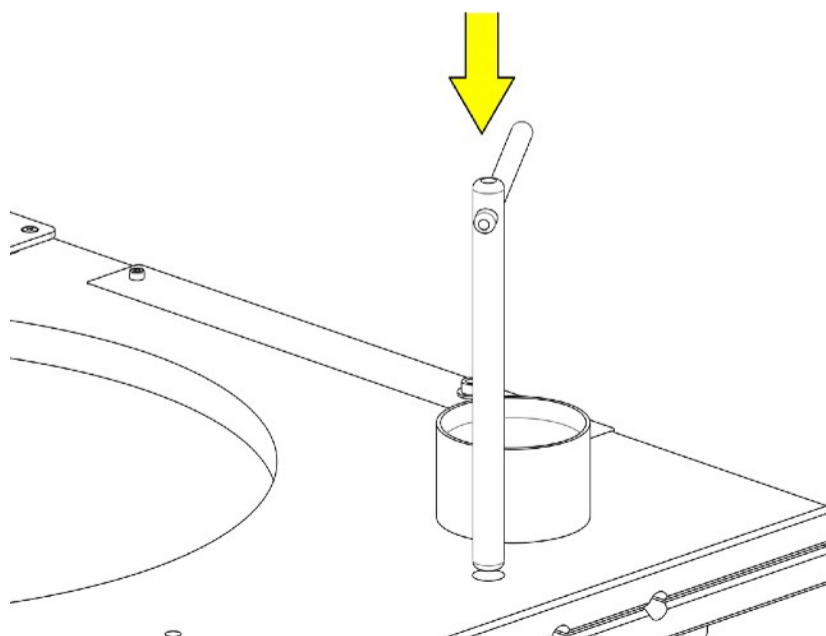
1. Install bearing cup in plinth adjust to approx. 40mm (1.6in) above plinth and tighten set screw. See Fig (1).

Fig (1)



2. Install tonearm suspension pillar to approx 95mm (3.8in) above plinth and tighten set screw. Complete with tonearm suspension rod. See Fig (2).

Fig (2)



3. Install tonearm rest / lock in plinth approx. 50mm (2in). See Fig (3).

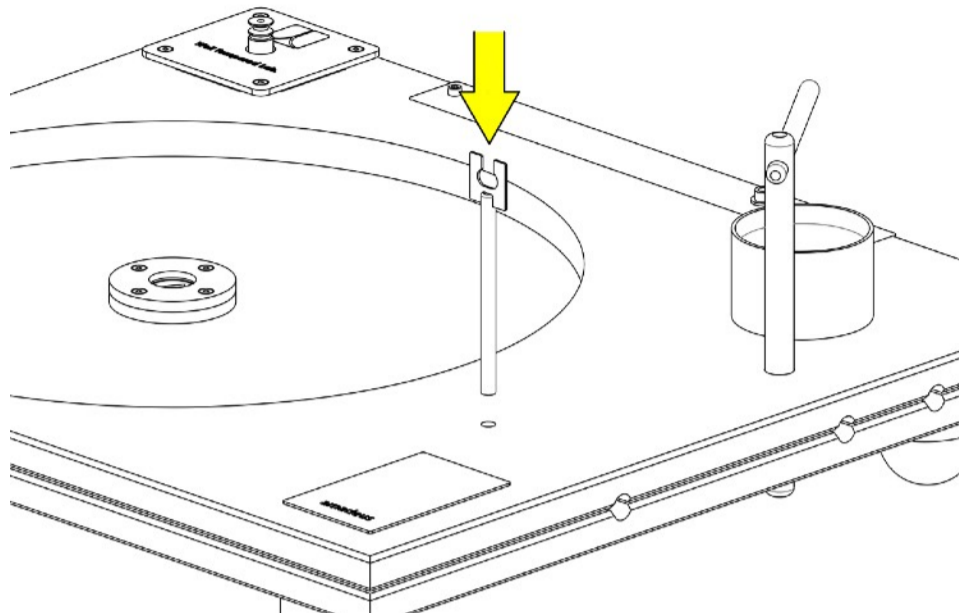


Fig (3)

**Note:** There is no requirement to apply excessive force to the above set screws. A gentle tighten is sufficient to secure the components. Over tightening can lead to damaging the plinth.

### Suspending the Symmetrex Tonearm

*Before embarking on this procedure, we suggest a review of the manual from Fig (4) - (9) is mandatory.*

1. Coarse azimuth adjustment if necessary can be achieved by rotating the tonearm within the golf ball. The Head-shell should be parallel to the small nylon filament points. See Fig (4).

