Zephyr band instruments

CARE & MAINTENANCE Violin

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Zephyr Band Instruments - 3100 Airway, Suite 119 - Costa Mesa, CA 92626 714.429.2391



Care and Maintenance Violin



Parts of the Instrument



The Soundpost

The soundpost is the dowel made of spruce that transfers the vibrations from the top of the instrument to the back.



The Sound Post in cello as seen from endpin holeIt is located inside the instrument, below the treble foot of the bridge. The soundpost should never be adjusted by anyone other than a trained violinmaker. Too many f-holes and tops have been ruined by musicians with a good ear, but lack of training in this area.

The tops and backs of instruments expand and contract with changes in humidity. Because these pieces are glued onto the sides all around, the height of the arching changes slightly. This can cause the soundpost to be either too tight or too loose, resulting in sound quality variation. If you notice a sudden change in the sound of your instrument, especially after a drastic change in the humidity, don't despair, for it may change back again. You may, however, need to have the soundpost adjusted.

In dry weather, a tight soundpost situation is compounded by the fact that the top and back wood become harder as they dry out. So even if you have a tight soundpost moved inward to release excessive tension, you will not attain the same sound experienced in more humid weather. Depending on the stiffness of the wood, some instruments simply sound better in more humid weather, and some in dryer weather. A Dampit might help.

Post position



In extreme cases of low humidity, the soundpost can exert so much pressure on the top and back that they can crack at the contact point with the post when exposed to additional stress. This is a serious situation for the instrument because it is very expensive to repair. Such damage also devalues the instrument significantly.

The Bridge and String Height



A correctly maintained bridge can last for many years.

Bridge position

The position of the bridge on the instrument is very important. The back side of the bridge should stand at a right angle to the plane of the top.

Warped bridge

Problems with bridges occur mainly when strings are loose and need to be tuned up. The stretching of the strings being tuned pulls the top of the bridge toward the fingerboard. If left in this position, the downward pressure of the strings can warp the bridge, and repeated tuning using the pegs without re-aligning the bridge may cause the bridge to break or fall. It is recommended you get a personal demonstration by a violinmaker on how to straighten the bridge.

Straightening a tilted violin bridge



Not everyone uses the same method of bridge straightening. Move the bridge by holding it with our thumbs, as shown here. Lay the violin on the lap with the scroll to the left and the tailpiece to the right. Next, reach over the bridge, keeping the thumbs on top between the middle strings pointing toward each other.

Straightening a tilted cello bridge



The index and middle finger reach over from the other side of the strings under the bridge. On the left side as we press with the middle finger against the fingerboard, we can create counter pressure with the thumb against the bridge and move it backwards. So that it does not accidentally go too far, we hold the right fingers in mirror position holding the middle finger against the tailpiece. The fingers should not press against the highest string or it could break. Since only hand muscles are used, the pressure is cancelled between fingerboard (tailpiece) and bridge. The instrument should not move.

If the bridge does not move easily enough, we lower the strings one by one, lubricate the notch in the bridge with the graphite of a soft pencil, and re-tune. Keeping the tuning one note below normal also helps when moving the bridge.

Inspect the strings to see if they are in good shape where they contact the bridge. If the winding has separated, the string can act as a rasp and dig into the bridge. If this is the case, the string needs to be replaced. (For more information, see Replacing Strings.)

The fingerboard height and tilt are important preconditions for the correct fitting of a bridge. If the bridge is too low or angled down too much towards the treble string, there will not be enough margin for the bow to play without hitting either the next string or the C-bout edge of the instrument.

If one of the two middle strings cannot be played without hitting one of the neighboring strings, the bridge curve is wrong or the string has cut into the bridge and needs to be raised. By holding the violin in a way that the A string is visually hidden behind the G string, you can see how much higher the D string is. This is the ?margin? the D string has. Both the A and the D string should have a similar margin.

For the photographs, a cello was selected to make the demonstration easier. Here, the D string is hidden behind the C.



This shows the margin of the G over its neighbor strings Margin for G - front view



On the next picture, the A is behind the G.

This shows the margin of the D string over its neighbor strings

This white line is a sign of a loose neck



If all of the strings suddenly seem higher, be sure and check immediately to see if the neck has become loose. Look for a small unvarnished line along the neck heel where it is inserted into the upper block.





See if the purfling groove becomes wider under the back button.

