

How to Change Classical Guitar Strings

Part 1 of 2

By Douglas Niedt

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NOTE: These instructions are only for guitars with six holes in the bridge tie block.

Some guitarists do not like to change their strings. They find it a tedious, burdensome task. They also do not want to deal with constantly having to retune new strings. Some restring their classical guitar so infrequently that they get used to the sound of dead strings. But once they get into the habit of regularly changing the strings, they realize how much better the guitar sounds and how much better they play with fresh strings.

Once you change the strings and tie the knots five to ten times, you will be an expert! You will not have to concentrate on each step, and it will become an almost mindless task. As you restring your classical guitar, you will be able to listen to some pleasant music, carry on a conversation with your significant other, or watch guitar or cat videos.

If you search the internet for instructions on how to change strings or watch YouTube videos on the subject, you will find spurious instructions and a lot of incomplete, misleading information. This guide and the videos are not a quick, concise how-to-do-it, but they will give you accurate and thorough information so you can be confident you are doing the right things.

Keep in mind that there are several ways to go about changing the strings and tying the knots. I will explain the pros and cons of most of them.

Why Should I Change My Classical Guitar Strings?

As classical guitar strings age, they lose their vibrancy, quality of tone, and precision of intonation. The strings also become harder to press down. When the strings are ancient, there is the probability one will break at an inopportune moment.

How Often Should I Change My Classical Guitar Strings?

It is best to change the strings frequently to get the best tone and playability. How often to change the strings depends on the guitarist and their playing/practice habits. The environment of the guitar is also a factor. The useful life of guitar strings will be reduced if:

1. The guitarist practices many hours each day.
2. The guitarist's fingers generate a lot of sweat and oil. A guitarist with sweaty, dirty hands can kill the tone of fresh bass strings in one day.
3. The guitarist does not wash his hands before practicing or frequently during long practice sessions.
4. There is a lot of humidity in the practice environment.
5. The guitarist plays with a hard touch.
6. The guitarist frequently uses scordatura tunings (non-standard tunings such as dropped D, dropped G, etc.).
7. The guitar is not kept in a humidity-controlled case when not in use.
8. The guitar is exposed to extensive changes in temperature during use or travel.
9. The guitar is exposed to the salt air near an ocean.

Guitarists who only practice ½-hour a day, clean their hands, and take good care of their instrument may get by with changing their strings once every two months. Others, whose fingers produce a lot of sweat and oil, may need to change their bass strings at least once a week.

Professionals usually change their strings every 1-2 weeks or after every performance.

In my younger years, when I was giving two to three hundred performances a year, I changed the bass strings every night after a concert. I replaced the trebles every two or three nights. I went through a lot of strings. Fortunately, they were tax-deductible!

I practice 4-6 hours a day, so I change the basses every one to two weeks and the trebles every two to three weeks for my guitar to maintain an acceptable level of vibrant tone quality and accurate intonation. If I am doing a series of recording sessions over one to two weeks, I will change the basses every two to three days. Otherwise, there may be a noticeable change in tone quality by the last recording session.

You definitely need to change your strings when:

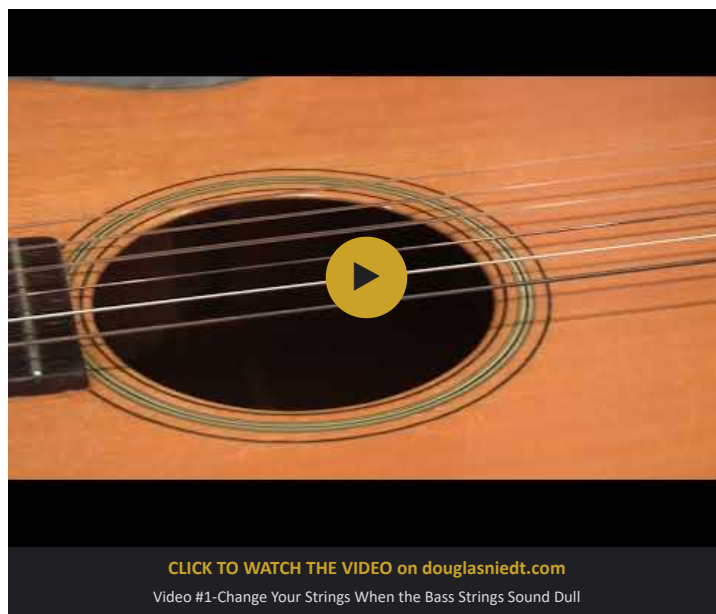
1. The bass strings sound dull:

The three bass strings have a nylon core that is wound with copper wire, to which various types of plating are applied. With time, dead skin cells, oil from your fingers, dust, and dirt collect in the spaces between the windings of the bass strings. The buildup of grime gradually causes the tone quality of the string to deteriorate, reducing its volume and vibrancy to the point where the string sounds dead.

Watch as I show you what REALLY OLD dull bass strings look like! Watch Video #1.

★ BE SURE TO WATCH ON FULL SCREEN. Click on the icon with the arrows at the bottom on the far right:

Video #1-Change Your Strings When the Bass Strings Sound Dull



2. You notice grooves in the string windings of the bass strings.

Here is my Ramirez, and I left the strings on extra long, about three weeks. You can see the metal frets have produced points of wear in the string windings that look like discolored grooves in the strings.

