



# Rotary Brass

To keep your instrument in the best possible condition, please consider the following information.

## ♫ Valve Oil

♫ Valve oil has three purposes: it **cleans, lubricates, and it fills air space**. A common habit is to not use enough oil on valves. An un-oiled rotor will wear faster than a regularly oiled rotor. Over oiling valves will do no harm to the instrument, it will only waste oil.

## ♫ How to properly oil rotors

♫ Rotors use two thicknesses of oil. (Diagram on lower corner of back page)

A heavy oil (30 weight motor oil or Bach rotor oil) should be applied at the spindle bearings (under the back cap, and just under the stop arm that the lever is connected to). This should be done a minimum of **once a week**.

A lighter oil (which can be standard piston valve oil, or a slightly heavier mix known as rotor oil,) should be used to oil the inside surfaces of the rotors. This fills the air space around the rotor and will make the instrument play more efficiently. This should be done a minimum of **three times a week**, preferably every time you play. Oil through each individual slide, or from a slide that will easily allow oil to reach all the rotors (commonly the 5th slide on tuba). To oil rotors through a slide, take the slide all the way out, put the oil in the slide, and install the slide with the instrument turned so that the oil will not reach the rotors. Then turn the instrument so that oil may reach the rotors and depress the valve levers several times to fully distribute the oil. This process greatly reduces the breakdown of slide grease. You will have less thinned slide grease in the rotors slowing them down and will need to reapply slide grease less frequently. **Please do not oil rotors through the leadpipe** unless the instrument has been professionally cleaned very recently, oil traps the deposits that cause red-rot and can actually speed up the red-rot process.

♫ It is important to note that **rotors should not be removed** except by a qualified technician. They are friction fit into the casing and the proper assembly is crucial to their performance.

## ♫ Lever mechanisms

♫ **Mechanical linkage should be oiled** with oil heavier than the spindle oil (good key oil or sewing machine oil) about **four times a year**, or when linkage becomes noisy. If your instrument has excessive linkage noise please take it to a qualified technician. Often regular maintenance and proper attention can greatly reduce the noise of mechanical linkage.

♫ To properly **string rotors** please refer to diagram and instructions on bottom corner of the back page. Please use a braided nylon 40-pound test (or higher) string. (This can be found as a catfish fishing line at some sporting goods stores). Heat works well to bond the ends of this string from fraying.

## ♫ Amado water keys

♫ An Amado water key is a miniature piston so it will need to be oiled regularly. They should have a drop of oil through the water hole at least **once a month**.

## ♫ Slide Grease

♫ It is a good idea to have at least two usable or disposable cloths when greasing slides.

- 1) First remove the slide and wipe off the old grease with one cloth.
- 2) Apply a bit of slide grease to one end of one slide tube.
- 3) Insert only this side, and twist the slide as it is pushed in. This will evenly distribute the grease to all parts of the slide.
- 4) Repeat with the other slide tube.
- 5) Once both slides are greased, insert the slide as normal and use the clean cloth to wipe excess grease away.

♫ Please use a proper slide grease from a music store. **Vaseline should not** be used for slide grease; it is a corrosive to the brass. An indicator of Vaseline use is darkened or black inner slide tubes.

♫ When **storing** an instrument for a long period of time oil the valves heavily and grease the slides well. When installing the slides prior to storage do not push them all the way in. Leaving a small gap makes the slide easier to remove if they do stick. One of the best lubricants to prevent stuck slides is **anhydrous lanolin**. Every day usage of anhydrous lanolin is not recommended because it is gooey, collects dirt, and is messy to work with. However, it will not harm the instrument and does not break down quickly.