In either case, loosen the strings immediately, since there is danger that a sudden implosion can occur in which the fingerboard is slammed onto the top with such force that the impact can cause a soundpost crack and/or a bass bar crack. Take the instrument to a violinmaker for repair

Pegs

You may notice that your instrument's pegs may slip from time to time, which is not necessarily an indication that the pegs do not fit. Pegs shrink when humidity drops; if the drop is significant enough since the last tuning, the pegs can suddenly give in to the tension of the strings and loosen. The bigger the peg, the more shrinkage is possible (therefore cellos are more prone to this problem).

Turn the peg with normal pressure into the hole. Never force a peg into the hole when the peg is slipping as this may crack the peg box. Make sure that the bridge stays straight as you retune the instrument. If the peg still does not hold, it may be too lubricated. In this case, you can remove the peg and wipe off excess lubricant with a paper tissue and alcohol. This should be done at a safe distance from the instrument because alcohol dissolves varnish. Put the dry peg back into the hole and see if it turns with a little more resistance. If needed, repeat this process.

If all the lubricant is removed and the peg is still slipping, you may use a small amount of sidewalk chalk between the peg and the hole. NOTE: Most blackboard chalk contains oil and therefore will not prevent the slippage. Use sidewalk chalk, which contains no oils. In an emergency, use a tiny amount of your rosin in powdered form. The rosin will stop the peg from slipping until you can get professional help.

Conversely, if you find that your pegs are sticking, you may lubricate them with peg dope, but use it sparingly as it can build up and cause the pegs to slip. If the pegs are too tight due to swelling from increased humidity, don't try to tune them up. The peg might suddenly move and you will break the string. If you use more force than usual, apply it in the downward portion and pull the peg out as you turn it. When the peg is completely loose, readjust it to the normal tightness and tune it back up. Don't be too daring if the peg is stuck. A trip to a local violin dealer to loosen a stuck peg is cheaper and faster than the repair of a broken peg or even a pegbox.

Cleaning and Polishing

Keep both your instrument and bow clean of dust, rosin, oils and dirt.

It is best to clean with a cloth recommended by your violinmaker, or with something that is lint-free and will not scratch the instrument. Wash the cloth regularly, as dirt and rosin can build up on the cloth and scratch the varnish.

You can also use special polishes sold at violin shops. Do not use commercial cleaners on your instrument, as they often contain solvents and abrasives that can damage the varnish. It is a good idea to take the instrument into a shop once a year for a proper cleaning.

Replacing Strings

Strings should be replaced at least once a year, although steel strings may last longer than this. If you are spending a great deal of time playing, the strings will wear out faster, requiring replacement every six months.

Several warning signs indicate when a string needs to be replaced: irregularities in the winding, worn or frayed windings, dull or dead sound or fifths out of tune when placing a finger straight across two strings.

When strings are worn out, they become flat on the bottom (the side that faces the fingerboard). You can check whether or not a string is worn by twisting it gently between your thumb and forefinger under a light. If the string is worn, the flat surface will cause a reflection to gradually move up the length of the string as you slowly rotate it. When a string is no longer round, it should be replaced.

NOTE: Always remove and replace only one string at a time. Removing more than one string at once may cause the soundpost to fall.

When replacing a string, first thread it through the tailpiece or into the fine tuner. Make sure the ball of the string is pulled all the way up against the slot in the tailpiece or against the prongs on the fine tuner.

Push the upper end of the string through the peg hole so that about half an inch protrudes from the other side. Pulling the slack out of the string, wind the string once around the peg (toward the thin end of the peg) by twisting the peg one turn. Then cross the string over the wound string once and continue winding the remainder of the string toward the thick end of the peg. If the peg hole is near the wall of the peg box, wind up more of the string on the thin end of the peg before crossing over. To keep the strings straight, the last winding should be near, but not touching, the peg box wall. Some musicians intentionally set the strings against the side of the pegbox if a peg is not holding properly, but this can crack the pegbox and should be avoided.

Every time you replace a string, lubricate the notches in the top nut and in the bridge with the tip of a soft pencil. The graphite from the pencil will lubricate the notch, helping the string slide more easily and extending the life of the string. This procedure will also help the bridge remain in the proper position when tuning. The strings will glide over the bridge instead of pulling the bridge toward the fingerboard.

Common Reasons Strings Break

If the string slots in the bridge or top nut are too narrow, the strings will not slide through them during tuning. This can cause strings to break.