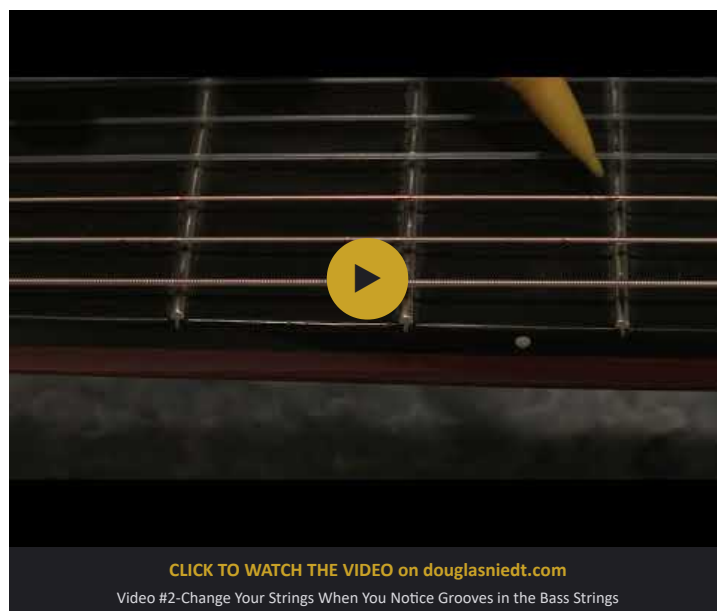


These grooves cause the string to vibrate unevenly, deadening its sound and causing poor intonation. In severe cases, the windings even begin to unravel (usually on the 4th string).

Let me show you in Video #2.

★ BE SURE TO WATCH ON FULL SCREEN. Click on the icon with the arrows at the bottom on the far right:

Video #2-Change Your Strings When You Notice Grooves in the Bass Strings



3. You notice the surface of the treble strings is rough.

Over time, the smooth surface of the treble strings suffers not only from fret wire wear but from abrasion from the fingernails plucking the strings. If you run a fingertip underneath the length of a worn treble string, you will feel grooves, uneven spots, and rough spots where the string contacts the fret wires or in the area where the fingers pluck the string. These grooves and abrasions in the treble strings cause them to vibrate unevenly, producing poor tone quality and intonation. There may also be a slight reduction in perceived volume.

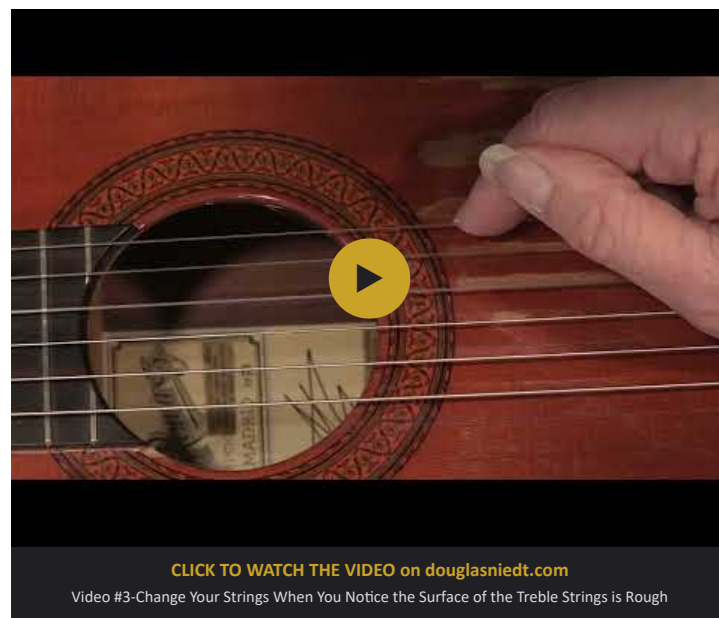
You can even hear the difference between an old and new string as you rub the fingertip along the string.

The rough string surface where you pluck the strings will produce additional fingernail noise and can even rough up the edge of a freshly polished fingernail.

This abrasion is something many people do not notice. Let me show you in Video #3.

★ BE SURE TO WATCH ON FULL SCREEN. Click on the icon with the arrows at the bottom on the far right:

Video #3-Change Your Strings When You Notice the Surface of the Treble Strings is Rough



4. The guitar sounds in tune within the first five frets, but out-of-tune in the upper frets (or vice-versa).

5. The bass strings change color from shiny to dull silver or bright to dark gold. You can see the difference on my late Dad's old Martin guitar. The 4th and 6th strings have been on the guitar for a long time. The 5th string is new:



6. The strings smell. If they are that bad, you should have changed them a long time ago.

7. The strings are a few months old, and a string breaks. When this happens, change all the strings. Otherwise, the new string (especially if it is a bass string) will sound noticeably different from the others. Again, on my Dad's Martin guitar, the 5th string is new, but the others are ancient. Visually and sonically, the 5th string stands out like a sore thumb from the others.



8. The guitar begins to stay in tune.

This one is very ironic but true. As the strings stretch less and less and begin to stay in tune, they are starting to lose the dynamic qualities that make them sound so good and alive when they are new. They are beginning their decline. In Part 2, see "How do I cope

with keeping new strings in tune?"

Keep in mind that the bass strings have a much shorter useful life than the trebles. If you want to save a little money, you might be able to change the trebles once for every two or three bass string changes without disrupting the tonal balance between trebles and basses. Some players make it a practice to purchase one or two extra sets of bass strings with each full set.

