

SPECTOR BASS SETUP PROCEDURES AND NOTES

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INTRODUCTION

The majority of these notes were written by Jim Eppard who is responsible for setting up USA Spector basses in the NY workshop. He created these notes in response to requests from owners on the proper factory setup, and they've been my gold standard for maintaining my own Spector Rebob basses.

Jim's notes were modified slightly to accommodate my own setup preferences and formatted to make it easier for me to read. I did ask Jim if was OK to share this revised copy, and he agreed. His words: "Share away! Spread the knowledge around!"

(Original source material: <https://www.spectorworld.com/setupprocedure.htm> and <https://www.spectorbass.com/faq/>)

STEP 1: CLEANING AND PREP

If there is cosmetic work needed (cleaning, fret leveling / polishing, etc) this needs to be done first as it will require the instrument to be destringed. Polishing and fret leveling will impact playability, so general setup is needed after this work is completed.

STEP 2: TUNING AND STRINGS

Begin with the instrument accurately tuned to concert pitch. If you use an alternate tuning: tune the instrument to whatever is 'normal' for your application.

STRAIGHT STRINGS ARE CRITICAL

Have you ever removed a string from an instrument & had it spin around like a spring when removing it from the bridge or the tuner post? This is a string that was installed incorrectly, and the core got twisted.

This is an acute problem with round core strings. Hex cores are somewhat more resistant to twisting but it's still possible. A twisted string will never sound 100% right! It may show up as a 'dead' note, have inconsistent intonation, or create a weird out-of-tune harmonic or 'ghost note' in some positions...It'll drive you crazy!

The best thing is to wind the string on the post and tune it up, then detune it until you can pull the ball out of the bridge and determine that the string is in a completely relaxed mode.

STRINGS SHOULD BE AT TENSION BEFORE STARTING

It's also important that the strings be stretched to the point that they do not drop in pitch when tugged aggressively (deflection of 3/4" or more) from a point near the end of the fingerboard. Don't proceed until you are satisfied that the full tension has been achieved.

IMPORTANT: *All measurements will be made while holding the instrument in its playing position. Measurements taken when laying flat on the bench will NOT be the same as when in playing position.*

STEP 3: TRUSS ROD ADJUSTMENT / NECK RELIEF

The truss rod adjusts the amount of 'bow' (or lack of) in the neck when under tension.

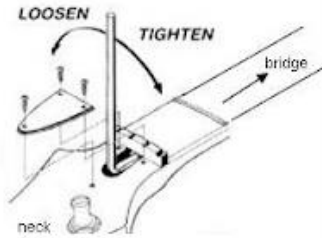
Check neck relief by depressing the low E string at the 2nd & last fret. Observe the space between the bottom of the string & the top of the 9th fret. A standard weight business card or a thin guitar pick is a good amount of relief to start with for a bass guitar. This will be approximately 0.017" for a bass, but can be significantly less for a standard guitar.

QUICK TIP: *If I don't have a feeler gauge, I'll use a 0.60mm guitar pick. If it's set to 0.017" it'll just hold the pick between the string and fret!*

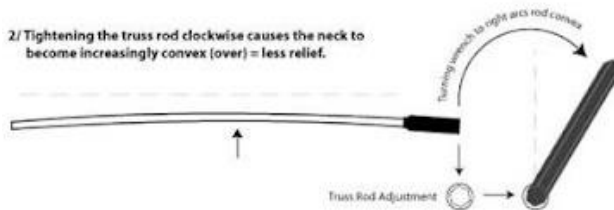
IMPORTANT: *The 2nd fret is used as a benchmark for this measurement because a lot of manufacturers (Spector included) leave the 1st fret high & grind level, crown & polish the rest. This gives the lowest notes some extra room where the string excursion is greatest.*

Adjust relief with the truss rod. Be sure to fully insert the Allen wrench before adjusting.

- Clockwise = less relief,
- CCW = more.



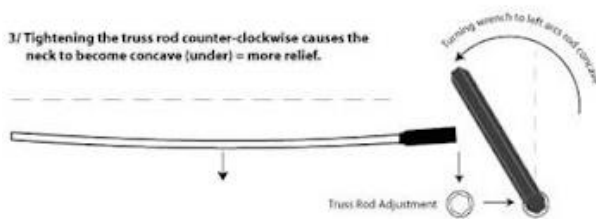
2/ Tightening the truss rod clockwise causes the neck to become increasingly convex (over) = less relief.



TIGHTEN

- clockwise (to the right)
- becomes convex (aka hump, backbow)
- decreases (provides less) relief
- lessens clearance between strings and frets

3/ Tightening the truss rod counter-clockwise causes the neck to become concave (under) = more relief.



LOOSEN

- counter-clockwise (to the left)
- becomes concave (aka up-bow, warp)
- increases (provides more) relief
- increases clearance between strings and frets

As a final check, sight down the neck from either end. If it is obviously back-bowed but the relief looks okay it's possible that the frets were leveled with the neck in a back-bowed state. In this rare situation I adjust the neck to be straight by eye & proceed from there. If it's too much though, a leveling / crown / polish job is indicated for the optimum set up.

Sometimes when sighting a neck you will see more relief on the bass side than the treble side. This is okay as long as neither side is back-bowed.

- Optimum relief / action settings are really determined by the player's technique - if you have an aggressive picking / plucking technique you will need more relief / higher action. A player with a very light touch can have a neck that is almost straight & buzz free action that is very low.
- It's best, during the initial set up, to have the relief set a bit on the straight side because it will enable a more accurate assessment of the nut height spec later.
- The truss rod in your bass is a 'dual action' type. This means it is capable of pushing the neck forward as well as pulling it back. If the adjuster nut feels 'loose' you have reached the null point. The rod may rattle if left in this position so snug it up slightly one way or the other. Chances are you will be well beyond the null point but I mention this just in case!

