

Dual-pivot and integral VTA explained



ENCOUNTER, ILLUSTRIOUS AND CONQUEROR TONEARMS

Dual pivot bearing design – why?

The Encounter, illustrious and Conqueror tonearms are performance leaders, partly by virtue of their innovative dual pivot bearing. These bearings are attached to the horizontal axle (which governs the arms vertical movement). This design is similar in many respects to uni-pivot designs – low friction and high decoupling which give excellent definition and transparency. However uni-pivots can be fiddly to set up and because of their

relative instability exhibit a mediocre bass performance. Dual pivot design has all the advantages of uni-pivots but none of the drawbacks. Vertical movement of the arm is handled by the dual pivot and horizontal movement by our usual highly specified conventional bearings.

Handles like a conventional gimballed arms

You should handle the arm in exactly the same way as a conventional gimballed arm. In other words you do not need to worry about setting up azimuth and balancing the arm. The azimuth has already been set, such that the headshell is parallel to the arm mounting surface.

Understanding dual pivot

The below illustration shows the dual pivot bearing to give an understanding of why the horizontal axle is free to move a little in all directions except downwards. It is reassuring to know that the arm cannot be knocked off its bearings or come loose in any way. You can turn the arm upside down and nothing will fall off as it would in the case of a uni-pivot!

The pivot bearings are designed to reduce friction to the absolute minimum practical level. In doing this there is a fine balance to achieve both a long lasting, robust design and realizing the potential of extremely low friction. In practice this means that the arm must have a tiny degree of movement due to a rounded tungsten point in a radiused sapphire jewelled bearing cup. The pivot points will “self centre” by sliding into the bottom of the low friction cup.



Integral VTA (vertical tracking angle) adjuster wheel

It is important to experimentally set the optimum arm height by listening to different vta settings. If the arm base is too high, the sound is usually slightly on the bright side and lacking body in the bass – too low and it veers on the dull side. To enable precise and repeatable vta setting your origin Live arm has an integral vta adjuster wheel. This method of height adjustment is extremely accurate, with obvious benefits in terms of speed of adjustment.

CROSS SECTION OF YOKE

(illustration only, to show principle of operation)

