

## **Care And Love Of Your Brass Instrument**

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### **Introduction And Acknowledgments**

Brass instruments need to be cleaned and relubricated regularly or they simply don't work. Valves become gummy and sticky, slides stop moving, and disgusting green, blue, and yellow (among other colors) gunk builds up and deadens the sound and vibrancy of the tone. This guide is written as a concise summary of best practices for every brass instrument, based my conversations and experiences with repair people (with special thanks to Bruce Belo), fellow band directors, students, and my 25+ years of playing brass instruments. Students, I play on instruments that are upwards of 70 years old that still work as well as their first day out of the factory, because I take care of them. Likewise, I've seen instruments that were only two or three years old that were effectively ruined (or at least in need of expensive repair and professional cleaning) because they weren't taken care of. Choose how you want your instrument to be accordingly.

In general brass instruments need to be spot cleaned and relubricated very regularly, and given a bath less frequently. Especially for any students reading this, remember that soap and water are *our* friends as brass players, but NOT woodwinds. NEVER GET ANY WOODWIND INSTRUMENT (INCLUDING SAXOPHONES) WET! Trust me on this.

I hope it proves useful to you and/or your students. Remember, as Bruce says-it has to be a machine before it's a musical instrument!

## Trumpet/Baritone/Euphonium/Tuba (piston valve brass)

*Essential cleaning equipment:* paper towels

*Optional cleaning equipment:*

- **snake**-preferably a plastic coated snake, not the raw metal kind. Make sure you have the right size snake for your instrument. A trombone snake, for example, is not big enough for a tuba.
- **mouthpiece brush**-again, for your instrument
- **Spitballs**

*Optional cleaning supply:* rubbing alcohol

*Essential lubricant supplies:*

- **valve oil**-Al Cass is the best for most players, more advanced players with clean instruments in excellent condition may prefer a synthetic oil such as UltraPur. Yamaha and Eastman stock valve oil is good enough, while the valve oil that comes with most ISOs tends to be VERY low quality and bad for the valves.
- **pure lanolin (best)/tuning slide grease (good)/Vaseline or petroleum jelly (good in a pinch)**-for lubricating tuning slides. Lanolin tends to last the longest, seize up the least, and offers a very good balance between ease of motion and holding the slides in proper position.

### ***EVERY 2-3 DAYS (whether it needs it or not): Re-oil the valves***

I recommend that beginners and other young players do this one valve at a time, to avoid misplacing parts or swapping valves. This is especially important if you have a cheaper instrument that has unlabeled valves.

- 1) Unscrew the valve where the cover meets the casing. Pull the valve out. Wipe the entire valve off thoroughly with a paper towel, paying specially close attention to the holes, and underneath the valve, where a surprising amount of gunk collects. Set the valve carefully aside.
- 2) Unscrew the bottom cap. If your instrument has an external spring (baritones, euphoniums, tubas, and some trumpets and flugelhorns) detach it from the bottom cap if necessary and be careful not to lose the spring. Clean the bottom cap thoroughly with the paper towel. You can get gunk out of the threads by balling the paper towel tightly into the cap and twisting. Set the cap off to the side.
- 3) Twist the paper towel up and send it through the empty valve casing.
- 4) Replace the bottom cap, and valve spring if necessary. Bottom caps can be finicky sometimes; I've found that the best way is to turn the instrument upside down, and gently rest the cap on the threads until it bites.
- 5) Put the instrument right side up and hold the valve up, with most of it in the casing. This way the extra oil goes into the casing, not onto the floor or your leg.
- 6) Oil the fat part of the valve thoroughly. Make sure to get the whole body of the valve.
- 7) If you have an internal spring valve (most trumpets and flugels), you'll need to put the valve into the casing and gently twist the top cap until you hear a click, which is the valve guide catching in the grooves in the casing. On most trumpets and flugels there is a number etched on the valve and the number needs to face towards the mouthpiece. The major exceptions to this are Benge trumpets, where the number faces towards the bell, and certain ISOs where every valve is completely different, and occasionally even diagonal.
- 8) If you have an external spring, most likely the valve guide has a single tab that goes into a single slot in the valve casing, making the system much more foolproof. Hold the valve down halfway or so (since the spring will be pushing it up) and screw the connector cap on.
- 9) Tighten the connector cap.
- 10) Repeat for the other valves.

