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Good musicians execute their music,
but bad ones murder it.

Some musicians take pains with music,
others give it.

*Charts courtesy of The Woodwind & The Brasswind
South Bend, Indiana.

1 Introduction

In expressing yourself through the language of music, one of the most essential components of your performance is the sound you project. Some would even say it is THE most important component. I find it hard to disagree with that view. You can have all the technical facility in the world but it won't mean a thing if you don't develop a sound that pleases and excites people. We've all heard those supreme musical beings who play one note that just grabs us. We immediately know who's playing. That's what it's all about.

Every musician strives to craft a unique, personal sound with which to communicate his music to the world. For woodwind players the most important component in achieving this goal is the mouthpiece. And that brings us to our subject.

The saxophone mouthpiece![1] What else is there that can induce acute schizophrenia[2] in a saxophone player and cause him to end up in a padded cell faster than that little item? What has caused more anguish and confusion than the oppressive/compulsive search for the nirvana of finding the perfect mouthpiece? You sax players are scratching your heads over that one, aren't you? Well, I'm here to help ease your frustrations, somewhat/hopefully/maybe.

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[1]All information in this book also applies to clarinet mouthpieces.

[2]A mental disease marked by a breakdown in the relationship between thoughts, feelings and actions, frequently accompanied by delusions, hallucinations and a strange desire to hang around with trombone players.

2 Solo

FIRST CHORUS

The purpose of this book is to explain, in easy to understand language, (I know all you musicians will appreciate that) the basic concepts of mouthpiece design. In other words, how the various features of the mouthpiece such as tip opening, facing length and chamber size affect the tone, response, intonation, volume and relative brightness and/or darkness of your overall sound. I would never make the assertion that I can tell any given player what the perfect mouthpiece is for his/her purposes. If someone claims to have this ability, ignore him, he's an idiot. I don't believe anyone ever finds the "perfect" mouthpiece. In the real world it's always a trade-off. There will always be malicious little glitches that you will have to deal with. You'll have to work a little harder and make adjustments to compensate for these nasty negatives. Then you will be able to enjoy the more numerous positive attributes of a mouthpiece that will work for you.

A little aside here before I get into my subject. I want to try to clarify some terms that will be repeated often throughout this book. Describing the sound of a musical instrument with words is a somewhat abstract task. I have already used the words "brightness" and "darkness" in referring to the sound of an instrument, but in this context these words may mean different things to different people. To insure that we're all going to be on the same page, so to speak, I will equate what we can hear to something we can see. Light! Think of it this way. At the extremes, when I use the term bright to describe the sound of an instrument, I have a mental image of a bare, white florescent light bulb. A dark, centered sound is like a 40 watt

He puts it on his horn and, guess what? Not even close. Sound familiar? My educated guess is that 99 percent of those reading this have experienced a similar predicament. The choice of one's preferred combination of mouthpiece, reed and instrument is a very personal phenomenon and each individual's solution to achieving his desired goal is unique.

With all of the above factors considered, it is my belief that the most important components in determining the sound a particular mouthpiece will produce are the overall specifications of the mouthpiece itself. By that I mean the combinations of the chamber size, tip opening, facing curve and side and tip rails. Following is a diagram outlining where each of these features are found on the mouthpiece.

