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## Stopped and Muted Horn: A Guide for Directors

Presenter: James Boldin, D.M.A., Assistant Professor, The University of Louisiana at Monroe

Stopped horn is an extremely effective but sometimes misunderstood technique. Passages for stopped horn occur in nearly every genre of music, from solos and chamber music to large ensembles such as orchestra and wind band. This clinic<sup>1</sup> will present some practical methods for helping your horn players learn this technique.

Mutes can also be problematic. Sometimes even choosing the correct kind of mute can be confusing, and there are usually several workable options. Recommendations on types and brands of mutes for purchase as well as some helpful tricks when working with muted horn sections are also included.

## A *Brief* Explanation of Stopped Horn

One reason stopped horn technique is misunderstood is because of its acoustical effects. Even professional horn players and acousticians do not agree entirely on what happens when the horn is stopped. Essentially, there are two main theories when it comes to describing what happens when the hand completely covers the bell.

Theory I states that fully closing the bell *lowers* the resulting pitch to *1/2 step above the next lowest harmonic*.

We can test this theory by examining the harmonic series.

[All pitches in this handout are notated for Horn in F]



‡ Denotes out of tune harmonics.

According to Theory I, stopping the written third space *C* on the open F horn should produce a slightly flat *B natural*, which is 1/2 step above the slightly flat harmonic directly below it.

<sup>1</sup> Materials, exercises, and images in this handout have been adapted from my article, "Horn: Stopped and Muted" *The Instrumentalist* 63, no. 2 (September 2008): 48-51. © 2008 The Instrumentalist Publishing Co. Used with permission from *The Instrumentalist*.



Theory I holds true as long as the player allows the hand stopping motion to gradually lower the pitch of the open note.

Theory II states that fully stopping the horn *raises* the resulting pitch by 1/2 step, requiring that players finger pitches 1/2 step lower than written on the F horn.

According to Theory II, stopping the written third space C on the open F horn should produce a C sharp, 1/2 step above.



Theory II holds true when the player attempts to maintain the pitch being played, resulting in the note "popping" up to the next harmonic.

*Both* theories are correct! Theory I makes sense from an acoustical perspective, since gradually closing the hand in the bell does lower the pitch. Theory II makes sense for the purposes of fingering, since we must finger pitches 1/2 step below the written note on the F horn to obtain the correct pitch. A close study of the horn's harmonic series will reveal that both theories are really the same, but each approaches the explanation differently. Using the B-flat side of the horn complicates the issue even more, because while stopped horn on the B-flat side still follows Theory I, attempting to maintain the given pitch as in Theory II raises the written pitch by 3/4 step, rather than 1/2 step. More information on B-flat stopped horn fingerings will follow.

### A Practical Approach to Stopped Horn

While the above explanation is interesting, quite often it does not really offer a practical solution for music educators with many things on their mind. The following tips should aid in helping your students to produce an acceptable stopped horn sound.

Proper *open* horn hand position is a must. While hand position is always important for horn players, it becomes absolutely crucial when hand stopping. Hand positions vary among professionals, but some general characteristics of a good right hand position on the open horn are:

- 1) Fingers are bent at the knuckle and fairly straight from the knuckle to the tips of the fingers.
- 2) The thumb is close against the side or top of the index finger, with no spaces between.
- 3) There are no spaces between fingers.

- 4) The palm of the right hand is slightly cupped, as if swimming freestyle or holding shampoo.
- 5) The right hand is allowed to conform to the shape and size of the bell—this will result in a slightly rounded shape when the back of the hand is pressed against the far right side of the bell.
- 6) Line up the knuckle of the thumb with the bell brace, and then insert the right hand until the thumb touches the upper part of the bell and the bottom edge of the hand makes contact with the bell.

See Figures 1 and 2 below for a demonstration of these concepts, with the hand in and out of the bell of the horn.

