Well Tempered Lab

INSTRUCTION MANUAL

LTD

Rev. September 19

Description

The Well Tempered Lab LTD Tonearm is a stand alone refined version of our Simplex and Amadeus tonearms that are only available on Well Tempered Lab plinths. The Well Tempered Lab LTD has all the attributes of our standard tonearms. It can with a modicum ingenuity be mounted on a variety of turntable plinths and features variable damping. A hydraulic cueing device is also fitted.

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

Note: A parts list is included a the rear of the manual.

Contents

Preliminary

On a dedicated Well Tempered Lab plinth, inserts are provided to attach the base plate (Part no. 1) to the plinth.

No hardware is provided for mounting the LTD tonearm to other manufacturer's turntables. Well Tempered Lab advise that such a project should only be attempted by competent personnel. Well Tempered Lab bears no responsibility for this process.

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Note: For plinths not drilled for the LTD Tonearm, a 22mm hole in accordance with the turntable manufactures specifications is required. The LTD protractor provided specifies the centre of this hole. No further adjustment is provided or required.

Mounting the LTD Tonearm

1. Install base plate (Part no. 1) in correct position on plinth and tighten fixing screws. See Fig (1). Fixing screws are normally retained in inserts on Verslaex plinth.

Note: The Amadeus GTA MK II / LTD combination does not require the base plate (Part no. 1). The LTD tonearm fits directly into the GTA MK II plinth. All adjustments are the same.

2. Carefully remove bearing cup (Part no. 7) and tonearm carrier bracket (Part no. 8) from foam packaging.

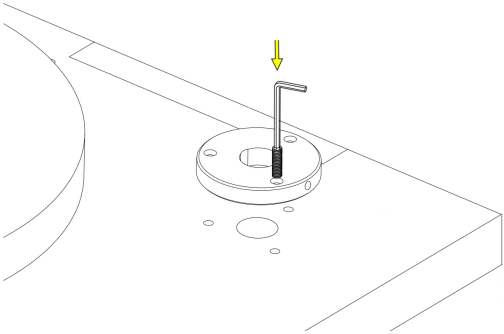


Fig (1)

3. Insert complete bearing cup and tonearm carrier assembly into base plate and tighten set screws (Part no. 2) with hex wrench (Part no. 25) supplied. See Fig (2).

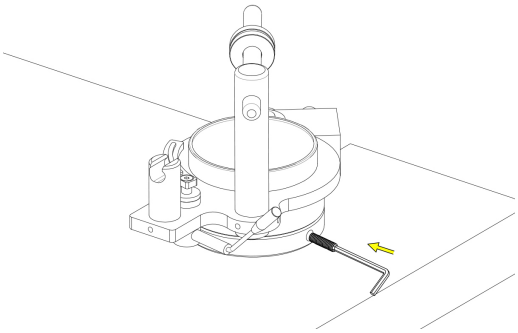


Fig (2)

Note: Do not over tighten as some further adjustment maybe be necessary and the whole assembly will need to be lowered in the base plate to achieve correct VTA.

4. Carefully position tonearm tube assembly (Part no. 14 - 19) in a convenient position to allow phono socket bracket (Part no. 4) to insert into carrier bracket. Extreme care must be taken during the process to ensure no strain is applied between tonearm and phono socket wiring. See Fig (3) and (4). Tighten set screws to secure phono bracket.

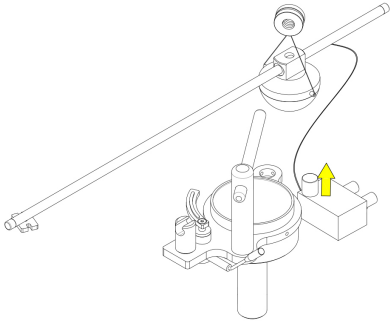


Fig (3)

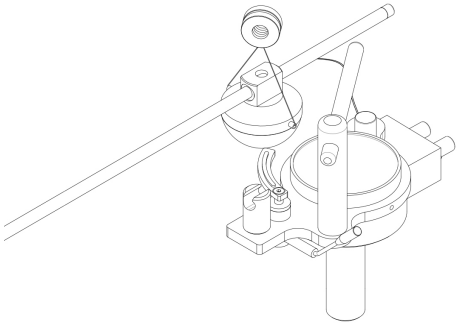


Fig (4)

Note: Well Tempered Lab accept no responsibility for any damage to the Tonearm wiring during this process.

5. Suspend arm by applying one and half turns on the mono-filament suspension around the azimuth collar apply a complete anti-clockwise twist to the mono-filament suspension lower golf ball into bearing cup and slide azimuth adjusting collar onto azimuth rod (the anti-clockwise twist effectively provides anti-skate). See Fig (5) and Drawings (1) and (2).

