



BRITETone[®] Barrier Film Technology Brass and Woodwind Application

Instrument rentals and band instrument repair has become a mainstay of many brick and mortar and specialty repair shops and will continue to grow. The depth of services provided often requires substantial investment in specialty tools and machinery to service a wide variety of instruments. We also looked at various types of cleaning equipment, products, mainly lubricants and chemicals, to assist in cleaning and maintaining various instruments. What we discovered is that there are many areas of music instrument maintenance and service that still need to be addressed. Many of these problematic areas were taken into account in the development and formulation of BRITETone[®].

When it came to developing a comprehensive music instrument maintenance product we had to create a formula that was safe, effective and user friendly on other component materials such as wood, leather, cork, plastics, and fine finishes. This means a formula that is free from petroleum distillates, Teflon[®] and silicones all which attack other components, attract dirt, migrate and tend to puddle. We were also aware of home methods, professional chemical bath and sonic methods employed to clean instruments yet the market lacked any truly effective post-cleaning protection. Our testing has shown BRITETone[®] be an excellent post-cleaning treatment solution that [blocks the growth of bacteria, molds, and fungus](#). BRITETone[®] not only provides superior protection for all metals but cleans conditions and protects all types of finishes and non-metal instrument components.

SAXOPHONE

Key lag, sticky or stuck pads are some of the most problematic areas for the Saxophone. The default position for G# and low C# are closed standing and vulnerable to not opening as they open using only spring force. Open standing keys are held open by a spring and close when the key is pressed.

There are many so called “fixes” out there but most of them attempt to or never address the real problem and that is reducing or eliminating surface tension without using a ‘Band-Aid’ method.

Now let’s begin by establishing that the pad and the tone hole have been closely inspected and there is no physical damage, leaking, warping or other flaws. Our philosophy is *do no harm* so we are going to put the sandpaper, emery, dirty money bills, specialized powdered cleaning paper, and key oil back in the drawer for now. We believe cleaning and servicing the pads with a *hands-off* approach is the best policy for student and professional musician. Your instrument technician should be consulted for any problems or repairs that exceed the scope of this article.

The basic or initial sticking problem is simply caused by moisture accumulating and drying on the pad when closed. This creates adhesion between the two dissimilar surfaces. The normal procedure is to blot dry all pads before storing the instrument. BRITETone[®] will quickly flush all contaminants and moisture from all pads without the hassle of blotting dry each pad. BRITETone[®] will not damage or attack the integrity of the pads. It actually conditions the pad surface and protects the pad from drying

out. You can wipe off any excess with a soft microfiber cloth but do not touch the pads or tone holes. Now the instrument can be safely stored and ready for the next gig.

The next level of pad sticking is actually caused by dirt, grime, food particles, and other contaminants that accumulate while playing causing pads to stick completely or partially while playing the instrument. BRITETone[®] can be applied 'on the spot' using our convenient 2 fl. oz. gig size to flush and free up sticky pads.

The third level of surface tension is caused by the large mating surface on a rolled tone hole or ring on specific instrument make and models. This is an amplified version of moisture meets a broad dissimilar surface creating molecular adhesion. It could be a leather or composite pad in this case and is generally encountered after moisture has accumulated while playing after a period of time. Again, let's put away the emery cloth and key oil for now and take the *hands off* approach. Using key oil to solve the problem is risky at best as most key oils contain Petrol, mineral spirits, or other distillates of this variety. These types of petroleum distillates would be harmful for leather, drying the leather out and robbing it of its natural oils. And the big problem with mineral oil, or any oil based leather treatment on hard leathers is that they WILL soften them once they get saturated, and they don't get hard again even after years. Pre-treatment with BRITETone[®] is the best remedy for this problem. It has extreme *hydrophobic* qualities that make it a perfect solution to sticking pads and it won't attack pad integrity or dry leather out.

TRUMPET

Trumpet valves are no exception to the surface tension problem but in their case it's all about valve oil viscosity, lubricity and displacement. Traditional petroleum based valve oils dry out over time and others containing Teflon[®], silicone and other additives tend to attract dirt and grime, migrate or puddle.

The fact that there are so many different valve oils with differing composition in today's market made it a particular challenge in developing BRITETone[®]. Compatibility was a major concern since our formula is designed to keep valve oils fresher longer and from drying out prematurely. With that in mind we don't recommend any particular valve oil brand since it's a player preference.

We have done extensive testing to insure compatibility with all major valve oil brands. [Click on this link to view or download test results.](#)

Recommended application to valve and valve bore:

1. Remove valve mechanisms keeping track of valve numbers and location.
2. We are assuming the valves and valve bores have been inspected for damage and the return spring mechanisms are all *equal tension* and in good working order.
3. The valve bore is first saturated with BRITETone and cleaned with a stiff nylon bristle bore brush with a twisting in and twisting out motion (a Denis Wick brush was used in this case because it is insulated with a plastic tip and sides to prevent scratching the bore).
4. Then re-apply, flushing out all remaining loose dirt, grime, and debris. Set aside and allow to dry 15-20 seconds.