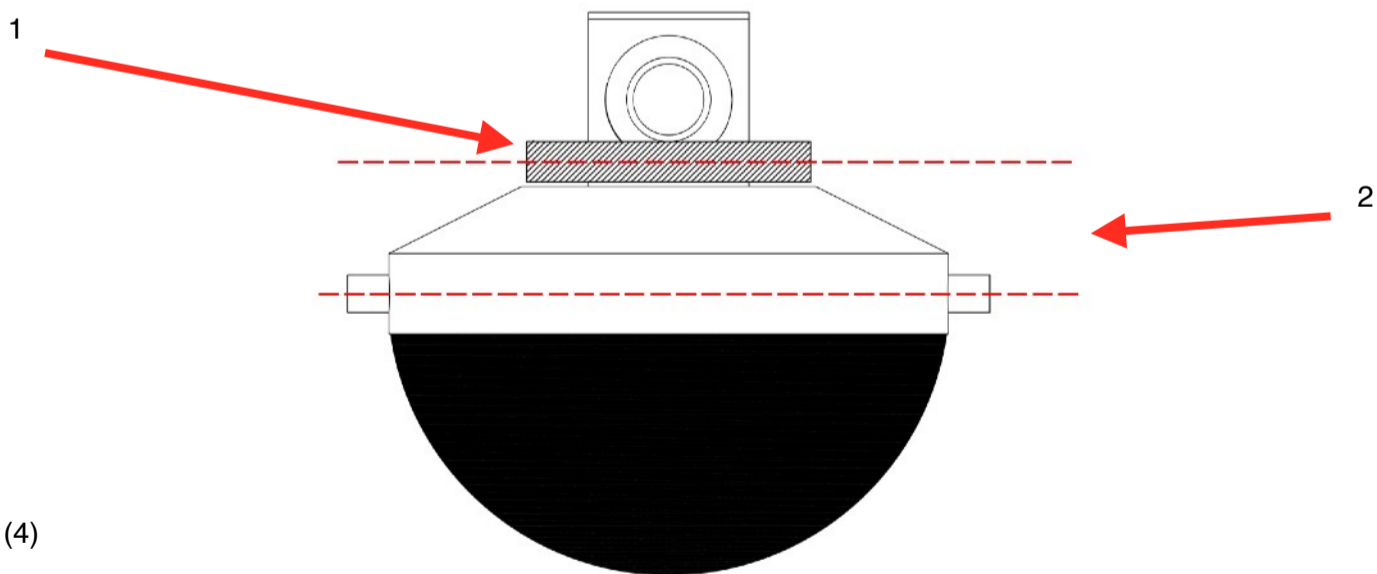


Fig (4)

1. Head-shell
2. Parallel

*Front-on view of the Symmetrex tonearm*

2. With a small amount of care take tonearm and apply one and a half turns of the nylon suspension from the golf ball around the azimuth adjustment collar. See Fig (5).

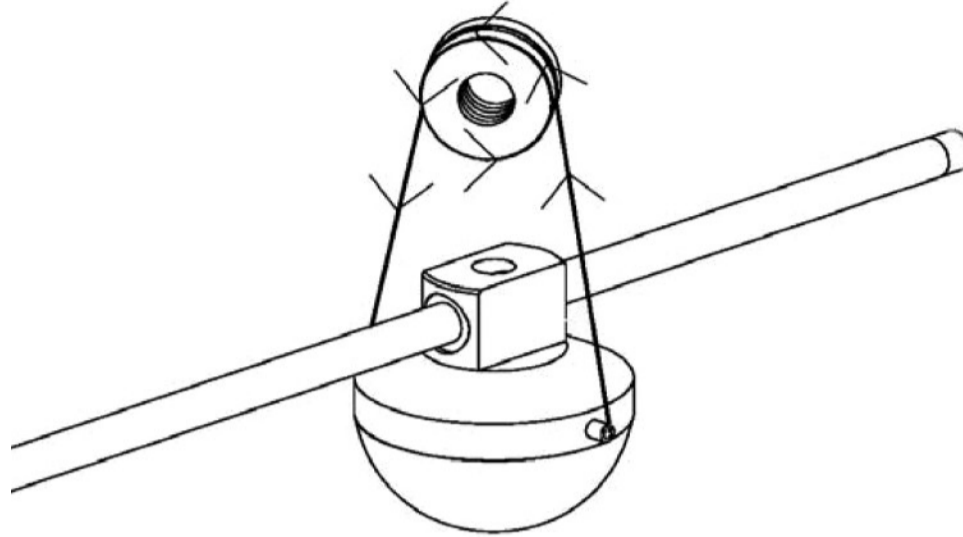


Fig (5)

3. Correct bridle length when tonearm is suspended is approximately 25mm from top of tonearm to bottom of suspension rod. See Fig (6). Apply a complete anti-clockwise twist to the azimuth adjustment collar and install on the suspension rod. The twist on the nylon suspension effectively applies the correct anti-skate. See Fig (6) - (8). Correct azimuth adjustment is achieved by rotating the azimuth collar in the directions of the arrows.

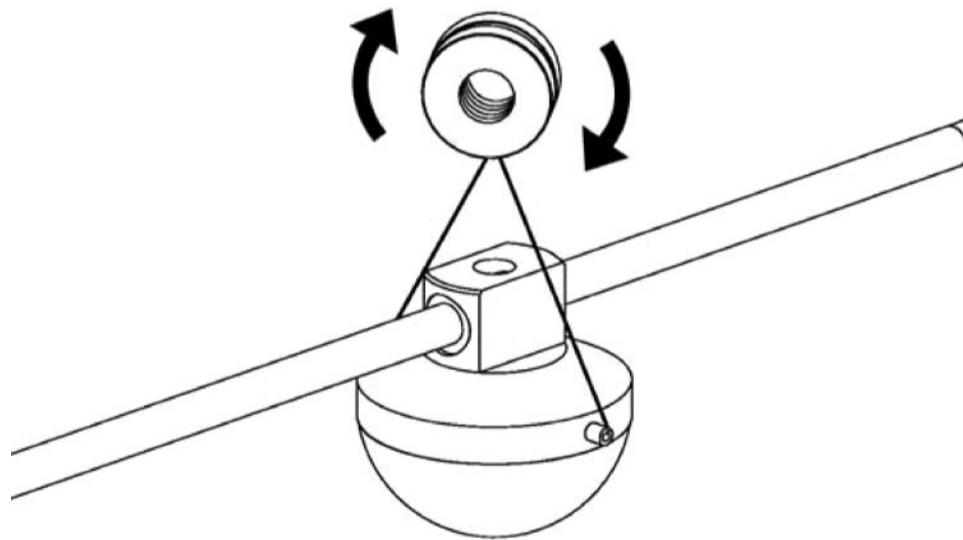


Fig (6)

