Cartridge alignment scenario showing the importance of adjusting the cartridge in the headshell to agree with the tonearm manufacturer's specified effective length (or with Baerwaald's or Loefgren's equations).

Tonearms with a fixed (fore and aft) cartridge mounting (e.g. Schröder, SME) require the use of either a two-point alignment protractor or a custom arc-style protractor made for your tonearm AND cartridge. Contact Galibier Design for details.

Shown are 3 cartridges in a theoretical arm with 250 mm effective length. The pivot to spindle distance has been changed to compensate for the fixed mounting in the headshell (examples A and C). Offset angle is unchanged in this exercise.

A: Cartridge with a "short" cantilever that results in a 239 mm effective length
B: Cartridge representing the theoretical ideal (250 mm)
C: Cartridge with a "long" cantilever length that produces a 262 mm effective length

In examples A and C, the stylus lands on the correct arc (solid line) at ONLY ONE POINT in its traversal across the record. These two mis-mountings change their overhang as they trace across the record resulting in a divergence from concentricity from the correct arc.

This exercise uses exaggerated numbers to magnify how the arcs traced diverge from each other.

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