You may also wish to roll up a paper towel and clean out other tubing at this time. The lead pipe, main tuning slide, and third valve slide are especially prone to buildup on most instruments.

***EVERY 2-3 WEEKS (whether it needs it or not): Give your instrument a bath***

- 1) Fill a bathtub with warm, soapy water (about shower temperature, or a little cooler). Use liquid hand soap, Dawn/Palmolive etc., or other mild soap. Do NOT use chemically abrasive soaps, bar soap, or pumice/abrasive shop type soaps. You may also wish to put a towel down in the bathtub to avoid damaging the finish of your instrument.
- 2) Remove all slides and valves from your instrument, and place all of the pieces, the main body, and your mouthpiece(s) in the tub. You do not need to disassemble the valves themselves. If you are a beginner or otherwise new to this, keep careful track of what goes where.
- 3) Let everything soak for about 20-30 minutes.
- 4) If you have a snake, use it to scrub out as much of the tubing as you can reach.
- 5) Rinse all pieces and the main body thoroughly under the showerhead. Make sure you get water flow through all the tubing, especially in the main body.
- 6) Dry the body and all pieces with a soft towel or cloth. I prefer to dry and clean the main body first so I can reassemble the remaining pieces as I take care of them.
- 7) Run a twisted paper towel through as much of the tubing as you can to dry the insides and remove any gunk loosened by the bath.
- 8) Re-oil and reassemble the valves as above.
- 9) Use a small dab of lanolin (or tuning slide grease or petroleum jelly) on each side of each slide and then reassemble. Wipe off any excess grease.
- 10) If you have a mouthpiece brush, scrub out the inside of your mouthpiece(s). Use a twisted paper towel to dry the inside.
- 11) Dump a small amount of rubbing alcohol in the mouthpiece and rub it on the rim to sterilize it. If you don't have rubbing alcohol, soap and hot water will do.

## French Horn/Trombone Rotary Triggers/Rotary Trumpets (rotary brass)

*Essential cleaning equipment:* paper towels

*Optional cleaning equipment:*

- **snake**-preferably a plastic coated snake, not the raw metal kind. Get a French horn snake if you can, but a trumpet snake will do if necessary.
- **mouthpiece brush**-again, for French horn if possible, although trumpet will do if necessary
- **Spitballs**

*Optional cleaning supply:* rubbing alcohol

*Essential lubricant supplies:*

Rotary valves need to be lubricated on both the inside and outside, hence the need for two kinds of oil.

- **valve oil**-Al Cass is the best for most players, more advanced players may prefer a synthetic oil such as UltraPur. Yamaha and Eastman stock valve oil is good enough, while the valve oil that comes with most ISOs tends to be VERY low quality and bad for the valves.
- **rotary oil/french horn key oil/3 In 1 oil**-this is for lubricating the outside of the valves
- **pure lanolin (best)/tuning slide cream (good)/Vaseline or petroleum jelly (good in a pinch)**-for lubricating tuning slides. Lanolin tends to last the longest, seize up the least, and offers a very good balance between ease of motion and holding the slides in proper position.

### ***EVERY 2-3 DAYS (whether it needs it or not): Re-oil the valves***

- 1) Put a good sized drop of rotary oil on each side of each spring. French horn players, if you play a double horn don't forget the thumb button, which usually has its spring in the back of the horn. Work the valves to work in the oil.
- 2) Unscrew each valve cap and put one drop of rotary oil in the divot in the center of the valve. Work the valves to work in the oil. Replace the valve caps.
- 3) Hold down the first valve and remove the first valve slide. Turn the horn upside down (so gravity helps you). Put a good squirt of *valve* oil down the first tube (the tube farthest from the second valve). Tilt the horn and work the valves so the oil gets into all of the valves. If one or more valves is still sticky, remove that specific tuning slide and put valve oil into the first tube of that valve, then work the valve until it moves better. Remove the slide for the thumb trigger and put valve oil down the tube, then work the valve to work in the oil. Replace all removed slides.