On the treble strings, one string may develop false intonation sooner than another. Unless the strings have been on the guitar for more than a month, you can replace that single string without disrupting the tonal balance of the guitar.

How to Change the Strings on a Classical Guitar

THE RULES:

1. Only put nylon strings on a classical guitar. **NEVER** put steel strings on a classical guitar.
2. Wash your hands before starting. You do not want to gunk up brand-new strings!
3. Give yourself a full hour to change all six strings. When all goes smoothly, you can do it in thirty minutes. But give yourself an hour, just in case.
4. When you change the strings, be sure the guitar is on a soft surface, so it does not get scratched or banged around. Work on a padded table, a carpeted floor, bed, or a sofa or couch.
5. **SOME EXPERTS SAY:** Only change one string at a time. Changing the strings one at a time maintains consistent tension on the instrument. Taking all the strings off and then putting new strings on places unnecessary stress on the guitar. The strings exert a total force of 75 to 90 pounds of tension on the soundboard and neck. If you release all the pressure, the wood flexes. After restringing the guitar, it takes several hours for the soundboard and neck to flex back to their original optimal shape. The trauma may produce a loss of volume and tone and will undoubtedly complicate the tuning process until the guitar restabilizes.

About the only reasons you might need to remove all the strings at once is if you want to clean the fretboard and moisturize it with conditioner, or clean and polish the entire instrument.

BUT OTHERS SAY: It does not matter. Take off all the strings at once to streamline the string-changing operation. The strings are off the guitar for less than an hour, and the stress on the instrument is insignificant.

Also, the strings hold the saddle in place. On some guitars, they also hold the nut. If you take off all the strings at once, one or both can fall out. It can be a big deal if you are a beginner and don't know their correct placement.

Personally, I prefer to play it safe and change the strings one at a time.

6. Most guitarists, once they put on a new string, immediately bring it up to pitch. You can do that if you wish.

But I prefer to bring a string up to pitch very gradually. I give the tuning knob 3-4 turns every 3-5 minutes. Over the next hour or so, I bring the strings slowly and carefully up to pitch, again, giving the tuning knobs no more than 3-4 turns every 3-5 minutes. I cannot prove it, but I believe this process helps ensure that the strings stretch evenly so that the string gauge remains perfectly even along the length of the string. That means perfect intonation.

I also do not tug on the string to stretch it out. It is my opinion (again, I cannot prove it) that pulling on a treble string or bringing it too quickly up to pitch can stretch the string unevenly. I cringe every time I see guitarists and even string specialists do this. I think it is one of the fastest ways to ruin a string. If damaged, the string will vibrate unevenly, and its intonation will be terrible. I also believe that tugging on a wound bass string or bringing it up to pitch too quickly will sometimes cause it to sound dull or affect its intonation. *Many people may scoff at this, but I have experienced these phenomena countless times over my 60 years of playing the guitar and changing strings.*

The next video is fun. Watch me demonstrate how to ruin a string in Video #4.

★ BE SURE TO WATCH ON FULL SCREEN. Click on the icon with the arrows at the bottom on the far right:

Video #4-How to Ruin a String



Find a good spot to change the strings

You do not want to accidentally scratch or dent your guitar while you change the strings. And, you want to be comfortable working on your guitar.

A table (even a pool table or ping pong table!) will work if you put a soft pad, piece of carpet, or blanket on the surface to protect and cushion the guitar. Here I have a thick furniture packing pad I bought from U-Haul.



When working at a table, some specialists like to use a guitar neck support, like this one by Dunlop. The normal position is with the V-shaped side of the support facing up:



The guitar neck rests on the support with the fretboard facing up:



Or, you can flip the support so that the flat side is up:



Then, the guitar can rest on the support with the fretboard down:



I am using one in some of these videos for demonstration purposes, but it is not necessary for changing your strings.

2. If your body is flexible and agile, you can change strings on a carpeted floor. Be sure no furniture or objects are nearby that might come into contact with your guitar.
3. You can even change strings on your bed. Working from the side or foot of the bed may be more comfortable for the less agile. For a pro on tour, the hotel bed is usually the best spot to change strings.

4. A sofa or couch (with padded arms) on a carpeted floor works very well. It is a very flexible way to work. You can do all the work on the sofa or couch. Or, you can set the base of the guitar on the carpeted floor to tie the strings to the rollers and tighten the strings. The sofa or couch is comfortable, and there is little chance of damaging the guitar.

Do a health checkup of your guitar

Do a cosmetic visual check

Before proceeding, this is a good time to do a quick visual check of the condition of your guitar. Especially check the bridge base to be sure it is not starting to pull away from the soundboard. If it is, stop, loosen the strings, and take the guitar into a shop for repair.

Check for cracks on the soundboard, sides, back, and alongside the neck where it joins the soundboard. Look for any deterioration or discoloration in the finish. Small problems may not need immediate attention, but you want to keep track of them in case they begin to worsen.

