

WALLYTRACTOR – INSTRUCTIONS

Your precision WallyTractor is carefully packed in a special lint-free, anti-static protective wrapper. Please retain this for maximum protection of the mirrored surface over time.

1. Introduction and symbols:

L_{eff} = Tonearm Effective Length (T-Arm Pivot \approx Stylus)

Ohg = Overhang

$L_{\text{eff}} = (\text{Pivot} \approx \text{Spindle}) + \text{Ohg}$

MAKE SURE THE DISTANCE BETWEEN THE TONEARM PIVOT POINT AND THE CENTER OF THE PLATTER SPINDLE IS +/- 0.5mm WITHIN THE NUMBER GIVEN ON THE WALLYTRACTOR THAT IS DEDICATED TO YOUR TONEARM

2. [Fig. 1] Practice this step with a flashlight, WallyTractor and magnifying glass (x4 power): Look at any 3 of the small parallel lines on the mirror using plenty of bright light. When you see only 3 parallel lines (i.e., no reflections of lines, making it appear to be 6 lines) then you have the perfect location of your eye/magnifying glass with respect to the WallyTractor. This will be very important in the alignment of the cantilever.
3. Secure the turntable platter in 3 places with paper tissue or cotton balls so the platter does not rotate.
4. [Fig. 2 & 3] Disengage the anti-skating device on the tonearm (or adjust to zero). Place the WallyTractor on the turntable platter without any record on it. Place the stylus on the arc (straight line for Linear Tracking Arms) at the **“0” position** (top, right corner). Move the WallyTractor as needed and check (with magnifying glass) that the stylus is in the groove of the arc (straight line for Linear Tracking Arms). This is a very important step! Choose either the Loefgren or Baerwald arc for alignment. The Loefgren alignment is recommended for modern records that have the modulated grooves (musical signal) no less than 65-66mm from the center of the record. Next, lift the arm and place the stylus at **position “1”**, near the spindle. **Be careful NOT to shift the WallyTractor or rotate the platter.** If the stylus falls outside of the arc (straight line for Linear Tracking Arms), move the cartridge towards the tonearm pivot (or Linear Bearing) by the same distance that the stylus falls outside the arc. Likewise, if the stylus falls inside the arc (straight line for Linear Tracking Arms), move the cartridge away from the tonearm pivot (or Linear Bearing).
5. Now move the cartridge back to the **“0”** position on the arc (or straight line) and **realign (using the magnifying glass) the stylus in the selected Loefgren or Baerwald groove (move W-Tractor as needed)**. Again, position the stylus back to **position “1”** and check that the stylus is in the groove of the arc (or straight line). Repeat the step 4 until stylus will be in the **same groove at position “0” and “1”**. **It is VERY important not to move the WallyTractor or platter after alignment at position “0”**. Take time to get this exact. The musical reward is great. Double-check your work by placing the stylus in the groove (arc) at several points along the arc. You are now assured that the adjusted L_{eff} and Ohg are according to the requirements for optimum geometry of your tonearm-cartridge-cantilever assembly. The Overhang for Linear Tracking Arms should be zero.

6. [Fig. 4] Next, move the arm/cartridge to **position “2”** which is located 121mm from the center of the record. Place the stylus in the selected groove (arc or line) where it intersects with the center line of the 3 parallel lines. Use the x4 magnifying glass and flashlight (if necessary) to see if the cantilever is exactly parallel and aligned to the center line (0 degree error). No separate reflections should be visible, remember paragraph 1. Move your eye/magnifying glass a little left and right to assure what you are seeing is accurate. **The cantilever MUST be located as an extension of the center line.** Remember: “The WallyTractor is the only tool for perfect alignment of the cantilever/stylus assembly!”
 7. You are responsible (with your skills and practice) for perfect alignment. If the cantilever is not exactly parallel (left or right), loosen one of the cartridge screws gently and twist the cartridge accordingly. Again, set the stylus in the groove at **position “2”** and check with the magnifying glass. Be patient and determined for exactness at this point and repeat until you can say the stylus is always in the groove and the cantilever is perfectly aligned with the center line! The next step will give you confirmation of your work.
Note: At this step, do not change the effective length between the stylus and pivot (stylus and linear bearing) of the arm!
 8. Move the tonearm/cartridge to **position “3”** and locate the stylus on the arc and center line which is 66mm from the spindle. The cantilever should be located above the center line and parallel as in **position “2”**. The perfect alignment for the geometry of the **pivoted** arm/cartridge provides two “**null points**” (zero error) at **66mm and 121mm** distance from the spindle.
 9. Now you will be able to see the maximum “**Horizontal Tracking Angular Error**” (HTAE):
 - ⚡⚡About **1 degree** (clockwise - negative) “**at position 4**” [Fig. 5]
 - ⚡⚡About **1.8 degrees** (counter clockwise – positive) **at position “5”** [Fig. 6]
- The maximum negative and positive **HTAE** depends on the effective length of your tonearm and accuracy of cartridge installation.
- NOTE: WallyTractors designed for Linear Tracking Arms have points 4 and 5 to display 1 degree errors to provide similar pictures to Pivoted Arms.**
10. Adjust Anti-skating according to the cartridge manufacturer’s recommendation or by using the WallySkater device.
 11. It is recommended to check the horizontal alignment of your cantilever every 3-6 months. The reason for this is the break-in of the stylus/cantilever suspension and aging of the damping polymers. Invariably, such break-in and aging cause some degree of drift in the stylus/cantilever location.