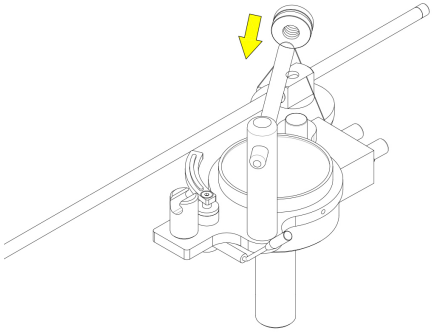
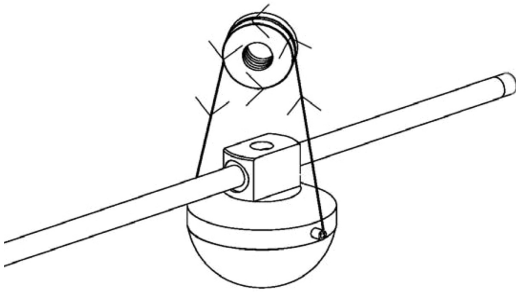
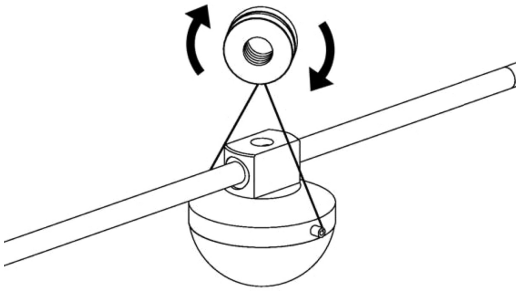


Fig (5)

Drawing (1)



Drawing (2)



6. Fine adjustment and alignment can now be completed and all set screws gently but firmly tightened. Some further adjustments to overall tonearm height, VTA and the armrest may well be required after the chosen cartridge has been installed on the tonearm. The silicone damping fluid can be poured into the bearing cup (Part no. 7) using the nozzle supplied. The tonearm can be raised or lowered within the fluid in the bearing cup by raising or lowering the tonearm pillar (Part no. 10). Carefully adjust the set screw and tighten gently when desired level is achieved, some alterations to overall height, the cueing device and arm rest may also be required at this time. The golf ball can be easily moved to one side of the damping cup by moving the azimuth adjustment collar gently in the required direction. The arm rest (Part no. 18) and cueing device (Part no. 16) can also be adjusted to ensure the tonearm and cartridge are in the correct position to clear the record and allow for correct cueing. We recommend that approximately one third of the golf ball is submerged in the silicone fluid. Do not overfill the bearing cup. It is easy to add more fluid, but difficult to remove it.

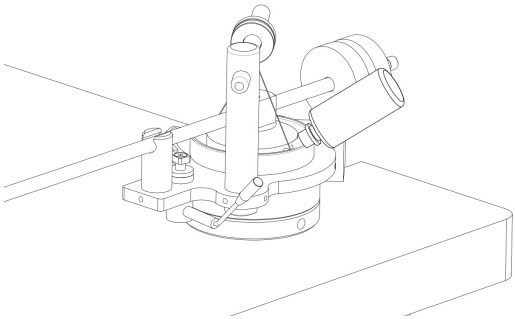


Fig (6)

Fitting the Cartridge and Tonearm adjustements

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

2. Install the cartridge to the manufacturer's specifications. The LTD 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 Well Tempered Lab LTD Tonearm has an effective length of 10.5î (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 LTD head-shell (refer to 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.

6. 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.

7. Adjust tonearm for correct VTA by raising or lowering bearing cup (Part no. 7) in base plate (Part no. 1) and tightening set screws when correct VTA is obtained.

8. 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.

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

Specification and Dimensions

Effective Mass: 10 g
Net Weight: 0.80 kg (800 g)
Cartridge fixing centres: 12.7 mm
Max Height above mounting surface: 140 mm
Max Depth below mounting surface: 45 mm
Max Radial clearance for Counterweights: 98 mm

Available in both:

Nominal: 9 inch (228.6 mm) version.

Nominal: 10 3/4 inch (273.05 mm) version.

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 or the
underside of the plinth. The Well Tempered Lab can bear no responsibility for damage caused by cleaning fluid.

3. 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 (7).