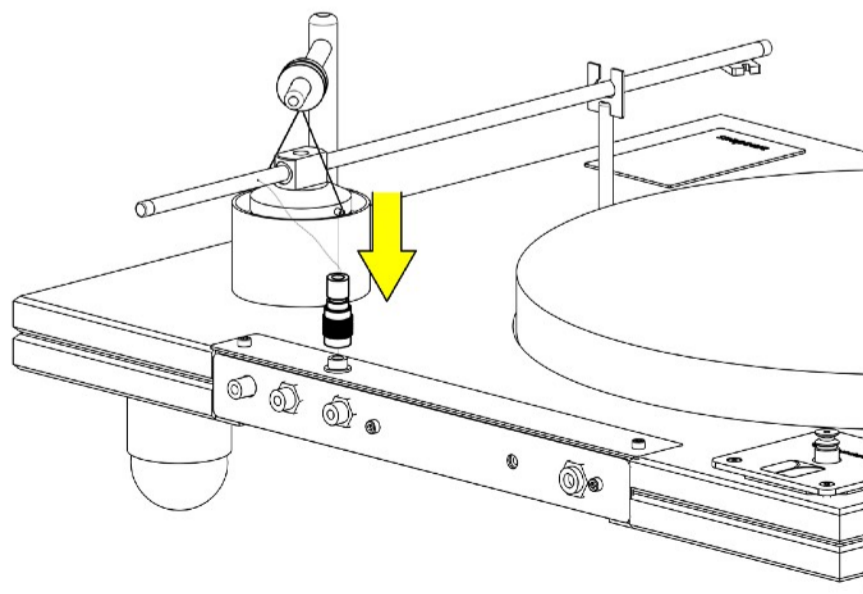


Fig (7)

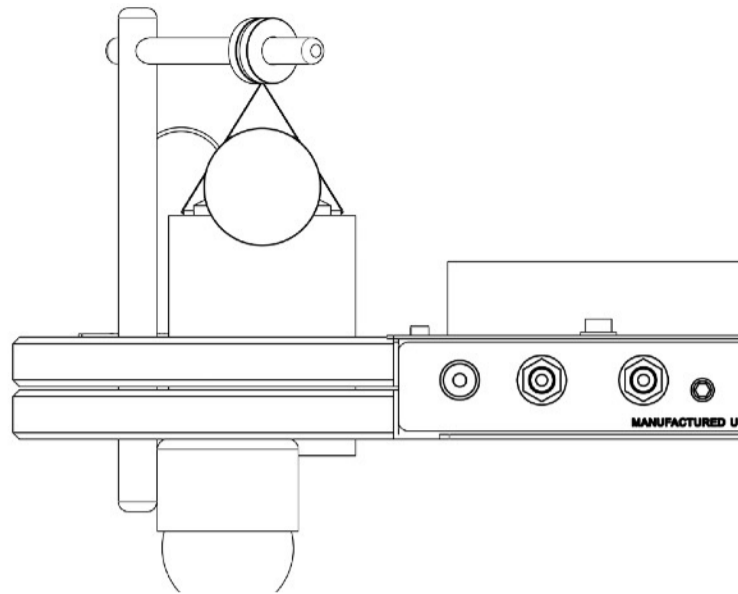


Fig (8)

5. Adjust pillar, rod and azimuth collar to allow golf ball to float central of bearing cup.

**Note:** All the above adjustments can be fine tuned when cartridge is installed.

6. Fit tonearm connector to socket making sure that the connector "locks" in place, failure to ensure this connector is firmly locked may result in a loss of signal on either channel. See Fig (9).

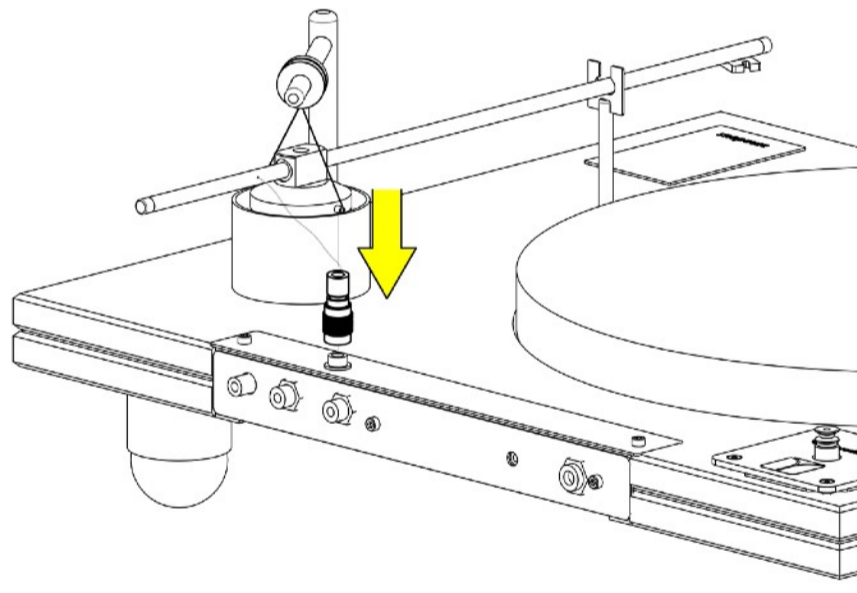


Fig (9)

## Installing the Platter

Please ensure that the point of the triangle hold in the upper teflon bearing is correctly orientated to the motor pulley. See Fig (10). If necessary consult your dealer.

Fill the bearing with synthetic oil supplied to a level of approx. 5mm (1/4") above the bottom Teflon bearing, this is not critical. Do not overfill. Over-filling the bearing will cause the oil to overflow the bearing housing when the platter spindle is lowered into the bearing housing. Gently lower platter into bearing. See Fig (11) - (12). It is most important that spindle is located correctly in the centre of the lower thrust bearing. Failure to locate the pivot point of the spindle correctly will cause the platter to rotate abnormally. The spindle has been designed to protrude through the platter to provide a central lifting point that enables the user to easily achieve this.

**Important:** The unique design of the zero clearance Well Tempered Lab top bearing allows the spindle to be virtually free standing. It is perfectly normal for the platter to tilt away from the motor when the belt has not been installed.

Should there be any necessity to replace the bearing oil, any synthetic motor oil of any brand within a viscosity range of 5W-50 is acceptable.

**Note:** The zero clearance Well Tempered bearing can rotate for hours without oil. If you wish, you can complete other adjustments before applying the bearing oil. See Fig (10).