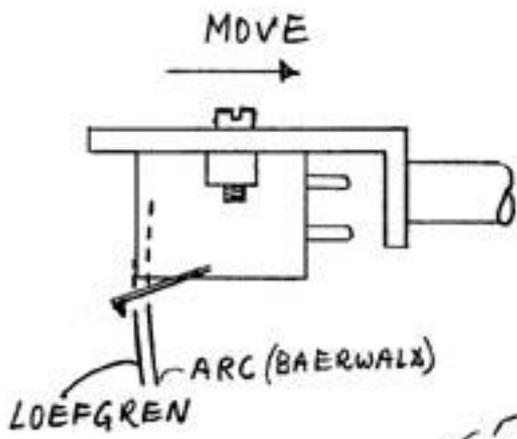


Fig. 2

POSITION
①

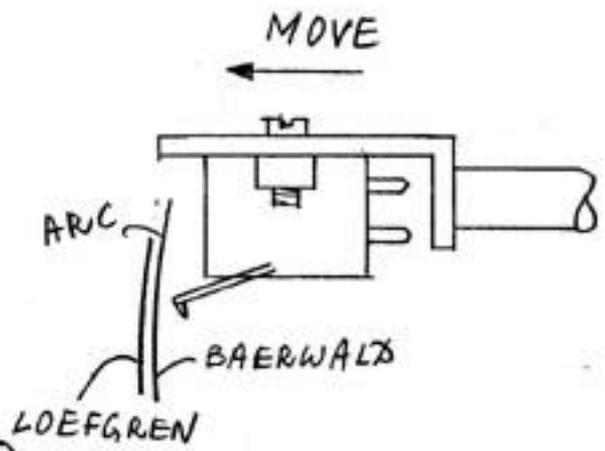


Fig. 3

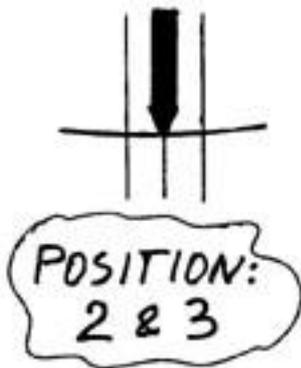


Fig. 4

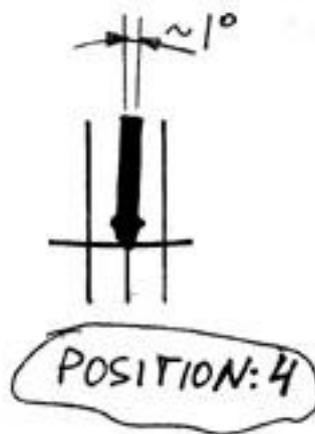


Fig. 5