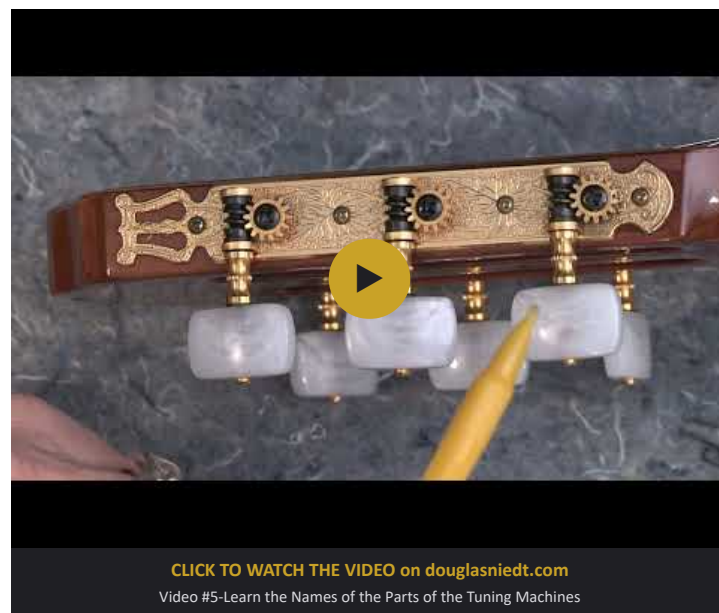
Check the Health of Your Tuning Machines

Before we begin this discussion, let us go over the terminology for the parts of the tuning machines.

Watch this video to learn the names of the parts of the tuning machines. Video #5.

★ BE SURE TO WATCH ON FULL SCREEN. Click on the icon with the arrows at the bottom on the far right:

Video #5-Learn the Names of the Parts of the Tuning Machines



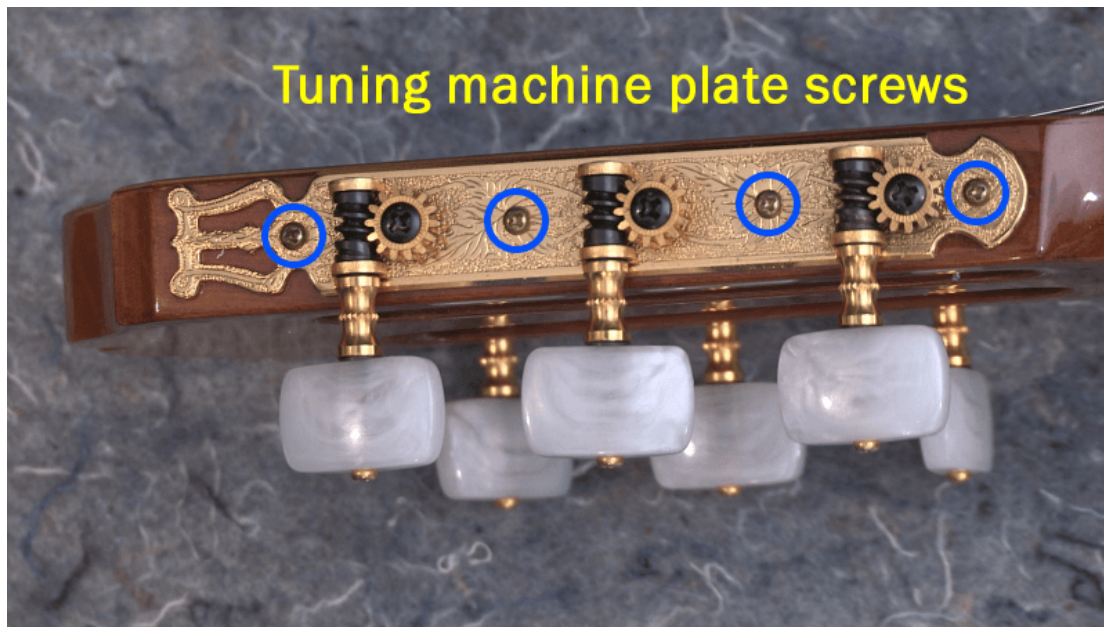
This entire mechanism is called the tuning machine, machine head, or tuning head.



This flat part is the tuning machine plate.



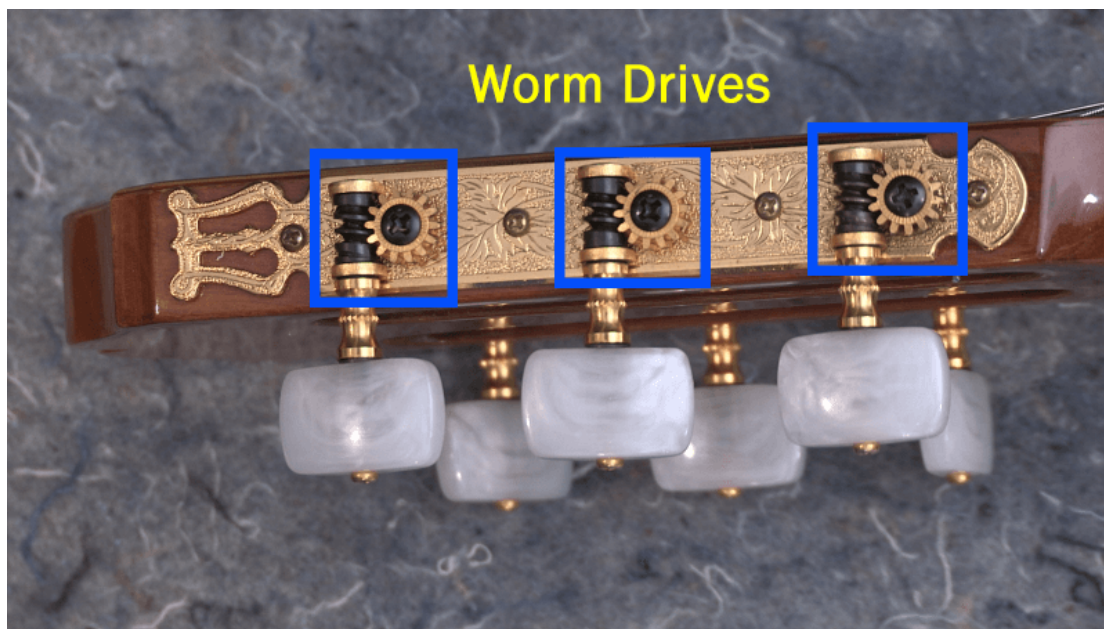
These are the tuning machine plate screws.



