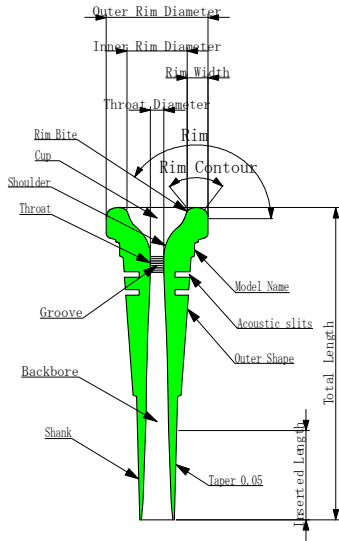


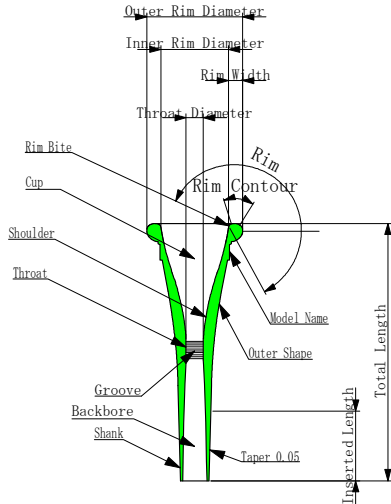
Part names of a mouthpiece

Frame formats of mouthpiece are shown below. It deepens your understanding to look over them while you are reading this handbook.

Part names of Trumpet mouthpieces



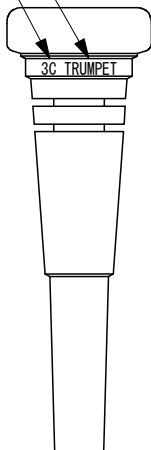
Part names of Horn mouthpieces



-Meanings of the engraved mark-

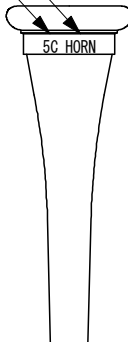
I.R.D. is size 3 and Cup depth is C.

Trumpet Shank



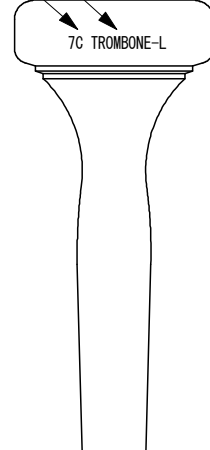
I.R.D. is size 5 and Cup depth is C.

Horn Shank



I.R.D. is size 7 and Cup depth is C.

Trombone Large Shank



-Glossary-

Mensur: measurement of the inner dimensions

I.R.D: Inner rim diameter

Part 1 –How to select the best mouthpiece for YOU–

Many brass instruments' players become hungry for learning about a mouthpiece in the process of growing their performance. Yes, that is the first step of improvements. Meeting the best mouthpiece should be one of the most fortunate memories in your music life. However, it is often said and true that finding the best mouthpiece is more difficult than finding the best instrument. It is a too easy way to select your mouthpiece just because your friend or favorite player uses the certain mouthpiece. You must select your mouthpiece by yourself because nobody can precisely feel what you feel.

I : Rx(Prescription) for selecting a mouthpiece

1. Clarify your ideal tone for your music, and narrow down the choice of rim size and cup depth.

Clarifying your ideal tone is the first thing you have to do for selecting a mouthpiece. Generally, the larger mouthpiece is often played for lower registers, and the smaller mouthpiece is played for the higher registers. Then, deeper cup produces darker and milder tones while shallower cup produces more brilliant and clearer tones. Standard cup depth would be preferred for a flexible performance.

However, for example, it is not a good way to choose a small rim diameter mouthpiece just because you can easily play a higher register. You should select a mouthpiece that you feel comfortable and can easily play your ideal tone.

When you decide the mouthpiece size, it is recommended to refer to descriptions of each models or comparison charts. Then, select a model that is close to the size of the mouthpiece that you currently play. Medium rim size and cup depth is recommended for beginners who have not clarified an ideal tone yet. 5C for Trumpet and Horn, and 7C for Trombone is the medium size in our line-up.