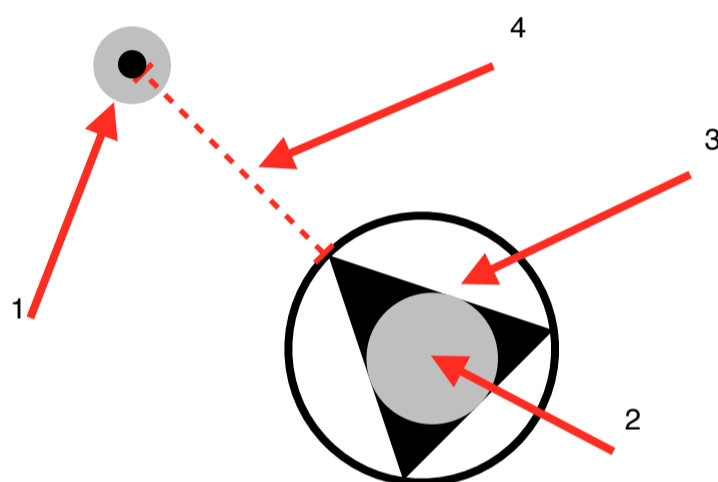


Fig (10)

1. Motor
2. Spindle
3. Upper Teflon Bearing
4. Align corner of Upper Teflon Bearing to Motor

*Birdseye view of Amadeus MK II Turntable Bearing.  
(Not to scale)*

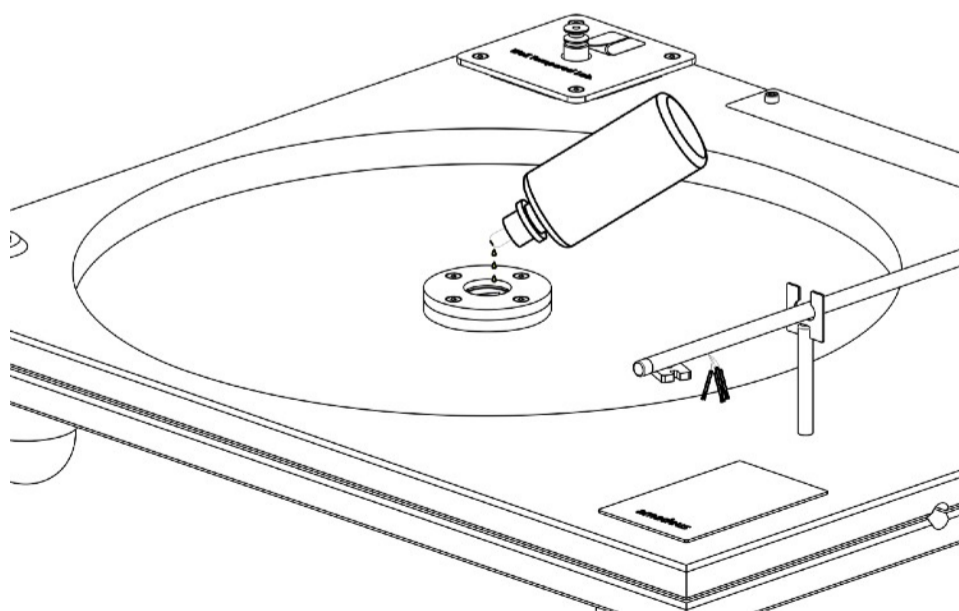


Fig (11)

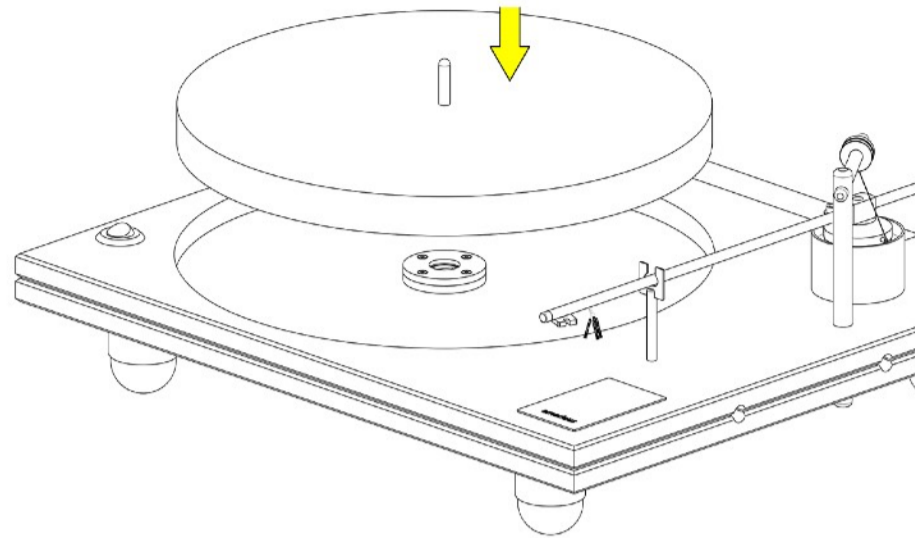


Fig (12)

## Speed Control

Speed change is effected by manual movement of the belt on the pulley. 33.5 RPM on the small diameter step on the pulley, 45 RPM on the larger diameter step on the pulley.

## Installing the Belt

Start with the belt around the motor pulley, take care the other end clears the centre spindle and rotate the platter, the belt will track around the platter. See Fig (13). Well Tempered Lab belts if dropped are easily misplaced, we give you two but suggest you place the belt on something dark to make it easily seen.

