



Yorktown High School Tuba Survival Sheet

No student will be denied the opportunity to participate in the band program based on the quality/brand of their instrument. Achievement is enhanced when students perform on quality instruments and understand how to properly care for their instruments. The intent of this document is to serve as a guide for parents and students as they navigate the many options that are available for aspiring musicians who seek to upgrade their instruments and/or purchase the necessary materials to perform required routine maintenance on their instrument.

- **All Musicians Should Own a Metronome and a Tuner.**
- **It is better to buy a quality, used professional instrument than a new beginner/intermediate instrument. Many new instruments will never play in tune, and no amount of practice or hard work will help you make such an instrument sound good.**
- **Quality mouthpieces/reeds have a profound impact on the quality of your sound. Do not underestimate the value of a quality mouthpiece/reed!**
- **Routine maintenance can prevent the majority of reasons you would need to send an instrument to the repair shop. Clean instruments = Happy/working musicians.**

Brass Accessories/Materials

- Tapered Mouthpiece Brush (~ \$2)
- Cleaning Snake (~ \$5)
- Valve Oil (Al Cass or Blue Juice) (~ \$4)
- Tuning Slide Grease (~ \$3)
- Polishing cloth (for lacquer) (~ \$4)
- Miracle Polishing Cloth, (for unlacquered areas) (~\$4)
- Cleaning Rod (instrument specific) (~ \$6)
- Cheese cloth (for cleaning rod) 2 yards (~ \$10)

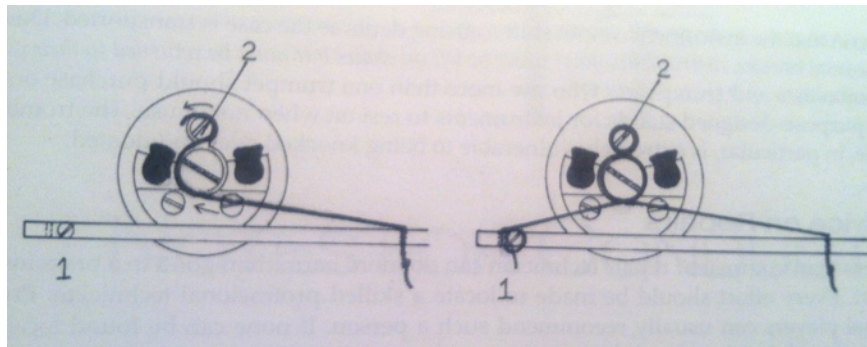
Maintenance

- Grime collects frequently in the instrument's mouthpiece and leadpipe; these should be cleaned every 2-3 weeks.
- You can clean the leadpipe and the instrument's other tubing by running lukewarm water through it while using a brush/snake (Pistons should be removed). Careful not to use hot water which can damage the lacquer.
- Use a tapered mouthpiece brush to clean the mouthpiece after running water through it.
- A polishing cloth on lacquered parts of the instrument will maintain finish, and using a Miracle cloth, a chemically treated polishing cloth, on unlacquered parts can rid of oxidation.
- The only means of protecting the valves against wear is to use the best lubricants available. There are a number of formulations on the market. Be careful of thin kerosene-based lubricants. They may offer fast action, but they do not offer the necessary level of protection. *Premature valve wear can only be prevented by lubricating the valves every day.*
- Cleaning piston valves: Wipe with a soft cloth moistened with valve oil to remove residue before applying new valve lubricant to the piston's surface. Follow the valve guides, and make sure the piston's number matches the casing you are inserting it into.
- Cleaning rotary valves: Rotary valves require a valve oil that is heavier than that used for pistons. If the containers have tubes it will facilitate application. Use a lighter viscosity lubricant for the rotor and casing surfaces, and a higher viscosity on the bearings and linkages.

Speak with Band Director &/or Private Instructor before purchases to ensure best deal and appropriate choices

For more detailed information on how to lubricate rotary valves, speak with your director/private instructor.

- Make sure tuning slides are properly greased. For slides that must be moved while playing, such as trumpet 1st and 3rd valve slides, use a lighter viscosity synthetic lubricant. Before lubricating, wipe the slide clean with a cloth to remove residue. *Valves should be depressed when inserting or withdrawing valve slides.*
- Restringing rotary valves. (see diagram) Special cord is designed for rotary valves. 20- to 27-pound test fishing line may be substituted (linen or Dacron line is preferable to nylon).
 - Once the string is threaded, pull it taut and tighten screw no. 1.
 - To adjust valve key height, depress key to desired position and and tighten screw no. 2.
 - Adjust middle valve first.



