



This article was kindly donated by Lloyd Walker, Walker Audio

### ***INITIAL CONDITIONS:***

We will assume you have installed your cartridge correctly using some kind of an alignment protractor and that it is set-up to the manufacturer's recommendations such as body parallel to the record for VTA. The tracking force should be set at the mid-point of the range recommended by the manufacturer. For example, if the recommended range is 1.8 to 2.2 grams, then set it to 2.0.

These settings are just a starting point. The VTA and tracking force setting must be adjusted by ear. There is no other way that we know of to get the best out of your system.

### ***WARM UP:***

Play two sides of an LP to warm up your cartridge and system.

### ***MUSIC SELECTION:***

For testing, put on a well-recorded LP with complex music, such as classical or complex jazz. Do not start with piano, female voice or acoustic guitar. You can listen to that later. You need to hear bass, the extreme highs, and everything in between at the same settings.

Listen to the same music after each adjustment so you will know what you did. It won't hurt your LP under normal adjustments.

### ***GENERAL RULES AND EFFECTS:***

#### VTA:

- Raise the VTA (raise the rear of the arm) and the highs will usually get better. Too much and you will lose the bass.
- Lower the VTA and the bass will get stronger. Too much and you will lose the highs.

#### Tracking Force:

- Increasing the tracking force: will usually improve the lower mid-range and bass. Go too heavy and you will lose the highs and lose focus. The bass will become heavy and distorted.
- Decreasing the tracking force will improve the highs and focus from top to bottom. Go too low and the mid-range will lean out. The bass will distort and the cartridge will mistrack.

### ***MAKING ADJUSTMENTS:***

#### Adjust the VTA:

Start by adjusting the VTA. Lower it until the highs drop off and the bass goes heavy. Then I slowly raise the VTA until the soundstage opens up and the highs get clean and clear. The bass will become more focused and defined. Go too high and the bass will suddenly drop. When this happens, lower the VTA slightly.

#### Adjust the Tracking Force:

Increase the tracking force slightly. If the bass gets stronger without hurting the highs and soundstage depth, then increase the force until it does. Then back off the tracking force until the highs are nice and clean and the harmonics hang naturally in the room without losing the bass. Make very small adjustments.

### ***FINE TUNING:***

We're not done yet. When you adjust the VTA or tracking force, it slightly affects the other. **Very** small changes will not affect the other. However, we have made large changes here. Go back and fine tune the VTA again making very small changes. Now fine tune the tracking force. You must do this. This is where the magic is. Listen to the soundstage, to the instruments that are playing in the background, not just to the lead instrument. If they are not defined, very slightly decrease the tracking force and listen again. If this doesn't bring them into focus, raise the VTA slightly.



### ***RECORD DIFFERENCES:***

If you have used a 180-gram record to adjust your arm, we suggest you now put on a standard (thin) LP. Listen to it. Then lower your VTA slightly until it sounds the best. You'll be surprised at the improvement. Mark or remember the two settings for the 180-gram record and for the standard LP.

### ***DAMPING:***

If your arm has adjustable damping, now is the time to fine tune the damping. Start with the 180-gram LP. You will probably find the arm will require only a small amount of damping. Adding damping, the sound will get cleaner and the soundstage will get wider and much deeper. Bass will become stronger and better focus.

There is a fine line between right and too much. Too much, the highs will die and the soundstage will collapse. Next, put on a standard LP. You will probably find a little extra damping will dramatically improve it. Remember the two settings.

### ***OTHER TIPS:***

When I first started setting up turntables many years ago, the process was mysterious and frustrating. I often felt that for every improvement in one setting, I lost something in another. Over the years, I've developed a way that works for me and will work for you too. It is not hard, but requires a systematic approach and patience. You must make one adjustment at a time and listen after each one. You'll get the settings close using large adjustments, but it is the secondary fine adjustments that make the differences between good sound and great sound.

Call us for other tips to improve your turntable. Happy Listening.