



Well Tempered Lab

INSTRUCTION MANUAL

LTD

Description

The Well Tempered Lab LTD Tonearm is a “stand alone” refined version of our Amadeus and Simplex 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.

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

Mounting the LTD Tonearm

On a dedicated Well Tempered Lab plinth, inserts are provided to attach the base plate (PT1) 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.

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

1. Install base plate (PT1) in correct position on plinth and tighten fixing screws. See Fig (1). Fixing screws are normally retained in inserts on Verslaex plinth.

2. Carefully remove bearing cup (PT7) and tonearm carrier bracket (PT8) from foam packaging.

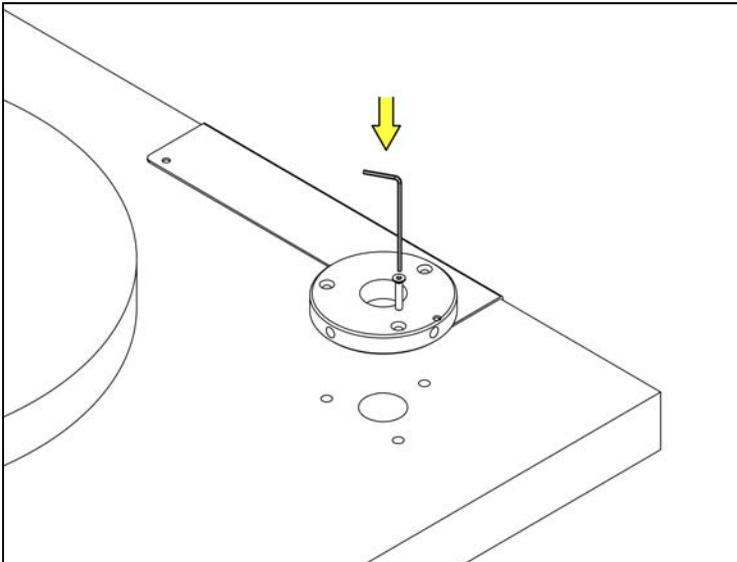


Fig (1)

3. Insert complete bearing cup and tonearm carrier assembly into base plate and tighten set screws (PT2) with hex wrench (PT25) supplied. See Fig (2).

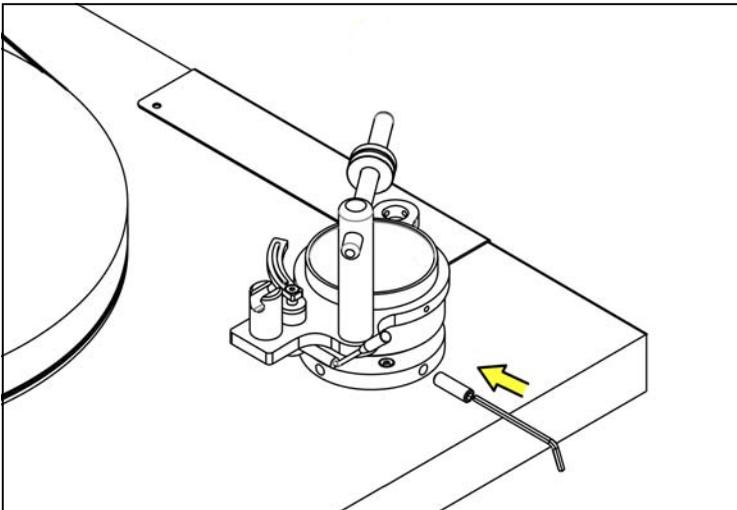


Fig (2)

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

4. Carefully position tonearm tube assembly (PT14-19) in a convenient position to allow phono socket bracket (PT4) 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.

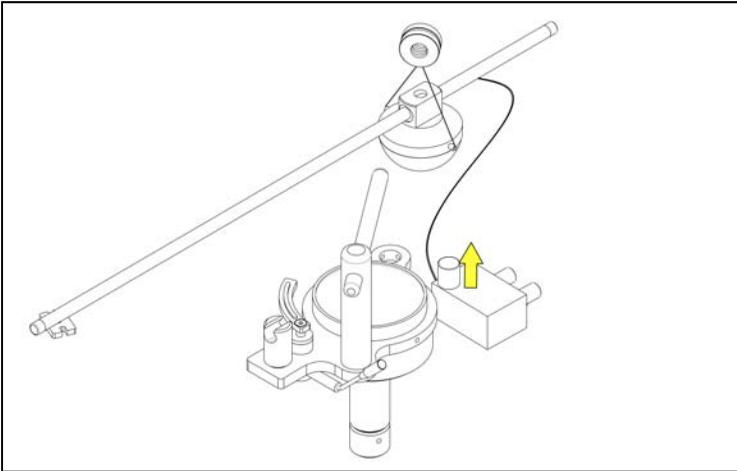


Fig (3)