You may also wish to roll up a paper towel and clean out other tubing at this time. The lead pipe is especially prone to buildup and moisture.

### ***EVERY 2-3 WEEKS (whether it needs it or not): Give your instrument a bath***

- 1) Fill a bathtub with warm, soapy water (about shower temperature, or a little cooler). Use liquid hand soap, Dawn/Palmolive etc., or other mild soap. Do NOT use chemically abrasive soaps, bar soap, or pumice/abrasive shop type soaps. You may also wish to put a towel down in the bathtub to avoid damaging the finish of your instrument.
- 2) Remove all slides and valve caps from your instrument, and place all of the pieces, the main body, and your mouthpiece(s) in the tub. You do not need to disassemble the valves themselves. If you are a beginner or otherwise new to this, keep careful track of what goes where.
- 3) Let everything soak for about 20-30 minutes.
- 4) If you have a snake, use it to scrub out as much of the tubing as you can reach.
- 5) Rinse all pieces and the main body thoroughly under the showerhead. Make sure you get water flow through all the tubing, especially in the main body. Make sure you work the valves while rinsing the main body to thoroughly rinse the inside of the valves.
- 6) Dry the body and all pieces with a soft towel or cloth. I prefer to dry and clean the main body first so I can reassemble the remaining pieces as I take care of them.
- 7) Run a twisted paper towel through as much of the tubing as you can to dry the insides and remove any gunk loosened by the bath.
- 8) Re-oil and reassemble the valves as above.

- 9) Use a small dab of lanolin (or tuning slide grease or petroleum jelly) on each side of each slide and then reassemble. Wipe off any excess grease.
- 10) If you have a mouthpiece brush, scrub out the inside of your mouthpiece(s). Use a twisted paper towel to dry the inside.
- 11) Dump a small amount of rubbing alcohol in the mouthpiece and rub it on the rim to sterilize it. If you don't have rubbing alcohol, soap and hot water will do.

## Trombone (slidey brass)

### *Essential cleaning equipment:*

- **trombone cleaning rod**-seriously, this is your best friend.
- **paper towels**
- **spray bottle**-preferably a small one to easily fit in an instrument case. Basic dollar store models are just fine. Fill this with distilled water (see below).

### *Optional cleaning equipment:*

- **snake**-preferably a plastic coated snake, not the raw metal kind. Make sure you have the right size snake for your instrument. A trombone snake, for example, is not big enough for a tuba.
- **mouthpiece brush**-again, for your instrument
- **Spitballs**

*Optional cleaning supply:* rubbing alcohol

### *Essential lubricant supplies:*

- **trombone slide lubricant**-For slides in better condition, two bottle Slide-O-Mix is my personal favorite. For slides that are dented, worn, or seriously out of alignment, Trombotine is an excellent choice. Bach and Eastman stock slide cream is ok, although not great. NEVER use valve oil or slide oil on a trombone slide. Ever. NO! STOP RIGHT NOW AND DON'T DO IT. It's the wrong consistency for trombone slides and tends to gum up the slide or contribute to chrome wear. Also our instruments aren't trumpets.
- **distilled water**-available at any grocery store for about \$1 per gallon, but make sure you get distilled water, NOT drinking water. Students, yes distilled water is perfectly safe to drink, it's just water that's had all the minerals that are safe and good for humans but not so good for trombone slides removed. Also, if your family has a clothes iron, distilled water is probably what they fill it with.
- **pure lanolin (best)/tuning slide grease (good)/Vaseline or petroleum jelly (good in a pinch)**-for lubricating the tuning slides. Lanolin tends to last the longest, seize up the least, and offers a very good balance between ease of motion and holding the slides in proper position.

