

Kittatinny Instrumental Proficiencies

SCALES I

FRENCH HORN

Matthes

C Major (Concert F)



F Major (Bb)



Bb Major (Eb)



Eb Major (Ab)



Ab Major (Db/C#)



Db Major (/C# - Concert Gb/F#)



Gb Major (/F# - Concert B/Cb)



G Major (C)



D Major (G)



A Major (D)



E Major (A)



Musical notation for the E Major (A) scale, starting on A4 and ending on A5. The scale is written in treble clef with a key signature of three sharps (F#, C#, G#). The notes are A4, B4, C#5, D5, E5, D5, C#5, B4, A4.

B Major (/Cb - Concert E)



Musical notation for the B Major (/Cb - Concert E) scale, starting on B4 and ending on B5. The scale is written in treble clef with a key signature of two sharps (F#, C#). The notes are B4, C#5, D5, E5, F#5, E5, D5, C#5, B4.

C Chromatic 1 octave - play slurred



Musical notation for the C Chromatic 1 octave scale, starting on C4 and ending on C5. The scale is written in treble clef with a key signature of one flat (Bb). The notes are C4, C#4, D4, D#4, E4, E#4, F4, F#4, G4, G#4, A4, A#4, B4, B#4, C5. Triplet markings (3) are placed above the notes C#4, D#4, E#4, F#4, G#4, A#4, B#4, and below the notes F4, G4, A4, B4, C5.

G Major - 2 octaves



Musical notation for the G Major - 2 octaves scale, starting on G3 and ending on G5. The scale is written in treble clef with a key signature of one sharp (F#). The notes are G3, A3, B3, C#4, D4, E4, F#4, G4, A4, B4, C#5, D5, E5, F#5, G5.

A Major - 2 octaves



Musical notation for the A Major - 2 octaves scale, starting on A3 and ending on A5. The scale is written in treble clef with a key signature of three sharps (F#, C#, G#). The notes are A3, B3, C#4, D4, E4, F#4, G#4, A4, B4, C#5, D5, E5, F#5, G#5, A5.

Bb Major - 2 octaves



Musical notation for the Bb Major - 2 octaves scale, starting on Bb3 and ending on Bb5. The scale is written in treble clef with a key signature of two flats (Bb, Eb). The notes are Bb3, C4, D4, Eb4, E4, F4, G4, Ab4, A4, Bb4, C5, D5, Eb5, E5, Bb5.

C Major - 2 octaves



Musical notation for the C Major - 2 octaves scale, starting on C3 and ending on C5. The scale is written in treble clef with a key signature of no sharps or flats. The notes are C3, D3, E3, F3, G3, A3, B3, C4, D4, E4, F4, G4, A4, B4, C5.

G Chromatic 2 octaves - play slurred



Musical notation for the G Chromatic 2 octaves scale, starting on G3 and ending on G5. The scale is written in treble clef with a key signature of one sharp (F#). The notes are G3, G#3, A3, A#3, B3, B#3, C4, C#4, D4, D#4, E4, E#4, F4, F#4, G4, G#4, A4, A#4, B4, B#4, C5, C#5, D5, D#5, E5, E#5, F5, F#5, G5. Triplet markings (3) are placed above the notes G#3, A#3, B#3, C#4, D#4, E#4, F#4, G#4, A#4, B#4, C#5, D#5, E#5, F#5, G#5, and below the notes C4, D4, E4, F4, G4, A4, B4, C5.



Musical notation for the G Chromatic 2 octaves scale, starting on G4 and ending on G5. The scale is written in treble clef with a key signature of one flat (Bb). The notes are G4, Gb4, F4, Fb4, E4, Eb4, D4, Db4, C4, Cb4, B3, Bb3, A3, Ab3, G4. Triplet markings (3) are placed above the notes Gb4, Fb4, Eb4, Db4, Cb4, Bb3, Ab3, Gb4, Fb4, Eb4, Db4, Cb4, Bb3, Ab3, Gb4, and below the notes G4, F4, E4, D4, C4, B3, A3, G4.

French Horn Harmonic Series

The fundamental pitch of the French Horn is determined by the length of the tube. Its characteristic tone quality is determined not only by the size of the opening in the tube, but also the amount of conical tubing or flare.

Regardless of the length of tubing, a natural overtone series is produced when the air inside the tube is activated through the vibration of the lips. By changing the tension of the lips and air speed, the performer can move higher and lower within the harmonic series, without changing valves. Although the harmonic series is (in theory) endless, the chart below begins with the fundamental and continues through the 16th partial.

