Maintenance and Cleaning of Brass Instruments

by Toby Shucha

Your brass instrument may seem like just a hunk of cold metal, but when treated with tender, loving care, it should provide you with many, many years of good performance and much joy. It's a lot like a pet...you need to take care of it, you can't leave it locked up for extended periods, and you have to give it a bath every now and then. Luckily, you don't need to house-break your instrument (although some people like to put down a towel when emptying their water key).

General Care:

Mr. Obvious says, "Don't beat up your instrument!"
Be gentle with your instrument - although it's almost all metal, it is still quite fragile. It sounds like something that Mr. Obvious would say,
but don't drop, throw, hit or kick your instrument. Here are some less obvious rules:

- When you put your instrument in its case, always close all the latches. If you don't, someone (even you) might pick up the case and dump your instrument.
- When you have to set your instrument down outside its case, always set it on the floor, out of traffic - under a chair provides some protection.
- Always set your instrument down with the valve side up. Never stand your instrument on its bell.

Every brass instrument has a removable mouthpiece. Always insert your mouthpiece with a gentle, clockwise twist, and remove it with a counter-clockwise twist. Do not bang it in! It will not hold more securely if you do, but it will be more likely to get stuck. If this happens, see your teacher. Also, if you happen to drop your mouthpiece and dent the small end, bring it to your teacher...this is easy to fix, but if not fixed, will really mess up your sound.

NEVER USE TOOLS ON YOUR INSTRUMENT! And don't let your parents/guardians use tools on it, either...even if they think they know what they're doing (unless they've been trained in instrument repair, they'll probably do more damage than good).

Items with a dollar sign are items that should be purchased by students.
Clink on the small dollar signs to follow a link to the price list.

General cleaning and lubrication tips, by instrument part:

Mouthpiece – Your mouthpiece should be cleaned with a gentle liquid soap, and a mouthpiece brush$ at least once a week; preferably every time you play. Simply put a drop of soap in the cup of the mouthpiece, get the brush wet, and scrub the shank (tube part), inside of the cup, and the rim (where your mouth meets the metal).

Leadpipe (where the mouthpiece goes in) - putting a drop of oil in your leadpipe once a week or so will help prevent a stuck mouthpiece, and will help prevent a condition known as "red rot." Also, since your leadpipe is the first spot

beyond your mouthpiece where gross stuff accumulates, it's a good test for when your instrument needs a bath. Give it a sniff. If it stinks, it's time for a bath.

Piston Valves (trumpet, baritone/euphonium, tuba) – your valves are the parts of your horn most likely to cause you trouble if you don't take care of them! Treat them right, and they will work for you. Valves must be oiled about once a week. Gently unscrew the top valve cap – if it's stuck, ask for your teacher's help. NEVER USE PLIERS OR OTHER TOOLS TO OPEN VALVES!

Pull the valve about halfway out, and apply a few drops of valve oil[$] to the side of the valve (NOT into the holes in the valve – this won't hurt anything, but it will be a waste of valve oil). Gently rotate the valve as you lift it in and out of its casing. This will spread the oil around the surface of the valve. After a few seconds of this, lower the valve back in until it stops –

DON'T FORCE IT! Without lifting the valve, turn it until the valve guide drops into its slot. Then, with the valve cap resting on the casing, turn the cap clockwise until it catches the threads, and screw the valve cap on until it is finger tight. DON'T FORCE THE CAP ON! This will result in "cross-threading", and will necessitate expensive repairs.

Ms. Foreman says, "Muscles aren't always important...using your brain instead can save time and money!"

About once a month, your valves will require an "oil change." At these times, pull the valves completely out (be careful not to lose the valve springs), and wipe them down with a soft cloth (paper towel will work in a pinch, but it leaves behind fibers that can slow down your valves). Then, put the valves partially back in, and follow the rest of the steps above.

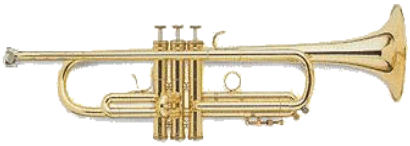
Rotary Valves (French horn, F key on trombones) – rotary valve maintenance is tricky for younger players. The good news is that they don't require maintenance as often. So, just leave them alone, and if something goes wrong, bring it to your teacher. NEVER force a stuck rotary valve…you'll just snap the strings!

Trombone slides – the main slide on the trombone needs to move very freely. About once a week, add a small amount of slide oil[$] or trombone slide grease[$] (like Slick Slide, NOT regular slide grease).

If the slide starts to feel "thick" between applications, spray some plain water on the slide, and work the slide back and forth to mix it in with the grease or oil.
As with piston valves, you should "change the oil" every month or so. Rub down the interior slide with a soft cloth, than re-apply new oil or grease.

Tuning slides – All brass instruments have at least one

tuning slide. These don't need much care, but if you completely ignore them, they'll get really stuck. Make sure to work the slides in and out at least once a week. If they start to get hard to move, wipe off the old slide grease$ with a soft cloth, then re-apply a small amount, smoothing it over the exposed parts of the slides. Push the slide all the way back in, and wipe away the excess grease that gets pushed up at the junction. Then, move the slide back to its normal position.



Special for trumpets: most trumpets have a finger-operated third valve tuning slide, and many also have one on the first valve, too. Using regular slide grease on these will make them too thick to move with just a finger. The best way to go is to use some trombone slide grease on these slides; however, in a pinch, using very small amounts of regular slide grease with a few added drops of valve oil will sometimes work.

Giving Your Instrument a Bath

About two or three times per year, you'll need to give your brass instrument a bath (**French horns and trombones with an F attachment - talk to your teacher. Those rotary valves change everything!**).
Choose a time when you have at least an hour free, and when no one else will need to get into the bathroom for the same length of time!

