

Tips, Tricks, and Trouble-Shooting

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This section addresses some of the more common problems players may encounter, and suggests some remedies.

My pegs are sticking (or slipping). What can I do?

Normal usage will eventually cause both the peg and the peg hole to wear, which may result in the pegs slipping or sticking, making tuning difficult. Ordinary chalk, applied to the areas of contact between the peg and peg box (which show up as shiny areas on the peg shaft), can help provide more grip. The operation of pegs that stick or are difficult to rotate may be improved by the use of peg dope or lead from a soft graphite pencil applied to the contact areas. Eventually, pegs may wear to the extent that replacement pegs will need to be fitted by a qualified repair person.

How can I tell if the bridge is on straight?

The feet of a properly cut bridge should follow the contour of the top perfectly, with no gaps. The fit of the bridge feet is critical because they serve as the conduit for transmitting vibrations between the strings and the rest of the instrument. If a bridge is tipped, the feet of the bridge will no longer be flush and in full contact with the top.

The bridge should be positioned so that the back side of the bridge (the side facing the tailpiece) is perpendicular to the top or belly of the instrument. The slightly beveled and breasted contour of the side facing the tailpiece can impart the illusion of the bridge being slightly tipped backwards; however, the back of the bridge should still be perfectly straight.

How can I tell if my bridge is in the right place?

While there are more precise methods of determining proper bridge location, an approximate placement can be achieved by aligning the feet of the bridge between the inner notches of the f-holes. If the bridge has been knocked off the instrument, do not attempt to replace the bridge before first checking to see that the instrument is undamaged and that the soundpost has not fallen. When in doubt, have the instrument checked by a qualified repair person. Never glue the bridge to the instrument.

How do I straighten my bridge?

A relatively safe technique for straightening a bridge is to carefully pinch the string right next to the bridge between thumb and forefinger. By squeezing the fingers together and rolling them against the bridge, lateral pressure is applied against the top face of the bridge, pushing it slightly backwards (or forwards, depending on which side the pressure needs to be applied). Repeat with each string, in turn, until the bridge is once again perpendicular. If the bridge is significantly warped, have the instrument serviced promptly, before the bridge collapses or breaks.

Better to have avoided this situation in the first place, by having checked that the bridge was perpendicular after each tuning; it is easier (and less traumatic) to correct a slight bridge lean, than have to address a situation where the bridge is substantially tilted and the feet are no longer in full contact with the top.

When do I need to change strings?

Strings will eventually lose their original responsiveness. Replace aging strings at regular intervals, commensurate with use. For some players, it may be a few months; for others, a few years. A general rule of thumb is to change strings every six months or so.

How do I change the strings on my instrument?

Replace strings one at a time, to prevent the soundpost from falling, and reduce stress on the instrument itself. Before removing the old strings, inspect the area around the nut and bridge; if the strings are being pinched, or have cut deeply into the grooves (they may even be flush with the top of the nut or bridge!), take the instrument to a qualified repair person for service. The strings should rest roughly a third of the way into the grooves.

After removing the old string, check the grooves in the nut and bridge for wear or sharp edges. A bit of soft pencil lead applied in the grooves will reduce friction and help the string slide smoothly over the bridge or nut.

When string adjusters are not being used, pass replacement strings through the tailpiece holes from underneath the tailpiece. The string should then extend straight from the tailpiece hole, over the saddle or fret, to the bridge - do not thread the string back through the ball or loop at the end of the string. Wind the string on the pegs so that the string passes over the peg and not under it, and progresses from the peg hole towards the peg box walls. Make sure that the string does not overlap or cross over itself, nor contact the peg box wall.

Whether steel, nylon, or gut, take the time to gradually bring the string up to pitch. Avoid over-tuning, which may damage the strings, and guard against the top of the bridge being pulled forwards as new strings are being brought up to pitch.

Do I need to use string adjusters?

String adjusters, or fine tuners, need only be used when steel core strings are installed on an instrument. The relative elasticity of gut and synthetic core strings obviates the need for fine tuners with these more pliant core materials. E-strings in synthetic or gut core violin sets typically have a metal core, and E-string adjusters should always be installed with these strings.

For ease of tuning, many educators do request four fine tuners regardless of the type of string being used. Special wide slot string adjusters are commonly available for synthetic and gut core strings. Alternatively, the slot on a standard string adjuster may be carefully spread to accommodate the slightly thicker synthetic or gut core strings.

My string adjusters are stuck!

Often, when a string adjuster screw will no longer turn, it is because the arm of the adjuster has been fully extended. Care must be taken that the arm of the adjuster below the tailpiece is not pressing against the top of the instrument itself.

To remedy the situation, turn the adjustment screw counter-clockwise, and then raise the string back to pitch by using the peg. Usage of string adjusters which have

protective sleeves (Buschmann tuners), will help prevent damage from the string adjuster.