The 7th and 11th harmonic (partial) is so flat that it is unusable in the series (note the triangular shape of the note head). For both Horn in F and Horn in B \flat the 5th partial is noticeably flat while the 3rd and 6th harmonics are slightly sharp. *However, different brands of instruments and mouthpieces may produce varying results.*

Partials: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

The chart displays the following valve combinations for Horn in F and Horn in B \flat :

- Open
- 2
- 1
- 1-2
- 2-3
- 1-3
- 1-2-3

For each combination, the top staff (bass clef) shows the series for Horn in F, and the bottom staff (treble clef) shows the series for Horn in B \flat . The notes are labeled with their partial number and any necessary accidentals (sharps, flats, naturals). The 7th and 11th partials are marked as '(extremely flat)' and have triangular note heads. The 5th partial is noticeably flat, and the 3rd and 6th partials are slightly sharp.

French Horn Fingering Chart

Many players prefer to use the B \flat Horn (trigger) when they reach second line G \sharp and continue to use it throughout the upper register.

C	C \sharp D \flat	D	D \sharp E \flat	E	F
Open	T 2 3	T 1 2	T 1	T 2	T open

F \sharp G \flat	G	G \sharp A \flat	A	A \sharp B \flat	B
1 2 3	1 3	2 3	1 2	1	2

C	C \sharp D \flat	D	D \sharp E \flat	E	F
Open	T 2 3 or 1 2 3	T 1 2 or 1 3	T 1 or 2 3	T 2 or 1 2	T open or 1

F \sharp G \flat	G	G \sharp A \flat	A	A \sharp B \flat	B
2	Open	2 3	1 2	1	2

C	C \sharp D \flat	D	D \sharp E \flat	E	F	F \sharp G \flat
Open	1 2	1	2	Open	1	2

G	G \sharp A \flat	A	A \sharp B \flat	B	C
Open	T 2 3 or 2 3	T 1 2 or 1 2	T 1 or 1	T 2 or 2	T open or Open

C \sharp D \flat	D	D \sharp E \flat	E	F	F \sharp G \flat
T 2 3 or 1 2 or 2	T 1 2 or 1 or Open	T 1 or 2	T 2 or Open	T open or 1	T 2 or T 1 2 or 2

G	G \sharp A \flat	A	A \sharp B \flat	B	C
F open or F 1 or Open	T 2 3 or T 2 or 2 3	T 1 2 or T open or 1 2	T 1 or 1	T 2 or 2	T open or Open

Stopped French Horn

The stopped horn technique is usually done on the F side of the horn since stopping the B \flat side of the instrument raises the pitch farther than a half-step.

Stopping the horn is a technique where the right hand is inserted into the bell, blocking off the air completely. As the hand is inserted into the bell, the pitch will become almost a half-step flat.

However, when the hand *completely* stops the horn, the pitch is raised a half-step. If done correctly, a C major arpeggio will sound like a C \sharp major arpeggio when the horn is stopped:



(all notes fingered open)



(all notes fingered open with the horn stopped)

In order to play stopped horn passages, horn players must learn to finger the passage a half-step down from the written pitch (on the F side of the horn) to compensate for the sharpness.

To demonstrate this technique, play the following example the first time with the standard fingerings. Then stop the horn and play the passage again with the indicated fingerings - it should sound the same.

America



Stopped horn is indicated by the following terms: "stopped" (English), "gestopft" (German), "bouché" (French), and "chiuso" (Italian). In all languages, the sign "+" indicates that the note is stopped and the sign "o" indicates that the note is open.

Fig. 1: Tie a small knot at the end of the string.
Insert the thread through the hole in the extension rod from the opposite side.

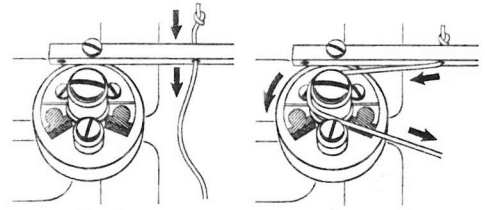


Fig. 2: Pull the string to set the knot.
Wind the string counterclockwise around one side of the stop arm hub...

Fig. 3: Continue clockwise around the set screw...