The notches are too small for the strings (exaggerated for demonstration purpose)



The notches are darkened with a soft pencil



The notches are correct



The slot is too narrow for the string to pull through

Applying a small amount of graphite from a soft If the slots in the tailpiece are too narrow, pencil to the bridge and top nut notches allows the strings cannot be pulled all the way through so that the ball on the end of the string seats into position. This can cause strings to break.

If the string slots in the bridge or top nut are too narrow, the strings will not slide through them during tuning. This can cause strings to break.



The string should not be pinched against the wall (in the above picture, the violin's D-string is undesirably pinched against the wall)

When a string is pinched against the side of the pegbox, the friction can break the string, or worse, crack the pegbox.



Topnut too angled



Correctly shaped topnut

If the top nut does not have the correct curve, it can force the string to bend at a sharp angle on either side of the topnut. This stresses the string and it can break.



Insufficient space for the string between peg and bottom of pegbox

Strings can also become squeezed between the peg and the bottom of the pegbox, especially where a string is doubled on the peg. This not only can cause the string to break, but can also damage the peg and the hole in the pegbox.



Topnut too flat



On the left: Sharp square edge Some fine tuners have sharp edges that cause E strings with looped ends to break. A violinmaker can round off these edges.

When tuning your instrument, try not to go above the correct pitch of the string as this will stress the string, making it break sooner.

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Tuning

Instruments are tuned using the tuning pegs and the fine tuners.

Because the tuning pegs are used for gross adjustments, the fine tuners are very helpful in making small tuning adjustments. The fine tuners generally should be kept in the middle range position, not too far in or out. When a fine tuner is most of the way in or out, reset it to the middle-range position and use the tuning peg to tune the string. Then use the fine tuner to make the final adjustments.

Again, when tuning your instrument, do not go above the correct pitch of the string. If a string is not in tune, turn the peg down, then slowly up. Repeat this until the string is properly tuned. Check once a week to make sure your bridge is standing up straight. Tilted bridges can become warped or fall over and damage the instrument. Ask your teacher or a violinmaker to help you straighten it.

Troubleshooting Buzzes

Many things can cause an instrument to buzz.

Listed below are a few of the more common causes, along with suggestions for stopping the buzzing in an emergency if professional help is not immediately available:

Accessories

Fine tuner vibrating: Undo the tuner screw, insert two pieces of thread into the resulting hole, screw the tuner back in and trim any excess thread. The thread will fill the gap and stop the buzz. If your instrument's tailpiece has separately installed fine tuners, you may want to replace the tailpiece with one that has built-in tuners, which are less likely to buzz.

Loose decorative pin in tuning peg: Remove the tuning peg and the decorative pin. Using a toothpick, insert a very small amount of white glue into the hole. Reinsert the decorative pin and hold for 20 seconds. Remove any excess glue using a damp tissue.

Loose chinrest mountings: Tighten slightly with a chinrest key. Do not over-tighten.

Loose sliding mute: Slide the mute down over the silk windings of the strings or bend the metal wire a bit.

Loose wolf eliminator: Tighten the screw slightly.

Endpin: There could be a loose screw, shaft or tip. On Stahlhammer endpins, a rubber ring may be missing at the top of the thinner shaft. On certain other types of endpins, there may be a missing cork at the inner end of socket or a plastic sleeve at the outer end of the socket. Some endpins have exchangeable tips that may also loosen, causing a buzz.



In Stahlhammer endpins, a missing rubber ring on the inner shaft can cause a buzz



A loose endpin tip can cause a buzz

Strings



The loose E string tubing is a frequent cause of a buzz

Small plastic tubing loose: This tubing, intended to protect the string at the bridge, can buzz when it hangs loosely around the string between the bridge and the tailpiece. Remove the tubing, slide it down over the thicker silk winding on the string until it is snug, or reposition it under the string on the bridge. Be aware, however, that the latter action will raise the string and reduce the playing margin for the neighboring string.

Faulty string with loose winding: A loose winding on a string will cause a buzz to occur only on this string. Replace the string.

Loose string end in peg box: Unwind the string and shorten the length of the projecting end of the string.

Bridge & Nut

Loose bridge parchment: This thin parchment is found beneath some strings where they cross the bridge. If the parchment comes loose from the bridge, loosen the appropriate string, pull it aside, and insert a very small amount of white glue between the bridge and the parchment using a toothpick. Press the parchment to the bridge for 20 seconds. Remove any excess glue using a damp tissue. Allow the glue to dry before repositioning and tuning the string.

