

## **CHANGING STRINGS**

### **I. Acoustic and Classical Guitars**

#### **Installing new Steel strings:**

##### **1. Attach strings to the bridge**

Remove the old string and remove bridge pin. Please note that bridge pins tend to stick, and can be pried out using the notched edge in a peg winder (available for sale at most music stores). Another way to pry out the bridge pins is to use a table knife, but be careful, as this may scratch the wood. Place the ball end of the new string (the small brass part on the end of the string) inside the hole that held the bridge pin. Place the bridge pin firmly back in the hole with the slot facing forward (i.e. towards the nut) Pull gently on the string until the ball rests against the bottom of the pin. Keep your thumb or finger on the pin so that it does not pop out. But be careful not to kink the string while pulling it. Test the string by tugging on it. If you do not feel the string shift, the ball is snug against the bridge pin and you are ready to secure it to the tuning post.

##### **2. Secure the string to the tuning posts on the headstock of the guitar**

*\*Please note that if the headstock has tuning pegs on top and bottom, then the process is different for the bass strings (E, A, D) and the treble strings (G, B, E). Bass strings are wound counter-clockwise, and treble strings are wound clockwise. If the headstock has all the tuning pegs on the top side, then all the strings are wound counter-clockwise.*

Bass strings (E, A, D)

Pass the string through the hole in the post. Don't forget to leave enough slack between the bridge pin and the tuning post so you can wind the string around the post 2-3 times. Keep the string tight against the post with one hand, and wind the tuning peg counter-clockwise with the other hand. If you do it

correctly, the string should begin tightening around the inside or 'under' the tuning post. Make sure the string goes into the correct slot in the nut as the string begins to become taught.

Treble strings (G, B, E)

The steps are nearly the same as for bass strings, expect you wind the strings clockwise so the string winds around the inside or 'over' the tuning post.

### **Installing new Nylon strings:**

#### 1. Attach strings to the bridge

Whereas steel strings have a ball at one end, nylon strings do not. Therefore, you can attach either end of the nylon string to the bridge. Pass one end of the new string through the hole in the top of the bridge until about 2 ½-3 inches is sticking out the back side of the bridge on the opposite side of the sound hole.

Then, pass the short end under the long end of the string and point it up towards yourself. Next, loop the short end over and through itself 2 times. Hold the small end in one hand, and the long end in the other, and pull it tight until the string and loops sit firmly on the bridge. You may have to wiggle the string as you pull it tight to get it to sit flush against the bridge.

#### 2. Secure the string to the tuning post

The tuning posts (also known as rollers) pass through the headstock sideways instead of going through perpendicularly. Pass the string through the hole in the tuning post from the front side towards the back. Bring the end of the string back over the roller towards you. Pass the string under itself in front of the hole and pull up to form a U under the long part of the string. Make sure your loop comes from the outside (i.e. approach from the top on the lower three bass strings, and from the bottom on the upper three treble strings). Then, pass the short end under and over itself, creating two or three wraps and pull both ends until the string's tight against the roller. Doing this will hold the string in place and prevent it from slipping out of the hole. Next, wind the peg so that the string wraps on top of the loop (the roller should be

spinning away from the body and neck). This will secure the string against the post. Finally, pull the string length taut with one hand while turning the tuning peg with the other hand until the desired pitch is reached.

Note that nylon strings are especially susceptible to stretching, and will have to be fine-tuned repeatedly up to 24 hours after stringing. You can shorten the process by grabbing the string in your hand with your thumb on the top side, and stretching it by pressing your thumb inward while gently pulling the back of your hand in the opposite direction. Finally, trim the excess at the bridge and the tuning roller.

## **II. Electric Guitars**

### **1. Attach strings to the bridge**

For most Electric Guitars, the string can be secured to the bridge by passing it through the hole (from the back or bottom of the Guitar) until the ball is snug against the bridge.

### **2. Secure the string to the tuning post**

Pass the string through the post's hole, pulling it through 1-2 inches. Kink the string to the inside toward the center of the headstock, and begin winding the tuning peg away from the body of the guitar (i.e. counter-clockwise) while holding the long part of the string against the headstock near the tuning peg with the other hand.

## **III. Guitar Adjustments and Fine Tuning**

### **1. Adjusting string action**

If you feel that you have difficulty in fretting or hear a buzzing noise, the strings may be set too high or too low, respectively. In this case, the action (the space between the strings and the fingerboard) will have to be adjusted. Adjusting the action will let you achieve the desired string height. This can easily be remedied by lowering or raising the string saddles at the bridge. The saddles are the parts in front of the bridge where the strings sit. You can raise them or lower them by turning the hex screws with a hex

wrench. Turn the screw clockwise to raise the saddle, and counterclockwise to lower it. If the saddle has two hex screws, be sure to turn them the same amount. If the strings are too far from the neck to be remedied by this method, refer to point 3, "Adjusting the truss rod."

## 2. Adjusting string intonation

If you notice that your strings are sounding sharp or flat but your guitar is in tune, you may need to adjust the intonation. For example, if your guitar tuner indicates that a string is tuned properly when played openly, but is flat or sharp when you depress the string at the 12<sup>th</sup> fret (octave), then the intonation needs adjusted. You can adjust this by moving the saddle away from the nut if the string is fretting sharp, and toward the nut if the string is fretting flat. Don't forget that adjusting the saddle for a string corrects only that particular string. You may need to adjust intonation for each string.

## 3. Adjusting truss rod

If you find that the neck significantly bows away from the strings between the seventh and twelfth frets, making the strings difficult to fret, you may need to tighten the truss rod. If the neck bows inward towards the strings between the seventh and twelfth frets, causing a buzzing sound, you may need to loosen the truss rod.

The truss rod is a one- or two-piece adjustable metal rod that goes down the inside of the center of the neck. You can adjust this with a nut located on one end. It should be located on the headstock, under a cap just behind the nut or where the neck joins the body under the fingerboard. You may need a truss-rod wrench to adjust it, which can be purchased at any local music store.

To tighten the truss rod, turn the nut clockwise a quarter turn at a time, giving the neck time to adjust. To loosen the truss rod, counterclockwise a quarter turn at a time, giving the neck time to adjust. Remember that over tightening or over loosening a truss rod can potentially damage the neck and body, so please do it with care!

## **IV. Violins**

### 1. Remove old or broken strings

Gently loosen the peg that's connected to the lightest string (or whichever string is broken) until the string has slack. Next, gently release the other end of the string, which is connected to the tailpiece near the chin rest. Discard broken or used strings that you don't wish to keep.

### 2. Attach the new strings

Insert the small metal ball at one end of the new string into the tailpiece. Poke the other end of the string through the hole in the tuning peg. Pull this end through the hole no more than one inch.

3. Gently but firmly tighten the peg, taking care to wind the string around the peg neatly, creating a clean wind that doesn't overlap itself. You'll feel the string become taut as you continue winding the peg. Pushing the peg into the scroll as you tighten it will help keep the string at the desired pitch. Note that new strings take some time to stretch, and the violin will likely need to be re-tuned a significant amount for a couple days.

4. Make sure that the string is resting in its groove on the bridge, and also in its groove at the base of the scroll. Keep twisting the peg tighter, while plucking the string to hear it return to its correct pitch. You'll need to tune the violin a few times to center its pitches again. You may also use the violin's fine tuners.