

Sizes, Shapes and Scales

Tips and Tools to Communicate with Young Bass Players

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1. Packing and Unpacking a Bass

-Huh?

I know this seems like a “well, duh” statement, but we’ve all seen it in action! The easiest way to pack and unpack a bass is with the instrument **standing up**. Gravity is your friend.

For Unpacking: hold the neck with one hand and unzip the zippers with the others. This is always easier with a case that zips up the neck. Try to avoid cases with only quarter zips at the bottom or cases that have the zipper going over the scroll. If your zipper does go over the scroll, don’t unzip it all the way! Get one hand onto the neck of the bass, and use the other hand to lift the case off. Sometimes leaning the bass or a half spin is needed.

For Packing: Put the endpin into the instrument first. In a vertical position, hold the bass around the neck and the case in the other hand. Drape the case over the scroll, let gravity help you. Make sure the bow sleeve is in front and that the music pouch is on the back!

For Carrying: I prefer a shoulder strap to carry basses. Straps can be used on the outside shoulder or by “climbing into” the strap, bringing the strap across the chest.

Wheels: *It is my opinion that wheels are only necessary when walking long distances.* The KC Strings Bass Buggy is great for helping students travel distances with their instruments. Wheels that go into the endpin are also ok. Make sure that endpin wheels are pneumatic and can absorb bumps as the shock is being applied directly to the instrument block. Luggage carts and bungee cords work well too.

2. Bass Sizes

-What Size Is It?

There are now a variety of bass sizes available on the market but the sizes often seem strange or contradictory. First of all, a “full size” or “4/4” bass does not exist. It is true that there are some really large basses but those are most often labeled as “7/8”. Bass luthiers traditionally worked separate from other instrument luthiers, therefore there is a greater variety in shapes and sizes and less standardization.

List of bass sizes:

- **7/8-** large body, slightly longer string length- around 42”. Good for large players. Creates a big sound, great for orchestral playing but the larger body can prohibit upper position accessibility in solo work.
- **3/4-** This is the standard “full size” for bass players. Most players move into a full size around 7th grade.
When a student purchases their own bass, it should be a 3/4.
- **5/8-** This is a specialty size. Most students should NOT look for a 5/8 instrument and it is NOT a transition into 3/4.

- **1/2-** This is the most common elementary and early middle school size. Most 5th grade beginning students will size into a 1/2.
- **1/4-** This is a fairly common size and is widely available from most shops. Students usually spend one year on 1/4.
- **1/8-** This is another specialty size that is being seen more widely.

What size to choose?: When sizing students, I first look at the size of their body and try to fit an instrument to them that looks natural. The second consideration is the size of the player's hands. Smaller hands mean smaller bass. A student should be able to reach to the bridge when bowing. Try to avoid having to lengthen an endpin on a small instrument. Move them up in size.

Important: Avoid students mixing sizes! Students will often end up with one size bass at home and a different size at school. Insist that the instruments be the same size. This is most common with young players in middle school where 1/2 is not available and in elementary where a 1/4 is not available and almost always on 1/8.

Set-up: Proper set-up is key to making basses playable for young students. Bridge adjusters are highly recommended and should be checked as the seasons change.

String Spacing: The distance from the center of the G to the center of the E, on the bridge should be 76-78mm.

The distance between my strings are:

G-D: 25mm

D-A: 27mm

A-E: 26mm

String Height: String height is probably the most important setup adjustment to allow for easier playing instruments. String heights will vary depending on the scoop of the fingerboard. Over time a finger board dress may be necessary if strings are buzzing against the fingerboard while being played. These problems may also be symptoms of a warping bridge, a worn nut, a warped fingerboard or more serious problems such as a cracked scroll or a neck coming unglued.

The string heights on my bass are:

G- 7mm

D- 8mm

A- 9mm

E- 11mm

3. Proper Playing Position

-Standing vs. Sitting

For Standing: The back edge of the bass along the upper bout should rest on the hip- usually where the belt loop is. The left leg should be slightly behind the instrument and the knee may contact the bass if necessary.

Important: Avoid allowing students who are bowing to stand on the side of the instrument! Maintain a clear path for bow travel.

- *Feet should be shoulder width apart. Balance the knees over the feet and the hips over the knees. Balance the head on top of the spine- orange on a toothpick! The classic "Grow an Inch" strategy is great for this.*

When going into higher positions- lean forward at the *hips*, allow the bass neck to come into the shoulder.