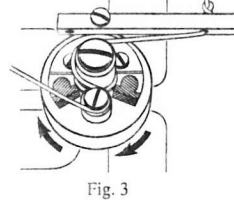


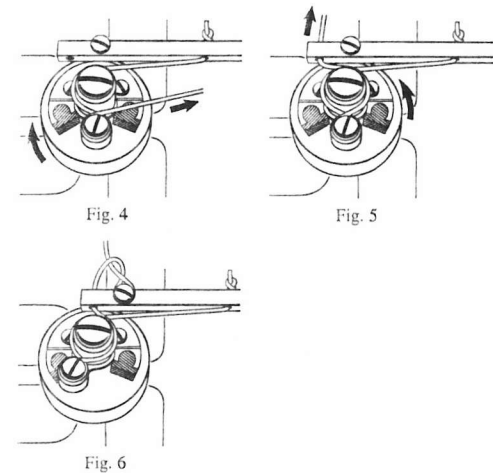
Fig. 4 & 5: Finally circle around the stop arm hub.
★ **Make sure the string passes underneath itself as it completes the figure-eight pattern around the hub and the set screw.**

Run the string through the hole near the end of the extension lever from the inside out.

Fig. 6: With the set screw resting against the stopper, adjust the length of the string so that all the keys are level.

Tighten the set screw.

Finally, form a small loop in the cord with the loose end under-place this over the small set screw and tighten. Cut the excess cord.



How To Tie A Trombone Trigger String

Fig. 1: Tie a small knot at the end of the string.
Insert the thread through the hole in the extension rod from the opposite side.

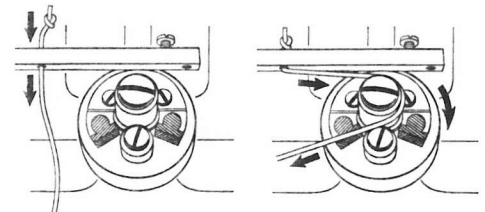


Fig. 2: Pull the string to set the knot.
Wind the string clockwise around one side of the stop arm hub...

Fig. 3: Continue counterclockwise around the set screw...

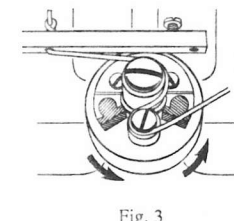


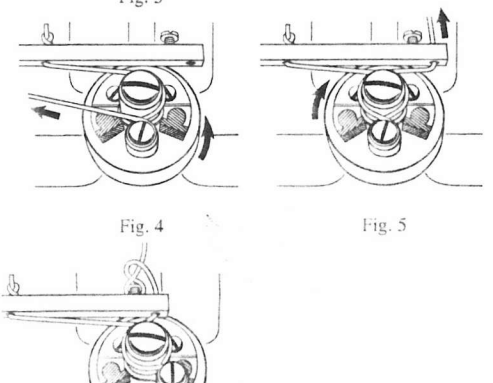
Fig. 4 & 5: Finally circle around the stop arm hub.
★ **Make sure the string passes underneath itself as it completes the figure-eight pattern around the hub and the set screw.**

Run the string through the hole near the end of the extension lever from the inside out.

Fig. 6: With the set screw resting against the stopper, adjust the length of the string so that all the keys are level.

Tighten the set screw.

Finally, form a small loop in the cord with the loose end under-place this over the small set screw and tighten. Cut the excess cord.



INTONATION CHART B \flat AND F HORN

Roman numerals beneath the notes indicate the degree to which the pitch is out of tune.

- I—Slightly out of tune
- II—Moderately out of tune
- III—Greatly out of tune
- IV—Drastically out of tune

The chart consists of six staves of music. The first two staves are in bass clef, and the last four are in treble clef. The notes are as follows:

- Staff 1 (Bass): G \flat , A, B \sharp , C, D \sharp , E \sharp , F, G, A \sharp , B \sharp . Roman numerals: III, II, I, I, I, II, II, IV, III.
- Staff 2 (Bass): G \flat , A, B \sharp , C, D \sharp , E, F, G, A, B. Roman numerals: III, (3) II, I, I, I, II, II.
- Staff 3 (Treble): G \flat , A, B, C, D, E, F, G, A, B. Roman numerals: II, I, I, I, II, II, II, II, III.
- Staff 4 (Treble): G, A, B, C, D, E, F, G, A, B. Roman numerals: (2), (0) II, II, II, III.
- Staff 5 (Treble): G, A, B, C, D, E, F, G, A, B. Roman numerals: III, II, III, III, III, III, III, III.
- Staff 6 (Treble): G, A, B, C, D, E, F, G, A, B. Roman numerals: III, II, III, III, III, III, III, III.

Summary of Notes Affected

The summary consists of two staves:

- F Horn:** Notes G, A, B, C, D, E, F, G, A, B. Accidentals: sharp (G, A, B, C, D, E), flat (F, G, A, B).
- B \flat Horn:** Notes G, A, B, C, D, E, F, G, A, B. Accidentals: sharp (G, A, B, C, D, E), flat (F, G, A, B).