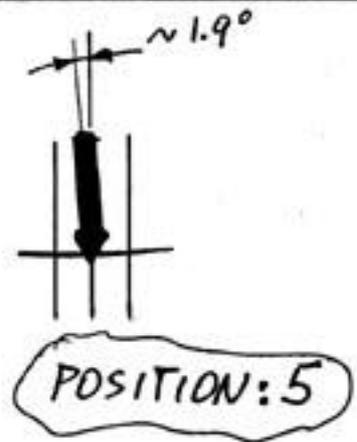
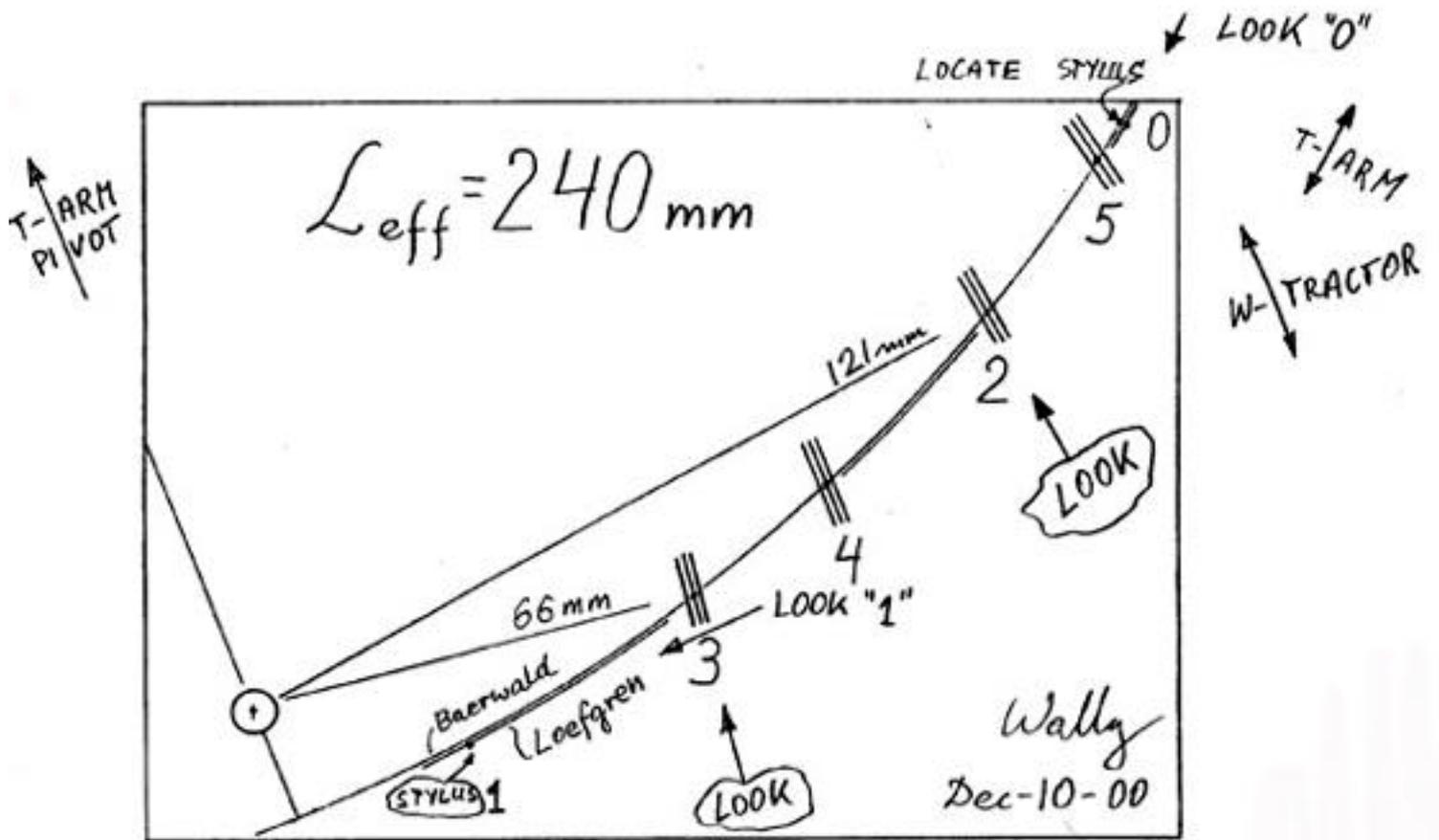


Fig. 6



BAERWALD - FOR RECORDING TO 60 mm
 LOEFGREN - FOR RECORDING TO ~ 67 mm

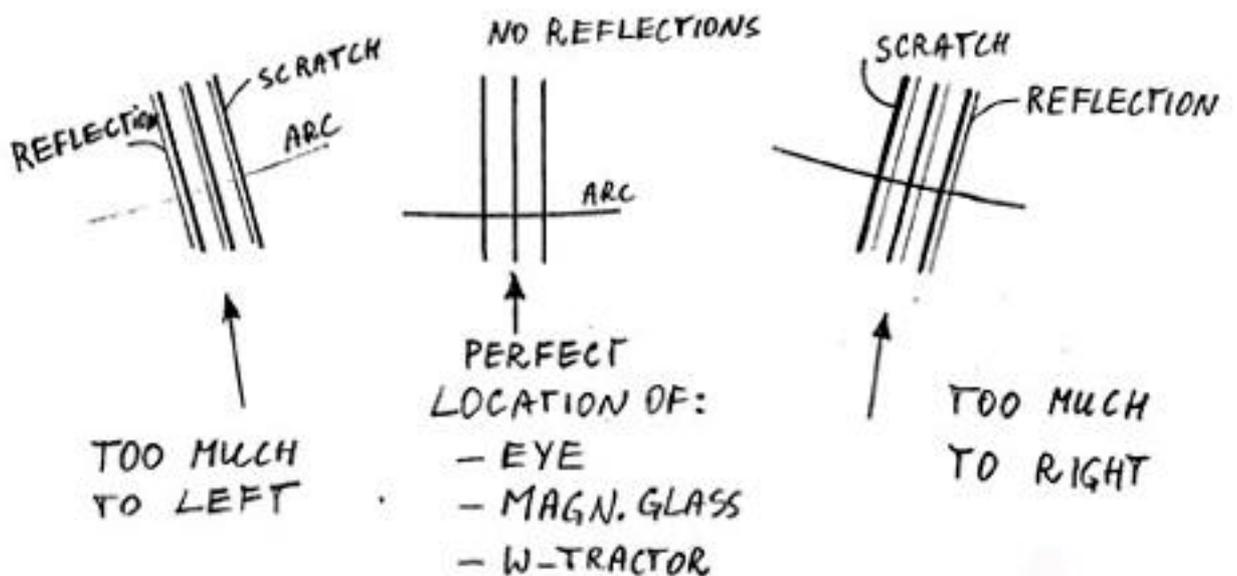


Fig. 1