

# Tuning for the Ensemble: Tips for Better Marching Percussion Tuning

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Ah! It's spring once again and time to dust off the marching drums and begin the age old process of spring conditioning. While the thought of starting new invigorates some, it has the potential to scare others. The constant pounding of marching percussion instruments echoes in the minds of some like a jackhammer during construction season. I don't blame those individuals one bit. After all, these instruments have probably not been tuned since they were put away after the last marching season. We certainly can't expect a flute, violin, guitar, oboe, or other instrument to produce a pleasing music sound immediately out of the case under the same circumstances, can we? So why should we expect anything different from the percussion instruments?

I am here to tell you that there is hope! To cut to the chase, we need to start thinking about (and treating) marching drums as musical instruments (insert bad drummer joke here). *Really*. I talk to band directors all the time who attempt to distance themselves by claiming that they don't really know about percussion. *Fine*. Maybe they don't know the latest rudimental jargon, slang, or latest drumming gadgets. But they DO know how to achieve a great sound from their wind section, right? I hear these same directors talk about "moving

air", "resonance", "fundamental pitch", "overtones", and other musical terminology that is WAY too fluffy for drummers, right? This is where the fundamental mistake is made in teaching, tuning, balancing, or generally interacting with percussion instruments (and percussionists for that matter). In this article I seek only to address the issue of tuning in an attempt to try to shed light on developing a more pleasing musical sound from your marching percussion section. If knowledge is half the battle... then the aforementioned educators are more than half way there! What a great place to start!

## Basic Drum Tuning Tips

Let's start by making sure we are all on the same page with regards to essential concepts regarding tuning. These concepts apply to ALL PERCUSSION instruments since they all function on the same principals of sound production.

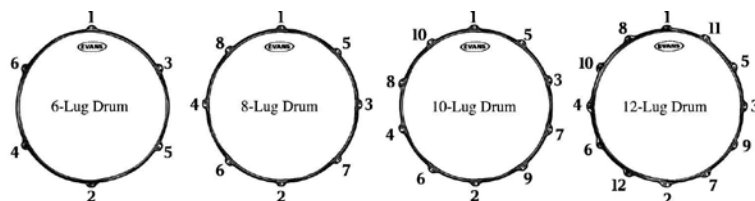
1) **Keep it Clean.** Clean off the bearing edges and counter hoop before installation. Remove any lint or debris from inside the shell. While the head is removed, be sure to lubricate any moving parts with lithium grease or similar lubricants. Be careful

to not go overboard, as excess lubricant can attract dirt. Paraffin or candle wax can be used on bearing edges (or the underside of heads) to further promote even drum head seating.

2) **Listen to the head** through all steps in the tuning process. Strive for a clear, focused sound by keeping all lugs in tune at all times. The head should produce a clear "fundamental pitch" with pleasing "overtones" void of dissonance. (Here I go with that band director talk again!) The dissonance we hear from a drum often comes from the drum not being in tune with itself.

3) **Develop your "key technique"** by monitoring the amount you turn each lug and how it affects pitch. Developing a good "feel" for tuning will help the process. A well-lubricated drum will make it easier to "feel the tension" of each lug so be sure to lubricate moving parts as needed.

4) **Always use the Opposite Lug Tuning Sequence** that is relative to the number of lugs for your drum. (See diagram below.) Tuning across using this sequence (with equal key turns) ensures the head seats properly on the drum.



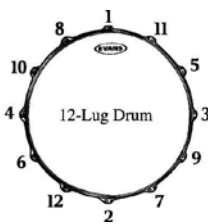
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### Marching Snare Drums—Playing Well with Others

The goal in tuning a marching snare drum should be to strike a balance between the warm, characteristic sound of a snare drum with the projection and articulation necessary to “speak” clearly in a marching setting. We have all seen groups create the “table top snare sound” by overshooting the goal of adequate articulation—which then sacrifices the warm characteristic sound needed to blend well with other instruments in the ensemble. The end result in many cases is a lack of tonal balance between the snare drums and the rest of the ensemble. In this scenario, the timbre (or tonal color) of the snare drum is too bright to blend with other instruments. Striving for a great balance between a warmer characteristic snare sound and an appropriate projection is essential in achieving a sound that “plays well with others”. You will be surprised how high you DON’T have to tune your snare drums to achieve this. Below are the basic steps for achieving this sound.

#### Snare Tuning Steps:

1) **Mount the top head** and finger-tighten all lugs to equal tension. Achieving equal tension throughout the tuning process will result in a clear tone (void of excess and unwanted overtones that detract from the fundamental pitch of the instrument).



2) **Use the appropriate sequential tuning method** and continue tuning with a drum key until the drum is within general marching snare tuning range. This will ensure the head is in tune with itself which helps the head to produce a clear tone.

3) **Bring the top head up to pitch** by continuing to use the tuning sequence until the desired sound is achieved. Be sure to not over-tension the drum. This limits the heads ability to MOVE AIR through the shell, which can dramatically limit snare response.

