

Hand Horn Technique

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The modern valve horn can trace its origins back to European hunting horns, with written music dating back to the 14th century. These horns lacked valves, and naturally, their music was limited to pitches along the harmonic series. But Classical-era hornists were eager to unlock the chromatic capabilities of the instrument, and in the mid-18th century, they began to develop and master hand horn technique.

In this period, a hornist would carry around a set of crooks, allowing them to change the transposition of the horn to whatever a piece may call for. This way, players needed not worry about key signatures, and notation would tell them the most relevant information about playing the instrument, regardless of the actual key: which partial to buzz, and how far to bend the pitch with the right hand. By the advent of the Romantic period in the early 19th century, valve horns had become popular in professional orchestras, but some composers, like Brahms, stubbornly resisted the change and continued to write only for natural horn. Others, like Saint-Saëns, experimented with both varieties of horn playing together.

Today, we can change the key of the instrument swiftly and easily with valves, and horn music is almost always written transposed to F. But hand horn technique can still be useful for a number of reasons: to gain more control and flexibility on the instrument, to aid in reading transposed music, or to emulate the sound of a natural horn.

The harmonic series, as playable on natural horn, is as follows. Partial numbers are listed to the right of each pitch, and deviation from the written pitch (in twelve-tone equal temperament) is shown below, rounded to the nearest 5 cents.

Partial numbers: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12

Deviations: 0, #.05, #.05, =, b.15, b.50, =, #.40, b.30, b.10

We can use our knowledge of hand stopping to bring some of these pitches into tune and reach additional pitches in between them. The following is a guide to hand positions for the natural horn. Every horn and hand is different, but an *open* position should produce the most desirable horn sound, and a *fully stopped* position should seal off as much of the bell as possible. The *extra open* position might necessitate removing the hand from the bell entirely. Positions for high F[#] and A are left blank in the exercises that follow—choose what works for you.

⊕ *fully stopped* ⊕ *echo (mostly stopped)* ⊕ *half stopped* ○ *open* ○ *more open* ⊙ *extra open*

Hand positions: ⊕, ⊕, ⊕, ⊕, ⊕, ⊕, ⊕, ⊕, ⊕, ⊕, ⊕, ⊕

Deviations: 0, #.05, #.05, =, b.15, b.50, =, #.40, b.30, b.10

1 Hand Horn Chromatic Scale

Repeat this exercise in F $\hat{\flat}$, E $\hat{\flat}$, D $\hat{\flat}$ and C $\hat{\flat}$, then G $\hat{\sharp}$, A $\hat{\sharp}$ and B $\hat{\flat}$ alto $\hat{\sharp}$.

Tempo: 76-176

Hand positions: ⊕, ⊕, ⊕, ⊕, ⊕, ⊕, ⊕, ⊕, ⊕, ⊕, ⊕, ⊕

$\overset{+}{\circ}$ *fully stopped*
 $\overset{\oplus}{\circ}$ *echo (mostly stopped)*
 $\overset{\ominus}{\circ}$ *half stopped*
 $\overset{0}{\circ}$ *open*
 $\overset{\circ}{\circ}$ *more open*
 $\overset{\otimes}{\circ}$ *extra open*

Repeat these exercises in \mathbf{F}_Y , \mathbf{E}_Y^b , \mathbf{E}_Y^b , \mathbf{D}_Y and \mathbf{C}_Y , then \mathbf{G}_Y , \mathbf{A}_Y and \mathbf{B}_Y also $\hat{\theta}$.

The first staff of music is written in treble clef with a common time signature (C). It contains a sequence of notes with various symbols above them: a flat symbol (b) above the first note, a phi symbol (φ) above the second, a plus sign (+) above the third, a circle with a dot (o) above the fourth, a plus sign (+) above the fifth, a circle with a dot (o) above the sixth, a circle with a dot (o) above the seventh, a phi symbol (φ) above the eighth, and a circle with a dot (o) above the ninth. The notes are: Bb, A, G, F, E, D, C, B, A. The piece ends with a double bar line and repeat dots.

Repeat these exercises in \mathbf{F}_0 , \mathbf{E}_2 , \mathbf{E}_1^b , \mathbf{D}_{12} and \mathbf{C}_{13} .

The first staff of music is written in treble clef with a common time signature (C). It begins with a series of eighth notes: G4, A4, B4, C5, D5, E5, F5, G5, A5, B5, C6, D6, E6, F6, G6, A6, B6, C7. The notes are decorated with various ornaments and accidentals: a natural sign above G4, a flat sign above A4, a natural sign above B4, a flat sign above C5, a natural sign above D5, a flat sign above E5, a natural sign above F5, a flat sign above G5, a natural sign above A5, a flat sign above B5, a natural sign above C6, a flat sign above D6, a natural sign above E6, a flat sign above F6, a natural sign above G6, a flat sign above A6, a natural sign above B6, and a flat sign above C7. The staff concludes with a double bar line and repeat dots.