For Sitting: Make sure that the stool has a rung for the left leg to rest on. I find that stools with one even rung are preferable to those with different heights as the student may not notice the difference! The right foot should remain flat on the floor and the leg should be out. Bring the bass into the body and allow the weight of the instrument to rest on the left leg. I prefer having the left leg up instead of both feet flat on the floor.

Important: Make sure the bass is far enough forward (not too deep into the body) to allow for smooth bow travel without contacting the right leg, especially on the E string.

Endpins: Endpin height should change going from seated (a lower endpin setting) to standing (a higher endpin setting). The goal is to set the first finger in first position (first finger "E" on the D-string) at about eyebrow level. Students should be able to see their hand out of the corner of their eye while playing and should be able to easily look over at their hand. Make sure that the bass angle does not set the left hand behind the ear.

I prefer standing and I ask my students to stand. I believe it promotes better body mechanics and awareness. It is fine to provide stools or chairs for students but I find that it slows down their ability to be ready to participate!

I do not use the Rabbath bent endpin. The methods involved with the Rabbath and George Vance Methods are valid and useful. They are not my areas of expertise. Professor Hans Sturm at the University of Nebraska is an expert in this area and is always available to clinic and teach this subject!

4. Right Hand Shapes

Right hand skills and shapes are essential for all string players. Bass players should also have significant emphasis placed on proper pizzicato technique in addition to arco.

I prefer French bow and most of my knowledge is in this area.

Proper Bow Placement: End-pin height should place the bow between the bridge and fingerboard. Students should be able to place the bow onto the bridge without excessive reaching.

French Bow: Fingers wrap over the stick, a bent thumb is placed behind the second finger. The thumb can be applied either on the stick at the end of the frog or at the back of the “U” on the frog. When the thumb is at the “U”, it should be in the upper corner and not be allowed to slide through. Thumb knuckle may contact the ferrule, this is ok. When the thumb is placed on the stick, I find that the ring finger will contact the ferrule. When the thumb is placed on the corner of the “U”, I find that the middle finger contacts the ferrule.

German Bow: Make the “OK” hand shape and form around the bow. Encourage students to use the natural weight of their arm to generate sound rather than pushing down with the thumb onto the stick. The same relaxed and fluid wrist motion that is sought in French bow (or violin/viola bowing) still applies to German bow. The difference is that the wrist is turned 90 degrees.

Straight Bow: Emphasize that the bow stay parallel to the bridge. **Students should keep their hand below the tip of the bow.** As players pull towards the tip, there should be a slight lifting. This prevents students from catching extra strings. Bowing is like fishing: *Always keep your tip up!*

Pizzicato: Anchor the thumb on the side of the fingerboard, about 2 inches from the bottom of the fingerboard and pull the string down *into* the lower string. The finger being used varies with the individual. Index finger only, middle finger only or both together are all acceptable. Over time students should learn to use both for greater speed and variety, especially when playing in a jazz ensemble.

5. Left Hand Shape

-What does it look like and where does it go?

Proper left hand shape and spacing is essential for quality tone and intonation. Players must keep their fingers pressed into the fingerboard until the next note.

Proper Hand Shape and Position:

Thumb Placement-“Cup” Shape- The left hand should look exactly like holding a can of soda or a water bottle. The thumb must point towards the ear. Having a student grasp a bottle and observe their hand is an effective tool for creating a good hand shape.

Finger Spacing- “Pops” Shape- There should be a $\frac{1}{2}$ step between the first and second finger. There should be a $\frac{1}{2}$ step between the second and fourth finger. Bass fingers are NOT equidistant from one another. The distance between first and second finger is roughly that of a Pops Rosin container! It is vital that students understand the whole step, half step relationships in their hand. This knowledge will empower players to know what notes are available to them and when and where they should shift.

-Identifying Fingerboard Playing Positions

-Labeled using 1st Finger note on the “G” String

1/2= “Ab” I= “A” II= “Bb” II $\frac{1}{2}$ = “B” III= “C” III $\frac{1}{2}$ = “C#/Db” IV= “D”
IV $\frac{1}{2}$ = “D#/Eb” V= “E” VI= “F” VI $\frac{1}{2}$ = “F#” VII= “G” T= Thumb,

Finger Tapes: This is obviously a topic with a variety of opinions! Here are *my* suggestions:

Place tapes marking I position (all notes are on the G-string)- “A” and “B”. Use *different* colored tapes to mark III position- “C” and “D”. Return to the first color to mark V position “E” and “F#” on the G-string . I like a small round sticker at the “G” harmonic.