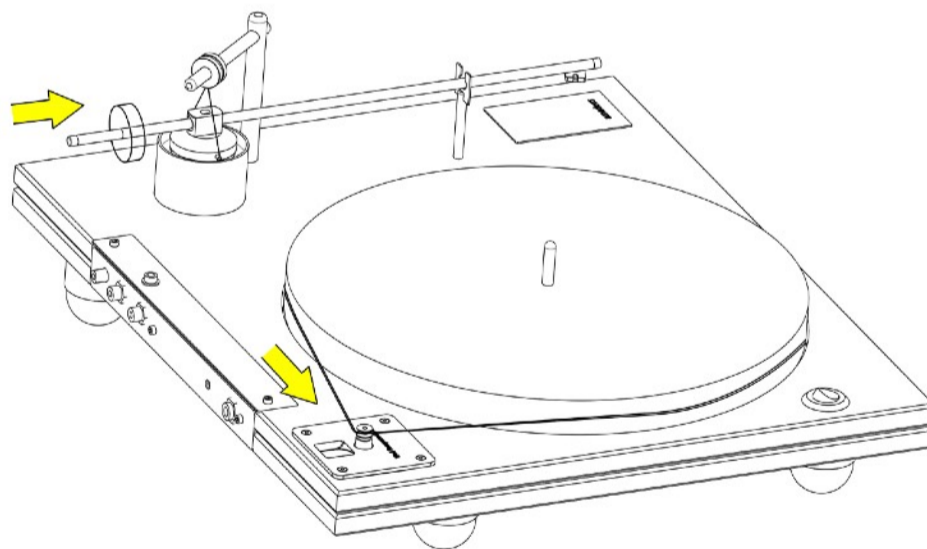


Fig (13)

## Speed adjustment

This is factory set, but if required, this can be achieved by carefully adjusting the small screw adjacent to the DC socket.



## Fitting the Cartridge and Symmetrex Tonearm adjustments

1. We recommend fitting the cartridge with the tone arm in position. However it is possible to fit the cartridge before suspending the tonearm (see Fig 14). Great care needs to be taken when installing the cartridge as the Well Tempered Lab bears no responsibility for cartridge damage.

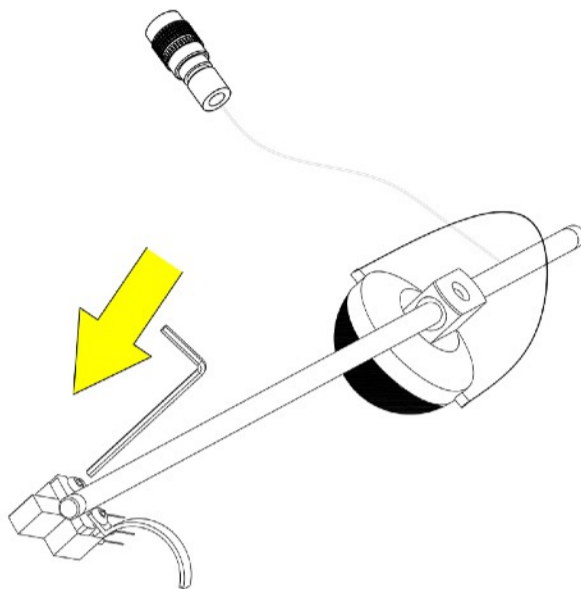


Fig (14)

2. Install the cartridge to the manufacturer's specifications. The Amadeus MK II features a head shell that requires no tracking alignment adjustment. We strongly recommend it remains firmly fixed in the correct position as supplied.

3. The Amadeus MK II Symmetrex tonearm has an effective length of 10.5" (267 mm). The head-shell is fixed ex-factory in the optimum position. There is no provision for over-hang adjustment. Some alignment protractors may well disagree. However, The Well Tempered Lab stands by their convictions.

**Important:** There is absolutely no reason to torque head-shell/cartridge mounting hardware to excess. Cartridge mounting hardware only requires firm but gentle tightening. Heavy handed torquing of mounting hardware can result in movement of the Amadeus head-shell (refer to [www.welltemperedlab.net](http://www.welltemperedlab.net) on tracking geometry).

4. There is an optional finger lift provided which can be attached to the cartridge fixing screw, adjacent to the right hand side of the plinth.

5. Apply enough damping fluid so as that no more than one third of the golf ball is submerged in fluid. See Fig (15).

**Note:** Damping can be altered by simply raising or lowering the damping cup, it is not critical and maybe adjusted to suit the listener's own preference.

6. Set tracking force with stylus gauge, supplied to cartridge manufacturer's specification.

7. To set tracking force, two counterweights are supplied to enable correct tracking force to be applied to cartridges of various weights. We recommend choice of counterweight (s) that allow correct tracking force to be obtained with weight (s) as close to the tonearm lead out cable as practicable. This is not critical but care needs to be taken as to not damage tone-arm lead out cable when attaching counterweights to tone-arm.

8. Adjust tonearm for correct VTA by set screw on suspension pillar.

9. Correct Azimuth can be obtained by gently rotating the azimuth adjustment collar to allow the cartridge to track parallel to the record surface. This can be achieved whilst the record is rotating and requires only minor correction in both directions to achieve the correct result.

10. Due to the viscosity of the damping fluid adjustments in both tracking force and azimuth require the tonearm to momentarily settle to effect the correct results.

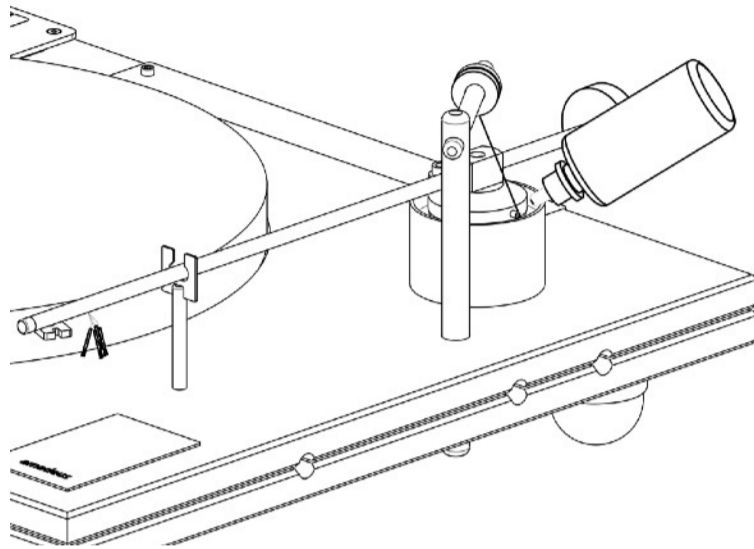


Fig (15)

### Rear Panel

Earth screw and phono sockets colour coded and clearly marked are on the rear panel. See Fig (16). Speed adjustment is also available on this panel. Connection for the AC adaptor is on this panel and clearly marked. Plug it in, you are ready to go. Enjoy!