IMPORTANT: *The player's touch is an important variable here. Light finger pressure just enough to fret the string is all that is needed. A standard capo can apply excess pressure that will push the string up on the other side of the fret, resulting in a higher measurement than using light finger pressure.*

HOWEVER, a Shubb type capo with tension adjusted to the minimum amount to hold the string down is acceptable if you need a free hand to use feeler gauges to measure the neck relief.

STEP 4: STRING HEIGHT AT NUT

Hold the string down at the 3rd fret, then check the height at the 1st fret. The string should NOT be touching the 1st fret! If it is, the nut has been cut too low.

You should be able to slide a 0.0015 feeler between the 1st fret and string. If you don't have a feeler that thin, just tap on the string with a finger: you should hear it click against the fret. If it's laying on the fret, it won't click.

If frets need to be filed, you'll need proper nut files to cut the slots deeper. I use .130, .105, .085, .065, .046.

IMPORTANT: *The nut should be filed at an angle so the highest point is at the fretboard side of the nut. If the side of the nut nearest the tuning pegs is the highest point, it will cause intonation problems.*

For a Spector, it's best to file parallel with the headstock angle.

STEP 5: STRING ACTION

All action adjustments are made at the bridge. Action measurements will be made from the top of the 12th fret to the bottom of each open string.

Unlock the screw(s) located on the side of the bridge. The bridge saddles should be angled back slightly, opposite of the headstock angle. It's a good idea to get these roughed in first so that later (finer) adjustments can be made more easily.

Jim uses a 6" steel machinist's rule graduated in 64ths and wears an optivisor to see the measurements. I use feeler gauges to take measurements. Both methods work fine.

While holding the instrument in its playing position, adjust bridge saddle height to achieve the following clearances:

String	Fraction	Decimal (US)	Decimal (Metric)
B	5/64	0.078"	1.98mm
E	5/64	0.078"	1.98mm
A	4.6/64	0.072"	1.82mm
D	4.3/64	0.067"	1.71mm
G	4/64	0.062"	1.59mm

QUICK TIP: A US Quarter is 1.75mm (0.069") thick, and makes a perfect gauge to set string action! I'll adjust the action on each string so the string is just touching the quarter as it sits on the frets.

STEP 6: INTONATION ADJUSTMENTS

Use a high-quality chromatic tuner. Tune the string to pitch. Then compare the open string (or 12th harmonic) against the string fretted at the 12th fret.

- If the fretted note is sharp compared to the tuned open string it means that the distance between the 12th fret & the bridge is too short, and the saddle must be moved back (away from the neck).
- If the fretted note is flat compared to the tuned open string it means that the distance between the 12th fret & the bridge is too long, and the saddle must be moved forward (toward the neck).

Using a small dowel and light hammer, tap the bridge saddle forward to back as needed.

Check the action height & re-adjust (if necessary) after moving the bridge saddles.

After all strings are in a good location, lock the saddle screws.

IMPORTANT: *The instrument must be held in playing position when making these adjustments.*

STEP 7: EVALUATE PLAYABILITY

Play the bass. If you notice you're getting some buzzing or fretting out, then a little more neck relief and/or higher action may be indicated. Conversely, if it's playing clean and clear all over you may want to lower the action slightly.

Some players prefer to have a small amount of fret noise to appear when playing more aggressively: this is a signature sound often heard on vintage recordings and can serve to create interesting high harmonic overtones that make the bass cut through a mix!

These are judgments that only you, the player, can make to optimize the set up to your personal style. Remember: If it sounds good...IT IS GOOD!

APPLICATION NOTES: MY SETUP

Following are setup notes from my three late 2000 era Rebops. These are all 35" scale Rebob 5 DLX models. Two sets of numbers represent the low B and high G strings.

These numbers vary a bit from Jim's setup notes as they are customized for my playing style. Generally, I like the action low enough that it deliberately gives me some fret rattle when I dig in and rings clear when played with a lighter touch.

There is a bit more neck relief on my basses as they've been well played and have some fret wear. When I test notes at each fret position I have buzzing in one or two spots. When I get the frets leveled, I'll readjust the truss rod to capture new neck relief settings.

PARAMETER	Rebob 5DLX NB4405 Blond 2005 <i>B=0.125" G=0.045"</i>		Rebob 5DLX NB6051 Flame Maple 2007 <i>B=0.125" G=0.045"</i>		Rebob 5DLX NB7336 Zebrawood 2008 <i>B=0.125" G=0.045"</i>	
Neck Relief <i>Height at 9th fret when fretted at 1 and 24</i>	0.017" <i>* NOTE 1</i>	0.016" <i>* NOTE 1</i>	0.018" <i>* NOTE 1</i>	0.017" <i>* NOTE 1</i>	0.017" <i>* NOTE 1</i>	0.014" <i>* NOTE 1</i>
Nut Height <i>Height at 1st fret when fretted at 3</i>	0.002"	0.002"	0.002"	0.002"	0.002"	0.002"
Action Height <i>Height at 12th fret</i>	0.063" <i>* NOTE 2</i>	0.062" <i>* NOTE 2</i>	0.063" <i>* NOTE 2</i>	0.064" <i>* NOTE 2</i>	0.062" <i>* NOTE 2</i>	0.065" <i>* NOTE 2</i>
Neck Pickup Height <i>Top of pickup to bottom of string</i>	0.125"	0.126"	0.125"	0.127"	0.125"	0.121"
Bridge Pickup Height <i>Top of pickup to bottom of string</i>	0.096"	0.126"	0.097"	0.118"	0.096"	0.101"

NOTES

1. Will just hold a **0.60mm pick** in place
2. Standard **US Quarter** just touches fret and string