Once you have achieved the desired sound, you can use a tuner, piano, or keyboard to find what pitch you have determined sounds best on your drum. Make a note of this pitch and use as a reference for future tuning sessions to ensure the drum stays in the desired range over the course of your season.

4) **Disengage the snares** and use the same techniques listed above in steps 1-3 to tune the bottom head.

5) **Time to address the snares themselves.** With the snares disengaged, turn the drum upside down as illustrated. Place a pen between the guts and the drumhead so the snares can resonate freely.

6) **Tune the individual guts** until they resonate and produce the same pitch. Check the pitch by plucking each gut like a guitar string and



adjust the set screw as needed until all guts produce the same pitch. This is one of the most overlooked steps in snare drum tuning and also one of the most essential in achieving a great SNARE sound. Go figure, if you don't tune the SNARES...you won't achieve a great SNARE sound.

7) **Remove the pen.** Engage the snare strainer, turn the drum over, and rest on a stand in playing position.

8) Now that the guts are tuning to the same pitch, you will need to **adjust the tension knobs** to apply the appropriate snare tension to the bottom head. Most drums come with vertical and lateral adjustments. Start with the lowest tension setting (on both adjustments) and tap the top head (with a stick) while adjusting the knobs until you reach your ideal snare



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sound. Run your fingers across the guts to ensure they are touching the bottom head across the entire diameter of the drum. If they are not, you will need to dial back the tension (on one or both knobs) to achieve a balance between your vertical and horizontal settings.

**TUNING TIP:** Beware of over-tightened snare drums (and snares). Aside from damage to the player's hands and the instrument, snares that are tuned too high don't project or blend well with other instruments. Remember—the key to a great snare sound is achieving a balance between tonal color and articulation.

### Tenor Drums—The Chameleon of the Drumline

Aside from being fun to watch, the tenors fulfill an important function in the overall sound of a marching ensemble. Often this role changes with different shows, musical selections, genres, and stylistic considerations. For this reason, it is important to make sure that you are tuning for these considerations. While there is not “one way” to tune tenors (or any drums for that matter), using the recommended steps below will ensure your tenor drums produce a clear and well defined tone that will add to the ensemble without having to compete for space in the overall ensemble sound.

#### Tenor Tuning Steps:

1) **Mount the top head** and finger-tighten all lugs to equal tension. Achieving equal tension throughout the tuning process will result in a clear tone (void of excess and unwanted overtones that mask the fundamental

2) **Start with the largest drum**, use the appropriate sequential tuning method and use ½ turns on each lug, until the drum

is within its general tuning range. As you bring the head up to range, use a stick to tap in front of each lug to ensure that each lug produces an identical clear tone.

3) **Bring the large drum up to a pitch** that you feel achieves a pleasing sound without choking the drum. Remember the drum needs to MOVE AIR to achieve a pleasing tonal color. Tensioning the drum too high will limit the ability for the drum to move air through the shell of the drum.\*

4) **Repeat steps 1-3** with the rest of your drums, tuning all drums in reverse order of size. Use a chromatic tuner to reference the pitches that sound best to YOU! The goal should be to achieve a variety of pitches but a similar tonal color from drum to drum.

5) **Experiment** with different tuning schemes, ranges, heads, implements, and other factors to realize the full potential this instrument can bring to the overall sound of the ensemble!

**TUNING TIP:** Be sure to use a tuning device to ensure pitch accuracy. Tuning using this method will not only ensure proper tuning, it will decrease damage caused by over-tightening.

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#### \*A note about using pitches:

I often see instructors overly concerned with what pitch to use when tuning drums. I decide what pitch to use by FIRST achieving the best sound on each drum. After I get the ideal sound for that drum, I determine the pitch the drum is producing. Therefore, the purpose of using pitches is to serve as a tuning reference for consistency in tuning throughout the season.



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### Bass Drums—To ‘BOOM’ or not to ‘BOOM’

Like snares and tenors, bass drums pose a unique challenge as it relates to achieving a pleasing overall ensemble sound. We have all heard the unfortunate “boom” of the bass drum section as it covers up a beautiful marimba or woodwind melody. (It’s OK to shed a tear here). This is usually a result of either the drums not being maintained (tuned) periodically or improperly muffled when heads were installed. Whichever the case, it is important that the drums share a pleasing intervallic relationship with each other to enable the section to resonate together. Although the pitch of the drums will be different, the tone should be consistent. Try to avoid a choked sound on top drums and overly “boomy” lower drums.

#### Bass Drum Tuning Steps:

1) **Rest the drum on a table** so you can access both heads at the same time. This will make it much more comfortable to install/tune the heads while also isolating the tone of the head you are working with, making it much easier to tune and clear the head. I strongly suggest that the bottom head (head opposite the one to be tuned) be muffled by a towel, etc. Otherwise, the top head will be affected by resonance from an un-dampened bottom head. For a drum set, I always put the tom to be tuned on a stool to dampen the head opposite the one being tuned.