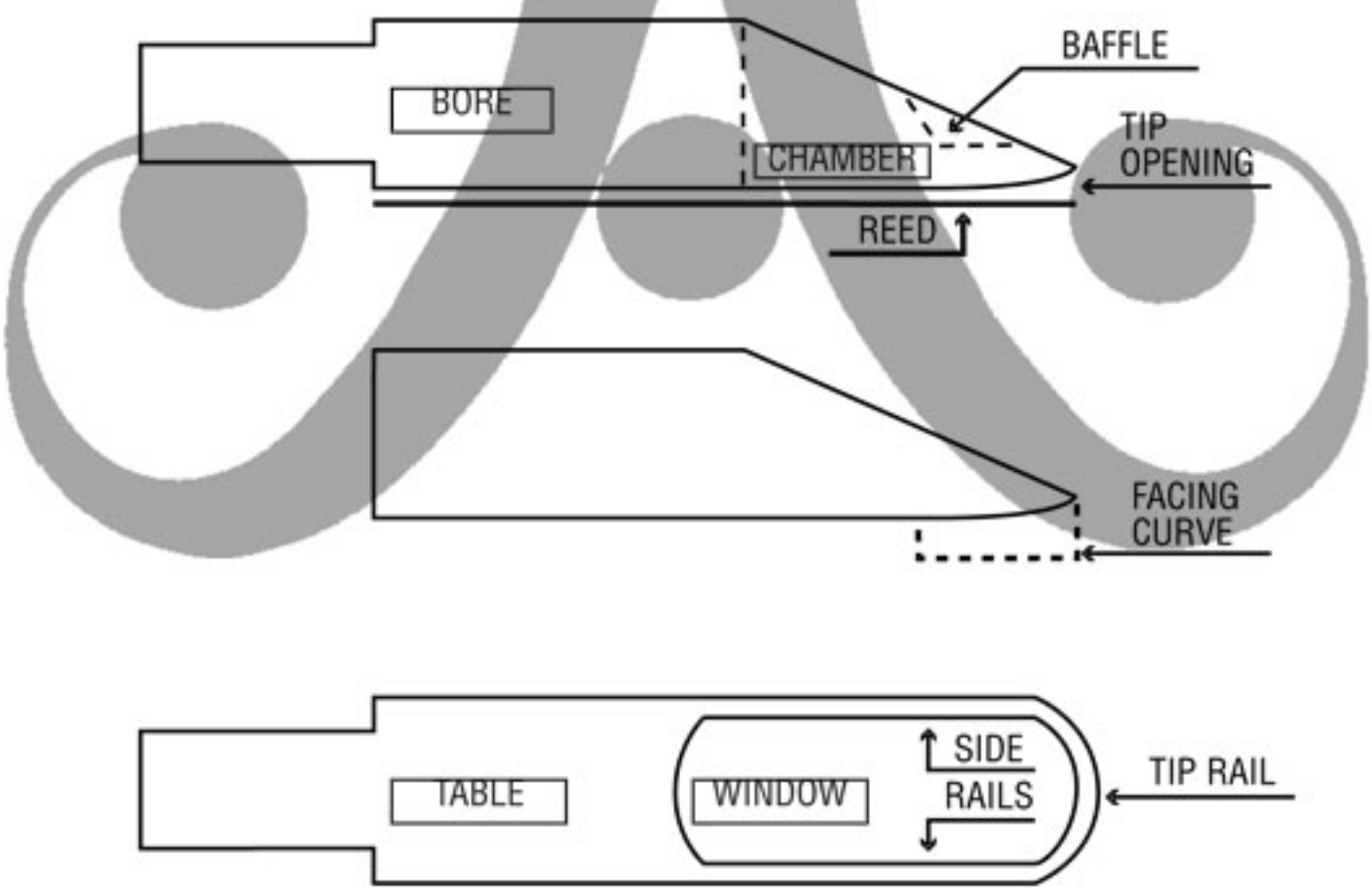

Figure 1

another, and you can't measure them for comparison sake without the extremely complex "tools of the trade."

However, for all you fanatics feeling an uncontrollable urge to compare facing lengths, I've invented a rather intricate technique just to put a smile on your faces. Given considerable time, I'm confident you will master it. Try this.

Tool off to your favorite music store. Pick out the mouthpieces you want to compare. Put a reed on all the mouthpieces and position them side by side on a piece of paper. Make sure the tips are evenly lined up. Use a ligature that is flat on the reed side or have the ligature screws on top of the mouthpiece. The reed should be facing down on the paper. Now get out your business card (the one that says, "Needy sax player for hire. Will work for reed money"). Slide the card under the reed. Don't force it and stop when you feel any resistance. Gently press the tip of the mouthpiece down to contact the paper and draw a line where the card stopped (see below).

Do the same with each mouthpiece and you'll be able to see which one has a longer or shorter facing length by the dis-