2. Select a material of the mouthpiece

There are mouthpieces made of brass, silver, stainless, titan, or plastic etc. The material changes sounds, so you can select a material that would suit your ideal tone. The best material should be brass as well as the instruments. Sound characters of other materials are below.

Silver mouthpieces produce far-carrying, dark, and heavy sound, but it does not harmonically resonate as much as brass. Stainless mouthpieces produce very brilliant sound and would be suit lead performances. Titanium produces a solid and bright tone and does not occur an allergic reaction, however, the sound actually becomes very light. Plastic mouthpieces are cheap and have a lot of colors. It would be fun to collect them.

3. Bring your instrument and check if your instrument and shank firmly matches.

To begin with, all brass instrumentalists need to acknowledge the fact that an instrument and a mouthpiece produce sound as “one-sound-tube”. Instruments and mouthpieces cannot be thought as a separate component. Therefore, it should be the best to try mouthpieces out with your instrument when you select a mouthpiece.

If a taper of a receiver and a shank is different, the primal performance should not be expected. Usually, a mouthpiece does not go into the receiver deeply enough and move in the receiver. This state lowers pitch and produces fuzzed sound.

4. Select a mouthpiece by its rim

Rim is one of the most important parts of a mouthpiece. It is absolutely the first requirement for all brass instrumentalists to select a mouthpiece that has a suitable rim to their own lips.

When you select mouthpieces, you have to comprehensively feel comfortable with the rim diameter, contour, width, and the bite. In this regard, mouthpieces that have a fairly sharp rim bite should be selected because you can play a clear attack and avoid a lot of missed tones. Especially, beginners may feel comfortable with a round rim bite. However, do not select those mouthpieces because those will produce a blurred attack.

5. Select a mouthpiece that produces the largest volume by the least work

It is a very important factor for both mouthpieces and instruments whether you can easily produce a large volume. When you try mouthpiece, it should be better to musically play not only scales but also phrases that you get used to as if that is a public performance. You will be able to feel if the mouthpiece suits you by doing so. Playing for a long time to try mouthpieces paralyzes your sense, so it would be better to select mouthpiece with the first impression. Check if the mouthpiece produces a correct pitch in the proper state of instrument. The proper length of pulling tuning slide is 10mm to 20mm.

If it is still hard to decide, try mouthpieces when your lips get tired and then select a mouthpiece that still produces sound. This is efficient as a last resort.

6. Get used to the new mouthpiece

Brass instrumentalists often play too much when they get a new mouthpiece, but it takes a long time to cure an exhausted muscle. Keep it in mind to take a rest before muscles are exhausted. All players need time to make a new muscle for the new mouthpiece.

7. To maintain an original quality

It is a good way to put mouthpieces in a special pouch for preventing from their getting hurt. If dropping etc deforms a shank, you need to fix it to get its primal sound quality, and if the rim gets hurt, you can not control your lips as you want, so you should buy a new mouthpiece. Your sounds would be hurt as well if you get used to those hurt mouthpiece.

Wipe the mouthpiece with a soft cloth every time after playing, and clean it up once a month with a mouthpiece brush and soapy water.

II : Descriptions of parts of brass mouthpieces

Rim

Rim is one of the most important parts of brass mouthpiece.

In fact, mouthpieces that have a large rim diameter tend to be played in classical music, on the other hand, small rim tend to be played in Jazz or Popular music. This is because all the requested tones are different among the genres. It is a mistaken belief that advanced players use a large size mouthpiece. It is certainly true that muscles around lips can be developed and embouchure's flexibility is increased with a large size mouthpiece, but just because one classical music player use a large size mouthpiece, does not mean he/she is more advanced than a Jazz music player who use a small size mouthpiece. They are just using a mouthpiece that easily produces their ideal tones.

Too thin rim may offer high flexibility but should decrease endurance besides its digging into lips and stopping blood circulation, and too thick rim tends to thrust lips strongly.