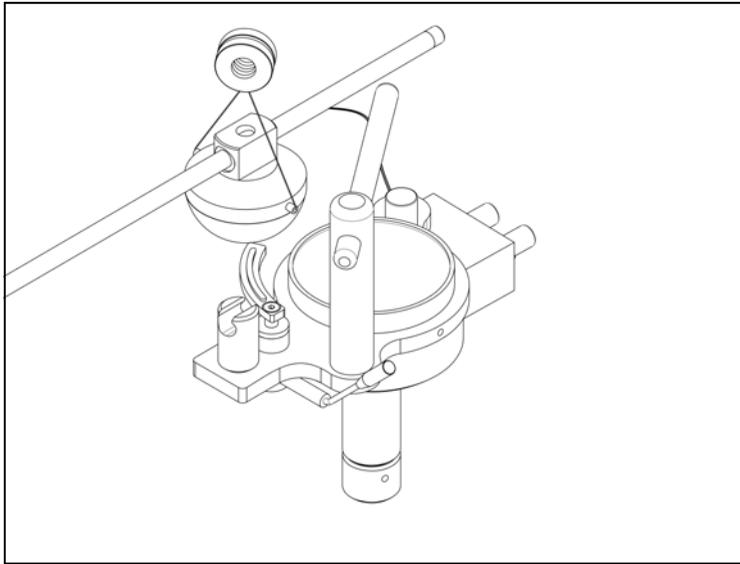


Fig (4)

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 anti-clockwise half 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).

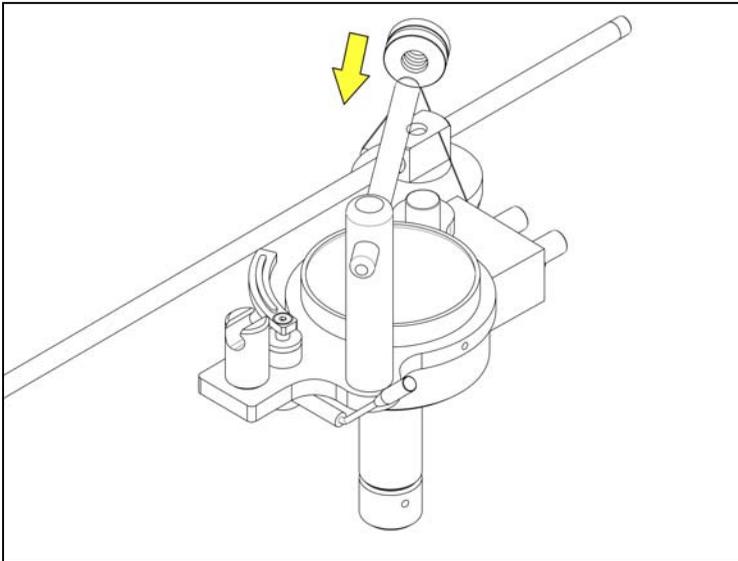
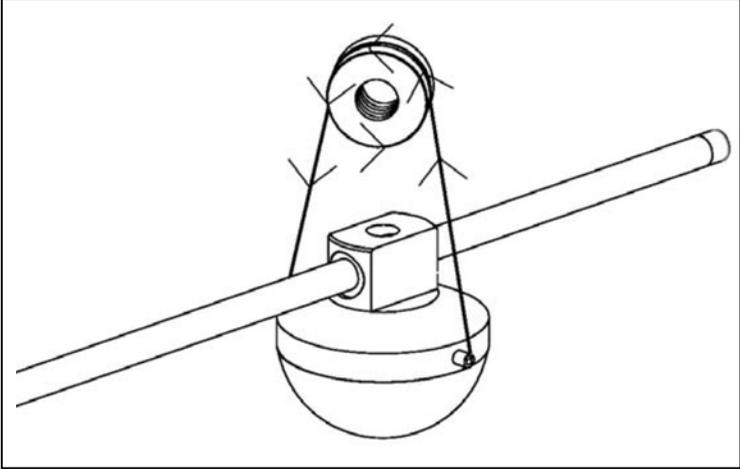
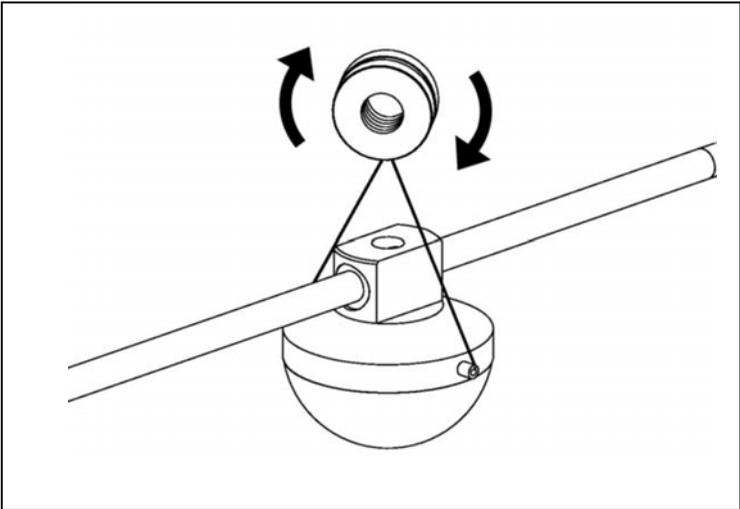


