

The home of the turntable

# THE VINYL ENGINE®

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"What !!! again a new protractor by Seb !!! And this protractor is an universal one !!! Baerwald and Loefgren alignment for every tonearm !! This guy is terrific !!! and it's free ?"  
Err, almost : **if you feel that every job must be paid, feel free to send me by paypal (leo\_lau\_seb@hotmail.com ) something like 20 \$, more if you want, less if you aren't rich** (would be nice, need to buy a new phono preamp).

**please note** : my original draw is a high precision draw (0.01 mm precision) - when I say EXACTLY, PERFECT, MUST, PRECISELY or BOTH mean EXACTLY, PERFECT, MUST, PRECISELY and BOTH

*the first question : are you able to drill PRECISELY a mirror ?*

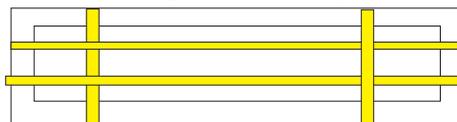
*NO : please use the first version (the 3 draws on the left of the blue line)*

*YES : use the second version (the draw on the right of the blue line)*

So, how does the STUFF PROTRACTOR work ? (the first shareware protractor !!!)

1- print the draw on a transparency film - the ZZ' line MUST be EXACTLY 190 mm - DPI max - DO NOT AJUST (print a second version on a piece of paper, it may help)  
2- get yourself a mirror (70mm\*170mm recommended) the thickness of your mirror depends of the thickness of your mat : add 2 mm (average record thickness) to the thickness of your mat.

3- get yourself a scissors or a blade and cut the red lines  
4- take "the stuff" and "scotch" it on the mirror this way :  
5- there is no point 5 (but get prepared for point 6)



yes, the mirror is larger than the stuff.

Nothing should move

NO SCOTCH on the lines

 : scotch

**first version (V1)**

**second version (V2)**

6- the critical point : you must reproduce EXACTLY the AA', CC', DD' and EE' lines on the mirror

a- use a pin (a diamond, an old empty pen) to engrave eight dots (or V)

b- remove the scotch

c- engrave the lines (2 dots = a line, remember)

d- check with the stuff : if it's PERFECT (when I say PERFECT, it's PERFECT) : ok, if it's not, go back to 2 (get yourself a mirror, sorry)

7- now, choose between Loefgren and Baerwald and let's go for the spindle center hole :  use a pin to cut EXACTLY the circle

8- remove the mat - put the mirror on the platter and place the Baerwald (or Loefgren) plastic sheet on the spindle center of the platter - you must now move the mirror to obtain dot 1 (plastic sheet) on dot 1 (mirror) and dot L(B) on dot L (B). The crosses (1, L (or B) and X) MUST be on the lines you engraved - If it's impossible, you made a mistake somewhere (probably the cutting of the spindle center). you can fix the mirror with blu-tak - remove the Loefgren(Baerwald) plastic sheet - remove the antiskate - the mirror MUST NOT MOVE (but the platter will have to move during set-up)

6- the critical point : you must reproduce EXACTLY the FF', GG', HH', II', JJ' and KK' lines on the mirror (if you decide to have both Loefgren and Baerwald)

a- use a pin (a diamond, an old empty pen) to engrave twelve dots (or V)

b- remove the scotch

c- engrave the lines (2 dots = a line, remember)

d- check with the stuff : if it's PERFECT (when I say PERFECT, it's PERFECT) : ok, if it's not, go back to 2 (get yourself a mirror, sorry)

7- now, it's time to check if you're able to drill PRECISELY a mirror : the spindle center hole. you MUST drill EXACTLY on the middle of the cross (with a circle, on the stuff) a 0.283" (official size of the hole) or 7mm diameter hole - yes, I know, 0.283" is 7.1882 mm. Try 7 mm and if it's too small, try to ajust (properly).

check again with the stuff or with the baerwald/loefgren plastic sheets on the left of the page (yes, the ones you just put in the bin)

8- remove the mat - put the mirror on the platter - remove the antiskate

9- your cartridge is perfectly set-up when you observe perfect alignment at the 1(V1) [or B (V2)] and B dots (Baerwald) (Loefgren : 1(V1)/L(V2) and L dots) between the lines and the CANTILEVER - perfect alignment is when you look in the mirror, you must see ONE line for BOTH points 1 (V1)/L(V2) and L(B) (instead of three : the line you engraved, its image on the mirror and the cantilever+stylus right in the middle of the line). the stylus MUST be placed PRECISELY on dots 1 and L(B) (V1) [V2 : on both dots L (B)] - move your head to align the engraved line and its image - move the platter to check for both dot 1 and L(B) (V1) [V2 on both dots L (B)] - move the cartridge on the headshell to obtain alignment.

