

FEATURE - ALIGN YOUR CARTRIDGE

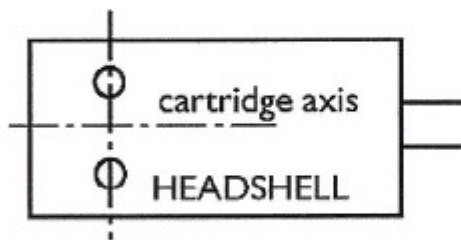
SETTING THE RECORD STRAIGHT

Noel Keywood shows you how to align your cartridge.

Setting up a cartridge is a little fiddly but not too difficult. Here is a simple and comprehensive step-by-step guide, where we tell you what to do and why. Just be aware that the stylus cantilever is a delicate lightweight alloy tube that will bend easily if knocked. Take precautions to avoid this happening!

1) Remove cartridge carefully from packaging. This is a potential danger area. If you have to wrestle a unit out, remove the stylus guard and then the stylus from the body. Moving magnet stylus assemblies always pull out.

2) To fit the cartridge it is safest if you remove the stylus assembly first. Then screw the body to the headshell, making certain it is not skewed. This is quite important, since a degree or two of skew will put the tracking right out and raise distortion. Look at my diagram to sort this one.



Align the cartridge carefully so it lies at right angles to the fixing screw holes. If the headshell sides are parallel they can be used as a reference.



Shown left - the edge of the cartridge must align perfectly with the headshell reference face to minimise distortion from tracking error

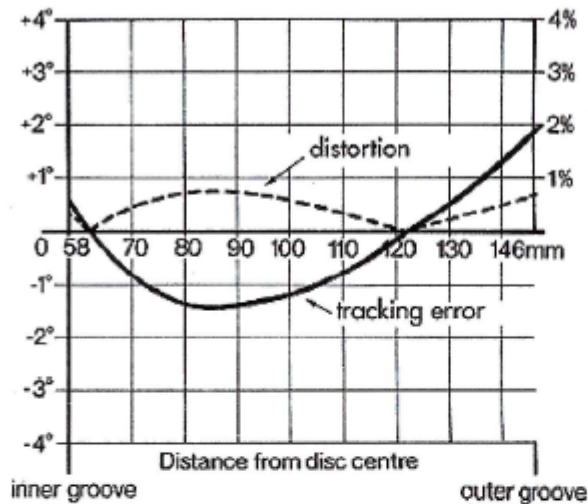
3) Connect headshell leads to cartridge output pins.

Red: right channel hot; Green: right channel ground; White: left channel hot; Blue: left channel ground. Take care not to get green and blue mixed up, which can happen in artificial light.

4) Replace stylus and guard. Refit headshell if it is removable. With fixed headshell arms like the Rega RB250/300 slide cartridge to centre of adjustment groove.

5) Remove stylus guard and balance arm, then apply tracking force. Use either the

manufacturer's recommended figure or a value toward the top of any suggested range, 1.6-1.8gms being a sensible figure. Don't apply bias force yet.



The tracking error of an arm as it crosses an LP produces distortion, shown here. Careful alignment of cartridge in the headshell and of arm geometry minimises the problem

6) Slide cartridge or entire arm on the arm's alignment protractor so that it lines up (i.e. is tangential to the groove) at the points specified, usually at the inner groove radius (60mm from centre spindle) and at 120mm from centre. By doing this you are minimising tracking error distortion. Tighten screws. Re-check tracking force and re-set if necessary.

7) Set headshell so that the cartridge is upright, where such adjustment is possible.

In theory at least, this optimises channel separation. In practice it does not because separation is set by the cutter's modulation axes, and also by disc warpage, which gives the vinyl surface a slant. The LP is an inexact medium!

8) Set arm height - again if this is possible. This sets vertical tracking angle and it is best to start with the arm pivot as low as possible, because most cartridges have excessive VTA and this minimises it and resultant distortion. You'll soon find though that a cartridge will not ride warps if you take things too far, because the body will hit the warp. Generally the arm can be lowered from horizontal at the pivot by only a small amount. Note that the AT120E reviewed here has correct VTA (22 degrees) and does not need any such compensation. It needs the arm to be horizontal.

9) After all adjustment has been completed, apply bias force and you are ready to play.