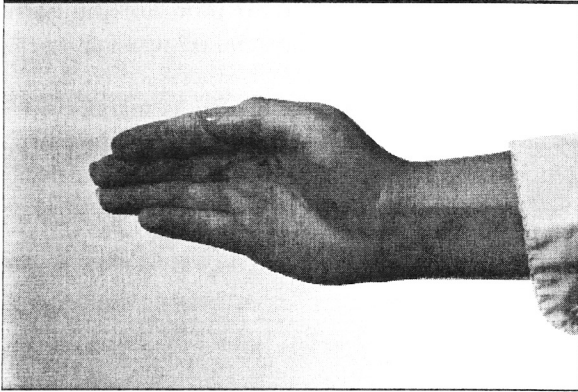


FIGURE 9.16
Right hand prepared for insertion in bell



FIGURE 9.17
Right hand inserted

Muting and Stopping the Horn

Muting the horn is accomplished by inserting a conical mute constructed of cardboard, metal, wood, or plastic with strips of cork to regulate the amount of muting. *Stopping* the horn is accomplished by inserting the hand into the bell of the instrument. The degree of insertion regulates the amount of stopping. There is a great deal of difference in tonal quality between a muted and a stopped horn; however, many players neglect to make the distinction between muting and stopping. Muting is referred to as follows: in English as *muted*, in German as *mit Dämpfer* or *gedämpft*, in French as *avec sourdine*, and in Italian as *con sordino*. Stopping by means of the hand is referred to as follows: in English as *stopped*, in German as *gestopft*, in French as *bouché*, and in Italian as *chiuso*. (There is a common misconception

concerning the German term *schmetternd* and the French *cuiore*. These terms refer to the player's ability to play a loud, "brassy" sound rather than to muting or stopping.)

Indications to remove the mute and return to open horn are as follows: in English as *open*, in German as *ohne Dämpfer*, in French as *ouvrez*, and in Italian as *senza*. Indications to return to open horn from stopped horn are as follows: in English as *open*, in German as *nicht gestopft*, in French as *ouvrez*, and in Italian as *aperto*. The sign "+" over a note indicates in all languages that the note is stopped, and the sign "o" that the note is open.

Hand-stopping the horn raises the pitch approximately one half-step; consequently, the notes must be played as though they were written for horn in E. A facile technique of hand-stopping the horn is difficult to master and requires much practice (Figure 9.18). The student must be sure to completely stop the instrument, since an almost-stopped instrument flattens the pitch almost a half-step. This leads to the mistaken belief that stopping the horn flattens rather than raises the pitch a half-step. When playing stopped notes correctly, the student must transpose down a half-step. Stopping should always be done on the F-horn, because stopping the B-flat side of the instrument raises the pitch farther than a half-step, which cannot be corrected by transposition.

The marching horn is in F without the double horn capabilities of B-flat. The marching horn's advantage is that the forward bell allows the sound to be projected directly toward the audience. It is held in the same way as the trumpet (Figure 9.19).



FIGURE 9.18
Right hand position for stopped horn



FIGURE 9.19
Marching horn

Two common mutes are manufactured for the horn—a transposing mute and a nontransposing one. The transposing mute requires the same transposition as the stopped horn; its value lies in its brilliant brassy tone. The nontransposing mute does not alter the pitch of the horn, and its tone is less brassy than the transposing mute. On both mutes the corks should be sandpapered until they fit the instrument and provide the desired tone quality.

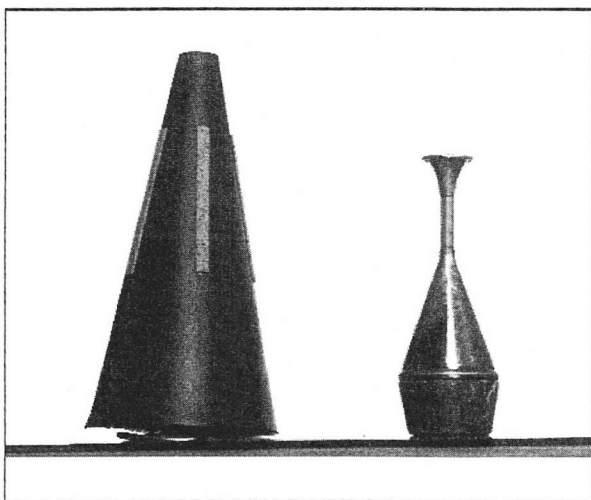


FIGURE 9.20
Horn mute (straight); horn mute (stopped)

Straight Mute is the standard mute for the horn and is designed to play in tune (Figure 9.20).