version 2.0

<http://www.vinylengine.com>

listen to the music : move your head and stomp your feet

my english is bad ? that's why I'm French

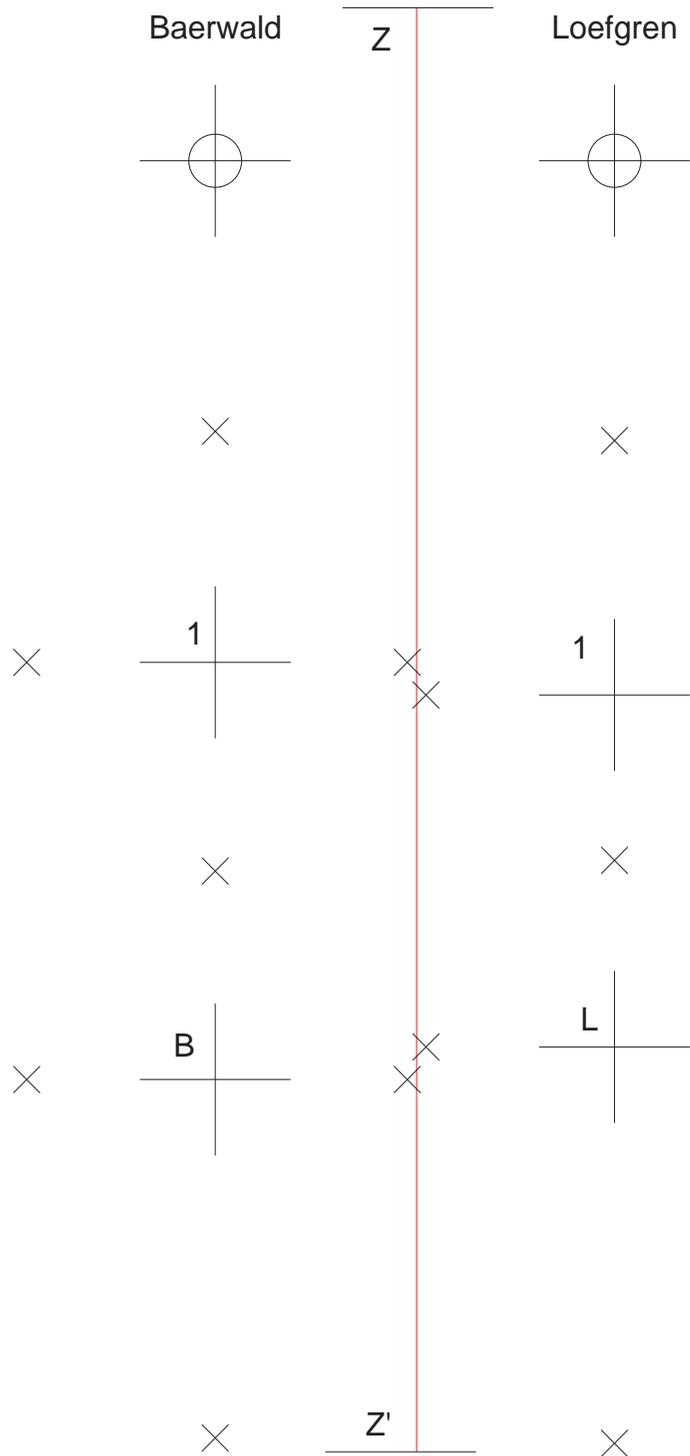
if you follow the rules, your set-up will be perfect (it's mathematical)