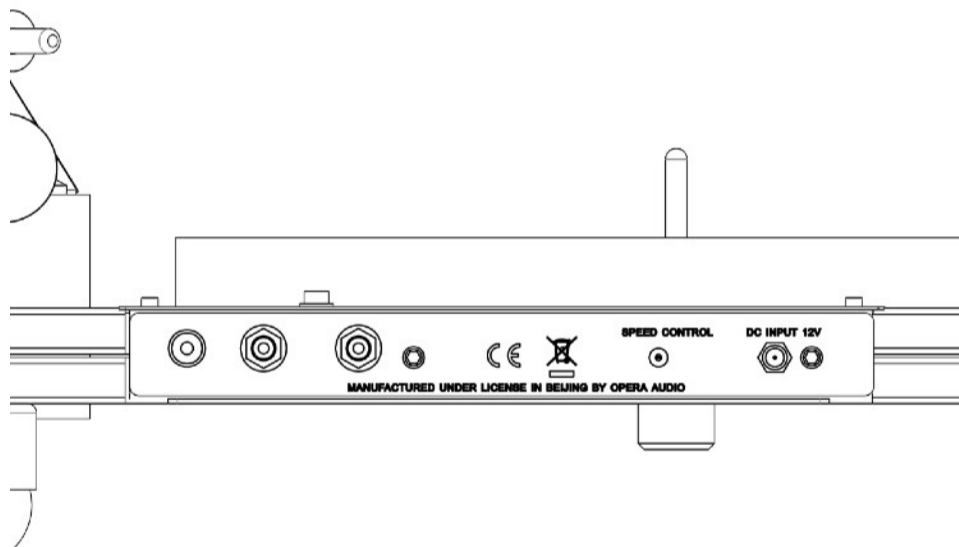


Fig (16)

## **Stylus Pressure Gauge**

**Fitting Batteries:** When fitting the batteries in the Stylus Pressure Gauge, the positive symbol on both batteries should face upwards when viewed from underside of the Stylus Pressure Gauge i.e. positive symbol on battery faces upwards and under the opening.

### **Operation:**

1. Place the Stylus Pressure Gauge on a firm surface.
2. Press ON/OFF switch, wait until (0.0) is displayed.
3. Place Stylus on scale.
4. Press the "M" button to shift the unit properties between Gram (g), Ounce (oz), Pennyweight (dwt) and Carat (ct).

Tare Weighing:

1. Turn on the Stylus Pressure Gauge as described above.
2. Place Stylus on scale.
3. Press "TARE" and wait until (0.0) is displayed.
4. Add the net weight item.

### **Caution**

1. If the Stylus Pressure Gauge displays "OUTZ", please re-calibrate the Stylus Pressure Gauge as outlined in the manual.
2. Never load the Stylus Pressure Gauge past maximum capacity, overloading will permanently damage it.
3. Avoid any exposure to extreme heat or cold.
4. When switching the Stylus Pressure Gauge on, please allow 30 seconds for the meter to stabilise before calibration.
5. Please keep the Stylus Pressure Gauge in a clean environment, avoid dirt and moisture as this may cause an adverse effect on reliability and accuracy.
6. Handle with care, gently place items on scale .
7. Avoid shaking, dropping or shocking the Stylus Pressure Gauge. This is a precision instrument and must be operated with extreme care.
8. Only operate the Stylus Pressure Gauge on a stable, vibration free surface.

## DC Power Supply

We recommend a power supply with a maximum output of 12V and not less than 7V, with a minimum of 100mA, centre pin positive.

**Note:** Some switch mode type power supplies can cause grounding problems. A small accessory lead is supplied to enable the ground connection from the 12V input socket to be established. See Fig (17). This is not necessarily a Well Tempered Lab recommendation.

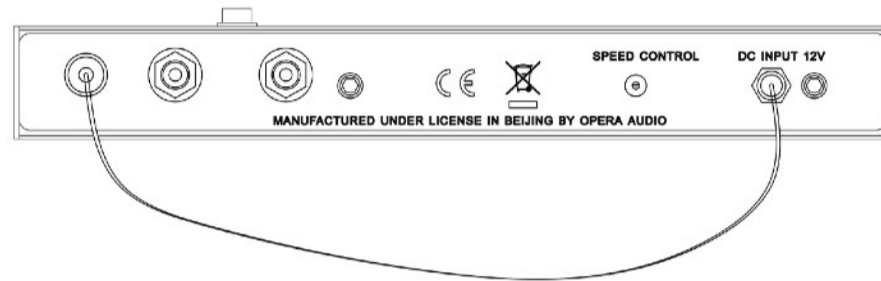
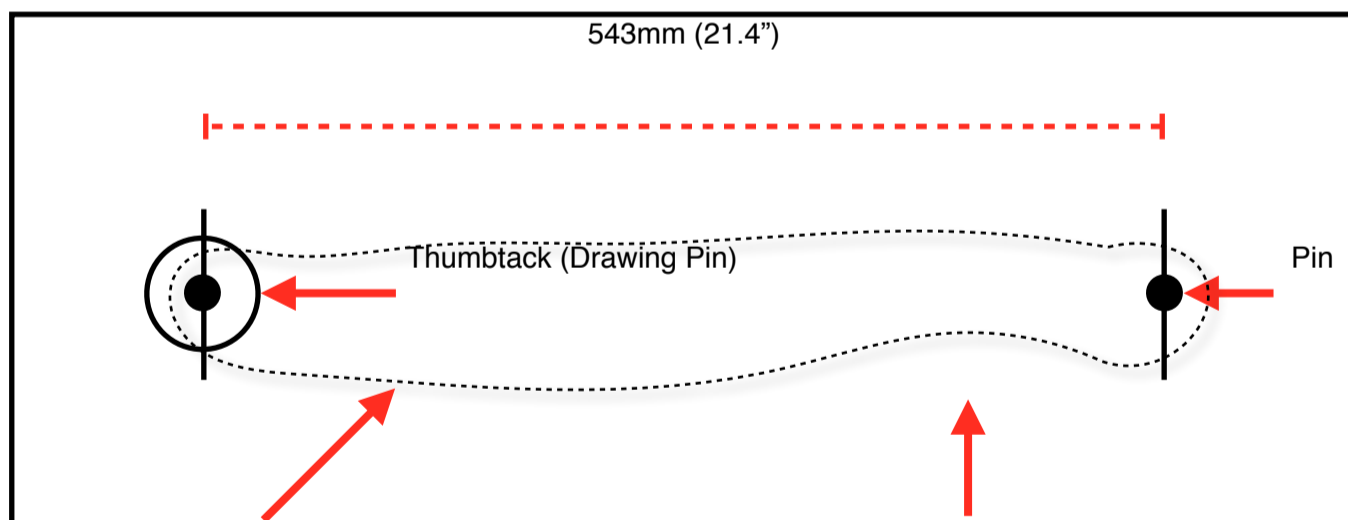