Instrument Recommendation (listed in order from step-up to professional)

- Yamaha YBB-321WC Series 4-Valve 4/4 BBb Tuba, (~ \$6,300)
- King 2341W Series 4-Valve 4/4 BBb Tuba, (~ \$6,500)
- Miraphone 186-4U Series 4-Valve 4/4 BBb Tuba (~ \$7,800)
- Meinl Weston 25 Series 4 Valve 4/4 BBb Tuba (~ \$9,000)
- Yamaha YBB-641 Professional Rotary Tuba, (~ \$9,000)

Rotary vs Piston

Piston valves, (like trumpets), move up and down to direct air into different combinations of tubing to change notes. They extend the length of the tuba. Rotary valves rotate to direct the air into different tubing paths. The majority of intermediate and professional tubas have rotary valves, which use a shorter amount of action to operate, offering more fluid sound.

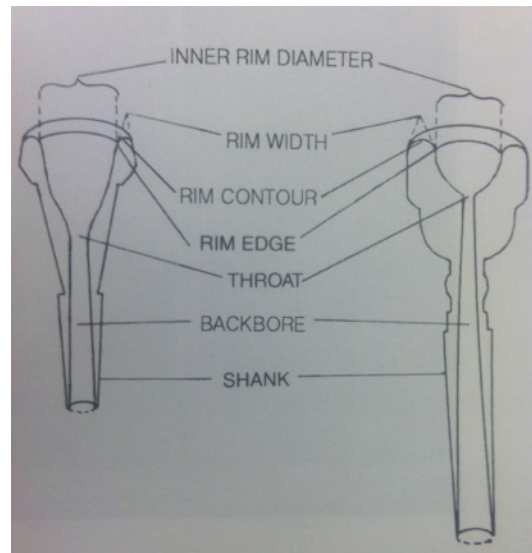
Recommended Mouthpieces

Intermediate	Advanced
Bach 22 Denis Wick 3L Schilke 66 Yamaha 66 Conn 7B Helleberg	Schilke S-H (Helleberg II) Dillon M1C Denis Wick 2L, 1L Monette 95, 97, 98, 99 Perantucci 44, 48, 50 Josef Klier T55A, T44B Bach 18, 12, 7 Laskey 30G, 30H Yamaha 67C4 Conn Helleberg

Mouthpieces

Criteria for a Good Mouthpiece

- Choose a high-quality mouthpiece of a recognized manufacturer.
- No single manufacturer makes the best mouthpiece for all brass instruments.
- Choose a mouthpiece that responds easily, plays well and without undue effort in all ranges, promotes clear tonguing, and has a good tone quality.
- Upper range may suffer temporarily after a change to a larger mouthpiece - it should soon return.
- Avoid shallow mouthpieces.
- Each player is different - don't just pick a mouthpiece because someone famous uses it.
- *Test each mouthpiece individually.* Slight variations exist even with the same model.
- Try new mouthpieces at set intervals to see if they offer any improvements.
- Different manufacturers use varying systems to cup diameters and depth - make sure you understand what you are reading.



Parts of the Mouthpiece

- Rim: inner diameter, width, contour, and edge (bite).
- Cup: depth and shape; air volume.
- Throat and bore: shape of opening, diameter, length of bore.
- Backbore: rate and shape of taper.
- Shank: length in relation to the instrument and accuracy of fit into the receiver.

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What is the effect of these parts on your sound?

- Inner rim diameter (cup diameter): the distance in between the inner edges of the rim defines the area in which the lips vibrate and, in conjunction with cup depth and shape, determines air volume of cup. A larger diameter encourages the embouchure to open more in its oscillation for a given pitch, contributing to a fuller, more resonant tone. Wider diameters can also offer greater comfort and flexibility by providing more room for the embouchure to make adjustments, and mouthpiece pressure is distributed across a wider area.
- Rim width: In general, wide rims tend to be less responsive and flexible. They are comfortable, however, and the added support contributes to security and endurance. Narrow rims offer flexibility and faster response, but the smaller contact area does not provide the support of a wider rim.
- Rim Contour: how the rim is shaped. Somewhat flat rims, if not too wide, tend to be responsive and offer a clear attack; very round contours are often less responsive and limit endurance.
- Rim Edge (Bite): the edge can be designed so that its presence is clearly detected by the lips or barely noticeable.
- Cup depth and shape *have the greatest influence over the quality of the tone*. Deeper cups = fuller sound and darker character. Shallow cups produce a timbre that is lighter in weight and brighter in color. Deep cups have more of the fundamental with less overtones present. Shallow cups have more of the upper partials in overtone series.
 - *Shallow cups are not conducive to good development in the formative stages - they are a specialized tool for specific performance situations (not a shortcut for extending range).
- Throat/Bore - Large bores darken tone and provide body.
- Backbore: Endurance is a critical factor. A player's embouchure can become quickly exhausted due to the lack of resistance if the backbore is too large.

* Can't practice at home without disturbing family? Check out Yamaha's Silent Brass System.

Additional Resources

<http://www.bachbrass.com/pdf/AV6001%20Bach%20Mpce%20Manual.pdf>

<http://www.schilkemusic.com/files/SchilkeHowToSelectMPC.pdf>

<http://www.schilkemusic.com/files/2011SchilkeMpcCatalog.pdf>