Stopped Mute is used as a substitute for stopping with the hand (Figure 9.20). This is usually designated with a "+," meaning to stop the horn, which produces the next ascending semi-tone and requires the horn player to play a half-step lower.

Tuning Horns

Single horns in F and B-flat have one main tuning slide, while the double horn in F and B-flat is equipped with two main tuning slides, one for each side of the instrument. Each horn, whether single or double, should be tuned first with this main tuning slide and with the right hand in the normal playing position in the bell. After the main tuning slide has been used to tune the open horn and after each valve slide has been used to tune the open horn, each valve slide should be tuned. Normally, manufacturers make the horn a little sharp with the valves all the way in; they must be pulled out in relation to their total length. For example, the second valve should have to be pulled out the least, the first a little more, and the third the most. Many hornists, for ease of replacement after emptying condensation, mark their main tuning slide and valve slides once they have the horn exactly in tune. A small change in the main tuning slide should not require any adjustment of the three valve slides, and the student should remember that tuning cannot be absolute. The performer must be able to hear beats and be able to tune them out quickly when playing with another performer. Playing in tune requires adjustment to the sounds of the other instruments and does not depend entirely on the way the instrument has been tuned, even though this can be a great help.

Intonation

For a discussion of intonation problems caused by characteristics of the overtone series and the three-valve, seven-combination system, see Chapters One and Eight.

The following example gives a chromatic scale that indicates whether the note is flat or sharp. The roman numerals show the degree. The hornist can adjust the pitch of the horn by closing the right hand in the bell to flatten or open the hand to sharpen.

Vocalise

French Horn (in F)

SERGEI RACHMANINOFF
Transcribed by H. Voxman

Lentamente. Molto cantabile

The musical score consists of ten staves of music for French Horn in F. The key signature is one flat (B-flat major or D minor). The piece begins with a tempo marking of "Lentamente. Molto cantabile".

- Staff 1:** Starts with a dynamic marking of *[p]*. The music features a mix of eighth and sixteenth notes with some slurs.
- Staff 2:** Includes a trill (*tr*) and a dynamic marking of *mf*. The instruction "poco più ani-" is written above the staff.
- Staff 3:** Features a dynamic marking of *mf* and the instruction "mato" above the staff.
- Staff 4:** Shows dynamic markings of *f*, *mf*, *p*, and *f*.
- Staff 5:** Includes dynamic markings of *mf*, *f*, and *p ritenuto*.
- Staff 6:** Features dynamic markings of *mf*, *cresc.*, and *f*. The instruction "poco più mosso" is written above the staff, and "un poco rit." is written below.
- Staff 7:** Includes dynamic markings of *p*, *mf*, *cresc.*, and *f*. The instruction "a tempo" is written above the staff.
- Staff 8:** Features dynamic markings of *ff* and *dim.*.
- Staff 9:** Includes dynamic markings of *p* and *p espressivo*.
- Staff 10:** Features dynamic markings of *cresc.*, *ritenuto*, and *ten. ad lib.*. The piece concludes with a fermata.

Romance

C. SAINT-SAËNS, Op. 36
Edited by H. Voxman

French Horn (in F)

Moderato

2

p

f *dim.* *p*

2

pp *p*

*Un peu plus de Mouvt**

1

cresc. *sf*

ff *ff* *stringendo* *ad lib.*

p *pp*

a tempo

p

2

dim.

* more animated

F Horn

Two Songs

I. Liebestreu

(Faith of Love)

J. BRAHMS, Op. 3, No. 1

Very slowly

2a

p *pp* *dreamily*

f *p* *poco più mosso*

Tempo I *rit.* *pp* *f* *mp* *più mosso*

cresc. *f*

f *pp* *1* *sempre rit. e dim. al fine*

II. Tambourliedchen

(Song of the Drummer Boy)

J. BRAHMS, Op. 69, No. 5

Very lively

2b

f

p

p

cresc. *f* *5* *1*

Romanze

Violin Concerto No. 3

Concerto No. 3

K. 447

W. A. MOZART

Edited by H. Voxman

Allegretto $\text{♩} = 72$ *Poco*

6 *p*

1

1 *p* *f* *mf*

2 *mp* *mf*

4 *mf*

7 *pp* *f*

Piano *mf* *mf*

5 *mf* *mf*

4 *p*

1 *sfp* *sfp* *sfp* *sfp* *f* *p*

(not too much)

3 *p*

3 *mf*

10 *mp* *p* *rit.* *pp*

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