5. It is not necessary to apply oil to the valve bore. Applying BRITETone to the valve bore lays down a stable self-leveling micro-barrier film surface that the oiled valve rides over. BRITETone actually fills in bore surface irregularities allowing for smoother oil dispersion and reducing migration.
6. Next flush all internal and external valve surfaces and return spring mechanisms thoroughly. BRITETone's micro barrier film conditions springs and lever assemblies resulting in longer spring life. I find that using regular valve oil on those areas tends to attract dirt and grime gumming up levers and spring mechanisms. Set each valve aside and allow to dry 15-20 seconds.
7. I have run into some situations where BRITETone was directly applied to the valve surface using a saturated soft lint-free cloth in order to scrub off nasty grime and oxidation. Do not use harsh abrasives for cleaning that will damage valve surfaces and bores! If you run into a stuck valve don't force it. Open both top and bottom caps and flush thoroughly with BRITETone aerosol, repeat every 2 hours and then let sit overnight. (Consult with your trusted brass repair technician if you are unfamiliar with any repair, valve cleaning or bore restoration procedures.)
8. **Using your finger, apply a light coating of valve oil to the valve surface only.** Again, it is not necessary to apply oil to the valve bore wall. This often results in puddling in the bottom of the bore only to attract more dirt and grime where it migrates back up onto the valve.
9. Flush out bottom caps and lubricate threads with BRITETone. Re-assemble.

Let the instrument come back up to room temperature as aerosols cool surfaces as they boil off rapidly. This is not an issue when using the non-aerosol liquid trigger sprayer.

TROMBONE

The main outer tuning slide rides over the inner tuning slide and throw in a little grease and that's all you need to know. Well, not exactly.

It's no secret that trombone slides will run with different tolerances depending on the brand and build quality of the instrument. Another factor is the age of the instrument and how much abuse it has been subjected to. I have found many rentals to have bent or warped slides. Yeah, they still work, but you can feel some slide spots dragging more than others. It boils down to tolerances and how true both slides are.

BRITETone should be applied on the entire inner slide and allowed to dry completely. Allow at least 20 seconds for drying before buffing out with a soft microfiber cloth. Buffing the inner slide shaft lengthwise is important to the conditioning of slide surface. The slide may not require further lubrication at this point or you may prefer a very light coating of slide grease to 'adjust' slide tension. I have found that no further lubrication is required, but this is a user preference as well. Of course you should apply BRITETone to other valves and tuning slides. Also apply internally for pitting and corrosion protection and to the outside of the instrument. Finish by buffing the exterior to a high luster protective coating.

PREVENTING STUCK MOUTHPIECE

Apply BRITETone® to mouthpiece shank as a preventative measure and internally to the throat and backbore to prevent buildup of deposits. Allow 15-20 seconds to dry thoroughly. I clean the mouthpiece rim off with medical grade isopropyl alcohol after reinsertion.

DENT REPAIR

This topic is slightly more esoteric and falls under the heading *don't try this at home*. Any joint repair, soldering, straightening, dent or warping repairs should be left up to the professionals as they will have the tools and experience to properly perform such tasks.

BRITETone® Brass & Woodwind and PROcussionCare® CymbalCare were both formulated [to reduce surface tension in metals](#). What this means for the repair technician is that BRITETone can be used as an additional tool to facilitate smoother mandrel bending and dent repair with less distortion and finish marring. For instance, applying BRITETone to one or both sides of the repair surface and mandrel is my recommendation for dent repair in a trumpet bell. This is a “cold process” that will reduce surface tension between same or dissimilar metals whereas applying heat would normally discolor the finish.

WOODWINDS

The approach to woodwinds is similar to brasswinds so avoid touching the pads. The pads should be replaced if they have become hard, due to age, contamination or dampness. Internal cleaning and external cleaning are equally important as both the acid in fingerprints and saliva can damage the instrument.

The pads, tone holes and keys can be flushed, cleaned and dry-lubricated using the hands-off approach. Cleaning cloths and polishing cloths should be kept separate. The bores should also be flushed with BRITETone and then using chamois or cleaning cloth pulled through the bore. If you use bore oil you have to be careful about not getting it on the pads. With BRITETone that concern is eliminated. Apply a final flush to the bore after cleaning pads and tone holes. Then set aside 15-20 second to dry.

You can use BRITETone to clean the inside of your mouthpiece using a mouthpiece brush or if you prefer lukewarm soapy water. Be aware of other cleaners that might damage or dry out wood. You can also remove any overspray with same lukewarm soapy water, but BRITETone can't be removed using plain water as it is extremely *hydrophobic*.

You can also substitute BRITETone for regular cork grease which is less messy and dry to the touch when dry. BRITETone will not harm cork, plastic or fine woods. It will keep woods from drying out and provide an excellent protective barrier against moisture, saliva, foods, and bacteria. Apply BRITETone to a separate soft microfiber cloth and wipe down exterior of your instrument while buffing out to leave a protective barrier.

SUMMARY

BRITETone® is a versatile multi-zone application product and I have touched on just a few areas of music instrument repair and maintenance here. One of its primary applications as a unique micro-barrier film compound is cleaning, conditioning and protecting all metal and wood surfaces. It also conditions valve bores to improve valve performance and prevent the buildup of deposits and corrosion. Keeps valve oils fresher and lasting longer between maintenance cycles. BRITETone's anti-microbial properties create an environment that blocks the growth of bacteria, molds, and fungus. And BRITETone's dry-to-touch barrier film is self-leveling and does not build up after repeated application. BRITETone's ability to condition and protect all metals in high humidity environments and at wide temperature extremes makes it an excellent solution for long-term instrument storage. Visit our website soundsynergies.net for a complete application listing of our barrier film products.

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