

The living tone of a wooden flute enchants the listener. Our flutes are made to the highest standards and benefit from being lovingly "played-in" and maintained. We hope that the instructions below will help you to care for your flute with confidence.

Playing-in the flute in gradual increments will prepare it for a long life -- especially important for "wet" players !

➤ AFTER EACH PLAYING PERIOD, SWAB, DRY AND OIL THE BORE. THEN PUT THE FLUTE IN ITS CASE !!

... and wait an at least one hour before you play the flute again.

calculate daily time totals below ↗

On days 1 and 2, play only	5 minutes each time	5 to 8 times per day				
On days 3 to 6 play only	10 minutes each time	4 to 6 times per day				
On days 7 to 10 play only	15 minutes each time	4 to 6 times per day				
Days 11 and 12 play only	20 minutes each time	3 to 6 times per day				
Days 13 and 14 play only	30 minutes each time	4 to 7 times per day				

➤ **After each period of playing**, wipe out all standing water, by swabbing the bore of each component *from head to foot*. Let the bore dry for a few minutes. Then carefully oil the bore of each component and put the flute back in its case. If yours is a dry environment (like Arizona's climate, severe air conditioning or forced hot air heating) keep the case in a sealed plastic container between playing. The aim in all this restraint when initially playing-in the instrument, is to allow the dense tone-wood to take in measured amounts of moisture evenly.

It takes time for moisture to travel through dense tone-wood. The steady and gradual saturation of water vapour into the wood, and the careful application of bore oil helps to prevent "hoop stress" cracks. Hoop stress cracks occur if the interior of the flute wall expands too quickly with moisture, while the outside wood remains dry because it has not had time to absorb enough moisture to swell proportionately. This can result in the outer wood cracking around the interior expansion. Once the moisture level in the flute is evenly distributed and stable, the flute is resilient, and you can play to your heart's content. **Always remember to swab out the bore after playing.**

➤ **Bore oil resists condensation, prevents raised wood-grain in the bore, helps retain moisture content in the wood, and polishes the bore.** Continue to oil the bore weekly during the first two months, and monthly thereafter. Allow the flute to dry after playing before oiling the bore. Draw a small oil-soaked cloth through the flute sections using a cleaning stick. Always be sure to wipe off any oil left in the sockets of the slide and foot-joint before reassembling the flute. This is because you do not want to get any bore oil on the windings of either tenon. **Wipe off any bore oil that gets on the exterior finish of the flute.** Use only bore oil that does not harden or cake. Do not use vegetable oil because it can go rancid. We recommend Alisyn bore oil, a non-allergenic, synthetic oil, that does not crust or spoil. Almond oil can be used, but is not recommended because it spoils, and it may congeal in the bore as it is a semi-hardening oil. Note also that some players are allergic to it.

The head-joint must also be swabbed and oiled. Pull out the end-cap assembly, or push it out with the cork stick, swab out the moisture in the head-joint, oil the bore, grease the cork, and replace the endcap assembly, AND DON'T FORGET TO CHECK THE POSITION OF THE CORK, for correct placement. See page two in the paragraph on "positioning the cork".

When oiling a keyed flute bore: Wrap the pads to protect them from oil that might stray through the keyed tonehole. Some leather or foam key-pads can be damaged by oil, and others just get sticky, so keep 'em covered!

➤ **Taking care of the Windings:** The tenons on Windward flutes are "combed" and carefully designed for thread windings, rather than cork. Thread windings strengthen the tenons, and can easily be adjusted to accommodate changes in the tightness of the socket due to changing humidity. Windings wax holds the thread windings in place, and helps to keep moisture from penetrating to the wood. As the humidity increases in the wood due to playing, tenons will expand and the joints usually become tighter. By removing a layer of windings, the desired fit can be restored. Conversely, if the flute dries out from lack of playing and a joint becomes loose, add silk thread around the tenon to re-establish the desired fit. The added windings can be removed as needed, once the socket expands again with playing. The bobbin at the end of the cork stick holds about 10 metres of waxed-silk thread. If silk is unobtainable, use polyester thread or dental floss.... **but NEVER use cotton, linen, hemp or any natural thread other than silk**, as all others expand with moisture and the socket could crack, if the flute is left assembled and unmonitored, after playing. **Never use teflon tape on a tenon, see end note.**

➤ **Windings wax:** Until the flute is fully played-in, apply windings wax to the the tenon windings frequently. Our wax secures the thread and provides a smooth fit and a good seal, while protecting the tenon from moisture. Using your thumb, massage a smidgeon of wax into the windings in the direction that the thread is wrapped around the tenon (clockwise, looking at the tenon from the open end) and support the thumb pressure with the your index finger in the tenon. Once the flute is played-in, check the tenon fit regularly and apply windings wax at least once on any day that the flute is played. Wipe off excess wax from the tenon “shoulder” with a cloth or fingernail.