I do a lot of pencil markings on basses, my own included. I will usually mark out the “C#” on the G-string with pencil, but I avoid taping this note. Adding tapes on the half steps starts to look very confusing to students. By having two colors, students can easily see where they should be and can give you an added communication tool from across the room.

Reasons: I believe that bass hand shape is built from the 1st finger. A strong understanding of the half-step (1st-2nd) and whole step (1st-4th) created by the hand is crucial to good intonation and understanding what notes are available in the variety of positions. Marking I, III, V and VII positions will allow students and teachers to visualize almost all combinations of positions needed for 2 octave scales.

Other Useful Finger Pattern Reminders- Basses are tuned in fourths, a **perfect fourth** interval is achieved by playing the same finger, one string over. More useful is that a **perfect fifth** is achieved with the 4th finger down and the 1st finger one string lower. An **octave** is achieved with the 4th finger down and the 1st finger two strings lower.

6. Scales

Scales are often more cumbersome on bass than other string instruments. Because of the way the instrument is tuned and because of its size, bassists are in extreme upper positions more quickly than other string instruments. Classroom teachers can find their fingerboard knowledge exhausted after one octave and at a total loss trying to communicate two and three octave fingerings in a classroom setting.

A few useful things to remember about scales:

Cheater Scales- This is my term for scales that start in the second octave and drop down to the first octave, usually on the open E but sometimes on F. This idea allows bassists to more comfortably participate in common two octave scales (C, D, E-flat major). This idea also allows for the playing of three octave scales that otherwise require an extended fingerboard (E-flat major) or a low C extension.

½ Step Resolution- All scales should end with the ½ step in one hand position, that is to say “2-4” or “2-“3. Avoid any scale fingerings that resolve “1-2” or “4-4” or “3-3”.

Upper Octave Universal Finger Pattern- Every scale the ends above B-flat in the Thumb position will be fingered: 1* 2- 1 2- 1 2 3, where 1* is the second (re) scale degree. The idea of “2” is relative though, because it is representing a whole step. “2” can be subbed with “3” in higher positions and is necessary when playing chromatic passages in upper octaves. “2” can also be subbed with “4” in lower positions.

This finger pattern is consistently applied for all scales ending *above* Bb5.

Tetrachords- Every scale that involves a shift can be shifted with the goal of maintaining the tetrachord pattern: 1-4 (whole step) 2-4 (half step) or 1-4 (whole step) 2-3 (half step). These patterns are extremely helpful, as they will dictate a large chunk of when to shift in diatonic passages. However, in order to maintain the *universal finger pattern* in the upper octaves, the tetrachord approach does not always work out. In minor scales, the major tetrachord pattern works very well!

When to switch to “3”- The switch to 3rd finger and away from 4th finger happens at the harmonic, VI position. All notes including and above the harmonic will use a 3rd finger and 4th finger is no longer used.

When to shift and where to go- The goal for bass players is to play as many notes as possible in one position without shifting and without compromising bowings. The upcoming note usually dictates position selection. More often than not, the pitch two notes ahead dictates the final decision! The Simandl book exercises emphasize this type of decision making throughout.

7. Useful Equipment and Accessories

These are items that will make the lives of you and your bass players much easier!

Quivers: Invest in bow quivers for your basses! They make rehearsals much easier for the players and quieter and less distracting for you! Quivers also protect bows and instruments when walking through the halls and aid in *arco* to *pizzicato* transitions.

Bows: Invest in better bows! Bass bows are not cheap but they do last. For middle school and high school classrooms I like braided carbon fiber and entry level wood bows. If possible, rehair your bows every one to two years. The difference in sound from your traditional fiberglass bow is amazing and the better bows will allow bass players a greater ability to properly articulate different strokes.

Tuners: Keep tuners ready and available to your bass players. I prefer Korg brand tuners. Avoid “guitar” tuners as they will not pick up the low sounds. The addition of the separte clip is very helpful as well. There are many good clip-on tuners available such as Snark and Orb.

Strings: For school basses use D’Addario Helicore Orchestral strings, medium tension. The Helicores will last a long time and are relatively affordable, \$100-\$120 for a set. If you have a designated “jazz” bass at school, I highly recommend using Thomastik Spirocores, \$160-\$200. These are the best jazz string and will last a long time! They are on the scratchy side for orchestra but sound great in jazz band. If you are able to buy higher end strings I prefer Thomastik Bel Canto, \$220+. They have an even sound and work well for jazz and classical.

Rosin: I prefer Carlson rosin. I also like Nieman and Kolstein. I try to avoid Pops because it is very sticky and it will run! If you have Pops, keep it in a sandwich bag, then replace it in the container. This will help keep it together.