String notches at topnut too wide or too low: This causes buzzes only on open strings. Loosen the string and place a small piece of thin leather or paper between the string and the topnut. Re-tighten the string.

Instrument

Open seam: An seam that has opened in the instrument's body can cause a buzz. Insert a small piece of thin paperboard or paper into the opening, but do not use force, which may cause the seam to open farther.

Dust accumulated between the narrow points of the f-holes: Slide a thin piece of paper across the narrow point of the f-hole to clear any accumulated of dust.

Loose fingerboard: Bring the instrument to a violinmaker to re-glue.

Fingerboard bumpy or too low: Sight down the length of the fingerboard toward a light source to detect bumps or other irregularities in the fingerboard. Bring the instrument to a violinmaker to have the fingerboard redressed.

Low strings over fingerboard: The section of the fingerboard that projects over the instrument's body can rise in low humidity conditions, causing the strings to vibrate against the fingerboard. A violinmaker can cut and install a higher bridge. If you know how to use a bridge jack, as a quick fix in an emergency situation you can insert thin pieces of wood (veneer works well) under the bridge feet. But make sure that the grain of the wood inserts runs in the same direction as the grain in the instrument's top so that it will bend along the cross curve of the top.

Partially open crack in the wood of the top, back, or sides: After thoroughly washing hands, rub a couple drops of water into the crack to swell the wood. Remove excess water with tissue.? Bring to violinmaker as soon as possible.



Purfling: the inlay along the edge of the instrument

Loose purfling (the inlay along the edge of the instrument): After thoroughly washing hands, put a few drops of water on the area and tap a little with your finger. Rub in the water to swell the wood. Remove excess water with a tissue.

Humidity

Any wood will shrink in low humidity and expand in high humidity. This shrinking and expanding process can have severe consequences for an instrument.

When the humidity suddenly drops to a low level several things can occur:

The pegs can shrink and become loose, making it difficult to keep the strings in tune. This should be taken as a warning sign, and you should expose the instrument to more humidity as soon as possible. Of course, pegs can also slip if they don't fit well or are overly lubricated. If humidity increases dramatically, pegs can become too tight to tune properly. See Pegs for remedy.

Shrinkage can cause the top or back to separate from the sides in some areas. In this case, the shrinking action is stronger than the glue, and the top separates from the sides in order to accommodate the shrinkage. This does not harm the instrument and is relatively inexpensive to repair.

If the top or back does not separate from the sides to allow for shrinkage, the wood can crack. The repair of a crack is very costly if done correctly.

The fingerboard can rise up closer to the strings, especially on cellos. When this happens, the strings might not have enough clearance to vibrate without hitting the fingerboard. In areas where humidity levels vary considerably, cellists often own bridges of different heights in order to compensate for the variation in fingerboard height caused by the humidity.

Prevention of Cracks Due to Low Humidity

It is helpful to have a humidifier in the room where you practice. However, when you take the instrument away from the room for an extended time, you need other means of keeping the instrument safe from fluctuations in humidity. Good humidifiers installed in instrument cases are helpful, but only if the case remains closed for several days. On short trips, small humidifiers (Dampits) can be inserted through the instrument's soundholes. Dampits work well because they can go wherever the instrument goes, but they don't hold much water and need to be checked often. Also, if you over-moisten a Dampit, it can drip and damage the instrument. To prevent dripping, pull the Dampit through a towel after soaking it under a faucet.

Hygrometers indicate changes in humidity. However, most of them don't remain accurate, so do not rely on them. A dramatic drop in the reading should always be taken as a warning sign, even if the percentage of humidity indicated on the hygrometer is still OK. The level of humidity considered OK depends somewhat on the climate where you live. In an area with an average of 90 percent humidity, you may experience problems when the humidity level drops to 50 percent. However, if you live in an area where the humidity is normally around 50 percent, and the instrument is accustomed to this low humidity, the instrument should be safe. A problem can occur if you move or ship an instrument from a humid location to a dry one. If you and your instrument are ever caught in a dry spell without access to a humidifier, you can take the instrument and its case into a bathroom. With the windows and doors closed, the humidity in the bathroom will help raise the humidity even further. Opening the case for a short time will trap moist air inside when it is closed again.

General Instrument Care

It is best to handle your instrument by the neck only. The natural oils from our skin attract dust and rosin to the varnish.