Figure 1. Proper Right Hand Formation

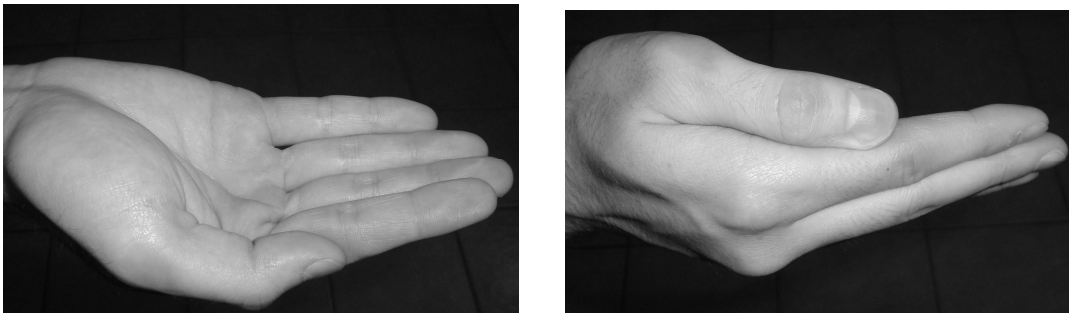
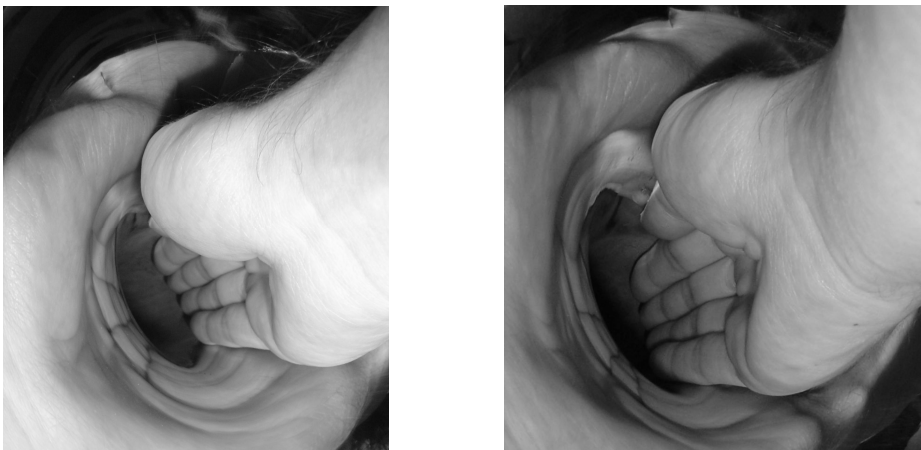


Figure 2. Proper Open Hand Position



Ideally, the move from open to stopped horn should be as efficient as possible, and should not require a drastic shift in hand position. The following ideas are helpful in practicing open to stopped horn. Consult Figure 3 at the end of this section for pictures of proper stopped horn hand position.

- 1) A proper stopped horn sound is compressed, brassy, and even nasal. Obtaining this sound requires as leak-free a seal as possible between the right hand and the horn's bell throat. Many of the problems players encounter when playing stopped horn (poor intonation, uncharacteristic sound, etc.) can be remedied by readjusting the hand position.
- 2) Avoid the temptation to shove the hand further into the horn bell. A hand position that is too far into the bell of the horn will cause the resulting pitches to be very sharp. This problem is much more difficult to handle for those players who have relatively small hands and horns with large bell throats. Keep the thumb pulled back and out of the way of the hand. For extra help, see No. 3 below.
- 3) Instead of attempting to "shut the door" of the hand perpendicularly across the front of the bell, try closing the bell off completely at an angle. Closing the bell at an angle decreases the area you are trying to cover, allowing for a better seal.
- 4) Strive for as much contact as possible between the heel of the hand and the bell throat. Remember, we want to eliminate as many leaks as possible. Having students imagine that they are squeezing the horn between their left and right hands is sometimes helpful in getting a proper seal. For those with bony hands, *slightly* twisting the heel of the palm so that even more flesh is in contact with the bell can help.
- 5) Another issue when playing stopped horn is the dramatic increase in resistance. Frequently students simply are not blowing assertively enough against the resistance to get the "buzz" that many composers want when they ask for stopped horn. Filling out the sound of stopped notes will also help with intonation and articulation problems. The exercises included with this article are designed to help players work on this facet of stopped horn technique.