Pick-ups: The very best pick-up available for school use is the Realist by David Gage, \$210. It mounts under the foot of the bridge and stays there forever! Installation is easy and fast. *Hint:* Use a zip tie too attatch the cable port rather than taking the string off! The Fishman Full Circle, \$220, is also good. I do not find it necessary to use pre-amps or other electronics, especially in a school setting.

Bridge Adjusters: Try to have adjusters on all of your basses. They can be added to an existing bridge for around \$75. I like string heights to be around 7-10mm off the fingerboard. Too low and you will get buzzing, too high and the strings are hard to push down.

Cases: Try to get a full zip case for your bass players. The more handles, the better. I prefer using a shoulder strap to carry an instrument. Careful- some cases have a lot of pockets on the front side. These can cause an instrument to roll onto its bridge.

Amplifiers: I like Fender Bassman amps. I use a Roland DB-150 for myself. For school use, a combo amp is best. This means that the electronics (the dials and knobs) and the speaker are all housed together in one unit. Try to get an amp that has wheels or place it on a luggage cart for easier portability.

8. Double Bass Literature

This is a small sample of literature that I use in private lessons. These titles can provide direction for orchestra teachers helping bass students.

Method Books

- My First Simandl- William Eckfeld/ Amy Rosen
- Simandl- Simandl/ Zimmerman/ Drew- *Carl Fischer*
- Essential Elements- Allen/ Gillspie/ Tellejohn-Hayes- *Hal Leonard*

Solos

- 77 Baroque Basslines- Lucas Drew- *Alfred*
- Festival Performance Solos- *Carl Fischer*
- Eight Festival Solos for Bass and Piano- Deborah Baker Monday
- Thirty Etudes for String Bass- Simandl- *Carl Fischer*
- Russian Sailors Dance- Gliere/ Issac- *Carl Fischer*
- Die Mietersinger- Wagner/ Issac- *Carl Fischer*
- Gavotte- JS Bach/ Zimmerman- *Carl Fischer*
- Caballero- John Merle- *Carl Fischer*
- Introduction and Dance- A. Louis Scarmolin- *Ludwig*
- Sonatas G major, G minor, E minor, C major, A minor, F major- Marcello- *International*

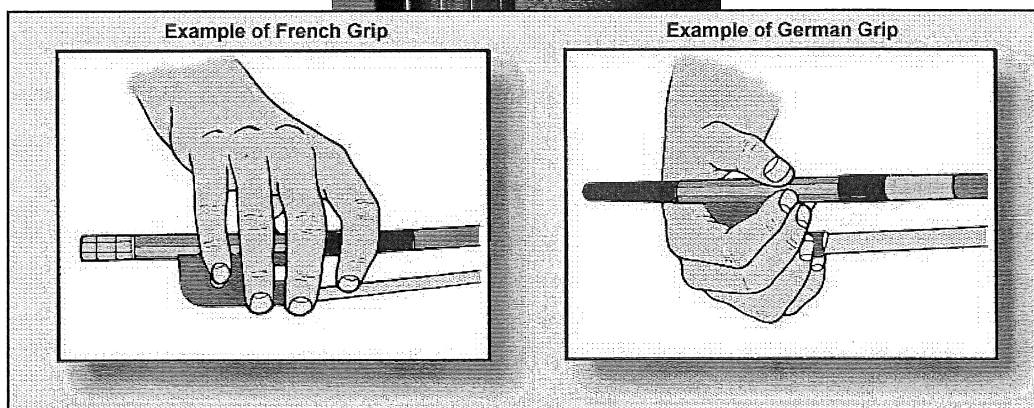
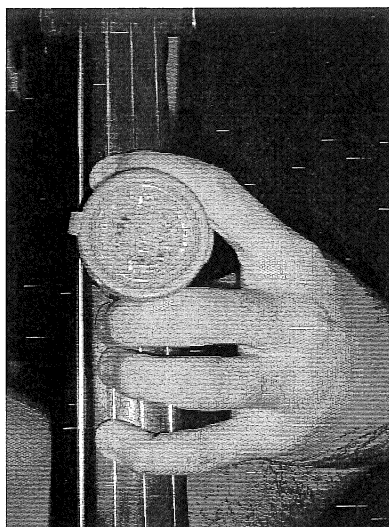
Solos beyond Marcello in difficulty should not be attempted without private teachers!