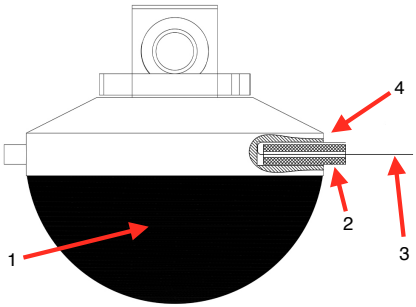
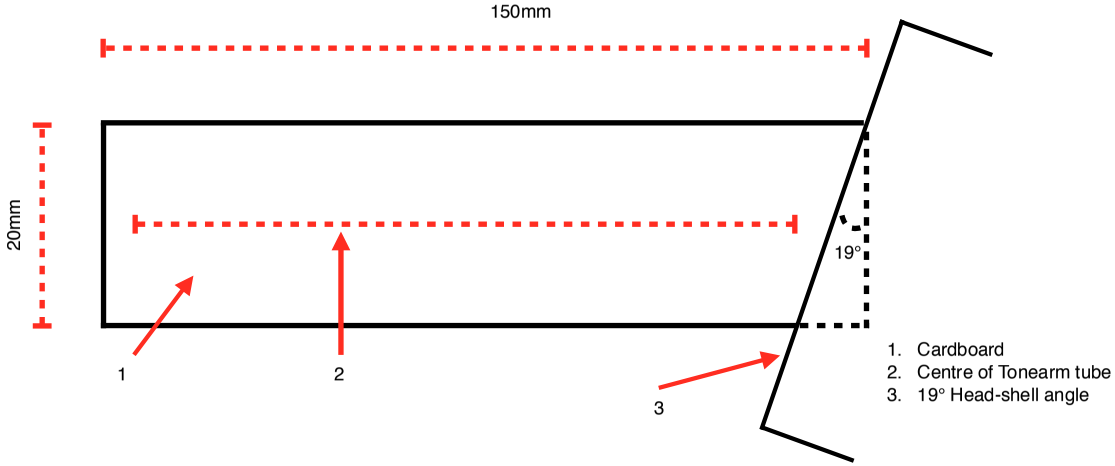


Fig (7)

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

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.

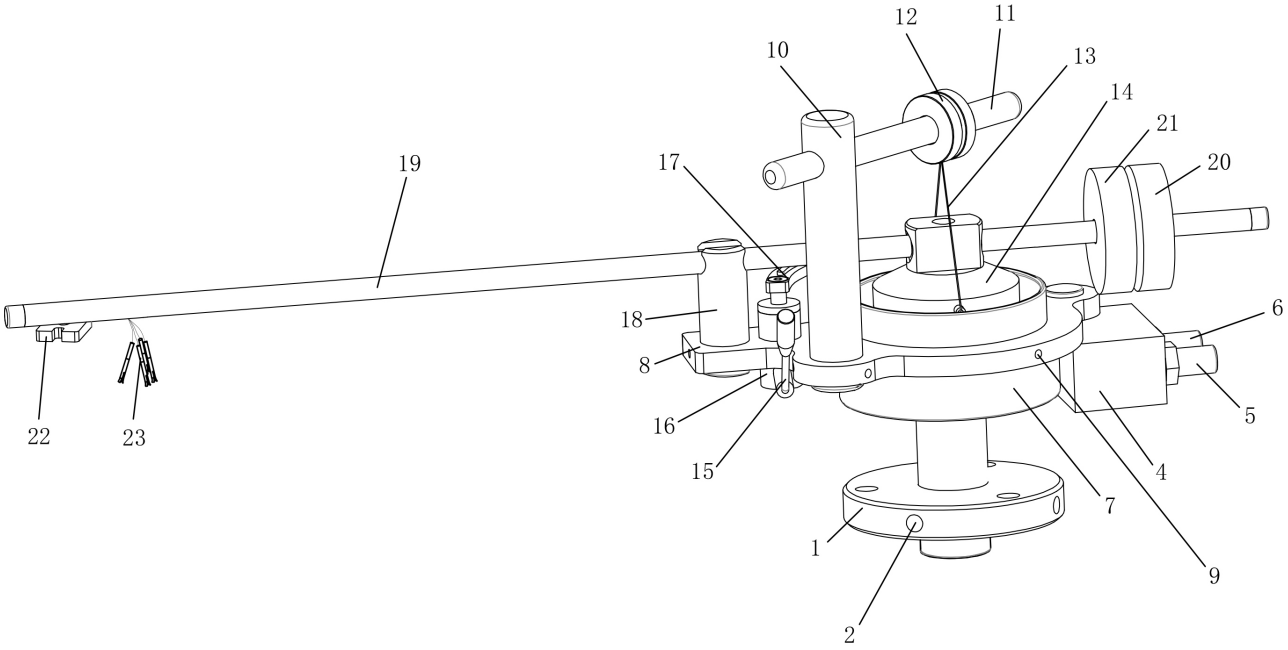
It will be necessary to gently but firmly retighten the small screw fixing the head-shell to the tonearm. **Do not over-tighten this screw.**