Figure 3. Stopped Horn Hand Position



#### List of Terms/Symbols that Denote Stopped Horn

+    *stopped*    *gestopf*    *bouché*    *chiuso*

### Suggested Stopped Horn Fingerings

Players should generally be fine to use *F horn* fingerings and transpose down 1/2 step within the following range. Given that the above factors are properly addressed, this range presents the least problems of intonation and articulation.



For the high register, F horn fingerings will work, but problems of accuracy and intonation become more exaggerated. For this range, try using the following fingerings. The abbreviation "T" indicates that B-flat horn fingerings should be used.



While these fingerings will work on most horns, there are many alternate fingerings. The only rule one need follow when deciding on alternate fingerings is "if it sounds right, it *is* right." If the intonation and sound quality are good, then it does not matter what fingering is used.

The low register as shown below often presents the greatest difficulties on stopped horn, with articulation and intonation being the most acute problems.



Although I do recommend that students learn to play in this range without the aid of a transposing stop mute, more and more professional players are using stop mutes. These mutes create a louder, more stable stopped sound, and are relatively inexpensive. They usually require that players transpose the written pitches down 1/2 step to obtain the proper F horn fingerings, although the Best Brass company has recently developed a non-transposing stop mute. Be aware though that a hand-stopped sound is different from that of a stop mute. Although stop mutes and hand muting can be compatible within a section, avoid mixing stopped horn and straight mute timbres unless this combination is specifically requested by the composer.

One final thought on working with stopped horn sections. When rehearsing stopped horn passages it is a good idea to let your players perform the part on open horn at least a few times so that they can get a better sense of pitch and articulation before attempting to play the part stopped. Once they do play the

part stopped, encourage them to really blow so that they can experience the sensation of producing a compressed, brassy sound.

### Stopped Horn Exercises

These exercises are designed to help beginning to intermediate players familiarize themselves with stopped horn technique. If practiced daily, they can help establish a solid foundation for more advanced stopped horn effects. Simplicity is the goal in these brief passages, and they progress from easy to difficult techniques. Encourage your students to perform these exercises with a tuner and metronome whenever possible. Here are some helpful hints to bear in mind.

- 1) Check intonation frequently with a tuner or drone. Compare intonation from stopped to open positions.
- 2) Insist upon a brassy, compact, and nasal stopped sound. Producing this sound quality, especially in the lower register, will require huge amounts of air!
- 3) Check hand position frequently to check for air leaks.
- 4) Rely solely on the ear for pitch accuracy at first, until muscle memory is developed.
- 5) Take frequent breaks until endurance is developed.

### Exercise 1. Stopped Horn Basics: Hand Position and Middle Register Articulation/Intonation

$\text{♩} = 60$

open (F-0) check stopped hand position (F-2)----- open check stopped hand position

*p* *ff* *p* *ff* *p* *ff* *p* *ff*

(F-0)----- open (T-12) (F-23)----- open (T-1)

*p* *ff* *p* *ff* *p* *ff* *p* *ff*

(F-12)----- open (T-2) (F-1 or T-13)

*p* *ff* *p* *ff* *p* *ff* *p* *ff*

open (T-0) (F-2 or T-23) open (T-23) (F-0 or T-12)

*p* *ff* *p* *ff* *p* *ff* *p* *ff*

(Continue into upper register if desired.)

## Exercise 2. More Rapid Articulations

$\text{♩} = 72$

open (F-2) open (F-0) open (F-23)

*mf* *mf* *mf*

(Continue into upper/lower register if desired.)