Fig (5)



Drawing (1)



Drawing (2)

6. Fine adjustment and alignments may now be completed and all set screws gently but firmly tightened some further adjustments to overall tonearm height may well be required once the cartridge is fitted. The silicone damping fluid can be poured into the damping cup using the nozzle supplied. The golf ball can be easily moved to one side of the damping cup (PT7) by moving the azimuth collar (PT12) gently in the required direction. The cueing device (PT16 and PT17) can also be adjusted to ensure arm and cartridge are in the correct position to clear record and allow for effective cueing. Fluid level is adjusted by raising or lowering the tonearm pillar (PT10) gently tighten the set screw with the key supplied. 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.

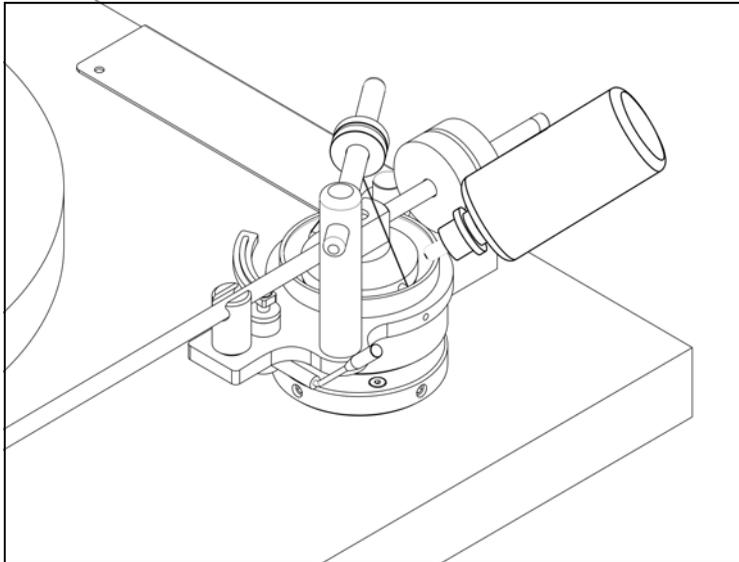


Fig (6)

Fitting the Cartridge and Tonearm adjustments

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 10.5" (267 mm). The headshell 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 headshell/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 headshell (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 tonearm lead out cable when attaching counterweights to tonearm.

7. Adjust tonearm for correct VTA by raising or lowering bearing cup (PT7) in base plate (PT1) 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.

Well Tempered Lab LTD Tonearm Parts List

Part (PT) Description:

1. Base Plate
2. Set Screw (2)
3. Fluid Level Adjustment
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. Headshell
23. Cartridge Connections
24. Silicone Damping Fluid
25. Hex Wrench (4)

Well Tempered Lab LTD Tonearm Diagram