- Concerto in A major- Dragonetti- *International*
- Concerto in E major- Dittersdorf- *Hal Leonard*

Solo Tuning- Many advanced bass concertos are written in “Solo Tuning”. In Solo Tuning, the player tunes each string up a whole step. This creates a brighter tone and helps the instrument project during a solo. Strings labeled “solo” are intended to handle the increased tension although most strings can maintain solo tuning without incident.

Jazz Solos

- The Music of Paul Chambers- Transcribed by Jim Stinnett- *Stinnett Music*
- The Music of Oscar Pettiford- Transcribed solos by Volker Nahrman- *self published but widely available*
- The Bass Tradition- Todd Coolman- *Jamey Abersold*
- The Real Book- Various- *Hal Leonard*



Helpful Websites for Bass

KC Strings Violin Shop kcstrings.com

Jason Heath's Double Bass Blog doublebassblog.org/ Great Resource for Printable Scales and Orchestral Excerpts

International Society of Double Bassists www.isbworldoffice.com/

Lemur Music www.lemurmusic.com/

American School of Double Bass www.asodb.com/ Some great resources on the Simandl-Plus technique

Bob's House of Basses www.bobshouseofbasses.com/home.asp

DoubleBass.biz www.doublebass.biz/

Bass Scales

KMEA In-Service Workshop 2013

McCarthy Mayer

C Major

Bass

1 1/2 I

2 0 1 2 0 1 2 0 1 2 0 1 2

5 4 1 4 1 3 1 2 3 2 1 3 1 4 1

9 4 2 1 0 2 1 0 2 1 0 2 1 0 0 2

F Major

14 1/2 III IV 1/2

1 4 0 1 4 0 2 4 0 2 4 1 4 2

18 4 1 2 1 2 1 2 3 2 1 2 1 3 1

22 4 2 4 1 4 2 0 4 2 0 4 1 0 4 1

Bb Major

27 1/2 I IV 1/2 T

1 4 0 1 4 0 2 4 1 4 1 4 T 1

31 2 1 2 1 2 3 2 1 2 1 2 1

35 2 1 T 4 1 4 1 4 2 0 4 1 0 4 1

Eb Major

40 1/2 I 1/2 II III 1/2

1 1 2 4 1 4 0 1 4 0 1 1 4 2

44 4 1 3 1 2 1 2 3 2 1 2 1 3 1

48 4 2 4 1 1 0 4 1 0 4 1 4 2 1 1

Bass Scales

53 Ab Major I 1/2 I 1/2 II 1/2 IV 1/2 VI 1/2

57 T 3 1 2 1 2 1 2 3 2 1 2 1 2 1

61 VI 1/2 3 2 4 1 4 2 4 1 0 4 1 4 2 1 4

66 Db Major I 1/2 I 1/2 I 1/2 I 1/2 II 1/2

70 IV 1/2 VI 1/2 T VI 1/2 IV 1/2 4 1 4 1 3 1 2 3 2 1 3 1 4 1

74 II 1/2 1/2 I 1/2 I 1/2 I 1/2 I 1/2 I 4 2 4 1 4 2 1 4 2 1 4 1 1 1 4

79 F# Major I 1/2 I 1/2 I 1/2 I 1/2 III 1/2 V

83 T 4 1 2 1 2 1 2 3 2 1 2 1 2 1

87 V 4 2 4 1 4 2 1 4 2 1 4 1 1 4 1

92 B Major I 1/2 I 1/2 I 1/2 III 1/2 V T

96 2 1 2 1 2 1 2 3 2 1 2 1 2 1

100 V III 1/2 I 1/2 I 1/2 I 2 1 4 1 1 4 1

105 E Major
I 1/2 I 1/2 II 1/2 IV

109 VI 1/2 T VI 1/2

113 IV II 1/2 1/2 I 1/2 I

4 2 4 1 2 1 4 1 1 4 1 0 4 1 0

118 A Major
I 1/2 III V VII

122 T

126 VII V III I 1/2

0 1 4 0 1 4 1 1 4 2 4 1 4 2

3 1 2 1 2 1 2 3 2 1 2 1 2 1

3 2 4 1 4 2 4 1 1 4 1 0 4 1 0

131 D Major
I III

135 V T VI

139 III I

0 0 1 2 0 1 4 0 1 4 0 1 4 2

4 1 4 1 2 1 2 3 2 1 2 1 4 1

4 2 4 1 0 4 1 0 4 1 0 2 1 0 0

144 G Major
I II IV VI

148 T

152 IV IV II I

2 0 1 2 0 1 4 0 1 2 4 1 4 2

3 1 2 1 2 1 2 3 2 1 2 1 2 1

3 2 4 1 4 2 1 0 4 1 0 2 1 0 2