2) Before mounting a new head, be sure to **clean the rim and bearing edge** of any debris. This would also be a good time to check the rim for any cracks or chips. (Remember they are wood and can split or crack over time.)

3) **Mount the first head** and finger tighten lugs to equal tension. Remember, maintaining equal tension throughout the entire tuning process will result in

a much easier time clearing the drum of excess overtones. Flip the drum over and repeat this (and the rest of the steps) with the opposite head. Since the heads need to be tuned identically, you will have a much easier time achieving this if you perform each step to both heads before moving on. This will also allow both heads to stretch evenly as you tune.

4) Tuning with a key, **use the sequential tuning method** to bring each head within its tuning range. With a mallet, tap in front of each lug to ensure that all lugs produce an

identical clear tone. Repeat on the opposite head.

5) Working between the two drum heads, **bring both heads up to the desired pitch**. Once this has been achieved, turn the drum to playing position and strike each head to make sure the drum produces a clear tone. If needed, return the drum to its side and adjust one or both heads as needed.

6) Once you have the largest drum tuned, **follow steps 2-5 for the remaining drums**. Pitch intervals between drums depends on the size of the drums used. Experiment and select a tuning scheme that provides the best balance of articulation and resonance. Again, **try to avoid a choked sound on top drums and overly “boomy” lower drums**.

**TUNING TIP: Tune for the right venue.** Venues can have a major impact on bass drum tuning. Small venues and gyms can make the bass drums sound overly resonant (boomy); while larger, dryer venues can give the drums an overly articulate sound. When

**Jim Bailey and Don Click will present “Natural Selection—Making Mallet and Stick Selection Easy” on Sunday, July 22 at 2:45 p.m.**



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possible, select heads and a tuning scheme that is right for your application.

**Evans Drum Heads** have developed a system of adjustable damping for their MX1 and MX2 series of drum heads. Using a series of damping arcs, you can control the balance between tone and articulation. Recommended configurations for use of this system can be found at [www.evansdrumheads.com](http://www.evansdrumheads.com).

### OUTDOOR Tuning:

- Head Selection: Evans MX1 (White or Black), Evans MS1. Single ply heads will achieve a more open sound.
- Pitch: Pitch drums in mid-range tuned melodically to achieve a warm resonant sound.
- Damping: Open to moderate damping to achieve a balance between attack and resonance.
- Tip: Consider your venue! “Boomy” venues like large stadiums may require additional damping.

### INDOOR Tuning:

- Head Selection: Evans MX2 (White or Black). Two-ply heads provide a more focused articulation.

- Pitch: Pitch drums mid to high in range tuned to maximize projection and articulation.
- Damping: Moderate to heavy damping to emphasize attack and decrease excess resonance.
- Tip: Smaller is better! When available, use smaller drums indoors to avoid overbalancing.

### The Wrap Up:

Achieving a pleasing, musical sound from your marching percussion section requires the same commitment that is made to the rest of your ensemble. Tuning checks should be a regular part of each rehearsal session with students sharing the responsibility of maintenance. This will not only help make tuning more manageable, it will instill a sense ownership that will help the student understand the importance of a well-maintained instrument. By developing an understanding of how to achieve (and maintain) a musical sounding percussion section, you will improve the overall sound of your ensemble, increase the life of your instruments, save valuable dollars, and provide a valuable lesson for young percussionists.

*Jim Bailey served as an Associate Caption Head and percussion instructor for the Cavaliers Drum and Bugle Corps from 2002 to 2005 assisting in earning three of the six world championship titles held by the corps. He has also served on the staff for the Blue Knights, Phantom Regiment and Blue Stars. In 2005, Jim co-founded, instructed, and composed for Indianapolis Independent Percussion Ensemble (I-2), a youth-based performance ensemble which earned a WGI Independent World Finalist in its first year of existence. As an author and composer, Jim's work has been featured by Row-Loff publications and his educational resources have been authored for Innovative Percussion, the Indiana Percussion Association, and Yamaha Corporation of America. As a performer, Mr. Bailey was one of 50 corps members elected to travel to Japan and represent the Cavaliers and the United States in a series of performances. Since then, his clinics have been seen across the United States, Japan, and Europe. He has had the pleasure to work under the direction of Raymond Leopard (Indianapolis Symphony), Stephen Pratt (Indiana University), and Frances McBeth. In 1996, Jim was crowned with the Percussive Arts Society's International Solo Champion. He has also played professionally around the Midwest as a concert percussionist and free-lance jazz musician. Upon earning his Bachelors in Music Education from the University of Indianapolis, Jim began his position as Director of Bands for Doe Creek MS and New Palestine HS, where his ensembles captured multiple state titles in both concert and marching class as well as a WGI world champion title in 2002. Currently Jim maintains his position as Educational Relations Manager for D'Addario where he manages education outreach initiatives for D'Addario Fretted, Bowed, Rico Reeds, Evans Drum Heads, ProMark Drumsticks, PureSound Percussion, and Planet Waves brands.*