

# Instrument Maintenance

Dr. George Palton

## Daily or as Needed:

- Oil the piston valves.
- Wipe the instrument with soft and damp cloth to remove dirt, oil, and smudges.
- Clean out your mouthpiece(s) with anti-bacterial soap and warm water.

## Weekly

- Oil rotary valves by removing the back cap and placing one drop of valve oil in the center, and then replace the cap. Apply a drop of oil to all points of motion such as inside the valve and on the linkage. Check all the screws to make sure they are fastened correctly.
- Check that the spit valve corks are properly aligned over holes and that corks are in good condition.

## Monthly

- Check the valve pads (piston instruments) or bumpers (rotary valved instruments) making sure that they are not deteriorated or overly compressed. If necessary, replace them.
- For piston valves, check the valve guides.
- Clean and lubricate all tuning slides.

## 2-3 Times Yearly

- **BATHE YOUR INSTRUMENT!** Remove all valves, tuning slides, and back caps. Wash all individual parts with dish soap, warm water, and appropriate lint free rags and brushes. Place the body of the instrument in a warm bath with dish soap. After briefly allowing the horn to soak, scrub out all of the parts of the horn with appropriate brushes. Pay special attention to the valve section with a baby bottle brush and the lead pipe with a snake. Be sure to thoroughly drain and rinse the instrument when you are done. It is best to allow the horn to dry out overnight before reassembling it. Remember, although brass is a soft metal, it still is metal. Feel free to give it a little “gentle elbow grease.”

## As Often as Necessary

- Have dents removed. Substantial dents in the tubing will effect intonation as well as the way that the instrument responds, often resulting in "stiffness". Even small dents in the lead pipe can critically change the instrument's playing characteristics.

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## What You Need

- Piston valve oil
- Rotor oil (Usually thicker than piston valve oil)
- Slide grease
- Baby bottle brush
- Mouthpiece brush
- Snake with brush attachment
- Rawhide mallet
- Appropriate polishing rags and polish
- Appropriate screwdrivers and allen wrenches
- Spare valve guides, felts, and cork for valves and spit keys

## A Few Ideas and Household Remedies

- For sticky piston valves try using toothpaste to lap the valves. Make sure the toothpaste contains baking soda. Baking soda contains smaller particles than those contained in the lapping compound used at most repair stores so it can be done with little risk. Take a pea sized amount of toothpaste and coat the piston valve with it. Then, work the valve into the valve casing. Make sure to do this before bathing the horn and to thoroughly clean out and rinse the toothpaste out of the horn afterwards.
- *Brasso* is a tarnish remover that can be helpful when cleaning brass instruments. Use a moderate amount to clean the inside of the valve casing or a rotor valve. Avoid placing Brasso on the outside of the instrument as it may harm the finish. Do not use it on objects that are nickel plated like piston valves and trombone slides. Be sure to do this before bathing the horn and to thoroughly clean and rinse afterwards.
- Keep spare cork and felts with you at all times. You never know where a stop may break, and since cork is soft it can easily be manipulated for a quick fix.
- Vacuum belts can be used for rubber stoppers on rotary valves. Purchase the belts that are circular rings and use a razor to trim it to the appropriate size.
- General all purpose lithium based grease can serve as an inexpensive and effective slide grease. This type of lubricant is typically found in an automotive section at a Wal-Mart. Avoid greases with additives as it may damage your horn. Do not use Vaseline as a slide grease.
- Simple automotive motor oil can serve as an inexpensive and effective rotor oil. Again, avoid oils with additives, and remember that a couple of small drops often can be enough. A small bottle with a needle dropper is necessary for convenient transportation.
- For lacquered instruments, simple furniture polish can be useful when applied lightly with a paper towel.

## Items for Demonstration

Have a teacher or instrument repairman show you how to do the following things before attempting yourself. Remember that your horn is a large investment, worthy of this attention!

- Disassembling and reassembling rotor valves
- Rotor valve alignment