Another possibility is that the adjuster simply needs to be lubricated. The screw threads could also be cross-threaded, or the screw shaft may be bent; if so, the string adjuster should be replaced.

When does my fingerboard need to be replaced?

Fingerboards can eventually wear out or become warped, and need to be replaned, scraped or replaced. Signs of wear include pits from fingers, longitudinal grooves from string wear, or overall warpage. The instrument may then buzz, or intonation problems may be experienced.

There's a buzz in my instrument.

Chances are, a buzz or rattling sound in the instrument is not caused by a loose bass bar, but something much more prosaic. Likely culprits include: loose sliding (Si-Hon-style) mute or loose string adjusters (don't forget to check the lock nuts, too), loose string winding, loose purfling or decorative fittings, loose or badly worn fingerboards (these often open at the base of the neck), and open seams or cracks.

By holding the instrument by the neck and gently rapping all around the top and back, an open seam can often be located by the slight rattle it will emit.

On celli, if too much of the endpin is retracted in the body, the pin may buzz when the instrument is played.

When new violins are varnished, sometimes a bit of varnish dries in the narrow opening of the f-hole, and when the instrument is played, the dried varnish buzzes.

What is a wolf tone?

Wolf tones occur when strong sympathetic vibrations from the instrument itself interfere with string vibration. The sensation may manifest itself in pulsation, throbbing, roughness, jump in frequency, or difficulty in drawing the tone from the instrument.

To a greater or lesser degree, wolf tones are present on all instruments, even the finest Stradivari, caused by excess tension, or an anomaly in design or graduation. Typically, wolf tones can be heard (and felt) when playing B or B flat on the violin, B flat or C on the viola, and E to F sharp on the cello (especially in fourth position on the G-string,).

Most good players learn to compensate for the wolf tone; proper vibrato can often make the wolf disappear; cellists often simply squeeze the lower bout with a knee when playing in areas where the wolf lurks.

What can I do if my instrument has a bad wolf tone?

Adjusting or refitting the soundpost or bridge, installing a thicker soundpost, or fitting an internal wolf resonator can help tame the wolf, but, before taking drastic steps, try the following options: First, make sure that the instrument has no open seams or areas that have come unglued. A loose soundpost can often be the culprit, and may be caused by a loose bottom seam on the treble side, or even too much humidity, which causes the instrument to swell.

If the instrument is sound, try:

1. Changing the offending string to a thinner gauge string.
2. Using a Si-Hon style mute, which dampens the area around the tailpiece, or twisting a Tourte-style so it wedges between the strings.
3. Fitting a wolf-tone eliminator on the string behind the bridge. Moving the eliminator closer or further from the bridge can alter the pitch, and by placing it on a quarter tone or less vital note, reduce the frequency of the wolf to some degree. Once the optimum location is identified, the eliminator can then be locked in position by tightening the adjustment screw.
4. Altering the sympathetic vibration of the strings. One way is to fractionally lengthen the tailpiece loop (which will slightly shorten the overall string length).
5. Using a heavier tailpiece. Often, switching from a synthetic tailpiece to an ebony or metal tailpiece will noticeably reduce a wolf tone.

Can harmonics help tune my instrument?

Bowing while lightly touching a string at 1/2 its length, sounds a pitch an octave higher; 1/3 its length, an octave and a fifth; 1/4 its length, a double octave; 1/5 its length, two octaves and a third; and 1/6 its length, two octaves and a fifth. Familiarity with harmonics often facilitates tuning, especially for bass. Touching the D-string at 1/3 its length sounds the same pitch as touching the A-string at 1/4 its length. This also applies to the other adjacent strings.

When should the bow be re-haired?

Generally, when the ribbon of hair is so thin that there are not enough to perform their function properly, or when the ribbon has become uneven, the bow should be rehaired. Playing on a bow that has had too many hairs broken on one side can actually cause the stick to warp. Caked or dirty hair can be cleaned occasionally with mild liquid detergent, but should only be done with utmost care taken not to get the bow wet - beware especially of capillary action wicking moisture into the mortises.

In winter, bow hair may shrink due to lack of humidity, preventing the bow from being properly loosened. Likewise, summer humidity may cause the hair to stretch to such an extent that the bow can no longer be tightened. Either scenario is reason enough to take the bow to a qualified repair person to shorten, lengthen, or even rehair the bow.

"Which of us, I wonder, has not pondered the great debt we owe to those strong individuals who taught us and the educational environment of our formative years that allowed and encouraged our minds and sensibilities to develop. I fear for the generations to come in this increasingly materialistic society if they are to be further deprived of those aspects of our culture that can enrich our lives and provide a background for enlightened judgment in their later positions of responsibility. All is not lost, but we must, all of us, exert ourselves to make sure that it is not. The Philistines are among us and would have us believe that the arts do not matter; that vocational training is all that education is about. They are damnably wrong." Raymond Leppard, music director, Indianapolis Symphony Orchestra

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