## 🎵 Maintenance

- 🎵 Your **mouthpiece should not have any dents in the end of the shank**. Dents allow the mouthpiece to become easily stuck and the dented shank can disturb the airflow of the instrument. Dents in mouthpiece shanks are easily removed and should be repaired by a qualified repairperson as soon as possible.
- 🎵 **Moving all slides and bottom caps at least once a month** will help prevent stuck slides and caps. Brass sticks when bare brass (no grease/oil) is in contact for extended periods of time. Also very dirty grease that is left sitting can also cause stuck slides. If a stuck slide or cap is discovered have it repaired by a technician soon. Do not attempt to remove the caps or slides; this can severely damage the cap, casing and rotor or the slide. The sooner the discovered problem is taken to a repair shop the better.
- 🎵 Please **do not use lotion silver polishes** on your instrument. The lotion can make a mess and harm your instrument. If you use a treated polishing cloth for any finish make sure it is for the proper finish. An example of why not to use the wrong cloth is that raw brass cloths can **scratch and harm lacquer**. One of the best ways to keep your instrument finish looking nice is to **wipe off your fingerprints** after every use. A **clean non-treated cotton cloth** works well for this.
- 🎵 It is recommended that an instrument is taken to a professional repair technician **at least once a year** for general maintenance and cleaning. Doing so may prevent costly repairs that arise from lack of professional repair attention. A **qualified technician** can often discover a problem that you have learned how to overlook, play through or are not aware of. Regular maintenance and professional chemical cleaning will also help **prevent and retard red-rot** from eating through a brass instrument.

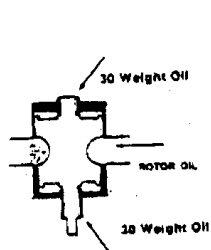
## 🎵 Case

- 🎵 Do not set **anything** on top of an instrument in its case. This means sheet music! Damage occurs easily when items are set on the instrument and the case closed.
- 🎵 Make sure the **case is secure**. Check all the hinges, latches, and handles to see if they are solidly fastened to the case and they close the case securely. Make sure that the instrument does not move around inside the case.
- 🎵 Please **do not sit, rest feet on or otherwise apply pressure** to the outside of an instrument case. This can damage your case so that it does not properly protect the instrument.
- 🎵 Carry the case so that if it does open, it will **open toward your body**, not the ground.

## 🎵 Emergencies

- 🎵 In an emergency, please **avoid any adhesives**. Use dental floss, Teflon (plumber's) tape, or something that will be easily removed when the instrument is properly repaired. Super-glue will make a mess if a solder joint breaks. Tape adhesive can create more of a mess than the temporary repair is worth.
- 🎵 Also a word of caution, **rubber bands can eat silver plate**, so it is best to avoid any use of rubber bands on silver instruments.
- 🎵 **Broken solder joints should not be ignored**, have a qualified technician repair it properly as soon as possible.
- 🎵 **Never use pliers or hammers** on your instrument. Improper use of household tools is a common cause of unnecessary damage to an instrument.

This information provided for your instrument's benefit by:



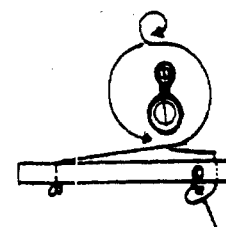
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Start with a string about 12" long. Tie a "triple" knot in one end leaving a tail about a 1½" long. Tighten this knot as much as possible; it is not fun to have your string pull through the lever hole. String a rotor with the "outgoing" string always crossing under the "incoming" string. This will allow the screws to tighten the string as well as a more efficient stringing job. Once the rotor is initially strung, loosen the stop arm screw (1) and adjust the lever heights. Once your levers are where you want them tighten the stop arm screw as much as possible. (A lever is most efficient when the stop arm screw is equidistant from the lever string holes when the lever is half way depressed.) A trick to well strung rotors is to then loosen the lever screw (2) and use a small diameter rod to put in a little slack in the string, with the rod between the lever and string closest to the screw tighten the string and screw as much as possible and then remove your rod. When completed the string on either side of the stop should be snug, both when the lever is up and down. The final touch is to trim the string to about a 3" tail, then use a heat source to melt the ends to prevent them from fraying.

\*Drawings used with permission from Red Wing Technical College's Band Instrument Repair Manual.