I will add a FAQ if the questions you'll ask me will show a need for a FAQ

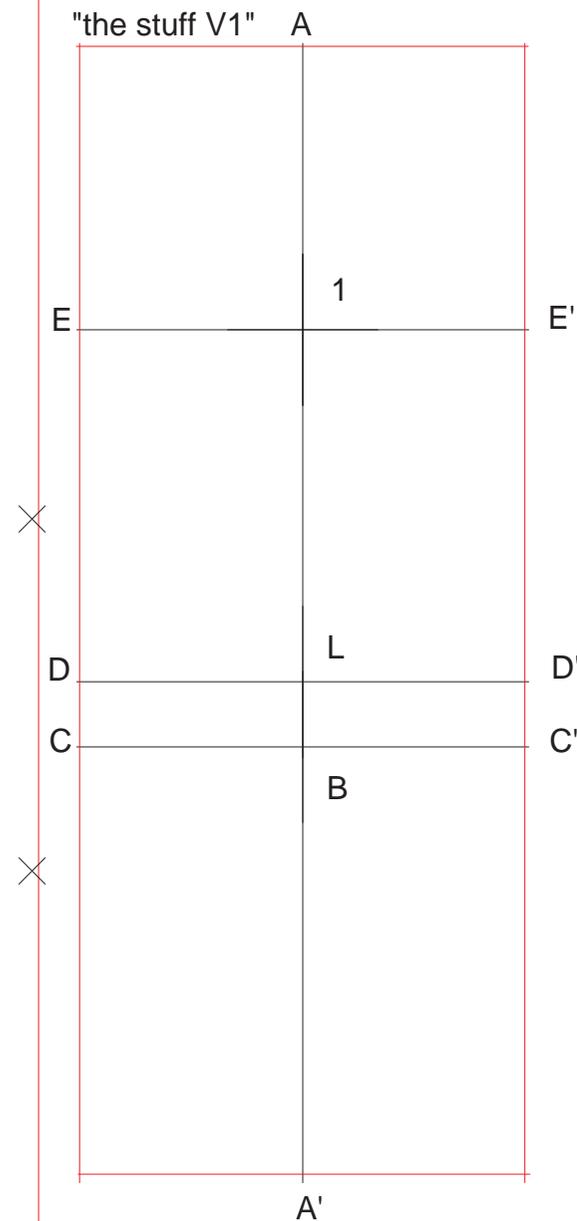
any question : [sebprotractor@hotmail.com](mailto:sebprotractor@hotmail.com)

paypal account : [leo\\_lau\\_seb@hotmail.com](mailto:leo_lau_seb@hotmail.com)

no paypal account : contact me, we'll find a way

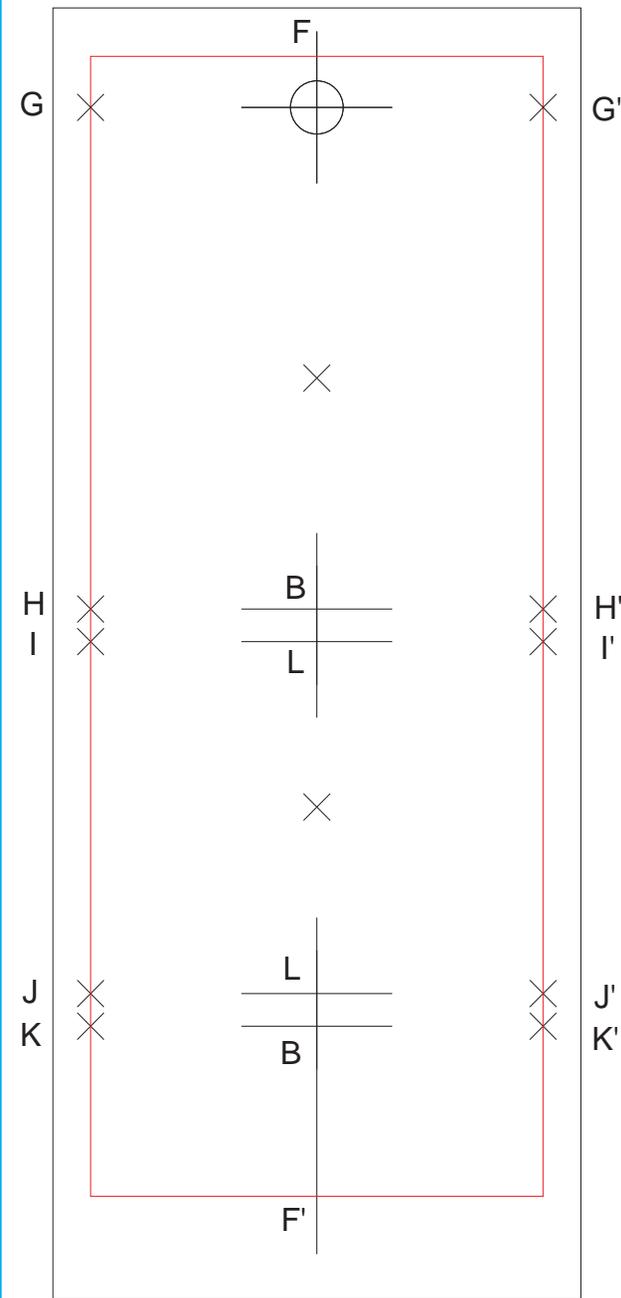


first version  
use this version if you're unable to  
drill a mirror



any question : [sebprotractor@hotmail.com](mailto:sebprotractor@hotmail.com)  
paypal account : [leo\\_lau\\_seb@hotmail.com](mailto:leo_lau_seb@hotmail.com)  
no paypal account : contact me, we'll find a way

second version Baerwald  
(drill the mirror) Loefgren  
"the stuff V2"



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