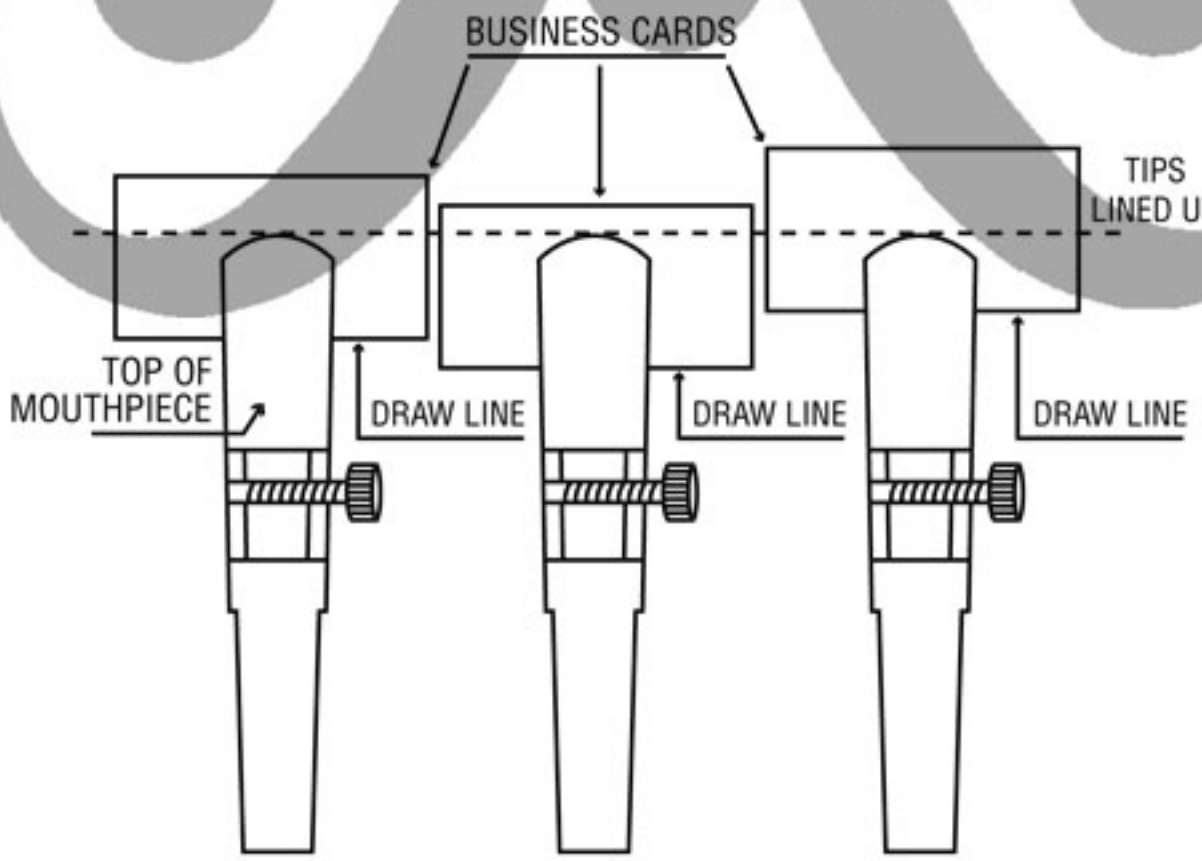

Figure 2

SIXTH CHORUS

I said earlier that I couldn't tell you the exact mouthpiece that would put you on cloud nine, but that I could point you in the right direction. Hopefully, by this time, I have succeeded in educating you as to how the various properties of a mouthpiece determine the qualities of sound, intonation, response and the relative brightness or darkness. If you're still in the dark, it's your own fault, but maybe the following quick reference chart will guide you out of the mouthpiece wilderness.

DESIRED CHANGE IN SOUND	MOUTHPIECE CONFIGURATIONS TO TRY	WHEN YOU GO TOO FAR
More volume, projection and brightness. Easier altissimo.	Smaller chamber, shorter facing length and a wider tip opening.	The sound will get thin and playing in tune will be harder. You won't feel enough resistance and the lower register won't respond properly.
Darker, fuller and more centered tone with less edge. Better intonation and better response in lower register.	Larger chamber, longer facing length and a closer tip opening.	The sound will get stuffy and won't project enough. You'll feel too much resistance.

Remember, you'll achieve the best results starting with a mouthpiece with similar specifications to the one you're now using. Your progression from one mouthpiece to another should be very gradual. Baby steps, OK?

My advice is: Don't change too many things at once. Use the same ligature if possible (see Chapter 4). If you have to change your reed strength, don't change the brand. Changing your mouthpiece is a very big step. Make sure you have adjusted to the mouthpiece before experimenting with ligatures and reeds. You can always do that later. Don't let some greedy salesman talk you into buying a bunch of accessories until you know you're ready. And about that "going too far" column on

3 Ensemble

As mentioned in the second chorus, I want to address the subject of saxophone necks. Briefly, because it's a subject that could fill another book. I feel that after mouthpiece, reed and ligature combinations, the saxophone neck is the next most important component influencing sound quality, intonation and response.

It used to be that you bought a horn, it came with a neck and that was that. This is not the case today. Many manufacturers now offer a variety of necks for their instruments. They come in different dimensions, finishes, angles and metal alloys. Once you've settled in with the mouthpiece setup you feel you'll be using for at least a little while, try some necks. They really do make a difference and you might well find one that is a significant improvement over what you're using.

Modification of the neck you're using is another story. Some of the technicians doing neck modification are Tevis Laukat in Salt Lake City, Utah, Bob Ackerman in New York City, Oleg Garbuzov in Studio City, California, and Jimmy Scimonetti in Lancaster, California. I'm sure there are other technicians doing work on necks out there and they can be found through the many saxophone web sites on the internet.