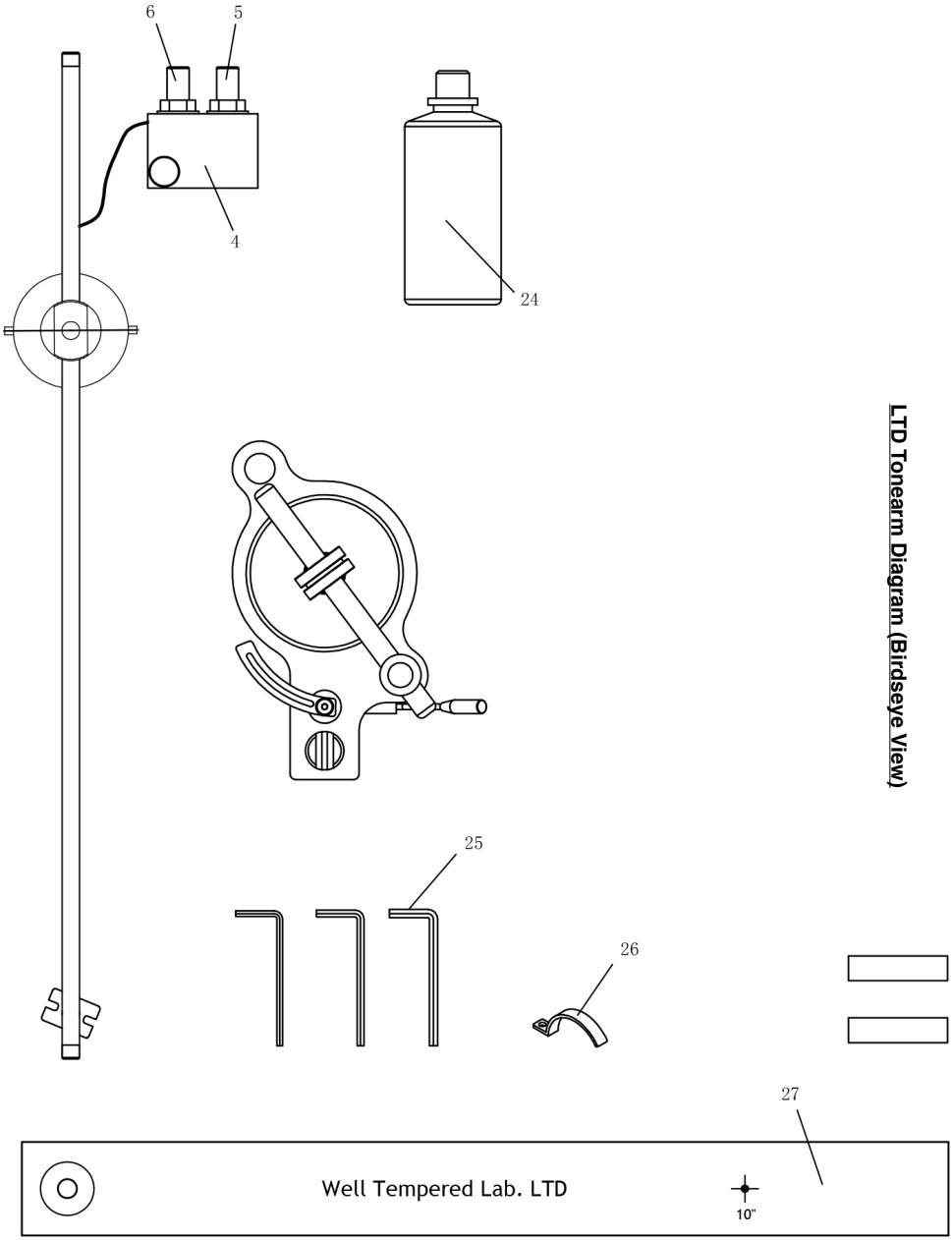
LTD Tonearm Parts List

Part Description (Part no.):

1. Base Plate
2. Set Screw (2)
3. Fluid Level Adjustment (Old model LTD only)
4. Phono Socket (RCA) bracket
5. Phono Socket Right (Red)
6. Phono Socket Right (White)
7. Bearing Cup and Shaft
8. Tonearm Carrier Bracket
9. Tonearm Carrier Bracket Set Screw (2)
10. Tonearm Pillar
11. Azimuth Adjustment Rod
12. Azimuth Adjustment Collar
13. Mono-filament Suspension
14. Golf ball
15. Cueing Lever
16. Damping Pot
17. Arm Lifter
18. Arm Rest
19. Tonearm Tube
20. Counter Weight Black
21. Counter Weight Silver
22. Head-shell
23. Cartridge Connections
24. Silicone Damping Fluid
25. Hex Wrench (4)
26. Finger lift
27. LTD Template

LTD Tonearm Diagram (Side View)





LTD Tonearm Diagram (Birdseye View)

Warranty & Service

Valid on completion of warranty card and confirmed date or purchase. Details can be registered at 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.

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.

Registration Card

Name

Address

City

State Post Code (Zip)

Country

Phone Email

Model Serial No.

Dealer

Date of Purchase