Windings wax also helps protect the exterior finish. Rub it on the external surfaces around the embouchure and toneholes and wherever perspiration and skin contact might wear at the finish. Friction softens the wax, so after rubbing it in, remove what is left by vigorously polishing the flute with a soft cotton cloth, until the flute shines.

➤ **The position of the cork governs the balance between the octaves, and it affects the basic tuning of the flute.** It should be checked each time the head-joint is cleaned, or when you question the tone quality of the flute. The normal position for the cork face is 19 mm from the centre of the embouchure. This distance is marked on the cork stick. Slide the cork stick up into the head-joint until it touches the face of the cork. If the cork is in the correct position, the 19mm line on the stick bisects the embouchure. Adjust the cork’s position by twisting the endcap. **When cleaning the-head joint, grease the cork before you reset it.** Apply a tiny bit of cork grease and work it into the cork, then spread a small amount inside the upper end of the head-joint, and slowly replace the cork. As you push it into the head-joint, remove excess grease that collects at the rim to avoid getting any on the windings on the endcap.

➤ **Lubricate the tuning-slide if it stiff, or loose, or if it feels gritty.** If the slide becomes dry or contaminated with grit, gently twist and pull the tuning slide off of the head-joint, then thoroughly wipe the *outside* of the head-joint metal slide tube, and the *inside* of the tuning slide tube. Then take a small amount of slide grease, and rub it sparingly **around the inside of the tuning slide metal tube** to cover the surface evenly. (Do not smear it on the *outside* of the headjoint metal tube, because excess grease would be pushed up into the slide gap of the head-joint where it is difficult to clean it out). Make sure to keep the grease container closed to avoid getting dust in the grease. Once the slide tubes are cleaned and greased, replace the tuning slide into the head joint, with lots of twisting motion.

➤ **Always wipe out any excess grease that may have been pushed down inside the tuning slide, where it would touch north tenon when the flute is reassembled. Wipe it clean so that it does not interrupt the smooth airflow at the start of the taper bore; this will help to optimize good sound production. *Keep the grease off exterior finish.*** Be attentive if the slide is dry. Without grease, the two metal tubes can gall against each other and may become inextricably stuck. Should this occur, contact Windward before subjecting the head and slide to heavy torque loads.

➤ **What to do about a loose or tight tenon/socket joint.** *If a joint becomes loose*, chances are the flute has not been played for a while, and the wood has dried. Add windings from the bobbin on your cork stick, apply windings wax to hold them in place. Then **play in the flute over a few days**, removing excess windings when the joint tightens. *If a joint seems too tight when fitting it together*, DO NOT FORCE IT TOGETHER. Simply remove some of the windings, and try again. When a joint seems to be jammed after playing for a while, carefully twist the tenon out of the socket, and remove some windings. If it cannot be taken apart immediately, disassemble the other socket joint, wipe out any moisture from the bore, and let the flute air dry for a few hours without playing it. The wood will probably contract enough for the joint to be separated, allowing you to then remove some windings thread. If this does not loosen socket/tenon joint, or if the socket cracks because of the stress, contact Windward flutes.

End notes...

➤ **NEVER leave the instrument in a hot place**, like a car in the sun, a mantelpiece above a fireplace or a sunny window sill. This can lead to cracks in the wood, and it can also cause keypads to start leaking.

➤ **NEVER leave the instrument to freeze.** Once it is played-in, extreme cold can freeze the moisture within the wood, damage the wood fibers, and alter its tonal quality. Freezing a “played-in” flute can initiate cracks in the wood.

➤ **In dry environments, keep the flute in its case**, and the case in a plastic container to maintain the humidity at an appropriate level. Because excess moisture can cause mold, **NEVER place a humidifying device in the case.**

➤ **Never use teflon tape on the windings**, as *doing so invalidates our warranty!* Teflon tape reduces friction, in the joint and it can make it extremely difficult to gauge the actual tightness of the fit. Teflon tape can thus make a joint feel like a correct fit, even as it stresses a joint to the point of cracking the socket

Carrying out these maintenance-related details will soon take you much less time than it originally took for you to read about them! We believe that you may also come to derive real satisfaction in caring for your distinctive and beautiful instrument. If you would like to discuss any problem or question concerning the care of your new flute, please contact us.