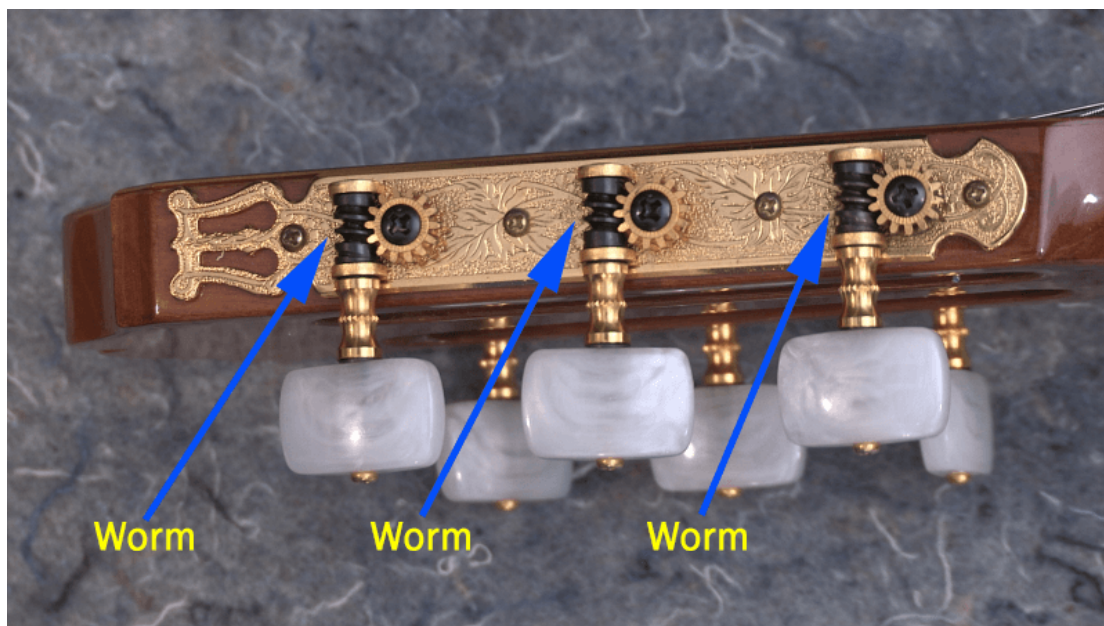
These are the tuning buttons, pegs, keys, or knobs.



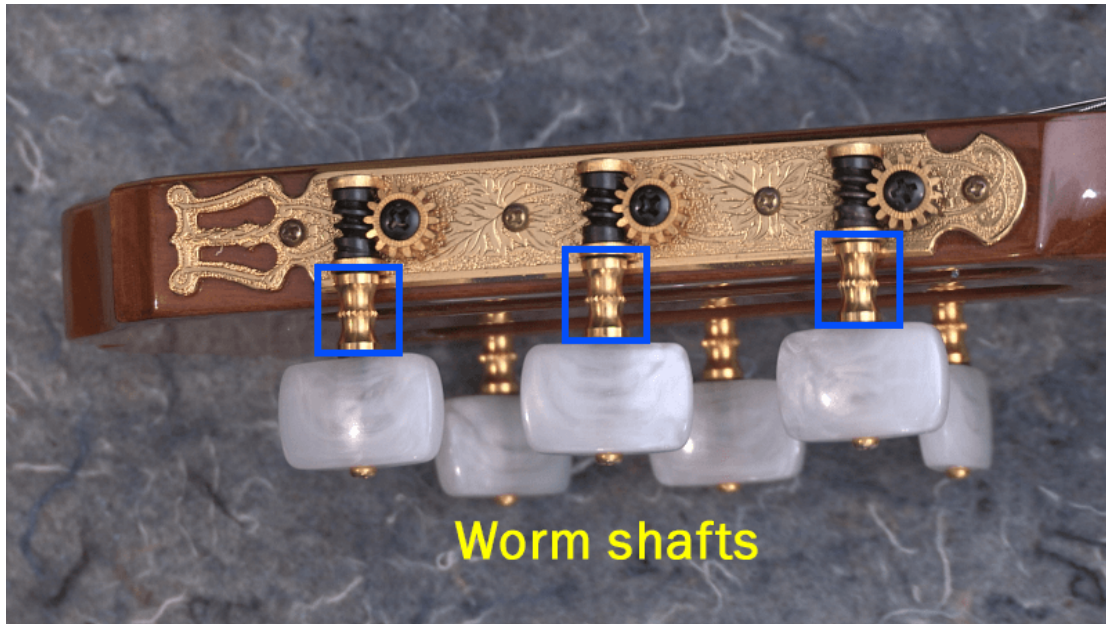
These are the worm drives.



These are the worms.