Fig (17)

## Making a Belt

Loop a long length of .004mm polyester thread around the thumbtack. Tie a simple double overhand knot around the pin. Remove the pin and tighten the knot. Hold knot with thumbnail and pull on excess. Cut off excess leaving 10mm (minimum) tails.



.004mm polyester thread (White or Black). Black cardboard for White .004mm polyester thread.  
White cardboard for Black .004mm polyester thread.

## Troubleshooting

1. In the unlikely event that you wish to remove the Symmetrex tonearm, the golf ball can be lifted clear of the fluid, and left to drain. Surplus fluids may then be wiped from the golf ball with a paper towel.

2. Rubbing alcohol of 70% or above proof will remove all traces of fluid. All paper towels must be immediately discarded in a suitable receptacle. We also have it on good authority that Vodka of the highest proof can be pressed into service if rubbing alcohol is unavailable. Our chief designer also uses Ronsonol brand cigarette lighter fluid with excellent results. This is also known in some countries as white spirits or white gas. We suggest you first try cleaning fluid with caution and on the underside of the plinth. The Well Tempered Lab can bear no responsibility for damage caused by cleaning fluid.

3. Well Tempered Lab belts are easily lost. We recommend placing or hanging on a dark background, when not on the turntable.

4. For cartridges without threaded fixing holes we find it most convenient to attach the cartridge to the head shell in the slot closest to the platter. The other screw with the optional finger lift attached can then be passed through the head shell and remaining cartridge hole. A small "popsicle" stick or similar with a piece of double backed sticky tape on the end is invaluable. Just place the remaining cartridge nut on the tape at the end of the stick under the protruding screw and tighten.

Note: Some cartridges may necessitate the shortening of the Nylon bridle that suspends the Golf Ball. This can easily be achieved by the removal of one of the small plastic tubes that the Nylon passes through. Removal of this tube will allow excess nylon to be pulled through the tube when the correct height is obtained the tube can be re-inserted and the excess Nylon removed with a sharp craft knife. See Fig (18).

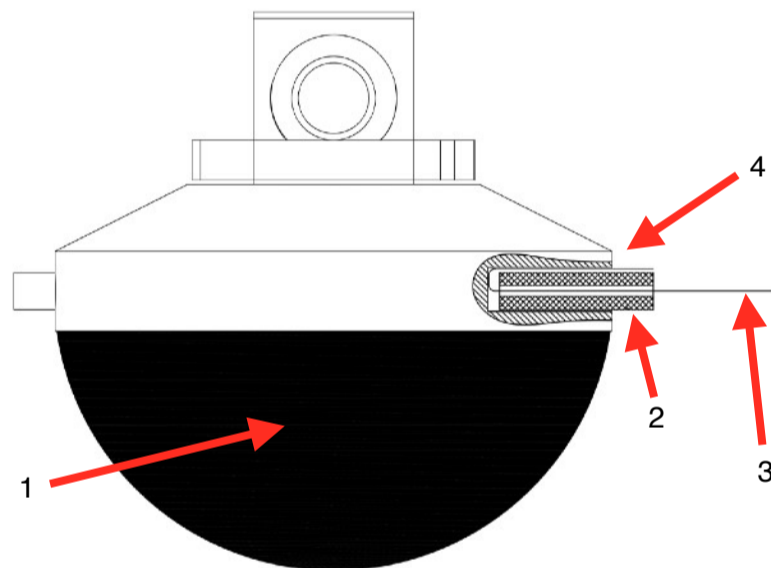


Fig (18)

1. Golf Ball
2. Tube
3. Nylon
4. Trim excess

5. The Amadeus MK II motor has bearing tolerances that cause it to be noisy without the load of the belt and platter. It is sometimes possible during transit for the motor to shift within the isolating rubber mounting and vibrate against the motor mounting cover. This is easily remedied by gently moving the motor clear of the mounting cover plate.

