

### Tuning a harmonica - suggested procedure

Warm up the harmonica a little bit by playing it for a minute at least. You can also warm it up by placing it on a heater.

#### **Blow notes:**

- tune root note 4 blow (basis frequency A 443 Hz)
- tune the lower octave 1 blow so that it does not beat (1--4 blow) (0 cent)
- tune all thirds (2, 5, 8 blow) to -14 cent. Check the octaves while using tongue splitting. Start your test very softly and then at maximum volume, best check with covers! (2--5, 3--6, 4--7, etc.)
- **use the already perfect pitched lower note as a reference for tuning the upper reeds within an octave always**
- tune the fifth (3, 6, 9 blow) to +2 cent (check the octaves, as single notes and sounding together. Listening, no «beating» sound should be produced, regardless of playing (air) pressure

#### **Draw notes:**

- tune 2 draw identically to 3 blow
- tune the octaves 1--4 draw to +4 cent (no beating)
- tune 3---7 draw to -12 cent, check the octave with splitting (three holes must be covered by the tongue)
- repeat the procedure with 4---8 draw, 5---9 draw and 6---10 draw

Check everything again after a day and some playing - reed pitch sometimes drops after settling.



**Important note:** Always file along the reed and not across. Cross filing can seriously reduce reed life - especially if filed into the reed-surface when you tune the pitch down.

The following step-by-step description shows in which order you should tune your harmonica to the "Compromised tuning".

For checking the pitch after each alteration hold the harmonica with covers pressed to the comb! Play it softly, medium and hard using the "t", "g" and "h"-embouchures. Avoid bending the notes - breathe through the instrument rather than drawing/blowing the air forcefully.

**Tip:** hold the harmonica loosely with two fingers of one hand rather than pressing it to your lips by holding it like usual.



### What is a tuning-system? Tuning needs to the right temperament

The standard Richter-tuning can be called the "mother of all harmonica tunings" - here is the note layout in the key of C:

blow	C4	E4	G4	C5	E5	G5	C6	E6	G6	C7
hole	1	2	3	4	5	6	7	8	9	10
draw	D4	G4	B4	D5	F5	A5	B5	D6	F6	A6

Besides the general note layout of the Richter harmonica present on all instruments from the Blues series, harmonicas can be tuned to different temperaments.

A modern harmonica must be a versatile instrument and has to fit many musical styles. That is why we tune our serial models according to the so called "**Compromised tuning**". This tuning is very well suited for playing the harmonica in the first three (and most important) positions for playing Blues/Folk.

If you think of a harmonica in C these are G-major (2nd pos., Blues) or D-minor (3rd pos. Blues/Funk/Irish folk) or simply the 1st position (C-Major, traditional folk music, Blues).

The pitch of the single notes of the scale is "fine-tuned" - that means that some notes of the scale are tuned with well defined **deviations from the basic frequency (A=443 Hz)**. That is why chords still sound "healthy" and all notes sound in tune when played in the different keys given above (divergence in cents):

blow	0	-14	2	0	-14	2	0	-14	2	0
hole	1	2	3	4	5	6	7	8	9	10
draw	4	2	-12	4	-2	6	-12	4	-2	6

*Compromised tuning (SEYDEL-standard)*

If you divide an octave into 12 equal parts you will get the equal temperament or 12-tone **Equal temperament** (12-TET). Here you can use your chromatic tuner and tune every note to 0 cent divergence. This temperament is perfect for playing single notes in all keys.

**Just Intonation:** The harmonica originally was designed to play Folk-music in the key that is displayed on the instrument - for a better "sonority" many diatonic instruments are tuned to the so called "Just intonation". In contrast to the approved Compromised-tuning the traditional JI can be applied to your instrument.