## Exercise 3. Stopped/Open Horn Coordination and Upper Register Practice

open (F-2 or T-23) open (T-1) open

(T-0) open (T-23) open (T-3)

## Exercise 4. Low Register Practice

$\text{♩} = 60$

(F-2) (F-1) (F-12)

*mf* *ff* *mf* *ff* *mf* *ff*

(F-23) (F-0) (F-2)

**Exercise 5. Developing Musicality** Yes, stopped horn can be musical! Practice this well known tune on open horn first, then stopped horn. Strive to create as "beautiful" a stopped horn sound as possible, with all the correct phrasing and nuances required by the music.





- 3) For quick mute changes, a wrist strap is extremely helpful. If the mutes your students are using don't come with a wrist strap, you can easily make one using an eye hook and some sturdy string.
- 4) In circumstances where extremely fast mute changes are requested, the mute itself can be left far enough out of the bell that it approximates an open horn sound. In effect the mute is performing the same function as the hand. When the muted section is reached, the mute can be easily inserted into the bell without having to scramble.

### **Selected Additional Resources**

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- Benade, Arthur H. *Fundamentals of Musical Acoustics*. NY: Oxford University Press, 1976.
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<[http://www.public.asu.edu/~jqerics/sug\\_hnmp.htm](http://www.public.asu.edu/~jqerics/sug_hnmp.htm)>.
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- Hill, Douglas. *Collected Thoughts on Teaching and Learning, Creativity and Horn Performance*. Miami: Warner Bros. 2001.
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- Reynolds, Verne. *The Horn Handbook*. Portland, OR: Amadeus Press, 1997.
- Smith, Christopher M. "Misunderstood Basics of Horn Playing Among Even Advanced Students." *The Instrumentalist* 56, no. 8 (March 2002): 36, 38-40.

Appendix: Band and Orchestra Compositions with Prominent Passages for Stopped and Muted Horn

**Muted**

Beethoven, Ludwig van	Symphony No. 6
Berlioz, Hector	Symphonie Fantastique
Bruckner, Anton	Symphony No. 4
Debussy, Claude	La Mer
	Prelude to the Afternoon of a Faun
Dvořák, Antonín	Symphony No. 9
Mahler, Gustav	Symphony Nos. 1-9
	Das Lied von der Erde
Mussorgsky, Modest (Ravel)	Pictures at an Exhibition
Prokofiev, Sergei	Romeo and Juliet (Suite No. 3)
Ravel, Maurice	Daphnis and Chloé
	Rapsodie Espagnole
Rimsky-Korsavok, Nikolai	Le Coq d'Or (suite)
	Scheherazade
Schoenberg, Arnold	Chamber Symphony No. 1
Shostakovich, Dmitri	Symphony No. 5
Strauss, Richard	Ein Alpensinfonie
	Don Juan
	Don Quixote
	Ein Heldenleben
	Symphonia Domestica
	Till Eulenspiegels Lustige Streiche
Stravinsky, Igor	L'Oiseau de Feu, Suite (1919)
	Le Sacre du Printemps (1913)

**Stopped**

Brahms, Johannes	Academic Festival Overture
de Falla, Manuel	El Sombrero de Tres Picos
Grainger, Percy	Lincolnshire Posy
Jenkins, Joseph Wilcox	American Overture for Band
Mahler, Gustav	Symphony Nos. 1-9
	Das Lied von der Erde
Ravel, Maurice	Daphnis and Chloé
	Rapsodie Espagnole
Rimsky-Korsavok, Nikolai	Capriccio Espagnol
	Le Coq d'Or (suite)
Schoenberg, Arnold	Chamber Symphony No. 1
Stravinsky, Igor	Le Sacre du Printemps (1913)
Tchaikovsky, Pyotr	Symphony No. 5
	Symphony No. 6
Williams, Clifton	Fanfare and Allegro