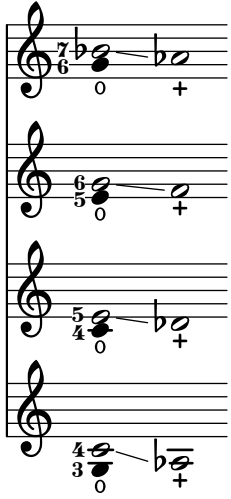


# Starting Stopping

Clay Smalley

One of the most noticeable differences between the horn and other brass instruments is the movement of the right hand in the bell. Historically, this was done on valveless, or *natural*, horns, to reach pitches in between those along the harmonic series. Nowadays, on valve horns, the right hand is mostly used to make fine adjustments to intonation, as well as playing stopped tones (♯) with a buzzy, muffled timbre. But good hand horn technique is still essential to modern valve horn playing.

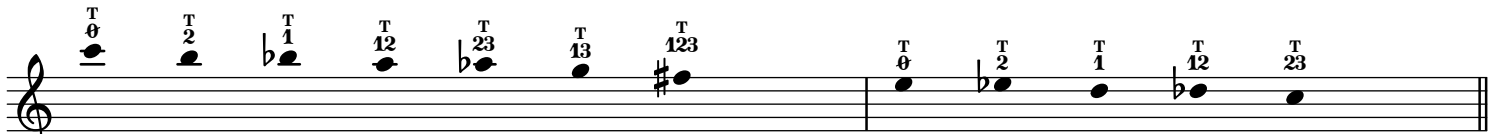


relationship  
between open and  
stopped tones,  
with partial  
numbers on the  
left

An everlasting source of confusion for new hornists is whether stopping the bell raises or lowers the pitch produced. By playing a long tone and gradually closing the bell, one may notice that the pitch bends down by a half step or more. But by playing a lip slur exercise on the F horn with an open bell, then repeating it stopped, one may notice that the harmonic series has shifted a half step *upward*.

So what is happening here? Each open tone on the F horn indeed has a corresponding stopped tone a half step up, but the stopped tone actually comes from bending down the next highest partial—a hidden barber pole effect. Closing the bell lowers the pitch, all the way down to *one half step above the next lowest partial* (or, on the B<sup>b</sup> horn, a noticeably out-of-tune  $\frac{3}{4}$  step above it). In the first example on the left, an open B<sup>b</sup> in the 7<sup>th</sup> partial can be bent down with the hand to a stopped A<sup>b</sup>, one half step above the 6<sup>th</sup> partial's open G.

So, on the F horn, **fingering one half step down while stopped** is a useful mnemonic, though certain fingerings can counteract the out-of-tune 7<sup>th</sup> and 11<sup>th</sup> partials and bring the stopped B<sup>b</sup> horn back into tune. Since these partials are rarely used otherwise, mnemonics based on more recognizable fingerings for the 8<sup>th</sup> and 12<sup>th</sup> partials, respectively, are more common.



B<sup>b</sup> horn, 11<sup>th</sup> partial:  
use 12<sup>th</sup> partial fingerings  
for the same pitch

B<sup>b</sup> horn, 7<sup>th</sup> partial:  
use 8<sup>th</sup> partial fingerings  
one half step up



F horn: use any fingering  
one half step down

## A Short Pitch Bends

Use the suggested fingerings to match intonation between open ( $\circ$ ) and stopped ( $+$ ) tones. Gradually transition from open to stopped and back.

$\text{♩} = 120 - 176$

Measures 1-36 show various fingerings and dynamics for short pitch bends. The key signature changes from C major to B-flat major at measure 9.

## B Long Pitch Bends

Use the suggested fingerings to match intonation between open ( $\circ$ ), mostly stopped ( $\phi$ ) and fully stopped ( $+$ ) tones. When mostly stopped, the horn produces an *echo tone*, a half step below the open tone.

$\text{♩} = 120 - 176$

Measures 1-28 show various fingerings and dynamics for long pitch bends. The key signature changes from C major to B-flat major at measure 10.

# **C Open and Stopped Staccato**

Match intonation and dynamics between open and stopped tones.

$\text{♩} = 76 - 120$

*f*

9

17

25

33

41

49

57

65