My friends, Tevis and Sheryl Laukat, who designed and developed the Cannonball "Stone" series of saxophones, only work on their own company's horns. Their company personally customizes every neck shipped with their horns. The "Stone" series models, except for the curved soprano, are all sold with two customized necks with different finishes. This gives each new owner a built-in option.

Tenor Sax Mouthpiece Facing Chart 2

Tip openings in thousandths (.001) of an inch. For comparison purposes only. Individual mouthpiece openings may vary.

	94	95	97	98	100	101	102	104	105	106	109	110	111	113	115	116	118	120	122	125	126	130	135	140	145	150
BAMBER					J6							J7						J8								
BARI: Rubber					X				X																	
Metal		X			X				X			X			X			X		X					
BARONE					7				7*			8			8*			9		9*					
BEECHLER																										
BRILHART: Ebolin																										
Level Air				8	9																					
BUNDY																										
DUKOFF		6							7						8					9			10			
GUARDALA														CR	PB						TR		BR/ BMII KRB		9	
HITE		A&P																								
JEWEL		7																								
JODYJAZZ	HR* 6*				7			HR*	7*	7*			8		HR*	8*	8*			9	HR*	9*				
LAKEY		4*3							5*3			7*3						8*3		9*3						
BERG LARSEN		X			X				X			X			X			X		X		X			
OTTO LINK		6*			7				7*			8			8*			9		9*					
LOMAX	10																									
MEYER: Rubber				9				10																		
Metal		6J		8	7J			9	8J			9J														
MORGAN		7			8							9														

Tenor Sax Mouthpiece Facing Chart 3

Tip openings 110-150 thousandths of an inch.

For comparison purposes only.

Individual mouthpiece openings may vary.

	110	111	112	113	114	115	116	117	118	120	122	125	126	130	135	140	145	150
BAMBER	J7									J8								
BARI: rubber	X					X												
metal	X					X				X		X						
BEECHLER																		
BILGER																		
BRILHART: ebolin																		
level air	9																	
BUNDY																		
COUF																		
DUKOFF						8						9			10			
ESM	8									9								
GUARDALA				CR		PB							TR		BR/BMII ST	KRB	9	
HAWKINS: rubber			9														SKRB	
metal										9								
HITE																		
KEILWERTH	9		9*															
LAKEY	7*3									8*3		9*3						
BERG LARSEN	X					X				X		X		X				
LAWTON	8					8*				9		9*		10	10*			
OTTO LINK	8					8*				9		9*						
MEYER: rubber																		
metal	9J																	
MORGAN	9																	
POMARICO																		
PONZOL:	HR/CUST																	
metal	M1/M2/II					M1				M2								
PRECISION CRAFTED	8					8*				9								
RIA	7					7*				8		8*		9	9*	10	10*	

6 Chamber Designations of Some Representative Brands

(My apologies to those not listed)

BRAND	BRIGHTER	MODERATE	DARKER
BARI	Small Chamber	Medium	C* Classical Rubber
BARONE	Contemporary, Rock Fusion or Fusion	Traditional Contemporary or Mainstream	Jazz, Classic or New York
BEECHLER	S Chamber	M Chamber	L Chamber
BERG LARSEN	xxx (tip opening) 0	xxx (tip opening) 1-2	xxx (tip opening) 3
BOBBY DUKOFF	S or D	M or P	LD, L or Hollywood
BRILHART LEVEL AIR	Insert Large Baffle	Insert Small Baffle	No Baffle
CLAUDE LAKEY	4★3 or 5★3	8★3, 7★3 or 6★3	4★4 or 9★3
JODYJAZZ	DV or Classic	ESP, HR★ or Classic	HR★
MEYER	S	M	L
MORGAN	Jazz	Classical or M	L or EL
OTTO LINK	Standard	Standard★	New York
PONZOL	M2	M1, ML or Traditional	II-V-I
ROUSSEAU	JDX	Studio or Classic	R
ROVNER	High Baffle	Straight Baffle	Eagle
RUNYON	Bionix or Spoiler	Custom	Quantum
SELMER	S80	S80 or S90	S90
SR TECHNOLOGIES	Fusion	Professional	Legend or Titan
STRATHON ADJUSTATONE	Adjustable Baffle Set Forward Toward Tip	Baffle Set In Middle	Baffle Set Back Toward Bore
SUGAL	Super Classic II or Super Gonz II	★	Super Classic I or Super Gonz I
VAN DOREN	Jumbo Java or V16	Java or V16M	V5 or V16M

*Some manufacturers don't designate three different chamber sizes. Some designate more.

Hug a musician, they never get to dance.

Unknown