These are the worm shafts. We guitarists refer to it as the tuning button, peg, key, or knob shaft.



These are the worm gears.



These are the worm gear screws.



And here, we have the string roller, which is also called the post, barrel, or capstan.

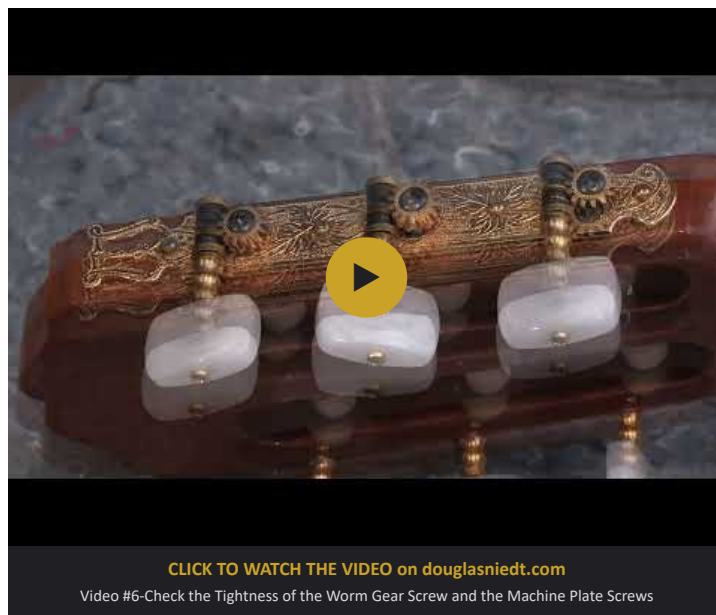


CHECK THE TIGHTNESS OF THE WORM GEAR SCREW AND THE MACHINE PLATE SCREWS

Next, watch me demonstrate how to check the tightness of the worm gear screw and the machine plate screws. Check these every time you change your strings. Watch Video #6.

★ BE SURE TO WATCH ON FULL SCREEN. Click on the icon with the arrows at the bottom on the far right:

Video #6-Check the Tightness of the Worm Gear Screw and the Machine Plate Screws



Every time you change your strings, check the tightness of the worm gear screw and the machine plate screws.

While the old string is still on the guitar, check the tightness of the worm gear screw. The danger is that this adjusting screw that holds the gear in place can get loose and start to rattle, or even fall out. A loose screw can also result in premature wear and failure of the tuning machine. Only adjust the tightness when the string is on the guitar at pitch. When the string is slack or off the guitar, the parts may seem a little loose. That is normal. When the string is at standard pitch, the parts should fall into the correct tolerances with no wobble. Do not overtighten the screw. The gear must be able to move smoothly when up to tension. If a screw is loose, turn it back in until it engages. Not until it is tight, just until it is firmly but gently set.

Also, check the tightness of the machine plate screws with a well-matched screwdriver. If the screws work loose, the plate will rattle against the wood. But be careful not to overtighten these. You can easily strip the wood holes.

Remember, use a suitable screwdriver that fits the screw head precisely. The machine plate screws usually require a small screwdriver. Do not mangle the screw heads.

Check for wear on the worm and the teeth of the gear. After hundreds of string changes or if you use a lot of scordatura tunings, these parts can wear to the point of sudden failure. Replace worn parts sooner than later so that they do not fail at the worst possible moment.

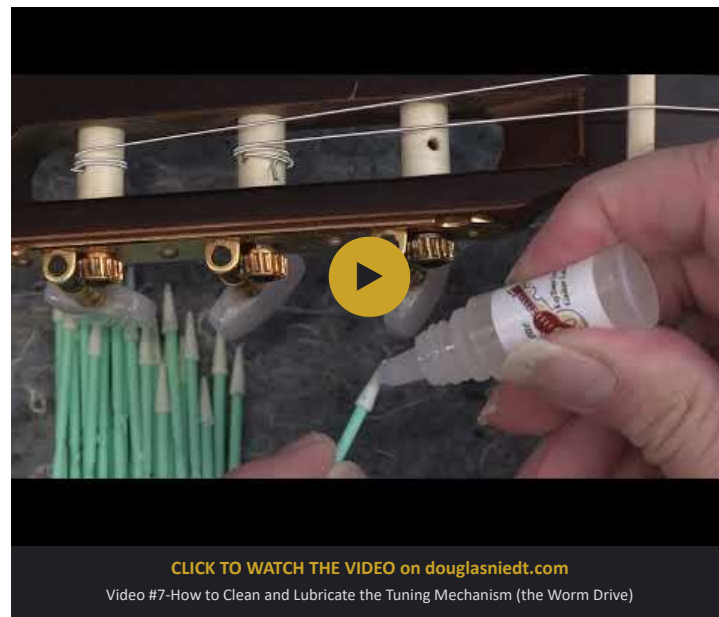
CLEAN AND LUBRICATE THE TUNING MECHANISM (THE WORM DRIVE)

If you have not lubricated the worms and worm gears of the machine heads in the last few months, this is a good time to do it. Lubricating these parts will significantly improve the performance and life of your machine heads.

Let me show you how to do it. Watch Video #7.

★ BE SURE TO WATCH ON FULL SCREEN. Click on the icon with the arrows at the bottom on the far right:

Video #7-How to Clean and Lubricate the Tuning Mechanism (the Worm Drive)



But be careful about what you use. Do NOT use WD-40, 3-in-One oil, sewing machine oil, wax, vegetable oil, automotive oil, or Vaseline. All these products attract dust. It all congeals and attracts more crud, and soon, the gears are filthy.

