

Basic Factors Influencing Saxophone Tone Quality

There is no question that the overriding consideration that influences tone quality on the saxophone is the model of tone consciously or unconsciously held in the mind's ear. No saxophone, reed, mouthpiece or ligature is capable of producing a tone. Only the player can produce a tone.

Notwithstanding the primary importance of the tonal model in the mind's ear, there are other factors and considerations that influence tone quality. All musical instruments are capable of producing a variety of tone colors. Due primarily to the acoustical features of the saxophone – a significantly large conical shape with a single vibrating reed – this is a particularly relevant observation for saxophonists.

The saxophone has been successfully employed in many styles of music, requiring successful players to produce a vast variety of tonal styles. However, the supple nature of the saxophone in this regard has been both an asset and liability to teachers and students. Clearly there is not one “correct” tone quality, even within a particular musical style. Ultimately musical styles and characteristic tonal approaches for those styles must serve as the principle driving forces when choosing appropriate tonal qualities and shadings.

Regardless of the style of music, it is regrettable that it is relatively easy for an inexperienced or insensitive saxophonist to produce tones that are simply outside of the boundaries of good taste. Just as the acoustical properties of saxophones allow for a myriad of tonally admirable “sounds,” these same properties allow for a myriad of tonally unacceptable “sounds” to be readily produced.

As students advance, purposeful listening to superior tonal models throughout a variety of musical styles is paramount. Students are encouraged to solicit listening suggestions from their saxophone teachers and other specialists,

and to attend live saxophone concerts presented by advanced performers.

The volume at which one plays the saxophone has the potential to affect tone quality. Unless the player is sensitive to changes in volume, and consequently makes appropriate adjustments, the relationship may be characterized simply as follows: louder playing induces a brighter, more “abrasive” and uncontrollable tone; softer playing induces the opposite.

The embouchure – which may include the oral cavity – must not remain completely rigid throughout dynamic changes. Students must eventually develop the sensitivity to consider the embouchure in an elastic fashion. Alternate fingerings are also utilized from time to time for timbre adjustment (for example, the standard fingering for written D-natural will present a dramatically different tone quality than will a side key fingering – a short tube fingering – for the same tone).

Pitch is also related to volume when playing the saxophone. Louder playing induces flatness and softer playing induces sharpness. Again, a flexible embouchure can solve these problems, as can alternate fingerings in many cases. It should be noted that while the clarinet demonstrates this same volume-pitch relationship, the flute demonstrates the opposite relationship.

Further complicating the matter of the volume-pitch relationship on the saxophone is the fact that certain registers of the saxophone, and particular tones within these registers, demonstrate relative flatness or sharpness. Perhaps the most general description of tuning on the saxophone is that the register from written middle D-natural upward tends to be sharper than the register from written middle C-sharp downward.

Since pitch is a component of musical tone, it must be considered simultaneously with tone quality (timbre). Embouchure changes made to affect pitch will necessarily affect timbre to

some degree (sometimes imperceptibly, sometimes significantly); embouchure changes to affect timbre will also affect pitch. The other important component of a musical tone, intensity (volume), is also an important part of this equation.

All wind instruments, including the saxophone, generate tuning characteristics/problems with certain tones or within certain registers. The saxophone is not unique in this regard. There can be a number of causes for these tuning characteristics. Examples include player tendency to voice a particular tone or register in a particular manner, pad/key cup height, tone hole size or placement, mouthpiece placement or appropriateness, and leaks.

However, the number of octave vents on the saxophone – only two vents, operated by one automatic octave key – is an unavoidable cause of these tuning characteristics even under ideal circumstances. The addition of more octave vents – as many as one vent for each tone that is played with the octave vent in open position – would resolve tuning issues; unfortunately this would unduly complicate the instrument mechanically. It is, then, necessary for the player to place the mouthpiece in what might be termed a “compromised position” on the neck cork. This position allows for proper management of both flat tones and sharp tones.

Ultimately it is the saxophonist's responsibility to be knowledgeable of the tuning characteristics of pitches as demonstrated on all saxophones by design, as well as the pitch tendencies/idiosyncrasies relating to his/her specific instrument.