



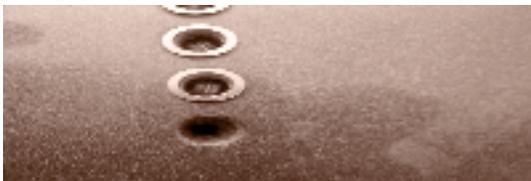
Octave4Plus A4 strings actually do tune up to A 440 Hz on guitars with scale lengths up to 30". There are now hundreds of guitarists using Garry's A4 standard tuning. As amazing as these strings are, they need your help to work properly.

There are two type of guitars- those designed for the high A4 and B4 strings, and those that are not. The guitars that are made for the A4 string are "Type 1".

Type 1 is the guitar that uses a top loading bridge with no break angles, a smooth nut with no sharp edges and less than a 2" distance from the nut to tuner. It's headstock is flush with the fretboard and does not tilt downward at an angle, or is not sunken, putting the top of the tuners below the fretboard. The inside of the tuner's string hole has been smoothed so there are no burrs or rough edges cutting into the string.

These are guitars made with the intention of stringing the guitar with a high A4 string. Many Octave4Plus users want to convert their existing guitars to the A4 standard tuning, with the A 440Hz string as the highest open string. The problem is that these guitar are made for E4, and an .007 as the smallest gauge string. There are a number of obstacles that can prevent the Octave4Plus strings from ever reaching the target pitch of A4 or B4 on this type of guitar. Guitars with these obstacles are what we refer to as "Type 2".

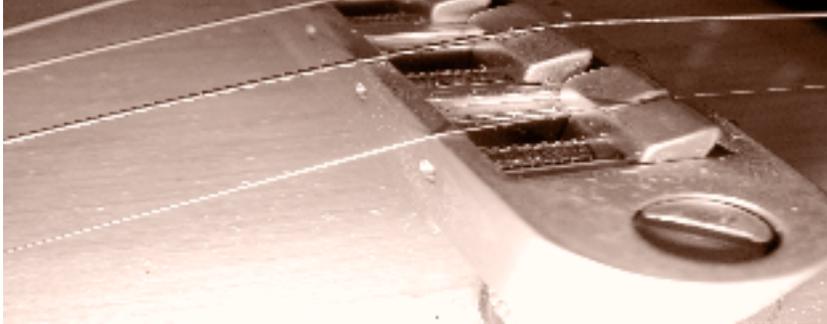
Ex.1A



Ex 1.B

Ex.1A shows an undesirable headstock not design for the A440 string. Ex.1B shows the strings enter on the back of the guitar. This requires the string to bend as it come out of the top of the guitar and creates a break angle. This is what we call "back loading" or "through-the body" type

guitars. Extra tension! Below, the string exits on the face of the guitar after going through the body and is forced to contact the edge of the bridge before reaching the saddle. Bad news! We use emery cloth, fine grit to smooth metal edges. Even having a high action can increase the tension by as much as 1/2 of a pound. Example 2 shows the string rubbing the bridge frame before reaching the saddle. Get out the emery cloth and round that edge! Cut a notch out.



Ex.2

Type 2 has the strings enter on the back of the guitar, run through the body, angle up over the saddle, and then down, and then run through a nut with rough edges and then travel at an angle 6"-7" to a tuner with nice sharp edges on it's string hole. We have been able to see in real time that these type of guitars actually add extra pounds of pull to the string. The edge of the tuner hole cause the string to bend around it (see Ex.3) and it will cut like a kinfe into an .007,.006 or .005 strings as it tunes up to A4. Each wrap around forces the first wrap against the sharp edge. Then we get an email saying "Your strings can't tune to A 440 Hz!" No, not if they are sawed in half..... The string needs time to rearrange it's molecules by stretching over time. The edges need to be eliminated.



Here is a general guideline to help you when using Octave4Plus strings:

1) The string breaks at the nut or around the tuner as you are tuning up.

This indicates something on the guitar cut into the string as in the above example. A nut can do this to. Fine grit emery cloth or sand paper can smooth sharp corners. Make sure you are aware of every place the string makes contact on the guitar.

2) The string breaks 1/8th" from the ball end or near the bridge saddle.

The string was in contact with a sharp edge on the guitar, as in Example 2. As it moves along

under tension, the edge shaves into the strings until it snaps.

3) The patented Octave4Plus ball end just popped off!

No, it's not defective... you were impatient and just tuned up too quickly or beyond A4.

4) The string breaks over the 12th fret but is still attached by the tuner and ball end

Our string could not take the stress. This only happens when the string is tuned higher than A.