An excellent lubricant is [Rosette Guitar Products'](#) KeyTune Line Guitar Lube.

Rosette Guitar Products is a company that sells many nifty products. This lubricant is a pure synthetic with no petroleum to gunk up your tuning machines. It goes on clear and stays clear. The main ingredient is food-grade quality polytetrafluoroethylene (PTFE), also known as Teflon.



Some luthiers use a lubricant called Tri-Flow Superior Lubricant.

It also contains Teflon but has an off-color tinge to it and feels a little oily to me.



Your worm and gear may need cleaning first. You can use the same lubricant to clean the gear teeth and worm threads. I put a drop of lubricant on the tip of a multi-purpose lint-free cleaning swab. It has a pointed foam tip to get in the tight spaces. These are cheap and come in packages of 100-500 pieces. [I use these](#) , but other similar lint-free swabs will work fine.

I work it into the crevices of several gear teeth. Then, I switch the swab and swab out the spaces a few times. Give the tuning peg a few turns to expose new teeth. Add some lubricant to a new swab and wipe it through some more teeth. Switch to a clean swab and keep cleaning. Keep doing this until you clean all the teeth.

If the teeth were already clean, put one drop of lubricant on your swab and draw it through each tooth of the gear to lubricate. Use it sparingly and carefully. It is best that the lubricant not touch any wood surfaces.

Treat the worm threads in the same manner.

The casual player should lubricate the tuning machines once a year. But if you change your strings frequently (every one to three weeks) or use a lot of scordatura tunings, like drop-D, drop-G, and others, lube the tuning machines more often.

Nut maintenance?

Some guitarists recommend adding lubricant in the string slots of the nut. Proponents say this will help the strings slip smoothly through the nut, avoiding wear on the nut, and making tuning changes more precise. Others say that if the nut slots are cut and polished correctly, no lubricant is needed. Perhaps it might be helpful on a steel-string guitar, but on a classical guitar, I believe the lubricants are a waste of money. The lubricants I tried were oily or sticky. You don't want them gunking up your strings. Also, some of these lubricants are known to penetrate and discolor the nut. Some steel-string guitarists add graphite to the nut slots with a pencil. But unless you are having specific problems with the nut, I recommend doing nothing.

Protect the soundboard of your guitar

When you work with the strings, especially the bass strings, they can sometimes whip around and hit the soundboard of the guitar. They can scratch it or even put nicks or gouges in it. Or, when you tie the knots at the bridge, the tails of the knots can easily scratch the finish.

Protect your guitar! Watch Video #8.

★ BE SURE TO WATCH ON FULL SCREEN. Click on the icon with the arrows at the bottom on the far right:

Video #8-Protect the Soundboard of Your Guitar



A Guitar or Bridge Bib

If you are cautious and want extra protection, you can use a "Guitar Bib." Strings By Mail sells a "Bridge Bib." You just slip it under the strings like this, and it gives your guitar excellent protection while you are restringing the guitar.

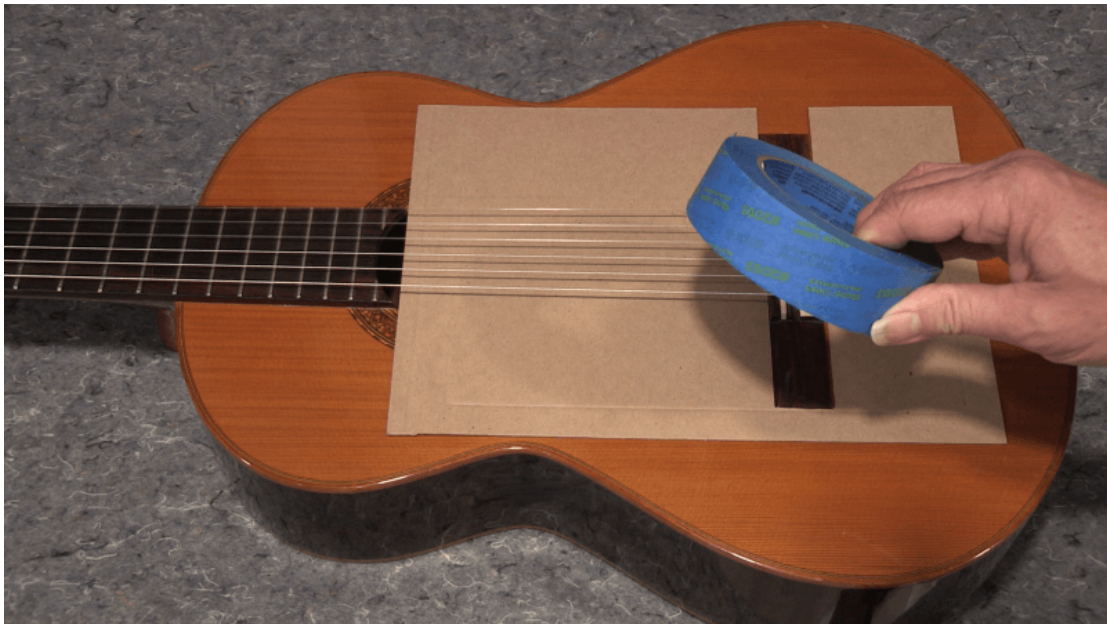


Or you can make your own protective bib out of thick card stock. You can customize the size to give maximum coverage to your particular guitar, like this.