### ***EVERY DAY, AT THE BEGINNING OF YOUR PLAYING DAY (whether it needs it or not)-Lubricate the slide. Yes, every day.***

- 1) If you're using Slide-O-Mix, put one large drop from the small bottle on each side of each runner (the raised part at the bottom of each tube of the inner slide). Work the slide.
- 2) Put a decent amount of the big bottle at the top of each stock. Work the slide.
- 3) If you use Trombotine or other single bottle lubricant, spread a small amount on each runner. Work the slide.
- 4) Hold the slide open and spray thoroughly with distilled water. Work the slide.
- 5) If your slide starts to slow down during your playing day, a quick respray or two from the bottle should take care of the problem.

### ***EVERY DAY, AT THE END OF YOUR PLAYING DAY (whether it needs it or not)-clean the slide. Yes, every day.***

- 1) Disassemble the instrument, and remove the inner slide from the outer slide.
- 2) Wipe off the inner slides with a paper towel. Make sure to clean under the slide lock and bell connector at the top by shoving the paper towel underneath (gunk tends to collect there).
- 3) Thread a folded piece of paper towel through the eye of the cleaning rod. Unfortunately getting the right size is more of an art than science, and comes with time, but it's *about* a quarter of a regular paper towel, folded over a few times. Use the rod and some threaded paper towel to clean the insides of both tubes of the outer slide.
- 4) Use the rod and paper towel (replacing the paper towel if necessary) to clean both tubes of the inner slide, going in from the bottom. Grabbing the inner slide at the runner and your cleaning rod towards the bottom (by the paper towel) will allow you to control the process much easier. Be mindful that while you can push the rod all the way through the bell connector ("big tube") side, when you feel a pinch on

- the mouthpiece ("small tube") side, pull the rod back out or else you could damage the inner lead pipe.
- 5) Tear a small piece of paper towel and ball it up. Put it in one end of the outer slide and blow it through the other side to clean the bend. If the ball gets stuck, and you can't push it out with a snake, fill the outer slide with water and the ball will shrink as it soaks, and then be much easier to push or blow out.
  - 6) You may also wish to clean the bell side tubes at this time in a similar fashion to the main slide.
  - 7) Reassemble the instrument and put it in the case completely dry.

***EVERY 2-3 WEEKS (whether it needs it or not): Give your instrument a bath***

- 1) Fill a bathtub with warm, soapy water (about shower temperature, or a little cooler). Use liquid hand soap, Dawn/Palmolive etc., or other mild soap. Do NOT use chemically abrasive soaps, bar soap, or pumice/abrasive shop type soaps. You may also wish to put a towel down in the bathtub to avoid damaging the finish of your instrument.
- 2) Disassemble the instrument, the main slide, and remove the tuning slide from the bell section. Place all of the pieces, the main body, and your mouthpiece(s) in the tub. If you are a beginner or otherwise new to this, keep careful track of what goes where.
- 3) Let everything soak for about 20-30 minutes.
- 4) If you have a snake, use it to scrub out as much of the tubing as you can reach.
- 5) Rinse all pieces and the main body thoroughly under the showerhead. Make sure you get water flow through all the tubing.
- 6) Dry the body and all pieces with a soft towel or cloth.
- 7) Run a twisted paper towel through as much of the tubing as you can to dry the insides and remove any gunk loosened by the bath.
- 8) Clean the main tuning slide as above.
- 9) Use a small dab of lanolin (or tuning slide grease or petroleum jelly) on each side of each slide and then reassemble. Wipe off any excess grease.
- 10) If you have a mouthpiece brush, scrub out the inside of your mouthpiece(s). Use a twisted paper towel to dry the inside.
- 11) Dump a small amount of rubbing alcohol in the mouthpiece and rub it on the rim to sterilize it. If you don't have rubbing alcohol, soap and hot water will do.

Happy brassing!

-Bryan Lackey 2015