Surface finish of mouthpieces actively affects the sound. Silver and gold plated is popular surface finish. Brass mouthpieces often adopt silver plate, and they have a relatively dark tone color. Gold plate makes the feeling on a rim very smooth and controllable and produces shiny and abundant sound. Usually, the gold is plated on a silver plated mouthpiece, but some are coated on a nickel-plated mouthpiece. You need to pay attention to them because it would have an allergic effects or the gold would peel off soon.

Cup

Cup depth has a large influence on tone timbre, and cup shape and its Mensur, which makes cup shape, affects pitch and pitch balance. Deeper cup produces darker and milder tones while shallower cup produces more brilliant and clearer tones. Standard cup depth would be preferred for a flexible performance.

Cup shape like U or V produces a different sound. If the cup depth is same, U cup offers a powerful sound, and V cup offer a mild sound. Double cup should produce sounds between U and V cup. U cup mouthpiece is commonly used for Trumpet and Trombone mouthpieces, and both slightly-U and V cup is preferred for Horn.

Explaining mouthpieces cup by volume is nonsense. Some manufacturers explain their mouthpiece by cup volume, but cup volume depends on both cup depth and shape, and the combination of cup depth and shape actually is infinity. It is obvious that just because the cup volume is same, does not mean the sound is same.

Most of the mouthpieces in the world have a FINELY buffed cup and the cup looks like a mirror. It might look beautiful, but buffing inside cup actually breaks the degree of accurate cup Mensur and the bite. Breaking the accuracy of cup Mensur can only cause bad effect to all sounds because sound and breath pressures of all overtones such as A, B, or C are the highest at cup or throat at any time. Also, the "mirror" cup does not make fair blow resistances and decrease endurance.

Shoulder

Surface roughness and shape of the shoulder affects sound and blow resistance. Sharp shoulder increase blow resistance and produce a bright tone, on the other hand, round shoulder decrease blow resistance and produce a dark and velvet tone.

Throat

Throat keeps a balance between an instrumentalist and an instrument and especially affects blow resistances. Generally, the length and size of throat affects blow-resistance and pitch balance. A large throat decreases blow resistances, and small throat increases blow resistances and makes blow speed faster. (It would be easy to understand those facts by imagining water hose. If the hose end is pinched, water roundly goes out of the end.) However, just because the blow speed is faster, does not mean small throat is better.

There is a theorem called “Bernoulli's principle”, which says “an increase in the speed of the fluid occurs simultaneously with a decrease in pressure or a decrease in the fluid's potential energy.” If the theorem is applied to the phenomenon that happens at mouthpiece's throat, it is explained as “an increase in the speed of the blow occurs simultaneously with a decrease in sound pressure”. It means, “Small throat does not produce a large volume”. Sound and breath pressures at cup or throat are always the highest in the one sound tube, so decreasing the pressures detunes performances of all sounds. Conversely, “a decrease in the speed of the blow occurs simultaneously with an increase in sound pressure. It means, “Large throat produce a large volume”. Therefore, professionals and advanced students prefer large throat, but it needs a strong muscle around a lip to play an abundant volume with large throat.

Backbore

Designer control interval balances of high registers by its complicated Mensur, and its comprehensive diameter affects pitch of low register. It actually is hard to explain backbore by words like “small” or “large” because backbore consists of a very complicated combination of varying Mensur. However, generally, “small” backbore and shallow cup have a good match, and “large” backbore suits deep cup. Depending on consideration of balances between a mouthpiece and an instrument, for example horn, there can be different choices that do not follow above. It may be better to draw upon explanations of an individual mouthpiece model.

The Mensur of backbore directly shows a manufacturer's acoustic sound technology. In fact, it is shame that quite many manufacturers adopt a mere straight taper for their mouthpiece's backbore.

Shank

The factual world standard taper of shank is 0.05 though some of mouthpieces have different tapers.

Shank should be fit firmly since the primal performance usually can not be expected if a shank does not fit for the receiver. The trumpet or trombone mouthpiece should be inserted around 25mm, and horn is 20mm.

Outer shape and weight

There are many types of mouthpieces that have a different outer shape in the world. However, it is obvious that the outer shape is not only for its design but also affects sounds. Blow feeling is changed by the distribution of weights, but generally, heavy mouthpieces make it easy to get a far carrying sound, and light mouthpieces make it easy to earn flexibility.