It is a mistake to believe that if you order an A4 string for the 28" scale, that it will tune to C5 at the 26" scale- it's won't.

5) The ball end popped off while putting the string on the guitar.

The ball end was anchored, but you pulled the string away from the ball end and just a little tug will pop the ball end off. The string needs to ease up to pitch for the ball end to do it's job.

We tried ball ending our strings on that giant machine that twists the wire around the ball end. It doesn't work.

**Be sure to read the instructions** enclosed with your strings

You will need to handle the string carefully when putting it on your guitar. Don't wrap the end of the string around the post to take up the slack. Put the end through the hole, wrap it under itself and tune it up to tension. This will cut the string if the tuner hole edges are not rounded.

Tune to guitar high E4 slowly, using small slow turns. It may take 10-20 turns over 30 seconds to reach the next half step. Once tuned to E4, wait for 10-15 minutes.

Why so long? Your guitar is a Type 2 and the string needs to "creep" and form to your guitar. How you proceed up to A4 will depend on your guitar and the gauge of the string you purchased. You can't take the string off and reuse it. Well, maybe you can, but it usually breaks.

These strings are not designed to bend more than 1/2 step. If you plan to try to go beyond 1/2 steps, do so after the string has been on the guitar for several days and at your own risk. We ask that you smooth the rough edges along the string path, even scrape out the metal burrs inside the tuner hole. Sometimes that is just not good enough because your guitar just pours on the extra tension. You can order your strings with a protective thread wrap that cushions the string and prevents the nut, string tree and tuner from sawing it in half.

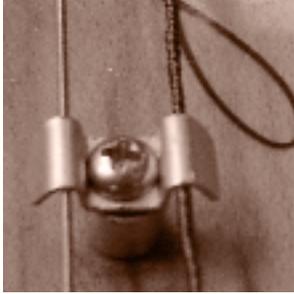


Ex.4

Use the "Type 2 String option" when you order. This is all done by hand, so that is why we have to charge an additional fee.

Example 4 is the headstock of the Aslin Dane baritone guitar. It has a 28" scale length. As a baritone guitar, it is a joy to play and easy to string up. As a 28" scale high A4 guitar, it's a nightmare. Getting a string to tune to open A440 Hz at 26"-30" and be easy to play is a minor miracle. With all the above mentioned obstacles, the .005, .006, .007 and .008 A4 strings could break. Then the email arrives from an irrate customer stating our strings are no good. They are good, but the guitar has to be prepared. Using the correct Octave4Plus string, you can tune to A4 at 28" in a short amount of time.

One of the worst offenders is the "string tree". Why not add some more unwanted tension? Even after sanding and smoothing the tuner or nut can still break the string. The Octave4Plus thread wrap option shown on our order page as a "Type 2" string, solves this problem. See Ex.4A and 4B below.

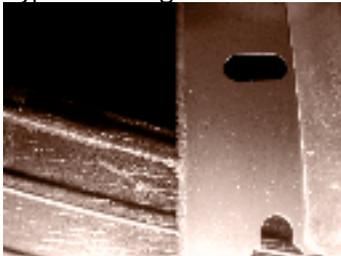


Ex. 4A



Ex. 4b

This wrap can start on the fretboard side of the nut and as you tune to pitch, it protects the string from the nut's edges. Once tuned to pitch, you can take a razor blade, and gently slice the excess thread off the string. [See Ex.5] We can add this wrap on the ball end side of the string if necessary. Octave4Plus strings can tune to A4 and B4 on 28" scale guitars without the thread wrap, but if the string keeps breaking at the headstock or bridge, you will need a Type 2 string.



Ex. 5



Ex.6

Ex. 6 shows the string tuned to pitch, with the extra thread wrap extending over the fretboard. This is easily trimmed off making the perfect fit.

#### Stretching.....

If you own a Type 1 guitar, you will have minimal stretch time, or none at all. If you own a Type 2 guitar, it will depend on all of the aspects we've already mentioned and the scale length of your guitar. The Agile Intrepid at 28.625" is DEFINITELY a Type 2 guitar. If you want a functioning high A string that won't snap on you and that will keep it's tone for months, you will have to **follow the instructions** enclosed with the strings. A guitar like this may need 24 hours to stretch. You can get awesome bass string for tuning to B1, F#1 and C#1 at [octave4plus.com](http://octave4plus.com) for the 26"-28" scale so you don't need to go beyond the 28" scale lengths, if tuning higher is your goal. Too much to deal with? You want an A440 Hz string at 26",27",28",29" 30"-this is the only way. Get a Type 1 Guitar. Remember Ocave4Plus strings are not mass produced, they are custom made for your guitar. Contact Us is you have questions.