- **Supplies Needed:**
- **Deep sink (for trumpets); bathtub (trombones, euphoniums, some tubas); big bathtub or kiddie pool (big tubas)**
- **Gentle soap (liquid dish soap [NOT for automatic dishwashers!] is great; liquid hand soap or shampoo work, too)**
- **Brushes: Snake brush, mouthpiece brush, valve brush, old toothbrush**
- **Valve oil and slide grease**
- **Old washcloth (or other soft rag) - this will get stained!**
- **Old towel - this may get stained!**

Preparing - You need to pretty much take your instrument apart. Remove all removable slides, and set them gently on your old towel.
Do the same for your valves and valve springs (most trumpets have the springs built in to the piston), and for the bottom valve caps.
Trombones should take their instrument apart, and should also take the main slide completely off (sometimes referred to as 8th position).

Ms. Genius says, "Lay your valves down in order, so that you put them back in correctly!"

Now it's time to run your bath. Fill your sink or tub with warm, NOT HOT! water. Place the main body of your instrument in the bath. If the outside of your instrument is dirty, you can wipe down the outside of your instrument with a soft cloth. But most of our work is on the inside of the instrument.

Water that is too hot can actually melt the lacquer (shiny surface) off of a brass instrument.
Use water that would be comfortable for a person to bathe in (under 100' F), and you'll be safe.

Snake work

Now, take out your "snake" brush, which is a brush on the end of a long, flexible shaft. Don't borrow one from a different instrument; buy or borrow one that is made for your instrument. Get the brush wet, and put a drop of soap on the brush. Work the soap around a bit, and then push the brush end into your lead pipe (where your mouthpiece goes in). If you can keep the parts you're working on underwater, it will help the brush work better. Work the brush back and forth, then push it in another inch or two, then work it again. Continue this action until the brush pops out into the first valve casing (or the other end of the pipe, for trombones). Pull the brush back through, add another drop of soap, and move on to the next length of tubing and repeat. When all of the tubing on the main body of your instrument is done, run some rinse water through it. Pour it down the bell, then carefully turn your instrument around so that the water ends up running out the other end. You may have to turn your instrument several times to get all of the water to come out. When you've finished all the tubing on the main body of your instrument, pick up any tuning slides from your towel and do the same to them. If the snake doesn't fit around tight curves, don't force it! Just pull back and go from the other side. There may be some spots on your instrument that you just can't reach...that's OK. Just clean what you can. When each slide is done, dunk it in the water to rinse, pour all of the water back out, then lay it back on your towel.

Ms. Genius says, "Set your clean slides away from the dirty ones, so you remember which is which!"

Other brushes

Trombones can skip the next two paragraphs! Once all of your small tubing is cleaned, you can work on some tricky spots. If you have valves, brush out the valve casings (the tubes that the valves fit in) with a valve brush. If you don't have a valve brush, or if some spots aren't reached with a valve brush, you can carefully use an old toothbrush.

Ms. Foreman says, "Be careful in the valve casings...gentle brushing is enough. Dirt is better than dings."

It's time to clean the valves (if you have them). Carefully pick up each valve, and wipe down the surfaces with a soapy, wet, soft cloth. Use your brushes GENTLY! to brush out the "tunnels" that go through each valve. Once the valve is rinsed, lay it back on your clean towel (don't forget to keep them in order!) The spring (if separate) can be gently wiped down and/or brushed before going back to the towel (order doesn't matter for the springs). Finally, rest the bottom valve cap, open side up, in your palm, and use the toothbrush in your other hand to vigorously scrub it. This part is not as delicate, and it will be among the dirtiest parts of your instrument.

Putting it All Back Together

This part is easy for trombones. Re-grease your tuning slide and insert it. Then, re-grease or re-oil your main slide, and put it back on. You're done!

Mr. Obvious says, "Make sure your slides go back in correctly, not backwards or upside down!"

For the rest of the brass family, there's another step. Re-grease tuning slides and re-insert. Now, carefully screw the bottom valve caps back on. If your springs are separate, carefully drop a spring in each casing. Then, remembering which valve goes where, re-insert your valves, but don't close them up yet - you need to re-oil each valve first. You'll use a few more drops than usual, since your valves should be clean and dry at this point. Follow the oiling directions near the top of this page, including closing the valves back up.

For everyone: wipe off any drops of water from the outside of your instrument, including as far down the bell as you can reach. This will prevent water spots when it dries. Blow through the assembled instrument. You're checking for two things: water left in the tubing, which should be dumped out, and misplaced valves. If the air doesn't flow freely through the instrument, chances are that you've re-installed the valves in the wrong order. If you weren't careful about the order before, you'll pay for it now! You can either try to look at the holes in each valve and figure out how they line up with the tubes coming out of each casing, or you can try each valve in the first casing until one works, then try the remaining valves in the second casing until they both work, and you should have the right valve left for the third casing. Either method takes a LOT more time than keeping them in order in the first place!

Congratulations! Your instrument's bath is complete!

You Want it Cleaner than the Bath Got It?

There is a way to clean those spots you couldn't reach. It's called a chem flush, or acid bath, and should only be done by professionals, like at an instrument repair shop. Two problems with this process: It costs money, and it's hard on your instrument. This process should only be used every 5-10 years. Chances are, you shouldn't worry about this until you've graduated from high school.
Otherwise, you could always buy a nice, clean, NEW instrument...

A Well-Maintained Instrument is a Happy Instrument (with a Happy Owner)!

Following the advice on this page will not only help your instrument live a long, happy life, it will make you happier, too. Why? Because a well-maintained instrument looks nicer, smells nicer, and will give you far fewer problems (like stuck valves, sticky slides, etc.). This will help you play your best, which will make you happier (and your teacher happier, too!).