Always dust the instrument and fingerboard with a soft cloth after practicing to prevent rosin dust from building up. Rosin left on the instrument can become tacky and difficult to remove.

Never use alcohol or nail polish remover (acetone) near the instrument.? It will dissolve the varnish.

Never put an instrument into a car trunk. On a hot day the varnish can bubble, and every dealer knows of instruments being stolen from car trunks or being severely damaged by collisions while in car trunks.

Violins & Violas

Improper attachment of shoulder rests can damage the sides and backs of violins. To avoid this, be sure the rubber on the feet of the shoulder rest is intact, and always pull the feet over the back edge, rather than sliding them into position. When putting your violin into the case, remember to remove the shoulder rest before closing the lid. Make it a habit to automatically fasten the latches of the case whenever you close the lid, even if you don't intend to carry it away immediately. Many instruments have suffered severe damage from falling out of a case that someone forgot to close properly before picking it up.

Cellos

When removing a cello from a soft case, hold the zippers away from the body of the instrument when opening and closing them so they will not scratch the varnish. A cello bow is only safe in a soft case if the cello is also in the case, so the bow should be placed in the soft case last and should be taken out first. A bow left alone in an otherwise empty soft case is very susceptible to breakage. Do not lean a cello up against a wall or corner. It is much safer lying on its side on the floor near a wall, but be careful not to place the instrument near baseboard heaters or heat vents.

Never leave the endpin out when the cello is lying on the floor. Others might trip over it. Do not leave a cello case standing up in a room. Passing people, shifting rugs, gusts of wind, etc. can knock the case over and damage the cello.

Parts of the Bow







General Bow Care

It is very important to keep the thumb leather near the frog of a bow in good condition.



Worn on stick in thumb position

Worn on stick shown after frog removal

If it is worn through to the wood, have it replaced immediately. Many valuable bows have been severely damaged in this area by the thumbnail because the thumb leather was worn down and not replaced.



Loose eyelet resulting in frog warbling on stick

If the frog is loose or wiggles, the eyelet, which provides the female thread for the screw, may not be in the correct position, or the hole for the screw may have become too large. This should be checked by a professional.

The faceplate (tip) of the bow is not just an ornament; it protects the wood from damage. If the very tip of the faceplate breaks off, the exposed wood will wear, devaluing the bow. If a crack forms from the side of the mortise, the tip may not withstand the pressure of the plug. This should be attended to.

Wipe off the stick of the bow before storing it. Always store the bow in your case to avoid damage. Leaving a bow on the lip of a music stand is especially dangerous in orchestra situations.



The beak is missing on the tip of the lower bow

Use the bow for playing only. Do not point or gesticulate with it while talking, and never applaud by tapping the bow against a music stand. (People do this, so we have to include it!)

Rosin the bow as needed for the desired consistency of sound. If a lot of white dust can be seen on the instrument after playing, you are probably using too much rosin. When putting rosin on a bow, cover the ferrule (the metal ring where the hair enters the frog) with your thumb so the rosin will not hit the metal, which can chip or break the rosin.

If a single hair breaks, use scissors to cut it from the bow.? Pulling the hair will loosen the knots that hold the hair in the tip and frog.

Avoid touching the hair. The natural oils on your skin will counteract the gripping effect of the rosin.

Make sure you do not over-tighten the bow hair. The distance between the stick and the hair in the middle of the bow should not be much wider than a pencil for violin and slightly wider for a cello, and there should still be plenty of camber (curve) in the stick. Always loosen the tension of the bow after each playing session, for the bow can lose some of its camber if you do not.



Low Humidity

A cracked tip should be repaired as soon as possible

Constant usage over time and high humidity can lengthen the hair, sometimes so much that it cannot be fully tightened. Conversely, if you travel to a dry area with a freshly rehaired bow, the hair may become so short that it cannot be loosened (because bowhair shrinks in dry weather). This constant tension can affect the camber (curve) of your bow. Additionally, during a sudden dry spell, the resulting shrinkage can break the head off of a bow that has not been loosened after playing. If you notice that your bow has been affected by either humid or dry conditions, take the bow to a violinmaker for correction.

The Bow Bug or Carpet Beetle



Bite hair (left) and Adult carpet beetle (right)

If your bow has been stored in a closed case for a long period of time, you may notice that many of the bow hairs look as if they've been cut. This is due to the carpet beetle larva, which feeds on bow hair, tortoise shell and whalebone.