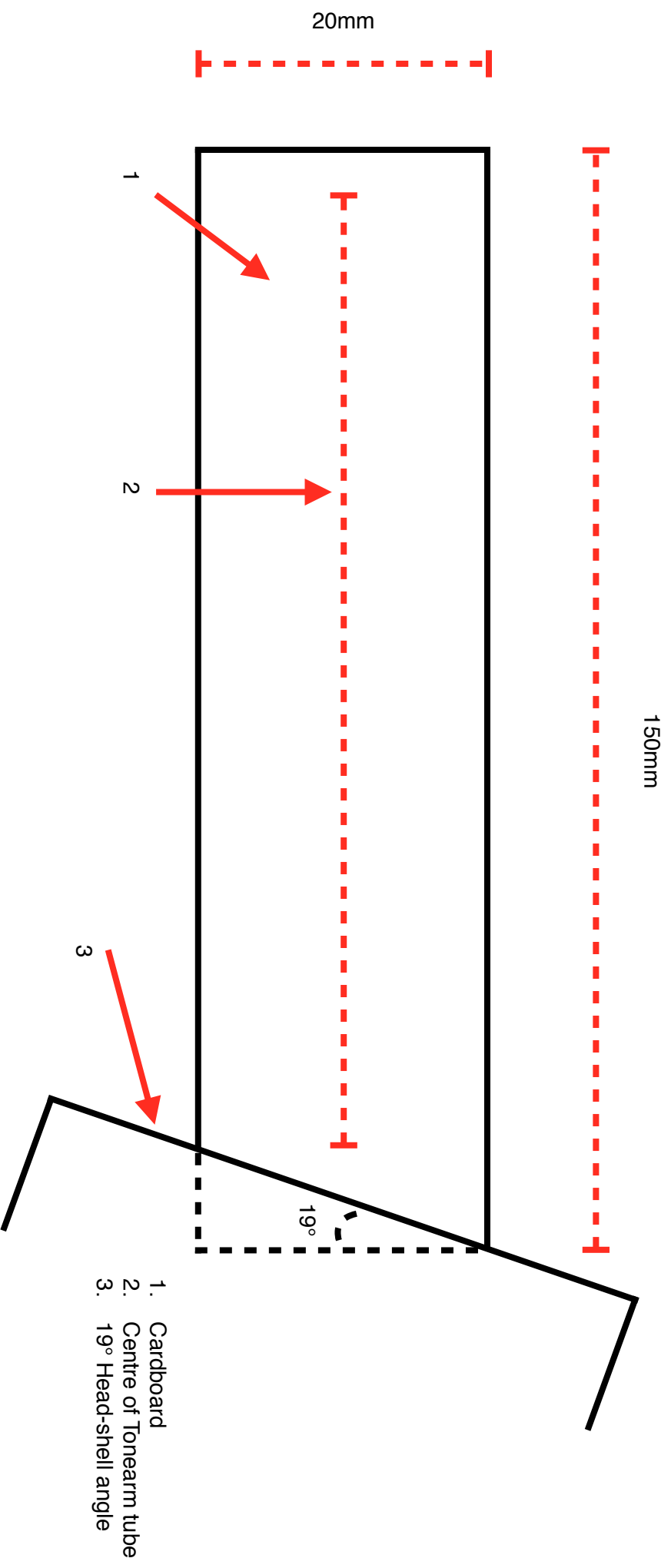
6. If the platter rotates abnormally, please refer to page 8 "Installing the Platter" to centre the spindle.

7. For Amadeus turntables prior to the factory fitted squash ball isolation feet the use of the isolation base with four proprietary feet is recommended. The current isolation feet can be purchased as an accessory from your Well Tempered Lab dealer.

8. **Important:** For optimum performance Well Tempered turntables require to operate on a flat and level surface.

9. When moving or shipping the turntable, we recommend the removal of the platter from the bearing assembly. Care must be taken as there will be a small amount of oil residue on the spindle. Care must also be taken to ensure the turntable remains level at all times to avoid spillage of fluids.

## Head-shell Alignment Guide for Well Tempered Lab Turntables



**Note:** The Head-shell is factory fixed in position. Well Tempered Lab unequivocally reiterate that it should not be moved.

Heavy handed mounting of the cartridge may result in moving the head shell. In which case place the above guide with centre line parallel to tone arm tube and align head shell to 19° angle.

It will be necessary to gently but firmly retighten the small screw fixing the head-shell to the tonearm. **Do not over-tighten this screw.**

## Specifications

- Platter  
Acrylic Matte Black finish
- Platter mat  
Anti-static Foam
- Plinth  
Dual layer MDF finished in Matte Black
- Motor  
Servo Controlled 12VDC completely decoupled from plinth.
- Power Supply  
12V DC, 500 mA, Centre Pin Positive
- Drive  
.004mm Polyester thread
- Tonearm  
Arm tube: 10.5" Aluminium arm tube with internal damping Symmetrex configuration  
Azimuth Adjustment: Stainless steel collar  
Suspension: Polyester thread providing anti-skate  
Damping: Silicone fluid 100,000 cSt viscosity
- Dimensions (H x W x D)  
160 x 490 x 450 mm, 290 x 615 x 565 mm (Shipping)
- Weight  
11 kg, 13.5 kg (Shipping)

## Warranty & Service

Valid on completion of warranty card and confirmed date of purchase. Details can be registered at [www.welltemperedlab.net/welltemperedlab/contact/](http://www.welltemperedlab.net/welltemperedlab/contact/) or mailed to: Well Tempered Lab, P.O. Box 2650, Christchurch, New Zealand.

This Well Tempered Lab product is warranted against defects in material and workmanship for one year from date of purchase.

This warranty does not cover normal wear and tear and is void if the Well Tempered product has been subject to mis-use, accident or negligence or if it has been tampered with or modified in anyway. Spillage of any fluids supplied by the Well Tempered Lab is not covered within the scope of this warranty.

Warranty is restricted to the territory in which the product was purchased. Our distributors and dealers are under contractual obligation to service under warranty products only sold through them. They are entitled to make a non refundable charge for service to products purchased outside the territory if required.

### Claims Under This Warranty

The product should be returned to the dealer or nearest Well Tempered distributor, complete with warranty card and confirmed date of purchase. **Note:** special care is required with the fluids and the Well Tempered Lab and its agents can bear no responsibility for spillage or damage caused by incorrect handling and packaging of the fluids.

### The European Waste Electrical and Electronic Directive

This product can be recycled. Products bearing this symbol must NOT be thrown away with normal household waste. At the end of the product's life, take it to a collection point designated for recycling of electrical and electronic devices. Find out more about return and collection points through your local authority.

The European Waste Electrical and Electronic (WEEE) Directive was implemented to dramatically reduce the amount of waste going to landfills, there by reducing the environmental impact on the planet and on human health. Please act responsibly by recycling used products. If this product is still useable, consider giving it away or selling it.



Well Tempered Lab

#### Registration Card

Name	_____
Address	_____ _____ _____
City	_____
State	Post Code (Zip) _____
Country	_____
Phone	Email _____
Model	Serial No. _____
Dealer	_____
	Date of Purchase _____