

Mistakes to avoid when re-stringing an Instrument & some tips on strings

1. If you put strings on a instrument which is smaller than the one which the string is designed for, there will be a considerable loss of tension and sound quality. Apart from this, the thicker playing length of the string will end up being wound around the tuning peg, which - especially with thicker strings - will result in damage to the core, loss of tonal quality and strings breaking. This is one of the most common mistakes. We refer you to the listing of strings for smaller instruments in our catalogue.
2. If you put strings on an instrument which is larger than the one the strings are designed for, e.g. on a large viola, it will have the same effect as tuning the string to too high a pitch, or starting tuning from the highest string to lowest instead of the other way around. Doing this even once can severely fatigue the string or break it.
3. Sharp edges on the bridge, the nut or the tailpiece will damage the string, and can lead to breakage. The same can happen if the channels in the nut are too narrow, so these should be of sufficient width and prepared with a little graphite from a soft pencil. Another mistake to avoid when re-stringing the instrument is improperly winding the string around the tuning peg. The correct number of windings is between four and five, without any bending of the string between nut and tuning peg and without jamming it against the peg box. The angle of the string from the nut to the peg should not be severe, especially with the C string, which because of its short distance from the nut to peg, and the inherent stiffness of the string itself, will cause premature string breakage if the instrument is not properly setup. The strings should also not actually be touching the side cheeks of the pegbox, as this will also cause premature damage. Because the string within the pegbox is protected from the playing environment, breakages between the peg and the top nut should always be carefully investigated before complaining that the string in question is faulty. A good qualified Luthier will always be able to advise if he/she can see any problem areas.

Tips on how to re-string instruments**1. The tailpiece**

Ensuring the correct distance between tailpiece and bridge is very important for the purity of tone colour as well as the proper fitting of the string on the instrument. If your instrument has not been properly setup, or the bridge has moved, we strongly recommend that you adhere to the following measurements as a starting point, given here for full size instruments.

- * Violin 5.7cm or 2 ¼ inches
- * Viola 6.8 cm or 2 ¾ inches
- * Cello 12.0 cm or 4 ¾ inches
- * Double bass 21.0 cm or 8 ¼ inches

2. The height of the string above the fingerboard

When using steel and nylon strings, the distance between string and fingerboard is less than with gut strings. The following values are given for steel strings and can be adapted for nylon strings by adding a little to these values. Having the strings closer to the fingerboard eases the work of the left hand and extends the life of the string. The measurements are taken exactly above the bridge end of the fingerboard.

- * Violin e2 2.5 mm - g IV 4.0 mm
- * Viola a1 5.0 mm - c IV 4.5 mm
- * Cello a 1 4.5 mm - C IV 6.5 mm
- * Double bass G 1: 9,5 mm - E1 IV 10,5 mm

3. When to change strings

A string's component materials will eventually become fatigued. This is particularly true for the string core. The richness of higher partials and fullness of tone become degraded. First and foremost this happens with intensive amounts of playing. To avoid sound quality loss we strongly advise changing strings at appropriate intervals. Changing single strings instead of the whole set at once, i.e. mixing old and new strings, will jeopardize the entire tonal balance of the instrument.

4. If you are taking a break from playing

When not using the instrument for some time, you are strongly advised not to lower tension on the strings and instrument by tuning down any or all of your strings. This is not only superfluous, but is also detrimental both to the instrument and the strings themselves.

5. Pro and cons of different materials

The type of material used to manufacture strings influences the sound of the string as well as its diameter. When designed to be strung at the same tension, silver and tungsten result in thinner strings, aluminium and nylon in thicker ones. Strings wound with silver have a warm and powerful tone colour, which is preferable for the lower strings in the set. Tungsten is used in the form of round wire built in under the flat wound surface of a low string. Apart from its positive influence on sound, tungsten allows a narrower low string, something which considerably eases fingering and string response. Aluminium winding lends brightness to the string, so to achieve a good compromise between the right sound and the right diameter, this material is used predominantly for the upper strings of a set.

6. Corrosion

Environmental factors and usage can lead to changes in the quality and colour of the string's surface, for example:

Silver and silver-plated copper tend to react chemically with traces of sulphur in the air, resulting in a brownish discoloration of the string. This is not in fact detrimental to the string, although cosmetically it may not look too good. A quick rub over the string with a 'Swipe'®, or cleaning the string with Pirastro String and fingerboard cleaner on a lint free cloth will normally return the string to its pristine colour.

Bringing aluminium into contact with other metals under humid conditions (whether caused by air humidity or perspiration) will cause an aluminium wound string to corrode. This corrosion is not recoverable; it is a fact that male teenagers have a specific problem with acidic sweat during puberty. This causes real difficulties in finding a suitable violin A string, as most are Aluminium wound. Try Larsen, Pirastro Wondertone or Pirastro Eudoxa Plain Steel A's as an alternative.

High humidity and condensation can tarnish various metals. This normally happens when the instrument is not stored under proper conditions and is subject to variations in temperature, high humidity, maritime climates or air pollution. Unfortunately it is not possible to manufacture strings which are safeguarded from these influences without sacrificing their tonal and playing qualities.

This is one of a series of Instruction sheets prepared by JPB Music to help players gain a better understanding. We write these to assist, but if you are still unsure, please either phone for more advice, or ask your teacher for help.

© JPB Music

Partners: Joan Corder, Paul Corder & Barry Robinson Mallett
VAT REGISTRATION No. 840 4859 17