Then, tape it to your guitar with lavender "Delicate Surface Painter's Tape" (best) or blue painter's tape.

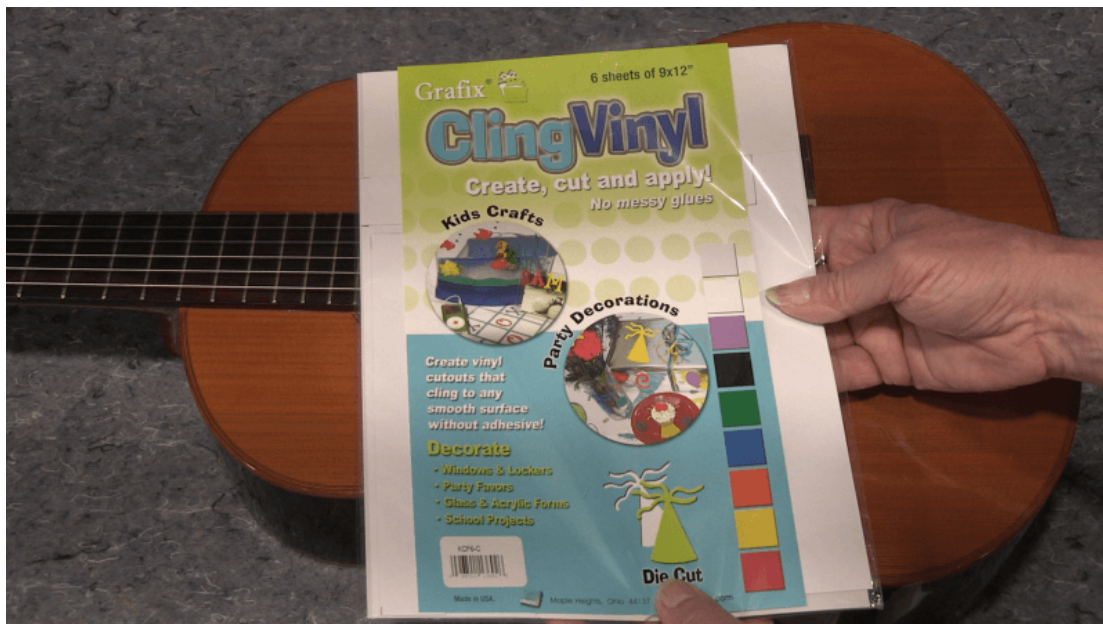
Of course, these guitar bibs are only for temporary protection while you change your strings.



Or, you can make one out of cling vinyl and customize it to the size of your guitar.



[This vinyl I bought](#) comes in a package of several sheets of clear vinyl.



It sticks to the soundboard by static cling with no adhesive. Again, the Cling Vinyl is only for temporary protection while you change your strings. Leave your bib on the paper backing when not in use to keep it clean. You can wash it with warm water and mild soap. Reactivate the static cling by gently rubbing the vinyl on woolen material.

At the very least, I would protect the area behind the bridge. If your strings came with cardboard packaging, you could use that. Or, use card stock or a 3x5 index card. Whatever you have available, tape it to the guitar using the "Delicate Surface Lavender Painter's Tape" (best) or blue painter's tape. Once again, the card stock is only for temporary protection while changing your strings.

Or, you can just be super careful!

For a semi-permanent solution, place a piece of protective cling vinyl behind the bridge and leave it there. You can make your own or purchase protective kits. There are a couple of kits available from Strings By Mail and other retailers. Here is the Kling-On version.



Below, I have left the paper backing on the vinyl so that you can see it. The actual vinyl is clear.



They also make an "Ultra" version with thicker vinyl, which is also suitable for flamenco guitarists. Although I have never had any problem with leaving vinyl cling protectors on my Ramirez guitars, a warning label is in the package recommending caution using them on some finishes.

END OF PART ONE.

Okay. You have read the information and watched the videos on why you should change your strings, how often to change them, THE RULES, finding a suitable spot to work, doing a checkup of the health of your guitar, and protecting the soundboard. Next month we will go in-depth on how to restring your guitar.

Frequently Asked Questions

Why should I change my classical guitar strings?

As classical guitar strings age, they lose their vibrancy, quality of tone, and precision of intonation. The strings also become harder to press down. When the strings are ancient, there is the probability one will break at an inopportune moment.

How often should I change my classical guitar strings?

It is best to change the strings frequently to get the best tone and playability. How often to change the strings depends on the guitarist and their playing/practice habits. The environment of the guitar is also a factor. Guitarists who only practice ½-hour a day, clean their hands, and take good care of their instrument may get by with changing their strings once every two months. Others, whose fingers produce a lot of sweat and oil, may need to change their bass strings at least once a week. Professionals usually change their strings every 1-2 weeks or after every performance.

What are some signs that I need to change my strings?

Change your strings when:

1. The bass strings sound dull.
2. You notice grooves in the string windings of the bass strings.
3. You notice the surface of the treble strings is rough.
4. The guitar sounds in tune within the first five frets, but out-of-tune in the upper frets (or vice-versa).
5. The bass strings change color from shiny to dull silver or bright to dark gold.
6. The strings smell.
7. The strings are a few months old, and a string breaks.
8. The guitar begins to stay in tune. For the professional, that is an indication the strings are beginning their decline.