If you know you won't be using your bow for a period of time, don't leave it in a closed case for carpet beetle larvae thrive in dry, dark places. You may find it helpful to expose the inside of your case to sunlight for brief periods of time to discourage the larvae. For longer periods of storage, we recommend placing mothballs, cedar chips or camphor in your case and storing your bow in a sealed plastic bag (available from most dealers).

Rehairing

At times you may feel that your bow hair fails to grab the strings enough. Heat, humidity, and oils from our skin mix with the rosin and cause bowhair to become dirty and gummy. If the hair is still full and evenly distributed, you can prolong its use simply by getting it cleaned by a violinmaker or other professional.

If too much hair is missing (usually on the playing side), the bow needs to be rehaired before the uneven pull of the hair warps the bow. Take the bow to a violinmaker for rehairing.

After a bow has been freshly rehaired, you may notice that the bow seems to have lost some of its sound quality (more noise, sandy sound, rougher feel, etc.). There is no need to return the bow for different hair. Instead, play the bow a lot for a week or two.Chances are the problem will disappear, and this is why: hair without rosin makes almost no sound at all if the strings are also clean. It is the rosin that makes the hair grip the strings enough to create a sound. The hair has an uneven, scaled surface that holds the rosin in place and until the rosin is worked in, the bow can sound sandy, etc.

Of course the quality of bow hair does vary. For example, some hair can have weak areas across the length which cause it to break sooner, and wavy hair is not the same length as straight hair, which makes it difficult to tighten all the hair.

Transporting and Shipping

Contact your airline for their specific carry-on limitations and surcharges for oversized baggage. For cellos, you may want to request or purchase an extra seat in the bulkhead area for your instrument. Or you can use a special cello shipping case and check your instrument. Be aware that no shipping case provides a guarantee against damage, but using one helps improve the odds that your instrument will survive the flight undamaged.

There are two types of shipping cases for cellos:

A 3 to 5-inch thick padded soft cover that fits around your normal case and often has wheels for easier transport. If the shipper drops the instrument, the thick foam will soften the blow. However, if the instrument is lying on the ground and something very large or heavy falls on top of it, the foam will be crushed and the cello may be damaged.

A very strong and heavy hard case that is used instead of the normal case. It offers more protection should something heavy fall on it. However, if the instrument is dropped, this type of case is more likely to transfer the blow to the cello because the padding inside is usually limited. Another disadvantage with this type of shipping case is that after arrival, you have to lug this heavy case around until you return home.

Accidents

Below are some tips about what to do should you have an accident with your instrument:

If your instrument cracks, do not touch the area! The natural oils on your fingers will contaminate the wood and lessen the bonding capacity of the glue, making it more difficult to make an invisible repair.

If your bridge breaks or falls, remove the strings and tailpiece from the instrument. This prevents the tailpiece from scratching the top. Bring the instrument to a violinmaker for repair.

If you notice a large new crack in the instrument, remove the strings, bridge, and tailpiece and bring the instrument to a violinmaker. If the crack is in the pegbox, don't push the pegs further in or the pegbox might break on the opposite side.

If the fingerboard comes loose, remove the strings, bridge, and tailpiece and bring the instrument to a violinmaker. The neck alone is not strong enough to withstand the string tension and will warp.

If a corner breaks off, put the broken piece into a film canister or similarly sturdy box for safekeeping and take the piece and the instrument to a violinmaker. The repair will be easy and inexpensive. However, if you wait too long to have the repair done, the sharp edges of the break may wear down making it impossible to achieve a perfect fit with the broken piece. Your violinmaker will have to create a new piece, which will be considerably more expensive and will not be the original wood.

Never attempt any repair work on an instrument or a bow yourself. Leave your fragile and valuable instrument in the hands of a trained professional.

Bow Accidents

One of the more frustrating accidents for players is when a bow suddenly breaks while they are playing as they usually do. When this happens, the only logical conclusion seems to be that something was inherently wrong with the bow when it was purchased. The violin dealer, however, may suggest that a drop, blow, etc. at an earlier time--days or even a few weeks before the bow broke--caused a small crack to form, which eventually widened over time and finally gave way.

Of course, by this time it may be difficult for the player to recall such an incident, making the violin dealer's suggestion seem implausible. To avoid the awkward situation of thinking the bow you purchased only a few weeks ago may have already had a small starting crack, be sure to examine a bow very carefully for hairline cracks around the tip before you pay for it.